UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Rapid assessment of value addition and diversification within and beyond the critical energy transition minerals value chain

Namibia

Technical cooperation outcome

Advance copy



UN trade & development
UNCTAD

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Rapid assessment of value addition and diversification within and beyond the critical energy transition minerals value chain

Namibia

Technical cooperation outcome

Advance copy



© Adobe Stock

UN trade & development

UNCTAD

Geneva, 2026

© 2026, United Nations Conference on Trade and Development

The findings, interpretations and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the United Nations or its officials or Member States.

The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Mention of any firm or licensed process does not imply the endorsement of the United Nations.

This publication has not been formally edited.

UNCTAD/TCS/DITC/INF/2026/2 (Advance copy)

Acknowledgements

This report, *Rapid assessment of value addition and diversification within and beyond the critical energy transition minerals value chain: Namibia*, is the result of collaboration between the United Nations Conference on Trade and Development (UNCTAD) and the Government of Namibia. It also forms part of UNCTAD's broader contribution, as co-lead of the Technical Cluster on benefit sharing, value addition, and diversification of the United Nations Task Force on Critical Energy Transition Minerals (CETMs), to advancing policy-relevant analysis and country-level implementation in this area. The report was prepared, under the overall direction of Luz María de la Mora, Director of the UNCTAD Division on International Trade and Commodities, by a report team led by Clovis Freire and comprising Sofía Domínguez, Rachid Amui, Arthur Magro Machado and Younous Tapche Ndam, Extractive Commodities Section team with support through contributions from Claudine Sigam, Taro Boel and Peter Lunenborg, as well as from Jason Munyan of the Division on Investment and Enterprise and Matfobhi Riba of the Division for Africa, Least Developed Countries and Special Programmes.

UNCTAD gratefully acknowledges the inter-agency contributions of Lais Paiva Siqueira from the Law Division of the United Nations Environment Programme, along with Anabel Marin and Erika Kraemer Mbula (international consultants) and Salomo Hei (national consultant), and the contribution and participation of the United Nations Development Programme team in Namibia.

UNCTAD also expresses its appreciation for the contributions of Elena Liverani, Lok Yin Dominic Au, Noah Kohlmann and Maria Amaral Scheid as part of their master's degree programme studies at the Graduate Institute of International and Development Studies in Geneva. UNCTAD also appreciates the comments provided by Gul Unal and Ana Cipriano (UNCTAD), and Santiago Cunial (United Nations Development Programme).

Desktop formatting was carried out by Daniele Arbinet-Boglio of UNCTAD.

The study was made possible with the invaluable support of I-Ben Nashandi (Executive Director of the National Planning Commission, NPC), Josef Hausiku (Head of Bilateral Programmes at NPC) and the broader team at NPC in Namibia. UNCTAD gratefully acknowledges contributions from United Nations Resident Coordinator, Hopolang Phororo, whose support was essential in coordinating the national team closely involved in the implementation of the project, including Nelson Zakaapi (Data Management and Results Monitoring Officer).

UNCTAD further gratefully acknowledges Tom Moerenhout (Columbia University and Geneva Platform for Resilient Value Chains) and Peter Wooders (Geneva Platform for Resilient Value Chains), whose expertise on critical energy transition minerals and renewable energies contributed to the development of the report.

The report benefited from comments and suggestions of participants in the stakeholder consultations on critical energy transition minerals value chains held between 12 and 17 May 2025 in Windhoek, as well as of those who took part in the industry and policy engagement workshops, titled "Unlocking value across critical energy transition minerals and beyond: Strategic opportunities and policy directions", held between 7 and 18 July 2025 also in Windhoek. Their contributions were instrumental in finalizing the report.

Finally, UNCTAD gratefully acknowledges the financial support provided by the Government of Japan in implementing the project, Critical Energy Transition Minerals (CETM): Rapid Assessment of Value Addition and Diversification Capacity in Southern Africa, under which the report was prepared.

Table of contents

Acknowledgements iii
Note vi
Symbols vi
Abbreviations vii
Executive summary ..... **ix**
1. Introduction **1**
2. The productive structure of Namibia **5**
2.1 Economic growth 7
2.2 Employment 8
2.3 International trade 8
2.4 Foreign direct investment 15
2.5 Economic complexity 16
3. Policy framework **19**
3.1 National policy priorities 21
3.2 Mining and extractives regulatory framework 22
4. Stakeholder mapping of critical energy transition minerals value chains **25**
4.1 Exploration 28
4.2 Extraction and processing 29
4.3 Artisanal and small-scale mining 31
4.4 Partnerships with Japan in Namibia's critical energy transition minerals sector 31
5. Data and methodology **33**
5.1 Data collection 36
5.2 Methodology 36
6. Portfolio of opportunities **45**
6.1 Within the critical energy transition minerals value chain 50
6.2 Beyond the critical energy transition minerals value chain 55
6.3 Diversification pathways 59
6.4 Opportunities along the value chains of solar and wind 66
6.5 Validated results 68

7. Capacity gaps 71

7.1 Skills, education, and labour 74

7.2 Research and development, innovation, and technology 77

7.3 Investment and finance 80

7.4 Enterprise support and trade 83

7.5 Infrastructure and spatial industrial development 87

7.6 Sustainable production and circularity 90

8. Policy instruments 91

8.1 Skills, education, and labour 93

8.2 Research and development, innovation and technology 95

8.3 Investment and finance 98

8.4 Enterprise support and trade 102

8.5 Infrastructure and spatial industrial development 104

8.6 Public procurement and market-shaping 107

8.7 Sustainable production and circularity 110

9. Conclusions 113

Appendices 119

A. Detailed methodology: Economic complexity, product space and export opportunity measures 120

B. Industry questionnaire for product validation and feasibility assessment 122

C. Detailed portfolio of opportunities for diversification 125

D. Proposed targeted policy instruments to address identified capacity gaps 177

Note

The report *Rapid assessment of value addition and diversification within and beyond the critical energy transition minerals value chain: Namibia* is the first country report under the project "Critical Energy Transition Minerals: Rapid Assessment of Value Addition and Diversification Capacity in Southern Africa." The objective of the project is to improve the institutional capacity of selected Southern African governments to leverage the value chains of critical energy transition minerals and to identify opportunities for value addition and diversification. The report was prepared by UNCTAD, drawing on key project activities, notably:

1. Stakeholder consultations and two national workshops in Namibia.
2. National stakeholder mapping of the critical energy transition minerals value chain.
3. An overview of the country's productive structure and the application of economic complexity and product space methodologies to identify product potential.
4. Development of a list of potential new products based on existing productive capacities.
5. Analysis of the strengths and weaknesses of the institutional and regulatory framework to foster value addition and diversification.

Contact: commodities@unctad.org

Website: https://unctad.org/project/critical-energy-transition-minerals-in-southern-africa

Symbols

Δ	variation
τ	tariff

Abbreviations

AC/DC motor	alternating current and direct current motor
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank
Afreximbank	African Export-Import Bank
AI	artificial intelligence
AMC	Advanced Manufacturing Centre
API	application programming interface
ASM	artisanal and small-scale mining
B2B	business-to-business
BASAP	Battery Assembly Skills Accelerator Programme
BIPA	Business and Intellectual Property Authority
BON	Bank of Namibia
CETM	critical energy transition minerals
CMM	coordinate measuring machine
CNC	computer numerical control
CPD	continuing professional development
DBN	Development Bank of Namibia
DFI	development finance institution
e-waste	electronic waste
EAF	electric arc furnaces
EIA	environmental impact assessment
EMA	Environmental Management Act No. 7 of 2007
ESG	environmental, social and governance
FAT/SAT	factory and site acceptance testing
FDI	foreign direct investment
GDP	gross domestic product
GIPF	Government Institutions Pension Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMP	good manufacturing practice
HACCP	hazard analysis and critical control points
HS	Harmonized System
IEC	International Electrotechnical Commission
IoT	internet of things
IP	intellectual property
ISIC	International Standard Industrial Classification
ISO	International Organization for Standardization
IT	information technology
IUMP	Industrial Upgrading and Modernisation Programme
JICA	Japan International Cooperation Agency
JOGMEC	Japan Organisation for Metals and Energy Security
MAFWLR	Ministry of Agriculture, Fisheries, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MEIYSAC	Ministry of Education, Innovation, Youth, Sports, Arts and Culture
MES	manufacturing execution system
MFI	microfinance institution
MFPE	Ministry of Finance and Public Enterprises
MHSS	Ministry of Health and Social Services
MIME	Ministry of Industries, Mines and Energy
MIRT	Ministry of International Relations and Trade
MJLR	Ministry of Justice and Labour Relations
MoU	memorandum of understanding
MSME	micro-, small and medium-sized enterprise
N$	Namibian dollars
NAB	Namibian Agronomic Board
NamPower	Namibia Power Corporation
NamRA	Namibia Revenue Agency
NamWater	Namibia Water Corporation
NCRST	National Commission on Research, Science and Technology
NDP	National Development Plan
NIDA	Namibia Industrial Development Agency
NIMT	Namibia Institute of Mining and Technology
NIPDB	Namibia Investment Promotion and Development Board
NMRC	Namibia Medicines Regulatory Council
NPC	National Planning Commission
NQA	Namibia Qualifications Authority
NQF	National Qualifications Framework
NSA	Namibia Statistics Agency
NSFAF	Namibia Student Financial Assistance Fund
NSI	Namibia Standards Institution
NSTIP	National Science, Technology and Innovation Policy
NSX	Namibia Securities Exchange
NTA	Namibia Training Authority
NTF	National Training Fund
NTP	National Trade Policy
NUST	Namibia University of Science and Technology
OECD	Organisation for Economic Co-operation and Development
OEM	original equipment manufacturer
PCB	printed circuit board
PPA	Public Procurement Act No. 15 of 2015
PPP	public-private partnership
QMS	quality management system
R&D	research and development
REEs	rare earth elements
RST Fund	National Research, Science and Technology Fund
SABS	South African Bureau of Standards
SACU	Southern African Customs Union
SADC	Southern African Development Community
SEZ	special economic zone

SME	small and medium-sized enterprise
SOP	standard operating procedure
STI	science, technology and innovation
SWF	sovereign wealth fund
TransNamib	TransNamib Holdings Limited
TVET	technical and vocational education and training
UNAM	University of Namibia
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
US$	United States dollars
VTC	vocational training centre
WHO	World Health Organization
WTO	World Trade Organization

Executive summary

Executive summary

Namibia's economy remains highly dependent on a narrow set of primary exports, exposing it to external shocks and volatility, and underscoring the importance of productive diversification for economic resilience. This report identifies potential new products for diversification that complement existing productive chains in Namibia, considering installed capacities and global trends to attract investments. It covers opportunities within and beyond the critical energy transition minerals (CETM) value chains, with diversification beyond CETM value chains helping build the capabilities required for sustained upgrading within CETM-related activities. The analysis presented combines quantitative methods, using economic complexity and product space principles, with qualitative input from stakeholders on the feasibility and desirability of products. Engagements with policymakers help inform practical steps to advance diversification in priority sectors.

The stakeholder analysis reveals a highly interconnected ecosystem that drives Namibia's CETM value chain. Foreign companies dominate ownership and investment, particularly in exploration and extraction, while domestic participation, mainly through state-linked entities and community trusts, remains limited. Government ministries provide regulatory oversight, with substantial contributions from academic institutions in skills development and research. Civil society, trade unions, and environmental, social, and governance (ESG)-focused platforms are increasingly active in monitoring environmental and social impacts. Overall, while Namibia's governance and institutional landscape has become more robust, strengthening local ownership, downstream development and integration, and multi-stakeholder coordination will be key to enabling benefit-sharing from the critical minerals sector and to support the ongoing deepening of domestic capabilities across other industries.

The analysis derived from the economic complexity and product space approach[1] identifies 353 products across 23 sectors, including chemicals, iron and steel, and machinery and mechanical appliances. Within these, 60 opportunities are directly related to the CETM value chain, mainly to articles of copper and other minerals. The broader set of opportunities identified beyond the CETM value chains contributes to the accumulation of industrial capabilities—such as process engineering, standards compliance, and manufacturing know-how—that facilitate further diversification and upgrading within CETM value chains over time. Under a global export scenario, 200 products are identified with a weighted opportunity of US$811 million.[2] Of these, 33 products are in the critical minerals' value chain, valued at US$221 million, featuring both forward and backward linkages, with top export markets by size in China, South Africa, and France. A key feature of the methodology is the granular product analysis, disaggregated by unit price. This enhances traditional models by signalling distinct products within the same Harmonized System (HS) 6-digit codes through price variations, offering more precise insights for investment targeting.

[1] This approach highlights diversification opportunities by mapping products that commonly co-occur in other countries' export baskets, revealing where existing capabilities can be extended.

[2] Export opportunities are assessed through a monetized overlap index, which estimates the potential for new products to enter expanding import markets, based on an average increase in imports of the product in the target market in the previous five years for which data is available. This measure calculates the degree to which one country's potential new exports align with another country's growing import demand. Thus, the export values identified in this assessment represent indicative market-size signals, not forecasts of realized exports or annual revenues. The estimated weighted export opportunity reflects the size of global and regional growth in import demand for products that are proximate to Namibia's existing productive capabilities, adjusted by current bilateral trade relationships. These figures do not assume full market capture, firm-level capacity constraints, or competitive positioning, and should therefore not be interpreted as projected export outcomes.

Developing a selected subset of these products, identified through validation with industry stakeholders during national workshops as technically and commercially plausible, would require an estimated US$2.13 billion in capital investment[3] and could generate approximately 26,460 jobs across Namibia's economy, or about 3 per cent of the labour force in 2023. Iron and steel emerge as the most significant drivers of both investment and employment, requiring roughly US$937 million in investment and creating more than 15,000 jobs. Machinery and mechanical appliances (US$559 million; 3,220 jobs), copper articles and other metals (US$206 million; 2,273 jobs), and electrical machinery and equipment (US$192 million; 1,986 jobs) also demonstrate strong potential for job-generating industrialisation. Several lower-capital sectors, including food processing, pharmaceuticals, and chemicals, show high labour absorption and rapid deployment potential, while also strengthening production, quality, and compliance capabilities that are transferable to CETM-related manufacturing and processing activities, adding more than 5,000 jobs with comparatively modest investment requirements. Together, these figures demonstrate that Namibia's diversification pathway is both economically significant and employment-intensive, with clear opportunities to crowd in private capital through value chain development.

Examples of potential products by sector, along with their unit price ranges,[4] include:

- Chemicals: Salts of inorganic acids or peroxoacids, other than double or complex silicates, including aluminosilicates and excluding azides (HS code 284290, priced between US$3–US$40).
- Machinery and mechanical appliances: Parts of metal-rolling mills (HS code 845590, priced between US$10–US$95).
- Articles of copper and other minerals: Refined copper wire of which the maximum cross-sectional dimension exceeds 6mm (HS code 740811, priced between US$0–US$8).

The leading global export markets for these shortlisted products are in Asia (US$474 million), followed by Europe (US$179 million) and North America (US$88 million). Key markets include China and India in Asia, as well as France and Spain in Europe.

The analysis also identifies complementary products with export potential for regional trade in the Southern African Development Community (SADC) and the broader African continent. Within the SADC, key destinations are South Africa, the United Republic of Tanzania, and the Democratic Republic of the Congo, totalling US$334.5 million in potential exports. Beyond SADC, Egypt, Morocco, and Nigeria are the main partners identified. Substantial export opportunities underscore the need to diversify, with identified regional markets highlighting the importance of strengthening intra-regional trade and leveraging existing frameworks. Import substitution opportunities are also significant, with 68 products valued at US$116.8 million across 14 sectors.

To realize identified opportunities, Namibia should prioritize high-potential products by implementing sector-specific action plans that address standards, finance, skills, and infrastructure. Mobilizing de-risked finance via diversification bonds, blended mechanisms, and designated facilities can support early-stage research and development (R&D) and technology adoption. Expanding apprenticeships and dual training linked to priority sectors alongside specialized training hubs can support building industrial capabilities. Strengthening standards, certification, and testing infrastructure is essential. A time-bound, multi-institutional delivery platform led by NPC could coordinate implementation, embedding gender equity, sustainability, and regional integration to ensure inclusive and transformative industrial growth.

[3] The estimated capital investment requirement reflects indicative sectoral capital intensity for a subset of prioritized products and does not imply that such investments would be undertaken simultaneously, nor exclusively for export markets. The assessment does not evaluate project-level profitability or financial payback. Its objective is structural and developmental, focusing on employment creation, domestic value retention, import substitution, capability building, and long-term export diversification. Economic returns are therefore expected to materialize through cumulative and dynamic effects rather than short-term financial margins.

[4] The unit of measurement varies by product, typically expressed as price per unit or price per kilogram.

This report serves as a strategic tool for Namibia, offering actionable insights and recommendations to strengthen existing CETM value chains. By combining opportunities within and beyond CETM value chains, the report supports a sequenced, capability-based approach to strategic economic diversification, grounded in the country's national capacity and global trends. Recommended policy instruments tailored to the study's findings provide additional support to materialize some of the gains identified and reduce dependence on primary commodities export revenue.

1.

Introduction



© UNCTAD

1. Introduction

This report delivers a rapid, evidence-based assessment of Namibia's opportunities for value addition and diversification within and beyond the CETM value chains. Through comprehensive stakeholder mapping, product space analysis, and sector diagnostics, the study highlights an actionable pathway for Namibia to leverage its resource endowments.

This assessment identifies concrete, product-level opportunities for value addition and diversification within and beyond CETM value chains, leveraging Namibia's existing productive capacities. It applies economic complexity and product space methodologies to map feasible diversification pathways, combining global trade data with granular price-band analysis to distinguish distinct products within the same statistical categories. These quantitative results are complemented by stakeholder consultations and validation workshops with public institutions, industry representatives, and technical experts to assess technical feasibility, investment requirements, and market relevance. This approach ensures that identified opportunities are analytically robust and adapted to on-the-ground realities. The objective is to help policymakers and partners prioritize products, sequence interventions, and align policy instruments with realistic industrial upgrading pathways. As the first technical cooperation output of a project financed by the Government of Japan and implemented by UNCTAD, this report exemplifies multilateral collaboration. It offers insights into investable opportunities in Namibia for domestic and international partners. This supports inclusive and sustainable industrial transformation aligned with a just energy transition.

Namibia is expanding its role as a strategic supplier of CETM,[5] including lithium, rare-earth elements (REEs), graphite, copper, manganese, and zinc. These minerals are essential not only for low-carbon technologies such as electric vehicles, wind turbines, solar panels, and battery storage systems, but also for industrial process optimisation (e.g., waste heat recovery systems) and energy-efficient machinery—supporting the global shift towards a low-carbon economy. Namibia's favourable geology and strong relationship with key markets like the European Union,[6] and rising global demand for critical minerals contributes to its emerging position in associated global value chains.

Historically, Namibia's mining industry has been oriented towards the export of raw or semi-processed materials and limited downstream economic activities. The mining sector is a cornerstone of Namibia's economy, contributing approximately 13 per cent to gross domestic product (GDP) and over 50 per cent of export earnings as of December 2024.[7],[8] While traditional commodities like diamonds and uranium continue to dominate exports, there is increasing emphasis on CETM in response to global demand and favourable commodity prices. The extractive model followed by the country is vulnerable to commodity price volatility and has

[5] For the definition and list of CETM, see UNCTAD's SDG Pulse, "Critical Minerals: Trade in critical minerals shapes energy transition, digital transformation and industrial development worldwide." Uranium was added, given its strategic relevance to the beneficiary country and the project donor.

[6] European Commission. (2022). Memorandum of Understanding on a Partnership on Sustainable Raw Materials Value Chains and Renewable Hydrogen between the European Union, Represented by the European Commission, and the Republic of Namibia, 8 November 2022. Available at: https://single-market-economy.ec.europa.eu/system/files/2022-11/MoU-Namibia-batteries-hydrogen.pdf.

[7] Namibia Statistics Agency. (2024). Annual Economic Report. Available at: https://nsa.org.na/wp-content/uploads/2025/03/ANNUAL-NATIONAL-ACCOUNTS-2024.pdf.

[8] Namibia Statistics Agency. (2024). International Merchandise Trade Statistics Bulletin, December 2024. Available at: https://nsa.org.na/wp-content/uploads/2025/02/Namibia-Merchandise-Trade-Statistics-Bulletin-December-2024.pdf.

generated limited benefits in terms of employment creation, technology transfer, and domestic value addition.[9]

In response to these challenges and opportunities, Namibia has outlined plans to increase local beneficiation of mineral resources. This commitment is reflected in key policy frameworks such as the Sixth National Development Plan[10] (NDP6) and the Minerals Beneficiation Strategy,[11] which seek to shift the country beyond raw material exports by promoting domestic processing, industrial development, and enhanced local participation in the mining value chain. In 2023, the Government of Namibia introduced an export ban on unprocessed lithium ore and other selected critical minerals—including cobalt, manganese, graphite, and REEs—to stimulate domestic beneficiation and in-country value addition. These measures aimed to support Namibia's broader objective of fostering a more integrated, resilient, and value-driven mineral economy.

While CETMs provide a strategic entry point for Namibia's industrial development, sustained upgrading within CETM value chains cannot occur in isolation from the broader productive system. Movement from extraction into higher-value CETM-related activities—such as processing, fabrication, components, and equipment—depends on capabilities often developed outside the mineral value chain. These include industrial services, standardized inputs, packaging materials, process chemicals, logistics, and quality and safety systems, which underpin the viability and competitiveness of CETM-related manufacturing.

Diversification beyond CETM value chains, therefore, plays a foundational role in enabling diversification within them. Many of the non-CETM sectors identified in this report share critical capabilities with CETM-linked activities, including process engineering, standards compliance, energy management, industrial safety, and environmental control. Sectors such as food processing, paper and paperboard, plastics, and basic manufacturing contribute to building these capabilities by strengthening domestic supply chains, developing compliance and quality systems, and creating learning environments for firms and workers. These activities expand the economy's capacity to absorb and upgrade more complex CETM-related production over time.

Accordingly, this report adopts an integrated approach that identifies opportunities for diversification both within and beyond CETM value chains. This is a recognition that CETMs function most effectively as anchors into a broader process of structural transformation. By identifying complementary products that support capability accumulation, resilience, and employment creation, the analysis provides a sequenced pathway for continuous upgrading within CETM value chains while advancing Namibia's broader industrialisation and diversification objectives.

The report is structured as follows: Section 2 outlines Namibia's current productive structure. Section 3 describes the existing policy framework, while Section 4 presents a stakeholder mapping of mining activities. Section 5 presents the data and methodologies used. Section 6 presents the results derived from the quantitative analysis, while Section 7 presents the capacity gaps identified through the qualitative analysis. Drawing on these inputs, Section 8 proposes policy instruments to advance diversification efforts. Finally, Section 9 concludes the report.

[9] United Nations Economic Commission for Africa (UNECA). (2023). Harnessing Critical Mineral Resources for Africa's Energy Transition. Addis Ababa: UNECA. Available at: https://www.uneca.org/stories/africa-should-beneficiate-its-mineral-resources-for-sustainable-development-and-energy.

[10] National Planning Commission of Namibia. (2025). NDP 6. Available at: https://www.npc.gov.na/national-plans/national-plans-ndp-6/.

[11] Ministry of Industrialisation and Trade – Namibia (2021). Mineral Beneficiation Strategy for Namibia. Available at: https://economy.com.na/resource/minerals-beneficiation-strategy-for-namibia/.

2.

The productive structure of Namibia



© Adobe Stock

2. The productive structure of Namibia

Namibia's economy remains shaped by dependence on natural resources, with mining anchoring exports and GDP but generating limited employment and domestic linkages. Between 2010 and 2024, economic growth has been volatile and closely tied to commodity cycles, while unemployment remained persistently high, reaching 36.9 per cent in 2023, underscoring a structural disconnect between growth and job creation. Exports exceeded US$4.5 billion in 2023 but remain concentrated in a narrow set of primary commodities—particularly diamonds, gold, uranium, fish, and copper ores—while imports of fuels, machinery, and industrial inputs indicate limited industrial production capacity. Despite modest increases in product diversity, economic complexity remains low, reflecting limited technological advancement and value addition. These structural characteristics reinforce the need for diversification based on technological learning, spillovers, and domestic value-chain development.

Namibia's economic structure is the result of a complex historical process characterized by the organisation of production around raw material extraction for export. Infrastructure and institutions were designed primarily to service mining and fisheries exports rather than build a diversified domestic industry. This laid the foundation for an export-driven model characterized by high capital intensity, extensive foreign ownership, and limited local value addition. At independence in 1990, Namibia inherited a dual economy: a modern, formal sector dominated by mining, finance, and trade, and a large informal, subsistence-based sector. Despite improvements in education, infrastructure, and governance, structural dualism has persisted.

This has produced a pattern of growth that is spatially concentrated with few backward or forward linkages to the rest of the economy. Local manufacturing and services remain underdeveloped, constraining opportunities for small and medium-sized enterprises (SMEs) and domestic suppliers. The result is a persistent disconnect between the sectors that drive growth and those that provide livelihoods, contributing to inequality, vulnerability, and economic fragmentation. This enclave pattern also limits Namibia's ability to leverage CETM-related opportunities.

This structural vulnerability has reinforced the urgency of diversification to expand sources of growth and employment, build resilience, and enhance domestic value creation. The country's strategic assets, including its critical minerals, ports, energy potential, and regional location, offer real opportunities for structural transformation. However, diversification requires identifying concrete product opportunities, implementing active policies to address inherited structural imbalances, and building new productive capabilities across the economy.

2.1 Economic growth

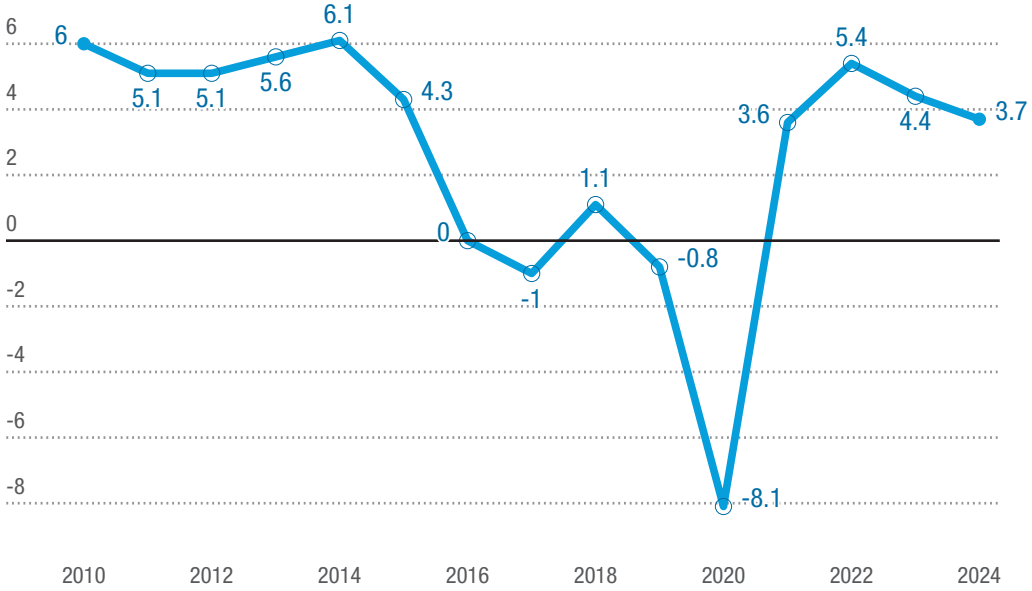
Namibia's economy since 2010 has been marked by cycles of expansion and contraction, reflecting dependence on mineral exports and exposure to external shocks. Fluctuations in global commodity prices, drought episodes, and reduced output in key mining operations have driven volatility in growth, shifting from an average expansion of about 5 per cent in 2010–2014 to a prolonged recession and an 8.1 per cent contraction during the 2020 pandemic (Figure 1).[12] Although the economy has rebounded in recent years, it remains structurally vulnerable to climate shocks, commodity fluctuations, and external demand.

[12] Namibia Statistics Agency (2024). National Accounts Time Series 1980–2024. Available at: https://nsa.org.na/document/national-accounts-time-series-1980-2024/

Figure 1

Economic growth has been volatile and closely tied to commodity cycles

GDP growth at market prices 2010–2024 (percentage)



Source: UNCTAD based on data from the Namibia Statistics Agency (NSA) (Website National Accounts Timeseries 1981–2024).

Namibia's growth over the past decade has increasingly relied on services, while the primary and secondary sectors have shown greater volatility. The primary industries—mainly mining, agriculture, and fishing—accounted for approximately 15 to 17 per cent of GDP over a few years between 2010 and 2024, but exhibited a cyclical pattern linked to commodity prices and climatic conditions (Figure 2). The secondary industries, comprising manufacturing, construction, and utilities, contributed around 6 to 11 per cent of GDP at the beginning of the decade but declined to about 3 per cent by 2024 as construction slowed and manufacturing capacity remained underutilized. In contrast, the tertiary industries—including trade, transport, finance, and public services—strengthened and maintained a positive contribution to GDP for most of the period.

2.2 Employment

Namibia's formal labour market remains characterized by high unemployment and a structural disconnect between economic expansion and job creation (Figure 3). A temporary improvement in 2012, when unemployment fell to 27.5 per cent, was short-lived, as rates rose again in the following years despite an expanding labour force that reached 1.09 million in 2018. By 2023, unemployment had returned to 36.9 per cent, alongside a smaller labour force of 867,247, suggesting both structural unemployment and declining participation. As in many developing countries with large informal sectors, however, standard unemployment figures provide only a partial view of labour market conditions and do not capture the full extent or quality of employment. Although data gaps and informality complicate year-to-year comparisons, the overall trend points to the limits of growth in generating sufficient, formal, and productive jobs.

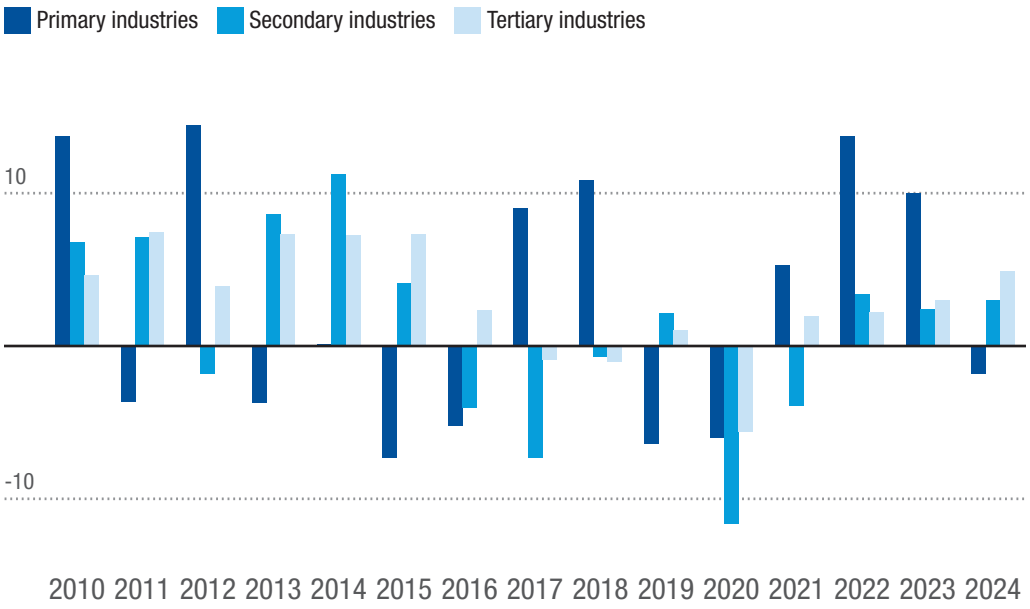
2.3 International trade

Namibia's exports remain concentrated in a narrow set of primary commodities. This underscores the country's dependence on capital-intensive extractive sectors despite recent growth in total

Figure 2

Primary and secondary sectors have shown greater growth volatility

Primary, secondary and tertiary industries contribution to GDP growth, 2010 –2024 (percentage)



Source: UNCTAD based on data from the Namibia Statistics Agency (NSA) (Website National Accounts Timeseries 1981–2024).

exports, which surpassed US$4.5 billion in 2023. Precious stones and metals, dominated by gold and unworked or semi-worked diamonds, remain the largest export category, accounting for 29.3 per cent of exports, even as declining diamond volumes and prices have reduced their overall value since 2019 (Figure 4). Uranium[13] and fish[14] have become central pillars of Namibia's export structure, with inorganic chemicals (primarily natural uranium and its derivatives) and fish each contributing around 18–19 per cent of total exports in 2023, together forming more than two-thirds of total export earnings. The export profile has also broadened slightly with rising shipments of copper ores and concentrates,[15] as well as a sharp post-pandemic increase in exports of mineral fuels,[16] particularly refined light oils, which expanded from US$24 million in 2019 to US$246.5 million in 2023.

Ore exports have become more important in Namibia's trade profile, reflecting a shift toward less-processed mineral exports. Ores became one of Namibia's top five export categories in 2023, accounting for 5.4 per cent of total exports, driven mainly by a surge in copper ore and concentrate shipments. While copper, zinc, lead, and tin ores expanded, this rise coincided with sharp declines in processed copper and zinc products, whose export values fell by 68 per cent and 99 per cent, respectively, reflecting both lower prices and reduced downstream activity.[17]

Namibia's export destinations remain highly concentrated, with South Africa, China, and Botswana consistently ranking as the top three markets since 2020. In 2023, South Africa alone

[13] HS-6-digit code 284410.

[14] HS-2-digit code 03.

[15] HS-6-digit code 260300.

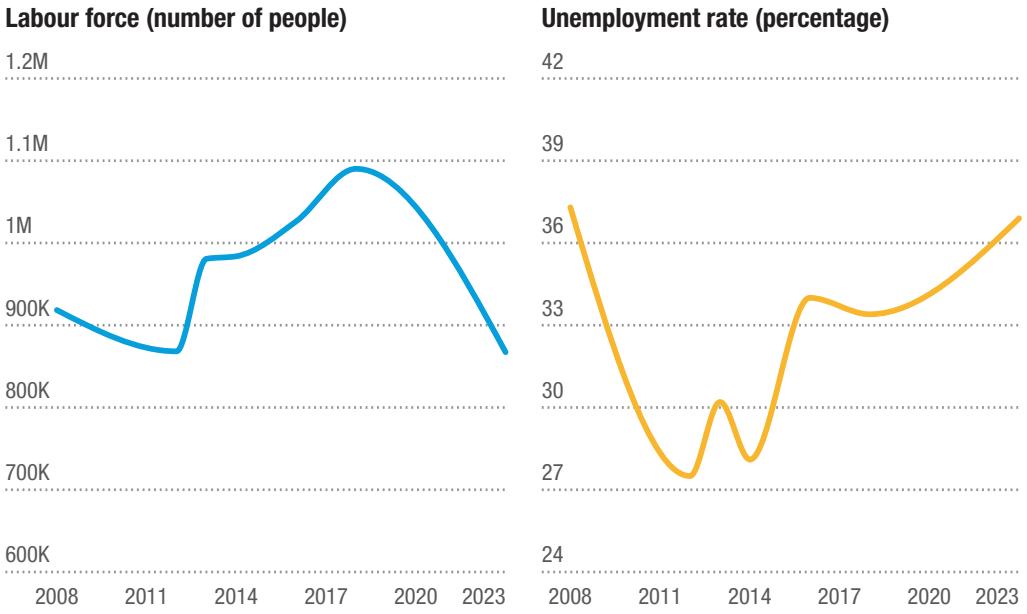
[16] Mainly light petroleum oils and preparations (HS-6-digit code 271012).

[17] Chamber of Mines of Namibia. (2023). 2023 Annual Review. Available at: https://chamberofmines.org.na/wp-content/uploads/2024/04/2023-Chamber-of-Mines-Annual-Review.-Final-Web.pdf.

Figure 3

Formal economy is characterized by high unemployment rates

Labour-force (number of people) vs unemployment rate (percentage), 2008–2023

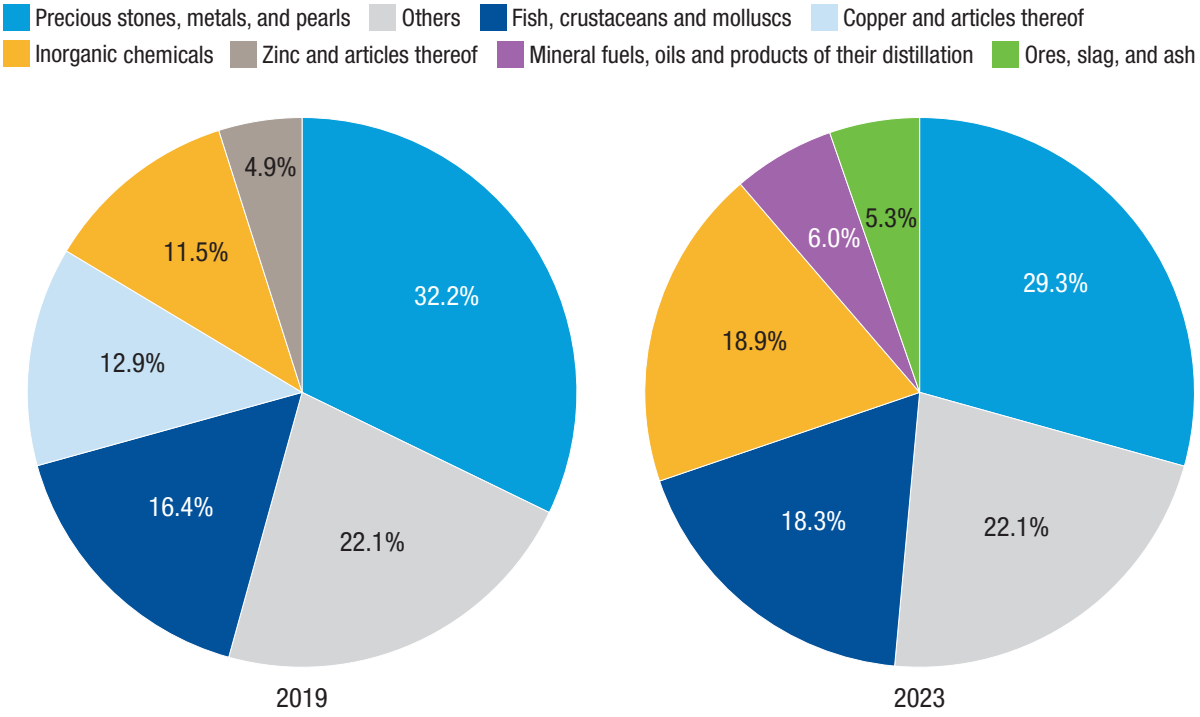


Source: UNCTAD based on data from NSA (Labor Force Surveys for 2008, 2012, 2013, 2014, 2016, 2018 and 2023).

Figure 4

Exports are highly concentrated in a narrow set of primary products

Export portfolio of Namibia, 2019 and 2023 (percentage)



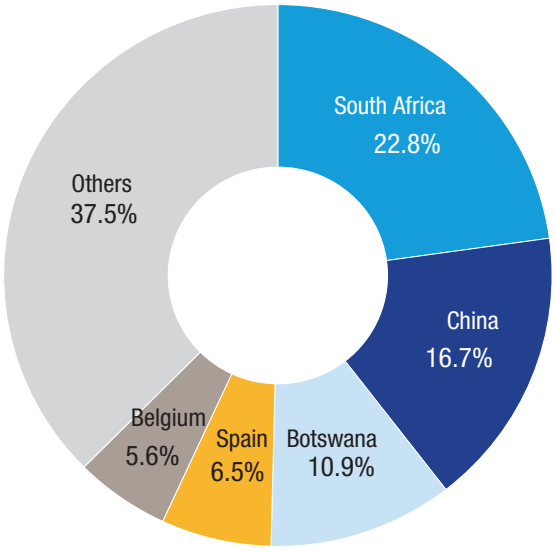
Source: UNCTAD, based on data from the United Nations Comtrade database.

absorbed 22.8 per cent of exports (US$1.02 billion), followed by China (US$747.8 million) and Botswana (US$486.9 million) (Figure 5). For South Africa, the main export group was Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coins; with semi-manufactured gold and non-industrial diamonds being the largest products within this category. Africa, primarily the SADC region, accounted for 42.2 per cent of total exports, with South Africa and Botswana dominating intra-SADC trade. Overall exports to the bloc rose from US$1.6 billion in 2019 to US$1.9 billion in 2023 despite declines to several smaller regional partners.

Figure 5

High concentration of export destinations

Main export destinations, 2023 (percentage)



Source: UNCTAD, based on data from the United Nations Comtrade database.

Trade with African Continental Free Trade Area (AfCFTA) countries outside the SADC block remained minimal. Extra-SADC exports represented only 0.2 per cent of total exports in 2023 and fell sharply from US$74.8 million in 2019 to US$10.4 million, mainly to Côte d'Ivoire and Ghana. Beyond Africa, exports are more broadly distributed: Asia receives 26.4 per cent, dominated by China, and Europe 25.8 per cent, led by Spain, Belgium, and France, while North America accounts for a smaller 5.3 per cent, and exports to Oceania and Latin America remain minimal (Table 1).

Namibia's import bill has grown in recent years, with rising demand for energy and industrial inputs. Namibia's imports increased by 17.8 per cent between 2019 and 2023 to reach US$6.7 billion, driven mainly by higher imports of mineral fuels, machinery, and electrical equipment. Mineral fuels alone accounted for 23.2 per cent of all imports in 2023 (US$1.5 billion), while machinery and mechanical appliances, largely serving mining and construction, made up 10.8 per cent, sourced primarily from China, South Africa, and the United States.

Electrical machinery and vehicles highlight the growing role of energy and transport technologies in the import structure. In 2023, electrical machinery and electronics represented 6.6 per cent of imports, and vehicles and parts,[18] 5.9 per cent. They were followed by ores, slag, and ash (5.2 per cent) and iron and steel articles (2.9 per cent) in terms of import share (Figure 6). Combined, these categories accounted for over US$1 billion. Within electrical machinery,

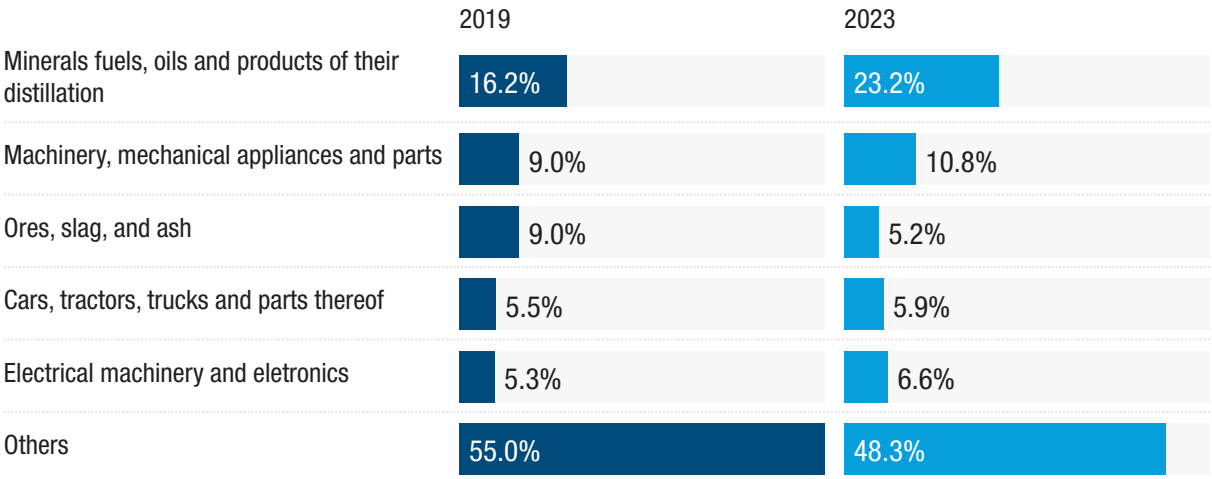
[18] HS-2-digit code 87.

assembled photovoltaic cells[19] led, making up 18.6 per cent of the category and 1.2 per cent of total imports. Notably, neither photovoltaic cells nor smartphones,[20] the second-largest import in the category, featured in Namibia's 2019 import basket. Vehicle-related imports were more diversified at the product level, with key items including passenger vehicles[21] (0.7 per cent), goods vehicles[22] (0.7 per cent), dumpers[23] (0.5 per cent), road tractors for semi-trailers[24] (0.5 per cent), and parts and accessories[25] (0.4 per cent).

Figure 6

Mineral fuels and machinery are the main Imports

Basket of products imported by Namibia, 2019 and 2023 (percentage)

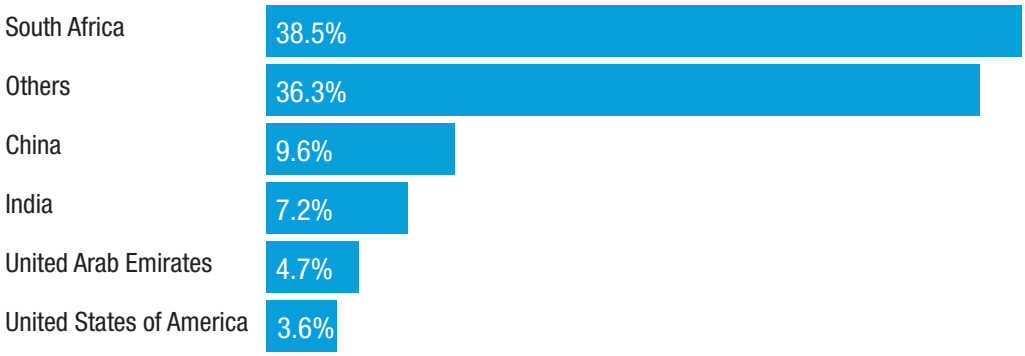


Source: UNCTAD, based on data from the United Nations Comtrade database.

Figure 7

South Africa is the main import partner

Main import origins, 2023 (percentage)



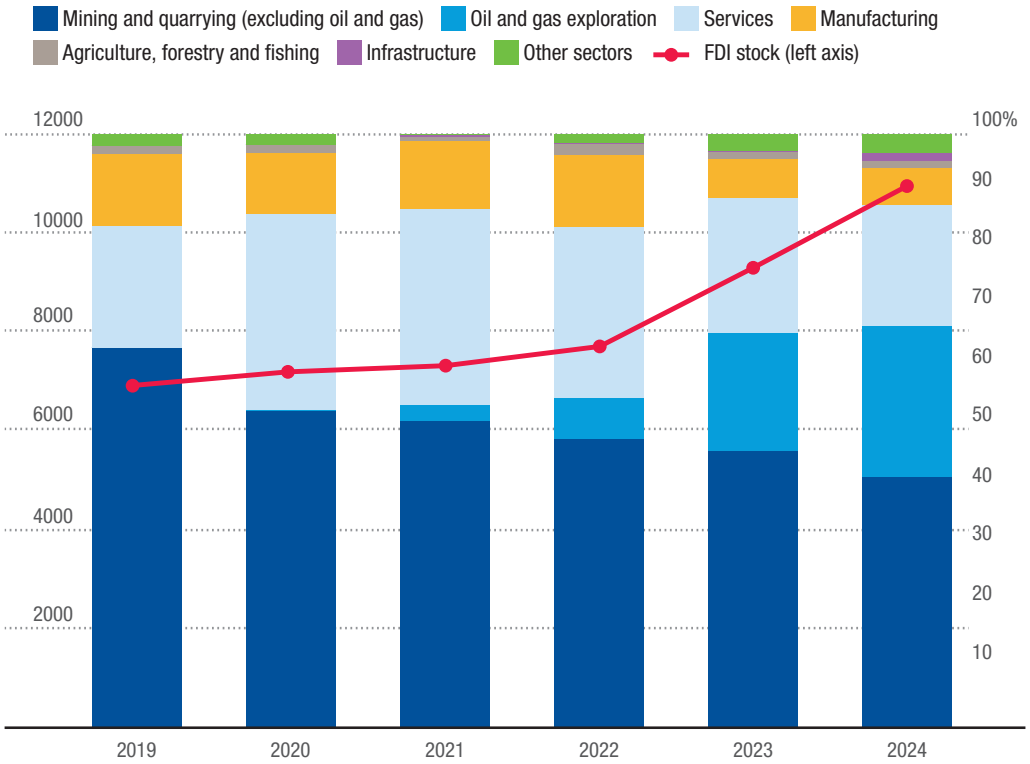
Source: UNCTAD, based on data from the United Nations Comtrade database.

[19] HS-6-digit code 854143.
[20] HS-6-digit code 851713.
[21] HS-6-digit code 870323.
[22] HS-6-digit code 870431.
[23] HS-6-digit code 870410.
[24] HS-6-digit code 870121.
[25] HS-6-digit code 870899.

Figure 8

Foreign direct investment is heavily concentrated in extractive activities

Foreign direct investment stock, by sector (2019-2024)



Source: Based on data from UNCTAD and the NIPDB.

Reduced copper ore imports suggest growing domestic extraction capacity. Despite being a net exporter of copper, Namibia imported US$250 million worth of copper ores[26] in 2023, accounting for about 3 per cent of total imports. Alongside nickel ores,[27] these were the top imports within the ores, slag and ash category. However, copper ore imports declined by 49.3 per cent between 2019 and 2023. This drop coincided with rising copper ore export volumes, suggesting increased domestic production sufficient to meet internal demand and support exports.

South Africa remains Namibia's main import partner, despite a decline in trade value. In 2023, South Africa accounted for 38.5 per cent of imports (US$2.6 billion) (Figure 7). However, between 2019 and 2023, imports from South Africa declined by 17.9 per cent, largely due to a US$197.1 million decline in imports of refined petroleum. Despite the drop, this product remained Namibia's top import from South Africa, followed by sugars[28] (US$65.7 million) and maize[29] (US$46 million). Other key import sources in 2023 included China (9.7 per cent of total imports) and India (7.2 per cent). Imports from China were primarily manufactured goods, while those from India were mainly fuel-related.

Africa, particularly SADC partners, is Namibia's main source of imports. Examining regional trends (Table 2), Africa accounted for 41.9 per cent of imports in 2023. Nearly 99 per cent of these African imports came from SADC countries. Asia was the second largest source, contributing

[26] HS-6-digit code 260300.

[27] HS-6-digit code 260400.

[28] HS-4-digit code 1701.

[29] HS-4-digit code 1005.

Table 1
Regional export trends, 2019–2023

	US$ (thousand), 2023	Share of total exports, 2023	Δ 2019–2023, US$ (thousand)
World	**4,466,197**	**100.00%**	**257,039**
Asia	1,179,671	26.40%	252,944
Africa	1,885,399	42.20%	177,006
Northern America	236,565	5.30%	24,140
Europe	1,153,445	25.80%	-195,664
Latin America and the Caribbean	695	0.00%	-264
Oceania	10,422	0.20%	-1,123
AfCFTA	**1,885,399**	**100.00%**	**177,006**
South Africa	1,020,119	54.10%	154,176
Botswana	486,903	25.80%	-37,617
Zambia	178,252	9.50%	72,719
Mozambique	53,595	2.80%	-20,765
Democratic Republic of the Congo	51,416	2.70%	31,352
Angola	47,323	2.50%	25,114
Zimbabwe	28,097	1.50%	17,802
United Republic of Tanzania	6,904	0.40%	418
Côte d'Ivoire	5,253	0.30%	5,188
Ghana	2,540	0.10%	723
SADC	**1,875,035**	**100.00%**	**241,463**

Source: UNCTAD, based on data from the United Nations Comtrade database.
Note: AfCFTA (*) Signed, not ratified. (**) Not signed, neither ratified; included for completeness. An en dash (–) indicates that the item is equal to zero. Data are not applicable for Algeria, Burundi, Chad, Equatorial Guinea, Eritrea**, Gambia, Guinea, Guinea-Bissau, Sierra Leone, Somalia*, South Sudan*, and Sudan*

34.7 per cent, followed by Europe at 14.7 per cent. Latin America and the Caribbean, and North America accounted for smaller shares, at 4.5 and 3.8, respectively, while Oceania's share stood at 0.4 per cent.

South Africa dominates Namibia's SADC imports. In 2023, South Africa supplied 92.8 per cent of Namibia's SADC imports, while Zambia's share rose to 2.7 per cent due to higher nickel ore shipments, and Botswana's exports collapsed following a 99.6 per cent drop in unworked diamond imports. Imports from SADC as a whole fell by 18.5 per cent between 2019 and 2023, and trade with AfCFTA partners outside SADC remains limited and declining, with Morocco and Côte d'Ivoire as the main suppliers, even as overall extra-SADC AfCFTA imports fell by 56 per cent to US$31.3 million in 2023.

Table 2

Regional imports trends, 2019–2023

	USD (thousand), 2023	Share of total exports, 2023	Δ 2019–2023 USD (thousand)
World	**6,710,017**	**100**	**1,002,425**
Asia	2,326,012	35	1,431,057
Africa	2,814,034	42	-670,425
Northern America	256,544	4	82,362
Europe	982,958	15	120,217
Latin America and the Caribbean	302,651	5	23,353
Oceania	27,818	0	15,861
AfCFTA	**2,814,033**	**100**	**-670,426**
South Africa	2,581,996	92	-564,280
Zambia	74,533	3	46,561
Democratic Republic of the Congo	60,215	2	59,928
Eswatini	25,787	1	1,415
Botswana	18,554	1	-172,406
Morocco	17,232	1	603
Côte d'Ivoire	11,579	0	11,173
Angola	6,499	0	5,414
Mauritius	5,686	0	-262
Zimbabwe	3,703	0	481
SADC	**2,782,757**	**100**	**-630,691**

Source: UNCTAD, based on data from the United Nations Comtrade database.
Note: (*) Signed, not ratified. (**) Not signed, neither ratified; included for completeness. Two dots (..) indicate that data are not applicable. An en dash (–) indicates that the item is equal to zero.

2.4 Foreign direct investment

Foreign direct investment (FDI) in Namibia has increased sharply since 2021, with annual inflows exceeding US$2 billion in 2023 and 2024. Most FDI remains concentrated in the extractive industries, particularly mining, with a focus on copper, uranium, and diamonds, consistently accounting for over 40 per cent of FDI stock (Figure 8) and more than 80 per cent of FDI inflows in 2024. While mining continues to dominate, its share of FDI stock has declined from around two-thirds in 2019 to just above 40 per cent in 2024, coinciding with rising FDI in oil and gas exploration. Within mining, major projects include the Hope Copper-Gold project by Bezant Resources (United Kingdom) and the Kombat Copper Mine by Trigon Metals (Canada). China has led FDI in uranium, and South Africa has led FDI in diamonds. Investment in iron and steel has

been smaller, exemplified by the Dordabis Iron Ore Mine by Lodestone (Germany and the United States). Namibia has also attracted foreign investment in fishing (the Russian Federation and Spain), oil exploration, and renewable energy, particularly in emerging green hydrogen projects.

Services are an increasingly important destination for FDI. Services accounted for around 13 per cent of FDI inflows in 2024, mostly in financial and insurance activities. Investment in transportation and storage has grown steadily since 2020, reaching 5 per cent of FDI inflows in 2024, reflecting rising investor confidence in logistics and infrastructure improvements.

Namibia's investment environment is favourable but faces strong regional competition. Namibia competes with larger SADC economies, particularly South Africa, which has a more developed industrial base and stronger local capacity. Within the region, South Africa continues to attract a more diversified range of investments across manufacturing and services, including agrifood processing, chemicals and pharmaceuticals, electrical machinery, renewable energy, and information technology (IT) services.

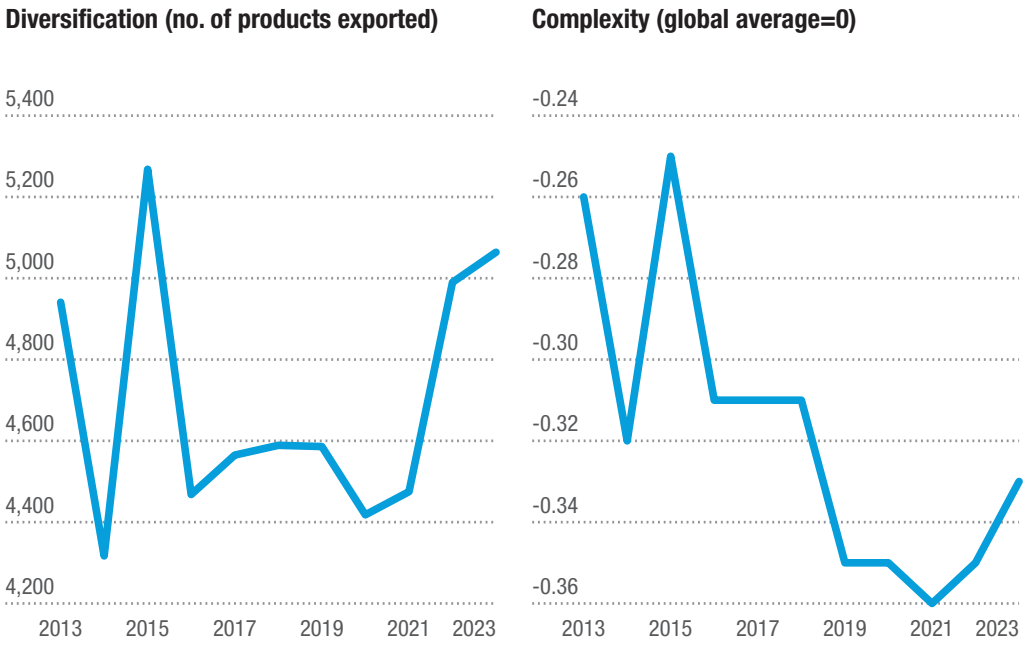
2.5 Economic complexity

Namibia's export diversification has grown only modestly. Between 2013 and 2023, Namibia increased the number of products exported by 123, from 4,941 in 2013 to 5,064 in 2023, with some year-to-year fluctuations (Figure 9).[30] While this small upward trend indicates some progress, Namibia's export diversification remains relatively limited, especially when compared to a global average of 6,557 products per country and a maximum of 34,316.

Figure 9

Economic complexity has stagnated despite periods of growth

Evolution of economic complexity index, 2013–2023



Source: UNCTAD.

[30] This is based on an augmented HS classification at the 8-digit level, which differentiates HS 6-digit level codes by quantity unity and price and results in approximately 49,000 traded products in the international market. More information on the disaggregation is available at Freire, C. (2017). Diversification and Structural Economic Dynamics. Ph.D. thesis, Maastricht University.

Low diversification reflects limited economic complexity, a proxy for a country's productive capacity based on the diversity and ubiquity of its export basket.[31] Higher complexity signals an economy capable of producing advanced, knowledge-intensive goods, while lower complexity indicates limited productive capabilities and reliance on less sophisticated outputs. Namibia's economic complexity remained consistently negative and stable over the past decade, at around -0.3, below the global average of 0.[32] A temporary rise between 2014 and 2015 coincided with growth before drought, and reduced mining output dampened performance. The persistently low score underscores limited technological sophistication in Namibia's export structure. Although product diversity has improved slightly, it has yet to translate into more complex or knowledge-intensive exports. Bridging this gap will require enhancing value addition and developing sectors with greater technological and knowledge requirements to build a more competitive and resilient economy.

[31] While diversity refers to the number of different products a country exports, ubiquity reflects how common those products are among exporters.

[32] For comparison, the United States, one of the most complex economies globally, scored 5.5 in 2023.

3.

Policy framework



© Adobe Stock

3. Policy framework

Namibia's national development vision emphasizes inclusive growth through resource beneficiation, youth empowerment, and sectoral diversification. Government policy identifies seven priority sectors (agriculture, sports, youth empowerment, education and training, creative industries, health and social welfare, and land, housing, and sanitation)[33] and eight economic enablers (mining, energy, oil and gas, tourism, agriculture, water, fisheries, and transport and logistics).[34] These areas aim to promote structural transformation, job creation, and increased self-reliance by leveraging Namibia's natural resources and human capital.

3.1 National policy priorities

Economic policy emphasizes fiscal stability, investment, and value addition. Planned measures include reducing non-mining corporate tax rates to 30 per cent by 2025 and to 28 per cent by 2026/27, and introducing a 20 per cent corporate tax rate for special economic zones (SEZ) and SMEs. The value-added tax (VAT) registration threshold will increase from N$500,000 to N$1,000,000, reducing administrative pressure on small businesses.[35] The government also plans to implement digital tax systems, introduce a dividend tax in 2026, and expand tax incentives for internship programmes and building improvements. The Welwitschia Sovereign Wealth Fund (Welwitschia Fund) functions as a savings mechanism for resource revenues, while macroeconomic policy aims to stabilize public debt and sustain a primary budget surplus.[36]

Industrialization and infrastructure development strategies seek to improve spatial balance and investment conditions. Current initiatives focus on expanding SEZs, developing coastal industrial zones, and upgrading transport and energy infrastructure to support downstream industries. Ongoing projects include solar and gas power plants, road and railway improvements, and water desalination facilities in the Erongo region.[37] These investments are expected to enhance Namibia's position as a logistics and energy corridor in Southern Africa, while the broader goal of decentralizing industrial activity beyond Windhoek and Walvis Bay remains at an early stage of realization.

In mining and energy, policies indicate a gradual shift from resource extraction toward domestic processing and diversification. New policy initiatives encourage the beneficiation of lithium, cobalt, manganese, graphite, and REEs, as well as investments in steel and uranium-based energy projects.[38] Proposals to expand desalination capacity in Erongo and explore nuclear power options reflect efforts to integrate energy and industrial policy. However, implementation will depend on the availability of technology, finance, and regulatory clarity.

Agriculture and food security policies focus on import substitution and rural income generation. The Government has announced an objective to reduce agricultural imports by 80 per cent,

[33] State of the Nation Address by H.E. Dr. Netumbo Nandi-Ndaitwah, President of the Republic of Namibia, Windhoek, 24 April 2025.

[34] Ibid.

[35] Budget Statement for the 2024/25 Financial Year, H.E. Mr.Impubu Shiimi, Minister of Finance and Public Enterprises, 28 February 2024.

[36] State of the Nation Address by H.E. Dr. Netumbo Nandi-Ndaitwah, President of the Republic of Namibia, Windhoek, 24 April 2025.

[37] Ibid.

[38] Ibid.

supported by the Green Scheme, irrigation expansion, and agroprocessing projects. Planned investments of N$561 million in agricultural infrastructure in 2025/26 are complemented by programmes on livestock restocking and breed improvement.[39] These interventions aim to enhance resilience to climate variability and promote agro-industrial development, though challenges remain in financing, market access, and water availability.

Social development policies prioritize education, health, and social protection, linking human capital formation to broader economic goals. Government plans include universal health coverage, free education up to tertiary level by 2026, and expanded vocational training infrastructure. Social protection measures, such as the Conditional Basic Income Grant and transfers to the elderly, children, and persons with disabilities, reach a significant share of the population.[40] Ongoing efforts to align skills development with labour market needs, particularly for youth and SMEs, seek to strengthen the connection between social investment and productive employment.

Youth empowerment and creative industry policies are framed as new drivers of employment and innovation. The consolidation of youth-targeted programmes under a National Youth Fund (initially N$257 million)[41] and the establishment of a SEZ for the Film Industry illustrates this orientation. Additional initiatives include national internship and apprenticeship programmes, as well as investment in digitalization.

Land, housing, and spatial development policies aim to improve access to serviced land and address urban inequality. Current initiatives include plans to construct 50,000 affordable housing units[42] and formalize informal settlements. Institutional reforms, such as the creation of a Special Land Delivery Task Force and revision of the Township Board, are intended to accelerate land allocation. In rural areas, implementation of the Land Bill and redistribution targets (130,000 hectares over five years)[43] seek to promote more equitable and productive land use, though progress will depend on administrative capacity and land tenure arrangements.

3.2 Mining and extractives regulatory framework[44]

The mining legal and institutional framework is centred on the Minerals (Prospecting and Mining) Act No. 33 of 1992. The Act establishes procedures for granting and managing mining and prospecting licenses, and defines the rights and obligations of license holders. This Act is complemented by the Minerals (Prospecting and Mining) Amendment Act No. 8 of 2008, which introduced revisions to improve administrative processes and regulatory oversight. The Ministry of Industries, Mines and Energy (MIME) serves as the primary authority responsible for implementation, with the Mining Commissioner exercising powers delegated under the Act.

Several other laws form Namibia's broader mining regulatory framework. The Diamonds Act of 1999 governs the exploration, mining, and marketing of diamonds, while the Mines, Workers and Minerals Ordinance No. 20 of 1968 and the Minerals Development Fund of Namibia Act of 1996 address legacy regulatory issues and sectoral financing, respectively. The Mine Safety Regulations of 1997 set health and safety standards for mining operations, and the Determination of Rates of Royalties (2009) outlines royalty payments applicable to various mineral groups. Together, these instruments define the legal structure within which mining activities are conducted and monitored in Namibia.

[39] Ibid.

[40] Ibid.

[41] Ibid.

[42] Ibid.

[43] Ibid.

[44] African Mining Legislation Atlas, available at https://www.a-mla.org/en/country/Namibia

Environmental management is regulated through a separate set of laws. The Environmental Management Act (EMA) No. 7 of 2007 establishes the requirement for environmental clearance certificates for listed mining activities and provides the main framework for environmental impact assessments (EIA) and monitoring. The Act is administered by the Ministry of Environment, Forestry and Tourism (MEFT). Other complementary instruments include the Water Resources Management Act No. 11 of 2013, which governs water use and protection, and the Forest Act of 2001, which sets provisions for forest conservation in areas affected by industrial activity. These laws ensure that environmental considerations are formally integrated into the approval and oversight of mining projects.

Supporting legislation defines the fiscal, corporate, and jurisdictional aspects of mining operations. The Companies Act of 2004 and its 2007 Amendment establish governance and reporting obligations for mining companies, while the Income Tax Act of 1981 outlines the tax framework applicable to mining enterprises. The Petroleum (Exploration and Production) Act of 1991 regulates the oil and gas subsector, ensuring consistency between the governance of mineral and hydrocarbon resources. The Territorial Sea and Exclusive Economic Zone of Namibia Act of 1990 extends regulatory jurisdiction to offshore mineral extraction, including marine diamond mining.

Namibia's Legislative Modernization Initiative seeks to update existing mining legislation. The proposed Minerals Bill under preparation aims to modernize the provisions of the 1992 Act, introducing measures on local content, value addition, and community participation. These efforts reflect the government's intention to adapt Namibia's mining legislation to evolving economic, technological, and environmental contexts, while maintaining continuity with the existing regulatory structure.

4.

Stakeholder mapping of critical energy transition minerals value chains



© Adobe Stock

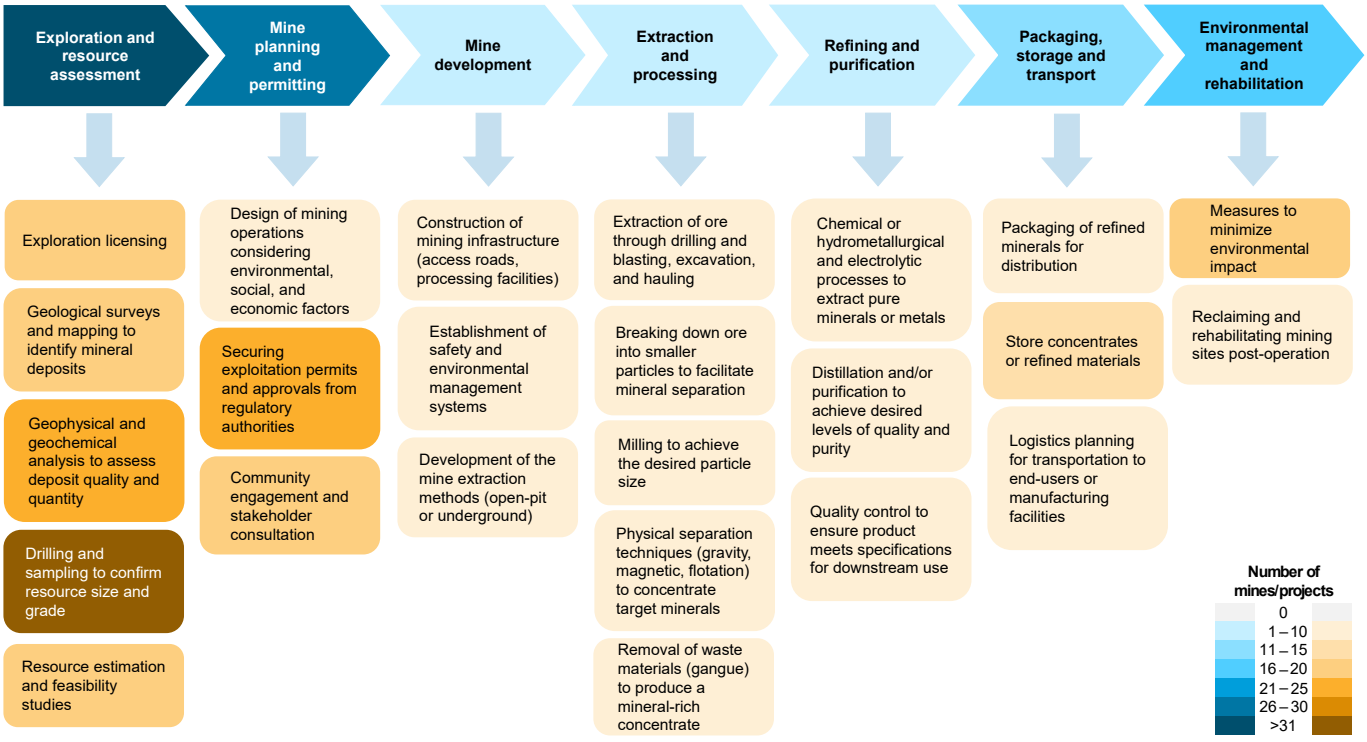
4. Stakeholder mapping of critical energy transition minerals value chains

Namibia's participation in CETM value chains is heavily concentrated in upstream activities, with foreign companies dominating exploration, extraction, and initial processing, while domestic ownership and downstream production remain limited. Foreign ownership averages over 70 per cent in exploration and around 90 per cent in extraction and processing, reflecting the high capital intensity and technological requirements of these sectors. Namibia hosts more than 20 active CETM exploration projects and eight major operating CETM mines, supported by a well-developed logistics network centred on the Port of Walvis Bay. Artisanal and small-scale mining (ASM), involving over 38,000 operators and providing livelihoods to more than 10,000 people, plays a complementary role but remains weakly integrated into formal value chains. Together, these patterns highlight significant scope to expand domestic participation, skills development, partnerships, and beneficiation to move Namibia further downstream in CETM value chains.

Namibia's participation in CETM value chains remains focused on upstream activities by foreign actors. An examination of Namibia's mining value chain, as depicted in Figure 10, reveals a pronounced emphasis on early-stage activities, including exploration and resource assessment, as well as on mine planning and permitting across both exploration projects and mining operations.

Figure 10

Namibia's role across the mineral value chain



Source: Adapted from the Chamber of Mines of Namibia (2025).

Extraction and initial processing play a critical role in Namibia's mining sector, while engagement in the more downstream segments is limited. High levels of foreign ownership and considerable variation in the intensity of engagement across operational categories characterize the landscape. While a significant number of sites are involved in core activities, such as resource assessment, extraction, and environmental management, activities linked to refining and advanced beneficiation are less widely distributed. This concentration in upstream operations underscores the need to promote local participation, skills development, and partnerships, particularly beyond the initial phases of the value chain.

4.1 Exploration

Foreign ownership is predominant at the exploration stage. At the exploration stage, more than 20 major projects are currently engaged in geological surveys, mapping, and feasibility studies across minerals, including those particularly critical to the energy transition, such as copper (6), uranium (5), REEs (5), lithium (4), and zinc (3). These ventures are primarily operated by subsidiaries or independent companies. In total, 24 companies are involved in CETM exploration in Namibia: 13 subsidiaries, four local and five foreign independent firms, and two joint ventures. Overall, local ownership averages 28.4 per cent, while foreign participation averages 71.6 per cent, predominantly from Australia, Canada, and China.[45]

Local participation in mining is facilitated through strategic partnerships, public institutions and educational support. These strategic partnerships are through Namibian foundations, trusts, and state-linked entities. While foreign ownership dominates in this high-risk phase, the Namibian government, through the Geological Survey Directorate under MIME and the Directorate of Environmental Affairs under MEFT, provides regulatory oversight, geological data, and environmental compliance oversight. Institutions such as the National Heritage Council assess cultural and historical considerations in project design. Academic institutions, particularly the University of Namibia (UNAM) and the Namibia University of Science and Technology (NUST), contribute through training programmes and tertiary education in mining, mechanical and metallurgical engineering, and geology, as well as research related to exploration and environmental practices.

Most mining projects are on the upstream part of the value chain: in resource assessment (33 projects) and planning and permitting (21). Additional categories identified include mine development (5), environmental management and rehabilitation (2), and packaging, storage and transport (1). As these projects operate under Exclusive Prospecting Licenses, no activities related to extraction, processing, or refining have been reported. Within the exploration and resource assessment category, 28 projects are engaged in resource estimation and feasibility studies. Other sub-activities include drilling and sampling (22), geological surveys and mapping (19), geophysical and geochemical analysis (18), and exploration licensing (18). In mine planning and permitting, the most common sub-activity is community engagement and stakeholder consultation (18), followed by securing exploitation permits and regulatory approvals (11).

Mine development is centred on infrastructure, safety, and extraction method design. Construction of mining infrastructure includes access roads and processing facilities. Safety initiatives focus on the establishment of safety and environmental management systems, while the development of extraction methods includes open-pit and underground techniques. The sole sub-activity under packaging, storage and transport is logistics planning for delivery to end-users or manufacturing facilities.

[45] Chamber of Mines of Namibia. (2025). Annual Review 2024. Available at: https://chamberofmines.org.na/wp-content/uploads/2025/07/Chamber-of-Mines-Annual-Report_web_14-July.pdf.

Operational mines in Namibia are actively pursuing resource exploration, assessment, and planning for potential expansions. Within exploration and resource assessment, four mines are conducting resource estimation and feasibility studies, with one moving beyond into drilling and sampling. Mine planning and permitting activities are being undertaken by seven mines centred on securing exploitation permits and regulatory approval.

4.2 Extraction and processing

Foreign companies also hold a dominant position in Namibia's extraction of CETM. Namibia hosts eight major CETM mining operations across uranium (3), copper (2), manganese (1), tantalum (1), tin (1), and zinc (1). Five other mines are under care and maintenance, and four are closed (see Map 1). These mines are primarily owned by foreign companies, with the Otjozondu Mine as the only fully Namibian-owned operation. Overall, foreign ownership averages 90.4 per cent, with the main countries of origin being China, Canada, the United Kingdom, Australia, Japan, and South Africa. Local ownership averages 9.6 per cent, primarily through Epangelo Mining Company, Namibia's state-owned mining enterprise.[46]

Domestic participation in mining operations is still limited but increasing. Foreign partners provide the bulk of capital investment, while Namibian organisations are increasingly involved in ownership and operations through joint ventures, employee shareholding schemes, and community trusts. These ventures are supported by public utilities such as the Namibia Power Corporation (NamPower) and the Namibia Water Corporation (NamWater), and regulated by authorities overseeing health, labour, and environmental standards. Education and skills development are supported by institutions like the Namibia Training Authority (NTA) and other vocational training providers.

The most prominent operational categories include extraction and processing, packaging, storage and transport, and environmental management and rehabilitation. Extraction and processing (8 mines) sub-activities include drilling, blasting, excavation, and hauling (7), as well as ore breakdown to facilitate mineral separation (7), and milling to achieve the desired particle size (6). Packaging, storage, and transport centre on the storage of concentrates or refined materials, with 12 mines reporting involvement in this sub-activity. Environmental management and rehabilitation measures have been implemented in 15 mines, with 14 actively pursuing strategies to minimize environmental impact.

Processing and beneficiation are technically advanced but concentrated in foreign companies. Facilities such as the Sinomine Tsumeb Smelter, Langer Heinrich Uranium's upgraded plant, and Andrada's tin processing facility illustrate current capabilities. Public agencies support these operations through infrastructure services and regulatory administration. The Ministry of Finance and Public Enterprises (MFPE), the Ministry of International Relations and Trade (MIRT), including the Namibia Investment Promotion and Development Board (NIPDB), the country's lead investment promotion agency, provide investment-related frameworks. Financial institutions, including commercial banks and development finance providers, offer project funding and insurance services, including for some locally based contractors.[47] Academic and research institutions contribute to technical processes, including innovation and environmental assessment. Civil society groups and ESG-focused platforms, such as the Namibia Chamber of Environment and the ESG Committee of the Uranium Association, engage in monitoring and stakeholder consultation on environmental and social issues.

[46] ibid.

[47] Republic of Namibia; Ministry of Industrialisation and Trade (2021). Mineral Beneficiation Strategy for Namibia. Available at: https://economy.com.na/resource/minerals-beneficiation-strategy-for-namibia/

Map 1

Mines in Namibia

Operational On care and maintenance Closed



Source: UNCTAD, adapted from the Chamber of Mines of Namibia (2025).

Refining and purification capacity remains relatively limited. These processes are carried out in six mines, with quality control to meet downstream specifications being the most common sub-activity (6). Additionally, five mines employ chemical, hydrometallurgical, or electrolytic methods to extract pure minerals or metals. A notable example is the Tsumeb Mine, operated by Sinomine Tsumeb Smelter (Pty) Ltd., which features an on-site smelter producing blister copper.

Namibia has a well-integrated logistics network, primarily road and sea transport. The Port of Walvis Bay serves as the country's principal maritime gateway, offering direct access to international markets and regional corridors such as the Walvis Bay-Ndola-Lubumbashi Development Corridor. It is complemented by a well-maintained road network that links mining

sites to export hubs and industrial zones. Government institutions such as MIME and NPC integrate mining into broader development planning. Platforms like the Chamber of Mines of Namibia and the Namibia Trade Forum facilitate public-private engagement. At the same time, trade unions and community-based organizations participate in the labour representation and local consultation. Educational institutions continue to provide technical training and conduct research relevant to the mining sector and its policy environment.

4.3 Artisanal and small-scale mining

ASM is modest in size but plays a vital role in Namibia's mineral value chain. The country hosts over 38,000 ASM operators across its 14 regions, the smallest ASM population in the SADC region.[48] The highest concentrations are found in the Erongo Region, particularly the Karibib district, followed by Daures and Epupa in the Kunene region.

While ASM has traditionally focused on gemstones and dimension stones, recent operations have begun extracting CETM. These include copper, tin, tantalum, and lithium-bearing pegmatites. ASM may serve as an entry point for beneficiation and local processing. Although some gemstone miners have established links with polishing and cutting cooperatives, most CETM materials are still traded locally or exported in raw form due to limited access to capital, inadequate technology, and low integration into formal value chains.[49]

Strengthening ASM through public-private partnerships (PPP) and cooperatives could enhance domestic processing. In this context, Namibia's Mineral Beneficiation Strategy, through its Securing Raw Material and Intermediate Resources lever, includes a target to increase partnerships between ASM and large-scale mining firms by at least 30 per cent by 2025.

ASM creates employment, but women's participation is limited. ASM provides direct employment to more than 10,000 people, with many more relying on the sector indirectly.[50] It plays a significant economic role in rural areas with limited alternative livelihood options. The sector remains male-dominated, with women representing approximately 10 per cent of the direct workforce. Broader participation across the value chain, including mineral processing, trading, marketing, and support services, raises female participation to an estimated 18 to 20 per cent.[51] Policy efforts under the National Gender Policy and education initiatives aim to strengthen women's participation and improve working conditions in all sectors, including ASM.[52]

4.4 Partnerships with Japan in Namibia's critical energy transition minerals sector

Strategic partnerships with Japan advance CETM exploration and development. In August 2023, Namibia and Japan signed an agreement for the joint exploration and development of REEs in Namibia, aimed at ensuring a stable supply for the Japanese automotive sector. Under the agreement, the Japan Organisation for Metals and Energy Security (JOGMEC) will collaborate

[48] East Central and Southern Africa Health Community (ECSAHC) (2025). Population and Size Estimate of Artisanal and Small-Scale Miners. Available at: https://ecsahc.org/wpcontent/uploads/2025/01/ASM-Mapping-.pdf.

[49] Republic of Namibia; Ministry of Industrialisation and Trade (2021). Mineral Beneficiation Strategy for Namibia. Available at: https://economy.com.na/resource/minerals-beneficiation-strategy-for-namibia/

[50] Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development. (2018). Mining Policy Framework Assessment: Namibia. Available at: https://www.igfmining.org/resource/mining-policy-framework-assessment-namibia/.

[51] IGF. (2018). Mining Policy Framework Assessment: Namibia. Available at: https://www.iisd.org/system/files/publications/namibia-mining-policy-framework-assessment-en.pdf.

[52] Republic of Namibia; Ministry of Gender Equality and Child Welfare. (2010). National Gender Policy 2010–2020. Available at: https://1325naps.peacewomen.org/wp-content/uploads/2020/12/namibia_gender_2010-2020_en.pdf.

with Epangelo Mining on several exploration projects.[53] A key outcome is the Lofdal Heavy Rare Earths Project in northwestern Namibia, a joint venture between JOGMEC and Namibia Critical Metals Inc. JOGMEC has committed up to US$20 million for development,[54] focusing on heavy REEs such as dysprosium and terbium, which are critical for the manufacture of permanent magnets used, for instance, in wind turbines and electric motors.

Japanese financial institutions facilitate investment in Namibia's CETM sector. In December 2023, the Japan Bank for International Cooperation signed a memorandum of understanding (MoU) with Namibia's MFPE, aiming to encourage Japanese companies to invest in environmentally sustainable projects, including CETM-related projects, and to support Namibia's broader goals for emissions reduction and renewable energy deployment.[55] These initiatives underscore Japan's strategic interest in diversifying its CETM sources while contributing to Namibia's economic development and environmental objectives.

[53] Namibia Critical Metals Inc. (2024). Lofdal Heavy Rare Earths Project Under Joint Venture with JOGMEC. Available at: https://www.namibiacriticalmetals.com/projects/lofdal-heavy-rare-earths-project

[54] Ibid

[55] Japan Bank for International Cooperation. (2023). Press Release: Memorandum of Understanding Signed with Namibia. Available at: https://www.jbic.go.jp/en/information/press/press-2023/press_00139.html

5.

Data and methodology


Rapid Assessment of Value Addition and Diversification Capacity

© UNCTAD

5. Data and methodology

This report presents an analysis that combines quantitative methods, using economic complexity and product space methodologies, with qualitative input from industry specialists to assess the manufacturing potential of identified products. A key feature is the granular product analysis, segmenting products by unit price and quantity within HS-6-digit codes to better capture value differences and refine product targeting. A workshop with industry experts was conducted to validate findings from the algorithm and translate these into actionable recommendations through a subsequent policy engagement workshop.

Box 1 briefly defines the key concepts in the report and explains how they are applied in the present analysis.

Box 1

Key concepts used in this report: diversification, economic complexity, and the product space

This report draws on the economic complexity and product space literature to identify feasible diversification pathways for Namibia, applying the following concepts:

Economic diversification refers to the expansion of an economy's productive and export structure into a wider range of products. Within the economic complexity framework, diversification is interpreted as a proxy for the breadth of an economy's productive capabilities, including skills, technologies, institutions, infrastructure, and organizational know-how. Diversification, therefore, depends not only on the number of sectors but on the variety of products that require different combinations of underlying capabilities.

Economic complexity captures both the diversity of products an economy can produce and the non-ubiquity of those products in global trade; an economy is more complex when it exports many products that relatively few other countries can produce. It is a relational concept that reflects how a country's productive structure compares with others, rather than an absolute technological ranking.

Product complexity refers to the level of productive capabilities typically required to produce a given product, inferred from global trade patterns. Products exported by many, including less diversified economies, tend to be lower-complexity, whereas those exported by fewer, more diversified economies tend to be classified as higher-complexity products.

The product space is a network representation of relatedness between products, based on the probability that countries export them together. Products that are close in this space tend to require similar capabilities. Empirical evidence shows that countries usually diversify into products that are proximate to those they already produce, revealing strong path dependence.

In this report, these concepts are combined to identify diversification pathways comprising products that are economically meaningful and realistically attainable within Namibia's existing productive structure.

Source: UNCTAD, based on the economic complexity and product space literature, such as. Hidalgo, C and Hausmann, R 2009, The building blocks of economic complexity, PNAS, 106(26), 10570–5, Hidalgo, C, Klinger, B, Barabasi, A-L & Hausmann, R 2007, The product space conditions the development of nations, Science, 317(5837), 482–7, and Tacchella, A, Cristelli, M, Caldarelli, G, Gabrielli, A & Pietronero, L 2012, A new metrics for countries' fitness and products' complexity, Scientific Reports, 2(723).

5.1 Data collection

Trade data is used to assess Namibia's position in the global product space and its domestic manufacturing potential. The project applies the economic complexity and product space frameworks to assess the sophistication of Namibia's productive capabilities and feasible pathways for expansion at the product level. It uses global trade data for 2023, extracted from UN Comtrade and classified under HS 2002 at the 6-digit level. To estimate average economic and product complexity, as well as a measure of product proximity, a bipartite network is constructed that links countries and products. Granularity is enhanced by disaggregating each product by unit code for quantity and unit price range, assigning an 8-digit code where:[56]

- The first six digits correspond to the HS 2002 code,
- The seventh digit reflects the unit quantity code, and
- The eighth digit represents the unit value group, capturing price ranges.

This extended classification enables more precise product identification than traditional models and a finer mapping in the product space based on observed trade patterns and value differentiation. Results are reported using this augmented HS classification.

Namibia's current exports are used to identify its existing capabilities and potential for diversification. While production data would offer a more complete snapshot, particularly for goods produced but not exported, its unavailability makes trade data the second-best alternative. One limitation is that trade data excludes domestically produced goods that are not exported, potentially underrepresenting actual capacities. In addition, in large, diverse economies, trade data often reflects aggregate national capacities that might not apply uniformly across all regions. In Namibia's case, with a relatively small and concentrated population, it is assumed that national-level trade data reflects the country's principal productive base.

5.2 Methodology

5.2.1 Initial product identification

Products for diversification are identified by measuring proximity, complexity, and market opportunities. Proximity is measured as the probability of products being co-exported. The analysis identified products that are highly proximate; those that countries with similar export profiles also export with 80 per cent or more probability. This initial product identification process builds on the Method of Reflections developed by Hidalgo and Hausmann (2009), with modifications proposed by Freire (2017). This approach yields a list of potential diversification products based on:

- Product proximity to Namibia's current exports, with a co-export probability over 0.80,
- Products with above-average national economic complexity,[57] and
- Sufficient market opportunity, measured using a monetized overlap index.

The monetized overlap index estimates the alignment between Namibia's potential new exports and rising global import demand in the target market.[58] To ensure that identified products reflect sustained growth, only products with positive average annual import growth between 2018 and 2023, and positive growth in the most recent year (2022–2023), are included.

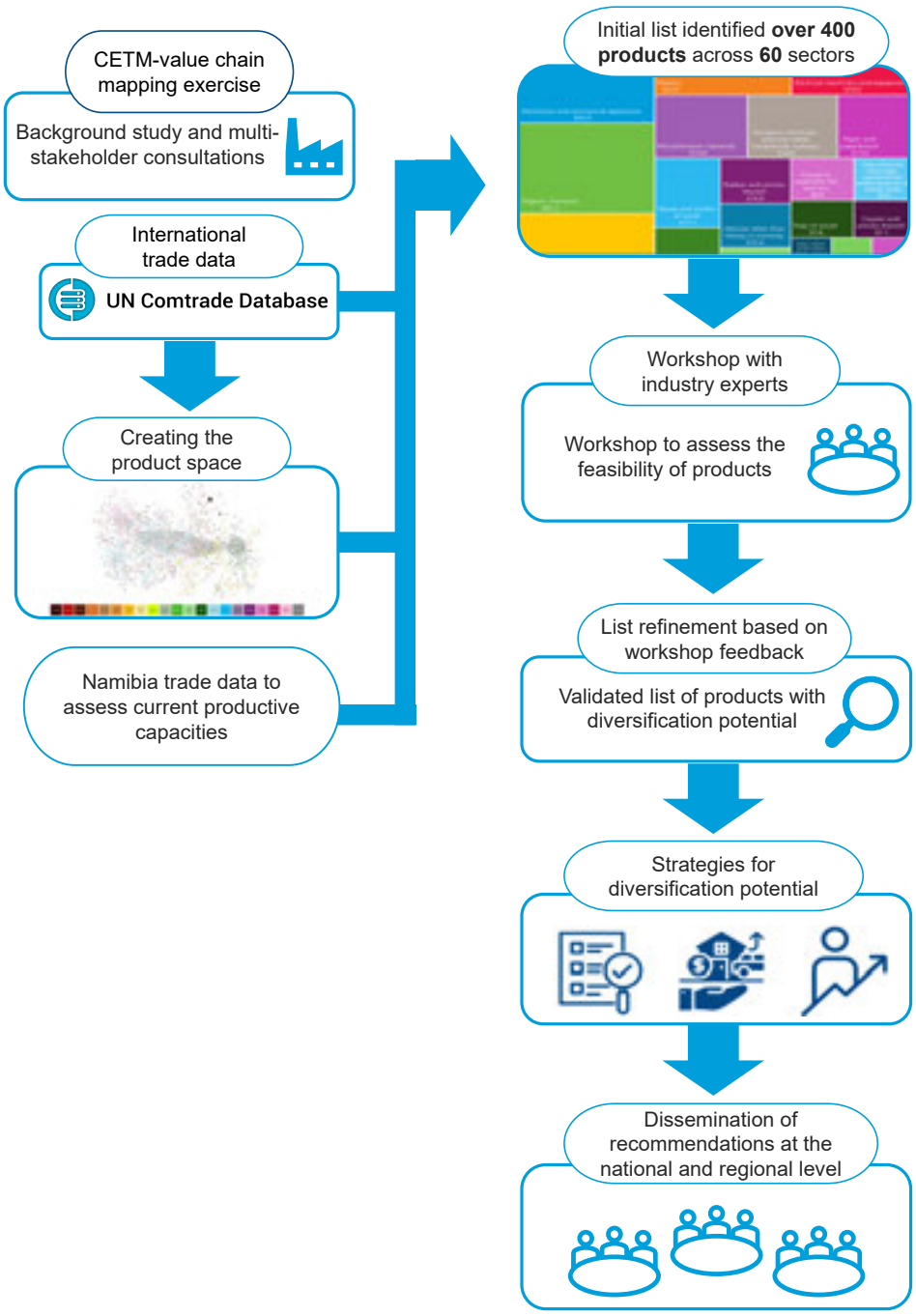
[56] Following Freire (2017).

[57] As highlighted in the literature (e.g. Freire, 2017) identifying products with above-average national economic complexity steers diversification towards more complex products that could prompt development.

[58] The computation of measures used is included in Appendix B.

Figure 11

Project methodology



Source: UNCTAD.

This approach is applied across four scenarios. The first identifies export diversification opportunities for Namibia in global markets. In addition to proximity and complexity filters, products must represent weighted export opportunities exceeding US$500,000 and have exhibited positive global import growth from 2018 to 2023, including in the most recent year (2022–2023). Total export opportunities are then weighted by Namibia's 2023 bilateral trade share with each potential destination country. This adjustment provides a more conservative estimate of market access. For countries with no recorded trade with Namibia in 2023, the minimum observed trade share is assigned to avoid excluding viable new markets. Following the announcement of reciprocal tariffs (τ) by the United States, the bilateral trade weight for the

United States is reduced by a factor of (1 - τ), where τ equates the announced 21 per cent tariff on imports from Namibia. Export outcomes, however, are contingent on Namibia's positioning within each target market. While these opportunities reflect indicative market sizes adjusted for Namibia's current trade profile, they do not account for competitive dynamics, entry barriers, or firm-level strategies. Actual export outcomes may therefore vary depending on how Namibia positions itself within each target market.

Figure 11 presents a step-by-step visual overview of the project's methodological phases.

The second scenario targets export opportunities within SADC to reflect regional integration priorities. Unlike the global scenario, this version excludes bilateral trade weighting, given SADC's intended role as a free trade area and Namibia's potential to benefit from trade within the bloc. Products must meet a minimum opportunity threshold of US$425,000, and import growth trends are calculated using SADC-only import data.

The third scenario focuses on non-SADC AfCFTA members, maintaining the same complexity and threshold filters as the SADC case. Bilateral trade weights are again omitted to reflect AfCFTA's principle of equal access, and import growth trends are derived from non-SADC African countries.

The fourth scenario is the import-substitution. This uses the same methodological foundation as the export diversification assessment but focuses on identifying products for which Namibia's prospective new exports align with its growing import demand. The minimum opportunity threshold is lowered to US$250,000 to reflect the smaller size of the national market. Although these opportunities are generally smaller in value compared to those identified in the export scenarios, they offer several strategic advantages: proximity to consumers and existing domestic demand. In some cases, these factors may lower barriers to entry compared to those in international markets. By considering import substitution, the analysis identifies products for which domestic production could be expanded to meet local demand, thereby improving the trade balance and creating complementary pathways for diversification.

Table 3 summarizes the criteria and differentiators across the four scenarios. Criteria related to economic complexity and growth trends remain consistent throughout.

Table 3

Parameters of the four diversification scenarios

Scenario	Market orientation	Minimum opportunity (in USD)	Trade weighting
Global export opportunities	Global	500,000	Yes (bilateral trade shares; U.S. adjusted for announced tariff)
SADC export opportunities	Regional (SADC only)	425,000	No
AfCFTA export opportunities	Continental (AfCFTA excluding SADC)	425,000	No
Import substitution opportunities	Domestic	250,000	N/A

Source: UNCTAD based on primary data collection.

5.2.2 Sector aggregation and identification for workshops

Sector-level aggregation and ranking ensure targeted product prioritization. Within each scenario, product-level results are aggregated by sector (HS-2-digit) and ranked by the total monetary value of their export or import substitution opportunity. The top ten sectors from the global export opportunity scenario serve as the base list for workshops, with additional sectors from the top fifteen SADC, AfCFTA, and import substitution scenarios included to maximize relevance and sectoral overlap (Table 4).[59]

Table 4

Base list for discussion

HS code	Description	Import substitution	SADC	AfCFTA
28	Inorganic chemicals		Yes	
29	Organic chemicals		Yes	
38	Miscellaneous chemical products			Yes
39	Plastics and articles thereof	Yes	Yes	Yes
48	Paper and paperboard	Yes		Yes
72	Iron and steel	Yes	Yes	Yes
74	Copper and articles thereof			Yes
84	Machinery, mechanical appliances, boilers and their parts	Yes	Yes	
85	Electrical and electronic equipment	Yes	Yes	
87	Parts and accessories of vehicles			

Source: UNCTAD based on primary data collection.
Note: We consider HS codes related to food processing as a separate group based on the number of products.

Sectoral selection is initially guided by the CETM value chain's direct relevance. Based on the initial list, we tabulate the number of products per sector to identify additional high-performing sectors for inclusion in the workshop discussions. As the focus of the project, products related to CETM value chains are considered. In addition to HS-6-digit level codes for these minerals in their raw form, we also consider beneficiated or downstream articles derived from them, such as copper and articles of copper, given their potential value addition and the need to strengthen upstream activities to support such opportunities. Similarly, selected products under the chemicals chapters, including oxides, hydroxides (inorganic chemicals), catalysts, and flotation agents (organic chemicals and miscellaneous chemicals), are included due to their connection to metallurgy and their role in enabling CETM extraction and processing.

[59] Because all scenarios use Namibia's current export profile as the baseline, overlaps in sectoral opportunities are expected.

Targeting chemicals and metallurgical goods strengthens linkages to the twin digital and energy transitions. This creates opportunities to target low-hanging fruit within CETM value chains, thereby promoting domestic value addition and improving access to both source and intermediate inputs for partner countries. Following this classification,[60] we also retain selected products under natural and cultured pearls, precious and semi-precious stones and metals (HS 71), zinc and its articles (HS 79), and miscellaneous base metals and cermets (HS 81).

The assessment also includes selected products beyond the CETM value chain to build transferable capabilities that support sustained upgrading within CETM value chains. The analysis includes pharmaceuticals (HS 30) and the following sectors of food processing: dairy produce (HS 04), edible fruit and nuts (HS 08), milling products such as starches and wheat gluten (HS 11), animal and vegetable fats and waxes (HS 15), sugars and sugar confectionery (HS 17), preparations of vegetables, fruits, nuts, and other plant parts (HS 20), miscellaneous edible preparations (HS 21) and food residues (HS 23). We additionally include products classified under soap, organic surface-active agents, and washing, lubricating, polishing, or scouring preparations (HS 38). These sectors develop competencies in process engineering, quality management, standards compliance, industrial safety, logistics, and regulatory oversight, all directly relevant to downstream mineral processing, chemicals, and manufacturing. Conversely, due to the limited number of opportunities identified in vehicle parts and its relative distance from the other selected sectors, this industry is excluded from the workshop. This results in a more targeted approach that optimizes both the time available and the breadth of products to be discussed.

This exercise shortlists 353 products for workshop discussions (Table 5) from the 486 products initially identified. These products are grouped into eight broad sectors to fit the week-long workshop schedule. The analysis of this portfolio of opportunities is discussed in detail in Section 6.

Table 5

Shortlisted sectors

Sector	HS codes	Number of Products
Chemicals: inorganic, organic, mixed chemicals, soaps	28, 29, 34, 38	86
Iron and steel and articles of iron and steel	72, 73	70
Machinery, mechanical appliances, boilers and parts	84	51
Plastics and articles thereof	39	39
Paper and paperboard	48	29
Electrical machinery, equipment and parts	85	27
Pharmaceuticals and healthcare	29, 30, 38	18
Copper, other minerals and metals	71, 74, 79,81	17
Food processing	4, 8, 11, 15, 17, 20, 21, 23	16
Total		**353**

Source: UNCTAD

[60] The classification of products related to CETM value chains is presented in the result tables in Appendix C.

5.2.3 Industry workshop and product prioritization

The feasibility of producing the shortlisted products is assessed through an industry workshop consisting of semi-structured in-person interviews.[61] The workshop also captures expert input on prioritising products using criteria such as access to local resources (inputs, machinery, services, and labour), job-creation potential, women's participation, and environmental sustainability. Feedback on production processes, infrastructure, innovation opportunities, and cross-industry applications is collected to inform the overall assessment. All criteria are scored on a scale of 1 to 5, with higher aggregate scores indicating greater priority (Table 6). Additionally, sector-level insights are used to systematically assess and address Namibia's most pressing constraints in developing new products, with findings presented in section 7.

5.2.4 A strategic framework for building Namibia's productive capacities

Turning diversification potential into tangible outcomes requires a coherent, structurally grounded, and context-specific policy framework. This report proposes and applies such a framework in Namibia to support the emergence of new productive capacities around more than 100 priority products. The approach is rooted in three core principles:

- Structural grounding: Policies must be anchored in the country's existing capabilities and economic structure, recognizing the dual nature of the economy where capital-intensive, export-driven sectors coexist with underdeveloped domestic production. Interventions should aim to bridge these structural poles through targeted capability-building and institutional linkages.
- Coherence and complementarity: Diversification cannot be achieved through isolated policy actions. Effective support for new product clusters requires a coordinated set of policy instruments that work across domains such as skills, finance, infrastructure, and innovation, and that are aligned through deliberate institutional coordination.
- Problem-driven design: Rather than applying one-size-fits-all solutions, the framework focuses on identifying the binding constraints and capability gaps specific to each strategic product cluster. This allows for the co-creation of tailored policy responses that address the fundamental bottlenecks to investment, production, and competitiveness.

Under this framework, the identification of policy instruments is organized around seven functional domains, each representing a key enabler of productive transformation:

- Skills, education, and labour: Policies to strengthen technical education, accelerate workforce development, and ensure inclusion in the emerging sectors.
- R&D, innovation, and technology: Instruments to align research agendas with industrial goals, support technology transfer, and develop robust innovation ecosystems.
- Investment and finance: Mechanisms to unlock capital, de-risk private investment, and channel public finance toward strategic production.
- Enterprise support and trade: Tools to enhance firm capabilities, integrate local SMEs into value chains, and expand access to domestic and regional markets.
- Infrastructure and spatial industrial development: Interventions that align infrastructure planning with industrial priorities and promote territorial inclusion.
- Strategic procurement and market shaping: Policies to use public demand strategically to stimulate domestic production and support industrial upgrading.
- Environmental sustainability and green industrial policy: Instruments that embed climate resilience and eco-innovation in the industrialization strategy.

[61] Questionnaire included in Appendix B.

Table 6

Scoring criteria

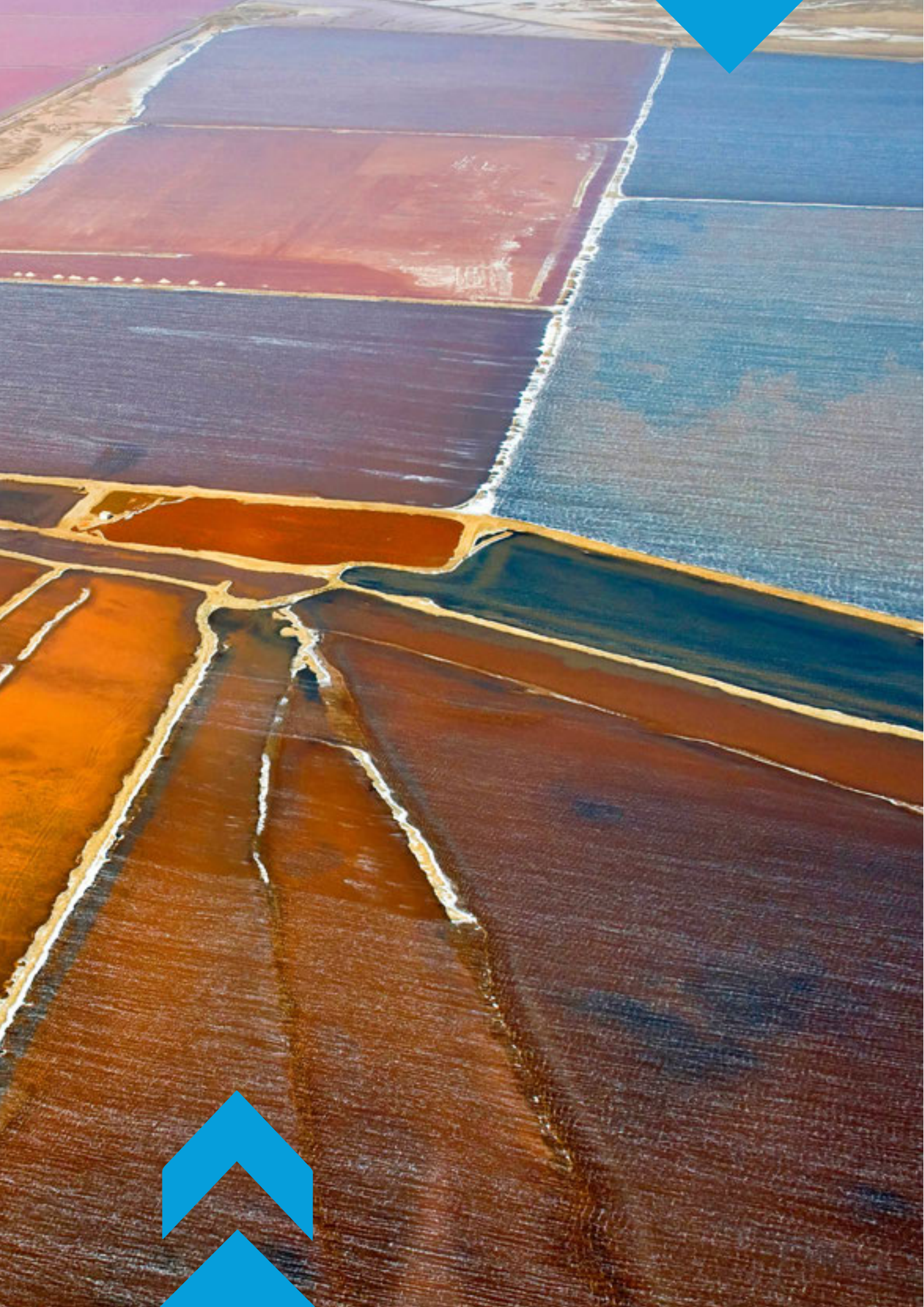
Criteria	Ranking scale
Access to materials	5 = Inputs / Machinery locally available
	3 = Available within SADC
Access to machinery	1 = Otherwise
Access to labour	5 = Labour locally available
	1 = Otherwise
Access to services	5 = All three main services available
	4 = Two main services available
	3 = Otherwise
Job creation	Normalized score; higher weight due to national priority
Women participation	5 = Women's sectoral average participation exceeds men's
	1 = Otherwise
Market knowledge	Additive score with a maximum of 5, where:
	2 = Domestic opportunity
	1.5 = Regional opportunity
	1 = Continental opportunity
	0.5 = Global opportunity
Market size	Normalized score reflecting relative market opportunity
Resource use	5 = Below average water and energy use
	3 = Average water and energy use
	1 = Above average water and energy use
	(Other gradations based on input combinations)
Environment	Higher scores for fewer associated negative environmental impacts.

Source: UNCTAD
Note: (*) The market size is calculated by summing the weighted global export opportunity with the unweighted regional and continental opportunities, where applicable. While some minor double-counting may occur, this is minimized by the relatively smaller size of the unweighted regional opportunities compared to the weighted global opportunity.

The framework operates as a practical methodology that connects technical analysis with coordinated policy action. Each policy domain is approached through a combination of technical diagnostics, stakeholder engagement, and cluster-based problem solving. Product-specific challenges are examined within the broader structural and institutional landscape, enabling the design of interventions that are both technically grounded and politically feasible. Cross-cutting coordination is ensured through a mechanism that identifies synergies, addresses interdependencies, and consolidates sectoral interventions into an integrated policy roadmap. In doing so, this framework provides a structured methodology for turning diversification potential into developmental outcomes. It allows policymakers to move from “what can we produce?” to “what must be in place for us to produce it?”, and to answer that question through a coherent and collaborative planning process.

6.

Portfolio of opportunities



6. Portfolio of opportunities

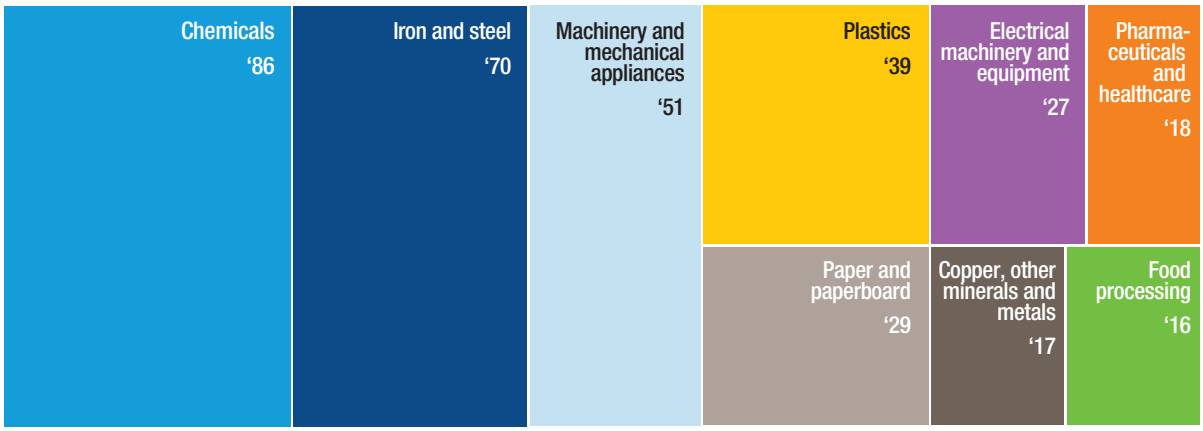
The analysis identifies 353 products with potential across 23 sectors, with chemicals, iron and steel, and machinery and mechanical appliances featuring the highest product counts. Under the global export scenario, 200 products present a weighted opportunity of US$811 million, with unweighted estimates rising to US$28.6 billion. About 33 of these products lie within the value chain of CETM, valued at US$221 million under weighted estimates. Import substitution presents 68 opportunities, totaling US$117 million. These findings highlight Namibia's substantial scope for industrial diversification and growth, outlining specific sectors and products of interest to domestic stakeholders and international partners.

Box 2 explains how to interpret the diversification outcomes presented in this chapter, including the treatment of established sectors and the relative nature of upgrading and product complexity. The results are shown at the sector level for readability, but the underlying analysis is conducted at the HS 6-digit product level, with additional disaggregation by price. A detailed list of products is provided in the Appendix.

Chemicals emerge as the most significant areas of diversification potential.[62] Of the 353 products from the shortlisted sectors, chemicals account for approximately 17 per cent of all products identified (Figure 12).[63] At the HS-2-digit level, organic chemicals (42 products) account for the largest share, followed by inorganic chemicals (23). Iron and steel products follow, representing 14 per cent of all identified products, and machinery and mechanical appliances account for 10 per cent. Copper, other minerals and metals, as well as food processing, each contribute 3 per cent of the identified products.

Figure 12

Shortlisted sectors with above-average economic complexity
(number of products)



Source: UNCTAD.

[62] References to the number of products identified reflect unique products across the four analytical scenarios. As the weighting differs for global export opportunities, and not all import-substitution opportunities are suited for export, this approach focuses on aggregate product counts rather than analysis in monetary terms.

[63] Based on the groupings defined above.

Box 2

How to interpret the diversification results

The diversification results presented in this chapter should be read as capability-based signals, not as an exhaustive inventory of sectors with export potential or as forecasts of realized production or exports. Diversification and upgrading are understood in a relative, dynamic sense: products that may be low - or medium-complexity globally can still represent meaningful steps toward diversification and upgrading relative to Namibia's current productive structure, as structural transformation typically proceeds through gradual capability accumulation rather than immediate entry into globally high-complexity products.

The product space approach is designed to highlight new or underdeveloped activities, rather than sectors where production and exports are already well established. As a result, sectors in which Namibia already shows a strong revealed comparative advantage and mature export capacity may not feature prominently among the identified opportunities, even though they remain economically strategic.

This logic can be illustrated through three sets of examples identified in the analysis.

Fisheries: Namibia has a well-developed fisheries sector, with products already featuring strongly in Namibia's export basket; thus, they may not appear prominently among the diversification opportunities identified through the product space analysis. This should not be interpreted as a lack of potential or policy relevance. Continued upgrading within fisheries—such as product differentiation, branding, quality upgrading, or expansion into higher-value processed products—remains an important development avenue.

Copper: Basic copper products are generally classified as low-complexity globally. However, for an economy with a narrow export base, diversification into refined copper, semi-fabricated copper products, or downstream copper-based manufactures can constitute upgrading through higher processing, stronger industrial linkages, and the development of engineering and manufacturing capabilities.

Chemicals: Some chemical products identified in the analysis may not rank among the highest-complexity products globally, but they typically require capabilities in process engineering, quality assurance, standards compliance, industrial safety, and energy management. Entry into such activities can therefore deepen industrial capabilities and create pathways toward more complex chemical and pharmaceutical production over time.

Iron and steel: Primary iron and steel products tend to be classified as lower-complexity in global rankings. Nevertheless, diversification into specific steel products, fabricated metal items, or construction- and mining-related inputs can strengthen domestic supply chains and support subsequent movement into more complex metalworking, machinery, and equipment industries.

Overall, the diversification results are intended to complement, not replace, sectoral analyses and national development strategies. They can inform policy dialogue on where new productive capabilities could plausibly be developed over time, alongside continued strengthening and upgrading of established sectors such as fisheries, mining, and tourism.

Source: UNCTAD, based on the economic complexity and product space literature, such as Hidalgo and Hausmann (2009), Hidalgo et al. (2007), and Tacchella et al. (2012).

Opportunities within the CETM value chain are in upstream processing and industrial inputs. A total of 60 shortlisted opportunities correspond to products within the CETM value chain, compared to 293 opportunities in the rest of the economy (Table 7). The largest group within the CETM value chain comprises copper and other mineral-based products (17 products), followed by machinery and mechanical appliances (13), which include equipment such as furnaces, metallurgical foundries, and metal-rolling mills. The chemical sector (11 products) includes copper and titanium oxides, while electrical machinery and equipment (10) primarily involves electrical accumulators, insulated conductors, and carbon electrodes. Plastics (6) mainly consist of polymers used in battery separators, and articles of iron and steel (3) are associated with wind turbine components. Outside the CETM value chain, most opportunities are concentrated in chemicals (75), iron and steel (67), and machinery and mechanical appliances (38).

Table 7

Distribution of shortlisted products within and beyond the CETM value chain, by sector

Sector	Within the CETM value chain	Beyond the CETM value chain
Copper, other minerals and metals	17	-
Machinery and mechanical appliances	13	38
Chemicals	11	75
Electrical machinery and equipment	10	17
Plastics	6	33
Iron and steel	3	67
Food processing	-	16
Paper and paperboard	-	29
Pharmaceuticals and healthcare	-	18
Total	**60**	**293**

The following sub-sections present results for the shortlisted sectors across the four scenarios: global export opportunities, regional (SADC) export opportunities, continental (AfCFTA) opportunities, and domestic import-substitution potential. The analysis details the shortlisted products, both within and beyond the CETM value chain, in monetary terms, along with their respective counts. For export scenarios, the results also identify the principal destination markets within each target region.[64]

[64] Appendix C presents the full set of results of shortlisted products for each scenario.

6.1 Within the critical energy transition minerals value chain

6.1.1 Global export opportunities

Global export opportunities within the CETM value chain are concentrated in chemicals and copper-based products. Under this scenario, 33 products are identified, with a weighted export opportunity of US$221 million, translating into a US$5.6 billion opportunity when unweighted (Table 8). Chemicals comprise the largest share, with an estimated US$153.4 million, accounting for 69.6 per cent of the total weighted value. At the HS-2-digit classification, inorganic chemicals (US$150.6 million) are the principal contributors. The unweighted scenario shows similar sectoral results, with chemicals representing the largest share of the total (39.1 per cent), again driven by inorganic chemicals. Copper and other minerals and metals constitute the next most significant group, offering an estimated export opportunity of US$47.4 million. This is predominantly attributed to articles of copper, which make up 9 of the 11 products in this category. Taken together, chemicals and copper-related products account for 91 per cent of the weighted and 76 per cent of the unweighted global export opportunities within Namibia's CETM value chains.

In terms of weighted values, Asia offers the largest market potential for Namibia's CETM-related exports. The region accounts for 75.4 per cent (US$166.5 million) of export opportunities, led predominantly by China (72.4 per cent), followed by India and Singapore (1.4 and 0.6 per cent, respectively) (Figure 13 and Table 9). Europe is the second-largest market (11.5 per cent), driven by France (6.0 per cent), Germany, and Spain (1.3 per cent each). Africa ranks third, with 9.4 per cent, with most opportunities concentrated in South Africa (9.0 per cent). These weighted estimates largely reflect Namibia's existing trade relationships, particularly with China, a key player in the global copper value chain.[65] At the product level, detailed information on export opportunities, including a breakdown by market and corresponding share, is presented in the Appendix.

Table 8

Global export opportunities within the CETM value chain

Sector	Number of products	Weighted world opportunity, in $US million	% of total	Unweighted world opportunity, in $US million	% of total
Chemicals	7	153	69.6%	2,190	39.1%
Articles of copper, other minerals and metals	11	47	21.4%	2,078	37.1%
Electrical machinery and equipment	6	8	3.5%	410	7.3%
Machinery and mechanical appliances	5	6	2.7%	252	4.5%
Plastics	3	6	2.6%	490	8.8%
Iron and steel	1	1	0.3%	176	3.1%
Total	33	221		5,594	

Source: UNCTAD

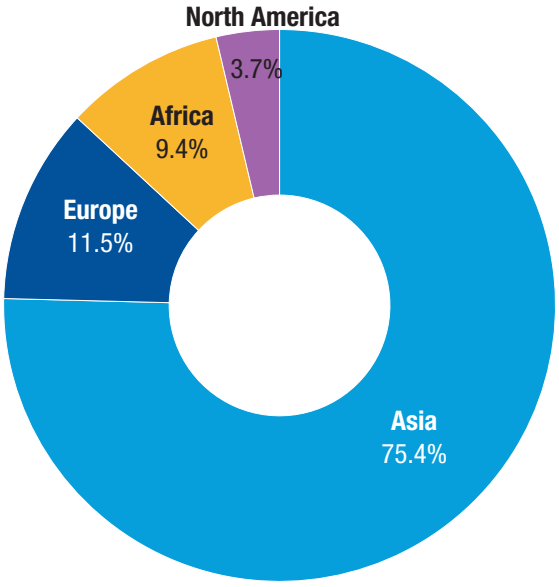
[65] UNCTAD. (2025). Global Trade Update (May 2025): Focus on critical minerals – copper in the new green and digital economy. Available at: https://unctad.org/publication/global-trade-update-may-2025-critical-minerals-copper

Unweighted estimates uncover untapped markets. While Asia remains the top destination, its share drops to 47.5 per cent, and the leading importers now span a broader range, with China (17.4 per cent), the United Arab Emirates (6.6 per cent), and Saudi Arabia (4.4 per cent) (Figure 14 and Table 10). Europe's share increases to 28.7 per cent, led by France and Germany. Latin America and the Caribbean emerge as the third-largest destination (9.8 per cent), driven by Mexico, which represents the second-highest potential market at 7.1 per cent at the country level. Without trade weights, opportunities to South Africa decline, making Africa the fourth-largest market (6.7 per cent).

Source: UNCTAD

Figure 13

Potential destination markets (based on weighted export opportunities), by region



Source: UNCTAD.

Table 9

Potential destination markets (based on weighted global export opportunities), by country

Potential market	Share of opportunity
China	72.4
South Africa	9.0
France	6.0
United States of America	3.1
India	1.4
Germany	1.3
Spain	1.3
Belgium	0.9
Italy	0.9
Singapore	0.6
Others	3.1

6.1.2 Regional export opportunities

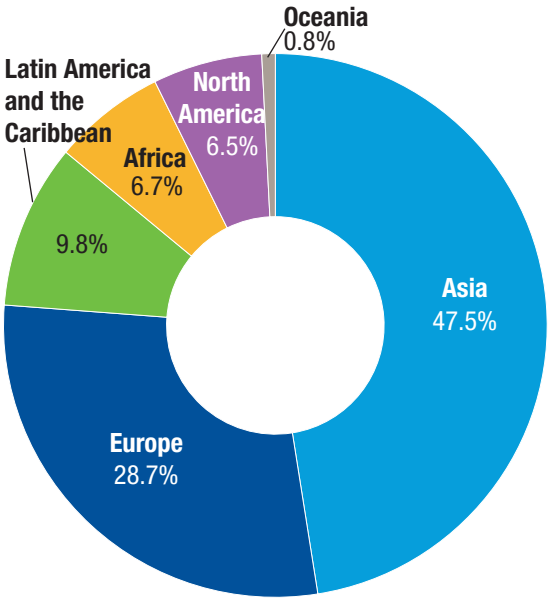
Regional (SADC) export opportunities are concentrated in metal-based goods. In total, 25 products within CETM value chains show export potential (Table 11), including five opportunities specific to the region.[66] These account for an unweighted export value of US$152.5 million, primarily driven by copper, other minerals and metals (54.7 per cent). This contrasts with the global pattern, where chemicals dominate, indicating stronger regional demand for metal-based goods. South Africa (59.0 per cent) and the United Republic of Tanzania (21.8 per cent) capture 80.8 per cent of these opportunities, equivalent to US$123.2 million (Figure 15). Additional markets include Zimbabwe, the Democratic Republic of the Congo, and Botswana, with smaller shares.

Source: UNCTAD

[66] One product can serve multiple markets. In this case, 20 products overlap with either global or continental export opportunities or with import substitution opportunities.

Figure 14

Potential destination markets (based on unweighted global export opportunities), by region



Source: UNCTAD.

Table 10

Potential destination markets (based on unweighted global export opportunities), by country

Potential market	Share of opportunity
China	17.4
Mexico	7.1
United Arab Emirates	6.6
United States of America	5.5
France	4.6
Saudi Arabia	4.4
Bahrain	4.4
Germany	2.8
Türkiye	2.7
Singapore	2.6
Others	41.9

Table 11

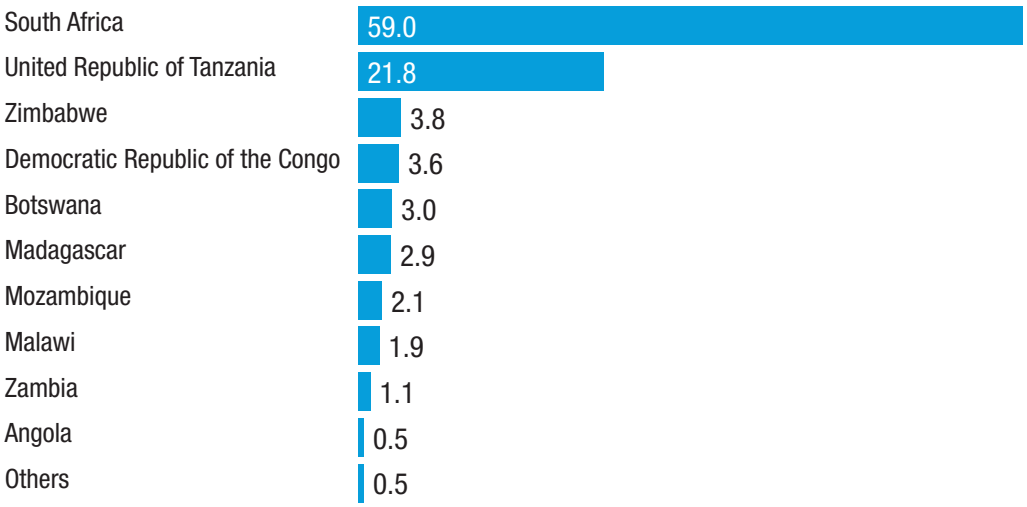
Export opportunities within the CETM value chain in the SADC

Sector	Number of products	Unweighted opportunity in Africa (excluding SADC), in $US million	% of total
Copper, other minerals and metals	7	180.3	64.0%
Plastics	2	37.6	13.0%
Chemicals	8	26.0	9.0%
Machinery and mechanical appliances	9	17.9	6.0%
Iron and steel	2	16.3	6.0%
Electrical machinery and equipment	2	1.6	1.0%
Total	**30**	**279.7**	

Figure 15

Potential destination markets within SADC, by country

(in percentage)



Source: UNCTAD.

Table 12

Export opportunities within the CETM value chain, in Africa (excluding SADC)

Sector	Number of products	Unweighted opportunity in Africa (excluding SADC), in $US million	% of total
Copper, other minerals and metals	7	180.3	64.0%
Plastics	2	37.6	13.0%
Chemicals	8	26.0	9.0%
Machinery and mechanical appliances	9	17.9	6.0%
Iron and steel	2	16.3	6.0%
Electrical machinery and equipment	2	1.6	1.0%
Total	**30**	**279.7**	

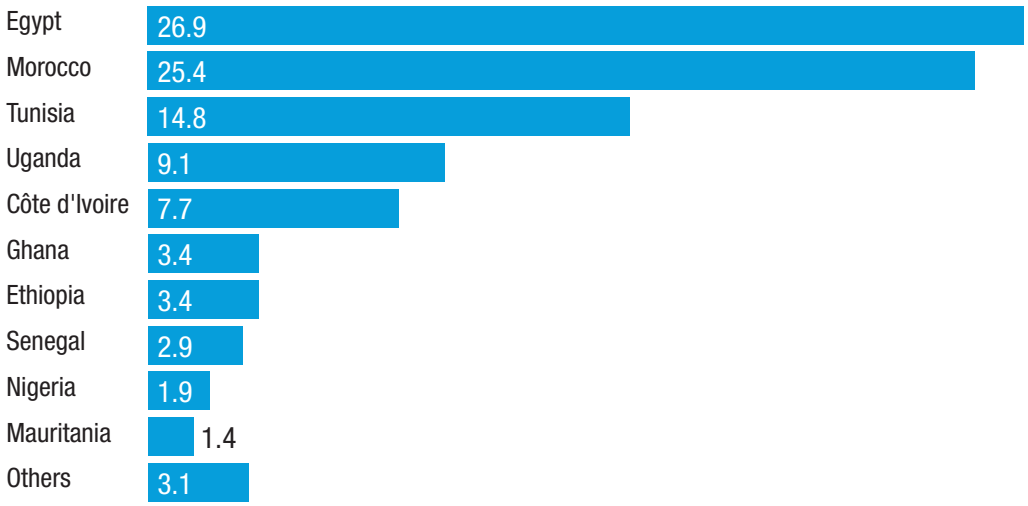
Source: UNCTAD

6.1.3 Continental export opportunities

The continental market offers potential for expanding Namibia's CETM-related exports, mainly to North Africa. Within the AfCFTA (excluding SADC members), the analysis shows 30 CETM products with export potential (Table 12), of which 11 are unique to this market. These opportunities are valued at US$279.7 million, again dominated by copper, other minerals and metals (64.4 per cent). Egypt (26.9 per cent) and Morocco (25.4 per cent) are the main destination markets, followed by Tunisia (14.8 per cent) and Uganda (9.1 per cent) (Figure 16).

Figure 16

Potential destination markets in Africa (excluding SADC), by country
(in percentage)



Source: UNCTAD.

6.1.4 Import substitution opportunities

Import substitution offers a complementary pathway for industrialization by leveraging domestic demand within CETM-related sectors. In this context, 15 products are identified, corresponding to US$27.6 million (Table 13). Iron and steel products dominate, representing 51.4 per cent of the total opportunity, followed by electrical machinery and equipment at 18.5 per cent, reflecting domestic import demand. Although the import-substitution opportunity is approximately eight times smaller than the weighted export opportunity for products within the value chain, it remains significant for fostering diversification and industrial development. Domestic-oriented production can strengthen the country's industrial capacity, especially in markets where Namibia already has firm-level knowledge and logistical advantages.

Table 13

Import substitution opportunities within the CETM value chain

Sector	Number of products	Weighted world opportunity, in $US million	% of total	Unweighted world opportunity, in $US million	% of total
Plastics	16	140.9	23.9%	2,421.0	10.5%
Iron and steel	31	114.1	19.3%	5,306.2	23.0%
Chemicals	53	103.4	17.5%	4,718.0	20.5%
Food processing	12	69.0	11.7%	1,854.0	8.0%
Machinery and mechanical appliances	19	54.4	9.2%	2,882.6	12.5%
Paper and paperboard	14	44.9	7.6%	2,641.4	11.5%
Electrical machinery and equipment	10	38.1	6.5%	1,962.9	8.5%
Pharmaceuticals and healthcare	12	25.5	4.3%	1,254.5	5.4%
Total	**167**	**590.3**		**23,040.4**	

Source: UNCTAD

6.2 Beyond the critical energy transition minerals value chain

6.2.1 Global export opportunities

Export opportunities beyond the CETM value chain point to strong potential in plastics, iron and steel, and chemicals. In this context, a total of 167 export opportunities were identified, valued at US$590.3 million under weighted estimates and US$23.0 billion when unweighted (Table 14). While chemicals account for the largest number of products (53), plastics lead in weighted export value, accounting for 23.9 per cent of the total with 16 products. This is followed by iron and steel (19.3 per cent; 31 products) and chemicals (17.5 per cent). The distribution shifts in the unweighted scenario: iron and steel dominate with US$5.3 billion (23.0 per cent), followed by chemicals at US$4.7 billion (20.5 per cent). Plastics remain significant, accounting for about 10.5 per cent of global unweighted opportunities.

Table 14

Global export opportunities beyond the CETM value chain

Sector	Number of products	Weighted world opportunity, in $US million	% of total	Unweighted world opportunity, in $US million	% of total
Plastics	16	140.9	23.9%	2,421.0	10.5%
Iron and steel	31	114.1	19.3%	5,306.2	23.0%
Chemicals	53	103.4	17.5%	4,718.0	20.5%
Food processing	12	69.0	11.7%	1,854.0	8.0%
Machinery and mechanical appliances	19	54.4	9.2%	2,882.6	12.5%
Paper and paperboard	14	44.9	7.6%	2,641.4	11.5%
Electrical machinery and equipment	10	38.1	6.5%	1,962.9	8.5%
Pharmaceuticals and healthcare	12	25.5	4.3%	1,254.5	5.4%
Total	**167**	**590.3**		**23,040.4**	

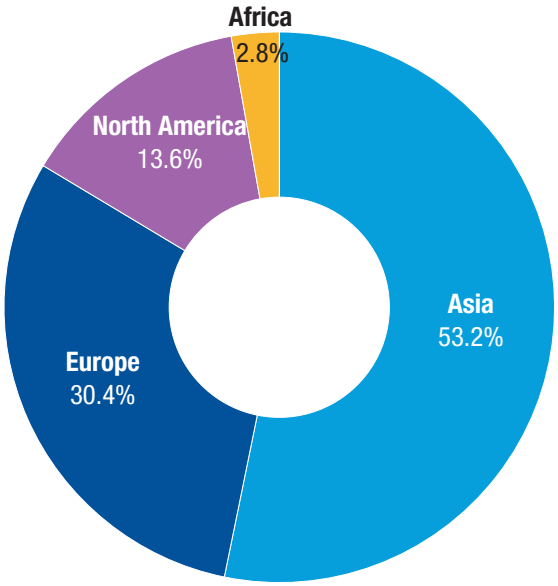
Source: UNCTAD

Asia offers the largest market potential for Namibia's non-CETM exports, followed by Europe and North America. Asia accounts for over half (53.2 per cent) of export opportunities, valued at US$314 million (Figure 17 and Table 15). Most of them are concentrated in China (45.3 per cent), followed by India (5.2 per cent) and the Republic of Korea (1.6 per cent). Europe is the second-largest market, accounting for 30.4 per cent of opportunities, led by France (10.3 per cent), Spain (5.2 per cent), and Belgium (5.1 per cent). North America ranks third (13.6 per cent), with the United States accounting for 8.5 per cent, and Canada 5.1 per cent. Africa captures a small share (2.8 per cent), with South Africa as the primary destination (2.5 per cent).

Opportunities outside the CETM value chain are more widely dispersed across a broader range of countries and sectors, including plastics, iron and steel, and machinery. This greater diversification suggests that expanding beyond CETM-related activities could help Namibia reduce dependency on a limited set of markets and commodities, while positioning new industries to serve multiple global and regional value chains.

Figure 17

Potential destination markets (based on weighted global export opportunities), by region



Source: UNCTAD.

Table 15

Potential destination markets (based on weighted global export opportunities), by country

Potential market	Share of opportunity
China	45.3
France	10.3
United States of America	8.5
Spain	5.2
India	5.2
Canada	5.1
Belgium	5.1
Germany	4.8
South Africa	2.5
Netherlands	1.7
Others	6.3

Unweighted estimates reveal untapped potential in Europe and the United States. Under this scenario, Europe emerges as the leading destination, increasing its share to 39.2 per cent, supported by Germany (6.8 per cent), France (5.2 per cent), and Italy (2.8 per cent) (Figure 18 and Table 16). Asia's share declines to 31.0 per cent, with China (7.1 per cent) still prominent, followed by India (4.0 per cent) and the United Arab Emirates (3.8 per cent). North America retains third position at 15.3 per cent of the total, with the United States as the largest individual market (9.9 per cent). Mexico emerges as another important player, with a 6.5 per cent share, positioning Latin America and the Caribbean as the fourth-largest regional destination for export opportunities. Meanwhile, Africa remains similar with a share of 2.6 per cent.

6.2.2 Regional export opportunities

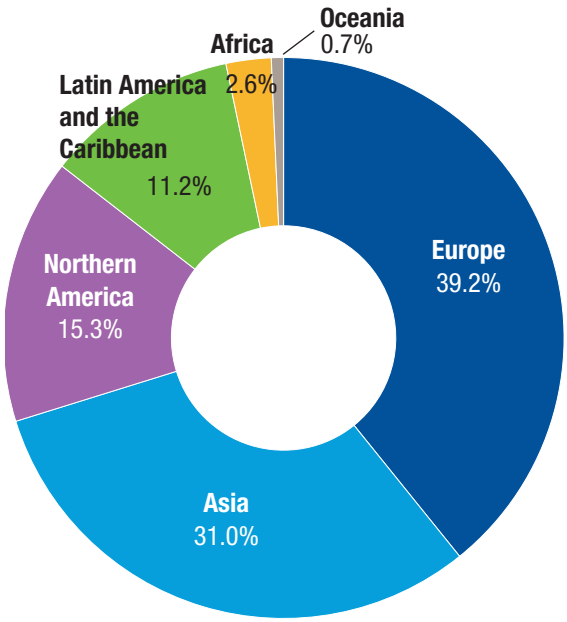
Regional trade within SADC presents substantial opportunities for Namibia, particularly in iron and steel, chemicals, and machinery. Assessment of the SADC market identifies 102 products, 15 of which are region-specific (Table 17). Estimated export values reach US$182 million, with iron and steel accounting for the highest share (28.3 per cent), followed by chemicals (17.5 per cent) and machinery and mechanical appliances (15.5 per cent). South Africa continues to serve as the region's largest export destination (37.6 per cent), followed by the Democratic Republic of the Congo (14.1 per cent) and the United Republic of Tanzania (13.2 per cent) (Figure 19).

6.2.3 Continental export opportunities

Beyond SADC, the AfCFTA market offers significant intra-African opportunities for non-CETM products, particularly in iron and steel, chemicals, and paper-based industries. The analysis identifies 170 opportunities (Table 18), of which 57 are region-specific. Iron and steel again dominate both in the number of products and monetary value, comprising 33.1 per cent of the total. Second are chemicals at 20.5 per cent and paper and paperboard at 18.6 per cent. Within the region, Egypt (39.0 per cent), Nigeria (11.9 per cent), and Morocco (11.7 per cent) are the largest destination markets (Figure 20).

Figure 18

Potential destination markets (based on unweighted global export opportunities), by region



Source: UNCTAD.

Table 16

Potential destination markets (based on unweighted global export opportunities), by country

Potential market	Share of opportunity
United States of America	9.9
China	7.1
Germany	6.8
Mexico	6.5
Canada	5.5
France	5.2
India	4.0
United Arab Emirates	3.8
Japan	2.8
Italy	2.8
Others	45.8

Table 17

Export opportunities beyond the CETM value chain in the SADC

Sector	Number of products	Unweighted opportunity in the SADC market, in $US million	% of total
Iron and steel	31	51.4	28.3%
Chemicals	20	31.8	17.5%
Machinery and mechanical appliances	19	28.2	15.5%
Food processing	3	22.0	12.1%
Electrical machinery and equipment	7	14.3	7.9%
Paper and paperboard	9	13.9	7.6%
Plastics	7	11.7	6.4%
Pharmaceuticals and healthcare	6	8.7	4.8%
Total	**102**	**182.0**	

Source: UNCTAD

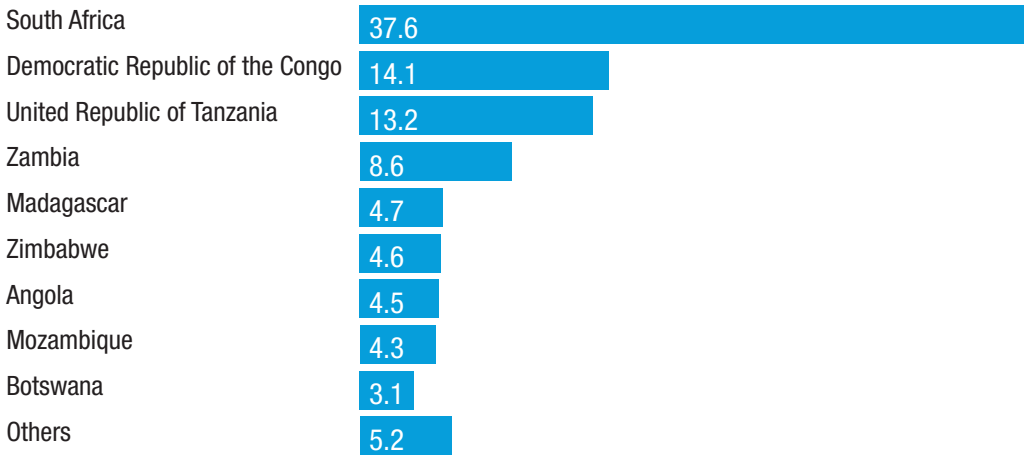
6.2.4 Import substitution opportunities

Import substitution beyond the CETM value chain reveals strong potential in plastics and paper-based manufacturing. A total of 53 products were identified, of which 22 are specific to the domestic market (Table 19). The aggregate value of these opportunities totals US$89.2 million. Plastics and paper and paperboard are the leading sectors for import substitution (35.9 per cent and 34.1 per cent, respectively). In contrast, iron and steel (13.6 per cent) and chemicals (9.2 per cent) represent smaller shares.

Figure 19

Potential destination markets within SADC, by country

(in percentage)



Source: UNCTAD.

Table 18

Export opportunities beyond the CETM value chain in Africa (excluding SADC)

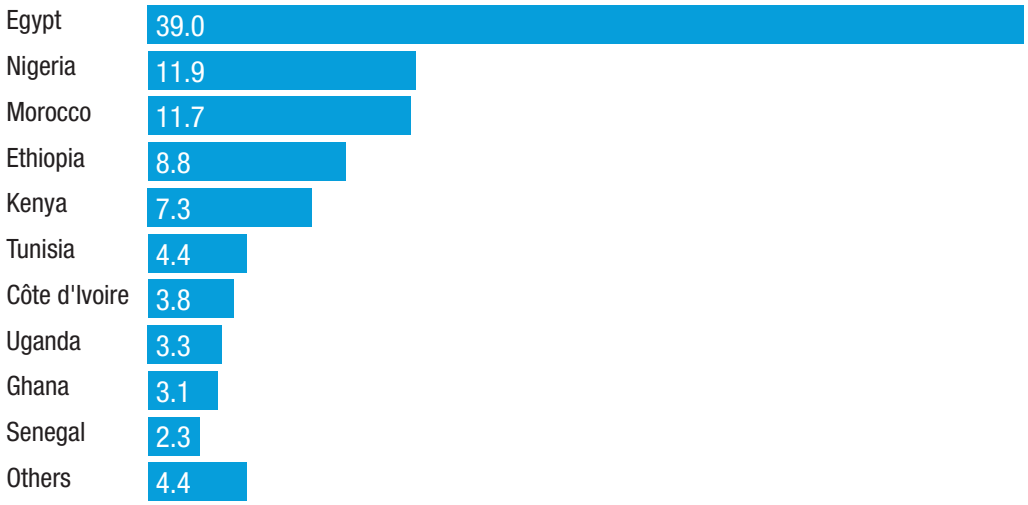
Sector	Number of products	Unweighted opportunity In Africa (excluding SADC), in $US million	% of total
Iron and steel	48	207.1	33.1%
Chemicals	42	128.6	20.5%
Paper and paperboard	19	116.4	18.6%
Plastics	22	82.4	13.2%
Machinery and mechanical appliances	16	39.8	6.3%
Pharmaceuticals and healthcare	7	30.0	4.8%
Electrical machinery and equipment	8	12.9	2.1%
Food processing	8	9.2	1.5%
Total	**170**	**626.3**	

Source: UNCTAD

Figure 20

Potential destination markets in Africa (excluding SADC), by country

(in percentage)



Source: UNCTAD.

Table 19

Import substitution opportunities beyond the CETM value chain

Sector	Investment (US$ million)	Employment	Products	Average score	Standard deviation (score)
Chemicals	101.1	1,761	18	31	3
Copper articles	205.5	2,273	14	31	3
Electrical machinery	192.4	1,986	29	32	5
Food processing	26.0	1,448	8	36	3
Iron and steel	937.3	15,101	43	34	3
Machinery and mechanical appliances	558.8	3,220	41	30	4
Pharmaceuticals	105.3	673	12	29	4
Total	**2,126.3**	**26,460**	**165**	**32**	**4**

Source: UNCTAD based on primary and secondary data collection.
Note: Maximum score was 41 and the minimum was 19

6.3 Diversification pathways

6.3.1 Chemicals

Namibia's chemical diversification potential lies primarily in processing, formulation, and standards-driven chemical production, rather than in large-scale upstream synthesis or bulk petrochemicals. The products identified, spanning inorganic chemicals, organic intermediates, fertilisers, surfactants, additives, catalysts, and laboratory reagents, share a common feasibility logic: they are demand-anchored, logistics-sensitive, and compliance-intensive, creating space for regional producers where reliability, safety, and specification compliance matter as much as unit price.

The first and most immediate pathway is mineral-linked inorganic chemicals and industrial salts used in mining, water treatment, construction, and manufacturing. This includes aluminium oxide (HS 281820), iron oxides (HS 282110), titanium oxides (HS 282300), silicon dioxide (HS 281122), disodium carbonate (HS 283620), polyphosphates (HS 283531), calcium and aluminium chlorides (HS 282720, 282732), bromides (HS 282751), and other inorganic salts (HS 284210, 284290). These are bulk-to-mid-value inputs, where transport costs, storage, and supply reliability shape competitiveness. Feasibility rests on controlled processing, consistent specifications, and basic industrial testing, rather than advanced chemistry, and is strongest where output is tied to identifiable industrial buyers.

A second pathway comprises process and mining chemicals that are hazardous or regulation-intensive, such as hydrochloric acid (HS 280610), hydrazine and hydroxylamine salts (HS 282510), and selected chlorides and oxychlorides (HS 281219). Here, feasibility is defined less by chemistry and more by credible HSE systems, licensing, safe handling, and transport protocols, combined with dependable supply into mining and industrial offtake.

A third pathway lies in fertiliser blending and formulation, notably nitrogenous fertilisers and NP blends (HS 310290, 310559) and fungicide preparations (HS 380892). These products are heavy, time-sensitive, and subject to logistics costs, favouring regional production from imported feedstocks rather than complete upstream synthesis. Feasibility improves when anchored to predictable domestic and regional agricultural demand and supported by effective product registration and quality control.

A fourth pathway covers surfactants, detergents, and industrial additives, including cationic and non-ionic surface-active agents (HS 340241, 340242), quaternary ammonium compounds (HS 292390), industrial fatty alcohols (HS 382370), and stabilisers and additives for plastics and rubber (HS 381239). These products are typically feasible through formulation, repackaging, and quality-assured supply, serving food processing, mining services, municipal cleaning, and industrial maintenance markets where consistent performance and compliant documentation matter.

A narrower but higher-value pathway involves specialty chemicals, catalysts, and reagents, such as supported and unsupported catalysts (HS 381512, 381519, 381590), foundry binders (HS 382410), lubricant additives (HS 381121), and diagnostic and laboratory reagents and culture media (HS 382212, 382213, 382100). These products are less freight-sensitive and often globally traded; Namibia's feasibility therefore lies in regulatory-grade quality assurance, traceability, and regional distribution, with small-batch processing only where demand justifies it. For many very high-unit-value organic chemicals (e.g., heterocyclic intermediates, hormones, alkaloids), short-term feasibility is primarily in distribution, testing, kitting, and compliance services, rather than complete synthesis.

Across all groups, regional markets are central to feasibility. Namibia's domestic demand alone rarely justifies investment beyond small plants. Feasibility increases when production is designed from the outset to serve SADC and SACU markets, leveraging Walvis Bay logistics, corridor connectivity, and proximity to mining, water, and agricultural demand. Many of the identified products are currently supplied to African markets by producers in South Africa, Egypt, and selected Asian economies, suggesting that competition is present but not confined to a small group of highly advanced producers.

6.3.2 Copper articles

Namibia's feasibility in articles of copper and selected non-ferrous metals lies in midstream semi-fabrication, not in primary smelting nor in highly specialised downstream manufacturing. The products identified through the product space and complexity framework cluster around wrought copper forms (e.g., wire, strip, bars, and profiles) where access to refined metal, standards

compliance, delivery reliability, and regional integration matter more than the lowest global cost. Demand is anchored in energy, construction, utilities, mining services, and fabrication markets across Southern Africa.

The most immediate pathway is copper wire, rods, bars, and profiles, including refined copper wire above and below 6 mm (HS 740811, 740819), copper-alloy wire (HS 740829), and copper-alloy bars, rods, and profiles (HS 740729). These products are logistics-sensitive and specification-driven inputs for cabling, electrical equipment, and industrial maintenance. Feasibility is strongest when production targets African and SADC markets, where proximity, shorter lead times, and delivery reliability can offset scale disadvantages relative to global suppliers.

A second pathway is copper strip and flat products, notably refined copper strip in coils (HS 740911), bronze strip (HS 740931), and brass strip (HS 740921). While globally traded, these products remain sensitive to batch size, lead time, and finishing requirements for regional fabricators. Namibia's feasibility here lies in rolling, slitting, cutting-to-length, and surface finishing, rather than competing head-on in large-volume commodity rolling. Across copper products, feasibility depends less on metallurgical complexity than on commercial and institutional conditions: transparent access to refined copper feedstock, reliable electricity, effective standards enforcement, and functional certification and testing. Namibia's domestic market alone is insufficient; regional demand aggregation through SADC and corridor-based trade is essential to sustain utilisation and justify investment.

A narrower pathway concerns high-value and strategic metals, including unwrought hafnium (HS 811231) and platinum-group metals such as iridium, osmium, and ruthenium (HS 711041). These are globally traded and highly controlled. Namibia's near-term feasibility lies in secure handling, storage, trading, and limited preparatory processing, leveraging regulatory credibility and logistics rather than attempting complete refining. Finally, unwrought zinc (HS 790111) represents a context-specific opportunity, primarily targeting African markets. Feasibility is conditional on feedstock access, energy costs, and secured offtake, and is best considered as part of a broader non-ferrous metals strategy.

6.3.3 Electrical machinery and equipment

Namibia's feasibility in electrical and electronic equipment lies outside mass electronics manufacturing. These are dominated by Chinese and East Asian producers with strong scale and cost advantages. The products identified point to selective, demand-driven pathways in assembly, system integration, heavy electrical equipment, and standards-driven industrial products, where logistics, installation, servicing, and compliance offset price competition.

A first pathway is power, grid, and industrial electrical equipment. This includes high-voltage insulated conductors (HS 854460), ceramic and glass insulators (HS 854620, 854610), transformers in small and medium power ranges (HS 850432), automatic circuit breakers above 1 kV (HS 853521), control panels and cabinets (HS 853810), and AC generators and alternators (HS 850162, 850164, 850180). These products are bulky and project-linked; feasibility lies in local assembly, configuration, testing, installation, and maintenance, rather than component manufacture, serving utilities, mines, and infrastructure projects in SADC and Africa.

A second pathway concerns electric motors and industrial drives, notably multi-phase AC motors above 75 kW (HS 850153), mid-range DC motors (HS 850132), and electromagnetic couplings and brakes (HS 850520). Although globally competitive markets are dominated by Chinese suppliers, regional buyers value reliability, compliance with standards, and lifecycle services, creating space for assembly, refurbishment, and rapid replacement services anchored in Namibia.

A third pathway is energy storage and industrial battery systems, excluding lithium-ion cell production. Non-lithium accumulators and separators (HS 850780) and specialised primary batteries (HS 850660) are feasible mainly through battery pack assembly, casing, testing,

refurbishment, and systems integration for energy, telecom, and off-grid applications. Upstream electrochemistry remains uncompetitive.

A fourth, narrower pathway covers industrial consumables, particularly carbon electrodes for furnaces and other uses (HS 854511, 854519). These products serve mining and energy users that prioritise performance consistency and supply security, provided standards verification and a predictable offtake are in place. Consumer electronics and generic devices, including telephones (HS 851712, 851718), audio equipment (HS 851840, 851981), lighting products (HS 853922, 853929, 853931, 853941, 853949), remote controls (HS 852692), optical and semiconductor media (HS 852349, 852359), and domestic appliances (HS 850980), are overwhelmingly dominated by Chinese producers. Namibia's feasible role here is limited to distribution, configuration, repair, and refurbishment, not manufacturing.

Across all segments, standards, testing, and procurement practices are the decisive factors in feasibility. Where type approval, grid codes, and safety certification are enforced, regional assembly and integration can compete despite higher nominal costs. Regional suppliers include South Africa and emerging producers in North Africa and Asia, indicating scope for regional market entry where proximity, servicing capacity, and standards compliance provide competitive advantages.

6.3.4 Food processing

Namibia's food-processing feasibility lies primarily in regional, logistics-sensitive, and standards-driven segments, rather than in competing in global, price-led food commodity markets. The products identified cluster around fats and oils refining, dairy processing, milling of roots and tubers, and fruit and vegetable processing, where proximity to raw materials, cold-chain reliability, and access to SADC markets, supported by Walvis Bay logistics, shape competitiveness more than scale.

A first pathway concerns animal and vegetable fats and oils, including non-chemically modified animal fats (HS 150600), hydrogenated or re-esterified fats and oils (HS 151610), and refined low-erucic rapeseed oil (HS 151419). These products are globally competitive only at scale; Namibia's feasibility lies instead in regional refining, fractionation, and limited hydrogenation serving bakeries, food manufacturers, and industrial users, where reliability and shorter lead times matter.

A second pathway is dairy processing, notably high-fat milk and cream (HS 40150) and grated or powdered cheese (HS 40620). These products are cold-chain dependent, limiting long-distance trade. Namibia's advantage lies in import substitution and regional sales, provided milk collection, refrigeration, and food-safety systems are reliable. Grated and powdered cheese is more tradable than fresh dairy but remains standards-intensive.

A third pathway involves milling and starch products, including flour and meal from roots and tubers (HS 110620) and potato starch (HS 110813). These are weight-sensitive, mid-value inputs for food manufacturers. Regional production is viable where raw material supply is secure, and transport costs from overseas suppliers are high.

A fourth pathway covers fruit and vegetable processing, notably orange juice (HS 200919) and frozen prepared potatoes (HS 200410). These products are seasonal and cold-chain dependent, favouring regional markets. Feasibility is strongest for Africa- and SADC-oriented sales, particularly for frozen potato products supplying food-service channels.

Across all segments, logistics, cold-chain reliability, and standards enforcement are the binding feasibility filters. Sanitary and phytosanitary compliance, inspection capacity, and basic laboratory testing often matter more than processing technology. Namibia's domestic market alone is insufficient; regional demand aggregation within SADC, supported by port and corridor infrastructure, is essential to sustain viable throughput.

6.3.5 Machinery and mechanical appliances

Namibia's diversification pathways in machinery and mechanical appliances lie not in the full-scale manufacture of complex capital equipment, but in fabrication, assembly, refurbishment, and parts production, anchored in mining, energy, construction, logistics, food processing, and basic manufacturing. The product set identified clusters around wear parts, furnace and boiler systems, material-handling equipment, moulds, and selected industrial machinery, where proximity to users, service intensity, and standards compliance matter more than the lowest factory-gate price.

A first and most immediate pathway is mining- and metals-linked machinery parts and thermal systems. This includes furnace burners and parts (HS 841620, 841690), non-electric furnace and oven parts (HS 841790, 841710), metallurgical and foundry equipment parts (HS 845490, 845410), ladles and casting-related components, and bulldozer blades, buckets, shovels, grabs, and grips (HS 843142, 843141). These products are wear-intensive and downtime-critical, creating strong demand for local or regional suppliers that can deliver rapid replacement, certified materials, and after-sales support. Feasibility rests on welding, machining, heat treatment, and quality control, not on advanced machine-tool ecosystems.

A second pathway concerns boilers, heat, and process equipment, including vapour-generating and superheated water boilers (HS 840219, 840220), boiler auxiliary plant and condensers (HS 840490, 840410, 840420), parts of boilers and turbines (HS 840290, 840690), heat pumps (HS 841861), and gas or water heaters (HS 841911). These systems are project-based, standards-driven, and service-intensive, favouring assembly, balance-of-plant fabrication, installation, and maintenance over complete manufacture. Namibia's feasibility improves where production is tied to mines, food processors, utilities, and industrial parks, and where lifecycle service is valued over the lowest upfront cost.

A third pathway is material handling and lifting equipment, including hoists and pulley tackle (HS 842511), conveyors and bucket elevators (HS 842832), cranes and derricks (HS 842691, 842611), and other lifting and handling machinery (HS 842890). These products are bulky, logistics-sensitive, and often customised for site conditions. Feasibility lies in fabrication, assembly, integration, and installation, supported by engineering services and compliance with safety standards, rather than in mass production.

A fourth pathway covers agricultural and resource-processing machinery, notably sprayers (HS 842449), balers (HS 843340), threshing machinery (HS 843352), and parts for pulp, paper, textile, and felt machinery (HS 843991, 843999, 844832, 844900). These products are typically feasible through assembly, adaptation, and parts manufacture, serving regional markets where equipment must be robust, repairable, and supported locally. Import substitution is often viable where transport costs and downtime penalties are high.

A fifth, more selective pathway involves moulds, seals, and industrial components, including moulds for mineral materials, metals, rubber, plastics, and glass (HS 848060, 848041, 848050, 848079), mechanical seals (HS 848420), bearing housings (HS 848330), valves (HS 848110, 848140), pumps and compressors (HS 841370, 841480), and selected rolling-mill parts (HS 845590). These products reward precision fabrication, materials knowledge, and standards compliance, and are often viable as SME-led manufacturing and refurbishment niches linked to mining and industrial maintenance demand.

Across all machinery segments, feasibility is shaped by institutional and commercial conditions: reliable power and workshops; access to steel and cast inputs; certified welding and machining skills; testing and inspection capacity; and predictable offtake from mines, utilities, construction firms, and agro-industrial users. Namibia's domestic market alone is often insufficient; regional demand aggregation within SADC, supported by corridor logistics and Walvis Bay, is essential to sustain throughput.

Overall, the feasibility logic for machinery and mechanical appliances in Namibia is one of service-intensive industrialisation, prioritising parts, fabrication, assembly, and maintenance for mining, energy, agriculture, and logistics; avoiding head-on competition in advanced capital equipment; and sequencing capabilities from repair and components toward more complex systems only where anchored by stable demand and institutional readiness.

6.3.6 Pharmaceuticals

Namibia's pharmaceutical feasibility lies well downstream of active pharmaceutical ingredient (API) synthesis, which is capital-, skill-, and scale-intensive and globally dominated by producers in India, China, and Europe. The products identified through the product-space and complexity analysis instead point to formulation, finishing, packaging, diagnostics, and regulated medical goods, where quality assurance, regulatory compliance, cold-chain management, and regional supply reliability are the main sources of competitiveness. In this sector, feasibility is defined less by chemistry and more by institutional capacity and trust.

A first pathway is pharmaceutical formulation, filling, and packaging, particularly for essential medicines and biologicals that are imported in bulk and finished locally. This includes insulin-containing medicaments (HS 300431), antimalarial medicines packaged for retail sale (HS 300460), and selected hormone-based products at the formulation stage. Namibia's feasibility lies in secondary manufacturing (e.g., sterile filling, blending, dosage formulation, packaging, and quality control) rather than API production. This pathway is strongly aligned with import substitution and SADC supply, especially where public procurement values security of supply and regulatory compliance.

A second pathway concerns diagnostics, laboratory reagents, and culture media, including prepared culture media (HS 382100) and diagnostic reagents and kits (HS 382213). These products are highly standards-driven, relatively light, and sensitive to storage and handling, making them suitable for regional production and distribution hubs. Namibia's feasibility advantage lies in quality-assured preparation, packaging, and distribution, serving hospitals, laboratories, and surveillance systems in Southern Africa, rather than competing in high-volume global manufacturing.

A third pathway involves pharmaceutical intermediates and selected organic compounds used as inputs into medicines and supplements, such as vitamins B and E (HS 293624, 293628), alkaloid derivatives (HS 293911), and hormones and corticosteroids (HS 293722, 293723, 293729). While complete chemical synthesis of these compounds is generally uncompetitive for Namibia, feasibility exists in late-stage processing, dilution, formulation, repackaging, and regulatory-compliant handling, particularly when tied to domestic pharmaceutical formulation or regional distribution.

A fourth pathway is essential antibiotics and anti-infectives, including penicillins, erythromycin, tetracyclines, and chloramphenicol and their derivatives (HS 294110, 294150, 294130, 294140). Global production of APIs is highly concentrated, but final dosage formulation and packaging, especially for African and SADC markets, offer feasible entry points when supported by strong quality assurance and alignment with public health procurement. This pathway is particularly relevant for medicines on essential medicines lists, where security of supply is a strategic concern.

A fifth pathway lies in medical consumables and pharmaceutical goods, including adhesive dressings (HS 300510), surgical sutures and haemostatics (HS 300610), ostomy appliances (HS 300691), and medical lubricating gels (HS 300670). These products are manufacturing-light but compliance-intensive, relying on materials processing, sterilisation, packaging, and certification rather than complex chemistry. Namibia's feasibility is strongest in regional supply and import substitution, where proximity, responsiveness, and adherence to standards can outweigh price competition.

Across all pharmaceutical segments, regulatory systems are the binding feasibility filter. Good Manufacturing Practices (GMP), quality control laboratories, pharmacovigilance, cold-chain integrity, and product registration capacity determine competitiveness far more than labour or energy costs. Namibia's domestic market alone is small, but regional demand aggregation within SADC, combined with predictable public procurement, can sustain viable operations.

6.3.7 Iron and steel

Namibia's feasibility for iron and steel diversification lies in the downstream and midstream sectors, not in large-scale primary steelmaking or globally competitive flat-steel commodity production. The extensive list of products identified clusters around hot- and cold-rolled flats, pipes and tubes, long products, fabricated steel articles, and mining- and infrastructure-linked components, where competitiveness is shaped by logistics, standards, delivery times, and project demand, rather than by the lowest global cost.

A first diversification pathway is basic flat-rolled carbon steel for regional markets, including hot-rolled coils and plates (HS 720825, 720826, 720827, 720851–720853) and selected cold-rolled products (HS 720916, 720927). These products are globally oversupplied and dominated by large producers, making global exports unviable. Namibia's feasibility instead lies in regional supply and downstream conversion, such as cut-to-length, slitting, surface finishing, and simple coating (e.g., HS 721061, 721069), serving construction, fabrication, and manufacturing demand in Namibia and SADC, where delivery reliability matters.

A second pathway concerns pipes, tubes, and hollow profiles, both carbon and alloy steel, including welded and seamless products (HS 730459, 730650, 730619, 730429). These products are project-driven, standards-sensitive, and bulky, favouring regional production for mining, water, energy, and oil-and-gas-related infrastructure. Feasibility improves when production is tied to corridor-based demand and anchored by utilities, mines, and large contractors, rather than spot export markets.

A third pathway is stainless and alloy steel semi-finished and flat products, including stainless flats (HS 721922, 721935, 721990), bars and rods (HS 722211, 722100), and alloy flats and bars (HS 722540, 722830). These segments sit between commodity steel and specialised alloys. Namibia's feasibility is selective and niche-oriented, focused on serving regional industrial users that require specific grades in smaller batches, rather than competing with global stainless producers on volume.

A fourth and particularly strong pathway lies in fabricated steel articles and structural components, including grinding balls (HS 732591, 732611), tanks and reservoirs (HS 730900), bridges and structural sections (HS 730810), chains and fasteners (HS 731590, 731819), wire products (HS 731210), and other fabricated items. These products embed value in fabrication, welding, machining, and project delivery, not in steelmaking itself. They are highly logistics- and standards-sensitive, making regional production competitive where quality, traceability, and delivery schedules matter. Mining, energy, and infrastructure projects across Namibia and SADC provide a natural demand base.

Across all iron and steel segments, feasibility is constrained less by basic technology than by commercial and institutional factors: access to competitively priced steel inputs (imported coils, slabs, billets, or scrap), electricity reliability, quality control and certification, enforcement of standards to prevent sub-standard imports, and efficient trade facilitation. Namibia's domestic market alone is insufficient; regional demand aggregation within SADC, supported by port access and corridor logistics, is essential. Regionally, similar iron and steel products are exported by countries such as South Africa and, to a more limited extent, Egypt and Morocco, indicating that production is feasible in middle-income contexts with access to energy, logistics, and regional demand.

6.4 Opportunities along the value chains of solar and wind

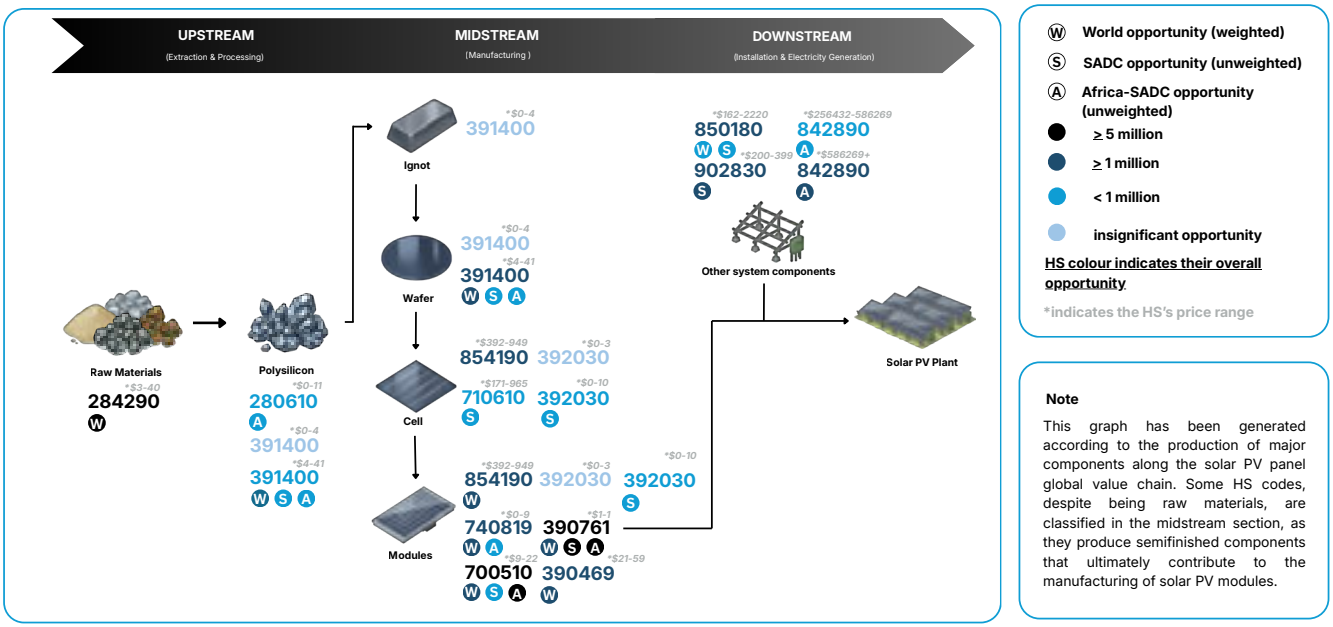
Namibia's highest export potential in renewable energy value chains lies in the upstream segments of the solar value chain. Figure 21 maps the essential components and HS codes that define the solar energy supply chain, segmented into three logical stages. It begins upstream with the extraction and primary processing of raw mineral inputs, such as salts and aluminium. These materials then transition into the midstream phase, where industrial manufacturing transforms them into specialized components such as ingots and wafers, and subsequently into finished solar cells and modules. The process culminates downstream, where these technologies are deployed off-site for installation and active solar power generation.

Namibia's solar value-chain analysis highlights several HS codes with strong links to CETM-based technologies, particularly in the chemicals, iron and steel, electrical machinery, and plastics sectors. Within these, HS 284290 – "Salts of inorganic acids or peroxoacids, other than double or complex silicates, including aluminosilicates, excluding azides" – stands out as a quantitatively significant opportunity: the global market reached about US$2.50 billion in 2024, with China alone accounting for roughly US$2.05 billion (around 82 per cent), followed by Germany (about US$120 million, 5 per cent), Hong Kong, Special Administrative Region of China (around US$101 million, 4 per cent) and the Republic of Korea (about US$66 million, 3 per cent). The product is relevant across solar value chains as a generic chemical input (priced between US$3 and US$40 per kilogram) used in thin-film solar technologies, semiconductor processes, and lithium and other metal salts for solar-plus-storage applications.

Although Namibia's current exports are still modest – focused on industrial and agricultural salts, such as those produced by *Walvis Bay Salt Holdings* – with approximately US$0.163 million in 2024, equal to about 0.0024 per cent of total exports and 0.0065 per cent of world exports for this product, the weighted world opportunity for HS 284290 is estimated at US$145.99 million,

Figure 21

Overview of Namibia's potential along the solar energy value chain



Source: UNCTAD.

Note: HS 284290 also includes Cadmium Telluride, the raw material for "thin film" solar panels. These do not use polysilicon and have a different processing route.

corresponding to a potential share of around 6 per cent of world exports and 2.2 per cent of Namibia's total exports in the opportunity scenario.

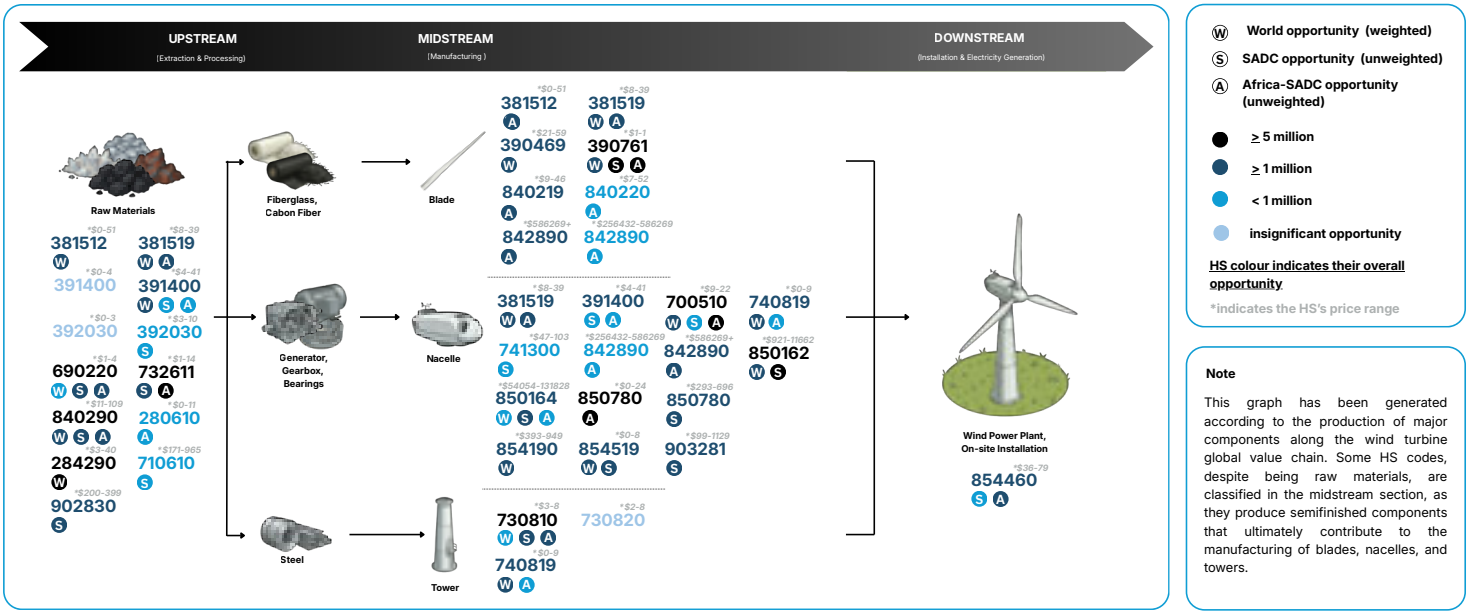
The European Union could provide a secure export corridor for these high-grade processed goods, following the 2022 EU-Namibia partnership on sustainable raw materials. The combination of a large and growing global market, broad applicability in solar and other CETM-related technologies, and a sizeable quantitative gap between current performance and potential suggests that HS 284290 can serve as a representative example of how Namibia could leverage CETMs and chemical processing capabilities to build higher-value solar-related exports. At the global level, this trade is driven by specialised inorganic salt and fine-chemical producers, including BASF (Germany), as well as a range of Chinese manufacturers supplying lithium and other high-purity salts for batteries, semiconductors, and coatings.

Namibia's most significant export potential in the wind value chain lies in CETM-based materials used in the upstream segment, but the midstream segment is not far behind. Figure 22 features key components of the wind supply chain, highlighting those with significant export potential for Namibia. The wind energy value chain begins upstream with the extraction and processing of raw materials, including salts, sulphates, and propylene polymers. The raw materials are then moved to the midstream phase for manufacturing and transformation into specialized components, namely the blades, the tower, and the nacelle (including gearbox and bearing). Finally, these components are transported off-site to the downstream phase, where they are installed to generate electricity.

Within this wind-related portfolio, HS 284290 again exemplifies how CETM-based chemical production can anchor participation in global value chains. The inorganic salts covered under this code, with global exports of US $2.5 billion in 2024, are used in resins and composite systems for blades, corrosion-resistant coatings for towers and foundations, and process chemicals for metallurgical and surface-treatment operations. Together with Namibia's estimated weighted global opportunity of about US $312.0 million for this product, these uses point to scope for

Figure 22

Overview of Namibia's potential along the wind energy value chain



Source: UNCTAD.

Note: HS 284290 also includes Cadmium Telluride, the raw material for "thin film" solar panels. These do not use polysilicon and have a different processing route.

expanding participation in HS 284290 and, by extension, in upstream segments of both solar and wind value chains. There are also significant opportunities in these markets for Namibia, which can be targeted at SADC and the broader African continent.

6.5 Validated results

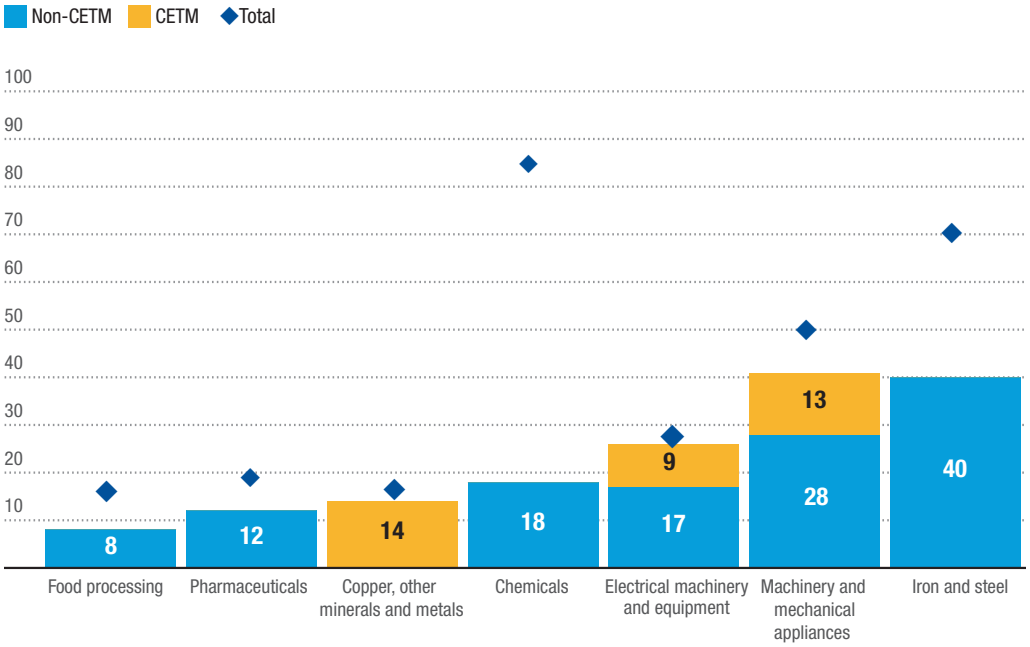
Stakeholder engagement confirmed strong diversification potential across most sectors. Direct engagement with national stakeholders is central to validating product priorities and identifying potential constraints to local production. During the industry workshop, 165 products across seven sectors were examined, representing 45 per cent of all shortlisted products (Figure 23). Participants included representatives from industry, academia, NTA, and the Chamber of Commerce and Industry. No engagement was possible for the plastics and paperboard sectors; stakeholders noted that the absence of a domestic refinery and arid climate limited diversification prospects in these areas.

Engagement with CETM-related products was robust. This underscores national interest in advancing copper processing and related manufacturing. Within the CETM value chain, nearly all copper articles and related products were discussed, along with a subset of products in electrical machinery and equipment and machinery and mechanical appliances, totalling 36 products (Figure 23). This reflects a completion rate of 60 per cent of shortlisted CETM products, well above the non-CETM rate of 42 per cent. A limitation of the workshop was the large volume of scheduled products in a limited timeframe. The scarcity of chemical-sector experts in Windhoek posed additional challenges.

As outlined in the methodology, the products were evaluated based on a ranking of production possibilities across several indices. Scoring criteria varied across indices, but for inputs, machinery and equipment, and human resources, priority was given to the degree of feasibility within Namibia's current productive structure and capability base. The average product scores are presented in Table 20, along with the estimated investment required for production (based

Figure 23

Discussed products and total shortlisted products, by sector



Source: UNCTAD based on primary data collection.

on respondents' inputs and market information obtained through secondary research) and the estimated employment creation (direct and indirect).

The estimated total multi-year investment across the 165 prioritized products is approximately US$2.13 billion, with the potential to generate around 26,460 jobs, or 3 per cent of the labour force in 2023. Iron and steel emerges as the sector with the highest investment needs, approximately US$937 million, and, correspondingly, the highest employment creation, at over 15,000 jobs. This reflects the capital-intensive nature of the metallurgical industries, combined with their strong impact on both upstream and downstream linkages.

Table 20

Investment, employment and products, by sectors (validated products)

Sector	Investment (US$ million)	Employment	Products	Average score	Standard deviation (score)
Chemicals	101.1	1,761	18	31	3
Copper articles	205.5	2,273	14	31	3
Electrical machinery	192.4	1,986	29	32	5
Food processing	26.0	1,448	8	36	3
Iron and steel	937.3	15,101	43	34	3
Machinery and mechanical appliances	558.8	3,220	41	30	4
Pharmaceuticals	105.3	673	12	29	4
Total	**2,126.3**	**26,460**	**165**	**32**	**4**

Source: UNCTAD based on primary and secondary data collection.
Note: Maximum score was 41 and the minimum was 19

Machinery and mechanical appliances and articles of copper and other metals also represent substantial investment needs, at around US$559 million and US$206 million, respectively. These sectors likewise show strong employment potential, generating 3,220 and 2,273 jobs, respectively. Electrical machinery and equipment, with an investment need of US$192 million, generates an estimated 1,986 jobs, lower than sectors with similar capital requirements but reflecting higher productivity and the technological intensity of these industries.

Sectors with lower investment needs also play a significant role in employment. Food processing, requiring approximately US$26 million, could generate over 1,448 jobs, indicating strong labour absorption relative to capital intensity. Chemicals (US$101 million) and pharmaceuticals (US$105 million) together add more than 2,400 jobs, highlighting the potential for diversification in medium-technology segments.

The average scores, representing the strategic importance and feasibility of the products, are relatively similar across sectors, ranging from 29 to 36, with an overall average of 32. Food processing stands out with a higher average score (36), indicating strong prioritisation and alignment with Namibia's current capabilities and domestic demand structure. Electrical machinery and equipment has an average score of 32, with the highest standard deviation (5), suggesting greater variability in the feasibility or importance of the products within the sector.

Sectors such as chemicals, copper articles, iron and steel, and food processing have lower standard deviations (3), indicating more uniform prioritisation and consistent perceptions of feasibility.

Across the priority sectors, differing investment profiles and job-creation dynamics reveal a diversified portfolio of industrial opportunities for Namibia. Iron and steel products require greater investment and can potentially create more direct and indirect employment in absolute terms, supported by their broad product range (43 products) and strong complementarities with Namibia's mineral endowments. Sectors such as electrical machinery and machinery and mechanical appliances exhibit a combination of high strategic value, moderate investment needs, and opportunities for technological upgrading. Food processing, despite requiring comparatively low capital investment, scores highly and has strong employment multipliers, making it a critical short- to medium-term area for diversification. Pharmaceuticals and chemicals, though smaller in scale, remain essential for strengthening Namibia's industrial base and moving into higher-value, knowledge-intensive activities.

These estimated figures presented should be underpinned by a comprehensive execution framework that directly addresses market and risk concerns. Each prioritized product is linked to identified market opportunities and regional value chains, which create new demand vectors. Concurrently, as discussed in the following chapters, it would require establishing dedicated investment facilitation mechanisms, including public-private task forces to de-risk projects through strategic infrastructure development, co-investment models, and fast-tracked regulatory approval. This integrated approach would ensure that the plan is a viable roadmap backed by a commitment to create the enabling environment for diversification.

7.

Capacity gaps



© Adobe Stock

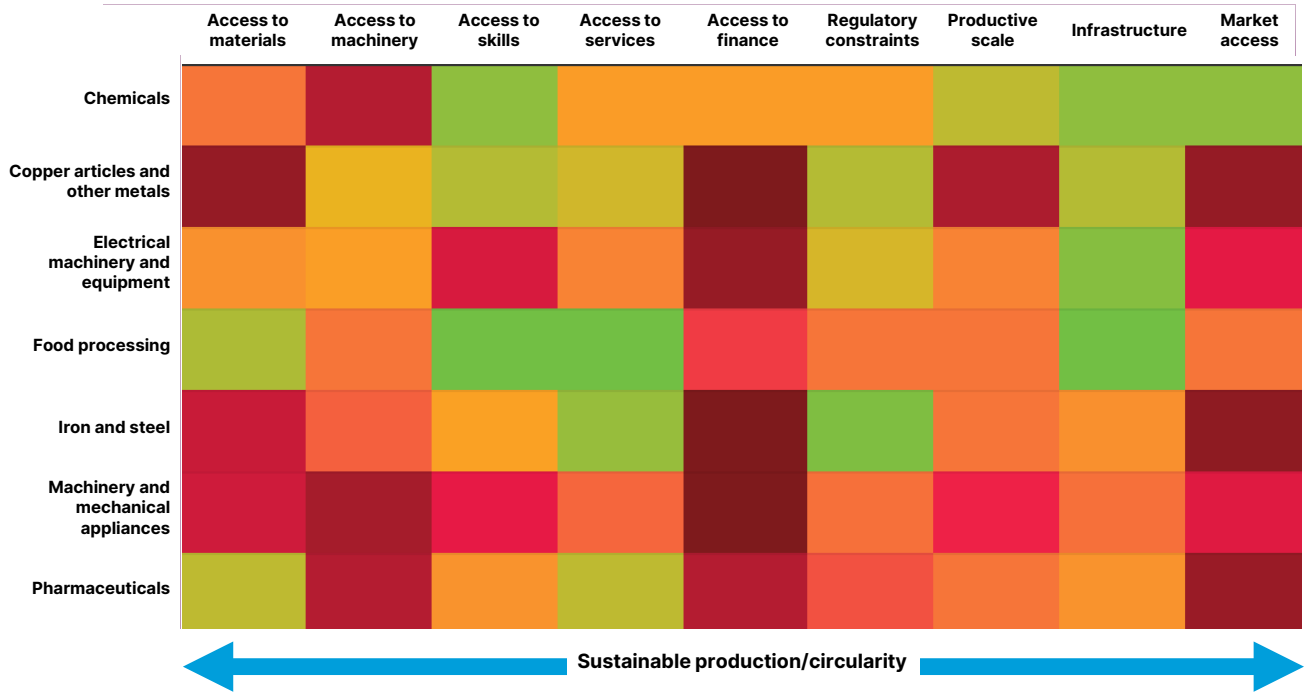
7. Capacity gaps

Namibia's diversification potential is constrained by systemic capacity gaps across skills, technology, finance, services, and infrastructure, rather than by a lack of opportunities. Access to finance is the most binding constraint, affecting 88.7 per cent of validated products, followed by access to machinery and technology (63.5 per cent) and market access and competitiveness (69.1 per cent). Skills shortages are acute in technologically intensive sectors, with access to qualified labour cited as a barrier for 73.1 per cent of electrical equipment products and 68.3 per cent of machinery products. While sectors such as chemicals, copper articles, and food processing face fewer immediate gaps, capital-intensive sectors (i.e., machinery, pharmaceuticals, and iron and steel) exhibit multiple, overlapping constraints. These findings underscore the need for coordinated, cluster-based policy packages that jointly address skills, finance, technology, services, infrastructure, and sustainability to enable scale-up and sustained industrial upgrading.

The detailed review provided the empirical foundation for identifying Namibia's most feasible diversification pathways. Building on these insights, a structured gap-mapping analysis was conducted to pinpoint Namibia's most significant constraints and sectoral enablers. Figure 24 presents the resulting sectoral heatmap, which summarizes the critical bottlenecks and opportunities affecting productive transformation across product clusters. The heatmap serves as a diagnostic tool, visually indicating where capabilities are sufficient (green), where moderate gaps exist (yellow/orange), and where severe challenges persist (red).

Figure 24

Sectoral heatmap



Source: UNCTAD based on primary data collection from industry experts.

Access to machinery, finance, and markets are the most consistently binding constraints to diversification across sectors. Production sectors, such as electrical equipment, iron and steel, pharmaceuticals, and machinery and mechanical appliances, display bottlenecks (marked in red or orange) that must be addressed to enable domestic production and scale-up. In contrast, sectors such as copper, chemicals, and food processing display relatively fewer gaps, suggesting they are better positioned for immediate policy support and investment mobilisation.

This visual synthesis highlights several key insights. First, it confirms that the constraints firms face do not fall neatly into a single policy domain. Most sectors face constraints across multiple dimensions, particularly in access to machinery and production inputs, skills and workforce development, and access to finance. These gaps are most pronounced in capital-intensive and technologically demanding sectors, such as machinery and pharmaceuticals, which exhibit significant concentrations of red and orange indicators. This reinforces the need for coordinated, cross-cutting policy packages rather than isolated measures within any one portfolio.

Second, some constraints are more sector-specific. For instance, market access challenges are more pronounced in sectors such as articles of copper, articles of iron and steel, and pharmaceuticals, where foreign offtake, domestic demand aggregation, and regulatory alignment are central to enabling production at scale.

Third, there is a need to address soft infrastructure, specifically through institutional coordination, regulatory streamlining, and skills governance. Even in sectors where physical infrastructure is relatively well developed, fragmentation in the policy landscape and misalignment among education, industry, and investment agencies continue to pose structural barriers to diversification.

Taken together, the heatmap provides a clear justification for adopting a cluster-based and coordinated policy strategy. It confirms that sectoral development efforts cannot succeed in isolation. Instead, Namibia's diversification agenda will require a synchronized policy response that bridges skills, finance, innovation, procurement, infrastructure, and environmental governance, tailored to the specific needs of each sector but embedded within a coherent national strategy.

7.1 Skills, education, and labour

Achieving economic diversification in Namibia requires a workforce equipped to support industrial upgrading and local value addition. While the country has a well-established vocational and higher education system, practical, industry-specific skills are lacking in sectors characterized by technological intensity and complex production processes, such as machinery and electrical equipment. Access to qualified labour was cited as an obstacle to the feasibility of manufacturing for 73.1 per cent of electrical products, and 68.3 per cent for machinery (Figure 25). Across these sectors, while general technical- and graduate-level qualifications are present in the country, the most critical gaps include limited hands-on experience with industrial equipment, weak integration between training institutions and employers, and outdated curricula that do not reflect current production standards or regulatory requirements.

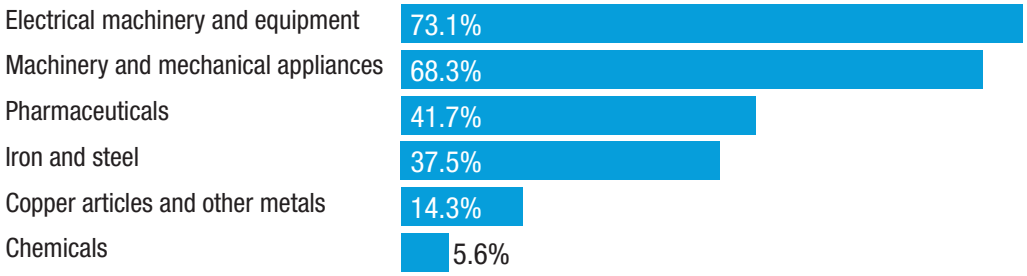
The electrical machinery and equipment sector faces skill gaps in relatively more advanced manufacturing. Respondents noted a shortage of electrical engineers skilled in product design, circuit layout, and compliance with International Electrotechnical Commission (IEC) standards (Table 21). There is also a gap in mechanical engineers with expertise in transformer and control system design, and a limited pool of engineers experienced in electromechanical systems used in automation and control panels. At the technician level, there are shortages of battery module and motor winding technicians, as well as trained panel builders and wiremen for assembling switchboards, control panels, and distribution boxes.

For the machinery sector, gaps are in advanced manufacturing and design capabilities. Shortages were reported for professionals trained in computer numerical control (CNC) machining, robotics

Figure 25

Skills gaps, by sector

(percentage)



Source: UNCTAD based on primary data collection.

Note: Percentage of products discussed per sector where access to qualified labour was identified as a barrier.

integration, and Internet of Things (IoT)-based diagnostics. Respondents also noted an absence of industrial and materials engineers with applied knowledge of product line design and fatigue mechanics.

In pharmaceuticals, the primary gap lies in practical experience. While there are sufficient graduates trained in pharmacology and related fields, there is a shortage of professionals with practical experience in formulation and adherence to good manufacturing practice (GMP) standards. Additionally, existing infrastructure is geared toward diagnostic laboratories, rather than manufacturing labs, which are crucial for hands-on training and applied learning in production environments.

In iron and steel, the shortage is in processing. There are limited mechanical engineers trained in steel plant operations, rolling mills, and furnace systems. Respondents also cited a shortage of process engineers, who are typically trained in South Africa rather than locally. In addition, boilermakers, welders, and fitters often lack training specific to high-temperature steel environments.

In copper, 14.3 per cent of potential new products face skills-related challenges. Respondents cited limited training infrastructure for refining and advanced processing as an obstacle. While technicians (e.g., welders, boilermakers) are available, they often lack training in copper-specific processes. Artisan skills, including welders and fitters, are not fully aligned with the requirements of copper refining and manufacturing operations. Moreover, there is a shortage of metallurgists, mining engineers, and specialists in solvent extraction and electrowinning, which constrains the country's ability to move further downstream in copper value addition.

For food processing and chemicals, skilled labour availability is less of a challenge. However, the qualitative discussion still noted an absence of formal training in food safety standards, traceability systems, environmental compliance, packaging technologies, and cold chain logistics. These are critical for enabling both domestic value addition and export competitiveness. Moreover, food processing presents high employment potential, particularly for women and youth, provided that training systems are made more inclusive and better connected to local production environments.

Sectoral differences highlight the importance of targeted, gender-sensitive skills development. Capital-intensive sectors tend to rely more heavily on technical and engineering profiles, while others demand a more balanced mix of operation, technical, clerical, and professional roles. This differentiation underscores the need for sector-specific skills strategies rather than generalized human capital programmes. Furthermore, sectors such as food processing and chemicals were found to offer greater potential for female employment, reinforcing the importance of embedding gender-sensitive design into skills development policies.

Table 21

Breakdown of skills gaps, by sector

Sector	Gap
Chemicals	Shortage of skilled chemical engineers in process design, thermodynamics, and reaction engineering
	Insufficient environmental compliance officers trained in hazardous waste and emissions control
	Lack of instrumentation and control technicians for automated chemical plants
	Need for plant operators certified in chemical handling and safety
	Limited availability of quality assurance analysts trained in International Organization for Standardization (ISO) standards and chemical safety protocols
Copper articles and other metals	Artisan skills, such as welders and fitters, are not aligned with copper-specific processes
	Limited training infrastructure for copper refining and advanced processing
	Shortage of metallurgists, mining engineers, and solvent extraction and electrowinning specialists
Electrical machinery and equipment	Lack of experience in assembling battery modules and control systems
	Limited capacity to customize imported units for transformer manufacturing
	Shortage of professionals in electromechanical systems and industrial customization
	Lack of motor winding technicians for alternating current and direct current (AC/DC) motor repair and fabrication
	Few panel builders and wiremen trained for switchboards and control panels
	Shortage of product development specialists for industrial applications
	Few electrical engineers skilled in product design, circuit layout, and IEC and South African Bureau of Standards (SABS) compliance
	Short supply of mechanical engineers for transformer design, casing, and assembly
	Limited transformer coil winders and core assemblers for medium-voltage applications
Food processing	Limited know-how in packaging and agro-logistics
Iron and steel	Insufficient training for boilermakers, welders, and fitters in high-temperature environments
	Shortage of maintenance technicians for heavy machinery and automation
	Few mechanical engineers trained in steel plant and furnace operations
	Lack of metallurgical engineers specialized in iron and steel processing
	Limited process engineers for blast furnace, direct reduction, and electric arc furnace systems
	Shortage of rolling mill operators, furnace technicians, and quality inspectors
Machinery and mechanical appliances	Lack of practical training in machining, calibration, and CNC operation
	Lack of IoT and sensor integration experts for real-time monitoring
	Shortage of engineers integrating mechanical systems with electronics and automation
	Lack of industrial engineers for workflow optimization and line design
	Shortage of materials engineers specialized in fatigue, wear, and structural integrity
	Need for robotics specialists for machine-assisted production
	Lack of welders and metal fabricators with structural and sheet metal experience
Pharmaceuticals	Graduates lack hands-on exposure to GMP and production-scale formulation
	Need for in-house training for heparin, reagents, and related processes
	Limited professional expertise in heparin and other bioderived therapeutics

Source: UNCTAD based on primary data collection.

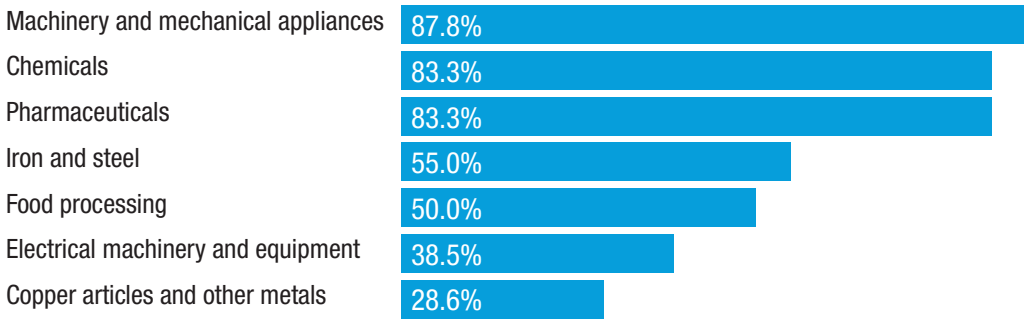
7.2 Research and development, innovation, and technology

Despite Namibia's science, technology, and innovation (STI) policy framework, diversification remains constrained by underdeveloped innovation ecosystems. Access to technology and machinery is a barrier for almost two-thirds (63.5 per cent) of potential new products validated (Figure 26). This is the case for over 80 per cent of products in the machinery and mechanical appliances, chemicals, and pharmaceutical sectors. In contrast, access to technology and machinery was cited as an obstacle for only 28.6 per cent of products among copper articles and other metals, likely reflecting perceived synergies with Namibia's historically strong mining sector. Electrical machinery and equipment was the second sector with the fewest reported technology gaps, likely due to the nature of the products discussed, many of which were considered feasible to assemble locally while sourcing more complex components.

Figure 26

Technology gaps, by sector

(percentage)



Source: UNCTAD based on primary data collection.

Note: Percentage of products discussed per sector where access to machinery and technology was identified as a barrier.

A key challenge is the absence of local machinery manufacturing capabilities. In almost every product category reviewed, Namibia must rely on imported machinery for even basic industrial processes. This not only increases lead times and costs but also limits the country's ability to adapt technologies to local needs or maintain and repair them without external support. The situation is most acute in sectors requiring high-precision or specialized equipment, such as pharmaceuticals, chemicals, and mechanical engineering, where there is limited foundational capacity to fabricate or customize production systems.

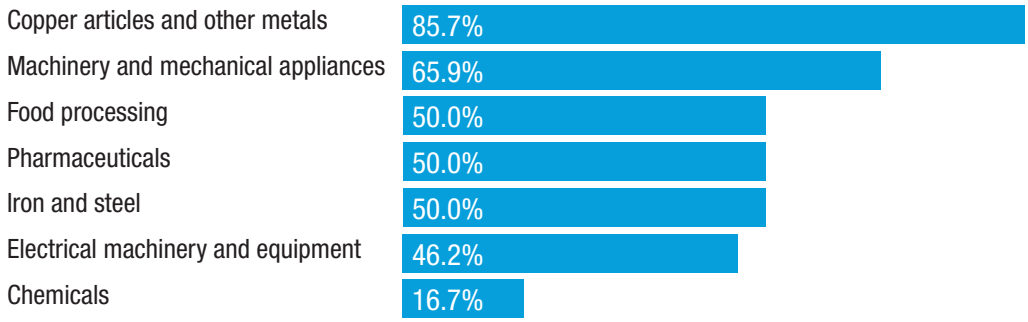
Compounding this issue is the high cost of equipment and tooling. This was cited as a leading barrier in over half of the cases reviewed. For SMEs in particular, the cost of acquiring, maintaining, and upgrading machinery, often sourced from suppliers in China, India, Germany, or South Africa, makes industrial activity inaccessible. Financial constraints are exacerbated by a lack of affordable leasing schemes, tax incentives, or joint financing instruments to lower the barrier to entry for domestic firms. This creates a structural constraint: firms cannot invest in new machinery without producing at scale, but they cannot reach scale without access to the machinery.

In the copper sector, structural and technical limitations constrain the feasibility of scaling up local production. Economic viability and the ability to produce at scale were cited as barriers for over half (52.8 per cent) of the discussed products (Figure 27), including for 85.7 per cent of copper articles and other metals. For copper in particular, low ore grades and limited metallurgical recovery rates pose technical challenges, which require more efficient technologies. Moreover, the availability of copper ore may be a concern. Namibia has been a net importer of the ore since at least 2015, making it difficult to determine whether sufficient in-country resources exist to support large-scale processing and refining operations.

Figure 27

Economic viability as a barrier, by sector

(percentage)



Source: UNCTAD based on primary data collection.

Note: Percentage of products discussed per sector where productive scale / economic viability was identified as a barrier.

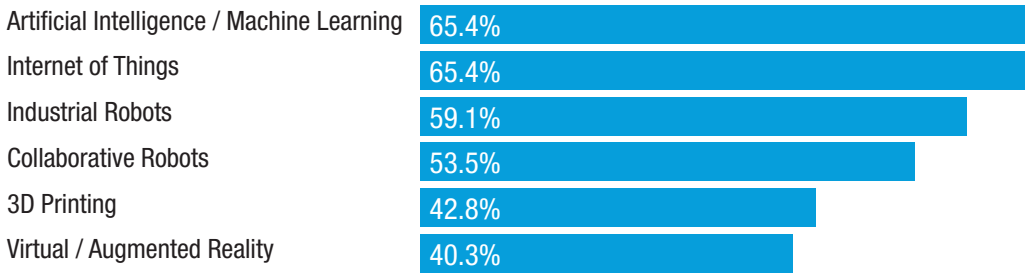
Another constraint is in the use of frontier manufacturing technologies. While sectors such as electronics, chemicals, and machinery increasingly rely on artificial intelligence (AI), robotics, IoT, and automation software, the availability of these technologies in Namibia is limited. There is also a lack of a supporting ecosystem for deploying, training, and integrating such tools into production processes. Most respondents agreed that frontier technologies could be applied to the manufacturing of the products discussed, with IoT (65.4 per cent), AI (65.4 per cent), and robotics (56.3 per cent) cited most frequently (Figure 28). The lack of practical application of these technologies undermines both efficiency and competitiveness, placing Namibian firms at a disadvantage in regional and global markets where quality, traceability, and precision are increasingly demanded.

The weak connection between R&D institutions and industry reduces Namibia`s ability to innovate from within. Although the country has a structured STI policy and dedicated agencies, such as the National Commission on Research, Science and Technology (NCRST), applied research remains underdeveloped and insufficiently aligned with private-sector needs. Public R&D investments tend to be fragmented or focused solely on upstream activities, and many firms are unaware of the existence or relevance of government-led innovation support (Table 22). Moreover, few platforms exist to foster collaboration among universities, public labs, and industry on concrete problems, particularly in sectors such as food processing, metallurgy, and pharmaceuticals, where incremental innovation and adaptation are critical.

Gaps in quality infrastructure are a recurring problem. There is a need to strengthen testing, certification, and quality control infrastructure, especially in regulated sectors such as pharmaceuticals, electrical equipment, and chemicals. Firms often face long delays and high costs when seeking access to accredited laboratories abroad. The absence of in-country facilities for quality testing and compliance certification acts as a bottleneck not only to innovation but

Figure 28

Potential use of frontier technologies in production, by technology
(percentage)



Source: UNCTAD based on primary data collection.

Note: Percentage of products where frontier technologies can be applied for manufacturing.

also to market access. Without reliable testing capabilities, domestic producers struggle to meet national, regional, or international standards, limiting both public procurement opportunities and export markets.

A fragmented, under-resourced support ecosystem also hinders innovation. There are few incubators, maker spaces, or technology parks that can provide early-stage enterprises with access to prototyping, mentoring, and technical services. Where initiatives exist, they are often isolated, poorly coordinated, or limited in scope and reach. Moreover, current workforce development systems are misaligned with the needs of modern industry. While Namibia has invested in education, most graduates lack hands-on experience in industrial processes, and technical education rarely keeps pace with evolving technological trends.

Table 22

Breakdown of technology gaps, by sector

Sector	Gap
Cross sectoral	Weak linkages between R&D institutions and industry, with limited applied technology development
	High cost of machinery (often imported), tooling, and installation
Chemicals	Limited know-how in chemical testing and formulation technology
	Low adoption of intelligent manufacturing systems, including process automation, IoT, and digital sensors
	Weak technological capacity for safe handling and environmental compliance
Copper articles and other metals	No cluster or technology centre for copper-based engineering and manufacturing, including rod and wire production lines
	Low adoption of smart manufacturing and more sophisticated refining technologies that minimize emissions and resource use
	Weak linkages between mining, metallurgy, and manufacturing technologies: sectors may rely on different or incompatible technologies that hinder integration
Electrical machinery and equipment	Limited knowledge on the market, demand, and access to R&D
	Lack of test labs and product certification capacity
	High capital cost of entry and long import lead times for equipment
	No domestic capacity to build components or machinery, such as printed circuit board (PCB) machines or moulding devices

Sector	Gap
Food processing	Few platforms connecting innovation with traditional food knowledge
	Gaps in cold chain infrastructure, logistics, and packaging machinery
Iron and steel	Lack of facilities and technology for precision part manufacturing and high-temperature process technologies
	Weak integration of downstream sectors, including construction and engineering
	Limited access to smart manufacturing, including robotic and AI-based quality control systems needed in metallurgy
Machinery and mechanical appliances	High reliance on imported know-how and equipment, with limited frontier capabilities in robotics, control systems, and automation software
	Absence of advanced manufacturing hubs or industrial tech centers, and a lack of training infrastructure for advanced mechanical engineering
Pharmaceuticals	Absence of manufacturing laboratories and precision machinery (e.g., capsule fillers, sterilizers, vial lines)
	Fragmented innovation support ecosystem, with limited incubators, certifications, low R&D capacity, and few technological transfer partnerships.
	No domestic production of active pharmaceutical ingredients and limited training on good manufacturing standards.

Source: UNCTAD based on primary data collection.

7.3 Investment and finance

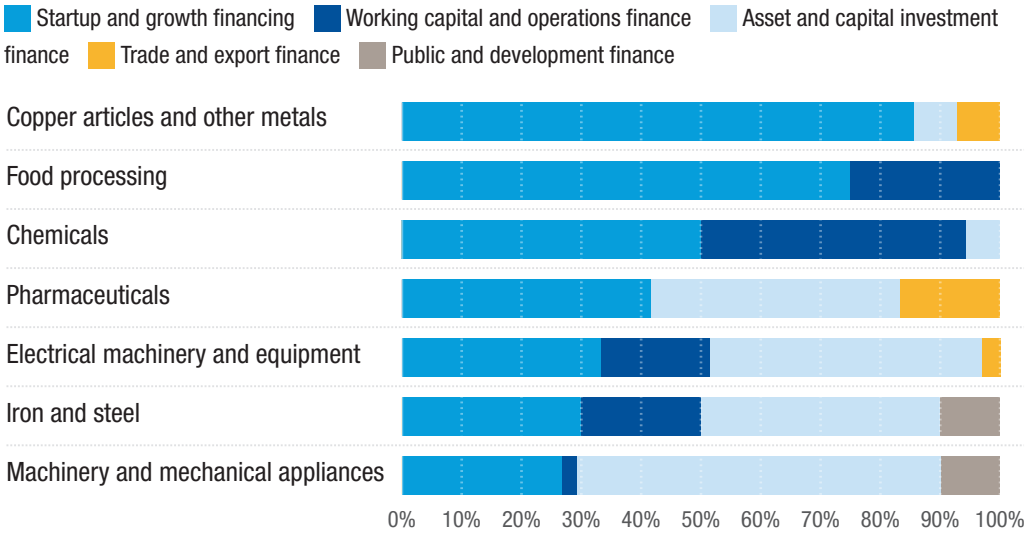
Access to finance is the most common barrier to diversification in Namibia. Respondents reported finance as a constraint for 88.7 per cent of the validated products. This challenge is widespread and persistent across industries. However, the issue is not merely one of availability; finance exists in Namibia, but it does not reach the firms and activities that need it most:

- Startup and growth financing was cited as the most important for articles of copper and other metals and food processing (over 70 per cent), and as highly relevant for chemicals (50 per cent) and pharmaceuticals (42 per cent) (Figure 29).
- Working capital and operations finance were also emphasized in food processing, due to seasonal fluctuations in raw material availability, and chemicals, due to high input costs, long production cycles, and inventory management needs.
- Asset and capital investment finance was considered the most important for capital-intensive sectors such as machinery, electrical equipment, and iron and steel, where large upfront investments are required. It is also important in pharmaceuticals, as it is linked to the establishment of manufacturing laboratories.
- Public and development finance, as well as trade and export finance, were the least cited. Although many of these services are nominally offered by local banks and financial institutions, respondents consistently reported difficulties in accessing them, highlighting structural gaps between financial supply and the needs of productive enterprises

An obstacle is the mismatch between existing financial instruments and the needs of early-stage, high-risk investments. Most local financial institutions remain geared toward traditional lending practices, with short repayment periods, high collateral requirements, and limited tolerance for innovation-related risk. This model inherently excludes startups, SMEs, and first movers in industrial sectors. Many high-potential sectors, such as chemicals, pharmaceuticals, and machinery, require long-term patient capital and are characterized by delayed returns. Namibia has a shortage of dedicated vehicles, such as industrial bonds, concessional loans, or blended finance mechanisms, to serve these needs.

Figure 29

Most important type of financial service needed, by sector
(percentage)



Source: UNCTAD based on primary data collection.

Note: Percentage of the most important financial service indicated by companies in order to produce this product, by sector.

Another gap is the scarcity of targeted instruments to support diversification-specific investments, particularly for value addition and technology acquisition. The existing ecosystem, centred on policies such as the Namibia Investment Promotion Act (2016) and the Micro, Small, and Medium Enterprises Policy, offers tax incentives, recovery loans, and credit guarantees. However, these instruments are often generic, underfunded, or poorly aligned with the financing needs of strategic sectors. Several participants emphasized that even when instruments exist, they are not structured to support capital-intensive or compliance-driven investments, such as those required for GMP-certified pharma production or copper semi-fabrication facilities.

The lack of institutional mechanisms for de-risking private investment is another bottleneck. Blended finance, supplier credit facilities, and public guarantees are either absent or in the early stages of development (Table 23). This leaves even potentially viable projects stranded without access to the financing needed to scale. In capital-intensive sectors like iron and steel or chemicals, this absence creates a hard stop; no amount of technical know-how can substitute for the millions required upfront to install, retrofit, or upgrade infrastructure. Namibia's existing PPP and green impact frameworks remain underutilized in the industrial sectors, partly due to limited inter-agency coordination and a lack of investment-grade pipelines.

There is a disconnect between financial instruments and the operational realities of small producers. For example, in food processing and rural agro-enterprises, seasonal income cycles and informal structures require tailored financial tools like microleasing, revolving funds, or cooperative-based finance. These are largely unavailable locally, and where they exist, they are often driven by donor programmes. Formal Namibian financial institutions have limited reach into informal production systems or rural cooperatives, leaving large segments of potential value addition unsupported.

There is also a gap in export and trade finance, especially for firms that could otherwise scale production through regional integration or global partnerships. Instruments such as supplier-side finance, export credit guarantees, and working capital for large-scale orders are missing. This

creates a paradox: even when firms secure market access or demand, they are unable to fulfil orders due to liquidity constraints or credit terms.

In addition, Namibia's financing architecture for diversification remains fragmented and insufficiently coordinated across institutions. While several promising reforms are underway—including fiscal incentives, micro-, small, and medium-sized enterprise (MSME) credit schemes, and venture capital support—these initiatives are often siloed, with limited alignment between ministries, DFIs, regulators, and technical agencies. The absence of a national fund dedicated explicitly to supporting diversification-aligned investments, with structured governance and multi-stakeholder participation, means funding is ad hoc and reactive, and not strategically aligned with long-term transformation goals.

Table 23

Breakdown of financial gaps, by sector

Sector	Gap
Chemicals	Financial ecosystem unprepared for hazardous materials management and technology acquisition
	Limited access to public guarantees and co-investment instruments
	Few blended finance mechanisms to de-risk innovation
	Major gap in capital investment financing for high-risk industrial production
Copper articles and other metals	Access to finance constrained by limited risk capital and sector-specific instruments
	Lack of early-stage investment and capital for manufacturing infrastructure
Electrical machinery and equipment	Limited SME participation in large industrial supply chains
	Domestic financial institutions unfamiliar with sector needs: firms lack capital for assembly lines and compliance testing
	High initial investment deters entrepreneurs without dedicated financing options
Food processing	Underdeveloped equipment financing and leasing instruments
	Financial institutions hesitant to lend without collateral; lack of microcredit or guarantee schemes for agroprocessors
	High interest rates and short repayment periods discourage investment
Iron and steel	Access to finance remains a major obstacle to downstream industrialization; no instruments for retrofitting or upgrading outdated equipment
	No concessional finance for infrastructure-intensive production
	Policy gaps in incentivizing import substitution
	Lack of long-term industrial finance and tax-subsidized capital programmes
Machinery and mechanical appliances	Need for financing large-scale training and workforce development programmes
	Lack of long-term patient capital for manufacturing plant development, technological partnerships, and prototyping
	No industrial bonds or concessional loans for medium- and high-tech sectors
Pharmaceuticals	No funding schemes for R&D and local formulation activities
	Limited access to public health-linked finance for domestic producers
	Lack of concessional loans for startups and small pharma ventures
	No patient capital for regulatory compliance and GMP certification

Source: UNCTAD based on primary data collection.

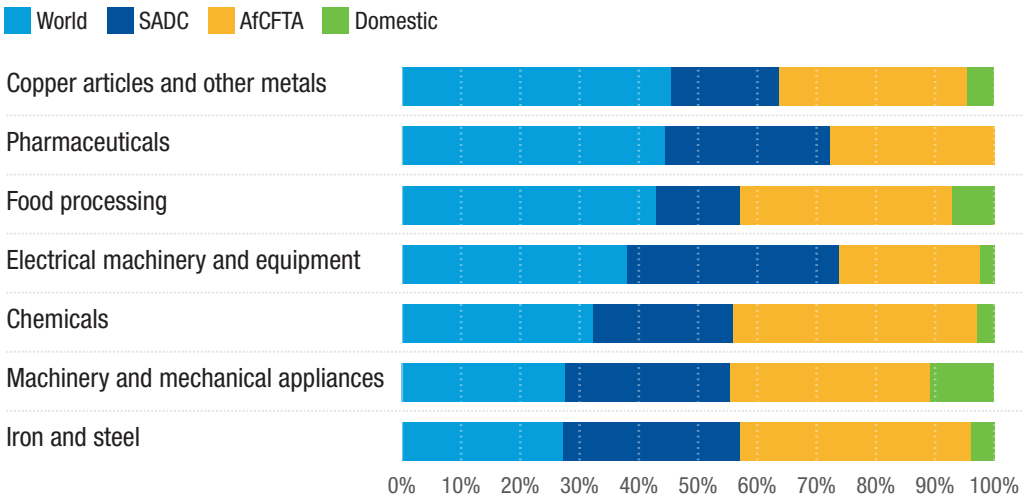
7.4 Enterprise support and trade

Namibia's diversification opportunities are predominantly export-oriented, yet firms face persistent barriers to accessing international markets. Of the products discussed, around 57.7 per cent were linked to global markets, 59.6 per cent to AfCFTA (excluding SADC), 48.1 per cent to SADC, and 9.0 per cent to domestic consumption.[67] This distribution highlights the outward potential of new diversification opportunities (Figure 30). Nonetheless, respondents consistently cited limited market access and competitiveness (69.1 per cent) as key obstacles. Additional concerns included insufficient knowledge of export procedures and limited awareness of demand trends in target markets. These perceptions are reflected in macro-level trends. An International Finance Corporation's report reveals that Namibia's exports of goods and services declined from approximately 52 per cent of GDP in 2009 to 33 per cent in 2020, indicating a loss of external competitiveness despite the country's participation in preferential trade agreements.[68]

Figure 30

Prospective market, by sector

(percentage)



Source: UNCTAD.

Non-tariff barriers and regulatory requirements continue to constrain Namibia's ability to effectively use preferential market access. Non-tariff barriers include technical standards and product certification. Regulatory constraints and compliance challenges were particularly noted in machinery, electrical equipment, chemicals, pharmaceuticals, and, to a lesser extent, in food processing. In machinery and electrical equipment, respondents noted inadequate access to technical specifications and standardisation knowledge needed for quality control. In other sectors, gaps are more related to product certification and licensing. In this context, targeted support for firms to facilitate market access is encouraged, including training programmes focused on quality assurance, certification, and compliance, as well as sector-specific assistance

[67] This is based on the quantitative analysis presented in chapter 5.

[68] International Finance Corporation (IFC). (2022). Creating Markets in Namibia: Country Private Sector Diagnostic. Available at: https://www.ifc.org/content/dam/ifc/doc/mgrt/namibia-cpsd-hi-res-final.pdf

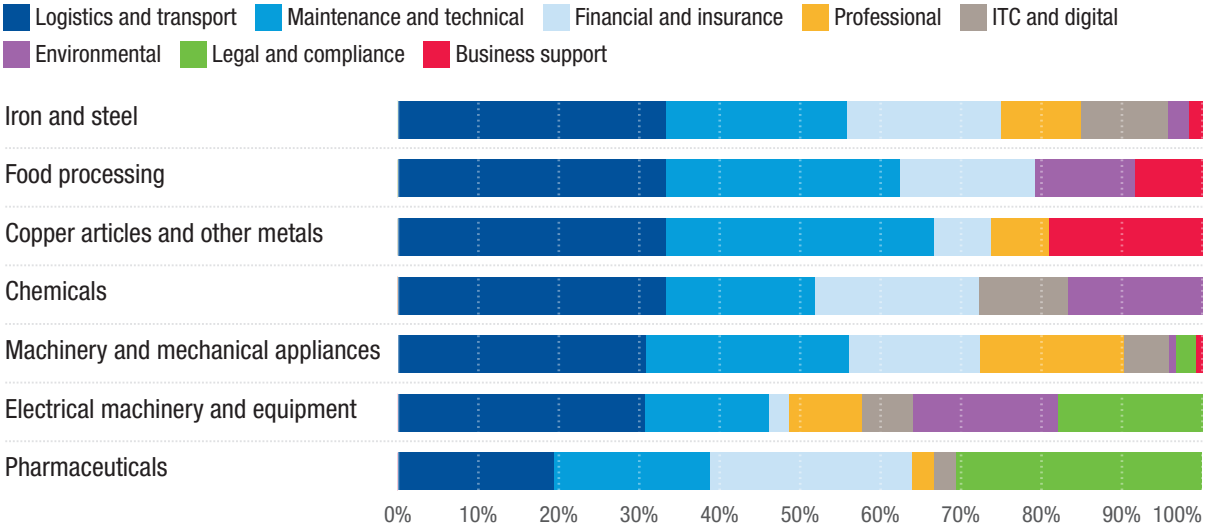
to navigate the regulatory environment. Enhanced market intelligence may also be needed to improve awareness of demand trends and opportunities, both domestically and abroad.

Services such as logistics, maintenance, engineering, environmental, and compliance play a central role in diversification across Namibia's priority sectors. Logistics and transport were deemed the most important service for production (95.5 per cent), followed by maintenance and technical services (69.2 per cent) and financial and insurance services (46.2 per cent). There were also some sector-specificities associated with service importance (Figure 31). For example, professional services, including engineering and design, were particularly important in machinery and iron and steel (Table 24). These sectors rely heavily on specialized technical expertise for equipment design, process optimization, and structural integrity assessments. Environmental services were predominantly important in electrical machinery and equipment and chemicals, where production processes generate hazardous by-products. In electrical machinery, the disposal and recycling of electronic waste (e-waste) demand specialized handling and compliance with environmental regulations. In chemicals, managing toxic waste and emissions also requires expertise in safety and environmental compliance. Maintenance and technical services were cited as particularly important in machinery and mechanical appliances and iron and steel, due to the heavy reliance on complex, high-value equipment. These sectors require frequent servicing, calibration, and repair to maintain operational efficiency. Legal and compliance services were notably important in electrical machinery and equipment and pharmaceuticals. In electrical machinery, these relate to intellectual property (IP) rights and product liability. Meanwhile, in pharmaceuticals, legal services are critical for regulatory approval, patent protection, and compliance with health and safety standards, both domestically and internationally.

Figure 31

Most critical services for production, by sector

(percentage)



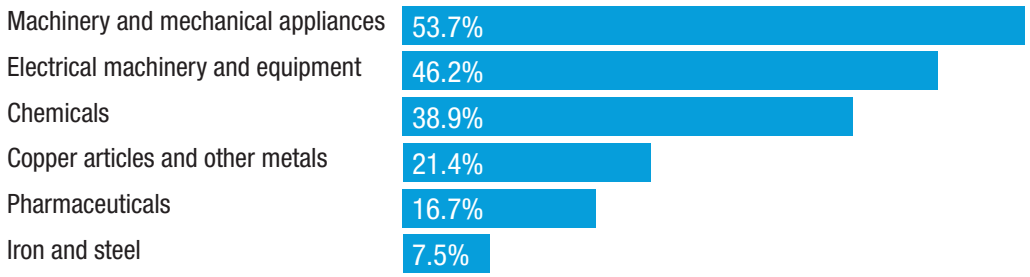
Source: UNCTAD based on primary data collection.

Despite the general availability of business services, gaps persist, particularly in machinery, electrical equipment, and chemicals. Gaps were identified for about 30.8 per cent of the products discussed, with the highest prevalence in machinery and mechanical appliances (53.7 per cent of products in this category), followed by electrical machinery and equipment (46.2 per cent), and chemicals (38.9 per cent) (Figure 32). In machinery and mechanical appliances, chemicals, copper

Figure 32

Services gaps, by sector

(percentage)



Source: UNCTAD based on primary data collection.

Note: Percentage of products discussed per sector where access to services was identified as a barrier.

articles, and other metals, the service gap concerns maintenance and technical services for upkeep, calibration, and repair of equipment. In electrical machinery and equipment, respondents also cited limited access to maintenance and technical services, alongside challenges in securing environmental, legal, and compliance-related services. In pharmaceuticals, service-related bottlenecks stem from legal and compliance issues.

Services-related constraints are a major barrier. Across sectors, firms report limited access to essential services, such as maintenance and technical support, which constrain operational reliability in the chemicals, machinery, copper articles, and other metals sectors. In electrical machinery and equipment, service shortages centre on access to technical specifications, standardisation knowledge, and compliance-related services, all of which are critical for meeting buyer and regulatory requirements. Food processors face service gaps in food-safety standards, export guidelines, and certification support. Iron and steel producers highlight insufficient availability of engineering and design services, which limits process optimisation and product upgrading. Pharmaceutical firms face some of the most severe service constraints, including gaps in legal, quality-assurance, and regulatory-compliance services, as well as support for certification and international regulatory alignment. These service deficits collectively restrict firms' ability to meet standards, integrate into supply chains, and upgrade into higher-value regional and global markets (Table 24).

The estimated employment potential of the validated products suggests that most prospective firms would qualify as MSMEs (Table 25). The chemicals sector records the lowest average employment, primarily due to the capital-intensive nature of basic chemical production, which relies more on equipment than labour. By contrast, electrical machinery and equipment, and iron and steel have significantly higher average employment. In electrical machinery, this is driven by labour-intensive production lines and manual component assembly. In iron and steel, high employment reflects the scale and complexity of operations, including material handling, furnace operations, rolling, and finishing processes.

Table 24

Breakdown of enterprise development gaps, by sector

Sector	Gap
Cross sectoral	SMEs lack capacity in trade fundamentals (standards, financing, rules of origin, market intelligence)
	Need for more streamlined registration processes for SMEs
	Weak business-to-business (B2B) linkages limit collaboration
Chemicals	Insufficient maintenance and technical support services
Copper articles and other metals	Insufficient maintenance and technical support services
	Weak backward and forward linkages hinder potential local supplier development
Electrical machinery and equipment	Limited access to technical specifications and standardization knowledge
	Low awareness of market opportunities
	Weak integration of local SMEs into larger industrial regional and global supply chains
Food processing	Limited know-how in food safety standards
	Limited export guidelines and market demand intelligence
	Weak understanding of agroprocessing standards and certification among SMEs
Iron and steel	Fragmented local market of small players in parts manufacturing limits economies of scale
	Limited professional services in engineering and design
Machinery and mechanical appliances	Limited enterprise upgrading and managerial support
	Limited professional services in engineering and design
Pharmaceuticals	Limited access to legal, quality assurance, and compliance services
	Regulatory and certification issues create major compliance challenges
	Low export orientation and a lack of international certification

Source: UNCTAD based on primary data collection.

Table 25

Average employment potential, by sector

Sector	Average employment	Classification
Chemicals	11 – 30	Small
Copper articles	31 – 100	Medium
Electrical machinery and equipment	100 – 250	Large
Food processing	31 – 100	Medium
Iron and steel	100 – 250	Large
Machinery and mechanical appliances	31 – 100	Medium
Pharmaceuticals	31 – 100	Medium

Source: UNCTAD based on primary data collection.

MSMEs remain central to Namibia's diversification, but they face several challenges. Namibia hosts approximately 33,700 MSMEs,[69] yet only 15,000 are formally registered; they provide one-third of national employment, contribute 12 per cent of GDP, but are responsible for only 4 per cent of exports. High informality[70] restricts access to finance, standards, and formal supply chains. Fragmentation reduces the ability of firms to meet volume and quality requirements, especially in pharmaceuticals, food processing, mining-linked supply chains and light manufacturing. Limited clustering keeps firms operating in low-value segments despite Namibia's logistics advantages.

Fragmented coordination limits the effectiveness of trade and enterprise-support measures. Firms must navigate multiple regulatory processes—including business registration, taxation, environmental clearances, inspections, and standards—handled by separate agencies, resulting in complex, often time-consuming compliance requirements, particularly for MSMEs. The enterprise-support ecosystem is also fragmented and under-resourced, with incubators, accelerators, and industrial parks operating at limited scale. Ongoing efforts to build public-sector capabilities and reinforce public–private dialogue offer an opportunity to improve policy implementation and better support firm competitiveness.

7.5 Infrastructure and spatial industrial development

Infrastructure imbalances remain obstacles to industrial expansion and regional inclusion. While strategic sectors such as chemicals, pharmaceuticals, and iron and steel hold significant potential for value addition and export-led growth, they cannot thrive without coordinated investments in logistics, energy, water, land, and industrial space. The current spatial distribution of industrial activity and the infrastructure that underpins it remains highly uneven and fragmented.

Industrial activity is heavily concentrated in the Erongo and Khomas regions. Erongo region, particularly Walvis Bay, was the most frequently cited location for industrial production, with 123 mentions. Reasons cited were its proximity to the Port of Walvis Bay, access to regional and international markets, and established infrastructure. Khomas region, mainly Windhoek, followed with 74 mentions, due to its closeness to markets, availability of labour, and role as an administrative and commercial hub (Table 26). However, this concentration is placing pressure on land availability, logistics capacity, and public utilities. Without spatial rebalancing, Namibia risks reinforcing core-periphery imbalances and exacerbating regional disparities, which run counter to the goals of inclusive territorial development.

Otjiwarongo and Lüderitz stand out as emerging nodes for logistics and industrial activity. The ||Karas region, often referencing Lüderitz, received 37 mentions, primarily due to its proximity to the port of Lüderitz and access to mineral resources, notably the Haib copper and Skorpion zinc mines. The Otjozondjupa region, specifically Otjiwarongo, was cited 27 times, with additional references to Okahandja and Grootfontein. Respondents viewed Otjiwarongo's strategic location, its connection to Walvis Bay and Windhoek, and its proximity to the TransNamib Holdings Limited (TransNamib) railway as advantageous for logistics and production.

Logistics are critical in Namibia's diversification planning. For instance, industry experts tend to suggest that the production of copper and other mineral products be located close to mining sites to minimize transport costs. Similarly, in food processing, proximity to raw material was also a factor. Some respondents expressed flexibility regarding location, indicating that with sufficient

[69] Republic of Namibia; Ministry of Industrialisation, Trade and SME Development. (2016). National Policy on Micro, Small and Medium Enterprises in Namibia 2016–2021. Available at: https://mit.gov.na/documents/41692/88507/MSME+policy+final.pdf

[70] World Bank. (2011). Promoting Entrepreneurship in Namibia: Constraints to Microenterprise Development. Available at: https://documents1.worldbank.org/curated/en/907951468061142124/pdf/597950ESW0P1180mality0Survey0and0TA.pdf

government intervention, most regions in Namibia could become viable production sites.

Poor infrastructure in secondary regions hinders industrial activity beyond Walvis Bay and Windhoek. Even in more economically active regions like Otjozondjupa and ||Karas, the absence of basic infrastructure, such as water, electricity, road access, and zoning, hinders the emergence of larger-scale viable industrial clusters. Many of these areas lack modern industrial parks, institutional campuses, or worker housing. As a result, incentives to shift investment outside core urban zones have limited traction, despite policy efforts such as the point-based SEZ incentive system designed to promote peripheral development.

Table 26

Regions cited as suitable for production, by sector (frequency)

Sector	Erongo	Khomas	‖Karas	Otjozondjupa	Oshikoto	Kavango East	Kavango West	Ohangwena	Indif-fernt
Chemicals	17	1							
Copper articles	14		12	1	2				
Electrical machinery	22	5		3	1				4
Food processing		3		1		2		1	1
Iron and steel	26	27	24	4	3				4
Machinery and mechanical appliances	34	28	1	14	8			1	
Pharmaceuticals	10	10		4	4	2	2		
Total	123	74	37	27	18	4	2	2	9

Source: UNCTAD based on primary data collection.

More generally, there is a need for coherent infrastructure and industrial planning. There is currently no unified spatial development framework that systematically aligns industrial opportunities (e.g., in copper, chemicals, or machinery) with infrastructure planning (e.g., rail modernization, port upgrades, or energy distribution). This misalignment leads to delays, duplications, and missed opportunities for clustering and co-location. Moreover, there is often limited coordination across agencies involved in urban planning, industrial development, and infrastructure deployment, which hinders implementation and long-term coherence.

There are high energy and water requirements across most sectors. Energy consumption was reported as above average for 76.1 per cent of products validated. Water use is also significant, albeit to a lesser extent (40.9 per cent). Industries such as chemicals, food processing, iron and steel, and pharmaceuticals are both water and energy-intensive (Figures 33a and 33b). Machinery and electrical equipment are also particularly energy-intensive. Yet industrial sites often lack reliable, sustainable access to these resources. In some cases, energy costs and water scarcity become insurmountable entry barriers. The lack of investment in renewable energy infrastructure, industrial-scale water desalination, and shared utilities within industrial parks raises questions about the long-term viability of resource-intensive industrial strategies.

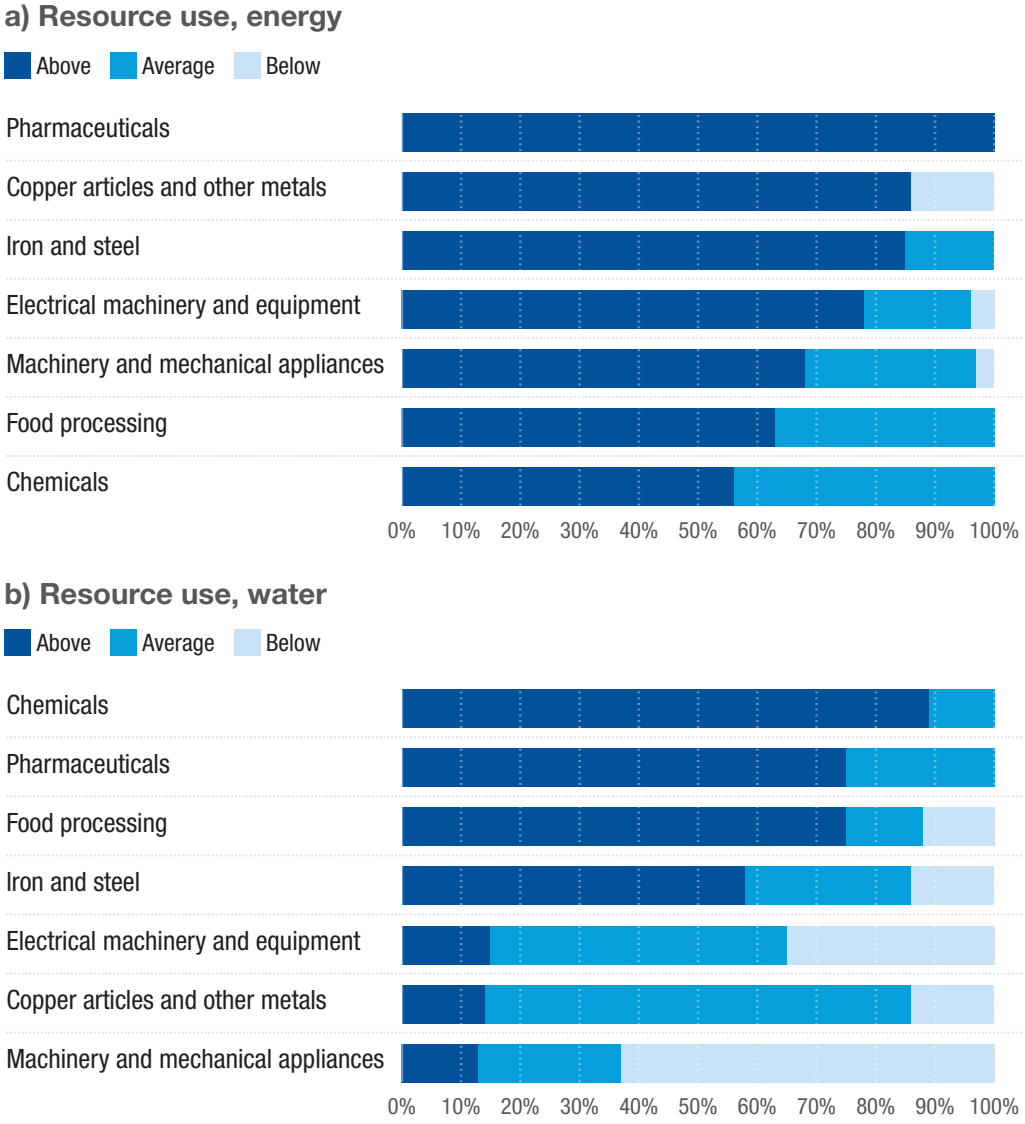
Spatial industrial development has yet to fully incorporate environmental sustainability. As diversification proceeds, there is a clear need to embed sustainability criteria into location decisions, infrastructure design, and land-use planning—especially in sectors that could generate significant environmental externalities. Current infrastructure investments often overlook environmental risks, lifecycle assessments, and opportunities for resource efficiency. For example, the recycling of industrial scrap, shared water treatment systems, or waste-to-energy models are not widely practiced or supported through public infrastructure.

Green building programmes are an untapped opportunity for sustainable industrialization. Traditional building methods often consume excessive water and energy, generate large quantities of waste, and rely on materials sourced through environmentally damaging processes, such as mining. Integrating green construction standards into industrial park development and urban expansion could therefore align economic growth with environmental goals, while enhancing Namibia's resilience to resource constraints.

Fragmented coordination hinders the effective implementation of spatially targeted industrial and infrastructure projects. Successful delivery of such initiatives requires close collaboration among national ministries, regional councils, utility providers, and private developers. However, fragmented mandates and limited technical capacity at local levels often stall implementation. Projects that do get off the ground are not always aligned with industrial priorities or market realities. Without clear governance structures, inter-agency collaboration platforms, and ring-fenced budgets, spatial industrial strategies risk remaining aspirational.

Figure 33

Energy and water intensity across diversification opportunities, by sector
(percentage)



Source: UNCTAD based on primary data collection.

7.6 Sustainable production and circularity

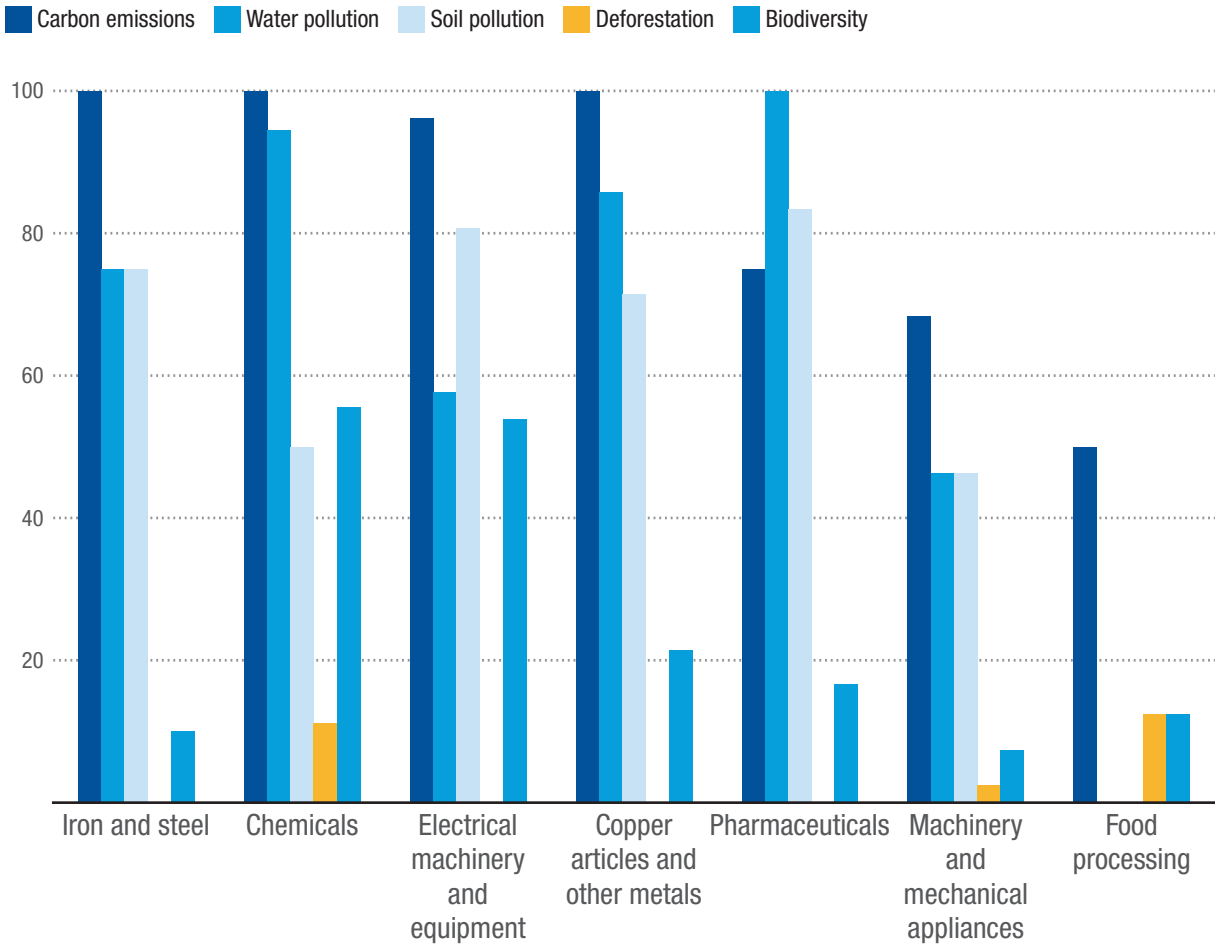
Opportunities across sectors vary in their environmental impact. Carbon emissions (86.8 per cent of products), water pollution (66.0 per cent), and soil pollution (62.3 per cent) were the most frequently cited environmental concerns linked to product manufacturing. Biodiversity loss was less prominent (23.3 per cent). Environmental concerns vary by sector, with carbon emissions consistently high across iron and steel, chemicals, and metals (Figure 34). Water and soil pollution are most acute in pharmaceuticals and electrical machinery, while biodiversity risks are notable in chemicals and electrical equipment. Deforestation remains relatively low across all sectors. There were additional e-waste and waste management risks associated with electrical machinery and equipment, as well as with the handling of hazardous chemicals.

CETM policies emphasize extraction, with limited consideration of circularity. Greater attention to recycling, reducing, and reusing is essential to ensure that resource development aligns with environmental objectives. Establishing incentives for circular economy approaches is crucial to reducing supply chain risks, minimizing waste generation, and enhancing integrated environmental management across the entire value chain.[71]

Figure 34

Environmental concerns, by sector

(percentage)



Source: UNCTAD based on primary data collection.

[71] International Energy Agency. (2024). Recycling of Critical Minerals – Executive Summary. Available at: https://www.iea.org/reports/recycling-of-critical-minerals/executive-summary.

8.

Policy instruments


© UNCTAD

8. Policy instruments

Namibia's diversification challenge is not the absence of policies, but the need to operationalize existing frameworks through targeted, capability-building instruments. This chapter proposes a coherent package of sector-specific policy instruments designed to unlock production in validated product clusters across CETM-linked and complementary sectors. The instruments focus on five binding areas: skills and applied training, R&D and technology access, patient and de-risked finance, services and trade support, and spatial industrial infrastructure, with public procurement and sustainability used as cross-cutting market-shaping levers. Rather than creating new institutions, the proposals leverage existing mandates across TVET, STI, finance, standards, SEZs, and procurement to translate strategic intent into actionable delivery mechanisms that enable firms to invest, comply, scale, and upgrade within and beyond CETM value chains.

This section outlines targeted policy instruments, collaboratively developed with national policymakers and industry, to address Namibia's most binding constraints to diversification, as identified in the national workshops. Interventions are tailored to sector needs, including R&D infrastructure in chemicals, green refining technologies in copper, modernization in iron and steel, and enhanced standards and automation in pharmaceuticals, machinery, electrical equipment, and food processing. The proposed instruments are practical steps to unlock production in validated product clusters. While not exhaustive, these instruments exemplify a coherent, capability-driven diversification strategy building on existing policies and institutions. Policy instruments are understood here in a loose sense, and any recommendations for legal reforms should be followed by an in-depth analysis that goes beyond the data analysis in this Report. Data alone is a reasonable basis but insufficient to underpin legal reforms, as the latter requires a comprehensive and integrated analysis of the legal system as a whole.

8.1 Skills, education, and labour

While existing skills policies provide an enabling environment, many frameworks are broad and require further targeting. The National Technical and Vocational Education and Training (TVET) Policy (2021) promotes competency-based training and public–private partnerships to align skills with market needs. The Vocational Education and Training Act (2008) and the National Training Fund (NTF), managed by NTA, support apprenticeship and industry-based training (Box 3). The National Human Resources Development Plan (2010–2025) sets broad workforce priorities. It is complemented by the National Gender Policy (2010), sector-specific provisions in the Food Safety Policy (2015), and the Health Professions Act (2024). While these policies provide a strong institutional base, they remain disconnected from the specific industrial and technological demands emerging in sectors of the energy transition.

This report outlines over thirty interventions focusing on skills development.[72] Sectors such as instrumentation, mechatronics, CNC machining, metallurgy, electromechanics, and pharmaceuticals require skilled technicians and engineers to operate modern production systems (Table 27). Strengthening these skills through targeted training, apprenticeships, and advanced specializations is critical for enabling firms to adopt new technologies, expand production, and enhance their value-added activities.

[72] See box 1 for an example; the complete list is in Appendix D.

Box 3

Illustrative policy instrument: Battery Assembly Skills Accelerator Programme

The Battery Assembly Skills Accelerator Programme (BASAP) introduces an apprenticeship and skills-accelerator model for Namibia's emerging battery assembly, electrical equipment, and energy storage sectors. It integrates classroom learning with paid industrial placements, offering practical experience in assembly, quality control, and battery management technologies. The programme would be a coordinated national scheme involving TVET institutions, energy-sector firms, and NTF. Gender-targeted incentives and inclusive recruitment strategies aim to boost the participation of women and underrepresented youth in science, technology, engineering, mathematics, and manufacturing. Over time, BASAP could serve as a model for similar schemes in other industrial sectors.

Proposal	Battery Assembly Skills Accelerator Programme
Sector	Electrical machinery and equipment
Gap	Lack of practical experience in battery assembly and control systems
Instrument type	Financial + Institutional (Apprenticeship subsidy via NTF).
Instrument description	6–12-month apprenticeships for ~100 graduates per year.
Gender-targeted incentives (bonuses), with at least 40 per cent of placements for women.	
Temporary onboarding/supervision/ training subsidies to host firms.	
Responsible institutions	NTA; Ministry of Education, Innovation, Youth, Sports, Arts and Culture (MEIYSAC); participating firms.
Delivery mechanism	Competitive firm applications; training logs; quality reviews; placement matching; National Qualifications Framework (NQF)-aligned outcomes.
Timeframe	Two-year pilot 2026-2027
Enabling conditions	Training levy; private sector buy-in; transparent rules; monitoring and tracer studies.

Source: UNCTAD.

Namibia needs an integrated, industry-aligned skills ecosystem to support diversification. Co-delivery models involving universities, TVET centres, the NTA, NSI, NMRC, and private firms ensure that curricula match real industrial needs and that apprentices gain practical experience on production lines. Embedding dual training, combining classroom learning with workplace practice, strengthens job readiness and builds a competency-based system suited to modern manufacturing and processing sectors. To meet regulatory and market requirements, stronger investment in standards, certification, and quality assurance (ISO, IEC/SABS, GMP) is essential, particularly for pharmaceuticals, chemicals, machinery, and electrical components. Specialized training hubs and applied laboratories can deepen sector-specific capabilities in areas such as

Table 27

Summary of strategic proposals for skills development

Strategic proposal	Summary of the recommended approach
Build mid- to high-level technical skills	Prioritize training for engineers, technicians, and specialists in fields such as mechatronics, CNC, metallurgy, and instrumentation, essential for operating modern industrial systems
Institutionalize PPPs	Expand co-delivery models involving TVETs, universities, industry, NTA, and standards bodies to ensure relevance, shared responsibility, and sustainability
Strengthen dual training models	Combine classroom learning with structured work placements to ensure practical, job-ready competencies aligned with industrial needs
Expand standards, certification, and quality assurance capabilities	Invest in ISO, IEC/SABS, GMP, and safety certifications to support compliance and procurement requirements
Establish specialized training hubs and applied labs	Create sector-specific centres of excellence in priority sectors to support advanced skills development and innovation
Embed gender inclusion and SME access	Integrate gender incentives, including wage top-ups, safe facilities, bursaries, and subsidized SME training to promote inclusive participation in industrialization
Strengthen institutional coordination	Formalize collaboration among NTA, UNAM, NUST, MEIYSAC, MIME, the Namibia Standards Institution (NSI), the Namibia Medicines Regulatory Council (NMRC), and industry associations to align curricula, standards, and funding with industrial priorities
Implement a sequenced capability-building pathway	Develop a structured capability ladder through short courses, apprenticeships, advanced engineering tracks, and specializations to progressively upgrade national industrial capabilities

Source: UNCTAD based on primary data collection.

copper wiring, mechatronics, robotics, and materials testing, while gender-responsive measures and SME support promote inclusion. Effective delivery requires coordinated action across NTA, UNAM, NUST, MEIYSAC, MIME, NSI, NMRC, and industry associations, supported by a national skills-industrialization mechanism and a sequenced approach that builds skills progressively from quick certification wins to advanced specialisations.

Proposed instruments should align with the existing policy and institutional frameworks, without creating parallel structures (Table 28). The foundations for skills development, standards, regulation, and finance are already in place. Still, gaps remain in sector-specific areas, such as curricula development and upgrades, applied infrastructure (e.g., GMP labs, toolmaking hubs), firm-linked training and finance (e.g., apprenticeships, grants), enforcement and incentive balance (e.g., food safety), and gender-responsive implementation. Where mandates exist (e.g., NMRC, NSI, NTA), the opportunity should be to operationalize them around specific product clusters (e.g., pharma reagents, hazard analysis and critical control points (HACCP)-grade food lines, CNC/toolmaking) with clearly defined delivery mechanisms and timelines.

8.2 Research and development, innovation and technology

Namibia has established a policy and institutional base for STI. This is anchored in the Revised National STI Policy (2020–2030), the work of NCRST, and frameworks such as the National Research, Science and Technology Fund (RST Fund), space science policy initiatives, and university-led research centres. These systems provide strong foundations in governance, coordination, IP management and data infrastructure. However, the R&D landscape remains

Table 28

Mapping with existing national policies and institutions

Existing policy / Institution	Relevance to proposed instrument	Gap / Opportunity
Vocational Education and Training Act (2008) / NTA & NTF	Enables apprenticeship subsidies and employer-cofinanced training (BASAP; SME-linked practicums); supports TVET delivery for training hubs.	Expand sector-specific apprenticeship standards (e.g., batteries, control panels, CNC machining); streamline firm grants; introduce gender-bonus incentives and tracer studies
National TVET Policy (2021) and updated Labour/TVET policies (2024)	Framework for modular, competency-based training and PPP delivery; basis for short course credentials, including HACCP/ISO certifications.	Develop product-specific curricula (battery modules, switchgear, packaging); formalize microcredentials and recognition by buyers/ regulators
National Human Resources Development Plan (2010–2025)	Aligns skills pipelines to priority sectors	Update sector targets to reflect CETM-linked products; earmark scholarships/placements for training in established hubs and GMP-approved laboratories
National Gender Policy (2010) and Equality/Anti-Discrimination Act (2000)	Legal anchor for women's participation targets and gender-sensitive facilities	Tie funding bonuses to gender outcomes; expand childcare, safe transport, and facilities in TVET/ industrial parks
NMRC (Medicines and Related Substances Control Act, 2003)	Licenses and inspects GMP labs; sets training and quality norms for pharmaceutical-related training	Create an explicit accreditation pathway for GMP training labs and short-cycle certification; standard operating procedure (SOP) templates for education settings
Pharmacy Act (2004) / Health Professions Act (16 of 2024)	Mandates professional training and continuing professional development (CPD); enables in-house pharmaceutical training recognition	Embed heparin/reagent modules into national competency frameworks; require facility-level CPD audits
World Health Organization's (WHO) GMP Guidelines and prequalification	Benchmark for GMP-compliant training content and audits in universities and public laboratories	Localize WHO GMP into Namibia training SOPs; train auditors/educators; enable blended learning assessments
NSI / Standards Act (2005)	Develops and enforces standards (ISO/ HACCP/IEC/SABS); supports compliance in food safety and electrical training	Expand sector guidance on IEC/SABS for panel-building/transformers; mutual recognition of microcredentials in buyer audits
Food Safety Policy (2015) and Public Health and Environmental Act (2015)	Basis for sanctions, incentives, and risk-based inspections in food systems.	Pair sanctions with positive incentives (e.g., certification rebates, market access); fund inspector training and lab capacity.
Namibian Agronomic Board (NAB)	Risk-based inspections; farm-to-market traceability; fits HACCP/packaging/cold-chain training.	Scale NAB's Good Agricultural Practices programme to SMEs and cooperatives; link certification to retailer procurement and concessional finance.
SME Development Strategy (2022–2026)	Supports enterprise upgrading and formalization relevant to food processing modules and SME partners in hubs.	Add technical depth (packaging engineering, cold-chain operations and maintenance); integrate financing windows tied to module completion.
MEIYSAC Strategic Actions (vocational training centres, VTCs →TVET colleges)	Upgrading delivery sites for toolmaking hubs and GMP labs.	Prioritize equipment fit-outs (CNC, metrology, clean rooms); service contracts and trainer upskilling.
Namibia Qualifications Authority (NQA) / NQF	Quality assurance for short-cycle, industry-based credentials (BASAP, HACCP, toolmaking).	Fast-track microcredential accreditation and recognition of prior learning for technicians.
National e-Health Strategy (2021–2025)	Supports blended/online delivery for pharmaceuticals' CPD and safety modules.	Formalize hybrid GMP modules and remote assessments; extend to regions beyond Windhoek/ Walvis Bay.
MIRT / Investment and SEZ policy	SEZ and firm incentives can co-finance training labs, apprenticeships, and other programmes.	Create training-linked SEZ incentives (higher rebates if firms host apprentices or certify to HACCP/IEC).

Source: UNCTAD based on primary data collection.

Box 4

Illustrative policy instrument: Advanced Manufacturing Centre for machinery

The Advanced Manufacturing Centre (AMC) is a proposed national institutional-PPP initiative to close Namibia's gap in advanced manufacturing infrastructure and industrial technology services. Hosted at NUST, the AMC would provide shared access to additive manufacturing, industrial metrology, surface and design engineering, engineering design and prototyping services. By offering technical expertise, reducing technological barriers and shortening development cycles, the AMC would enable SMEs and start-ups to innovate and compete effectively in domestic and regional value chains, addressing challenges in designing, testing, and improving products locally.

Proposal	Advanced Manufacturing Centre
Sector	Machinery and mechanical appliances
Gap	Lack of advanced manufacturing hubs or industrial tech centres serving the sector
Instrument type	Institutional + PPP + Direct Provision
Instrument description	AMC at NUST: additive manufacturing, metrology, surface treatment; pay-per-use and prototyping grants
Responsible institutions	NUST (lead), with MIME, NSI, Namibia Institute of Mining and Technology (NIMT), and private partners
Delivery mechanism	Create a national centre of excellence under the National Science, Technology and Innovation Policy (NSTIP) at NUST; Development Bank of Namibia (DBN) finances the initial setup
Timeframe	Roll-out 2026
Enabling conditions	Sustained government investment, partnership with private firms for applied projects, and awareness of AMC services among SMEs

Source: **UNCTAD.**

predominantly academic and fragmented, with limited mechanisms for applied research, shared testing facilities, or industry-driven innovation, which constrain the translation of research into industrial capabilities in priority sectors such as chemicals, machinery, and CETM. Experience from UNCTAD's STI Policy Review of Zambia (2022)[73] highlights similar regional challenges and underscores the need for higher-level political leadership, stronger cross-ministerial coordination, and dedicated innovation agencies to bridge the gap between innovation inputs and outputs. Addressing these gaps will be essential for Namibia to align its STI system with economic diversification goals and build the applied technological capabilities required for new value chains.

The proposed portfolio of instruments[74] complements existing frameworks by introducing practical, sector-specific mechanisms that address gaps in R&D. The portfolio includes advanced

[73] United Nations Conference on Trade and Development. (2022). Science, technology and innovation policy review: Zambia. Geneva: United Nations. https://unctad.org/system/files/official-document/dtlstict2022d2_en.pdf

[74] In Appendix D

manufacturing centres (Box 4), pilot parks, technology access partnerships, innovation hubs, testing centres, and adaptive financing tools designed to translate Namibia's STI ambitions into tangible productivity gains and new industrial opportunities. These instruments focus on closing foundational technological gaps, improving the interface between industry and research, and ensuring firms have access to the equipment, testing facilities, standards, and applied knowledge required to upgrade production and compete in regional and global markets.

A priority is access to specialized industrial infrastructure through shared, multi-user technology platforms. This would lower entry barriers, shorten product-development cycles, and broaden firms' technological capacity. Blended financing tools such as equipment subsidies, concessional credit, tax incentives, and capex rebates would reduce the cost of adopting new technologies, with DBN and national R&D funds playing a key role in de-risking.

Embedding standards compliance into industrial support instruments is another core recommendation. This would ensure that NSI, NMRC, and relevant regulators provide certification, pre-compliance testing, and guidance needed for firms to meet ISO, HACCP, GMP, electromagnetic compatibility, safety, and export requirements. Strengthening applied R&D and university–industry collaboration through innovation vouchers, challenge funds, capstone projects, and joint lab–industry calls would help translate research into commercially relevant technologies. Digitalisation cuts across all sectors, requiring targeted support for the adoption of MES/IoT systems, traceability tools, automation, and smart-manufacturing technologies, backed by vendor-neutral training delivered by national institutions. The proposals also stress the need for strategic coordination through national foresight systems, sector roadmaps, industrial roundtables, and aligned procurement frameworks.

Proposed instruments should build on existing frameworks under the NSTIP, NSI, NCRST, NMRC, MIME, and the Development Bank (Table 29). Sector-specific interventions should be embedded within existing institutions and frameworks. Where mandates already exist, such as NCRST for research funding, NSI for certification, NMRC for GMP compliance, MIME for industrial modernization, and NUST/UNAM for engineering capabilities, the opportunity is to operationalize these mandates around concrete industrial clusters (i.e., chemicals, electronics, copper, machinery, pharmaceuticals) with clearly defined facilities, technology transfer mechanisms, voucher schemes, and collaborative R&D instruments.

8.3 Investment and finance

Namibia's diversification ambitions depend on robust investment and financing instruments. The current financial and investment framework includes IUMP, the Public Procurement Act (PPA) No. 15 of 2015, the Manufacturing Development Act, and the investment facilitation functions of NIPDB. Development finance institutions (DFIs), such as DBN, Agribank, SME Bank, and other commercial banks, offer loans, guarantees, and blended finance options, while export-oriented initiatives (e.g., SACU revenue framework and the AfCFTA) support market expansion for Namibian products. Budget frameworks, such as the Medium-Term Expenditure Framework and sectoral public investment plans, also provide fiscal anchors for infrastructure and industrial development.

However, current investment and financing tools remain broad and often insufficiently aligned with the needs of emerging sectors. Existing instruments rarely address the risks that prevent firms from investing in machinery and technology or from meeting international standards. Access to patient capital for early-stage industrial projects is limited, SMEs face high collateral requirements, and concessional finance for prototyping, automation, laboratory accreditation, or pilot-scale processing is scarce. PPP instruments are underutilized, and investment incentives are not systematically linked to product clusters or strategic sectors.

Table 29

Mapping with existing national policies and institutions

Existing policy / Institution	Relevance to the proposed instrument	Gap / Opportunity
National TVET Policy (2021)	Provides framework for modular technical and vocational training; supports work-integrated learning and competency-based education	Lacks sector-specific curricula for machining, battery assembly, surface engineering, GMP, and chemical operations; limited industry participation in curriculum design
Industrial Upgrading and Modernisation Programme (IUMP)	Offers co-financing for firm upgrading, equipment, and productivity improvements; directly relevant for AMC, Copper Wire Upgrading, and Automation Retrofit Grants.	Primarily oriented toward equipment purchases; limited support for R&D, prototyping, testing, or digitalisation. Opportunity to integrate new innovation-oriented windows.
SEZ Policy	Provides a framework for developing industrial zones with dedicated regulatory and financing mechanisms	Not yet fully operationalized; requires clear criteria for applied R&D facilities, technology parks, and skills centres within SEZs.
Harambee Prosperity Plan II (2021–2025)	Identifies innovation and digital transformation as central drivers of inclusive development.	Requires operational mechanisms to translate high-level priorities into sector-specific capability-building interventions (pilot parks, maker labs, prototyping vouchers, etc.).
NSTIP (2020–2030)	Establishes strategic priorities for ecosystem development, research excellence, and innovation support. NSTIP mandates stronger linkages between research institutions, industry, and government, and calls for increased investment in applied research and innovation infrastructure.	Strong on governance but weak on applied industrial R&D instruments, shared testing infrastructure, pilot plants, and incentives for firm-level innovation. Proposed instruments operationalize NSTIP's intentions.
Research, Science and Technology Act (2004)	Defines NCRST mandate, regulates research registration, and establishes the RST Fund, supporting R&D in universities and research institutions.	RST Fund remains underfunded; few windows for industry-led R&D or prototyping; needs expansion to support pilot-scale facilities and applied R&D clusters linked to priority sectors.
National Space Science and Technology Policy (2021)	Demonstrates sector-level R&D planning and support for technology transfer offices, makerspaces, and science parks.	Mostly focused on geospatial and satellite technologies; opportunity to replicate similar structures for chemicals, machinery, and pharmaceuticals

Source: UNCTAD based on primary data collection.

Proposed interventions reflect the varied financial needs across Namibia's product clusters. Sectors such as mining value addition, green technology, renewable energies, as well as digital and industrial upgrading, require long-term patient capital to accommodate technological and market risk. Others, such as chemicals, pharmaceuticals, food processing, and machinery, require blended finance for de-risking, prototyping, compliance, and pilot plants (Box 5). Proposed instruments combine financial tools (e.g., diversification bonds, innovation guarantees) with regulatory and institutional measures to improve capital mobilization, strengthen project appraisal, and attract private investment.

DBN and the MFPE are central to the proposals. DBN would serve as the primary institution for on-lending, guarantees, long-term credit, syndicated project finance, and leasing products, aligned with its strategic mandate and the need for a specialized industrial finance hub. MFPE plays a complementary role by anchoring capital-market instruments, sovereign guarantees, and concessional credit frameworks, ensuring fiscal alignment and mobilizing domestic institutional investors through bonds, guarantees, and public–private financing. Coordination with sector

ministries—the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR), the Ministry of Health and Social Services (MHSS), MIRT, MIME, MEIYSAC—is essential to ensure each instrument supports industrial policy objectives and has the required financial mechanisms to achieve them.

Box 5

Illustrative policy instrument: A national industrial innovation de-risking facility

This proposal aims to serve as a blended finance platform designed to reduce the technological, market, and compliance risks that currently deter firms from investing in industrial upgrading and value addition. Anchored in the MFPE and implemented through DBN, Namibia Industrial Development Agency (NIDA), and private sector partners, the facility would combine matching grants, cost-sharing schemes, innovation guarantees, and pilot demonstration funds. These tools would support firms undertaking early-stage R&D, prototyping, automation retrofits, standards compliance, and pilot-scale processing in sectors such as advanced materials, chemical production, and machinery.

By absorbing part of the upfront risk, the facility would support attracting private capital, enabling firms, particularly SMEs, to invest in new equipment, processes, and technologies that might otherwise be out of reach. This proposal directly supports Namibia's ambition to build a more capable and diversified industrial base, creating predictable pathways for experimentation, scaling, and technology adoption across priority value chains.

Proposal	National Industrial Innovation De-Risking Facility
Sector	Advanced materials and chemicals
Gap	Limited financial mechanisms to de-risk innovation
Instrument type	Financial and regulatory
Instrument description	Establishing a national industrial innovation de-risking facility to provide blended finance for R&D and pilot projects, matching grants, and cost-sharing schemes
Innovation guarantees	NUST (lead), with MIME, NSI, Namibia Institute of Mining and Technology (NIMT), and private partners
Responsible institutions	MFPE; MIME; private investors; African Development Bank (AfDB); NIDA; DBN
Delivery mechanism	Challenge funds; thematic funding windows; pilot demonstration grants; performance-based grants
Timeframe	Phased approach (5-7 years)
Enabling conditions	Financial and policy alignment; governmental capacity for project appraisal, monitoring, and management of financial instruments; private sector engagement

Source: **UNCTAD.**

Each sector is supported by proposed tailored financial instruments addressing specific bottlenecks to development:

- Chemicals: Proposals include a hazardous-materials facility, co-financing for innovation de-risking, high-risk industrial windows, and local-currency credit lines
- Copper products: Growth equity fund, manufacturing-infrastructure facility, and startup/scale-up window for mid-cap expansion and entrepreneurial entry.
- Electrical equipment: Supplier-development tools, sector credit guidelines, equipment-leasing and testing schemes, and a dedicated entrepreneurship fund.
- Food processing: Value-chain finance package, including equipment leasing, collateral-lite guarantees, and long-term investment lines, microfinance for village processors, and seasonal working capital.
- Iron and steel: Downstream development fund, retrofit facility, cluster infrastructure window, transformation incentives, and long-term industrial credit.
- Machinery: Patient capital, SME guarantees, partnership grants, industrial bonds, and a venture fund
- Pharmaceuticals: R&D support, procurement-linked finance, concessional startup facilities, and GMP-compliance funding.

Proposed financing instruments should be anchored in Namibia's existing financial and regulatory systems. This would ensure that diversification is advanced through trusted, operational institutions. Table 30 details how each instrument integrates with these institutions, its implementation pathway, and the specific gap it aims to address.

Table 30

Mapping with existing national policies and institutions

Existing policy / Institution	Relevance to the proposed instrument	Gap / Opportunity
Bank of Namibia (BON) Act (2020)	Defines the mandate for financial stability and SWF allocation mechanisms	Opportunity to create a Diversification Sleeve within the SWF and refine eligibility rules for loans/equity into new manufacturing sectors
Welwitschia Fund	Provides long-term capital, which could be allocated to strategic sectors	Requires a dedicated diversification window and a clear pipeline-selection framework for new product clusters
MFPE Capital Markets Framework	Governs domestic bond issuance and engagement with institutional investors	Space to introduce Diversification Bonds and thematic industrial bonds targeting pension and insurance funds
DBN Mandate	Core institution for long-term industrial lending and blended finance	Introduce sector-specific windows for product clusters; capacity needed for project finance and syndicated lending
National Budget Framework and Public Finance Act	Provides scope for public co-financing, guarantees, and subsidy policies	Opportunity to introduce blended finance mechanisms, first-loss provisions, and targeted subsidy envelopes (e.g., interest-rate buy-downs)
Agribank Credit Mandate	Supports agroprocessing SMEs with seasonal and equipment finance	New lines for long-term agroprocessing investments, movable-collateral recognition, and microprocessing guarantee schemes
NSI	Sets standards and supports certification (electronics, chemicals, pharmaceuticals)	Stronger integration with finance instruments such as compliance-linked lending, GMP financing, and testing-equipment grants
NIPDB Investment Promotion Framework	Identifies sectors and promotes investment attraction	Opportunity to integrate product-level investment pipelines into diversification funds and startup/scale-up facilities

Existing policy / Institution	Relevance to the proposed instrument	Gap / Opportunity
MIME Industrial Policy Framework	Defines priority sectors for value addition and manufacturing	Requires alignment with financing tools for sector-specific infrastructure (e.g., copper clusters, steel clusters, electronics parks)
NCRST Innovation Policy	Supports R&D and technology development	Finance instrument needed for TRL-staged calls, blended innovation de-risking, and university-industry partnerships
PPA (2015)	Influences demand for local products through government purchasing	Opportunity to anchor supplier-development finance, invoice discounting, and contract-backed lending for SMEs
Secured Transactions and Movable Property Registry	Establishes legal basis for movable collateral	Use for agroprocessing, machinery SMEs, and electronics firms; integration needed with guarantee schemes
National Quality Policy	Governs certification, testing, and conformity assessment	Opportunity for quality-linked credit products (e.g., GMP, HACCP, NSI testing compliance)
Climate Change Policy and Green Financing Guidelines	Provides the basis for accessing climate funds	Opportunity to link climate windows to industrial retrofitting facilities and low-emission steel/ chemicals financing
Government Institutions Pension Fund (GIPF) and Insurance Regulations	Defines investment limits for pension and insurance funds	Adjustments or guidance to allow investment in thematic bonds, mezzanine tranches, and industrial funds
Industrial Parks and SEZ Framework	Provides fiscal incentives and infrastructure for clusters	Embed finance windows for plant construction, retrofits, shared infrastructure, and startup support
MHSS Health Procurement Framework	Governs multi-year contracts for pharmaceuticals and consumables	Opportunity to use framework contracts as collateral for pre- and post-shipment finance and guarantee-backed lending
SME Financing Charter (Banking Sector)	Encourages lending to SMEs across sectors	Produce industry-specific templates; opportunity to integrate seasonal working-capital lines, small factoring products, and vendor-backed equipment finance
Financial Sector Development Strategy	Aims to deepen capital markets and financial inclusion	Opportunity to introduce instruments such as venture funds, mezzanine vehicles, and blended industrial credit schemes
Financial Sector Development Strategy	Aims to deepen capital markets and financial inclusion	Opportunity to introduce instruments such as venture funds, mezzanine vehicles and blended industrial credit schemes

Source: UNCTAD based on primary data collection.

8.4 Enterprise support and trade

The National Trade Policy (NTP) (2024–2030) sets the framework for trade and industrialization. It recognizes the growing importance of services to firms' competitiveness and the need to improve capabilities for diversification, value addition, and investment attraction. Complementary frameworks, including the MSME Policy, the SME Economic Recovery Scheme, the National Strategy for AfCFTA Implementation, and initiatives such as "Buy Namibian", aim to support MSMEs by providing access to finance, basic upgrading, and reduced trade barriers. These instruments create entry points but could be better targeted to address the identified bottlenecks (Chapter 7.4). However, while NTP, MSME Strategy, and the AfCFTA Implementation Strategy (2022-2025) establish strategic intent, they do not yet provide the operational tools for firm upgrading, service-sector development, quality assurance, or market-entry support.

Namibia's diversification prospects require instruments that directly address the intersection of services and goods production. Current policies do not sufficiently strengthen key service inputs such as maintenance, logistics, certification, engineering, and environmental services that determine firms' ability to meet buyer requirements and integrate into regional and global value chains. Addressing this gap is essential for competitiveness in machinery, electrical equipment, chemicals, pharmaceuticals, and food processing. Namibia could benefit from a systematic services assessment to guide industrialisation efforts and ensure that emerging policy instruments are anchored in an economy-wide understanding of services inputs, regulatory gaps, and sector-specific requirements. Targeted measures such as a National Product and Supplier Intelligence Platform, an initiative suggested by stakeholders, could address these gaps and provide practical support to enterprises in priority value chains (See Box 6 below).

Box 6

Illustrative policy instrument: National product and supplier intelligence platform

This proposal aims to expand Namibia's mining database into a cross-sector tool for industrial development. Namibia has an existing database that captures information on firms, inputs, and production flows within the minerals sector, specifically, mining operations. The national product and supplier intelligence proposal seeks to expand this database into a national platform that integrates data on domestic producers, input requirements, logistics, standards, and regional export markets across priority sectors. It would serve as a single source of product and supplier intelligence for firms, policymakers, and investors. A dedicated data governance unit would be essential to ensure that the platform remains reliable, secure, and useful over time. The platform's development would follow a phased approach, with technical and institutional learning over three years.

Proposal	National product and supplier intelligence platform
Sector	Cross-sectoral
Gap	Mining database is not leveraged for other sectors
Instrument type	Informational + Institutional
Instrument description	Transform existing mining database into a cross-sector platform, integrating data on domestic producers, inputs, logistics, and export markets; Provide open dashboards for policymakers and targeted SME access, with a data governance unit mandated to maintain quality and use insights for industrial policy targeting
Responsible institutions	NIPDB; MIME; NSA; NSI; Industry associations
Delivery mechanism	Upgrade existing database architecture, sign data-sharing agreements, harmonize classification systems (HS or the International Standard Industrial Classification, ISIC), create user-friendly dashboards, secure SME interfaces, and establish a data governance unit to maintain the platform.
Timeframe	Database redesign and data agreements 2026, platform build and pilot 2027, full deployment 2028
Enabling conditions	Long-term funding for platform development and maintenance; binding data-sharing agreements with key agencies and industry associations; technical capacity for data management and analytics; SMEs' and policymakers' buy-in to use and update the system.
Enabling conditions	Financial and policy alignment; governmental capacity for project appraisal, monitoring, and management of financial instruments; private sector engagement

Source: UNCTAD.

Access to specialised industrial services can be improved by facilitating the entry of foreign service providers and the regional mobility of skilled professionals. Mutual Recognition Agreements for engineers, technicians, environmental specialists, and pharmaceutical regulatory experts would increase the pool of qualified professionals available to support the machinery, electrical equipment, chemical, and pharmaceutical industries. Reviewing and streamlining licensing practices and requirements for foreign service providers could reduce barriers to accessing specialized certification, maintenance, logistics, and digitally enabled services, helping firms meet technical and operational requirements more efficiently.

Namibia can enhance export competitiveness by expanding and accelerating domestic testing, certification, and quality-assurance services. Public–private partnerships with internationally accredited laboratories can establish satellite testing facilities in Namibia while national capacity is being developed. Prioritizing the accreditation of high-demand testing scopes such as electrical and electronic safety, metallurgy, chemical analysis, and pharmaceutical quality control could shorten turnaround times and reduce firms' reliance on costly foreign laboratories. Negotiating regional and international mutual recognition of Namibian certificates would further improve acceptance of Namibian products in AfCFTA, SADC, and European Union markets, ensuring that compliance barriers do not erode the benefits of preferential market access.

Linking public support to firm performance can accelerate industrial upgrading and regional integration. Performance-based incentives, such as support tied to certification, process improvement, or supplier-readiness milestones, would ensure that public resources are allocated to firms demonstrating progress. Large firms and public buyers can be mobilized to mentor and source from smaller local suppliers, thereby expanding domestic value chains and strengthening Namibia's participation in AfCFTA and SADC markets. Cluster-based infrastructure in SEZs and industrial parks could reduce fixed costs and improve access to shared services.

Practical, sector-specific export support tools could help firms translate market-access opportunities into business transactions. Export playbooks for the priority value chains identified in this report could outline practical ways to gain market entry, including certification procedures, buyer specifications, logistics requirements, and sample contract terms. Buyer missions and AfCFTA awareness programmes, particularly targeting women- and youth-led enterprises, could also help build the capacity of existing or nascent exporters.

A coordinated institutional structure could guide, monitor, and sequence these instruments across ministries, regulators, and private sector actors. A National Services Trade and Enterprise Growth Task Force, anchored by MIME, could galvanize efforts to explicitly bring services into trade policymaking. It would coordinate among agencies such as the Business and Intellectual Property Authority (BIPA), Namibia Revenue Agency (NamRA), NSI, NMRC, NIPDB, municipalities and industry associations, aligning their mandates around practical export and services reforms. Table 31 below provides a mapping of institutions, outlining their relevance to possible policy instruments in this Section.

8.5 Infrastructure and spatial industrial development

Namibia's diversification hinges on aligning infrastructure investment with a spatial industrial vision that supports the emergence of new productive sectors. Priority sectors require not only utilities and land, but also spatial clustering, logistics, and a conducive regulatory environment. Erongo and Khomas are central to this strategy, as they already serve as industrial anchors due to their logistics, utilities, and human capital. Yet, new regional hubs must complement their growth to absorb additional industrial activity. Otjozondjupa and other regions offer opportunities to decentralize industrial activity, distribute growth, and build complementary capabilities, such as a dedicated iron and steel research and production hub.

Table 31

Institutional mapping for possible policy instruments

Existing policy / Institution	Relevance to the proposed instrument	Gap / Opportunity
MIME	Leads coordination of services trade reforms, sector-specific policy instruments and regional integration initiatives (AfCFTA, SADC).	Opportunity to anchor a cross-agency Services Trade Task Force to sequence and monitor implementation.
NSI	Central for standards, conformity assessment, testing, certification and accreditation; essential for export quality assurance.	Need to expand accredited testing services, fast-track accreditation in priority sectors and strengthen mutual recognition of certificates.
NMRC (Medicines Regulatory Council)	Regulates pharmaceutical quality, approvals and compliance; key for domestic production and export readiness.	Opportunity to accelerate review timelines, strengthen specialized assessor capacity and harmonize requirements regionally.
NIPDB	Anchor for export helpdesks, market intelligence, product catalogues and the national supplier intelligence platform.	Expand analytics, coordinate sector-focused export readiness and manage supplier-development tools.
BIPA	Responsible for business registration and licensing, including potential reforms for foreign service provider entry.	Opportunity to streamline licensing requirements, improve clarity on service-provider regulations and support mobility of specialized professionals.
Industry associations and professional bodies	Key partners for negotiating MRAs, sector-specific skill standards and joint capacity-building initiatives.	Opportunity to develop MRAs for engineers, technicians and other professionals
Municipalities / Industrial parks & SEZ authorities	Providers of industrial infrastructure and shared facilities for clusters in machinery, chemicals, steel and electrical equipment.	Opportunity to develop cluster-based shared services (maintenance, testing, logistics) linked to targeted upgrading and supplier development.

Source: UNCTAD based on primary data collection.

Coherence across Namibia's policy frameworks is fundamental for diversification. The National Spatial Development Framework, NDP6, the Industrial Policy, and the SEZ Policy provide the structure for spatial zoning, industrial clustering, and incentive design. Aligning these policies ensures that public investment, land allocation, environmental safeguards, and investor incentives are coordinated effectively.

Industrial zones and SEZ-based instruments are key to Namibia's diversification strategy. They create the necessary spatial, regulatory, and infrastructure conditions for industries to scale. For example, the proposed Erongo Chemicals Park consolidates utilities, serviced land, logistics, and environmental safeguards in a single location to support chemical processing, thereby reducing barriers to investment and enabling shared infrastructure efficiencies (Table 32). Similarly, the proposed Otjozondjupa Iron and Steel and R&D Hub would decentralize industrial activity away from Erongo and Khomas, and support research in metallurgy and recycling. To reinforce these developments, a SEZ incentive point system can help direct investment to underutilized regions. At the same time, park governance frameworks (led by MIME and NIDA) would ensure consistent standards for operations, utilities, investor servicing, and environmental compliance.

Transport and logistics are indispensable for the efficient, cost-effective, and predictable movement of inputs and finished products. Modernizing key railway corridors is particularly important for chemicals, iron and steel, and other bulk or heavy industries, as rail offers lower per-ton costs, reduced road wear, and better alignment with long-term sustainability objectives. Strengthening port–industrial linkages at Walvis Bay is equally critical, given the port's strategic role in connecting Namibia to regional and global markets and its function as the country's

Table 32

Infrastructure and spatial industrial development: Suggested policy levers

Instrument category	Purpose / Strategic role	Key instruments / Actions	Expected outcomes
Industrial zones and SEZ-based instruments	Create spatial, regulatory, and infrastructure conditions for new industries to scale	Establish Erongo Chemicals Park (serviced land, utilities, logistics, environmental safeguards); Develop Otjozondjupa Iron and Steel R&D Hub; Use an SEZ incentive point system to shift investment to underutilized regions; Implement park governance frameworks (MIME and NIDA)	Lower entry barriers for investors; Promote regional industry de-concentration ; Strengthen research and technological capabilities.; Ensure consistent park standards
Transport and logistics instruments	Enable predictable, efficient movement of inputs and products	Modernize rail for chemicals and heavy industry; Strengthen port–industrial linkages at Walvis Bay; Upgrade strategic road corridors for first–last mile connectivity	Lower transport costs for heavy- and bulk-industries; Improve Namibia's competitiveness in regional/global trade; Enhance logistics reliability for industrial parks and SEZs
Land, housing, and institutional campus Instruments	Ensure industrial zones are productive and liveable	Expand serviced industrial land with clear zoning and tenure; Develop worker housing near industrial hubs; Allocate land for TVET, NUST, and R&D campuses	Ready-to-invest industrial sites; Improved labour attraction and retention; Integration of skills and innovation ecosystems
Water and energy security instruments	Secure, reliable, affordable water and energy supply for resource-intensive sectors	Expand desalination capacity (2–4 years); Build shared industrial water facilities; Integrate renewable energy, upgrade substations, and improve load stability.	Reduce supply disruption risk; Lower costs through shared utilities; Support energy-intensive manufacturing and green industrial growth
Sustainability, natural infrastructure, and circularity instruments	Reduce environmental risks and ensure resilience and compliance with standards	Promote scrap recycling, chemical loops; Establish shared waste treatment and pollution control systems; Enforce EIAs and environmental regulations; Invest in natural infrastructure (wetlands, buffer zones).	Resource efficiency and circularity; Lower compliance costs ; Protection of ecosystems and communities; Climate-resilient industrial zones

Source: UNCTAD based on primary data collection.

primary gateway for both imports and exports. Upgrading strategic road corridors ensures first- and last-mile connectivity for industrial zones and SEZs, altogether enabling integration into domestic and international supply chains.

Land, housing, and institutional campus instruments are essential to support industrial development. First, expanding serviced industrial land with clear zoning, infrastructure readiness, and tenure is a prerequisite for attracting investors. Second, worker housing near industrial hubs is necessary to attract and retain labour, reduce commuting costs, and support inclusive spatial development beneficial for local communities. Third, allocating land for TVET, NUST, and R&D centres ensures a sustainable ecosystem of skills development and innovation alongside industrial growth.

Water and energy security instruments are critical for resource-intensive industries. Expanding desalination capacity is particularly important for chemical, pharmaceutical, and metal-processing industries, which require large volumes of water. The development of shared industrial water facilities within parks further improves efficiency, reduces duplication, and supports circular

water management approaches. On the energy front, integrating renewable power, upgrading substations, and improving load stability are essential to meet the high and predictable energy demand of sectors such as machinery, electrical equipment, and iron and steel.

Sustainability and circularity instruments are critical to managing environmental risks. Promoting industrial symbiosis, such as scrap metal recycling, chemical waste loops, and shared by-product use, reduces resource consumption and creates new business opportunities. At the same time, establishing shared waste treatment and pollution control systems in industrial parks lowers compliance costs and strengthens environmental oversight, especially for chemicals and heavy industry. Enforcement of EIAs and environmental regulations ensures that new investments do not compromise natural ecosystems or public health. Complementing these measures, investments in natural infrastructure, including wetlands, buffer zones, and environmental monitoring services, help mitigate climate-related risks and protect ecosystems.

Development partners can accelerate Namibia's industrial transition. Multilateral development banks such as the World Bank, AfDB, and the Development Bank of Southern Africa are key in financing large industrial infrastructure, supporting feasibility studies for rail, port, and energy investments, and funding climate-resilient infrastructure. Their involvement can help crowd in private capital by reducing risk and improving project bankability.

Technical agencies provide support for the design and governance of industrial clusters effectively. Organisations such as UNCTAD, the United Nations Industrial Development Organization (UNIDO), and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) offer expertise in industrial zoning, product clustering, SEZ governance, and PPP frameworks. Their advisory support can help ensure industrial parks and SEZs are built on international best practices while remaining grounded in national realities. Moreover, they can assist in strengthening coordination across ministries, enhancing regulatory clarity, and strengthening institutional capabilities needed to manage complex industrial ecosystems effectively.

Climate finance platforms are increasingly important for supporting the green, low-carbon infrastructure. Financing mechanisms, such as the Green Climate Fund,[75] the Adaptation Fund,[76] and the Just Energy Transition Mechanism[77] can support the funding of water-efficiency systems, renewable energy integration, waste treatment facilities, and low-emission industrial infrastructure. These resources can help ensure Namibia's new industrial zones meet international environmental standards, remain resilient to climate risks, and reduce the cost of transitioning to more sustainable industrial systems, while boosting the long-term resilience and competitiveness of emerging sectors.

8.6 Public procurement and market-shaping

Namibia's procurement framework is anchored in PPA (2015), which sets the legal basis for government purchases. This Act, together with its 2017 Regulations, defines the procedures for tendering, supplier registration, evaluation, and local content preferences for SMEs. These legal provisions are complemented by newer policies, such as the National Upstream Local Content Policy (2024), which extends procurement principles into the extractive and industrial sectors. Together, these frameworks position procurement as a key interface between public expenditure, private sector development, and national industrial goals.

The MFPE oversees PPA and its accompanying regulations. Through its Procurement Policy Unit, the Ministry issues policy guidance, monitors implementation, and provides technical support to

[75] https://www.greenclimate.fund/

[76] https://www.adaptation-fund.org/

[77] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en

strengthen compliance across public entities. Coordination with institutions such as the Public Procurement Board, MIME, and NPC ensures alignment with fiscal and economic frameworks and maintains coherence among procurement procedures, financial oversight, and sectoral policy objectives.

Complementary policies interact with the PPA to promote participation by Namibian enterprises in public tenders. The National Upstream Local Content Policy (2024) introduces requirements for domestic participation in the extractive sector and outlines mechanisms for local sourcing and supplier development. The SME Development Strategy (2022–2026) sets priorities for strengthening SME capabilities through supplier-readiness programmes, skills development, and access to finance. In addition, the *Buy Local, Grow Namibia* campaign seeks to raise awareness of domestic products and services among public institutions and consumers. Altogether, these frameworks define the policy environment in which procurement operates and identify potential entry points to promote domestic production and enterprise participation.

Aligning procurement with Namibia's industrial, SME, and innovation policies could drive local value addition and inclusive growth. A central issue is ensuring local content preferences and SME participation comply with Namibia's international commitments. Clarifying the scope for local content (up to 60 per cent weighting) in tender evaluations, while aligning with World Trade Organization (WTO) rules, is essential for consistent and transparent application. Providing more explicit guidance on assessing and verifying local content, including through certificates of origin, payroll documentation, and supplier declarations, would further strengthen the credibility and enforceability of these measures.

Concrete policy levers and verification mechanisms could create an integrated framework to enhance Namibia's procurement system, support SME growth, and contribute to the diversification agenda (Table 33). These measures are built on PPA and translate provisions into actionable tools for procurement entities. Suggested levers, including weighted bid evaluations, reserved procurement categories for SMEs, strengthened supplier registration, and clear contractual obligations, steer procurement toward domestic value addition and SME participation. The table also outlines practical methods for assessing, verifying, and enforcing local content commitments. Clear definitions, standardized reporting templates, and systematic verification processes, such as financial analysis, certificates of origin, workforce data, and targeted audits, can help determine the actual domestic contributions of each contract. These tools reduce ambiguity, improve accountability, and ensure local content provisions translate into measurable outcomes in contract execution.

Strengthening developmental procurement in Namibia requires an ecosystem that enables domestic firms to supply strategic goods and services at competitive quality and scale. Workshop discussions highlighted that procurement reforms must be complemented by targeted incentives, supplier development programmes, and market-shaping interventions that reduce barriers for local producers and create predictable demand. These mechanisms help firms build confidence, acquire capabilities, and attract investment to respond to procurement opportunities arising across public and private sectors.

A first step involves identifying Namibia's largest institutional buyers: hospitals and clinics; laboratories; universities; schools; tourism operators; construction firms; hotels; mines; fisheries; logistics providers; and major state-owned enterprises such as NamPower, NamWater, TransNamib, and the Airports Company. Mapping high-volume products purchased by these entities (e.g., construction materials, steel and copper components, pharmaceuticals, food supplies, laboratory consumables, digital infrastructure hardware, vessel equipment, uniforms, packaging, and more) provides a demand-driven foundation for designing incentives to stimulate local production. This mapping can help align incentive frameworks with market opportunities and focus support on products where Namibia already has emerging capabilities or growth potential.

Table 33

Public procurement and market-shaping: Suggested policy levers

Category	Suggested measures	Description / Application
Policy levers and mechanisms	Bid evaluation weightings	Apply weighted scoring in tenders to reward proposals showing higher levels of Namibian content or SME participation, encouraging increased local sourcing
	Reserved procurement categories	Designate selected procurement activities or contract thresholds exclusively for SMEs or local suppliers to strengthen domestic capabilities
	Supplier registration and pre-qualification	Maintain updated lists of approved suppliers meeting local content or performance requirements, streamlining procurement and improving transparency
	Contractual obligations and reporting	Require suppliers to report regularly on local content, supported by documentation. Non-compliance may trigger penalties or affect future eligibility
	Capacity and compliance support	Provide targeted support for SMEs to meet procurement requirements, including assistance with certification, standards compliance, and local content calculations
	Transparency and dispute resolution	Establish clear procedures and guidance on assessing local content, with transparent appeal mechanisms for suppliers disputing assessments
Guidance on assessing and confirming local content	Definition of local content	Defined as the proportion of value added in Namibia, including labour, materials, services, and capital sourced domestically, and excluding imported inputs
	Financial analysis	Verify local content by reviewing invoices, payroll records, tax filings, and other financial documents showing Namibian expenditures
	Certificates of origin	Confirm the origin of products through official certification verifying Namibian production or assembly.
	Supplier and workforce data	Assess the share of Namibian employees, subcontractors, and SME partners in the contract
	Audit and verification	Use audits to validate supplier claims and confirm the accuracy of local content calculations
Implementation and compliance tools	Standardized reporting templates	Require bidders to submit local content reporting templates and supplier declarations with their tender submissions
	Periodic compliance checks	Conduct post-award monitoring to verify continued adherence to local content commitments throughout contract implementation.

Source: UNCTAD based on primary data collection.

Once priority buyers are identified, targeted incentives and capacity-building measures can help unlock domestic supply. Blended-finance and risk-sharing schemes, anchored in the SME Development Strategy, can reduce investment risks for firms in construction, pharmaceuticals, food processing, or specialized components for mining and logistics. Fast-track regulatory approvals, particularly for locally manufactured pharmaceuticals and medical supplies, can significantly shorten time-to-market for Namibian firms. Supplier readiness programmes, including training on certification, standards compliance, and local content calculations, can strengthen SME capacity to meet procurement requirements.

Visibility and market-access tools are also important. A catalogue of Namibian-produced goods, regularly updated and shared with public institutions and major buyers, would help match supply with demand. Annual "diversification showcases" can highlight new domestic products and connect producers to anchor buyers. Complementary initiatives, such as expanding the mining supplier database into a multi-sector platform and reinforcing the "Buy Local, Grow Namibia" brand, would further increase recognition of local products and support emerging suppliers.

8.7 Sustainable production and circularity

Namibia's competitiveness in emerging sectors also depends on aligning industrial development with environmental priorities outlined in its policies. This includes EMA 2007, the Water Resources Management Act (2013), the Pollution Control and Waste Management Bill (awaiting enactment), and the SEZ Policy (2022). Integrating these legal frameworks into Namibia's industrialization agenda may facilitate embedding environmental safeguards into regulatory procedures, land-use planning, and industrial investment decisions.

Regulatory and economic instruments are central to this transformation, leveraging Namibia's existing governance to set clear environmental requirements while incentivizing cleaner production. Key measures include modernizing the EMA, strengthening sector-specific EIA and permitting, and operationalizing the Basel Convention obligations. Economic and financial mechanisms, such as scaling the Environmental Investment Fund of Namibia, expanding the Namibia Renewable Energy Feed-in Tariff programme to increase renewable energy supply for industrial users, introducing pollution charges under the forthcoming Pollution Control Bill, and leveraging access to the Green Climate Fund and the Global Environment Facility, enable firms to invest in low-carbon, circularity technologies, and digital environmental monitoring systems.

Sector-specific policies are essential to address the unique environmental risks and technological demands of priority industries. Tailoring instruments to the characteristics of chemicals, metals, pharmaceuticals, iron and steel, and electrical machinery ensures that green industrialization efforts translate into improvements in pollution control, resource efficiency, and compliance with global sustainability standards. This approach also integrates an environmental component into the country's diversification goals.

The chemical sector requires policies focused on circular chemistry, solvent recovery, hazardous waste management, and effluent treatment. Interventions should be in line with EMA and the forthcoming Pollution Control and Waste Management Bill. Strategies such as Extended Producer Responsibility could be adopted to reduce waste and improve accountability, particularly for chemical containers, reagents, and by-products, by promoting proper collection, recycling, or treatment. University-industry partnerships in green chemistry and toxicology at NUST or UNAM, for example, could provide scientific expertise to monitor risks, develop safer alternatives, and support compliance in chemical parks and SEZs.

In the iron and steel sector, Namibia should prioritize expanding scrap recycling, adopting low-carbon production technologies, and improving waste heat recovery systems. The promotion and uptake of low-carbon technologies, including electric arc furnaces powered by renewables, waste heat utilization, and digital emissions monitoring, can help reduce emissions and energy intensity. Industrial symbiosis opportunities also exist, linking scrap flows to machinery manufacturers, construction firms, and copper fabricators, enabling multiple industries to benefit from shared materials. The sector also requires stronger particulate emissions monitoring and clear air quality management standards, especially as new steel clusters emerge.

Copper and base-metal industries require specific environmental policies to manage wastewater, tailings, and potential soil contamination. Priorities should include cleaner smelting technologies, acid-free leaching where applicable, and strict wastewater and soil protection standards in line

with the Water Resources Management Act (2013). Metal recovery and tailings valorization—including extracting copper, cobalt, REEs, and other strategic minerals—can generate new value chains from waste while reducing environmental liabilities. Namibia should also adopt standards for responsible metals processing to support exports to markets with due diligence frameworks, including the European Union, the United States, and the Organisation for Economic Co-operation and Development (OECD), ensuring traceability, low-emission production, and compliance with global environmental norms.

In pharmaceuticals, emphasis should be on preventing chemical contamination, improving production efficiency, and ensuring compliance with GMP-linked environmental standards. This includes specialized wastewater treatment to remove antibiotics, solvents, and biologically active residues, as well as adopting green lab protocols, safe chemical-handling systems, and biodegradable packaging. Promoting resource-efficient technologies, such as energy-efficient heating, ventilation, and air conditioning systems, digital quality controls, and IoT-enabled monitoring, can also reduce energy and water intensity.

For electrical machinery and equipment, Namibia should manage the rapid growth of e-waste and the sector's high energy consumption. Establishing e-waste regulations, recycling networks, and formalized reverse logistics systems in line with Basel Convention best practices is pivotal. Policy incentives should encourage automation, robotics, and IoT systems to improve efficiency. Developing circularity standards for electronic components, including modular design, repairability requirements, and recycled-content quotas, can also help reduce environmental impact and integrate Namibia into more sustainable regional value chains, meeting global demand for low-impact products.

International support mechanisms are essential for providing access to technological expertise, strengthening institutions, and enabling long-term financing. By leveraging multilateral partnerships, climate finance, and bilateral cooperation, Namibia can accelerate the adoption of cleaner production systems and reduce the financial risks associated with green industrial upgrading, ensuring sustainability becomes an enabler of diversification.

Technical assistance from institutions such as UNCTAD, the United Nations Environment Programme (UNEP), UNIDO, and GIZ can strengthen environmental governance, circularity, and sustainable industrial development. These institutions offer expertise in cluster design, eco-industrial park models, circularity planning for materials, green standards, and environmental regulatory reform. This support in priority sectors can strengthen regulatory functions, including EIA reform, environmental permitting, digital pollution-monitoring systems, and inspection capacity, all of which are critical to operationalizing EMA and forthcoming pollution-control legislation. Supporting institutions such as MEFT, MIME, NPC, and NIDA can help Namibia enhance the institutional capacity to enforce environmental safeguards while promoting green innovation and investment in industrial zones and SEZs.

Mobilizing climate and green finance is equally important. Global financing mechanisms—such as the Green Climate Fund, the Global Environment Facility, and the Adaptation Fund—offer opportunities to fund priorities, including industrial water recycling, renewable-energy integration into SEZs, pollution-control systems for chemicals and metals, and green infrastructure development. These mechanisms can complement blended finance instruments that combine concessional capital with private investment to support higher-risk, high-impact projects, including recycling hubs, low-carbon smelting technologies, and circular-economy pilot zones. Additionally, Namibia can tap export finance and development bank credit lines to help firms purchase green machinery, robotics, and digital monitoring technologies to improve energy and material efficiency.

9.

Conclusions


© Adobe Stock

9. Conclusions

This report, developed under the Technical Cooperation project Rapid Assessment of Value Addition and Diversification Capacity in Southern Africa, financed by the Government of Japan and implemented by UNCTAD, supports Namibia's efforts to leverage its CETM for sustainable economic development. Through a combined product space and stakeholder-based analysis, the study provides evidence-based pathways to advance value addition, economic diversification, and job creation, building on the momentum of the CETM sector, while recognising the importance of complementary industries in enabling sustained upgrading within CETM value chains, and aligning with Namibia's national development priorities and long-term ambitions.

While the country benefits from substantial natural resource endowments, particularly in CETM, capturing greater value will depend on expanding domestic processing, upgrading technological capabilities, and fostering intersectoral linkages. Recent years have seen a gradual shift in economic activity toward services, yet mining continues to anchor export earnings and GDP. Despite episodes of economic expansion, Namibia faces persistent challenges of high unemployment and weak job creation, reflecting a disconnect between sectoral growth and broad-based employment. Manufacturing, though prioritized, has exhibited fluctuating performance, hindered by external shocks and internal capacity constraints. This underscores the urgency of accelerating structural transformation and identifying potential opportunities to broaden economic activity based on the country's existing capacities, including those that strengthen the industrial ecosystem supporting CETM-related activities.

The findings from the economic complexity and product space approach reveal 353 promising diversification opportunities closely aligned with Namibia's current productive capacities, including CETM-linked clusters. Additional opportunities exist beyond CETM value chains, particularly in the chemicals, iron and steel, and machinery and mechanical appliances sectors, which play a critical role in building capabilities, services, and inputs required for deeper diversification within CETM value chains over time, with regional export potential within SADC and AfCFTA markets. Import-substitution potential also exists across several manufacturing segments. Nonetheless, realizing these opportunities will require closing gaps in access to production inputs, finance, specialized skills, and overcoming barriers in market access, all highlighted by stakeholder input. Importantly, integrating sustainability and circularity principles into sector development is critical to mitigating the environmental risks associated with industrial expansion.

First, to translate these opportunities into actionable results, Namibia could consider prioritizing high-potential products identified in the assessment, including both CETM-linked products and complementary activities that support capability accumulation. For example, chemical inputs, copper components, electrical equipment, and pharmaceuticals. These need to be supported by product-specific action plans with clear requirements for standards, finance, skills, and infrastructure. Using the 300+ product opportunity dataset as a dynamic tool for investment promotion and policymaking can guide these efforts.

Realizing these opportunities will also require addressing the services-related constraints that shape firms' ability to compete. The assessment shows that access to services such as logistics, maintenance, engineering, environmental management, and legal and compliance support is central to competitiveness, including for machinery, electrical equipment, chemicals, pharmaceuticals and food processing. These services not only enable diversification beyond mining but also underpin the feasibility and upgrading of CETM value chains themselves. Gaps

in export-related services, including quality assurance, standardisation and market intelligence, further limit firms' ability to meet the requirements of regional and global buyers. Strengthening these service ecosystems is therefore essential for enabling firms to upgrade, achieve compliance, and take advantage of the identified diversification opportunities.

Second, Namibia could consider mobilizing targeted and de-risked finance for diversification, including the use of diversification bonds, sovereign wealth fund (SWF) windows, and blended-finance mechanisms to channel long-term capital into priority sectors. Establishing a National Industrial Innovation De-Risking Facility can support early-stage R&D, pilot plants and technology adoption, linked directly to the identified opportunities and avoiding generic SME support.

Third, Namibia could consider building specialized industrial capabilities, expanding apprenticeships and dual training linked to priority sectors. This should target at least 100 technical graduates per year in critical areas such as electrical equipment, battery assembly, machining and chemicals. Specialized applied training hubs within existing TVET and university facilities should be developed to support skills in critical areas, such as CNC/toolmaking, GMP labs and transformer customisation. These measures should integrate gender-responsive incentives (such as stipends, safe transport, and targeted bursaries) to increase women's participation in industry.

Strengthening Namibia's standards, certification, and testing infrastructure is also essential to support product-specific requirements, such as electrical safety for switchgear, purity testing for chemical reagents and food safety standards. Investments in standards and compliance benefit both CETM and non-CETM sectors, reinforcing cross-sectoral capability development. A fast-track microcredential accreditation for industry-linked programmes through NQA could help advance these efforts.

Fifth, Namibia could consider strengthening enterprise competitiveness by expanding the availability, quality and mobility of key services. This requires targeted instruments that improve access to critical industrial services such as maintenance, engineering, logistics, environmental and compliance services, which are essential for firms in machinery, electrical equipment, chemicals and pharmaceuticals. Facilitating the entry of foreign service providers, advancing Mutual Recognition Agreements for engineers, technicians and other professionals, and streamlining licensing processes can increase the pool of specialized skills available to industry. At the same time, expanding domestic testing, certification and accreditation capacity, for instance, through public–private partnerships, accelerated accreditation in priority sectors and stronger regional or international recognition of Namibian certificates, will help firms meet buyer and regulatory requirements more efficiently. Complementary tools such as supplier development, performance-based upgrading support and sector-specific export assistance can further strengthen firms' ability to integrate into SADC, AfCFTA and international value chains.

Furthermore, investments in infrastructure, particularly energy, water, logistics, and digital upgrades, can support new industrial clusters in underutilized regions. The expansion of SEZs and industrial parks with training-linked incentives for firms hosting apprentices and investing in certification can promote inclusive spatial planning. Aligning infrastructure with both CETM-related and complementary industrial clusters strengthens system-wide diversification dynamics. Moreover, infrastructure development could be aligned with identified clusters (e.g. chemical pilot facilities, machining hubs, cold-chain capacity).

Namibia's diversification efforts need to be coordinated within a time-bound, multi-institutional delivery platform led by the NPC, with a focus on skills, standards and enterprise innovation. This comprises the use of a shared monitoring dashboard that tracks results such as certification rates, SME onboarding, apprentices placed, and export volumes for new products. At the same time, such a strategy could consider empowering ministries and agencies to streamline accreditation, inspections and approvals to remove bottlenecks.

Finally, this strategy must embed inclusion, sustainability, gender equity and regional integration across the board. Mainstreaming of gender targets across industrial programmes could be supported by incentives and a safe learning environment. Strengthening regional partnerships can expand access to SADC and AfCFTA markets, positioning Namibia as a regional supplier of value-added products rather than just raw materials. Ensuring SMEs benefit from subsidized training, quality support, and regional procurement opportunities will also be essential to fostering inclusive growth and broadening the impact of industrial diversification.

The project findings and accompanying policy recommendations provide a roadmap for guiding Namibia's diversification pathway. By integrating evidence-based analysis with stakeholder perspectives, this report lays the groundwork for strengthened partnerships and international collaboration, aligned with Namibia's long-term development objectives.

Appendices

Appendix A. Detailed methodology: Economic complexity, product space and export opportunity measures

Proximity measure

The analysis identifies products that require a similar set of capabilities to those required to produce the current product mix in Namibia to identify opportunities for new investments in new sectors. These products are located in the product space close to the existing product mix.

The measure of proximity between products *A* and *B* (*ΦAB)* in the product space is calculated using a method proposed by Freire (2017) similar to that proposed by Hidalgo et al (2007), as the minimum value between the conditional probability P(*A*|*B*) of a country producing *A*, given that it produces *B* and the conditional probability P(*B*|*(A*) from a country producing *B*, since it produces *A*:

$$\Phi_{A,B} = \Phi_{B,A} = \min\big(P(A|B), P(B|A)\big) \quad (1)$$

The proximity between two products, therefore, varies from 0 per cent, in the case where no country produces both products, to 100 per cent, in the case where all countries that produce one good also produce the other.

To identify products located in the vicinity of each country's product space, a value for the threshold of proximity between products that correspond to a "usual" distance travelled during the diversification process is chosen. In this report, this value is 80 per cent, which means that eight out of ten countries that export one of the products also export the other.

Economic and product complexity measures

The report then identifies potential new products that are close in the product space and are also more complex. To measure the complexity of the product, this report uses the method of reflections proposed by Hidalgo and Hausmann (2009). The method builds a bipartite network of countries and the products they produce and iteratively calculates a generalised measure of diversification and ubiquity as follows:

$k_{c,N} = \frac{1}{k_{c,0}} \sum_p M_{cp} \cdot k_{p,N-1}$ (Generalised measure of diversification) (2)

$k_{p,N} = \frac{1}{k_{p,0}} \sum_c M_{cp} \cdot k_{c,N-1}$ (Generalised measure of ubiquity) (3)

Where M_{cp} is 1 if country c produces the product p and 0 otherwise, $k_{c,0}$ is the number of products produced by country c; and $k_{p,0}$ is the number of countries that produce the product p.

The product complexity index (*PCI)* is taken as the normalised value of k_p:

$$\overrightarrow{PCI} = \frac{\overrightarrow{k_p} - <\overrightarrow{k_p}>}{stdev(\overrightarrow{k_p})} \quad (4)$$

Where $<\overrightarrow{k_p}>$ is the mean and $stdev(\overrightarrow{k_p})$ is the standard deviation of the k_p *distribution*.

The analysis considers the price incentives that entrepreneurs face when choosing between different potential new economic activities, estimating export opportunities and import substitution. The assumption is that entrepreneurs face price incentives when choosing between different potential new economic activities. New products with higher demand potential are more likely to be selected, other things being equal.

Export potential

To estimate the export potential, the report uses a measure of the export opportunity of potential new products (Freire, 2017). This measure is a monetized type of overlap index that captures the degree to which one country's potential new exports match another's expanding import markets. A higher degree of export opportunity for potential new products indicates more favourable prospects for commercial expansion for new products, given the past rate of growth of their importing markets.

The indicator *XOP* is defined as the sum of the changes in the shares of the importing country's product-level imports in total world imports between two periods. Formally:

$$XOP_{sd} = \sum_p G_{psd}^{t0,t1} \times M^{2023} \quad (5)$$

Here M^{2023} denotes total world imports in all products in 2023, and $G_{psd}^{t0,t1}$ is defined as:

$$G_{psd}^{t0,t1} = \frac{m_{psd}^{t1}}{M^{t1}} - \frac{m_{psd}^{t0}}{M^{t0}}$$

and it is the change in the share of world imports accounted for by product p imported by destination country *d* from source country s between t_0 and t_1. In this notation, m_{psd}^{t1} is imports of product p by country d from country s in year t, and M^t is total world imports in year t.

For any pair of countries (s,d), only products that meet the following criteria are included: 1) the share of that product in total world imports increased between the two periods, and 2) the product represents a potential new product for the exporting country. The selection is implemented through an indicator that takes the value 1 if $\Phi_{\mathrm{p},j} > 0.80$ for some product *j* in the existing product mix of country s and $\frac{m_p^{t1}}{M^{t1}} > \frac{m_p^{t0}}{M^{t0}}$, and zero otherwise. Only products for which the indicator equals 1 enter the computation of XOP_{sd}.

Appendix B. Industry questionnaire for product validation and feasibility assessment

Macro group	Capacities	Question	Product 1	Product …	Product n
			Market opportunity	Market opportunity	Market opportunity
			price per unit	price per unit	price per unit
Production	Core inputs for production	What are the main inputs for production in terms of materials?			
		Are any of these by-products of another industry?	Yes / No		
		What is the origin of the main required inputs?			
		Namibia	Yes / No		
		World (specify)			
	Machinery / Technologies	What are the critical machinery for production?			
		What is the origin of the main required machines?			
		Namibia	Yes / No		
		World (specify)			
	Frontier technologies	What are the future-oriented technologies that can be used in production in Namibia?			
		Artificial Intelligence / Machine Learning	Yes / No		
		3D Printing	Yes / No		
		Internet of Things	Yes / No		
		Industrial Robots	Yes / No		
		Collaborative Robots	Yes / No		
		Virtual / Augmented Reality	Yes / No		
		Others			
	Productive scale	What scale is required to make production economically viable (output per month)?	Output per month		
	Human resources (formation)	What is the required education level for production?			
		Higher education			
		Location	Regions		
		Please specify where			
		Technical / Technologist level			
		Location	Regions		
		Please specify where			
	Human resources (scale)	How many employees are needed for production for the productive scale?			
		Usual composition of skills			
		No. of managerial positions	Number		
		No. of professional positions	Number		
		No. of technical positions	Number		
		No. of clerical support positions	Number		
		No. of plant and machine operators, and assemblers	Number		
	Human resources (gender)	What is the usual gender composition in production?			
		Female	%		
		Male	%		
Infrastructure		What is the most important logistical infrastructure for the outflow of production?			
		Port / airport / road	Port / airport / road		
		Compared to other industries, how important are these resources for production? Select between below, average, and above			
		Water supply	Below / average / above		
		Energy	Below / average / above		

	Where would production be most suitable for this product (region)?	Region
	Why?	Why
Sustainability	What are the environmental concerns involved in production?	
	Carbon emissions	Yes / No
	Water pollution	Yes / No
	Soil pollution	Yes / No
	Deforestation	Yes / No
	Biodiversity	Yes / No
	Others	
Utility	Which industries/sectors use this product as an input?	
	Can you name industries/companies that use this input/product in Namibia?	
	Can you name companies that produce this input/product?	
Services	From the list below, what are the top three service categories that are most critical to the success of this product (in production, commercialization)? Where do you typically source these services?	
	ICT & Digital Services	Among top 3 / blank
	Financial & Insurance Services	Among top 3 / blank
	Professional Services	Among top 3 / blank
	Logistics & Transport Services	Among top 3 / blank
	Environmental Services	Among top 3 / blank
	Maintenance & Technical Services	Among top 3 / blank
	Legal & Compliance Services	Among top 3 / blank
	Business Support Services	Among top 3 / blank
	Other (please specify)	
	Location of service 1 (in the order of the previous response)	Regions
	Where?	
	Location of service 2 (in the order of the previous response)	Regions
	Where?	
	Location of service 3 (in the order of the previous response)	Regions
	Where?	
	From the list below, what logistics service is the most important for transporting and distributing this product? (mention one)	
	Vehicle and Heavy Mobile Equipment Hiring Services	Most important / blank
	Bulk and Specialized Freight Haulage Services (road transport)	Most important / blank
	Other Freight Transport Services	Most important / blank
	Ocean and Port Logistics	Most important / blank
	Customs Brokerage and Freight Forwarding	Most important / blank
	Warehousing and Storage Services	Most important / blank
	Last-mile delivery	Most important / blank
	Where do you typically source this service?	Regions
	Where?	

	From the list below, what financial service is most important for companies producing this product? (mention one)	
	Startup and growth financing	Most important / blank
	Working capital and operations finance	Most important / blank
	Asset and capital investment finance	Most important / blank
	Trade and export finance	Most important / blank
	Public and development finance	Most important / blank
	Is this service currently accessible in Namibia?	
	Where?	
	Can this product be bundled with services (e.g., installation, training, maintenance)? (Yes/No) If yes, which ones?	
	Are there any after-sales or complementary services that can generate additional revenue? (Yes/No) If yes, what service(s)	
Closing	Why do you think this product has not yet been produced in the country?	
	Access to materials	Yes / No
	Access to machinery / technology	Yes / No
	Access to qualified labour	Yes / No
	Access to services	Yes / No
	Access to finance	Yes / No
	Regulatory constraints	Yes / No
	Economic viability (productive scale)	Yes / No
	Infrastructure	Yes / No
	Sustainability	Yes / No
	Competition and market access	Yes / No
	Other (please specify)	Other, please specify

Appendix C. Detailed portfolio of opportunities for diversification

Table C.1.

Product list of shortlisted sectors from the global export opportunity scenario, by sector and total weighted opportunity

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	284290	Salts; of inorganic acids or peroxoacids, other than double or complex silicates, including aluminosilicates, whether or not chemically, excluding azides, $3-40	per kilo	Yes	906.30	145.99	China	145.63	India	0.24	United States	0.06	South Africa	0.02	United Kingdom	0.01
Chemicals	280120	Iodine, $30-100	per kilo	No	278.10	18.30	China	12.47	Belgium	2.83	India	0.88	France	0.81	Italy	0.43
Chemicals	290943	Ether-alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives; monobutyl ethers of ethylene glycol or of diethylene glycol, $1-3	per kilo	No	45.36	5.36	China	5.25	Germany	0.04	South Africa	0.03	United Kingdom	0.02	United Arab Emirates	0.01
Chemicals	340490	Waxes; artificial and prepared, other than of polyethylene glycol, $0-3	per kilo	No	81.62	4.82	China	3.95	India	0.37	Spain	0.36	United States	0.13	Portugal	0.01
Chemicals	292419	Acyclic amides (including acyclic carbamates) and their derivatives; salts thereof, other than meprobamate (INN), fluoroacetamide (ISO), monocrotophos (ISO) or phosphamidon (ISO), $4-33	per kilo	No	79.42	4.64	China	2.84	France	1.53	Canada	0.14	India	0.08	Singapore	0.03
Chemicals	282751	Bromides; of sodium or of potassium, $0-3	per kilo	No	37.35	4.58	China	4.51	Singapore	0.02	France	0.02	India	0.01	South Africa	0.01
Chemicals	382370	Industrial fatty alcohols, $2-6	per kilo	No	102.05	4.06	China	2.46	Belgium	0.46	United States	0.42	United Kingdom	0.28	Germany	0.23
Chemicals	293379	Heterocyclic compounds; lactams; other than 6-hexanelactam (epsilon caprolactam) and clobazam (INN) and methyprylon (INN), $11-677	per kilo	No	180.41	3.86	United States	3.13	China	0.65	Singapore	0.04	United Kingdom	0.02	Australia	0.01
Chemicals	293319	Heterocyclic compounds; with nitrogen hetero-atom(s) only, containing an unfused pyrazole ring (whether or not hydrogenated) in the structure, other than henazone (antipyrin) and its derivatives, $33-407	per kilo	No	129.53	3.66	United States	2.13	China	1.34	Republic of Korea	0.15	Singapore	0.03	Netherlands	0.01
Chemicals	293590	Sulphonamides; n.e.c. in heading no. 2935, $35-638	per kilo	No	207.87	3.33	Canada	1.30	Germany	0.95	Belgium	0.69	Netherlands	0.19	India	0.15
Chemicals	292910	Nitrogen-function compounds; n.e.c. in chapter 29, isocyanates, $2-7	per kilo	No	114.52	3.24	Belgium	2.50	South Africa	0.50	United Kingdom	0.14	Portugal	0.05	United Arab Emirates	0.04
Chemicals	293359	Heterocyclic compounds; containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure, (other than malonylurea and its derivatives, loprazolam, mecloqualone, methaqualone, zipeprol, and salts thereof) n.e.c. in 2933.5, $45-647	per kilo	No	132.87	2.97	France	1.53	China	1.15	Singapore	0.14	Netherlands	0.06	Switzerland	0.05
Chemicals	380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles, $7-23	per kilo	No	362.84	2.39	Netherlands	0.62	United Kingdom	0.61	India	0.55	Italy	0.47	Portugal	0.06
Chemicals	292690	Nitrile-function compounds; n.e.s. in heading no. 2926, $9-44	per kilo	No	33.12	2.12	Belgium	0.81	China	0.77	France	0.54	United Arab Emirates	0.00	Saudi Arabia	0.00

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	284390	Inorganic or organic compounds; of precious metals (excluding gold and silver), whether or not chemically defined, amalgams of precious metals, $651-22317	per kilo	Yes	266.22	1.96	Germany	0.90	United States	0.37	Canada	0.28	South Africa	0.25	Netherlands	0.10
Chemicals	381590	Reaction initiators, reaction accelerators and catalytic preparations, unsupported, n.e.c. or included, $0-4	per kilo	No	94.94	1.93	France	0.92	Canada	0.57	United States	0.17	Italy	0.15	United Kingdom	0.09
Chemicals	293220	Heterocyclic compounds; with oxygen hetero-atom(s) only, containing an unfused furan ring (whether or not hydrogenated) in the structure, lactones, $9-212	per kilo	No	59.83	1.89	Spain	1.08	India	0.55	South Africa	0.13	Italy	0.11	Australia	0.01
Chemicals	290919	Ethers; acyclic, and their halogenated, sulphonated, nitrated or nitrosated derivatives, other than diethyl ether, $0-1	per kilo	No	479.07	1.78	Spain	1.16	Germany	0.49	United Kingdom	0.06	Poland	0.02	India	0.02
Chemicals	292250	Amino-alcohol-phenols, amino-acid-phenols and other amino-compounds with oxygen function, $4-176	per kilo	No	97.35	1.74	France	0.77	Germany	0.34	Italy	0.33	Netherlands	0.08	Republic of Korea	0.08
Chemicals	381239	Anti-oxidising preparations and other compound stabilisers; for rubber or plastics, other than mixtures of oligomers of 2,2,4-trimethyl-1,2-dihydroquinoline (TMQ), $3-10	per kilo	No	108.05	1.63	India	1.24	Netherlands	0.25	United Kingdom	0.11	United Arab Emirates	0.02	Saudi Arabia	0.01
Chemicals	381512	Catalysts, supported; reaction initiators, reaction accelerators and catalytic preparations, with precious metal or precious metal compounds as the active substance, n.e.c. or included, $0-51	per kilo	Yes	75.43	1.63	France	1.06	Netherlands	0.21	India	0.20	South Africa	0.05	China	0.05
Chemicals	292800	Organic derivatives of hydrazine or of hydroxylamine, $6-107	per kilo	No	156.85	1.50	Spain	0.34	Germany	0.32	Democratic Republic of the Congo	0.28	Netherlands	0.25	South Africa	0.14
Chemicals	291612	Acids; unsaturated acyclic monocarboxylic acids; esters of acrylic acid, $1-7	per kilo	No	47.27	1.47	France	1.26	United States	0.19	United Arab Emirates	0.02	Saudi Arabia	0.00	Finland	0.00
Chemicals	280300	Carbon; carbon blacks and other forms of carbon n.e.c., $1-5	per kilo	Yes	141.31	1.45	Spain	1.32	Netherlands	0.10	United Arab Emirates	0.01	Romania	0.01	Türkiye	0.01
Chemicals	291611	Acids; unsaturated acyclic monocarboxylic acids; acrylic acid and its salts, $1-5	per kilo	No	53.14	1.40	China	0.64	France	0.41	Netherlands	0.15	Belgium	0.08	Germany	0.07
Chemicals	292149	Amine-function compounds; aromatic monoamines and their derivatives; salts thereof; n.e.s. in item no. 2921.4, $0-13	per kilo	No	48.87	1.38	France	0.64	China	0.63	Italy	0.05	Switzerland	0.04	Spain	0.02
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $0-2	per kilo	No	91.77	1.35	Belgium	0.56	India	0.32	United States	0.25	United Kingdom	0.17	Canada	0.03
Chemicals	281122	Silicon dioxide, $0-1	per kilo	No	105.95	1.32	United States	0.84	India	0.20	Canada	0.20	Belgium	0.05	Thailand	0.02
Chemicals	281122	Silicon dioxide, $1-13	per kilo	No	55.45	1.28	France	1.24	Portugal	0.02	United Arab Emirates	0.01	Saudi Arabia	0.01	Botswana	0.01
Chemicals	284210	Salts; double or complex silicates, $1-20	per kilo	No	38.58	1.25	France	0.33	Germany	0.31	China	0.29	India	0.15	Belgium	0.11
Chemicals	290919	Ethers; acyclic, and their halogenated, sulphonated, nitrated or nitrosated derivatives, other than diethyl ether, $1-38	per kilo	No	80.54	1.24	Netherlands	0.49	Italy	0.22	India	0.19	United States	0.18	Spain	0.15

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	292529	Imines and their derivatives; salts thereof; other than chlordimeform (ISO), $8-38	per kilo	No	54.00	1.19	United States	0.50	India	0.30	France	0.25	Belgium	0.09	Singapore	0.04
Chemicals	381519	Catalysts, supported; reaction initiators, reaction accelerators and catalytic preparations, with an active substance other than nickel or precious metals or their compounds, n.e.c. or included, $8-39	per kilo	Yes	142.13	1.18	India	0.80	France	0.21	United Kingdom	0.07	Thailand	0.03	United Arab Emirates	0.03
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $2-8	per kilo	No	42.21	1.15	China	0.58	Canada	0.20	United States	0.15	Spain	0.07	Italy	0.05
Chemicals	293149	Non-halogenated organo-phosphorous derivatives; other non-halogenated organo-phosphorous derivatives, n.e.c. in item no. 2931.4, $2-17	per kilo	No	135.95	1.14	Belgium	1.06	Malaysia	0.04	Japan	0.02	Australia	0.01	Indonesia	0.01
Chemicals	340239	Anionic organic surface-active agents (other than soap); other than linear alkylbenzene sulphonic acids and their salts, whether or not put up for retail sale, $0-1	per kilo	No	83.69	1.09	Spain	0.56	Netherlands	0.24	United States	0.15	India	0.08	Italy	0.02
Chemicals	281219	Arsenic trichloride and other chlorides and chloride oxides, n.e.c. in item no. 2812, $15-133	per kilo	No	6.79	1.02	China	1.01	Botswana	0.00	Italy	0.00	Thailand	0.00	Singapore	0.00
Chemicals	290345	Halogenated derivatives of acyclic hydrocarbons containing two or more different halogens; perhalogenated only with fluorine and chlorine, n.e.s. in item no. 2903.4, $5-21	per kilo	No	81.38	0.85	Netherlands	0.19	Germany	0.15	Canada	0.13	Italy	0.12	United Kingdom	0.12
Chemicals	291990	Esters; phosphoric, and their salts, including lactophosphates, their halogenated, sulphonated, nitrated or nitrosated derivatives; other than tris(2,3-dibromopropyl) phosphate, $3-23	per kilo	No	24.60	0.82	India	0.25	France	0.23	South Africa	0.14	Belgium	0.12	Germany	0.05
Chemicals	293410	Heterocyclic compounds; containing an unfused thiazole ring (whether or not hydrogenated) in the structure, $46-621	per kilo	No	27.42	0.82	France	0.66	South Africa	0.15	Japan	0.01	Netherlands	0.00	China, Hong Kong SAR	0.00
Chemicals	381121	Lubricating oil additives; containing petroleum oils or oils obtained from bituminous minerals, $4-8	per kilo	No	289.33	0.79	India	0.61	United Arab Emirates	0.13	Saudi Arabia	0.02	Poland	0.01	Angola	0.01
Chemicals	381700	Mixed alkylbenzenes and mixed alkylnaphthalenes, other than those of heading no. 2707 or 2902, $1-5	per kilo	No	163.54	0.77	France	0.29	Belgium	0.24	South Africa	0.18	Netherlands	0.03	United Arab Emirates	0.01
Chemicals	282510	Hydrazine and hydroxylamine and their inorganic salts, $4-31	per kilo	No	7.36	0.72	China	0.64	France	0.05	Spain	0.03	Poland	0.00	Botswana	0.00
Chemicals	291639	Acids; aromatic monocarboxylic acids, n.e.s. in item no. 2916.3, $12-62	per kilo	No	9.52	0.69	China	0.58	Spain	0.10	Greece	0.01	Saudi Arabia	0.00	United Arab Emirates	0.00
Chemicals	291815	Acids; carboxylic acids, (with alcohol function but without other oxygen function), salts and esters of citric acid, $2-11	per kilo	No	36.46	0.65	France	0.34	Spain	0.06	Belgium	0.06	Republic of Korea	0.04	Netherlands	0.04

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	291590	Acids; saturated acyclic monocarboxylic acids; anhydrides, halides, peroxides, peroxyacids and halogenated, sulphonated, nitrated or nitrosated derivatives, n.e.c. in heading no. 2915, $3-16	per kilo	No	79.93	0.65	United States	0.52	Italy	0.06	South Africa	0.06	United Arab Emirates	0.00	Zambia	0.00
Chemicals	293890	Glycosides; natural or reproduced by synthesis, other than rutoside (rutin) and its derivatives, $36-210	per kilo	No	22.19	0.62	France	0.31	Spain	0.24	Canada	0.06	Italy	0.02	Switzerland	0.00
Chemicals	283620	Carbonates; disodium carbonate, $0-2	per kilo	Yes	108.30	0.62	France	0.49	Zambia	0.05	United Arab Emirates	0.02	Poland	0.02	Norway	0.02
Chemicals	281129	Inorganic oxygen compounds; of non-metals, n.e.c. in item no. 2811.2, $3-24	per kilo	No	30.08	0.60	Belgium	0.20	Germany	0.18	United States	0.15	France	0.03	South Africa	0.03
Chemicals	283699	Carbonates; n.e.c. in heading no. 2836 and other than lithium or strontium, $1-16	per kilo	No	24.17	0.57	France	0.34	United States	0.18	Italy	0.04	United Kingdom	0.01	Denmark	0.00
Chemicals	281820	Aluminium oxide; other than artificial corundum, $1-9	per kilo	Yes	549.97	0.56	United Arab Emirates	0.44	Netherlands	0.07	Poland	0.02	Saudi Arabia	0.01	Mozambique	0.01
Chemicals	290619	Alcohols; cyclanic, cyclenic or cycloterpenic and derivatives, n.e.c. in item no. 2906.1, $12-109	per kilo	No	23.93	0.56	United States	0.20	China	0.17	India	0.10	Germany	0.09	Netherlands	0.00
Chemicals	382311	Industrial monocarboxylic fatty acids, acid oils from refining; stearic acid, $0-1	per kilo	No	37.82	0.56	India	0.22	United States	0.21	Spain	0.09	Malaysia	0.01	Democratic Republic of the Congo	0.01
Chemicals	382460	Sorbitol; other than that of subheading no. 2905.44, $1-3	per kilo	No	33.57	0.55	Spain	0.24	Germany	0.09	Italy	0.05	France	0.05	Belgium	0.04
Chemicals	292090	Esters; other than thiophosphoric esters (phosphorothioates) and phosphite esters and their salts, their halogenated, sulphonated, nitrated or nitrosated derivatives, n.e.c. in heading no. 2920, $3-54	per kilo	No	6.20	0.53	China	0.53	Australia	0.00	Norway	0.00	Ireland	0.00	Austria	0.00
Chemicals	291899	Acids; carboxylic acids, with additional oxygen function (not alcohol, phenol, aldehyde or ketone) and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives; other than 2,4,5-T (ISO), $8-79	per kilo	No	43.54	0.53	Germany	0.21	Republic of Korea	0.17	Canada	0.07	Singapore	0.07	Portugal	0.00
Chemicals	290543	Alcohols; polyhydric, mannitol, $7-22	per kilo	No	20.64	0.52	China	0.25	Spain	0.10	India	0.06	France	0.03	Italy	0.03
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $0-2	per kilo	No	21.76	0.52	China	0.17	Belgium	0.10	South Africa	0.09	United States	0.06	India	0.05
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $2-6	per kilo	No	78.50	0.52	Netherlands	0.47	United Arab Emirates	0.03	Saudi Arabia	0.01	Democratic Republic of the Congo	0.01	Zambia	0.00
Chemicals	292129	Amine-function compounds; acyclic polyamines and their derivatives, and salts thereof, n.e.s. in item no. 2921.2, $4-13	per kilo	No	30.69	0.51	France	0.23	Netherlands	0.14	Italy	0.09	Singapore	0.05	Thailand	0.00
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $0-8	per kilo	Yes	488.05	29.81	South Africa	17.14	China	8.83	Spain	1.13	France	0.95	Botswana	0.38

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $8-12	per kilo	Yes	1052.66	6.07	United States	3.57	Italy	1.58	Germany	0.33	Portugal	0.24	Saudi Arabia	0.12
Copper, other minerals and metals	740911	Copper; strip, of a thickness exceeding 0.15mm, of refined copper, in coils, $0-10	per kilo	Yes	126.66	3.75	France	3.36	Spain	0.21	India	0.11	Austria	0.02	Japan	0.02
Copper, other minerals and metals	740819	Copper; wire, of refined copper, of which the maximum cross-sectional dimension is 6mm or less, $0-9	per kilo	Yes	148.57	1.53	Belgium	1.05	Italy	0.26	Germany	0.18	China, Hong Kong SAR	0.01	Türkiye	0.01
Copper, other minerals and metals	740931	Copper; strip, of a thickness exceeding 0.15mm, of copper-tin base alloys (bronze), in coils, $0-11	per kilo	Yes	19.13	1.43	China	1.35	India	0.07	Malaysia	0.01	Japan	0.01	Singapore	0.00
Copper, other minerals and metals	810590	Cobalt; articles n.e.s. in heading no. 8105, $86-336	per kilo	Yes	37.04	1.35	China	0.65	France	0.33	India	0.27	United Kingdom	0.06	Germany	0.02
Copper, other minerals and metals	711019	Metals; platinum, semi-manufactured, $8006-38849	per kilo	Yes	29.82	0.78	France	0.71	Canada	0.07	Austria	0.01	Ireland	0.00	Bulgaria	0.00
Copper, other minerals and metals	740921	Copper; strip, of a thickness exceeding 0.15mm, of copper-zinc base alloys (brass), in coils, $0-8	per kilo	Yes	28.84	0.76	France	0.67	Republic of Korea	0.07	Netherlands	0.01	Botswana	0.00	Malaysia	0.00
Copper, other minerals and metals	740829	Copper; wire, of copper alloys (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $0-11	per kilo	Yes	35.45	0.72	South Africa	0.23	Germany	0.17	France	0.12	United States	0.06	India	0.06
Copper, other minerals and metals	740990	Copper; plates, sheets and strip, of a thickness exceeding 0.15mm, of copper alloys (other than copper-zinc base alloys, copper-tin base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $13-50	per kilo	Yes	21.00	0.60	France	0.56	India	0.03	South Africa	0.01	Saudi Arabia	0.00	Zambia	0.00
Copper, other minerals and metals	740911	Copper; strip, of a thickness exceeding 0.15mm, of refined copper, in coils, $10-14	per kilo	Yes	90.56	0.54	Germany	0.36	France	0.09	Netherlands	0.05	Greece	0.01	Poland	0.01
Electrical machinery and equipment	852491	Media, recorded; n.e.s. in heading no. 8524, for reproducing phenomena other than sound or image, (excluding products of chapter 37), $0-90	per unit	No	1130.00	13.45	India	7.69	United States	2.63	South Africa	1.57	France	0.70	Japan	0.26
Electrical machinery and equipment	851771	Communication apparatus; parts, aerials and aerial reflectors of all kinds, part suitable for use therewith, $794-2273	per kilo	No	59.29	8.89	China	8.84	Republic of Korea	0.04	Mozambique	0.01	Spain	0.00	Germany	0.00
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $0-2037	per unit	No	384.77	6.96	Belgium	3.68	Germany	1.69	Spain	0.68	United Kingdom	0.51	Netherlands	0.25
Electrical machinery and equipment	850162	Electric generators; AC generators, (alternators), of an output exceeding 75kVA but not exceeding 375kVA, $921-11662	per unit	Yes	91.05	3.41	France	1.16	United States	1.03	South Africa	0.98	Spain	0.12	Belgium	0.07

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Electrical machinery and equipment	851981	Sound recording or reproducing apparatus; using magnetic, optical or semiconductor media, n.e.c. in item no 8519.20, 8519.30 or 8519.50, $91-326	per unit	No	110.36	2.13	Spain	1.09	France	0.49	Belgium	0.38	Republic of Korea	0.08	United Arab Emirates	0.04
Electrical machinery and equipment	851240	Windscreen wipers, defrosters and demisters; electrical, of kinds used for cycles or motor vehicles, $6-56	per unit	No	31.77	2.10	China	1.77	United States	0.25	India	0.04	South Africa	0.03	Norway	0.00
Electrical machinery and equipment	854519	Carbon electrodes; with or without metal, of a kind used for other than furnaces, $0-8	per kilo	Yes	109.79	1.24	Canada	0.91	India	0.30	Mozambique	0.02	China, Hong Kong SAR	0.00	Indonesia	0.00
Electrical machinery and equipment	852910	Reception and transmission apparatus; aerials and aerial reflectors of all kinds and parts suitable for use therewith, $228-522	per kilo	No	30.21	1.07	China	0.73	Republic of Korea	0.26	South Africa	0.07	Switzerland	0.01	Poland	0.00
Electrical machinery and equipment	854190	Electrical apparatus; parts for diodes, transistors and similar semiconductor devices and photosensitive semiconductor devices, $392-949	per kilo	Yes	112.87	1.05	Singapore	0.95	France	0.06	United Kingdom	0.04	Netherlands	0.00	Ireland	0.00
Electrical machinery and equipment	850132	Electric motors and generators; DC, of an output exceeding 750W but not exceeding 75kW, $1774-4192	per unit	No	88.49	1.03	Canada	0.35	Spain	0.29	China	0.15	France	0.14	United Kingdom	0.04
Electrical machinery and equipment	852359	Semiconductor media; other than smart cards, whether or not recorded, excluding products of Chapter 37, $0-1	per unit	No	67.54	0.94	France	0.22	Spain	0.20	Germany	0.13	Belgium	0.11	Canada	0.10
Electrical machinery and equipment	853310	Electrical resistors; fixed carbon resistors, composition or film types (including rheostats and potentiometers but excluding heating resistors), $29-222	per kilo	No	16.60	0.92	Spain	0.92	Italy	0.00	Belgium	0.00	Poland	0.00	Democratic Republic of the Congo	0.00
Electrical machinery and equipment	850780	Electric accumulators; other than lead-acid, nickel-cadmium, nickel-iron, nickel-metal hydride and lithium-ion, including separators, whether or not rectangular (including square), $0-24	per unit	Yes	14.70	0.83	South Africa	0.79	Botswana	0.02	United Republic of Tanzania	0.01	Democratic Republic of the Congo	0.01	Norway	0.00
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $20015-46983	per unit	No	43.85	0.62	United States	0.23	India	0.16	South Africa	0.12	Italy	0.04	Democratic Republic of the Congo	0.02
Electrical machinery and equipment	850180	Electric generators; (excluding generating sets), photovoltaic AC generators (alternators), $162-2220	per unit	Yes	24.56	0.58	France	0.47	Netherlands	0.10	Italy	0.01	Singapore	0.00	Switzerland	0.00
Electrical machinery and equipment	854511	Carbon electrodes; with or without metal, of a kind used for furnaces, $0-3	per kilo	Yes	56.49	0.52	Republic of Korea	0.32	India	0.18	Democratic Republic of the Congo	0.01	Australia	0.01	Zambia	0.00
Food processing	040150	Dairy produce; milk and cream, not concentrated, not containing added sugar or other sweetening matter, of a fat content, by weight, exceeding 10%, $2-4	per kilo	No	348.86	35.33	China	33.83	Republic of Korea	0.81	Netherlands	0.45	Canada	0.12	United Kingdom	0.05

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Food processing	151419	Vegetable oils; low erucic acid rape or colza oil and its fractions, other than crude, but not chemically modified, $1-3	per kilo	No	752.62	15.51	United States	15.26	France	0.14	Norway	0.06	Italy	0.03	Switzerland	0.01
Food processing	200979	Juice; apple, of a Brix value exceeding 20, unfermented, not containing added spirit, whether or not containing added sugar or other sweetening matter, $1-2	per kilo	No	171.46	6.13	South Africa	3.65	Germany	0.66	France	0.55	Canada	0.42	Spain	0.38
Food processing	040620	Dairy produce; cheese of all kinds, grated or powdered, $10-17	per kilo	No	90.67	2.80	France	2.08	China	0.30	United Kingdom	0.19	Germany	0.15	Republic of Korea	0.04
Food processing	080929	Fruit, edible; cherries, other than sour cherries (Prunus cerasus), fresh, $3-8	per kilo	No	129.02	2.29	Republic of Korea	0.70	Canada	0.63	France	0.48	Belgium	0.23	Netherlands	0.11
Food processing	040630	Dairy produce; cheese, processed (not grated or powdered), $5-8	per kilo	No	106.69	1.71	China	1.11	France	0.36	Netherlands	0.09	Botswana	0.06	Saudi Arabia	0.03
Food processing	210500	Ice cream and other edible ice; whether or not containing cocoa, $6-11	per kilo	No	36.94	1.19	China	0.48	France	0.32	United States	0.30	Spain	0.03	Republic of Korea	0.03
Food processing	150110	Pig fat; lard, other than that of heading 0209 and 1503, $0-1	per kilo	No	27.80	0.97	Belgium	0.42	Spain	0.28	Netherlands	0.20	United States	0.08	Ireland	0.00
Food processing	110813	Starch; potato, $1-2	per kilo	No	53.56	0.94	United States	0.33	France	0.29	Belgium	0.19	United Kingdom	0.08	Germany	0.04
Food processing	230310	Residues of starch manufacture and similar residues; whether or not in the form of pellets, $0-2	per kilo	No	71.60	0.79	France	0.43	Canada	0.27	Italy	0.03	Germany	0.03	Norway	0.02
Food processing	200410	Vegetable preparations; potatoes, prepared or preserved otherwise than by vinegar or acetic acid, frozen, $2-4	per kilo	No	18.94	0.76	France	0.33	Botswana	0.32	United States	0.08	United Kingdom	0.02	Canada	0.00
Food processing	200870	Fruit; peaches, including nectarines, prepared or preserved in ways n.e.c. in heading no. 2007 and 2008, whether or not containing added sugar, other sweetening matter or spirit, $1-3	per kilo	No	45.83	0.55	France	0.36	Spain	0.06	Netherlands	0.05	United Kingdom	0.04	Italy	0.04
Iron and steel	721934	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-2	per kilo	No	123.17	16.15	China	16.12	Canada	0.02	Democratic Republic of the Congo	0.01	Greece	0.00	Bulgaria	0.00
Iron and steel	721030	Iron or non-alloy steel; flat-rolled, width 600mm or more, electrolytically plated or coated with zinc, $1-2	per kilo	No	265.01	14.92	China	12.21	Germany	0.91	India	0.63	South Africa	0.59	Spain	0.27
Iron and steel	720838	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	393.36	12.35	China	10.90	France	0.66	Thailand	0.33	Poland	0.18	United Arab Emirates	0.17
Iron and steel	720851	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness exceeding 10mm, $0-1	per kilo	No	1105.24	11.03	Spain	4.81	France	3.18	Netherlands	1.10	India	0.70	Poland	0.39
Iron and steel	720839	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of less than 3mm, $0-0	per kilo	No	581.68	6.90	France	3.65	United States	2.55	United Arab Emirates	0.25	Zambia	0.15	China	0.13

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	720837	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 4.75mm or more but not exceeding 10mm, $0-0	per kilo	No	221.46	5.05	India	2.44	Republic of Korea	1.99	Belgium	0.33	Spain	0.22	Thailand	0.03
Iron and steel	722599	Steel, alloy; flat-rolled, width 600mm or more, n.e.c. in heading no. 7225, (other than plated or coated with zinc), $1-4	per kilo	No	310.39	4.87	Spain	1.85	Germany	1.17	South Africa	0.88	Canada	0.42	India	0.32
Iron and steel	721012	Iron or non-alloy steel; flat-rolled, width 600mm or more, plated or coated with tin, thickness of less than 0.5mm, $1-1	per kilo	No	102.62	4.42	France	2.78	Spain	1.61	India	0.03	Denmark	0.00	Ukraine	0.00
Iron and steel	720712	Iron or non-alloy steel; semi-finished products of iron or non-alloy steel; containing by weight less than 0.25% of carbon, of rectangular (other than square) cross-section, $0-2	per kilo	No	149.36	3.69	Belgium	3.28	India	0.37	Japan	0.04	South Africa	0.00	Portugal	0.00
Iron and steel	730441	Steel, stainless; cold-drawn or cold-rolled, tubes and pipes of circular cross-section, $12-48	per kilo	No	91.32	3.50	China	2.68	France	0.39	United States	0.27	Netherlands	0.07	Republic of Korea	0.06
Iron and steel	721935	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of less than 0.5mm, $0-2	per kilo	No	47.10	3.23	China	2.39	India	0.81	United States	0.02	Netherlands	0.01	Thailand	0.00
Iron and steel	720917	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-0	per kilo	No	222.71	3.06	France	1.07	Spain	0.73	Republic of Korea	0.70	Italy	0.35	India	0.13
Iron and steel	722830	Steel, alloy; bars and rods, hot-rolled, hot-drawn or extruded, $0-1	per kilo	No	167.84	2.94	France	1.70	Germany	0.45	Zambia	0.28	Canada	0.21	India	0.19
Iron and steel	720852	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 4.75mm or more but not exceeding 10mm, $0-1	per kilo	No	230.04	2.87	France	2.71	United Arab Emirates	0.10	Saudi Arabia	0.02	Portugal	0.02	Greece	0.01
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-1	per kilo	No	320.79	2.66	United States	1.66	Netherlands	0.40	South Africa	0.33	Thailand	0.09	Japan	0.04
Iron and steel	722211	Steel, stainless; bars and rods, hot-rolled, hot-drawn or extruded, of circular cross-section, $4-13	per kilo	No	77.63	2.55	China	1.57	Canada	0.28	Spain	0.25	Italy	0.24	India	0.10
Iron and steel	720836	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness exceeding 10mm, $0-0	per kilo	No	91.73	1.75	India	0.89	Republic of Korea	0.70	Italy	0.11	Zambia	0.02	Thailand	0.01
Iron and steel	722540	Steel, alloy; flat-rolled, width 600mm or more, hot-rolled, not in coils, $0-1	per kilo	No	111.92	1.48	Germany	0.77	China	0.21	Spain	0.20	Belgium	0.18	Canada	0.08
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-1	per kilo	No	95.46	1.18	United States	0.48	India	0.32	Belgium	0.22	United Kingdom	0.06	Poland	0.06
Iron and steel	722220	Steel, stainless; bars and rods, cold-formed or cold-finished, $4-11	per kilo	No	60.66	1.12	United States	0.74	Spain	0.33	Singapore	0.03	United Arab Emirates	0.01	Norway	0.01

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	720827	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of less than 3mm, $0-0	per kilo	No	91.53	1.03	India	0.77	United States	0.18	Democratic Republic of the Congo	0.03	Greece	0.01	Netherlands	0.01
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	61.06	1.02	Spain	0.36	Italy	0.30	South Africa	0.22	United States	0.12	Poland	0.01
Iron and steel	730431	Iron or non-alloy steel; cold-drawn or cold-rolled, tubes and pipes of circular cross-section, $3-26	per kilo	No	80.14	0.96	France	0.83	India	0.06	Saudi Arabia	0.04	United Arab Emirates	0.02	Botswana	0.01
Iron and steel	730451	Steel, alloy (not stainless steel); seamless, cold-drawn or cold-rolled (cold-reduced), tubes, pipes and hollow profiles of circular cross-section, $0-3	per kilo	No	16.51	0.84	China	0.59	France	0.14	South Africa	0.05	United States	0.02	Democratic Republic of the Congo	0.01
Iron and steel	720825	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 4.75mm or more, $0-1	per kilo	No	43.90	0.75	Belgium	0.60	India	0.07	United Kingdom	0.06	Japan	0.01	United Arab Emirates	0.01
Iron and steel	721899	Steel, stainless; semi-finished products, other than of rectangular cross-section, $5-37	per kilo	No	45.90	0.73	India	0.45	Italy	0.10	Belgium	0.10	United Kingdom	0.05	Democratic Republic of the Congo	0.01
Iron and steel	730810	Iron or steel; structures and parts thereof, bridges and bridge-sections, $3-8	per kilo	Yes	175.56	0.69	France	0.25	United States	0.16	United Arab Emirates	0.10	Democratic Republic of the Congo	0.06	Australia	0.05
Iron and steel	722920	Steel, alloy; wire, of silico-manganese steel, $1-3	per kilo	No	32.08	0.66	France	0.29	Spain	0.19	Italy	0.06	South Africa	0.05	Canada	0.04
Iron and steel	720690	Iron or non-alloy steel; primary forms (excluding ingots and iron of heading no. 7203), $0-1	per kilo	No	50.13	0.66	Italy	0.62	France	0.01	Germany	0.01	South Africa	0.01	Democratic Republic of the Congo	0.00
Iron and steel	722211	Steel, stainless; bars and rods, hot-rolled, hot-drawn or extruded, of circular cross-section, $0-4	per kilo	No	45.84	0.61	France	0.30	Germany	0.17	United States	0.11	Singapore	0.01	Poland	0.01
Iron and steel	721922	Steel, stainless; flat-rolled, width 600mm or more, hot-rolled, (not in coils), of a thickness of 4.75mm or more but not exceeding 10mm, $0-3	per kilo	No	21.34	0.58	South Africa	0.34	Belgium	0.10	China	0.04	United Kingdom	0.04	Netherlands	0.02
Iron and steel	730640	Steel, stainless; tubes and pipes, welded, of circular cross-section, $0-4	per kilo	No	48.31	0.52	Canada	0.37	Belgium	0.07	Democratic Republic of the Congo	0.04	Portugal	0.01	Zambia	0.01
Machinery and mechanical appliances	840734	Engines; reciprocating piston engines, of a kind used for the propulsion of vehicles of chapter 87, of a cylinder capacity exceeding 1000cc, $2621-5085	per unit	No	2050.27	31.13	Canada	19.58	Germany	9.42	United Kingdom	0.83	Portugal	0.45	France	0.33
Machinery and mechanical appliances	847149	Data processing machines; digital, automatic, (not portable, analogue or hybrid), presented in the form of systems, n.e.s. in item no. 8471.41, $11081-29886	per unit	No	51.44	3.07	China	1.88	South Africa	0.85	Belgium	0.09	India	0.07	Democratic Republic of the Congo	0.04
Machinery and mechanical appliances	848420	Seals; mechanical, $194-419	per kilo	No	88.12	2.72	China	2.02	Germany	0.19	Spain	0.15	Singapore	0.08	India	0.07

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Machinery and mechanical appliances	846729	Tools; for working in the hand, with self-contained electric motor; other than saws and drills, $1772-3690	per unit	No	33.45	2.49	China	2.18	United States	0.27	India	0.03	Spain	0.00	Japan	0.00
Machinery and mechanical appliances	841480	Pumps and compressors; for air, vacuum or gas, n.e.s. in heading no. 8414, $50485-127033	per unit	No	39.25	2.11	China	1.97	Singapore	0.12	United States	0.02	Japan	0.00	Ghana	0.00
Machinery and mechanical appliances	841790	Furnaces and ovens; parts of non-electric furnaces and ovens (including incinerators), of industrial or laboratory use, $0-14	per kilo	Yes	85.33	1.75	India	0.37	France	0.32	United States	0.25	South Africa	0.24	Germany	0.13
Machinery and mechanical appliances	845590	Metal-rolling mills; parts thereof, $10-95	per kilo	Yes	80.86	1.65	United States	1.01	India	0.27	France	0.23	Germany	0.08	Belgium	0.03
Machinery and mechanical appliances	840290	Boilers; parts of steam or other vapour generating boilers, $11-109	per kilo	Yes	36.05	1.53	China	1.24	France	0.27	Malaysia	0.01	United Republic of Tanzania	0.00	Norway	0.00
Machinery and mechanical appliances	842691	Cranes and derricks; designed for mounting on road vehicles, $0-13303	per unit	No	42.31	1.50	Belgium	0.65	France	0.53	Netherlands	0.29	South Africa	0.03	Singapore	0.00
Machinery and mechanical appliances	841861	Heat pumps; other than air conditioning machines of heading no. 8415, $548-4127	per unit	No	76.00	1.45	South Africa	0.73	United States	0.25	Canada	0.20	China	0.14	Australia	0.06
Machinery and mechanical appliances	840510	Generators; producer gas, water gas, acetylene gas and similar water process gas generators, with or without their purifiers, $24-108	per kilo	No	73.91	1.30	South Africa	0.41	Belgium	0.22	Canada	0.21	India	0.17	Netherlands	0.08
Machinery and mechanical appliances	842611	Cranes; overhead travelling cranes on fixed support, $30344-30500	per unit	No	92.13	1.12	France	0.53	United Kingdom	0.18	Germany	0.16	Netherlands	0.10	Spain	0.08
Machinery and mechanical appliances	843991	Machinery; parts of machinery for making pulp of fibrous cellulosic material, $22-73	per kilo	No	48.11	1.10	China	0.42	Canada	0.26	Spain	0.21	United States	0.13	Germany	0.04
Machinery and mechanical appliances	843999	Machinery; parts of machinery for making or finishing paper or paperboard, $15-109	per kilo	No	94.12	1.08	France	0.60	Germany	0.33	Italy	0.05	Thailand	0.04	India	0.04
Machinery and mechanical appliances	846023	Machine-tools; cylindrical grinding machines (excluding flat-surface and centreless), numerically controlled, $210570-500176	per unit	No	51.14	0.81	United States	0.45	Germany	0.28	India	0.06	United Kingdom	0.03	Singapore	0.00
Machinery and mechanical appliances	847689	Machines; automatic goods-vending machines, (e.g. postage stamp, cigarette, food or money-changing machines, excluding beverage-vending machines), not incorporating heating or refrigerating devices, $278-4232	per unit	No	35.26	0.81	United States	0.34	Belgium	0.15	Spain	0.13	Canada	0.09	Germany	0.07
Machinery and mechanical appliances	848110	Valves; pressure reducing, for pipes, boiler shells, tanks, vats or the like, $304-1021	per kilo	No	21.33	0.80	China	0.56	United Kingdom	0.15	France	0.09	India	0.00	Italy	0.00

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Machinery and mechanical appliances	841911	Heaters; instantaneous gas water heaters, for domestic or other purposes, $314-315	per unit	No	26.83	0.68	Spain	0.51	France	0.13	Portugal	0.03	Poland	0.01	Thailand	0.00
Machinery and mechanical appliances	845811	Lathes; for removing metal, horizontal, numerically controlled, $0-29180	per unit	Yes	32.85	0.61	India	0.26	Spain	0.11	South Africa	0.09	Belgium	0.08	France	0.02
Machinery and mechanical appliances	846694	Machine-tools; parts and accessories, for the machines of heading no. 8462 or 8463, n.e.c. in heading no. 8466, $169-393	per kilo	No	11.26	0.57	China	0.33	South Africa	0.14	United Kingdom	0.05	Spain	0.03	Republic of Korea	0.01
Machinery and mechanical appliances	842511	Pulley tackle and hoists; powered by an electric motor (excluding skip hoists or hoists of a kind used for raising vehicles), $339-4121	per unit	No	23.26	0.55	France	0.30	United States	0.19	Spain	0.04	Democratic Republic of the Congo	0.01	Japan	0.00
Machinery and mechanical appliances	841370	Pumps; centrifugal, n.e.c. in heading no. 8413, for liquids, $48552-60226	per unit	No	5.77	0.54	China	0.53	Democratic Republic of the Congo	0.01	United Kingdom	0.00	France	0.00	China, Hong Kong SAR	0.00
Machinery and mechanical appliances	843340	Balers; straw or fodder balers, including pick-up balers, $0-6151	per unit	No	18.58	0.53	France	0.38	Belgium	0.07	United Kingdom	0.06	Netherlands	0.01	Mozambique	0.01
Machinery and mechanical appliances	841690	Furnaces; parts of furnace burners, for liquid fuel, pulverized solid fuel or gas, mechanical stokers, grates, ash dischargers and the like, $25-185	per kilo	Yes	16.89	0.52	France	0.30	South Africa	0.12	Republic of Korea	0.05	United Kingdom	0.02	Democratic Republic of the Congo	0.01
Paper and paperboard	481092	Paper and paperboard; multi-ply, coated with kaolin or other inorganic substances only, for non-graphic purposes, n.e.c. in heading no. 4810, in rolls or sheets, $0-1	per kilo	No	935.19	16.73	France	4.77	Germany	4.04	Spain	3.83	Italy	1.51	Belgium	0.96
Paper and paperboard	480261	Uncoated paper and paperboard (not 4801 or 4803); over 10% by weight of mechanical or chemi-mechanical processed fibre, in rolls, $0-3	per kilo	No	256.32	6.70	United States	3.48	France	2.24	Spain	0.85	India	0.08	Netherlands	0.01
Paper and paperboard	480255	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing 40g/m2 to 150g/m2, in rolls, $1-2	per kilo	No	310.20	4.41	United States	1.63	Spain	1.24	Germany	1.02	Netherlands	0.28	Republic of Korea	0.17
Paper and paperboard	480261	Uncoated paper and paperboard (not 4801 or 4803); over 10% by weight of mechanical or chemi-mechanical processed fibre, in rolls, $0-0	per kilo	No	143.85	3.60	China	2.02	Germany	1.12	Belgium	0.33	Poland	0.11	Australia	0.01
Paper and paperboard	481151	Paper and paperboard; coated, impregnated or covered with plastics (excluding adhesives), bleached, weighing more than 150g/m2, other than goods of heading no. 4803, 4809, or 4810, $2-8	per kilo	No	181.60	2.91	United States	1.62	France	0.41	Spain	0.35	India	0.22	Italy	0.09
Paper and paperboard	480591	Paper and paperboard; uncoated, weight 150g/m2 or less, in rolls or sheets, n.e.c. in heading no.4805, $1-5	per kilo	No	83.89	2.31	India	0.91	United States	0.74	South Africa	0.61	Thailand	0.02	Belgium	0.01

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Paper and paperboard	480255	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing 40g/m2 to 150g/m2, in rolls, $0-1	per kilo	No	211.60	1.69	India	1.02	South Africa	0.44	United Kingdom	0.12	Thailand	0.04	Malaysia	0.02
Paper and paperboard	480257	Paper & paperboard; uncoated, writing, printing, graphic, non-perforated punch-cards, punch tape paper, 0-10% wgt mechanical/chemi-mechanical process fibre, except paper of heading no. 4801 or 4803, rolls or sheets, weight between 40-150g/m2 (inclusive), $1-3	per kilo	No	134.99	1.57	Spain	0.53	United Kingdom	0.29	China	0.28	Italy	0.20	Netherlands	0.13
Paper and paperboard	481159	Paper and paperboard; coated, impregnated or covered with plastics (excluding adhesives), other than bleached and weighing more than 150g/m2, other than goods of heading no. 4803, 4809, or 4810, $0-2	per kilo	No	139.23	1.25	Italy	0.49	Canada	0.33	Netherlands	0.29	United Kingdom	0.06	Republic of Korea	0.03
Paper and paperboard	480593	Paper and paperboard; uncoated, weight 225/m2 or more, in rolls or sheets, n.e.c. in heading no. 4805, $0-2	per kilo	No	44.73	1.01	France	0.37	Netherlands	0.34	Belgium	0.20	Canada	0.09	United Arab Emirates	0.00
Paper and paperboard	480439	Kraft paper and paperboard; uncoated, bleached, weight 150g/m2 or less, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-3	per kilo	No	42.09	0.90	France	0.65	South Africa	0.22	Netherlands	0.02	United Arab Emirates	0.01	Australia	0.00
Paper and paperboard	480100	Newsprint; made of fibres obtained essentially by a chemi-mechanical process or of a weight, per m2, of more than 57g but not more than 65g, in rolls or sheets, $0-1	per kilo	No	109.06	0.78	United Kingdom	0.50	Netherlands	0.25	Australia	0.01	Sweden	0.00	Ireland	0.00
Paper and paperboard	480592	Paper and paperboard; uncoated, weight more than 150g/m2 but less than 225 g/m2, in rolls or sheets, n.e.c. in heading no. 4805, $0-2	per kilo	No	34.70	0.54	South Africa	0.34	Belgium	0.11	Germany	0.04	Spain	0.03	Poland	0.01
Paper and paperboard	480840	Paper and paperboard; kraft paper, creped or crinkled, whether or not embossed or perforated, in rolls or sheets, other than paper of heading 4803, $2-7	per kilo	No	13.92	0.53	China	0.30	United States	0.08	Canada	0.07	France	0.04	Spain	0.02
Pharmaceuticals and healthcare	300213	Blood, human or animal, antisera, other blood fractions and immunological products; immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale, $10225-25340	per kilo	No	491.17	8.14	France	5.32	United States	1.46	Italy	0.59	Germany	0.47	Switzerland	0.10
Pharmaceuticals and healthcare	300510	Dressings, adhesive; and other articles having an adhesive layer, packed for retail sale for medical, surgical, dental or veterinary purposes, $57-116	per kilo	No	64.15	3.09	China	1.70	France	0.71	Netherlands	0.28	South Africa	0.23	Republic of Korea	0.09
Pharmaceuticals and healthcare	293729	Hormones; adrenal cortical hormones and their derivatives, n.e.s. in item no. 2937.2, $804-7015	per kilo	No	110.85	2.43	Canada	1.64	Spain	0.50	France	0.25	Belgium	0.01	United Kingdom	0.01

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Pharmaceuticals and healthcare	293719	Polypeptide hormones, protein hormones and glycoprotein hormones, their derivatives and structural analogues; other than somatotropin, (its derivatives and structural anaologues) and insulin and its salts, $733-98420	per kilo	No	90.57	2.34	China	2.05	Spain	0.12	Germany	0.10	Denmark	0.03	Switzerland	0.03
Pharmaceuticals and healthcare	300640	Pharmaceutical goods; dental cements and other dental fillings, bone reconstruction cements, $306-624	per kilo	No	69.44	2.23	China	1.51	United States	0.59	Spain	0.07	Republic of Korea	0.04	Switzerland	0.02
Pharmaceuticals and healthcare	293628	Vitamins; vitamin E and its derivatives, unmixed, $0-10	per kilo	No	85.82	1.75	United States	1.53	Netherlands	0.22	India	0.00	Austria	0.00	Pakistan	0.00
Pharmaceuticals and healthcare	293723	Steroidal hormones, their derivatives and structural analogues; oestrogens and progestogens, $612-12550	per kilo	No	65.91	1.46	Belgium	0.33	Spain	0.26	India	0.20	United States	0.20	Netherlands	0.19
Pharmaceuticals and healthcare	382100	Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells, $26-166	per kilo	No	59.71	1.15	Belgium	0.46	Republic of Korea	0.45	India	0.19	Singapore	0.03	Italy	0.01
Pharmaceuticals and healthcare	382213	Reagents; diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits; for blood grouping, $74-212	per kilo	No	107.51	0.83	France	0.17	Spain	0.15	South Africa	0.14	United States	0.08	Saudi Arabia	0.05
Pharmaceuticals and healthcare	300691	Pharmaceutical goods; appliances identifiable for ostomy use, $0-35	per kilo	No	46.18	0.80	Germany	0.29	Spain	0.28	Netherlands	0.15	United Kingdom	0.03	Singapore	0.02
Pharmaceuticals and healthcare	293624	Vitamins; D- or DL-pantothenic acid (vitamin B3 or vitamin B5) and its derivatives, unmixed, $0-15	per kilo	No	36.01	0.73	United States	0.25	South Africa	0.17	Netherlands	0.07	Belgium	0.07	India	0.05
Pharmaceuticals and healthcare	293790	Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues therof, including chain modified polypeptides, used primarily as hormones, n.e.c. in 2937, $237-10501	per kilo	No	27.13	0.53	India	0.37	United States	0.09	Spain	0.03	Republic of Korea	0.01	United Kingdom	0.01
Plastics	390140	Ethylene polymers; in primary forms, ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94, $1-2	per kilo	No	1012.98	110.08	China	102.91	Belgium	5.00	India	1.29	Republic of Korea	0.33	South Africa	0.26
Plastics	390599	Vinyl acetate, vinyl ester polymers, vinyl polymers; n.e.c. in heading no. 3905, in primary forms, other than copolymers, $6-27	per kilo	No	152.25	6.90	China	4.86	India	0.89	Spain	0.47	Germany	0.36	Italy	0.11
Plastics	390799	Polyesters; n.e.s. in heading no. 3907, saturated, in primary forms, $3-7	per kilo	No	208.83	4.24	France	3.33	Spain	0.82	United Kingdom	0.04	Poland	0.03	United Arab Emirates	0.02
Plastics	390729	Polyethers other than polyacetals, and bis(polyoxyethylene) methylphosphonate; in primary forms, $6-12	per kilo	No	39.40	3.78	China	3.43	Republic of Korea	0.29	Canada	0.03	India	0.02	South Africa	0.01
Plastics	390530	Poly(vinyl alcohol); whether or not containing unhydrolysed acetate groups, $3-7	per kilo	No	54.36	3.52	China	3.10	Germany	0.39	South Africa	0.03	Norway	0.00	Saudi Arabia	0.00

					Total export opportunity (EO) (in US$ million)		Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Unweighted EO	Weighted EO	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Plastics	391400	Ion-exchangers; based on polymers of heading no. 3901 to 3913, in primary forms, $4-41	per kilo	Yes	49.91	2.17	China	1.49	France	0.49	Netherlands	0.08	Republic of Korea	0.07	Germany	0.03
Plastics	390469	Halogenated olefin polymers; fluoro-polymers (other than polytetrafluoroethylene), in primary forms, $21-59	per kilo	Yes	109.86	1.86	France	1.06	Germany	0.69	United Kingdom	0.06	Poland	0.04	Austria	0.01
Plastics	390931	Amino-resins; n.e.c. in heading no. 3909, in primary forms, poly(methylene phenyl isocyanate) (Crude MDI, polymeric MDI), $2-4	per kilo	No	195.28	1.66	Canada	1.08	Spain	0.36	United Arab Emirates	0.10	Italy	0.05	Portugal	0.05
Plastics	390761	Poly(ethylene terephthalate); in primary forms, having a viscosity of 78ml/g or higher, $1-1	per kilo	Yes	329.81	1.64	Belgium	0.64	China	0.45	United Kingdom	0.25	United Arab Emirates	0.08	Botswana	0.05
Plastics	390740	Polycarbonates; in primary forms, $0-2	per kilo	No	113.24	1.53	India	1.50	France	0.02	Türkiye	0.00	Switzerland	0.00	Bulgaria	0.00
Plastics	392119	Plastics; plates, sheets, film, foil and strip, of plastics n.e.c. in heading no. 3921, cellular, $23-51	per kilo	No	132.14	1.48	United States	1.41	Italy	0.02	United Kingdom	0.02	Malaysia	0.01	France	0.00
Plastics	391620	Vinyl chloride polymers; monofilament, of which any cross-sectional dimension exceeds 1mm, rods, sticks and profile shapes, whether or not surface-worked but not otherwise worked, $3-12	per kilo	No	73.39	1.30	France	0.70	Italy	0.51	South Africa	0.04	United Kingdom	0.03	India	0.02
Plastics	392111	Plastics; plates, sheets, film, foil and strip, of polymers of styrene, cellular, $3-11	per kilo	No	41.93	1.28	France	0.88	Belgium	0.21	Canada	0.06	Netherlands	0.05	Spain	0.05
Plastics	390810	Polyamides; polyamide-6, -11, -12, -6,6, -6,9, -6,10 or -6,12, in primary forms, $0-3	per kilo	No	88.39	1.22	Republic of Korea	1.18	Poland	0.03	Malaysia	0.01	Türkiye	0.00	Finland	0.00
Plastics	390230	Propylene, other olefin polymers; propylene copolymers in primary forms, $1-2	per kilo	No	141.10	0.90	India	0.71	Republic of Korea	0.06	Thailand	0.05	Japan	0.03	United Arab Emirates	0.02
Plastics	390190	Ethylene polymers; in primary forms, n.e.c. in heading no. 3901, $4-9	per kilo	No	48.47	0.88	Republic of Korea	0.29	South Africa	0.26	Belgium	0.17	Netherlands	0.07	Germany	0.06
Plastics	390461	Halogenated olefin polymers; fluoro-polymers, polytetrafluoroethylene, in primary forms, $14-47	per kilo	No	24.45	0.78	France	0.44	Belgium	0.26	Netherlands	0.03	Italy	0.03	United Kingdom	0.02
Plastics	390890	Polyamides; n.e.c. in heading no. 3908, in primary forms, $4-10	per kilo	No	25.77	0.66	Belgium	0.35	Spain	0.30	United Arab Emirates	0.01	Botswana	0.00	Saudi Arabia	0.00
Plastics	390130	Ethylene polymers; in primary forms, ethylene-vinyl acetate copolymers, $2-4	per kilo	No	68.98	0.66	United States	0.60	Democratic Republic of the Congo	0.02	Singapore	0.02	Saudi Arabia	0.01	United Arab Emirates	0.01

Table C.2.

Product list of shortlisted sectors from the regional (SADC) export opportunity scenario, by sector and total unweighted opportunity

Table C.2. Product list of shortlisted sectors from the regional (SADC) export opportunity scenario, by sector and total unweighted opportunity

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	292800	Organic derivatives of hydrazine or of hydroxylamine, $6-107	per kilo	No	9.27	Democratic Republic of the Congo	8.61	South Africa	0.62	Zimbabwe	0.03	United Republic of Tanzania	0.00		
Chemicals	283620	Carbonates; disodium carbonate, $0-2	per kilo	Yes	5.50	United Republic of Tanzania	3.08	Zambia	1.37	Zimbabwe	1.02	Botswana	0.02	Seychelles	0.01
Chemicals	340239	Anionic organic surface-active agents (other than soap); other than linear alkylbenzene sulphonic acids and their salts, whether or not put up for retail sale, $0-1	per kilo	No	3.14	Madagascar	1.09	Zimbabwe	0.94	United Republic of Tanzania	0.53	Mozambique	0.29	Democratic Republic of the Congo	0.24
Chemicals	380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles, $7-23	per kilo	No	2.64	Zimbabwe	2.44	Mauritius	0.11	Madagascar	0.03	Malawi	0.03	Democratic Republic of the Congo	0.02
Chemicals	292910	Nitrogen-function compounds; n.e.c. in chapter 29, isocyanates, $2-7	per kilo	No	2.25	South Africa	2.22	Comoros	0.02	Seychelles	0.01				
Chemicals	282720	Chlorides; of calcium, $0-6	per kilo	No	1.87	Angola	1.77	Lesotho	0.04	Mozambique	0.03	Seychelles	0.02	Mauritius	0.01
Chemicals	381700	Mixed alkylbenzenes and mixed alkylnaphthalenes, other than those of heading no. 2707 or 2902, $1-5	per kilo	No	1.80	United Republic of Tanzania	0.90	South Africa	0.82	Zimbabwe	0.08	Mozambique	0.00	Democratic Republic of the Congo	0.00
Chemicals	340211	Organic surface-active agents; anionic (other than soap), whether or not put up for retail sale, $0-1	per kilo	No	1.34	Angola	1.34								
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $2-8	per kilo	No	1.25	Zimbabwe	1.12	Zambia	0.05	Botswana	0.03	Democratic Republic of the Congo	0.02	Madagascar	0.01
Chemicals	284390	Inorganic or organic compounds; of precious metals (excluding gold and silver), whether or not chemically defined, amalgams of precious metals, $651-22317	per kilo	Yes	1.11	South Africa	1.11	United Republic of Tanzania	0.00						
Chemicals	381121	Lubricating oil additives; containing petroleum oils or oils obtained from bituminous minerals, $4-8	per kilo	No	0.98	Angola	0.98	Mauritius	0.00	Zimbabwe	0.00	Seychelles	0.00	Lesotho	0.00
Chemicals	282732	Chlorides; of aluminium, $0-4	per kilo	No	0.98	South Africa	0.73	United Republic of Tanzania	0.21	Malawi	0.04	Botswana	0.01		
Chemicals	291739	Acids; aromatic polycarboxylic acids; n.e.c. in item no. 2917.3, $1-7	per kilo	No	0.91	South Africa	0.89	United Republic of Tanzania	0.02	Democratic Republic of the Congo	0.00	Botswana	0.00	Eswatini	0.00
Chemicals	382311	Industrial monocarboxylic fatty acids, acid oils from refining; stearic acid, $0-1	per kilo	No	0.78	Angola	0.45	Democratic Republic of the Congo	0.31	Zambia	0.02	Malawi	0.00	Eswatini	0.00
Chemicals	293220	Heterocyclic compounds; with oxygen hetero-atom(s) only, containing an unfused furan ring (whether or not hydrogenated) in the structure, lactones, $9-212	per kilo	No	0.72	South Africa	0.58	United Republic of Tanzania	0.10	Mozambique	0.05	Eswatini	0.00	Mauritius	0.00
Chemicals	291990	Esters; phosphoric, and their salts, including lactophosphates, their halogenated, sulphonated, nitrated or nitrosated derivatives; other than tris(2,3-dibromopropyl) phosphate, $3-23	per kilo	No	0.67	South Africa	0.62	Mauritius	0.05	Madagascar	0.01	Malawi	0.00	Democratic Republic of the Congo	0.00

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	293410	Heterocyclic compounds; containing an unfused thiazole ring (whether or not hydrogenated) in the structure, $46-621	per kilo	No	0.66	South Africa	0.65	Zimbabwe	0.00	Mauritius	0.00				
Chemicals	292250	Amino-alcohol-phenols, amino-acid-phenols and other amino-compounds with oxygen function, $4-176	per kilo	No	0.65	Malawi	0.34	South Africa	0.25	Democratic Republic of the Congo	0.03	United Republic of Tanzania	0.03	Angola	0.00
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $0-2	per kilo	No	0.55	South Africa	0.40	United Republic of Tanzania	0.12	Democratic Republic of the Congo	0.01	Mauritius	0.00	Zimbabwe	0.00
Chemicals	281820	Aluminium oxide; other than artificial corundum, $1-9	per kilo	Yes	0.52	Mozambique	0.50	Madagascar	0.01	Democratic Republic of the Congo	0.01	Eswatini	0.00	United Republic of Tanzania	0.00
Chemicals	292229	Amino-naphthols and other amino-phenols; their ethers and esters, (other than those containing more than one kind of oxygen function), n.e.s. in item no. 2922.2, $0-7	per kilo	No	0.48	Democratic Republic of the Congo	0.27	Malawi	0.15	Angola	0.05	Eswatini	0.01	Mozambique	0.00
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $2-6	per kilo	No	0.45	United Republic of Tanzania	0.24	Democratic Republic of the Congo	0.14	Zambia	0.05	Madagascar	0.01	Malawi	0.00
Chemicals	290722	Polyphenols; hydroquinone (quinol) and its salts, $0-8	per kilo	No	0.43	South Africa	0.23	Democratic Republic of the Congo	0.20	Mauritius	0.00	Eswatini	0.00		
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $0-8	per kilo	Yes	80.44	South Africa	76.70	Botswana	3.52	Zimbabwe	0.11	Democratic Republic of the Congo	0.08	Mozambique	0.02
Copper, other minerals and metals	740829	Copper; wire, of copper alloys (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $0-11	per kilo	Yes	1.41	South Africa	1.04	Malawi	0.31	Democratic Republic of the Congo	0.03	United Republic of Tanzania	0.01	Botswana	0.01
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $8-12	per kilo	Yes	0.65	Angola	0.33	Malawi	0.30	Democratic Republic of the Congo	0.02	Eswatini	0.00		
Copper, other minerals and metals	741300	Copper; stranded wire, cables, plaited bands and the like, not electrically insulated, $47-103	per kilo	Yes	0.53	Zimbabwe	0.53	Botswana	0.00	Democratic Republic of the Congo	0.00				
Copper, other minerals and metals	710610	Metals; silver powder, $171-965	per kilo	Yes	0.43	South Africa	0.43	United Republic of Tanzania	0.00						
Electrical machinery and equipment	850780	Electric accumulators; other than lead-acid, nickel-cadmium, nickel-iron, nickel-metal hydride and lithium-ion, including separators, whether or not rectangular (including square), $0-24	per unit	Yes	9.02	United Republic of Tanzania	4.93	South Africa	3.55	Botswana	0.21	Malawi	0.17	Democratic Republic of the Congo	0.16
Electrical machinery and equipment	852491	Media, recorded; n.e.s. in heading no. 8524, for reproducing phenomena other than sound or image, (excluding products of chapter 37), $0-90	per unit	No	7.08	South Africa	7.00	Democratic Republic of the Congo	0.07	United Republic of Tanzania	0.00	Comoros	0.00	Malawi	0.00
Electrical machinery and equipment	850162	Electric generators; AC generators, (alternators), of an output exceeding 75kVA but not exceeding 375kVA, $921-11662	per unit	Yes	6.14	South Africa	4.40	United Republic of Tanzania	1.50	Botswana	0.09	Zambia	0.08	Democratic Republic of the Congo	0.04

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Electrical machinery and equipment	850780	Electric accumulators; other than lead-acid, nickel-cadmium, nickel-iron, nickel-metal hydride and lithium-ion, including separators, whether or not rectangular (including square), $293-696	per unit	Yes	2.78	Madagascar	1.65	Mozambique	0.96	South Africa	0.11	United Republic of Tanzania	0.06	Malawi	0.00
Electrical machinery and equipment	850164	Electric generators; AC generators, (alternators), other than photovoltaic generators, of an output exceeding 750kVA, $54054-131828	per unit	Yes	1.94	Democratic Republic of the Congo	1.92	Zambia	0.02	Zimbabwe	0.00	Angola	0.00		
Electrical machinery and equipment	853529	Electrical apparatus; automatic circuit breakers, for a voltage of 72.5kV or more, $22-91	per kilo	No	1.80	Mozambique	1.44	Democratic Republic of the Congo	0.14	Angola	0.13	Mauritius	0.09	Zambia	0.01
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $0-2037	per unit	No	1.47	United Republic of Tanzania	0.95	Mozambique	0.41	Zambia	0.07	Lesotho	0.02	Malawi	0.02
Electrical machinery and equipment	854519	Carbon electrodes; with or without metal, of a kind used for other than furnaces, $0-8	per kilo	Yes	1.45	Mozambique	1.36	Angola	0.03	Zambia	0.02	Zimbabwe	0.02	Democratic Republic of the Congo	0.02
Electrical machinery and equipment	852692	Radio remote control apparatus, $0-18	per unit	No	1.37	South Africa	0.99	United Republic of Tanzania	0.24	Mozambique	0.09	Democratic Republic of the Congo	0.05	Malawi	0.00
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $20015-46983	per unit	No	1.28	Democratic Republic of the Congo	0.71	South Africa	0.55	United Republic of Tanzania	0.01	Malawi	0.00		
Electrical machinery and equipment	850180	Electric generators; (excluding generating sets), photovoltaic AC generators (alternators), $162-2220	per unit	Yes	0.96	Madagascar	0.95	Democratic Republic of the Congo	0.01	Lesotho	0.00				
Electrical machinery and equipment	853521	Electrical apparatus; automatic circuit breakers, for a voltage exceeding 1000 volts but less than 72.5kV, $0-27	per kilo	No	0.81	Zimbabwe	0.19	United Republic of Tanzania	0.17	Zambia	0.15	Democratic Republic of the Congo	0.12	Angola	0.09
Electrical machinery and equipment	854460	Insulated electric conductors; for a voltage exceeding 1000 volts, $36-79	per kilo	Yes	0.57	Angola	0.26	South Africa	0.20	Malawi	0.06	Botswana	0.05		
Electrical machinery and equipment	854511	Carbon electrodes; with or without metal, of a kind used for furnaces, $0-3	per kilo	Yes	0.57	Democratic Republic of the Congo	0.20	Zimbabwe	0.17	Angola	0.11	Zambia	0.08	Eswatini	0.00
Electrical machinery and equipment	851771	Communication apparatus; parts, aerials and aerial reflectors of all kinds, part suitable for use therewith, $794-2273	per kilo	No	0.53	Mozambique	0.52	Madagascar	0.01	Eswatini	0.00				
Food processing	200979	Juice; apple, of a Brix value exceeding 20, unfermented, not containing added spirit, whether or not containing added sugar or other sweetening matter, $1-2	per kilo	No	16.98	South Africa	16.33	Zimbabwe	0.38	Zambia	0.22	Malawi	0.05		
Food processing	200410	Vegetable preparations; potatoes, prepared or preserved otherwise than by vinegar or acetic acid, frozen, $2-4	per kilo	No	3.05	Botswana	3.00	Seychelles	0.05						
Food processing	040630	Dairy produce; cheese, processed (not grated or powdered), $5-8	per kilo	No	1.96	Mauritius	1.15	Botswana	0.59	Democratic Republic of the Congo	0.11	Seychelles	0.04	Zimbabwe	0.04

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	722830	Steel, alloy; bars and rods, hot-rolled, hot-drawn or extruded, $0-1	per kilo	No	7.27	Zambia	7.25	Botswana	0.01	Eswatini	0.01				
Iron and steel	730459	Steel, alloy (not stainless steel); (excluding cold-drawn or cold-rolled), tubes, pipes and hollow profiles of circular cross-section, $0-3	per kilo	No	6.57	Madagascar	6.02	Angola	0.15	Democratic Republic of the Congo	0.14	Zimbabwe	0.13	Mauritius	0.07
Iron and steel	730810	Iron or steel; structures and parts thereof, bridges and bridge-sections, $3-8	per kilo	Yes	4.34	Democratic Republic of the Congo	1.77	Madagascar	1.58	Comoros	0.49	Malawi	0.32	United Republic of Tanzania	0.16
Iron and steel	722599	Steel, alloy; flat-rolled, width 600mm or more, n.e.c. in heading no. 7225, (other than plated or coated with zinc), $1-4	per kilo	No	4.11	South Africa	3.93	Madagascar	0.09	United Republic of Tanzania	0.06	Botswana	0.02	Zambia	0.01
Iron and steel	720839	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of less than 3mm, $0-0	per kilo	No	3.79	Zambia	3.72	Madagascar	0.04	Zimbabwe	0.02	Mauritius	0.01	Democratic Republic of the Congo	0.00
Iron and steel	721030	Iron or non-alloy steel; flat-rolled, width 600mm or more, electrolytically plated or coated with zinc, $1-2	per kilo	No	3.70	South Africa	2.63	Mozambique	0.60	Democratic Republic of the Congo	0.31	United Republic of Tanzania	0.12	Malawi	0.03
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-1	per kilo	No	2.45	South Africa	1.48	Mozambique	0.75	Zimbabwe	0.21	Democratic Republic of the Congo	0.01	Comoros	0.00
Iron and steel	730640	Steel, stainless; tubes and pipes, welded, of circular cross-section, $0-4	per kilo	No	2.10	Democratic Republic of the Congo	1.29	Malawi	0.28	Zimbabwe	0.27	Zambia	0.21	Lesotho	0.02
Iron and steel	721922	Steel, stainless; flat-rolled, width 600mm or more, hot-rolled, (not in coils), of a thickness of 4.75mm or more but not exceeding 10mm, $0-3	per kilo	No	1.71	South Africa	1.54	Malawi	0.05	Madagascar	0.05	United Republic of Tanzania	0.04	Angola	0.02
Iron and steel	732611	Iron or steel; grinding balls and similar articles for mills, forged or stamped, but not further worked, $1-14	per kilo	Yes	1.57	Zimbabwe	1.27	Botswana	0.17	South Africa	0.09	Mauritius	0.02	Mozambique	0.02
Iron and steel	720837	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 4.75mm or more but not exceeding 10mm, $0-0	per kilo	No	1.50	United Republic of Tanzania	1.45	Zambia	0.04	Angola	0.00	Eswatini	0.00		
Iron and steel	720838	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	1.45	United Republic of Tanzania	1.40	Zambia	0.05	Zimbabwe	0.00	Seychelles	0.00	Mauritius	0.00
Iron and steel	720917	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-0	per kilo	No	1.34	Mozambique	0.80	Democratic Republic of the Congo	0.54						
Iron and steel	730611	Steel; stainless; line pipe of a kind used for oil or gas pipelines n.e.c. in chapter 73, welded, (not seamless), $3-17	per kilo	No	1.19	Madagascar	0.51	Democratic Republic of the Congo	0.50	Eswatini	0.06	United Republic of Tanzania	0.04	Zimbabwe	0.04
Iron and steel	720836	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness exceeding 10mm, $0-0	per kilo	No	1.16	United Republic of Tanzania	0.61	Zambia	0.46	Zimbabwe	0.08	Angola	0.00		
Iron and steel	721934	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-2	per kilo	No	1.12	United Republic of Tanzania	0.62	Democratic Republic of the Congo	0.37	Mozambique	0.11	Madagascar	0.01	Comoros	0.01

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	1.06	South Africa	0.99	United Republic of Tanzania	0.07	Eswatini	0.00	Malawi	0.00		
Iron and steel	720827	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of less than 3mm, $0-0	per kilo	No	0.92	Democratic Republic of the Congo	0.91	Angola	0.01	Mauritius	0.00	Seychelles	0.00		
Iron and steel	730459	Steel, alloy (not stainless steel); (excluding cold-drawn or cold-rolled), tubes, pipes and hollow profiles of circular cross-section, $3-15	per kilo	No	0.90	Mozambique	0.22	Zimbabwe	0.21	United Republic of Tanzania	0.20	Democratic Republic of the Congo	0.13	Malawi	0.10
Iron and steel	720852	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 4.75mm or more but not exceeding 10mm, $0-1	per kilo	No	0.89	Angola	0.70	Mozambique	0.19						
Iron and steel	730451	Steel, alloy (not stainless steel); seamless, cold-drawn or cold-rolled (cold-reduced), tubes, pipes and hollow profiles of circular cross-section, $0-3	per kilo	No	0.81	Democratic Republic of the Congo	0.35	South Africa	0.22	Angola	0.22	Lesotho	0.01	Mozambique	0.00
Iron and steel	721129	Iron or non-alloy steel; flat-rolled, cold-rolled, of a width less than 600mm, containing by weight 0.25% or more of carbon, $0-1	per kilo	No	0.80	United Republic of Tanzania	0.75	Democratic Republic of the Congo	0.03	Botswana	0.01	Madagascar	0.00	Eswatini	0.00
Iron and steel	730650	Steel, alloy; tubes, pipes and hollow profiles (other than stainless steel or seamless), welded, of circular cross-section, n.e.c. in chapter 73, $0-2	per kilo	No	0.78	Zimbabwe	0.57	South Africa	0.19	Botswana	0.01	Eswatini	0.01	Comoros	0.00
Iron and steel	721691	Iron or non-alloy steel; angles, shapes and sections, n.e.c. in heading no. 7216, cold-formed or cold-finished, from flat-rolled products, $1-4	per kilo	No	0.73	Mozambique	0.37	Zambia	0.12	Democratic Republic of the Congo	0.11	South Africa	0.09	Malawi	0.04
Iron and steel	720853	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 3mm or more but less than 4.75mm, $0-1	per kilo	No	0.69	Malawi	0.29	Zambia	0.23	Madagascar	0.15	Mozambique	0.02	Seychelles	0.00
Iron and steel	721621	Iron or non-alloy steel; L sections, hot-rolled, hot-drawn or extruded, of a height of less than 80mm, $0-2	per kilo	No	0.65	Botswana	0.61	Comoros	0.04						
Iron and steel	722011	Steel, stainless; flat-rolled, width less than 600mm, hot-rolled, of a thickness of 4.75mm or more, $4-12	per kilo	No	0.64	Democratic Republic of the Congo	0.61	Angola	0.02	United Republic of Tanzania	0.01	Malawi	0.00		
Iron and steel	722810	Steel, alloy; bars and rods, of high speed steel, $0-6	per kilo	No	0.61	Zambia	0.29	Botswana	0.23	Mozambique	0.04	Mauritius	0.02	Madagascar	0.01
Iron and steel	720853	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	0.57	Zimbabwe	0.31	Democratic Republic of the Congo	0.13	Mauritius	0.13				
Iron and steel	720927	Iron or non-alloy steel; (not in coils), flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-1	per kilo	No	0.55	Democratic Republic of the Congo	0.36	Malawi	0.18	Eswatini	0.01				

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	722540	Steel, alloy; flat-rolled, width 600mm or more, hot-rolled, not in coils, $0-1	per kilo	No	0.51	Democratic Republic of the Congo	0.18	Zimbabwe	0.13	Zambia	0.06	Mozambique	0.05	Madagascar	0.05
Iron and steel	730230	Iron or steel, railway or tramway track construction material; switch blades, crossing frogs, point rods and other crossing pieces, $4-15	per kilo	No	0.45	South Africa	0.45	Democratic Republic of the Congo	0.00						
Iron and steel	721899	Steel, stainless; semi-finished products, other than of rectangular cross-section, $5-37	per kilo	No	0.44	Democratic Republic of the Congo	0.40	South Africa	0.02	Angola	0.01	United Republic of Tanzania	0.00	Eswatini	0.00
Machinery and mechanical appliances	847149	Data processing machines; digital, automatic, (not portable, analogue or hybrid), presented in the form of systems, n.e.s. in item no. 8471.41, $11081-29886	per unit	No	6.44	South Africa	3.80	Democratic Republic of the Congo	1.26	Mozambique	0.68	Zimbabwe	0.35	Zambia	0.17
Machinery and mechanical appliances	840510	Generators; producer gas, water gas, acetylene gas and similar water process gas generators, with or without their purifiers, $24-108	per kilo	No	4.28	United Republic of Tanzania	2.16	South Africa	1.82	Democratic Republic of the Congo	0.14	Eswatini	0.12	Madagascar	0.02
Machinery and mechanical appliances	841861	Heat pumps; other than air conditioning machines of heading no. 8415, $548-4127	per unit	No	3.62	South Africa	3.24	Mauritius	0.12	Zambia	0.09	Botswana	0.06	Zimbabwe	0.05
Machinery and mechanical appliances	840290	Boilers; parts of steam or other vapour generating boilers, $11-109	per kilo	Yes	3.28	United Republic of Tanzania	2.94	Malawi	0.20	Madagascar	0.13	Seychelles	0.00	Comoros	0.00
Machinery and mechanical appliances	841690	Furnaces; parts of furnace burners, for liquid fuel, pulverized solid fuel or gas, mechanical stokers, grates, ash dischargers and the like, $25-185	per kilo	Yes	2.75	Zimbabwe	1.60	South Africa	0.52	Democratic Republic of the Congo	0.31	Zambia	0.17	Mozambique	0.08
Machinery and mechanical appliances	841790	Furnaces and ovens; parts of non-electric furnaces and ovens (including incinerators), of industrial or laboratory use, $0-14	per kilo	Yes	2.70	South Africa	1.06	Zimbabwe	0.91	Democratic Republic of the Congo	0.49	United Republic of Tanzania	0.17	Madagascar	0.03
Machinery and mechanical appliances	840410	Boilers; auxiliary plant, for use with boilers of heading no. 8402 or 8403 (e.g. economisers, super-heaters, soot removers, gas recoverers), $11-42	per kilo	No	1.66	United Republic of Tanzania	1.21	Democratic Republic of the Congo	0.35	Mozambique	0.10	Seychelles	0.01	Botswana	0.00
Machinery and mechanical appliances	843352	Threshing machinery; other than combine harvester-threshers, $0-2289	per unit	No	1.63	United Republic of Tanzania	1.34	Zimbabwe	0.12	Zambia	0.09	Malawi	0.04	Democratic Republic of the Congo	0.02
Machinery and mechanical appliances	840420	Boilers; condensers, for steam or other vapour power units, $11-49	per kilo	No	1.27	United Republic of Tanzania	1.12	Mozambique	0.09	Zimbabwe	0.03	South Africa	0.03	Democratic Republic of the Congo	0.00
Machinery and mechanical appliances	848050	Moulds; for glass, $19-57	per kilo	No	1.01	South Africa	0.91	Angola	0.10	Eswatini	0.00	Botswana	0.00		
Machinery and mechanical appliances	846596	Machine-tools; splitting, slicing or paring machines, for working wood, cork, bone, hard rubber, hard plastics or similar hard materials, $355-9804	per unit	No	0.97	United Republic of Tanzania	0.85	Democratic Republic of the Congo	0.12	Mozambique	0.00				
Machinery and mechanical appliances	842449	Mechanical appliances; agricultural or horticultural sprayers; other than portable sprayers, $29-4600	per unit	No	0.93	United Republic of Tanzania	0.86	Mauritius	0.06	Democratic Republic of the Congo	0.02	Lesotho	0.00		

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Machinery and mechanical appliances	848330	Bearing housings, not incorporating ball or roller bearings and plain shaft bearings, $324-442	per unit	No	0.91	Democratic Republic of the Congo	0.81	United Republic of Tanzania	0.11	South Africa	0.00				
Machinery and mechanical appliances	848420	Seals; mechanical, $194-419	per kilo	No	0.85	Angola	0.49	United Republic of Tanzania	0.13	South Africa	0.07	Mozambique	0.05	Zambia	0.05
Machinery and mechanical appliances	844900	Machinery; for manufacture or finishing felt or non-wovens in the piece or in shapes, including machinery for making felt hats, blocks for making hats, $15-128	per kilo	No	0.81	Angola	0.81								
Machinery and mechanical appliances	845490	Machines; parts of converters, ladles, ingot moulds and casting machines, of a kind used in metallurgy or in metal foundries, $18-86	per kilo	Yes	0.68	South Africa	0.68	United Republic of Tanzania	0.00						
Machinery and mechanical appliances	846694	Machine-tools; parts and accessories, for the machines of heading no. 8462 or 8463, n.e.c. in heading no. 8466, $169-393	per kilo	No	0.68	South Africa	0.63	United Republic of Tanzania	0.02	Democratic Republic of the Congo	0.02	Mauritius	0.01		
Machinery and mechanical appliances	840999	Engines; parts for internal combustion piston engines (excluding spark-ignition), $193-248	per kilo	No	0.57	United Republic of Tanzania	0.29	Mozambique	0.21	Zimbabwe	0.02	Angola	0.02	Madagascar	0.02
Machinery and mechanical appliances	843340	Balers; straw or fodder balers, including pick-up balers, $0-6151	per unit	No	0.57	Mozambique	0.48	Zimbabwe	0.04	Democratic Republic of the Congo	0.03	United Republic of Tanzania	0.02	Lesotho	0.00
Machinery and mechanical appliances	840490	Boilers; parts of auxiliary plant, for use with boilers of heading no. 8402 and 8403 and parts of condensers for steam or other vapour power units, $12-97	per kilo	No	0.56	United Republic of Tanzania	0.23	South Africa	0.21	Mozambique	0.06	Eswatini	0.03	Madagascar	0.02
Machinery and mechanical appliances	842611	Cranes; overhead travelling cranes on fixed support, $30344-30500	per unit	No	0.55	Zimbabwe	0.29	Zambia	0.25						
Machinery and mechanical appliances	842511	Pulley tackle and hoists; powered by an electric motor (excluding skip hoists or hoists of a kind used for raising vehicles), $339-4121	per unit	No	0.44	Democratic Republic of the Congo	0.37	Mauritius	0.03	Madagascar	0.02	United Republic of Tanzania	0.01	Comoros	0.00
Machinery and mechanical appliances	841370	Pumps; centrifugal, n.e.c. in heading no. 8413, for liquids, $48552-60226	per unit	No	0.43	Democratic Republic of the Congo	0.42	United Republic of Tanzania	0.01						
Paper and paperboard	480255	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing 40g/m2 to 150g/m2, in rolls, $0-1	per kilo	No	4.36	United Republic of Tanzania	2.10	South Africa	1.97	Mauritius	0.12	Botswana	0.06	Democratic Republic of the Congo	0.05
Paper and paperboard	480591	Paper and paperboard; uncoated, weight 150g/m2 or less, in rolls or sheets, n.e.c. in heading no.4805, $1-5	per kilo	No	2.80	South Africa	2.74	Malawi	0.02	United Republic of Tanzania	0.01	Democratic Republic of the Congo	0.01	Zambia	0.01
Paper and paperboard	480592	Paper and paperboard; uncoated, weight more than 150g/m2 but less than 225 g/m2, in rolls or sheets, n.e.c. in heading no. 4805, $0-2	per kilo	No	1.52	South Africa	1.52								

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Paper and paperboard	480100	Newsprint; made of fibres obtained essentially by a chemi-mechanical process or of a weight, per m2, of more than 57g but not more than 65g, in rolls or sheets, $0-1	per kilo	No	1.41	United Republic of Tanzania	1.41								
Paper and paperboard	480439	Kraft paper and paperboard; uncoated, bleached, weight 150g/m2 or less, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-3	per kilo	No	0.97	South Africa	0.97	Seychelles	0.00						
Paper and paperboard	481160	Paper and paperboard; coated or impregnated with wax, paraffin wax, stearin, oil or glycerol, other than goods of heading no. 4803, 4809, or 4810, $3-8	per kilo	No	0.84	Eswatini	0.74	Zambia	0.08	Madagascar	0.02	Malawi	0.00	Democratic Republic of the Congo	0.00
Paper and paperboard	480257	Paper & paperboard; uncoated, writing, printing, graphic, non-perforated punch-cards, punch tape paper, 0-10% wgt mechanical/chemi-mechanical process fibre, except paper of heading no. 4801 or 4803, rolls or sheets, weight between 40-150g/m2 (inclusive), $1-3	per kilo	No	0.79	South Africa	0.31	Malawi	0.30	Madagascar	0.14	Democratic Republic of the Congo	0.03	Seychelles	0.01
Paper and paperboard	480620	Paper; greaseproof papers, in rolls or sheets, $2-5	per kilo	No	0.65	South Africa	0.53	Zimbabwe	0.06	Mauritius	0.02	Angola	0.02	Madagascar	0.01
Paper and paperboard	480255	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing 40g/m2 to 150g/m2, in rolls, $1-2	per kilo	No	0.54	Zambia	0.30	Malawi	0.21	Democratic Republic of the Congo	0.02	Comoros	0.01		
Pharmaceuticals and healthcare	300460	Medicaments; containing antimalarial active principles described in Subheading Note 2 to this Chapter, for therapeutic or prophylactic uses, packaged for retail sale, $0-23	per kilo	No	4.11	Democratic Republic of the Congo	2.82	United Republic of Tanzania	0.84	Malawi	0.44	Botswana	0.01	South Africa	0.00
Pharmaceuticals and healthcare	293930	Alkaloids, vegetable; caffeine and its salts, $18-56	per kilo	No	1.33	Eswatini	1.33								
Pharmaceuticals and healthcare	300510	Dressings, adhesive; and other articles having an adhesive layer, packed for retail sale for medical, surgical, dental or veterinary purposes, $57-116	per kilo	No	1.04	South Africa	1.02	Seychelles	0.01	Mauritius	0.01	Zambia	0.00	United Republic of Tanzania	0.00
Pharmaceuticals and healthcare	382213	Reagents; diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits; for blood grouping, $74-212	per kilo	No	0.91	South Africa	0.63	United Republic of Tanzania	0.26	Zimbabwe	0.01	Madagascar	0.01	Mauritius	0.00
Pharmaceuticals and healthcare	293624	Vitamins; D- or DL-pantothenic acid (vitamin B3 or vitamin B5) and its derivatives, unmixed, $0-15	per kilo	No	0.82	South Africa	0.77	Angola	0.05	Mauritius	0.00				

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Pharmaceuticals and healthcare	300670	Pharmaceutical goods; Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments, $8-71	per kilo	No	0.47	South Africa	0.25	Angola	0.14	Botswana	0.03	Mozambique	0.02	Zimbabwe	0.02
Plastics	390761	Poly(ethylene terephthalate); in primary forms, having a viscosity of 78ml/g or higher, $1-1	per kilo	Yes	22.17	United Republic of Tanzania	20.28	Malawi	0.97	Botswana	0.49	Democratic Republic of the Congo	0.43	Mauritius	0.00
Plastics	390410	Vinyl chloride, other halogenated olefin polymers; poly(vinyl chloride), not mixed with any other substances, in primary forms, $0-1	per kilo	No	6.30	United Republic of Tanzania	1.76	Zambia	1.62	Malawi	1.61	Botswana	0.99	Democratic Republic of the Congo	0.32
Plastics	390140	Ethylene polymers; in primary forms, ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94, $1-2	per kilo	No	1.63	South Africa	1.15	Angola	0.25	Zimbabwe	0.10	Malawi	0.10	Democratic Republic of the Congo	0.04
Plastics	390190	Ethylene polymers; in primary forms, n.e.c. in heading no. 3901, $4-9	per kilo	No	1.20	South Africa	1.15	Zimbabwe	0.04	Comoros	0.02	Seychelles	0.00		
Plastics	390599	Vinyl acetate, vinyl ester polymers, vinyl polymers; n.e.c. in heading no. 3905, in primary forms, other than copolymers, $6-27	per kilo	No	0.73	Democratic Republic of the Congo	0.69	Zimbabwe	0.01	Mozambique	0.01	Angola	0.01	Mauritius	0.01
Plastics	390422	Vinyl chloride, other halogenated olefin polymers; plasticised polyvinyl chloride, in primary forms, mixed with other substances, $1-4	per kilo	No	0.72	United Republic of Tanzania	0.39	Angola	0.32	Comoros	0.01				
Plastics	390130	Ethylene polymers; in primary forms, ethylene-vinyl acetate copolymers, $2-4	per kilo	No	0.66	Democratic Republic of the Congo	0.66	Angola	0.00	Botswana	0.00				
Plastics	392030	Plastics; of polymers of styrene, plates, sheets, film, foil and strip (not self-adhesive), non-cellular and not reinforced, laminated, supported or similarly combined with other materials, $3-10	per kilo	Yes	0.54	Malawi	0.48	Democratic Republic of the Congo	0.05	Botswana	0.01				
Plastics	390939	Amino-resins; n.e.c. in heading no. 3909, in primary forms, other than poly(methylene phenyl isocyanate) (Crude MDI, polymeric MDI), $3-10	per kilo	No	0.44	South Africa	0.35	Zimbabwe	0.05	Malawi	0.02	Mozambique	0.01	Democratic Republic of the Congo	0.01
Plastics	391400	Ion-exchangers; based on polymers of heading no. 3901 to 3913, in primary forms, $4-41	per kilo	Yes	0.43	Mozambique	0.18	Zimbabwe	0.12	Mauritius	0.11	Botswana	0.01	United Republic of Tanzania	0.01

Table C.3.

Product list of shortlisted sectors from the continental (AfCFTA) export opportunity scenario, by sector and total unweighted opportunity

Table C.3. Product list of shortlisted sectors from the continental (AfCFTA) export opportunity scenario, by sector and total unweighted opportunity

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	381121	Lubricating oil additives; containing petroleum oils or oils obtained from bituminous minerals, $4-8	per kilo	No	25.10	Egypt	21.49	Morocco	1.30	Togo	1.15	Senegal	1.14	Gabon	0.01
Chemicals	380892	Fungicides; other than containing goods specified in Subheading Note 1 to this Chapter; put up in forms or packings for retail sale or as preparations or articles, $7-23	per kilo	No	23.57	Egypt	14.62	Morocco	5.22	Tunisia	2.58	Uganda	0.93	Benin	0.16
Chemicals	381700	Mixed alkylbenzenes and mixed alkylnaphthalenes, other than those of heading no. 2707 or 2902, $1-5	per kilo	No	12.35	Morocco	5.61	Ethiopia	4.15	Kenya	2.53	Tunisia	0.06	Côte d'Ivoire	0.00
Chemicals	382410	Binders, prepared; for foundry moulds or cores, $1-9	per kilo	Yes	11.32	Egypt	10.96	Morocco	0.18	Djibouti	0.09	Mauritania	0.06	Nigeria	0.02
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $2-6	per kilo	No	10.89	Egypt	9.17	Côte d'Ivoire	0.62	Tunisia	0.49	Gabon	0.48	Senegal	0.11
Chemicals	340239	Anionic organic surface-active agents (other than soap); other than linear alkylbenzene sulphonic acids and their salts, whether or not put up for retail sale, $0-1	per kilo	No	7.80	Ethiopia	2.85	Tunisia	1.52	Burkina Faso	1.33	Kenya	1.22	Uganda	0.45
Chemicals	281122	Silicon dioxide, $1-13	per kilo	No	7.34	Nigeria	6.56	Côte d'Ivoire	0.29	Gabon	0.12	Tunisia	0.12	Uganda	0.10
Chemicals	283620	Carbonates; disodium carbonate, $0-2	per kilo	Yes	5.89	Ethiopia	3.95	Ghana	1.06	Niger	0.58	Djibouti	0.17	Togo	0.09
Chemicals	282300	Titanium oxides, $3-11	per kilo	Yes	3.95	Egypt	3.93	Liberia	0.01	Burkina Faso	0.00	Cabo Verde	0.00		
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $0-2	per kilo	No	3.02	Morocco	1.39	Tunisia	0.79	Kenya	0.41	Burkina Faso	0.23	Côte d'Ivoire	0.16
Chemicals	340420	Waxes; artificial and prepared, of poly(oxyethylene) (polyethylene glycol), $0-2	per kilo	No	2.94	Nigeria	2.80	Morocco	0.10	Uganda	0.02	Senegal	0.01	Togo	0.01
Chemicals	381239	Anti-oxidising preparations and other compound stabilisers; for rubber or plastics, other than mixtures of oligomers of 2,2,4-trimethyl-1,2-dihydroquinoline (TMQ), $3-10	per kilo	No	2.94	Morocco	2.88	Senegal	0.03	Kenya	0.01	Cabo Verde	0.01	Gabon	0.01
Chemicals	381220	Plasticisers, compound; for rubber or plastics, $0-2	per kilo	No	2.22	Ethiopia	1.95	Djibouti	0.18	Kenya	0.07	Burkina Faso	0.01	Senegal	0.01
Chemicals	292390	Quaternary ammonium salts and hydroxides; whether or not chemically defined n.e.c. in heading no. 2923, $3-30	per kilo	No	2.17	Egypt	2.06	Djibouti	0.11	Burkina Faso	0.00				
Chemicals	381519	Catalysts, supported; reaction initiators, reaction accelerators and catalytic preparations, with an active substance other than nickel or precious metals or their compounds, n.e.c. or included, $8-39	per kilo	Yes	1.95	Egypt	1.71	Côte d'Ivoire	0.19	Ghana	0.02	Tunisia	0.02		
Chemicals	292229	Amino-naphthols and other amino-phenols; their ethers and esters, (other than those containing more than one kind of oxygen function), n.e.s. in item no. 2922.2, $0-7	per kilo	No	1.94	Ghana	0.89	Uganda	0.52	Kenya	0.46	Nigeria	0.04	Côte d'Ivoire	0.01

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	283640	Carbonates; potassium carbonate, $1-5	per kilo	No	1.69	Côte d'Ivoire	1.60	Morocco	0.07	Tunisia	0.02	Kenya	0.01	Senegal	0.00
Chemicals	290345	Halogenated derivatives of acyclic hydrocarbons containing two or more different halogens; perhalogenated only with fluorine and chlorine, n.e.s. in item no. 2903.4, $5-21	per kilo	No	1.48	Egypt	1.42	Ethiopia	0.06	Niger	0.00	Uganda	0.00	Nigeria	0.00
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $2-8	per kilo	No	1.46	Egypt	1.24	Tunisia	0.10	Côte d'Ivoire	0.07	Gabon	0.05		
Chemicals	282720	Chlorides; of calcium, $0-6	per kilo	No	1.42	Gabon	0.61	Egypt	0.58	Mauritania	0.10	Uganda	0.08	Senegal	0.03
Chemicals	290514	Alcohols; saturated monohydric, butanols excluding item no. 2905.13, $1-14	per kilo	No	1.39	Egypt	1.38	Uganda	0.01	Gabon	0.00	Liberia	0.00		
Chemicals	382311	Industrial monocarboxylic fatty acids, acid oils from refining; stearic acid, $0-1	per kilo	No	1.33	Senegal	0.90	Côte d'Ivoire	0.27	Togo	0.09	Morocco	0.06	Gambia	0.01
Chemicals	292529	Imines and their derivatives; salts thereof; other than chlordimeform (ISO), $8-38	per kilo	No	1.30	Egypt	0.97	Tunisia	0.33	Côte d'Ivoire	0.00				
Chemicals	281122	Silicon dioxide, $0-1	per kilo	No	1.16	Nigeria	0.89	Uganda	0.14	Ethiopia	0.07	Ghana	0.05	Burkina Faso	0.00
Chemicals	282751	Bromides; of sodium or of potassium, $0-3	per kilo	No	1.12	Senegal	1.11	Uganda	0.01	Liberia	0.00				
Chemicals	293214	Heterocyclic compounds; with oxygen hetero-atom(s) only, containing an unfused furan ring (whether or not hydrogenated) in the structure, sucralose, $23-64	per kilo	No	1.04	Egypt	0.85	Morocco	0.17	Kenya	0.01	Liberia	0.01	Burkina Faso	0.00
Chemicals	282550	Copper oxides and hydroxides, $8-22	per kilo	Yes	1.02	Nigeria	0.72	Ghana	0.29	Tunisia	0.02	Uganda	0.00	Mauritania	0.00
Chemicals	283531	Polyphosphates; sodium triphosphate (sodium tripolyphosphate), $1-3	per kilo	No	0.99	Senegal	0.95	Togo	0.03	Sao Tome and Principe	0.01	Ghana	0.00	Djibouti	0.00
Chemicals	290722	Polyphenols; hydroquinone (quinol) and its salts, $0-8	per kilo	No	0.83	Togo	0.35	Senegal	0.29	Nigeria	0.16	Côte d'Ivoire	0.03		
Chemicals	293149	Non-halogenated organo-phosphorous derivatives; other non-halogenated organo-phosphorous derivatives, n.e.c. in item no. 2931.4, $2-17	per kilo	No	0.79	Nigeria	0.65	Kenya	0.07	Ethiopia	0.07	Uganda	0.00	Gabon	0.00
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $0-2	per kilo	No	0.78	Burkina Faso	0.43	Niger	0.12	Kenya	0.11	Morocco	0.05	Nigeria	0.03
Chemicals	281820	Aluminium oxide; other than artificial corundum, $1-9	per kilo	Yes	0.74	Nigeria	0.57	Ethiopia	0.15	Côte d'Ivoire	0.01	Gabon	0.01	Uganda	0.00
Chemicals	291590	Acids; saturated acyclic monocarboxylic acids; anhydrides, halides, peroxides, peroxyacids and halogenated, sulphonated, nitrated or nitrosated derivatives, n.e.c. in heading no. 2915, $3-16	per kilo	No	0.73	Nigeria	0.19	Togo	0.17	Ethiopia	0.16	Kenya	0.16	Uganda	0.03

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Chemicals	293359	Heterocyclic compounds; containing a pyrimidine ring (whether or not hydrogenated) or piperazine ring in the structure, (other than malonylurea and its derivatives, loprazolam, mecloqualone, methaqualone, zipeprol, and salts thereof) n.e.c. in 2933.5, $45-647	per kilo	No	0.72	Tunisia	0.32	Morocco	0.30	Kenya	0.08	Ghana	0.01	Côte d'Ivoire	0.01
Chemicals	382489	Chemical products, mixtures and preparations; containing goods specified in Subheading Note 3 to this Chapter; containing short-chain chlorinated paraffins, $2-16	per kilo	No	0.69	Egypt	0.69	Ethiopia	0.00	Burkina Faso	0.00	Uganda	0.00		
Chemicals	291815	Acids; carboxylic acids, (with alcohol function but without other oxygen function), salts and esters of citric acid, $2-11	per kilo	No	0.66	Nigeria	0.21	Morocco	0.17	Ethiopia	0.11	Kenya	0.11	Tunisia	0.05
Chemicals	292419	Acyclic amides (including acyclic carbamates) and their derivatives; salts thereof, other than meprobamate (INN), fluoroacetamide (ISO), monocrotophos (ISO) or phosphamidon (ISO), $4-33	per kilo	No	0.64	Tunisia	0.40	Nigeria	0.16	Côte d'Ivoire	0.07	Kenya	0.01	Gabon	0.00
Chemicals	290244	Cyclic hydrocarbons; mixed xylene isomers, $1-7	per kilo	No	0.63	Tunisia	0.32	Ethiopia	0.25	Côte d'Ivoire	0.03	Morocco	0.02	Benin	0.01
Chemicals	382370	Industrial fatty alcohols, $2-6	per kilo	No	0.62	Nigeria	0.44	Morocco	0.12	Ghana	0.04	Niger	0.03		
Chemicals	290544	Alcohols; polyhydric, d-glucitol (sorbitol), $1-5	per kilo	No	0.60	Egypt	0.45	Ethiopia	0.14	Côte d'Ivoire	0.01	Cabo Verde	0.00		
Chemicals	291739	Acids; aromatic polycarboxylic acids; n.e.c. in item no. 2917.3, $1-7	per kilo	No	0.60	Senegal	0.39	Tunisia	0.20	Ethiopia	0.02				
Chemicals	294200	Organic compounds; n.e.c. in chapter 29, $0-9	per kilo	No	0.60	Ghana	0.54	Uganda	0.06	Burkina Faso	0.00	Gabon	0.00	Gambia	0.00
Chemicals	280610	Hydrogen chloride (hydrochloric acid), $0-11	per kilo	Yes	0.60	Nigeria	0.56	Morocco	0.01	Togo	0.01	Djibouti	0.01	Central African Republic	0.00
Chemicals	381590	Reaction initiators, reaction accelerators and catalytic preparations, unsupported, n.e.c. or included, $0-4	per kilo	No	0.59	Niger	0.32	Kenya	0.11	Mauritania	0.04	Ghana	0.04	Ethiopia	0.03
Chemicals	340211	Organic surface-active agents; anionic (other than soap), whether or not put up for retail sale, $0-1	per kilo	No	0.56	Djibouti	0.34	Mauritania	0.21	Togo	0.01				
Chemicals	280300	Carbon; carbon blacks and other forms of carbon n.e.c., $1-5	per kilo	Yes	0.51	Nigeria	0.50	Burkina Faso	0.01	Liberia	0.00	Gambia	0.00	Togo	0.00
Chemicals	290369	Halogenated derivatives of aromatic hydrocarbons; n.e.s. in item no. 2903.6, $15-132	per kilo	No	0.51	Morocco	0.51	Kenya	0.00	Gabon	0.00	Tunisia	0.00		
Chemicals	293220	Heterocyclic compounds; with oxygen hetero-atom(s) only, containing an unfused furan ring (whether or not hydrogenated) in the structure, lactones, $9-212	per kilo	No	0.48	Burkina Faso	0.21	Tunisia	0.11	Gabon	0.08	Senegal	0.08	Ghana	0.01
Chemicals	292910	Nitrogen-function compounds; n.e.c. in chapter 29, isocyanates, $2-7	per kilo	No	0.47	Liberia	0.36	Benin	0.09	Cabo Verde	0.01				
Chemicals	340490	Waxes; artificial and prepared, other than of polyethylene glycol, $0-3	per kilo	No	0.45	Uganda	0.22	Ghana	0.14	Kenya	0.06	Togo	0.01	Tunisia	0.01

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $8-12	per kilo	Yes	170.73	Morocco	69.64	Egypt	48.57	Tunisia	41.15	Côte d'Ivoire	5.41	Senegal	4.48
Copper, other minerals and metals	740990	Copper; plates, sheets and strip, of a thickness exceeding 0.15mm, of copper alloys (other than copper-zinc base alloys, copper-tin base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $13-50	per kilo	Yes	2.39	Egypt	2.38	Niger	0.01	Côte d'Ivoire	0.00	Ghana	0.00	Benin	0.00
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $0-8	per kilo	Yes	2.02	Uganda	1.42	Ghana	0.39	Kenya	0.09	Djibouti	0.07	Burkina Faso	0.04
Copper, other minerals and metals	790111	Zinc; unwrought, (not alloyed), containing by weight 99.99% or more of zinc, $4-6	per kilo	Yes	1.94	Ethiopia	1.93	Tunisia	0.01	Morocco	0.00	Gabon	0.00		
Copper, other minerals and metals	740729	Copper; bars, rods and profiles, of copper alloys, (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $13-34	per kilo	Yes	1.71	Egypt	1.68	Ghana	0.02	Cabo Verde	0.01	Gabon	0.00	Liberia	0.00
Copper, other minerals and metals	740829	Copper; wire, of copper alloys (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $11-33	per kilo	Yes	0.75	Egypt	0.65	Côte d'Ivoire	0.04	Morocco	0.03	Ghana	0.03	Sao Tome and Principe	0.00
Copper, other minerals and metals	740819	Copper; wire, of refined copper, of which the maximum cross-sectional dimension is 6mm or less, $0-9	per kilo	Yes	0.71	Togo	0.52	Ethiopia	0.14	Nigeria	0.02	Mauritania	0.02	Liberia	0.01
Electrical machinery and equipment	853090	Signalling apparatus; parts of safety, traffic control equipment for railways, tramways, roads, inland waterways, airfields, parking facilities, port instalments (excluding those of heading no. 8608), $266-610	per kilo	No	5.43	Morocco	4.74	Senegal	0.66	Nigeria	0.03	Ghana	0.00	Cabo Verde	0.00
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $20015-46983	per unit	No	1.97	Gabon	1.22	Ghana	0.57	Uganda	0.14	Liberia	0.04		
Electrical machinery and equipment	851981	Sound recording or reproducing apparatus; using magnetic, optical or semiconductor media, n.e.c. in item no 8519.20, 8519.30 or 8519.50, $91-326	per unit	No	1.23	Egypt	0.81	Morocco	0.17	Tunisia	0.14	Nigeria	0.07	Ethiopia	0.02
Electrical machinery and equipment	853529	Electrical apparatus; automatic circuit breakers, for a voltage of 72.5kV or more, $22-91	per kilo	No	1.15	Benin	0.62	Senegal	0.19	Burkina Faso	0.18	Egypt	0.16	Cabo Verde	0.01
Electrical machinery and equipment	854460	Insulated electric conductors; for a voltage exceeding 1000 volts, $36-79	per kilo	Yes	1.12	Uganda	0.39	Côte d'Ivoire	0.35	Djibouti	0.34	Nigeria	0.04	Kenya	0.00
Electrical machinery and equipment	854610	Electrical insulators; of glass, $4-52	per kilo	No	1.04	Ethiopia	0.93	Niger	0.08	Burkina Faso	0.01	Mauritania	0.01	Benin	0.01

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Electrical machinery and equipment	853922	Lamps; filament, (excluding ultra-violet or infra-red), of a power not exceeding 200W and for a voltage exceeding 100 volts, other than tungsten halogen, $0-10	per unit	No	0.84	Egypt	0.59	Morocco	0.20	Nigeria	0.04	Togo	0.01	Burkina Faso	0.00
Electrical machinery and equipment	853810	Electrical apparatus; parts (e.g. boards, panels, consoles, desks, cabinets, other bases), for goods of heading no. 8537, not equipped with their apparatus, $64-143	per kilo	No	0.69	Senegal	0.44	Côte d'Ivoire	0.12	Morocco	0.06	Mauritania	0.05	Benin	0.02
Electrical machinery and equipment	853521	Electrical apparatus; automatic circuit breakers, for a voltage exceeding 1000 volts but less than 72.5kV, $0-27	per kilo	No	0.58	Côte d'Ivoire	0.27	Ethiopia	0.15	Uganda	0.07	Benin	0.05	Tunisia	0.04
Electrical machinery and equipment	850164	Electric generators; AC generators, (alternators), other than photovoltaic generators, of an output exceeding 750kVA, $54054-131828	per unit	Yes	0.53	Uganda	0.25	Kenya	0.19	Cabo Verde	0.08	Ghana	0.01	Nigeria	0.00
Food processing	040150	Dairy produce; milk and cream, not concentrated, not containing added sugar or other sweetening matter, of a fat content, by weight, exceeding 10%, $2-4	per kilo	No	2.76	Morocco	1.68	Cabo Verde	0.46	Senegal	0.35	Gabon	0.26	Sao Tome and Principe	0.00
Food processing	200919	Juice; orange, not frozen, of a Brix value exceeding 20, unfermented, not containing added spirit, whether or not containing added sugar or other sweetening matter, $3-6	per kilo	No	1.17	Nigeria	1.09	Ghana	0.05	Cabo Verde	0.02	Ethiopia	0.00		
Food processing	151419	Vegetable oils; low erucic acid rape or colza oil and its fractions, other than crude, but not chemically modified, $1-3	per kilo	No	1.05	Kenya	0.56	Ethiopia	0.30	Burkina Faso	0.13	Niger	0.02	Mauritania	0.02
Food processing	040630	Dairy produce; cheese, processed (not grated or powdered), $5-8	per kilo	No	1.00	Morocco	0.79	Nigeria	0.12	Benin	0.05	Tunisia	0.02	Uganda	0.01
Food processing	230310	Residues of starch manufacture and similar residues; whether or not in the form of pellets, $0-2	per kilo	No	0.99	Tunisia	0.95	Morocco	0.04	Côte d'Ivoire	0.00				
Food processing	200979	Juice; apple, of a Brix value exceeding 20, unfermented, not containing added spirit, whether or not containing added sugar or other sweetening matter, $1-2	per kilo	No	0.94	Morocco	0.69	Côte d'Ivoire	0.12	Tunisia	0.05	Uganda	0.04	Nigeria	0.03
Food processing	200310	Vegetable preparations; mushrooms of the genus Agaricus, prepared or preserved otherwise than by vinegar or acetic acid, $1-4	per kilo	No	0.72	Egypt	0.52	Ethiopia	0.14	Gabon	0.05	Liberia	0.00	Uganda	0.00
Food processing	110620	Flour, meal and powder; of sago or of roots or tubers of heading no. 0714, $7-15	per kilo	No	0.57	Liberia	0.56	Gambia	0.00	Ghana	0.00				
Iron and steel	720839	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of less than 3mm, $0-0	per kilo	No	95.07	Egypt	46.00	Kenya	32.65	Ethiopia	16.20	Liberia	0.23		
Iron and steel	720827	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of less than 3mm, $0-0	per kilo	No	16.49	Ethiopia	7.03	Tunisia	4.53	Uganda	2.03	Côte d'Ivoire	1.39	Djibouti	0.94

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	732611	Iron or steel; grinding balls and similar articles for mills, forged or stamped, but not further worked, $1-14	per kilo	Yes	14.76	Ghana	7.70	Mauritania	3.73	Burkina Faso	1.67	Egypt	1.54	Central African Republic	0.07
Iron and steel	720852	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 4.75mm or more but not exceeding 10mm, $0-1	per kilo	No	11.14	Egypt	8.97	Ethiopia	1.86	Niger	0.09	Ghana	0.07	Nigeria	0.06
Iron and steel	721934	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $2-4	per kilo	No	4.93	Egypt	4.92	Gabon	0.00	Cabo Verde	0.00	Ethiopia	0.00		
Iron and steel	720853	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 3mm or more but less than 4.75mm, $0-1	per kilo	No	4.59	Egypt	3.75	Nigeria	0.65	Tunisia	0.08	Uganda	0.04	Kenya	0.04
Iron and steel	722790	Steel, alloy; bars and rods, hot-rolled, in irregularly wound coils, n.e.c. in heading no. 7227, $0-1	per kilo	No	3.95	Egypt	3.48	Ethiopia	0.47	Morocco	0.00				
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-0	per kilo	No	3.88	Côte d'Ivoire	2.31	Ghana	0.70	Tunisia	0.52	Gabon	0.21	Burkina Faso	0.14
Iron and steel	730640	Steel, stainless; tubes and pipes, welded, of circular cross-section, $0-4	per kilo	No	3.86	Morocco	2.22	Nigeria	0.98	Côte d'Ivoire	0.31	Senegal	0.12	Tunisia	0.07
Iron and steel	721012	Iron or non-alloy steel; flat-rolled, width 600mm or more, plated or coated with tin, thickness of less than 0.5mm, $1-1	per kilo	No	3.85	Nigeria	2.09	Tunisia	1.76	Gabon	0.00				
Iron and steel	720851	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness exceeding 10mm, $0-1	per kilo	No	3.83	Morocco	1.73	Ethiopia	0.76	Senegal	0.65	Tunisia	0.43	Côte d'Ivoire	0.17
Iron and steel	720917	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-0	per kilo	No	3.43	Djibouti	1.68	Kenya	0.75	Côte d'Ivoire	0.75	Mauritania	0.24		
Iron and steel	721030	Iron or non-alloy steel; flat-rolled, width 600mm or more, electrolytically plated or coated with zinc, $1-2	per kilo	No	2.88	Egypt	2.12	Ethiopia	0.43	Kenya	0.13	Gabon	0.07	Côte d'Ivoire	0.07
Iron and steel	730650	Steel, alloy; tubes, pipes and hollow profiles (other than stainless steel or seamless), welded, of circular cross-section, n.e.c. in chapter 73, $2-21	per kilo	No	2.82	Egypt	2.22	Senegal	0.36	Gabon	0.12	Burkina Faso	0.05	Gambia	0.04
Iron and steel	721935	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of less than 0.5mm, $2-7	per kilo	No	2.71	Egypt	2.70	Morocco	0.01	Côte d'Ivoire	0.00	Benin	0.00		
Iron and steel	721621	Iron or non-alloy steel; L sections, hot-rolled, hot-drawn or extruded, of a height of less than 80mm, $0-2	per kilo	No	2.66	Egypt	2.23	Morocco	0.19	Gabon	0.09	Niger	0.07	Uganda	0.04
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-1	per kilo	No	2.38	Morocco	1.90	Ethiopia	0.34	Kenya	0.06	Djibouti	0.04	Burkina Faso	0.02

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	2.13	Ethiopia	1.16	Tunisia	0.42	Kenya	0.29	Nigeria	0.14	Senegal	0.09
Iron and steel	722410	Steel, alloy; ingots and other primary forms, $0-1	per kilo	No	1.98	Djibouti	1.97	Nigeria	0.02						
Iron and steel	730441	Steel, stainless; cold-drawn or cold-rolled, tubes and pipes of circular cross-section, $12-48	per kilo	No	1.85	Egypt	1.40	Morocco	0.40	Senegal	0.03	Djibouti	0.01	Benin	0.00
Iron and steel	730611	Steel; stainless; line pipe of a kind used for oil or gas pipelines n.e.c. in chapter 73, welded, (not seamless), $3-17	per kilo	No	1.81	Egypt	1.76	Central African Republic	0.02	Côte d'Ivoire	0.01	Benin	0.01	Ghana	0.01
Iron and steel	730650	Steel, alloy; tubes, pipes and hollow profiles (other than stainless steel or seamless), welded, of circular cross-section, n.e.c. in chapter 73, $0-2	per kilo	No	1.71	Nigeria	0.79	Morocco	0.46	Uganda	0.18	Ethiopia	0.09	Togo	0.09
Iron and steel	730810	Iron or steel; structures and parts thereof, bridges and bridge-sections, $3-8	per kilo	Yes	1.57	Egypt	1.45	Gabon	0.12	Djibouti	0.00				
Iron and steel	720837	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 4.75mm or more but not exceeding 10mm, $0-0	per kilo	No	1.55	Uganda	1.53	Senegal	0.02						
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-1	per kilo	No	1.54	Egypt	1.47	Tunisia	0.05	Djibouti	0.02	Niger	0.00		
Iron and steel	730459	Steel, alloy (not stainless steel); (excluding cold-drawn or cold-rolled), tubes, pipes and hollow profiles of circular cross-section, $0-3	per kilo	No	1.50	Benin	0.75	Ethiopia	0.43	Gabon	0.31	Burkina Faso	0.00	Gambia	0.00
Iron and steel	721934	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-2	per kilo	No	1.47	Nigeria	1.25	Djibouti	0.17	Uganda	0.05	Burkina Faso	0.00	Cabo Verde	0.00
Iron and steel	720838	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 3mm or more but less than 4.75mm, $0-0	per kilo	No	1.44	Morocco	1.44								
Iron and steel	721123	Iron or non-alloy steel; flat-rolled, cold-rolled, of a width less than 600mm, containing by weight less than 0.25% of carbon, $1-3	per kilo	No	1.44	Egypt	1.15	Tunisia	0.18	Côte d'Ivoire	0.08	Gabon	0.02	Uganda	0.01
Iron and steel	721933	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $2-4	per kilo	No	1.43	Egypt	1.37	Uganda	0.04	Senegal	0.02	Ghana	0.01	Nigeria	0.00
Iron and steel	720836	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness exceeding 10mm, $0-0	per kilo	No	1.39	Kenya	1.05	Nigeria	0.33	Benin	0.00	Gabon	0.00	Ethiopia	0.00

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	722619	Steel, alloy; flat-rolled, width less than 600mm, of silicon-electrical steel, other than grain-oriented, $0-1	per kilo	No	1.38	Tunisia	1.38	Togo	0.00	Uganda	0.00				
Iron and steel	731582	Chain; welded link chain, of iron or steel, $3-15	per kilo	No	1.26	Côte d'Ivoire	1.01	Senegal	0.16	Gabon	0.02	Uganda	0.02	Cabo Verde	0.02
Iron and steel	720720	Iron or non-alloy steel; semi-finished products of iron or non-alloy steel, containing by weight 0.25% or more of carbon, $1-5	per kilo	No	1.23	Egypt	1.23	Gambia	0.00	Uganda	0.00				
Iron and steel	721190	Iron or non-alloy steel; flat-rolled, n.e.c. in heading no. 7211, width less than 600mm, $1-10	per kilo	No	1.22	Egypt	1.17	Mauritania	0.02	Ghana	0.01	Nigeria	0.01	Kenya	0.01
Iron and steel	730459	Steel, alloy (not stainless steel); (excluding cold-drawn or cold-rolled), tubes, pipes and hollow profiles of circular cross-section, $3-15	per kilo	No	1.19	Egypt	0.56	Senegal	0.51	Ghana	0.10	Togo	0.02	Uganda	0.01
Iron and steel	721935	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of less than 0.5mm, $0-2	per kilo	No	1.15	Morocco	0.72	Kenya	0.41	Nigeria	0.01	Uganda	0.01		
Iron and steel	721932	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of 3mm or more but less than 4.75mm, $2-4	per kilo	No	1.14	Egypt	1.13	Senegal	0.01	Ghana	0.01	Cabo Verde	0.00		
Iron and steel	722599	Steel, alloy; flat-rolled, width 600mm or more, n.e.c. in heading no. 7225, (other than plated or coated with zinc), $1-4	per kilo	No	1.08	Egypt	0.85	Morocco	0.18	Mauritania	0.04	Tunisia	0.01	Niger	0.01
Iron and steel	721590	Iron or non-alloy steel; bars and rods, n.e.c. in chapter 72, n.e.c. in heading no. 7215, $1-7	per kilo	No	0.93	Egypt	0.53	Ethiopia	0.15	Côte d'Ivoire	0.10	Uganda	0.05	Niger	0.04
Iron and steel	721220	Iron or non-alloy steel; flat-rolled, of a width less than 600mm, electrolytically plated or coated with zinc, $1-4	per kilo	No	0.92	Egypt	0.56	Nigeria	0.31	Togo	0.04	Kenya	0.01	Côte d'Ivoire	0.01
Iron and steel	721210	Iron or non-alloy steel; flat-rolled, width less than 600mm, plated or coated with tin, $1-11	per kilo	No	0.85	Uganda	0.69	Tunisia	0.14	Côte d'Ivoire	0.01	Nigeria	0.01	Gabon	0.00
Iron and steel	722220	Steel, stainless; bars and rods, cold-formed or cold-finished, $4-11	per kilo	No	0.80	Egypt	0.77	Côte d'Ivoire	0.02	Uganda	0.01	Benin	0.00	Nigeria	0.00
Iron and steel	730230	Iron or steel, railway or tramway track construction material; switch blades, crossing frogs, point rods and other crossing pieces, $4-15	per kilo	No	0.76	Côte d'Ivoire	0.22	Nigeria	0.18	Senegal	0.17	Ethiopia	0.15	Liberia	0.04
Iron and steel	721931	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled or cold-reduced, of a thickness of 4.75mm or more, $3-5	per kilo	No	0.63	Egypt	0.61	Tunisia	0.02						
Iron and steel	730640	Steel, stainless; tubes and pipes, welded, of circular cross-section, $24-54	per kilo	No	0.61	Uganda	0.24	Ghana	0.20	Senegal	0.08	Ethiopia	0.06	Burkina Faso	0.01
Iron and steel	731450	Iron or steel; expanded metal, $2-14	per kilo	No	0.59	Togo	0.25	Senegal	0.17	Mauritania	0.06	Niger	0.05	Sao Tome and Principe	0.02
Iron and steel	721691	Iron or non-alloy steel; angles, shapes and sections, n.e.c. in heading no. 7216, cold-formed or cold-finished, from flat-rolled products, $1-4	per kilo	No	0.56	Morocco	0.25	Ethiopia	0.15	Egypt	0.10	Senegal	0.03	Nigeria	0.01

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Iron and steel	730431	Iron or non-alloy steel; cold-drawn or cold-rolled, tubes and pipes of circular cross-section, $3-26	per kilo	No	0.55	Niger	0.30	Morocco	0.23	Cabo Verde	0.01	Sao Tome and Principe	0.00		
Iron and steel	721922	Steel, stainless; flat-rolled, width 600mm or more, hot-rolled, (not in coils), of a thickness of 4.75mm or more but not exceeding 10mm, $0-3	per kilo	No	0.50	Nigeria	0.23	Kenya	0.18	Ethiopia	0.05	Sao Tome and Principe	0.02	Ghana	0.01
Machinery and mechanical appliances	840510	Generators; producer gas, water gas, acetylene gas and similar water process gas generators, with or without their purifiers, $24-108	per kilo	No	10.76	Ghana	4.04	Egypt	3.91	Nigeria	0.81	Côte d'Ivoire	0.64	Uganda	0.36
Machinery and mechanical appliances	842611	Cranes; overhead travelling cranes on fixed support, $30344-30500	per unit	No	9.04	Egypt	4.62	Nigeria	3.16	Morocco	1.10	Burkina Faso	0.12	Benin	0.04
Machinery and mechanical appliances	840490	Boilers; parts of auxiliary plant, for use with boilers of heading no. 8402 and 8403 and parts of condensers for steam or other vapour power units, $12-97	per kilo	No	4.80	Nigeria	4.73	Kenya	0.04	Burkina Faso	0.02	Niger	0.01	Sao Tome and Principe	0.00
Machinery and mechanical appliances	841790	Furnaces and ovens; parts of non-electric furnaces and ovens (including incinerators), of industrial or laboratory use, $0-14	per kilo	Yes	4.31	Ethiopia	1.74	Senegal	1.23	Gabon	0.72	Côte d'Ivoire	0.23	Uganda	0.22
Machinery and mechanical appliances	840219	Boilers; vapour generating boilers, including hybrid boilers n.e.s. in heading no. 8402, $9-46	per kilo	Yes	4.14	Nigeria	2.14	Senegal	1.16	Côte d'Ivoire	0.54	Morocco	0.19	Benin	0.05
Machinery and mechanical appliances	848060	Moulds; for mineral materials, $5-18	per kilo	Yes	2.99	Egypt	1.73	Morocco	0.95	Benin	0.24	Nigeria	0.03	Mauritania	0.02
Machinery and mechanical appliances	841480	Pumps and compressors; for air, vacuum or gas, n.e.s. in heading no. 8414, $50485-127033	per unit	No	2.39	Ghana	2.33	Liberia	0.03	Kenya	0.02				
Machinery and mechanical appliances	848050	Moulds; for glass, $19-57	per kilo	No	2.03	Egypt	1.19	Nigeria	0.48	Tunisia	0.36	Ghana	0.01		
Machinery and mechanical appliances	842890	Lifting machinery; handling, loading or unloading machinery n.e.s. in heading no. 8428, $586269+	per unit	Yes	1.96	Kenya	1.84	Ghana	0.12						
Machinery and mechanical appliances	848420	Seals; mechanical, $194-419	per kilo	No	1.67	Morocco	0.60	Ghana	0.30	Gabon	0.25	Côte d'Ivoire	0.14	Tunisia	0.11
Machinery and mechanical appliances	840690	Turbines; parts of steam and other vapour turbines, $25-297	per kilo	No	1.67	Senegal	0.96	Morocco	0.29	Côte d'Ivoire	0.17	Uganda	0.13	Tunisia	0.09
Machinery and mechanical appliances	840999	Engines; parts for internal combustion piston engines (excluding spark-ignition), $193-248	per kilo	No	1.55	Morocco	0.84	Ghana	0.27	Nigeria	0.20	Sao Tome and Principe	0.09	Cabo Verde	0.07

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Machinery and mechanical appliances	840590	Generators; parts of producer gas, water gas, acetylene gas and similar water process gas generators, with or without their purifiers, $24-201	per kilo	No	1.40	Ghana	1.33	Uganda	0.03	Tunisia	0.01	Djibouti	0.01	Senegal	0.01
Machinery and mechanical appliances	844832	Machines; parts and accessories of machines or auxiliary machinery for preparing textile fibres, other than card clothing, $27-177	per kilo	No	1.36	Benin	1.33	Ghana	0.02	Morocco	0.01	Ethiopia	0.00	Kenya	0.00
Machinery and mechanical appliances	840290	Boilers; parts of steam or other vapour generating boilers, $11-109	per kilo	Yes	1.19	Senegal	0.83	Nigeria	0.19	Liberia	0.07	Benin	0.04	Central African Republic	0.03
Machinery and mechanical appliances	841620	Furnaces; furnace burners, for pulverized solid fuel or gas, including combination burners, $21-79	per kilo	Yes	1.11	Egypt	0.76	Gabon	0.14	Côte d'Ivoire	0.11	Benin	0.07	Burkina Faso	0.02
Machinery and mechanical appliances	843141	Machinery parts; buckets, shovels, grabs and grips, for the machinery of heading no. 8426 and 8430, $13-24	per kilo	Yes	1.03	Côte d'Ivoire	0.30	Djibouti	0.26	Senegal	0.18	Kenya	0.15	Morocco	0.11
Machinery and mechanical appliances	842890	Lifting machinery; handling, loading or unloading machinery n.e.s. in heading no. 8428, $256432-586269	per unit	Yes	0.66	Liberia	0.49	Uganda	0.17						
Machinery and mechanical appliances	848041	Moulds; for metal or metal carbides, injection or compression types, $15-56	per kilo	No	0.57	Egypt	0.30	Nigeria	0.13	Tunisia	0.07	Ethiopia	0.06	Djibouti	0.02
Machinery and mechanical appliances	843991	Machinery; parts of machinery for making pulp of fibrous cellulosic material, $22-73	per kilo	No	0.56	Egypt	0.42	Morocco	0.13	Kenya	0.01	Côte d'Ivoire	0.00	Ghana	0.00
Machinery and mechanical appliances	840220	Boilers; super-heated water boilers, $7-52	per kilo	Yes	0.56	Côte d'Ivoire	0.46	Kenya	0.06	Gabon	0.04				
Machinery and mechanical appliances	841810	Refrigerators and freezers; combined refrigerator-freezers, fitted with separate external doors, electric or other, $11670-28943	per unit	No	0.51	Kenya	0.52								
Machinery and mechanical appliances	846330	Machine-tools; machines for working wire, without removing material, $2535-42815	per unit	No	0.49	Kenya	0.32	Ghana	0.09	Uganda	0.05	Liberia	0.03	Gabon	0.01
Machinery and mechanical appliances	848110	Valves; pressure reducing, for pipes, boiler shells, tanks, vats or the like, $304-1021	per kilo	No	0.48	Kenya	0.19	Benin	0.17	Ethiopia	0.09	Senegal	0.01	Côte d'Ivoire	0.01
Machinery and mechanical appliances	843142	Machinery parts; bulldozer or angledozer blades, $4-12	per kilo	No	0.48	Nigeria	0.30	Senegal	0.06	Côte d'Ivoire	0.06	Morocco	0.04	Ethiopia	0.03
Paper and paperboard	480255	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing 40g/m2 to 150g/m2, in rolls, $1-2	per kilo	No	51.98	Egypt	41.06	Nigeria	9.24	Ethiopia	1.52	Gabon	0.14	Djibouti	0.03

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Paper and paperboard	480257	Paper & paperboard; uncoated, writing, printing, graphic, non-perforated punch-cards, punch tape paper, 0-10% wgt mechanical/chemi-mechanical process fibre, except paper of heading no. 4801 or 4803, rolls or sheets, weight between 40-150g/m2 (inclusive), $1-3	per kilo	No	23.28	Egypt	19.45	Ethiopia	3.51	Gabon	0.23	Togo	0.06	Benin	0.02
Paper and paperboard	480255	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing 40g/m2 to 150g/m2, in rolls, $0-1	per kilo	No	20.84	Uganda	9.48	Côte d'Ivoire	6.94	Morocco	3.59	Djibouti	0.69	Senegal	0.14
Paper and paperboard	480421	Kraft paper and paperboard; sack kraft paper, uncoated, unbleached, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-1	per kilo	No	4.35	Senegal	1.41	Uganda	1.39	Ghana	1.38	Mauritania	0.15	Ethiopia	0.01
Paper and paperboard	480261	Uncoated paper and paperboard (not 4801 or 4803); over 10% by weight of mechanical or chemi-mechanical processed fibre, in rolls, $0-3	per kilo	No	4.02	Ethiopia	3.29	Egypt	0.27	Nigeria	0.26	Côte d'Ivoire	0.11	Kenya	0.08
Paper and paperboard	480439	Kraft paper and paperboard; uncoated, bleached, weight 150g/m2 or less, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-3	per kilo	No	2.96	Kenya	1.27	Egypt	0.78	Tunisia	0.47	Côte d'Ivoire	0.21	Uganda	0.19
Paper and paperboard	481149	Paper and paperboard; gummed or adhesive paper and paperboard (excluding self-adhesive), in rolls or sheets, other than goods of heading no. 4803, 4809, or 4810, $3-14	per kilo	No	0.98	Egypt	0.96	Gabon	0.01	Côte d'Ivoire	0.01	Nigeria	0.00	Burkina Faso	0.00
Paper and paperboard	481092	Paper and paperboard; multi-ply, coated with kaolin or other inorganic substances only, for non-graphic purposes, n.e.c. in heading no. 4810, in rolls or sheets, $0-1	per kilo	No	0.93	Senegal	0.88	Ethiopia	0.04	Djibouti	0.01	Togo	0.00		
Paper and paperboard	480100	Newsprint; made of fibres obtained essentially by a chemi-mechanical process or of a weight, per m2, of more than 57g but not more than 65g, in rolls or sheets, $0-1	per kilo	No	0.88	Egypt	0.82	Togo	0.06						
Paper and paperboard	481159	Paper and paperboard; coated, impregnated or covered with plastics (excluding adhesives), other than bleached and weighing more than 150g/m2, other than goods of heading no. 4803, 4809, or 4810, $0-2	per kilo	No	0.77	Ghana	0.29	Ethiopia	0.26	Togo	0.07	Côte d'Ivoire	0.05	Senegal	0.05
Paper and paperboard	480429	Kraft paper and paperboard; sack kraft paper, uncoated, bleached, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-2	per kilo	No	0.77	Kenya	0.51	Nigeria	0.25	Togo	0.01				
Paper and paperboard	480620	Paper; greaseproof papers, in rolls or sheets, $2-5	per kilo	No	0.71	Egypt	0.47	Morocco	0.13	Tunisia	0.07	Kenya	0.03	Gabon	0.01
Paper and paperboard	482290	Paper pulp, paper or paperboard; bobbins, spools, cops and similar supports, other than of a kind used for winding textile yarn (whether or not perforated or hardened), $1-5	per kilo	No	0.71	Côte d'Ivoire	0.41	Morocco	0.28	Ethiopia	0.01	Liberia	0.01	Sao Tome and Principe	0.00

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Paper and paperboard	481160	Paper and paperboard; coated or impregnated with wax, paraffin wax, stearin, oil or glycerol, other than goods of heading no. 4803, 4809, or 4810, $3-8	per kilo	No	0.70	Côte d'Ivoire	0.34	Tunisia	0.23	Egypt	0.13	Senegal	0.00	Gabon	0.00
Paper and paperboard	480890	Paper and paperboard; other than corrugated (with or without glued flat surface sheets) or kraft paper, creped or crinkled, whether or not embossed or perforated, in rolls or sheets, other than paper of heading 4803, $2-9	per kilo	No	0.65	Tunisia	0.60	Djibouti	0.03	Ghana	0.01	Cabo Verde	0.01	Gabon	0.00
Paper and paperboard	480431	Kraft paper and paperboard; uncoated, unbleached, weight 150g/m2 or less, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-2	per kilo	No	0.53	Tunisia	0.36	Uganda	0.09	Benin	0.07	Ghana	0.01	Burkina Faso	0.01
Paper and paperboard	480592	Paper and paperboard; uncoated, weight more than 150g/m2 but less than 225 g/m2, in rolls or sheets, n.e.c. in heading no. 4805, $0-2	per kilo	No	0.48	Kenya	0.38	Ethiopia	0.05	Senegal	0.03	Uganda	0.01	Sao Tome and Principe	0.00
Paper and paperboard	481151	Paper and paperboard; coated, impregnated or covered with plastics (excluding adhesives), bleached, weighing more than 150g/m2, other than goods of heading no. 4803, 4809, or 4810, $2-8	per kilo	No	0.45	Morocco	0.22	Senegal	0.14	Ghana	0.05	Kenya	0.04	Côte d'Ivoire	0.01
Paper and paperboard	480261	Uncoated paper and paperboard (not 4801 or 4803); over 10% by weight of mechanical or chemi-mechanical processed fibre, in rolls, $0-0	per kilo	No	0.43	Morocco	0.36	Nigeria	0.03	Ethiopia	0.02	Kenya	0.01	Senegal	0.00
Pharmaceuticals and healthcare	300460	Medicaments; containing antimalarial active principles described in Subheading Note 2 to this Chapter, for therapeutic or prophylactic uses, packaged for retail sale, $0-23	per kilo	No	10.43	Ghana	3.55	Côte d'Ivoire	3.42	Nigeria	3.10	Liberia	0.23	Gabon	0.09
Pharmaceuticals and healthcare	382212	Reagents; diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits; for zika and other diseases transmitted by mosquitoes of the genus Aedes, $64-332	per kilo	No	8.17	Egypt	8.04	Côte d'Ivoire	0.09	Burkina Faso	0.03	Nigeria	0.01	Gabon	0.00
Pharmaceuticals and healthcare	382213	Reagents; diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits; for blood grouping, $74-212	per kilo	No	6.71	Egypt	6.62	Tunisia	0.05	Burkina Faso	0.03	Côte d'Ivoire	0.01	Gabon	0.01
Pharmaceuticals and healthcare	293729	Hormones; adrenal cortical hormones and their derivatives, n.e.s. in item no. 2937.2, $804-7015	per kilo	No	1.68	Morocco	0.91	Egypt	0.77	Kenya	0.00	Ethiopia	0.00	Senegal	0.00
Pharmaceuticals and healthcare	294130	Antibiotics; tetracyclines and their derivatives; salts thereof, $0-40	per kilo	No	1.21	Ghana	0.89	Kenya	0.18	Morocco	0.11	Côte d'Ivoire	0.03	Central African Republic	0.01
Pharmaceuticals and healthcare	294140	Antibiotics; chloramphenicol and its derivatives; salts thereof, $0-54	per kilo	No	0.92	Morocco	0.33	Nigeria	0.30	Tunisia	0.17	Ghana	0.12	Benin	0.00

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Pharmaceuticals and healthcare	300670	Pharmaceutical goods; Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments, $8-71	per kilo	No	0.89	Morocco	0.39	Côte d'Ivoire	0.16	Nigeria	0.16	Benin	0.10	Kenya	0.03
Plastics	390761	Poly(ethylene terephthalate); in primary forms, having a viscosity of 78ml/g or higher, $1-1	per kilo	Yes	36.68	Uganda	23.05	Côte d'Ivoire	13.49	Senegal	0.12	Benin	0.02		
Plastics	390410	Vinyl chloride, other halogenated olefin polymers; poly(vinyl chloride), not mixed with any other substances, in primary forms, $0-1	per kilo	No	27.50	Nigeria	27.10	Liberia	0.22	Benin	0.18				
Plastics	390799	Polyesters; n.e.s. in heading no. 3907, saturated, in primary forms, $3-7	per kilo	No	7.93	Morocco	7.87	Cabo Verde	0.05						
Plastics	390810	Polyamides; polyamide-6, -11, -12, -6,6, -6,9, -6,10 or -6,12, in primary forms, $3-7	per kilo	No	6.44	Morocco	6.36	Kenya	0.05	Côte d'Ivoire	0.02	Ghana	0.01	Uganda	0.00
Plastics	390130	Ethylene polymers; in primary forms, ethylene-vinyl acetate copolymers, $2-4	per kilo	No	5.35	Ethiopia	3.08	Morocco	1.34	Nigeria	0.46	Ghana	0.18	Tunisia	0.16
Plastics	390599	Vinyl acetate, vinyl ester polymers, vinyl polymers; n.e.c. in heading no. 3905, in primary forms, other than copolymers, $6-27	per kilo	No	4.87	Egypt	3.32	Nigeria	0.50	Morocco	0.35	Tunisia	0.27	Uganda	0.21
Plastics	390931	Amino-resins; n.e.c. in heading no. 3909, in primary forms, poly(methylene phenyl isocyanate) (Crude MDI, polymeric MDI), $2-4	per kilo	No	4.51	Morocco	3.41	Nigeria	0.60	Ethiopia	0.35	Kenya	0.08	Ghana	0.05
Plastics	390230	Propylene, other olefin polymers; propylene copolymers in primary forms, $1-2	per kilo	No	4.11	Morocco	3.92	Djibouti	0.14	Gabon	0.05				
Plastics	390140	Ethylene polymers; in primary forms, ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94, $1-2	per kilo	No	3.86	Tunisia	2.00	Nigeria	0.83	Ghana	0.55	Morocco	0.48		
Plastics	390422	Vinyl chloride, other halogenated olefin polymers; plasticised polyvinyl chloride, in primary forms, mixed with other substances, $1-4	per kilo	No	3.50	Tunisia	3.21	Côte d'Ivoire	0.21	Ghana	0.08				
Plastics	390421	Vinyl chloride, other halogenated olefin polymers; non-plasticised poly(vinyl chloride), in primary forms, mixed with other substances, $1-2	per kilo	No	2.69	Egypt	1.33	Ethiopia	1.32	Senegal	0.04				
Plastics	390710	Polyacetals; in primary forms, $2-6	per kilo	No	1.91	Morocco	0.75	Ethiopia	0.73	Tunisia	0.43	Kenya	0.00	Uganda	0.00
Plastics	391239	Cellulose ethers; (other than carboxymethylcellulose and its salts), in primary forms, $5-17	per kilo	No	1.67	Nigeria	0.78	Uganda	0.50	Senegal	0.27	Gabon	0.08	Liberia	0.04
Plastics	392112	Plastics; plates, sheets, film, foil and strip, of polymers of vinyl chloride, cellular, $3-17	per kilo	No	1.40	Morocco	0.83	Tunisia	0.53	Gabon	0.02	Liberia	0.01	Cabo Verde	0.01
Plastics	390190	Ethylene polymers; in primary forms, n.e.c. in heading no. 3901, $4-9	per kilo	No	1.13	Morocco	0.51	Kenya	0.41	Tunisia	0.14	Ghana	0.06	Mauritania	0.01

						Market 1		Market 2		Market 3		Market 4		Market 5	
Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Total export opportunity (EO) (in US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)	Market	EO (US$ million)
Plastics	390610	Acrylic polymers; poly(methyl methacrylate), in primary forms, $3-21	per kilo	No	0.93	Egypt	0.77	Nigeria	0.12	Liberia	0.04	Côte d'Ivoire	0.00	Sao Tome and Principe	0.00
Plastics	391400	Ion-exchangers; based on polymers of heading no. 3901 to 3913, in primary forms, $4-41	per kilo	Yes	0.90	Nigeria	0.42	Côte d'Ivoire	0.40	Kenya	0.07	Liberia	0.00	Sao Tome and Principe	0.00
Plastics	390890	Polyamides; n.e.c. in heading no. 3908, in primary forms, $4-10	per kilo	No	0.84	Morocco	0.80	Ghana	0.02	Gabon	0.02	Benin	0.00		
Plastics	392111	Plastics; plates, sheets, film, foil and strip, of polymers of styrene, cellular, $3-11	per kilo	No	0.70	Morocco	0.55	Egypt	0.08	Cabo Verde	0.02	Ghana	0.02	Mauritania	0.01
Plastics	392059	Plastics; of acrylic polymers (excluding polymethyl methacrylate), plates, sheets, film, foil and strip, non-cellular and not reinforced, laminated, supported or similarly combined with other materials, $5-23	per kilo	No	0.66	Egypt	0.65	Côte d'Ivoire	0.01	Benin	0.00	Gabon	0.00	Burkina Faso	0.00
Plastics	390521	Vinyl acetate copolymers; in aqueous dispersion, in primary forms, $1-3	per kilo	No	0.66	Mauritania	0.37	Côte d'Ivoire	0.10	Cabo Verde	0.08	Gabon	0.06	Nigeria	0.03
Plastics	390791	Polyesters; n.e.c. in heading no. 3907, unsaturated, in primary forms, $2-7	per kilo	No	0.65	Morocco	0.32	Côte d'Ivoire	0.14	Gabon	0.09	Nigeria	0.06	Uganda	0.05
Plastics	390939	Amino-resins; n.e.c. in heading no. 3909, in primary forms, other than poly(methylene phenyl isocyanate) (Crude MDI, polymeric MDI), $3-10	per kilo	No	0.56	Morocco	0.32	Nigeria	0.17	Uganda	0.03	Tunisia	0.02	Gabon	0.01
Plastics	390750	Alkyd resins; in primary forms, $2-4	per kilo	No	0.51	Ghana	0.30	Senegal	0.12	Cabo Verde	0.08	Benin	0.01	Liberia	0.00

Table C.4.

Product list of shortlisted sectors from the import substitution scenario, by sector and total opportunity

Table C.4. Product list of shortlisted sectors from the import substitution scenario, by sector and total opportunity

Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Import substitution opportunity (in US$ million)
Chemicals	292910	Nitrogen-function compounds; n.e.c. in chapter 29, isocyanates, $2-7	per kilo	No	3.15
Chemicals	381121	Lubricating oil additives; containing petroleum oils or oils obtained from bituminous minerals, $4-8	per kilo	No	2.51
Chemicals	293040	Organo-sulphur compounds; methionine, $2-3	per kilo	No	2.36
Chemicals	283620	Carbonates; disodium carbonate, $0-2	per kilo	Yes	1.90
Chemicals	283539	Polyphosphates; other than sodium triphosphate (sodium tripolyphosphate), whether or not chemically defined, $0-2	per kilo	No	0.93
Chemicals	291531	Acids; saturated acyclic monocarboxylic acids; ethyl acetate, $1-6	per kilo	No	0.81
Chemicals	282110	Iron oxides and hydroxides, $1-9	per kilo	No	0.59
Chemicals	282300	Titanium oxides, $3-11	per kilo	Yes	0.34
Chemicals	290544	Alcohols; polyhydric, d-glucitol (sorbitol), $1-5	per kilo	No	0.32
Chemicals	382410	Binders, prepared; for foundry moulds or cores, $1-9	per kilo	Yes	0.27
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $2-8	per kilo	No	0.27
Copper, other minerals and metals	810399	Tantalum; articles n.e.c. in heading no. 8103, $268-1047	per kilo	Yes	0.50
Copper, other minerals and metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $8-12	per kilo	Yes	0.32
Electrical machinery and equipment	850180	Electric generators; (excluding generating sets), photovoltaic AC generators (alternators), $162-2220	per unit	Yes	4.73
Electrical machinery and equipment	854790	Insulating fittings; (other than of ceramics or plastics), for electrical machines, appliances and equipment, excluding insulators of heading no. 8546, $17-75	per kilo	Yes	0.37
Food processing	170230	Sugars; glucose and glucose syrup, not containing fructose or containing in the dry state less than 20% by weight of fructose, the syrup not containing added flavouring or colouring matter, $0-3	per kilo	No	1.27
Food processing	040630	Dairy produce; cheese, processed (not grated or powdered), $5-8	per kilo	No	0.47
Iron and steel	730810	Iron or steel; structures and parts thereof, bridges and bridge-sections, $3-8	per kilo	Yes	7.90
Iron and steel	730611	Steel; stainless; line pipe of a kind used for oil or gas pipelines n.e.c. in chapter 73, welded, (not seamless), $3-17	per kilo	No	2.57
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-0	per kilo	No	1.94
Iron and steel	720851	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness exceeding 10mm, $0-1	per kilo	No	1.15
Iron and steel	730820	Iron or steel; structures and parts thereof, towers and lattice masts, $2-8	per kilo	Yes	1.14
Iron and steel	722599	Steel, alloy; flat-rolled, width 600mm or more, n.e.c. in heading no. 7225, (other than plated or coated with zinc), $1-4	per kilo	No	0.92
Iron and steel	721030	Iron or non-alloy steel; flat-rolled, width 600mm or more, electrolytically plated or coated with zinc, $1-2	per kilo	No	0.74
Iron and steel	721250	Iron or non-alloy steel; flat-rolled, width less than 600mm, plated or coated, (excluding tin, zinc or plastic), $1-8	per kilo	No	0.72
Iron and steel	730640	Steel, stainless; tubes and pipes, welded, of circular cross-section, $0-4	per kilo	No	0.71
Iron and steel	730490	Iron or steel (excluding cast iron); seamless, tubes, pipes and hollow profiles, seamless, n.e.c. in heading no. 7304, $2-41	per kilo	No	0.71
Iron and steel	721590	Iron or non-alloy steel; bars and rods, n.e.c. in chapter 72, n.e.c. in heading no. 7215, $1-7	per kilo	No	0.69
Iron and steel	730419	Iron or steel (excluding cast iron or stainless steel); seamless, line pipe of a kind used for oil or gas pipelines, $1-7	per kilo	No	0.69
Iron and steel	721691	Iron or non-alloy steel; angles, shapes and sections, n.e.c. in heading no. 7216, cold-formed or cold-finished, from flat-rolled products, $1-4	per kilo	No	0.45
Iron and steel	732510	Iron; articles of non-malleable cast iron, $2-16	per kilo	No	0.45
Iron and steel	721934	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $2-4	per kilo	No	0.38
Machinery and mechanical appliances	848420	Seals; mechanical, $194-419	per kilo	No	1.55
Machinery and mechanical appliances	842611	Cranes; overhead travelling cranes on fixed support, $30344-30500	per unit	No	1.27
Machinery and mechanical appliances	843141	Machinery parts; buckets, shovels, grabs and grips, for the machinery of heading no. 8426 and 8430, $13-24	per kilo	Yes	1.18
Machinery and mechanical appliances	843142	Machinery parts; bulldozer or angledozer blades, $0-4	per kilo	No	0.76
Machinery and mechanical appliances	841690	Furnaces; parts of furnace burners, for liquid fuel, pulverized solid fuel or gas, mechanical stokers, grates, ash dischargers and the like, $25-185	per kilo	Yes	0.54
Machinery and mechanical appliances	843340	Balers; straw or fodder balers, including pick-up balers, $0-6151	per unit	No	0.45
Machinery and mechanical appliances	841790	Furnaces and ovens; parts of non-electric furnaces and ovens (including incinerators), of industrial or laboratory use, $0-14	per kilo	Yes	0.42
Machinery and mechanical appliances	847890	Machinery; parts of those for preparing or making up tobacco, n.e.c. in this chapter, $0-72	per kilo	No	0.36
Machinery and mechanical appliances	840690	Turbines; parts of steam and other vapour turbines, $25-297	per kilo	No	0.34
Paper and paperboard	480592	Paper and paperboard; uncoated, weight more than 150g/m2 but less than 225 g/m2, in rolls or sheets, n.e.c. in heading no. 4805, $0-2	per kilo	No	11.88
Paper and paperboard	481159	Paper and paperboard; coated, impregnated or covered with plastics (excluding adhesives), other than bleached and weighing more than 150g/m2, other than goods of heading no. 4803, 4809, or 4810, $2-6	per kilo	No	4.90
Paper and paperboard	481029	Paper and paperboard; coated with kaolin or other inorganic substances only, having more than 10% of mechanically processed fibres, (excluding light-weight paper), for writing, printing or other graphic purposes, in rolls or sheets, $1-4	per kilo	No	2.10
Paper and paperboard	480257	Paper & paperboard; uncoated, writing, printing, graphic, non-perforated punch-cards, punch tape paper, 0-10% wgt mechanical/chemi-mechanical process fibre, except paper of heading no. 4801 or 4803, rolls or sheets, weight between 40-150g/m2 (inclusive), $1-3	per kilo	No	1.98
Paper and paperboard	481320	Paper, cigarette; in rolls of a width not exceeding 5cm, $3-11	per kilo	No	1.95
Paper and paperboard	481019	Paper and paperboard; coated with kaolin or other inorganic substances, for printing/writing/graphics, having 10% or less by weight of total fibres got by mechanical/chemi-mechanical process, sides exceeding 435mm and 297mm, unfolded, sheets, $1-2	per kilo	No	1.68

Sector	HS	Product description (Price range in US dollars)	Unit price	Related to CETM	Import substitution opportunity (in US$ million)
Paper and paperboard	480100	Newsprint; made of fibres obtained essentially by a chemi-mechanical process or of a weight, per m2, of more than 57g but not more than 65g, in rolls or sheets, $0-1	per kilo	No	1.54
Paper and paperboard	481159	Paper and paperboard; coated, impregnated or covered with plastics (excluding adhesives), other than bleached and weighing more than 150g/m2, other than goods of heading no. 4803, 4809, or 4810, $0-2	per kilo	No	1.28
Paper and paperboard	481110	Paper and paperboard; tarred, bituminised or asphalted, in rolls or sheets, other than goods of heading no. 4803, 4809, or 4810, $1-10	per kilo	No	0.94
Paper and paperboard	480262	Uncoated paper and paperboard (not 4801 or 4803); over 10% by weight of mechanical or chemi-mechanical processed fibre, in sheets 435mm or less by 297mm or less (unfolded), $1-7	per kilo	No	0.94
Paper and paperboard	480261	Uncoated paper and paperboard (not 4801 or 4803); over 10% by weight of mechanical or chemi-mechanical processed fibre, in rolls, $0-0	per kilo	No	0.82
Paper and paperboard	481160	Paper and paperboard; coated or impregnated with wax, paraffin wax, stearin, oil or glycerol, other than goods of heading no. 4803, 4809, or 4810, $3-8	per kilo	No	0.41
Paper and paperboard	480258	Uncoated paper and paperboard (not 4801 or 4803); printing, writing or graphic, 10% or less by weight of mechanical or chemi-mechanical processed fibre, weighing more than 150g/m2, $1-4	per kilo	No	0.35
Paper and paperboard	482290	Paper pulp, paper or paperboard; bobbins, spools, cops and similar supports, other than of a kind used for winding textile yarn (whether or not perforated or hardened), $1-5	per kilo	No	0.32
Paper and paperboard	481092	Paper and paperboard; multi-ply, coated with kaolin or other inorganic substances only, for non-graphic purposes, n.e.c. in heading no. 4810, in rolls or sheets, $0-1	per kilo	No	0.32
Paper and paperboard	480439	Kraft paper and paperboard; uncoated, bleached, weight 150g/m2 or less, in rolls or sheets, other than that of heading no. 4802 or 4803, $1-3	per kilo	No	0.32
Plastics	391231	Cellulose ethers; carboxymethylcellulose and its salts, in primary forms, $3-12	per kilo	No	15.33
Plastics	390410	Vinyl chloride, other halogenated olefin polymers; poly(vinyl chloride), not mixed with any other substances, in primary forms, $0-1	per kilo	No	11.19
Plastics	390140	Ethylene polymers; in primary forms, ethylene-alpha-olefin copolymers, having a specific gravity of less than 0.94, $1-2	per kilo	No	2.01
Plastics	390761	Poly(ethylene terephthalate); in primary forms, having a viscosity of 78ml/g or higher, $1-1	per kilo	Yes	1.00
Plastics	390422	Vinyl chloride, other halogenated olefin polymers; plasticised polyvinyl chloride, in primary forms, mixed with other substances, $1-4	per kilo	No	0.88
Plastics	391610	Ethylene polymers; monofilament, of which any cross-sectional dimension exceeds 1mm, rods, sticks and profile shapes, whether or not surface-worked but not otherwise worked, $5-28	per kilo	No	0.86
Plastics	392030	Plastics; of polymers of styrene, plates, sheets, film, foil and strip (not self-adhesive), non-cellular and not reinforced, laminated, supported or similarly combined with other materials, $0-3	per kilo	Yes	0.74
Plastics	391400	Ion-exchangers; based on polymers of heading no. 3901 to 3913, in primary forms, $0-4	per kilo	Yes	0.73
Plastics	390319	Styrene polymers; (other than expansible polystyrene), in primary forms, $1-3	per kilo	No	0.70
Plastics	390950	Polyurethanes; in primary forms, $3-9	per kilo	No	0.54
Plastics	390791	Polyesters; n.e.c. in heading no. 3907, unsaturated, in primary forms, $2-7	per kilo	No	0.48

Table C.5.

List of validated products, by sectors and score

Table C.5. List of validated products, by sector and score

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Chemicals	294200	Organic compounds; n.e.c. in chapter 29, $0-9	Africa	5.0	5.0	3.0	5.0	5.0	1.0	2.3	2.0	2.0	5.0	1.0	1.0	37.3
Chemicals	291990	Esters; phosphoric, and their salts, including lactophosphates, their halogenated, sulphonated, nitrated or nitrosated derivatives; other than tris(2,3-dibromopropyl) phosphate, $3-23	World, SADC	3.0	3.0	5.0	5.0	5.0	1.0	2.4	1.0	1.0	5.0	2.0	1.0	34.4
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $2-8	World, Africa, SADC, Import	3.0	3.0	3.0	5.0	1.0	1.0	2.3	2.0	3.0	5.0	5.0	1.1	34.4
Chemicals	382311	Industrial monocarboxylic fatty acids, acid oils from refining; stearic acid, $0-1	World, Africa, SADC	3.0	3.0	3.0	5.0	5.0	1.0	2.2	1.0	1.0	5.0	3.0	1.1	33.2
Chemicals	290722	Polyphenols; hydroquinone (quinol) and its salts, $0-8	Africa, SADC	1.0	3.0	5.0	5.0	5.0	1.0	2.3	1.0	1.0	5.0	2.5	1.0	32.8
Chemicals	340239	Anionic organic surface-active agents (other than soap); other than linear alkylbenzene sulphonic acids and their salts, whether or not put up for retail sale, $0-1	World, Africa, SADC	3.0	3.0	3.0	5.0	1.0	1.0	2.2	2.0	3.0	5.0	3.0	1.3	32.5
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $2-6	World, Africa, SADC	3.0	3.0	3.0	5.0	1.0	1.0	2.2	2.0	3.0	5.0	3.0	1.3	32.5
Chemicals	340241	Organic surface-active agents; cationic (other than soap), whether or not put up for retail sale, $0-2	World, Africa, SADC	3.0	3.0	3.0	5.0	1.0	1.0	2.3	2.0	3.0	5.0	3.0	1.0	32.3
Chemicals	290514	Alcohols; saturated monohydric, butanols excluding item no. 2905.13, $1-14	Africa	5.0	1	5.0	5.0	5.0	1.0	2.3	1.0	1.0	5.0	1.0	1.0	32.3
Chemicals	340211	Organic surface-active agents; anionic (other than soap), whether or not put up for retail sale, $0-1	Africa, SADC	3.0	3.0	3.0	5.0	1.0	1.0	2.2	2.0	3.0	5.0	2.5	1.0	31.7
Chemicals	290943	Ether-alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives; monobutyl ethers of ethylene glycol or of diethylene glycol, $1-3	World	1.0	3.0	5.0	5.0	5.0	1.0	2.3	1.0	1.0	5.0	0.5	1.1	30.9
Chemicals	290919	Ethers; acyclic, and their halogenated, sulphonated, nitrated or nitrosated derivatives, other than diethyl ether, $0-1	World	1.0	3.0	5.0	5.0	5.0	1.0	2.2	1.0	1.0	5.0	0.5	1.0	30.8
Chemicals	340242	Organic surface-active agents; non-ionic (other than soap), whether or not put up for retail sale, $0-2	World, Africa	3.0	3.0	3.0	5.0	1.0	1.0	2.2	2.0	3.0	5.0	1.5	1.1	30.8
Chemicals	290919	Ethers; acyclic, and their halogenated, sulphonated, nitrated or nitrosated derivatives, other than diethyl ether, $1-38	World	1.0	3.0	5.0	5.0	5.0	1.0	2.2	1.0	1.0	5.0	0.5	1.0	30.8
Chemicals	381220	Plasticisers, compound; for rubber or plastics, $0-2	Africa	3.0	1	5.0	5.0	5.0	1.0	2.2	1.0	1.0	5.0	1.0	1.0	30.3
Chemicals	340490	Waxes; artificial and prepared, other than of polyethylene glycol, $0-3	World, Africa	1.0	3.0	3.0	5.0	1.0	1.0	2.1	2.0	3.0	5.0	1.5	1.1	28.7
Chemicals	340420	Waxes; artificial and prepared, of poly(oxyethylene) (polyethylene glycol), $0-2	Africa	1.0	3.0	3.0	5.0	1.0	1.0	2.2	2.0	3.0	5.0	1.0	1.1	28.3
Chemicals	382489	Chemical products, mixtures and preparations; containing goods specified in Subheading Note 3 to this Chapter; containing short-chain chlorinated paraffins, $2-16	Africa	1.0	3.0	1.0	1.0	5.0	1.0	2.0	2.0	1.0	3.0	1.0	1.0	22.1
Copper articles and other metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $8-12	World, Africa, SADC, Import	3.0	1	3.0	5.0	5.0	1.0	2.0	2.0	2.0	4.0	5.0	5.0	37.0
Copper articles and other metals	790111	Zinc; unwrought, (not alloyed), containing by weight 99.99% or more of zinc, $4-6	Africa	5.0	5.0	1.0	5.0	5.0	1.0	4.3	1.0	2.0	5.0	1.0	1.0	36.4
Copper articles and other metals	710610	Metals; silver powder, $171-965	SADC	5.0	5.0	1.0	5.0	5.0	1.0	2.0	2.0	1.0	5.0	1.5	1.0	34.5
Copper articles and other metals	740811	Copper; wire, of refined copper, of which the maximum cross-sectional dimension exceeds 6mm, $0-8	World, Africa, SADC	3.0	1	3.0	5.0	5.0	1.0	2.0	2.0	2.0	4.0	3.0	3.5	33.6
Copper articles and other metals	740931	Copper; strip, of a thickness exceeding 0.15mm, of copper-tin base alloys (bronze), in coils, $0-11	World	3.0	1	3.0	5.0	5.0	1.0	2.0	4.0	4.0	4.0	0.5	1.0	32.6
Copper articles and other metals	740921	Copper; strip, of a thickness exceeding 0.15mm, of copper-zinc base alloys (brass), in coils, $0-8	World	3.0	1	3.0	5.0	5.0	1.0	2.0	4.0	4.0	4.0	0.5	1.0	32.6
Copper articles and other metals	740911	Copper; strip, of a thickness exceeding 0.15mm, of refined copper, in coils, $0-10	World	3.0	1	3.0	5.0	5.0	1.0	2.0	2.0	3.0	4.0	0.5	1.1	29.6
Copper articles and other metals	740819	Copper; wire, of refined copper, of which the maximum cross-sectional dimension is 6mm or less, $0-9	World, Africa	3.0	1	3.0	5.0	5.0	1.0	2.0	2.0	2.0	4.0	1.5	1.0	29.6
Copper articles and other metals	740911	Copper; strip, of a thickness exceeding 0.15mm, of refined copper, in coils, $10-14	World	3.0	1	3.0	5.0	5.0	1.0	2.0	2.0	3.0	4.0	0.5	1.0	29.6
Copper articles and other metals	711019	Metals; platinum, semi-manufactured, $8006-38849	World	3.0	3.0	1.0	5.0	5.0	1.0	2.0	2.0	1.0	5.0	0.5	1.0	29.5

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Copper articles and other metals	740729	Copper; bars, rods and profiles, of copper alloys, (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $13-34	Africa	3.0	1	3.0	5.0	5.0	1.0	2.1	1.0	2.0	5.0	1.0	1.0	29.2
Copper articles and other metals	740829	Copper; wire, of copper alloys (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $0-11	World, SADC	1.0	1	3.0	5.0	5.0	1.0	2.0	2.0	2.0	5.0	2.0	1.0	29.1
Copper articles and other metals	740990	Copper; plates, sheets and strip, of a thickness exceeding 0.15mm, of copper alloys (other than copper-zinc base alloys, copper-tin base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $13-50	World, Africa	3.0	1	3.0	5.0	5.0	1.0	2.5	2.0	1.0	4.0	1.5	1.1	29.0
Copper articles and other metals	740829	Copper; wire, of copper alloys (other than copper-zinc base alloys, copper-nickel base alloys or copper-nickel-zinc base alloys), $11-33	Africa	1.0	1	3.0	5.0	5.0	1.0	2.0	2.0	2.0	5.0	1.0	1.0	28.1
Electrical machinery and equipment	852692	Radio remote control apparatus, $0-18	SADC	1.0	3.0	1.0	5.0	5.0	5.0	2.4	4.0	4.0	5.0	1.5	1.0	37.9
Electrical machinery and equipment	854610	Electrical insulators; of glass, $4-52	Africa	5.0	5.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	1.0	1.0	37.3
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $20015-46983	World, Africa, SADC	3.0	1	3.0	5.0	5.0	1.0	6.4	2.0	1.0	5.0	3.0	1.1	35.5
Electrical machinery and equipment	853529	Electrical apparatus; automatic circuit breakers, for a voltage of 72.5kV or more, $22-91	Africa, SADC	3.0	1	3.0	5.0	5.0	1.0	6.7	2.0	1.0	5.0	2.5	1.1	35.2
Electrical machinery and equipment	853521	Electrical apparatus; automatic circuit breakers, for a voltage exceeding 1000 volts but less than 72.5kV, $0-27	Africa, SADC	3.0	1	3.0	5.0	5.0	1.0	6.7	2.0	1.0	5.0	2.5	1.0	35.2
Electrical machinery and equipment	851771	Communication apparatus; parts, aerials and aerial reflectors of all kinds, part suitable for use therewith, $794-2273	World, SADC	1.0	3.0	1.0	5.0	5.0	1.0	2.6	4.0	4.0	5.0	2.0	1.2	34.8
Electrical machinery and equipment	852491	Media, recorded; n.e.s. in heading no. 8524, for reproducing phenomena other than sound or image, (excluding products of chapter 37), $0-90	World, SADC	1.0	3.0	1.0	5.0	5.0	1.0	2.2	4.0	4.0	5.0	2.0	1.5	34.7
Electrical machinery and equipment	854519	Carbon electrodes; with or without metal, of a kind used for other than furnaces, $0-8	World, SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	2.0	1.1	34.3
Electrical machinery and equipment	851981	Sound recording or reproducing apparatus; using magnetic, optical or semiconductor media, n.e.c. in item no 8519.20, 8519.30 or 8519.50, $91-326	World, Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.5	4.0	4.0	5.0	1.5	1.1	34.0
Electrical machinery and equipment	854460	Insulated electric conductors; for a voltage exceeding 1000 volts, $36-79	Africa, SADC	3.0	3.0	3.0	5.0	5.0	1.0	2.3	2.0	1.0	5.0	2.5	1.0	33.8
Electrical machinery and equipment	850180	Electric generators; (excluding generating sets), photovoltaic AC generators (alternators), $162-2220	World, SADC, Import	1.0	3.0	1.0	5.0	5.0	1.0	2.4	2.0	3.0	5.0	4.0	1.1	33.5
Electrical machinery and equipment	850780	Electric accumulators; other than lead-acid, nickel-cadmium, nickel-iron, nickel-metal hydride and lithium-ion, including separators, whether or not rectangular (including square), $293-696	SADC	1.0	1	1.0	5.0	5.0	1.0	10.0	1.0	1.0	5.0	1.5	1.1	32.6
Electrical machinery and equipment	853090	Signalling apparatus; parts of safety, traffic control equipment for railways, tramways, roads, inland waterways, airfields, parking facilities, port instalments (excluding those of heading no. 8608), $266-610	Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.4	4.0	3.0	5.0	1.0	1.1	32.5
Electrical machinery and equipment	854511	Carbon electrodes; with or without metal, of a kind used for furnaces, $0-3	World, SADC	3.0	3.0	5.0	1.0	5.0	1.0	4.3	1.0	1.0	5.0	2.0	1.0	32.3
Electrical machinery and equipment	850164	Electric generators; AC generators, (alternators), other than photovoltaic generators, of an output exceeding 750kVA, $54054-131828	Africa, SADC	3.0	1	3.0	5.0	5.0	1.0	3.7	2.0	1.0	5.0	2.5	1.1	32.2
Electrical machinery and equipment	850153	Electric motors; AC motors, multi-phase, of an output exceeding 75kW, $0-2037	World, SADC	3.0	1	3.0	5.0	5.0	1.0	3.8	2.0	1.0	5.0	2.0	1.2	32.0

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Electrical machinery and equipment	850162	Electric generators; AC generators, (alternators), of an output exceeding 75kVA but not exceeding 375kVA, $921-11662	World, SADC	1.0	3.0	1.0	5.0	5.0	1.0	2.7	2.0	3.0	5.0	2.0	1.2	31.9
Electrical machinery and equipment	850132	Electric motors and generators; DC, of an output exceeding 750W but not exceeding 75kW, $1774-4192	World	1.0	1	3.0	5.0	5.0	1.0	6.1	2.0	1.0	5.0	0.5	1.0	30.6
Electrical machinery and equipment	850780	Electric accumulators; other than lead-acid, nickel-cadmium, nickel-iron, nickel-metal hydride and lithium-ion, including separators, whether or not rectangular (including square), $0-24	World, SADC	1.0	1	1.0	5.0	5.0	1.0	6.3	2.0	1.0	5.0	2.0	1.2	30.5
Electrical machinery and equipment	853922	Lamps; filament, (excluding ultra-violet or infra-red), of a power not exceeding 200W and for a voltage exceeding 100 volts, other than tungsten halogen, $0-10	Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.4	2.0	3.0	5.0	1.0	1.0	30.4
Electrical machinery and equipment	853310	Electrical resistors; fixed carbon resistors, composition or film types (including rheostats and potentiometers but excluding heating resistors), $29-222	World	1.0	3.0	1.0	5.0	5.0	1.0	2.5	2.0	3.0	5.0	0.5	1.0	30.0
Electrical machinery and equipment	851240	Windscreen wipers, defrosters and demisters; electrical, of kinds used for cycles or motor vehicles, $6-56	World	3.0	1	3.0	1.0	5.0	1.0	4.0	2.0	1.0	5.0	0.5	1.0	26.6
Electrical machinery and equipment	854190	Electrical apparatus; parts for diodes, transistors and similar semiconductor devices and photosensitive semiconductor devices, $392-949	World	1.0	3.0	1.0	5.0	5.0	1.0	2.4	1.0	2.0	3.0	0.5	1.0	25.9
Electrical machinery and equipment	853810	Electrical apparatus; parts (e.g. boards, panels, consoles, desks, cabinets, other bases), for goods of heading no. 8537, not equipped with their apparatus, $64-143	Africa	3.0	1	3.0	1.0	1.0	1.0	2.6	2.0	1.0	5.0	1.0	1.0	21.6
Electrical machinery and equipment	852359	Semiconductor media; other than smart cards, whether or not recorded, excluding products of Chapter 37, $0-1	World	1.0	1	1.0	1.0	5.0	1.0	2.8	2.0	1.0	5.0	0.5	1.0	21.3
Electrical machinery and equipment	852910	Reception and transmission apparatus; aerials and aerial reflectors of all kinds and parts suitable for use therewith, $228-522	World	3.0	1	1.0	1.0	1.0	1.0	2.6	2.0	1.0	5.0	0.5	1.0	19.1
Food processing	40630	Dairy produce; cheese, processed (not grated or powdered), $5-8	World, Africa, SADC, Import	5.0	1	1.0	5.0	5.0	5.0	2.1	1.0	4.0	5.0	5.0	1.1	39.2
Food processing	40150	Dairy produce; milk and cream, not concentrated, not containing added sugar or other sweetening matter, of a fat content, by weight, exceeding 10%, $2-4	World, Africa	5.0	1	1.0	5.0	5.0	5.0	2.2	2.0	4.0	5.0	1.5	1.8	37.6
Food processing	151419	Vegetable oils; low erucic acid rape or colza oil and its fractions, other than crude, but not chemically modified, $1-3	World, Africa	5.0	1	1.0	5.0	5.0	5.0	2.5	2.0	5.0	4.0	1.5	1.4	37.4
Food processing	200919	Juice; orange, not frozen, of a Brix value exceeding 20, unfermented, not containing added spirit, whether or not containing added sugar or other sweetening matter, $3-6	Africa	5.0	1	3.0	5.0	5.0	1.0	3.3	2.0	5.0	5.0	1.0	1.0	36.3
Food processing	200410	Vegetable preparations; potatoes, prepared or preserved otherwise than by vinegar or acetic acid, frozen, $2-4	World, SADC	5.0	1	1.0	5.0	5.0	1.0	3.1	2.0	5.0	5.0	2.0	1.1	35.2
Food processing	40620	Dairy produce; cheese of all kinds, grated or powdered, $10-17	World	5.0	1	1.0	5.0	5.0	5.0	2.1	1.0	4.0	5.0	0.5	1.1	34.6
Food processing	110620	Flour, meal and powder; of sago or of roots or tubers of heading no. 0714, $7-15	Africa	5.0	1	1.0	5.0	5.0	1.0	2.3	2.0	5.0	5.0	1.0	1.0	33.3
Food processing	110813	Starch; potato, $1-2	World	5.0	1	1.0	5.0	5.0	5.0	2.1	1.0	2.0	5.0	0.5	1.0	32.6
Iron and steel	730459	Steel, alloy (not stainless steel); (excluding cold-drawn or cold-rolled), tubes, pipes and hollow profiles of circular cross-section, $0-3	Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.2	4.0	4.0	5.0	2.5	1.2	37.9
Iron and steel	730650	Steel, alloy; tubes, pipes and hollow profiles (other than stainless steel or seamless), welded, of circular cross-section, n.e.c. in chapter 73, $0-2	Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.1	4.0	4.0	5.0	2.5	1.0	37.7
Iron and steel	730451	Steel, alloy (not stainless steel); seamless, cold-drawn or cold-rolled (cold-reduced), tubes, pipes and hollow profiles of circular cross-section, $0-3	World, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.5	4.0	4.0	5.0	2.0	1.0	37.5
Iron and steel	721935	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of less than 0.5mm, $0-2	World, Africa	3.0	3.0	1.0	5.0	5.0	1.0	7.9	1.0	3.0	5.0	1.5	1.1	37.4

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Iron and steel	720851	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness exceeding 10mm, $0-1	World, Africa, Import	3.0	3.0	1.0	5.0	5.0	1.0	6.4	1.0	2.0	4.0	3.5	1.4	36.2
Iron and steel	722619	Steel, alloy; flat-rolled, width less than 600mm, of silicon-electrical steel, other than grain-oriented, $0-1	Africa	3.0	3.0	1.0	5.0	5.0	1.0	3.0	4.0	4.0	5.0	1.0	1.0	36.0
Iron and steel	722830	Steel, alloy; bars and rods, hot-rolled, hot-drawn or extruded, $0-1	World, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.4	2.0	4.0	5.0	2.0	1.2	35.6
Iron and steel	722540	Steel, alloy; flat-rolled, width 600mm or more, hot-rolled, not in coils, $0-1	World, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.3	2.0	4.0	5.0	2.0	1.0	35.3
Iron and steel	720839	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of less than 3mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	3.4	35.3
Iron and steel	730459	Steel, alloy (not stainless steel); (excluding cold-drawn or cold-rolled), tubes, pipes and hollow profiles of circular cross-section, $3-15	Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.7	2.0	4.0	5.0	2.5	1.0	35.3
Iron and steel	731450	Iron or steel; expanded metal, $2-14	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.2	4.0	4.0	5.0	1.0	1.0	35.2
Iron and steel	722810	Steel, alloy; bars and rods, of high speed steel, $0-6	SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.6	2.0	4.0	5.0	1.5	1.0	35.1
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-1	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.4	2.0	2.0	5.0	3.0	1.2	34.6
Iron and steel	721922	Steel, stainless; flat-rolled, width 600mm or more, hot-rolled, (not in coils), of a thickness of 4.75mm or more but not exceeding 10mm, $0-3	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	2.0	2.0	5.0	3.0	1.1	34.0
Iron and steel	721030	Iron or non-alloy steel; flat-rolled, width 600mm or more, electrolytically plated or coated with zinc, $1-2	World, Africa, SADC, Import	3.0	3.0	1.0	5.0	5.0	1.0	2.5	1.0	2.0	4.0	5.0	1.5	34.0
Iron and steel	722410	Steel, alloy; ingots and other primary forms, $0-1	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.9	2.0	4.0	5.0	1.0	1.0	33.9
Iron and steel	730650	Steel, alloy; tubes, pipes and hollow profiles (other than stainless steel or seamless), welded, of circular cross-section, n.e.c. in chapter 73, $2-21	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.8	2.0	4.0	5.0	1.0	1.1	33.9
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-1	World, Africa	3.0	3.0	1.0	5.0	5.0	1.0	4.3	2.0	2.0	5.0	1.5	1.1	33.8
Iron and steel	720827	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of less than 3mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.4	33.4
Iron and steel	720852	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 4.75mm or more but not exceeding 10mm, $0-1	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	4.0	1.0	2.0	4.0	3.0	1.3	33.4
Iron and steel	720838	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 3mm or more but less than 4.75mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.3	33.3
Iron and steel	720916	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness exceeding 1mm but less than 3mm, $0-0	Africa, Import	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.2	33.2
Iron and steel	720917	Iron or non-alloy steel; in coils, flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.2	33.2
Iron and steel	720837	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness of 4.75mm or more but not exceeding 10mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.2	33.1
Iron and steel	720836	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, of a thickness exceeding 10mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.1	33.0
Iron and steel	720826	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 3mm or more but less than 4.75mm, $0-0	World, Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.0	1.0	2.0	5.0	3.0	1.1	33.0
Iron and steel	720853	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in	Africa, SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.3	2.0	2.0	4.0	2.5	1.1	32.9

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
		relief, of a thickness of 3mm or more but less than 4.75mm, $0-1														
Iron and steel	720825	Iron or non-alloy steel; in coils, without patterns in relief, flat-rolled, of a width 600mm or more, hot-rolled, pickled, of a thickness of 4.75mm or more, $0-1	World	3.0	3.0	1.0	5.0	5.0	1.0	4.3	2.0	2.0	5.0	0.5	1.0	32.8
Iron and steel	731582	Chain; welded link chain, of iron or steel, $3-15	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	3.0	5.0	1.0	1.0	32.2
Iron and steel	721935	Steel, stainless; flat-rolled, width 600mm or more, cold-rolled, of a thickness of less than 0.5mm, $2-7	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.6	1.0	3.0	5.0	1.0	1.1	31.6
Iron and steel	730230	Iron or steel, railway or tramway track construction material; switch blades, crossing frogs, point rods and other crossing pieces, $4-15	Africa, SADC	1.0	3.0	1.0	5.0	5.0	1.0	2.9	2.0	2.0	5.0	2.5	1.0	31.4
Iron and steel	720690	Iron or non-alloy steel; primary forms (excluding ingots and iron of heading no. 7203), $0-1	World	3.0	3.0	1.0	5.0	5.0	1.0	2.9	1.0	2.0	5.0	0.5	1.0	30.4
Iron and steel	720927	Iron or non-alloy steel; (not in coils), flat-rolled, width 600mm or more, cold-rolled, of a thickness of 0.5mm or more but not exceeding 1mm, $0-1	SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.7	1.0	1.0	5.0	1.5	1.0	30.2
Iron and steel	721012	Iron or non-alloy steel; flat-rolled, width 600mm or more, plated or coated with tin, thickness of less than 0.5mm, $1-1	World, Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.5	1.0	2.0	4.0	1.5	1.2	30.2
Iron and steel	720853	Iron or non-alloy steel; (not in coils), flat-rolled, of a width 600mm or more, hot-rolled, without patterns in relief, of a thickness of 3mm or more but less than 4.75mm, $0-0	SADC	3.0	3.0	1.0	5.0	5.0	1.0	3.7	1.0	1.0	4.0	1.5	1.0	30.2
Iron and steel	721129	Iron or non-alloy steel; flat-rolled, cold-rolled, of a width less than 600mm, containing by weight 0.25% or more of carbon, $0-1	SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.5	1.0	2.0	4.0	1.5	1.0	30.0
Iron and steel	720720	Iron or non-alloy steel; semi-finished products of iron or non-alloy steel, containing by weight 0.25% or more of carbon, $1-5	Africa	3.0	3.0	1.0	5.0	5.0	1.0	3.9	1.0	1.0	4.0	1.0	1.0	29.9
Iron and steel	721190	Iron or non-alloy steel; flat-rolled, n.e.c. in heading no. 7211, width less than 600mm, $1-10	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.6	1.0	2.0	4.0	1.0	1.0	29.6
Iron and steel	721123	Iron or non-alloy steel; flat-rolled, cold-rolled, of a width less than 600mm, containing by weight less than 0.25% of carbon, $1-3	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.5	1.0	2.0	4.0	1.0	1.0	29.5
Iron and steel	720712	Iron or non-alloy steel; semi-finished products of iron or non-alloy steel; containing by weight less than 0.25% of carbon, of rectangular (other than square) cross-section, $0-2	World	3.0	3.0	1.0	5.0	5.0	1.0	3.7	1.0	1.0	3.0	0.5	1.1	28.2
Machinery and mechanical appliances	843340	Balers; straw or fodder balers, including pick-up balers, $0-6151	World, SADC, Import	5.0	5.0	1.0	5.0	5.0	1.0	2.1	4.0	1.0	3.0	4.0	1.0	37.1
Machinery and mechanical appliances	841790	Furnaces and ovens; parts of non-electric furnaces and ovens (including incinerators), of industrial or laboratory use, $0-14	World, Africa, SADC, Import	1.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	5.0	1.2	35.4
Machinery and mechanical appliances	843141	Machinery parts; buckets, shovels, grabs and grips, for the machinery of heading no. 8426 and 8430, $13-24	Africa, Import	3.0	3.0	1.0	5.0	5.0	1.0	2.3	2.0	4.0	5.0	3.0	1.0	35.3
Machinery and mechanical appliances	843142	Machinery parts; bulldozer or angledozer blades, $0-4	Import	3.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	2.0	1.0	34.2
Machinery and mechanical appliances	843352	Threshing machinery; other than combine harvester-threshers, $0-2289	SADC	3.0	1	3.0	5.0	5.0	1.0	2.6	2.0	5.0	5.0	1.5	1.0	34.1
Machinery and mechanical appliances	840510	Generators; producer gas, water gas, acetylene gas and similar water process gas generators, with or without their purifiers, $24-108	World, Africa, SADC	3.0	1	1.0	5.0	5.0	1.0	2.4	2.0	5.0	5.0	3.0	1.4	33.8
Machinery and mechanical appliances	845490	Machines; parts of converters, ladles, ingot moulds and casting machines, of a kind used in metallurgy or in metal foundries, $18-86	SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	1.5	1.0	33.7
Machinery and mechanical appliances	840690	Turbines; parts of steam and other vapour turbines, $25-297	Africa, Import	3.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	2.0	5.0	3.0	1.0	33.2

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Machinery and mechanical appliances	840290	Boilers; parts of steam or other vapour generating boilers, $11-109	World, Africa, SADC	3.0	1	1.0	5.0	5.0	1.0	2.1	2.0	5.0	5.0	3.0	1.1	33.2
Machinery and mechanical appliances	843142	Machinery parts; bulldozer or angledozer blades, $4-12	Africa	3.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	1.0	1.0	33.2
Machinery and mechanical appliances	841690	Furnaces; parts of furnace burners, for liquid fuel, pulverized solid fuel or gas, mechanical stokers, grates, ash dischargers and the like, $25-185	World, SADC, Import	1.0	3.0	1.0	5.0	5.0	1.0	2.8	2.0	2.0	5.0	4.0	1.1	32.9
Machinery and mechanical appliances	847149	Data processing machines; digital, automatic, (not portable, analogue or hybrid), presented in the form of systems, n.e.s. in item no. 8471.41, $11081-29886	World, SADC	1.0	1	1.0	5.0	5.0	1.0	2.1	4.0	5.0	5.0	2.0	1.2	32.3
Machinery and mechanical appliances	842611	Cranes; overhead travelling cranes on fixed support, $30344-30500	World, Africa, SADC, Import	3.0	1	1.0	5.0	5.0	1.0	2.0	2.0	2.0	5.0	5.0	1.3	32.3
Machinery and mechanical appliances	844900	Machinery; for manufacture or finishing felt or non-wovens in the piece or in shapes, including machinery for making felt hats, blocks for making hats, $15-128	SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.0	4.0	2.0	3.0	1.5	1.0	31.5
Machinery and mechanical appliances	840590	Generators; parts of producer gas, water gas, acetylene gas and similar water process gas generators, with or without their purifiers, $24-201	Africa	3.0	1	1.0	5.0	5.0	1.0	2.4	2.0	5.0	5.0	1.0	1.0	31.4
Machinery and mechanical appliances	845590	Metal-rolling mills; parts thereof, $10-95	World	1.0	3.0	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	0.5	1.0	30.7
Machinery and mechanical appliances	843999	Machinery; parts of machinery for making or finishing paper or paperboard, $15-109	World	3.0	3.0	1.0	5.0	5.0	1.0	2.0	4.0	2.0	3.0	0.5	1.0	30.6
Machinery and mechanical appliances	842449	Mechanical appliances; agricultural or horticultural sprayers; other than portable sprayers, $29-4600	SADC	3.0	3.0	1.0	5.0	5.0	1.0	2.0	4.0	1.0	3.0	1.5	1.0	30.5
Machinery and mechanical appliances	846729	Tools; for working in the hand, with self-contained electric motor; other than saws and drills, $1772-3690	World	1.0	1	3.0	5.0	5.0	1.0	2.0	2.0	5.0	5.0	0.5	1.0	30.5
Machinery and mechanical appliances	841620	Furnaces; furnace burners, for pulverized solid fuel or gas, including combination burners, $21-79	Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.8	2.0	2.0	5.0	1.0	1.0	29.8
Machinery and mechanical appliances	840410	Boilers; auxiliary plant, for use with boilers of heading no. 8402 or 8403 (e.g. economisers, super-heaters, soot removers, gas recoverers), $11-42	SADC	3.0	1	1.0	1.0	5.0	1.0	2.2	4.0	5.0	5.0	1.5	1.0	29.7
Machinery and mechanical appliances	840420	Boilers; condensers, for steam or other vapour power units, $11-49	SADC	3.0	1	1.0	1.0	5.0	1.0	2.2	4.0	5.0	5.0	1.5	1.0	29.7
Machinery and mechanical appliances	843991	Machinery; parts of machinery for making pulp of fibrous cellulosic material, $22-73	World, Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.0	4.0	2.0	3.0	1.5	1.0	29.6
Machinery and mechanical appliances	848110	Valves; pressure reducing, for pipes, boiler shells, tanks, vats or the like, $304-1021	World, Africa	3.0	1	1.0	1.0	5.0	1.0	3.0	4.0	5.0	4.0	1.5	1.0	29.5
Machinery and mechanical appliances	842890	Lifting machinery; handling, loading or unloading machinery n.e.s. in heading no. 8428, $586269+	Africa	3.0	1	3.0	5.0	5.0	1.0	2.1	1.0	2.0	5.0	1.0	1.0	29.2
Machinery and mechanical appliances	842890	Lifting machinery; handling, loading or unloading machinery n.e.s. in heading no. 8428, $256432-586269	Africa	3.0	1	3.0	5.0	5.0	1.0	2.1	1.0	2.0	5.0	1.0	1.0	29.1
Machinery and mechanical appliances	844832	Machines; parts and accessories of machines or auxiliary machinery for preparing textile fibres, other than card clothing, $27-177	Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.0	4.0	2.0	3.0	1.0	1.0	29.0
Machinery and mechanical appliances	848060	Moulds; for mineral materials, $5-18	Africa	1.0	1	1.0	5.0	5.0	1.0	2.2	2.0	4.0	5.0	1.0	1.1	28.2
Machinery and mechanical appliances	841810	Refrigerators and freezers; combined refrigerator-freezers, fitted with separate external doors, electric or other, $11670-28943	Africa	1.0	1	1.0	5.0	5.0	1.0	2.0	2.0	4.0	5.0	1.0	1.0	28.0

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Machinery and mechanical appliances	846330	Machine-tools; machines for working wire, without removing material, $2535-42815	Africa	1.0	3.0	1.0	5.0	1.0	1.0	2.2	2.0	4.0	5.0	1.0	1.0	27.2
Machinery and mechanical appliances	841861	Heat pumps; other than air conditioning machines of heading no. 8415, $548-4127	World, SADC	1.0	3.0	1.0	5.0	1.0	1.0	2.1	2.0	2.0	5.0	2.0	1.1	26.2
Machinery and mechanical appliances	845811	Lathes; for removing metal, horizontal, numerically controlled, $0-29180	World	1.0	3.0	1.0	5.0	1.0	1.0	2.2	2.0	4.0	4.0	0.5	1.0	25.7
Machinery and mechanical appliances	848330	Bearing housings, not incorporating ball or roller bearings and plain shaft bearings, $324-442	SADC	3.0	1	3.0	5.0	1.0	1.0	2.7	1.0	1.0	5.0	1.5	1.0	25.2
Machinery and mechanical appliances	840220	Boilers; super-heated water boilers, $7-52	Africa	3.0	3.0	1.0	1.0	5.0	1.0	2.1	2.0	2.0	3.0	1.0	1.0	25.1
Machinery and mechanical appliances	846023	Machine-tools; cylindrical grinding machines (excluding flat-surface and centreless), numerically controlled, $210570-500176	World	1.0	1	3.0	5.0	1.0	1.0	3.1	1.0	3.0	5.0	0.5	1.0	24.6
Machinery and mechanical appliances	841911	Heaters; instantaneous gas water heaters, for domestic or other purposes, $314-315	World	1.0	3.0	1.0	5.0	1.0	1.0	2.1	2.0	2.0	5.0	0.5	1.0	24.6
Machinery and mechanical appliances	840219	Boilers; vapour generating boilers, including hybrid boilers n.e.s. in heading no. 8402, $9-46	Africa	3.0	1	1.0	1.0	5.0	1.0	2.1	2.0	2.0	5.0	1.0	1.1	24.2
Machinery and mechanical appliances	841370	Pumps; centrifugal, n.e.c. in heading no. 8413, for liquids, $48552-60226	World, SADC	3.0	1	1.0	1.0	1.0	1.0	2.1	3.0	5.0	4.0	2.0	1.0	24.1
Machinery and mechanical appliances	840490	Boilers; parts of auxiliary plant, for use with boilers of heading no. 8402 and 8403 and parts of condensers for steam or other vapour power units, $12-97	Africa, SADC	3.0	1	1.0	1.0	5.0	1.0	2.1	2.0	2.0	3.0	2.5	1.1	23.7
Machinery and mechanical appliances	841480	Pumps and compressors; for air, vacuum or gas, n.e.s. in heading no. 8414, $50485-127033	World, Africa	3.0	1	1.0	1.0	1.0	1.0	2.1	3.0	5.0	4.0	1.5	1.1	23.7
Machinery and mechanical appliances	840999	Engines; parts for internal combustion piston engines (excluding spark-ignition), $193-248	Africa, SADC	1.0	1	1.0	1.0	1.0	1.0	4.0	2.0	5.0	4.0	2.5	1.0	23.6
Pharmaceuticals	300670	Pharmaceutical goods; Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments, $8-71	Africa, SADC	1.0	1	1.0	5.0	5.0	5.0	2.5	2.0	4.0	5.0	2.5	1.0	34.1
Pharmaceuticals	382100	Prepared culture media for the development or maintenance of micro-organisms (including viruses and the like) or of plant, human or animal cells, $26-166	World	5.0	1	3.0	5.0	5.0	5.0	2.5	1.0	2.0	4.0	0.5	1.0	34.0
Pharmaceuticals	300510	Dressings, adhesive; and other articles having an adhesive layer, packed for retail sale for medical, surgical, dental or veterinary purposes, $57-116	World, SADC	1.0	1	1.0	5.0	5.0	5.0	2.6	2.0	4.0	5.0	2.0	1.1	33.7
Pharmaceuticals	300691	Pharmaceutical goods; appliances identifiable for ostomy use, $0-35	World	1.0	1	1.0	5.0	5.0	5.0	2.5	2.0	3.0	5.0	0.5	1.0	31.0
Pharmaceuticals	300460	Medicaments; containing antimalarial active principles described in Subheading Note 2 to this Chapter, for therapeutic or prophylactic uses, packaged for retail sale, $0-23	Africa, SADC	1.0	3.0	1.0	5.0	5.0	1.0	2.4	1.0	2.0	5.0	2.5	1.3	30.2
Pharmaceuticals	382213	Reagents; diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing, whether or not put up in the form of kits; for blood grouping, $74-212	World, Africa, SADC	3.0	3.0	3.0	1.0	1.0	5.0	2.4	1.0	1.0	5.0	3.0	1.2	29.5
Pharmaceuticals	294130	Antibiotics; tetracyclines and their derivatives; salts thereof, $0-40	Africa	1.0	3.0	1.0	5.0	5.0	1.0	2.5	1.0	2.0	5.0	1.0	1.0	28.6
Pharmaceuticals	293628	Vitamins; vitamin E and its derivatives, unmixed, $0-10	World	1.0	3.0	1.0	5.0	5.0	1.0	2.0	1.0	2.0	5.0	0.5	1.0	27.6

Sector	HS	Description	Market destined	Materials	By-product	Machinery	HR (higher)	HR (tech)	Women	Employment	Utilities	Sustainability	Services	Market knowledge	Market size	Final score
Pharmaceuticals	300213	Blood, human or animal, antisera, other blood fractions and immunological products; immunological products, unmixed, not put up in measured doses or in forms or packings for retail sale, $10225-25340	World	5.0	5.0	1.0	1.0	1.0	1.0	2.5	1.0	2.0	5.0	0.5	1.2	26.2
Pharmaceuticals	293723	Steroidal hormones, their derivatives and structural analogues; oestrogens and progestogens, $612-12550	World	1.0	3.0	1.0	5.0	5.0	1.0	2.5	1.0	1.0	4.0	0.5	1.0	26.0
Pharmaceuticals	294140	Antibiotics; chloramphenicol and its derivatives; salts thereof, $0-54	Africa	1.0	1	1.0	5.0	5.0	1.0	2.5	1.0	2.0	5.0	1.0	1.0	25.5
Pharmaceuticals	293624	Vitamins; D- or DL-pantothenic acid (vitamin B3 or vitamin B5) and its derivatives, unmixed, $0-15	World, SADC	1.0	3.0	1.0	1.0	1.0	1.0	2.4	1.0	2.0	5.0	2.0	1.0	21.4

Appendix D. Proposed targeted policy instruments to address identified capacity gaps

Table D.1. List of interventions co-designed with national policymakers

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
Skills, education and labour	Chemicals	Shortage of skilled chemical engineers in process design, thermodynamics, and reaction engineering	Establish a chemical engineering excellence programme between UNAM, NUST, and leading industries to provide 12-month postgraduate training in process design, thermodynamics, and reaction engineering, combined with industry internships and mentorship.	UNAM; NUST; MEIYSAC; MIME; NTA; Chemical Industry Association.	Joint university–industry programme funded through MEIYSAC and the NTA; competitive scholarships for postgraduate students; co-supervised industry internships and applied research projects.	X	X	X	Accreditation approval by NQA; funding from NSFAF and industry; curriculum co-design with private sector; internship agreements formalized through MoUs with firms.
		Insufficient environmental compliance officers trained in hazardous waste and emissions control	Develop a national environmental compliance certification programme covering hazardous-waste handling, emissions control, and ISO 14001 standards, implemented jointly by the Ministry of Environment, UNAM, and industry partners.	MEFT; NSI; UNAM; Ministry of Justice and Labour Relations (MJLR).	Certification scheme coordinated by MEFT and NSI; delivered through accredited training providers; ISO-based examination and certification modules; subsidized participation for SMEs through an environmental levy.	X	X	X	Alignment with Namibia Environmental Management Act; certification framework under NSI; trainer accreditation; establishment of audit and inspection guidelines.
		Lack of instrumentation and control technicians for automated chemical plants	Introduce automation and control technician apprenticeships through TVET colleges and industrial parks, focusing on sensors, PLC systems, and process automation.	NTA; MEIYSAC; Industrial Parks under MIME; NIPDB; Private manufacturing firms.	Apprenticeship scheme under the National Training Fund; 12-month dual training combining classroom and industry placements; implemented via TVET colleges and industrial park partnerships.	X	X	X	Employer participation incentives through NTF levy rebates; provision of PLC and sensor equipment; industry–TVET cooperation agreements.
		Need for plant operators certified in chemical handling and safety	Create a chemical plant operator certification programme aligned with Namibia's occupational safety standards, offering modular short courses and on-site simulations.	NTA; NSI; MJLR; UNAM; NUST; Namibia Safety Council.	Modular competency-based training developed by NTA with NSI accreditation; delivered through certified industrial training centers; recognition through micro-credentials.	X	X	X	NSI-approved occupational standards; training equipment procurement; safety compliance audits by MJLR; certification process endorsed by industry association.
		Limited availability of quality assurance analysts trained in ISO standards and chemical safety protocols	Establish an ISO quality assurance training and testing centre within the NSI to train analysts in ISO 9001 and chemical safety protocols, in partnership with private laboratories.	NSI; UNAM; Private chemical laboratories; MIME.	PPP with NSI as anchor; co-financing from industry and development partners; training and testing services provided on cost-recovery basis.	X	X	X	Dedicated budget allocation for lab setup; MoU between NSI, UNAM, and private testing labs; ISO accreditation support from international partners.
	Copper articles	Artisan skills, such as welders and fitters, not aligned with copper-specific processes	Develop a copper fabrication skills upgrading programme through regional TVET centers to retrain welders, fitters, and technicians in copper-specific joining, finishing, and forming processes.	MJLR; NTA; MIME; Mining Industry Association of Namibia (MIAN); TVET Centres.	Delivered through upgraded TVET workshops; short-course training contracts with mining companies; certification through NTA/NQA; mobile training units for regional outreach.	X	X		Refurbishment of regional TVET workshops; copper fabrication machinery acquisition; cooperation framework with MIME and mining companies.
		Limited training infrastructure for copper refining and advanced processing	Establish two regional copper wire training hubs equipped with extrusion rolling and coiling machines for hands-on training; develop certified targeted short-course curriculum in electrowinning technology, cathode production, and advanced copper processing; develop micro-credentials for specialised cable finishing operators; and set up an accelerator scheme for product conformity testing, labelling and documentation. At TVET level: electrowinning process operators, process control and instrumentation, maintenance of electrowinning equipment.	MEIYSAC; MIME; MJLR; NTA/NQA; Ministry of Gender Equality, Poverty Eradication and Social Welfare (MGEPESW); NSI; NUST and UNAM; Mining Association; MIRT; TVET centres.	Information sharing through career fairs; creating a task force that oversees the implementation.	X	X	X	Feasibility study and equipment procurement; partnership agreements with mining industry; TVET curriculum update; maintenance budget allocation.
		Shortage of metallurgists, mining engineers, and solvent extraction and electrowinning specialists	Launch a metallurgical engineering fast-track programme at UNAM and NUST with practical training modules in solvent extraction, hydrometallurgy, and electrowinning, co-funded by the mining sector.	UNAM; NUST; MIME; NTA; Chamber of Mines of Namibia.	Co-funded by mining companies via scholarship endowment; hosted by UNAM/NUST; modular courses linked to mine internships; monitored through joint industry-academia advisory board.	X	X		Co-financing from Chamber of Mines; curriculum endorsement by professional bodies; international faculty exchange and visiting lecturers.
	Electronics	Lack of experience in assembling battery modules and control systems	Establish BASAP under the National Training Fund, offering 6–12-month apprenticeships for 100 graduates annually.	NTA; MEIYSAC; Private firms; NSI (for standards compliance).	Competitive application by firms; subsidized training costs via the National Training Fund; training logs and quarterly quality reviews by NTA; gender quotas embedded in placement rules.	X	X	X	Allocation of National Training Fund resources; private sector apprenticeship commitments; NSI oversight for safety and standards compliance.
		Limited capacity to customize imported units for transformer manufacturing	Establish a transformer customization training laboratory to train technicians in design adaptation, wiring, and transformer assembly using imported components.	MEIYSAC; NUST; Electrical Engineering Industry Association; NSI; Private firms.	Public–private design partnership with NUST as technical host; industry equipment donations; modular lab-based training and certification; recognition by NSI.	X	X	X	Infrastructure investment at NUST; partnership with electrical equipment firms; importation of specialized transformer parts for training.
		Shortage of professionals in electromechanical systems and industrial customization	Introduce an electromechanical systems engineering diploma co-developed by industry and universities, focusing on industrial automation and customization.	NUST; UNAM; MEIYSAC; NTA; Industrial training institutes; Private sector partners.	Curriculum co-designed through an industry advisory board; accredited under NQA; delivered by NUST and UNAM; internships facilitated by industrial partners.	X	X	X	Curriculum approval by MEIYSAC; industry input through advisory councils; laboratory upgrades for automation and control experiments.
		Lack of motor winding technicians for AC/DC motor repair and fabrication	Create motor winding certification courses within technical colleges, using industry-donated equipment for practical training.	NTA; MJLR; TVET Centres; Electrical Industry Associations.	Practical workshops at VTCs; standard curriculum approved by NTA; industry-provided materials and trainers; certification after 6-month modules.	X	X	X	Equipment donation from manufacturers; curriculum endorsement by Electrical Industry Association; practical exam design with NSI oversight.
		Few panel builders and wiremen trained for switchboards and control panels	Develop a switchboard assembly training programme offering certified short courses on wiring, installation, and control systems for small industries.	NTA; NSI; MIME; Electrical Contractors Association.	Short-term training contracts through NTA-registered providers; certification by NSI; training delivered regionally via mobile units.	X	X	X	Accreditation under NTA; cooperation with small electrical firms for practicum; NSI certification of graduates.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
		Shortage of product development specialists for industrial applications	Launch a product design innovation hub to support prototyping and industrial design, linking electronics firms with university research.	NUST; UNAM; MEIYSAC; NIPDB; NSI; Private design and manufacturing firms.	PPP-based innovation hub model; initial seed funding through MEIYSAC/NIPDB; competitive call for start-ups and university teams; shared prototyping infrastructure.	X	X	X	Seed funding through NIPDB innovation fund; university–industry collaboration framework; prototyping lab infrastructure and IP policy.
		Few electrical engineers skilled in product design, circuit layout, and IEC/SABS compliance	Establish an electronics standards certification course accredited by NSI f+D11 or engineers in circuit design and IEC/SABS compliance.	NSI; MEIYSAC; NUST; Electrical and Electronics Industry Association.	NSI-led accreditation process; hybrid training (online and practical); co-delivered by NUST and NSI; examination-based certification.	X	X		NSI accreditation process; training materials developed in partnership with IEC experts; government support for trainer certification.
		Short supply of mechanical engineers for transformer design, casing, and assembly	Create a mechanical design apprenticeship scheme for transformer manufacturing, emphasizing structural and casing design.	NTA; NUST; Electrical Manufacturers Association; MJLR.	Co-funded apprenticeships between industry and NTA; competency-based assessment; mentoring by certified engineers in partner firms.	X	X		Company participation agreements; machinery and CAD lab upgrades; gender inclusion measures in recruitment.
		Limited transformer coil winders and core assemblers for medium-voltage applications	Develop a transformer winding technician training programme certified by NSI and implemented through TVET institutions.	NSI; NTA; MEIYSAC; TVET Centres; Electrical Equipment Manufacturers.	6-month modular courses; NSI certification exams; delivered at designated TVET hubs; periodic trainer exchange with private firms.	X	X		Certification standards approved by NSI; funding for winding simulators; coordination with electrical equipment importers.
	Food processing	Limited know-how in packaging and agro-logistics	Develop short modular training on HACCP, ISO, packaging tech, cold chain; Delivered regionally to SMEs, cooperatives, and informal processors.	NTA, Agribusiness Associations, Logistics Council, NSFAF.	Training partners registered through TVET portal, digital micro-credentialing.	X	X	X	Regional training partnerships formalized; logistics support for outreach; digital platform for certification tracking.
		Insufficient training for boilermakers, welders, and fitters in high-temperature environments	Expand advanced welding and heat treatment courses at VTCs focusing on furnace operations, high-temperature materials, and safety.	NTA; MEIYSAC; MJLR; Industrial and Steel Associations.	Upgraded VTC facilities with industrial co-financing; accredited curriculum; mobile furnace training units for regional coverage; NSI safety certification.	X	X	X	Modernization of VTC welding infrastructure; recruitment of master welders; development of health and safety protocols.
		Shortage of maintenance technicians for heavy machinery and automation	Establish industrial maintenance technician apprenticeships focused on predictive maintenance and automation systems.	NTA; MEIYSAC; MIME; Industrial Manufacturing Association; Large industrial firms.	Dual apprenticeship model under NTA supervision; industry placements with real-time data projects; certification based on competency portfolios.	X	X	X	Partnerships with manufacturing firms; predictive maintenance simulators procured; mentorship and supervision systems created.
		Few mechanical engineers trained in steel plant and furnace operations	Develop a steel engineering specialization track at NUST/UNAM, combining classroom learning with 6-month industry attachments.	NUST; UNAM; MIME; MEIYSAC; Chamber of Mines; Industrial companies.	Joint academic programme; internship agreements with industrial partners; co-supervised research projects; scholarships funded by MIME and Chamber of Mines.	X	X	X	Industry co-financing through Chamber of Mines; integration into existing engineering curricula; scholarships for top performers.
	Iron and steel	Lack of metallurgical engineers specialized in iron and steel processing	Promote short specialisation in iron and steel processing (UNAM and NUST), including environmental aspects of it, for companies in the sector with skills transfers embedded; and infant industry protection (assemblers Namibia, NAMF). Targeted FDI attraction (tax incentives, import/export incentives); companies commit to financing the establishment of a short training programme (six weeks) at UNAM/NUST, internships, and shaping and delivering expert curriculum; universities commit to developing prototyped complementary research, and coordination of innovation hubs.	International companies in iron and steel processing (South Africa, China); UNAM; NUST; MIRT, NAMEA, MFPE, MIME; Associations (NAMP, NIPDB).	PPP (driven by government, executed by the private sector).	X	X	X	FDI attraction coordination with MIRT; tax incentives approved; government–industry agreement on skills transfer.
		Limited process engineers for blast furnace, direct reduction, and EAF systems	Introduce process engineering fellowships for engineers to train abroad or at partner industries with active EAF systems, returning as local trainers.	MEIYSAC; UNAM; NUST; MIME; International Development Partners (e.g. GIZ, JICA); Chamber of Mines.	Bilateral fellowship scheme managed by MEIYSAC and MIME; funded by international partners; fellows commit to a 2-year local training service on return.	X	X	X	Bilateral training agreements with partner countries; funding under national HRD plan; reintegration pathways for returning engineers.
		Shortage of rolling mill operators, furnace technicians, and quality inspectors	Set up a rolling mill operator training facility co-located within major steel plants for hands-on certification.	MIME; NTA; Steel industry companies (e.g. UMCIL, Nampower Metals); MEIYSAC.	PPP between MIME and steel plants; facility hosted within operating mills; certification jointly managed by NTA and NSI.	X	X	X	Co-location agreements with steel plants; procurement of rolling simulators; joint maintenance plan with industry partners.
		Lack of practical training in machining, calibration, and CNC operation	Create regional machine shops for applied 12-month toolmaking and fabrication training; Partner with SMEs for project-based learning; Ensure at least 40 per cent of training slots are reserved for women, with additional outreach to female TVET students and school leavers. Equip training shops with gender-sensitive infrastructure (e.g. safe transport, sanitation).	MJLR, NTA, Local Manufacturing Chambers.	TVET centers as anchors, joint delivery with industry.	X	X	X	Equipment financing through NTF grants; SME participation framework; gender-sensitive infrastructure construction.
	Machinery	Lack of IoT and sensor integration experts for real-time monitoring	Create an industrial IoT academy to train technicians in data acquisition, sensor systems, and predictive maintenance.	MEIYSAC; NUST; NTA; NSI; Namibia Digital Transformation Centre; Private technology firms.	Blended training (virtual and practical); co-financed by MEIYSAC and private firms; hosted at NUST Digital Innovation Hub; national certification via NTA.	X	X	X	Partnership with Digital Transformation Centre; establishment of IoT testbeds; co-financing from private technology firms.
		Shortage of engineers integrating mechanical systems with electronics and automation	Launch a mechatronics integration programme at NUST to train cross-disciplinary engineers for hybrid mechanical-electrical systems.	NUST; UNAM; MEIYSAC; NTA; Industrial Automation Industry Association.	Degree programme accredited under NQA; co-developed with industrial partners; practicum component embedded in curriculum.	X	X	X	Curriculum development with industry; lab upgrades for hybrid systems; scholarships to attract diverse participants.
		Lack of industrial engineers for workflow optimization and line design	Introduce a lean manufacturing and industrial engineering training series for mid-career professionals in partnership with private manufacturers.	MEIYSAC; MIME; Namibia Manufacturers Association (NMA); Private manufacturing firms.	Modular evening/weekend courses through NUST Continuing Education Centre; cost-sharing with private industry; NTA-recognized certification.	X	X	X	Collaboration with NMA; access to industrial case studies; mentorship from senior engineers.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
R&D, innovation and technology; broad industrial policy	Pharmaceuticals	Shortage of materials engineers specialized in fatigue, wear, and structural integrity	Establish a materials science and testing laboratory to support industrial R&D and training in material durability and standards testing.	NUST; UNAM; NSI; MEIYSAC; Private testing labs; MIME.	PPP with NSI and NUST; testing services open to firms; funded through service fees and innovation grants; linked to regional materials network.	X	X	X	Capital investment for high-temperature and fatigue testing; ISO accreditation support; linkages with research funding bodies.
		Need for robotics specialists for machine-assisted production	Create a robotics skills accelerator focused on industrial robotics programming, maintenance, and safety in collaboration with automation firms.	MEIYSAC; NUST; NTA; automation and robotics firms; Private industrial parks.	Private-sector co-designed curriculum; hosted by NUST Engineering Faculty; supported by NTA grants; certification by NSI.	X	X	X	Partnerships with automation firms; acquisition of industrial robots; international certification agreements for trainers.
		Lack of welders and metal fabricators with structural and sheet metal experience	Expand sheet metal fabrication and welding training modules in VTCs with upgraded equipment and industry co-instructors.	NTA; MJLR; MEIYSAC; Local Manufacturing Chambers.	Delivered through regional VTCs; co-instructors from industry; equipment procurement under MEIYSAC grants; certification via NTA.	X	X	X	TVET workshop rehabilitation; joint funding by industry; recruitment of experienced instructors.
		Graduates lack hands-on exposure to GMP and production-scale formulation	Establish GMP-compliant training labs within universities/public labs; Used for teaching, retraining, and short-cycle GMP certification.	MEIYSAC; NSFAF; Namibia Medicines Regulatory Council (NMRC); Universities.	Joint call for proposals, public–private design, modular curricula.	X	X	X	Regulatory flexibility, pharma-sector advisory support, donor co-financing.
		Need for in-house training for heparin, reagents, and related processes	Create an industry institute for specific pharmaceuticals and reagents; Used for teaching, training, and practice with equipment required.	MEIYSAC; MHSS; NSFAF; NTA, NMRC; NSI; NPC; MIME; MJLR.	Joint call for proposals for feasibility report/concept note, direct grant, public–private design.	X	X	X	Pharma-sector advisory support, political will, finance, managerial competence, student interest, job opportunities, setting up manufacturing plants by time graduate, market demand.
		Limited professional expertise in heparin and other bio-derived therapeutics	Introduce a bio-pharmaceutical skills development programme offering specialized training in biologics, heparin purification, and GMP validation, integrated with NMRC and UNAM curricula.	MHSS; NMRC; UNAM; MEIYSAC; NSFAF; Private pharmaceutical sector.	Joint university–industry training modules; NMRC and MEIYSAC oversight; funding from NSFAF and donor partners; lab-based practical modules at UNAM.	X	X	X	Development of specialized GMP curricula; funding from NSFAF and private sector; integration with NMRC continuous education framework.
	Chemicals	Absence of specialized laboratories and industrial parks for chemicals	Designate a chemicals pilot park in an SEZ with shared formulation and testing labs (NSI-accredited), waste-handling infra, and a small pilot line fund for start-ups (capex vouchers up to N$ 3–5 million).	MIME and NIDA (lead); NSI; NCRST; MEIYSAC; MEFT; UNAM; NUST; DBN; AfDB; Private investors.	Deliver through a PPP under the SEZ Policy, co-financed by DBN and AfDB. NCRST accredits R&D facilities under the National Research Fund; NSI certifies labs to ISO standards.	X	X	X	Government commitment to make the park a flagship project, early involvement of private investors and local authorities, and incentives for anchor firms to participate and mentor start-ups.
		Difficulty in procuring, adapting, and maintaining international technologies	Set up a technology sourcing and adaptation desk (NUST/UNAM and MIME): vendor pre-qualification list, model specs, standard service contracts; ensure machinery comply with sustainability standards; tax incentive for import of machinery; development bank to lower costs through lease agreements; regional labs of advances machinery that can be rented/shared; explore exporter system, oversea finance, partnership with developed nations; SEZ in Erongo (VAT exemption and other tax incentives).	NamRA; MIME; MIRT; NPC; NIPDB; OPM; NSI; NCRST; Afreximbank; development banks; MFPE.	Establish as a joint MIME–NCRST programme under the NSTIP's technology transfer objective; hosted at NUST's Technology Transfer Office (TTO); financed via concessional credit and R&D Fund matching grants.	X	X	X	Industry trust in academic partners, active coordination among ministries, and clear incentives for firms to share technical needs for adaptation and co-development.
		High cost of machinery, tooling, and installation	Introduce a capital equipment subsidy programme to reduce the cost of acquiring and installing production machinery for value addition in chemicals and engineering. Launch a Chemtechnology capex rebate (20–30 per cent) for first-time buyers of qualified equipment, stackable with concessional loans via DBN; require local apprentice uptake.	MFPE and DBN (lead); MIME; NPC; NIPDB; NSI; MEIYSAC; industry associations.	Integrate into DBN's industrial finance window; use tax rebate mechanism aligned with Investment Promotion and Facilitation Act; NSI certifies equipment eligibility.	X	X	X	Sustained fiscal commitment, simplified access procedures, industry awareness campaigns, and firm participation in apprentice training.
		Limited access to chemical testing and formulation technology	Create a testing centre in Erongo; targeted programme to promote skills transfer; joint venture with a testing centre abroad.	Development partners to fund (AfDB); MEIYSAC, MHSS, MIME; NUST; UNAM, NSI, NCRST.	Use Bilateral Science and Technology Agreements managed by MIRT; NCRST to register as an R&D institution; co-finance through National Research Fund and AfDB infrastructure support. Call for proposals from universities.	X	X	X	Diplomatic engagement with partner countries, industry confidence in the testing services, and local capacity retention through professional incentives.
		Restricted access to frontier technologies, including process automation, IoT, and digital sensors	Launch a frontier technology access partnership to facilitate licensing, technology transfer, and joint R&D programmes between Namibian firms and international research institutions. Process automation voucher scheme (N$ 250–750 thousand) for SMEs to adopt IoT sensors; delivered via certified integrators.	NCRST and MEIYSAC (lead); UNAM; NUST; MIME; private firms; development partners (UNIDO, JICA).	Launch as an international cooperation platform under NSTIP Section on Global Partnerships; NCRST manages MoUs and IP templates; UNIDO/JICA provide in-kind technical assistance.	X	X	X	Consistent political will to sustain international partnerships, transparent collaboration between firms and researchers, and visible recognition of innovation results.
		Low adoption of smart manufacturing systems	Lean and digital "Kaizen for Chemicals": 12-week cycles delivered by trained coaches; grants cover software/IoT starter kits if firms implement action plans.	MIME (lead); NCRST; NTA; UNAM; NUST; private consultants; DBN.	Deliver via IUMP; NTA certifies trainers under NQF.	X	X	X	Willingness from firms to open production lines for improvement, support from chambers to recruit participants, and continued funding to build a network of certified Kaizen coaches.
		No local production of chemical machinery, resulting in full dependence on imports	Light-machinery localization pilot: incentivize metal shops to produce mixers, dosing skids, small reactors to NSI specs; MIME issues standard drawings.	MIME and NIDA (lead); NSI; UNAM; NUST; private workshops; DBN.	Implement through the *Industrial Policy Implementation Framework*; provide grants from IUMP; NSI sets product standards; DBN finances machinery purchase.	X	X	X	Strong industry participation, predictable procurement policies, and active engagement of TVET institutions to build technical skills.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
		Weak technological capacity for safe handling and environmental compliance	Compliance accelerator: bundled audits, SOP kits, and training leading to ISO 14001/45001 pre-certification.	NSI and MEFT (lead); MIME; UNAM; private certification firms; industry chambers.	Deliver under Environmental Management Act and NSI's certification programme; MEFT to approve environmental compliance modules.	X	X	X	Close collaboration between regulators and business chambers, awareness of certification benefits among SMEs, and the availability of trained local auditors.
		Sector remains underexplored by prospective investors	Chemicals deal room at NIPDB with bankable mini-projects, pre-cleared EIA templates, and fast-track permits.	NIPDB (lead); NPC; MIME; AfDB; private sector; local chambers.	Host under Namibia Investment Promotion and Development Act; link to NIPDB's project pipeline system; NPC integrates into NDP dashboard.	X	X	X	High-level visibility, cooperation among permitting agencies, and willingness from industry and financiers to disclose investment opportunities.
		Weak linkages between R&D institutions and industry, with limited applied technology development	Contract R&D micro-grants (≤ N$ 1 million, nine months) for firm-led problem statements solved by UNAM/NUST labs; IP shared under standardized template (FRAND-style).	NCRST (lead); UNAM; NUST; DBN; MIME; industry associations.	Deliver via National Research Fund under the Research, Science and Technology Act; firms apply jointly with universities; IP managed by Technology Transfer Offices.	X	X	X	Mutual trust between universities and firms, simplified grant administration, and consistent public recognition of successful collaborations.
	Copper articles	High cost of machinery and tooling. Machinery such as drawing benches, rolling mills, and cable extruders must be imported	Customs duty suspension and capex rebate for drawing benches/extruders contingent on apprentice intake and NSI certification upgrades.	MFPE and NamRA (lead); MIRT; MIME; NSI; DBN; NTA; industry associations.	Enact under Customs and Excise Act through ministerial regulation; MIME to verify industrial use; NSI certifies compliance with safety standards.	X	X		Relies on efficient inter-agency coordination, predictable customs rules, and communication with industry to ensure compliance and uptake.
		No advanced facilities for refining or converting copper concentrate into cathodes	Hydromet pilot (SX-EW) with water-recycling targets; structure as a demonstration and training site linked to the university.	MIME and UNAM; MEFT; DBN; NIPDB; NCRST; private mining firms.	Implement as a demonstration project under NSTIP; MEFT oversees EIA; UNAM manages training through the Department of Civil and Mining Engineering.	X	X	X	Political alignment between industrial and environmental authorities, transparent community engagement, and industry commitment to share data and co-invest in training.
		Limited access to smart manufacturing	Copper 4.0 line-retrofit grants for inline gauges, defect detection, spool tracking; integrators certified by NSI/NIPDB.	MIME and NSI (lead); NTA; NIPDB; MEIYSAC; DBN; industry associations.	Channel through DBN; NSI certifies technology integrators; MEIYSAC aligns curricula for training.	X	X		Strong coordination between industry and standards bodies, willingness of firms to adopt automation technologies, and alignment of training programmes with emerging skills needs.
		No cluster or technology center for copper-based engineering	Shared facilities for copper-based engineering: school kids/education curriculum; innovation challenges to attract experts from universities to generate, apply, maintain; and © sharing tools, machinery and short-courses.	NCRST and MIME (lead); NUST; UNAM; Namibia Institute of Mining and Technology (NIMT); NIDA; NSI; private industry.	Framework for carbon offsetting; NIDA to release a call for setting up a new shared faculty focused on copper-based engineering (NIDA funds the faculty, private sector pays membership fees).	X	X	X	Collaboration between academia and industry to define shared-use rules, awareness among youth of new technical career paths, and recognition for firms that contribute to shared infrastructure.
		No green refining technologies to reduce emissions and water usage	Green refining challenge: competitive grants for water/energy-saving retrofits and waste-heat recovery; prize for best EIA performance.	MEFT (lead); MIME; NCRST; NSI; AfDB; private mining firms.	Use National Innovation Challenge mechanism under NSTIP; MEFT sets performance targets; MIME/NCRST manage awards and monitoring.	X	X	X	Government leadership linking innovation and sustainability, private-sector engagement in the challenge design, and public visibility for top performers to encourage replication.
		Weak link between R&D institutions and industry, with limited applied technology development	Industry-funded capstone projects (annual) on conductor design, coatings, recyclable blends; NIPDB co-funds top two to pilot.	NCRST and UNAM/NUST (lead); NIPDB; MIME; private firms.	Deliver via National Innovation Challenge managed by NCRST; NIPDB links results to industrial partners.	X	X	X	Alignment of academic curricula with industry needs, clear communication of co-funding benefits, and annual recognition events to sustain participation.
		Weak linkages between mining, metallurgy, and manufacturing technologies	Biannual copper roundtable chaired by NPC: shared bottleneck list, coordinated procurement, and synchronized investment timelines.	NPC (lead); MIME; Chamber of Mines; NCRST; NIPDB; UNAM; NUST; DBN.	Institutionalize under Public–Private Dialogue Framework coordinated by NPC; link outcomes to NDP industrial diversification indicators.	X	X	X	Political will, broad inclusion of SMEs and civil society, and transparent publication of dialogue outcomes to build trust and continuity.
	Electronics	Limited trade credit, export guarantees, and production-linked incentives	Production-linked incentive (pilot) on value-added local assembly (transformers, panels) and export credit top-up via DBN for order financing.	MIME and DBN (lead); MIRT; NTA; NUST; MFPE; Electrical Manufacturers Association.	Embed in the IUMP; DBN disburses rebates; NSI validates compliance with product standards.	X	X	X	Firm awareness of eligibility, fiscal stability to maintain incentives, and transparent publication of beneficiaries to ensure credibility and fairness.
		No supplier finance systems to support scaling and input acquisition	Anchor-led supplier payables financing with partial risk-sharing by DBN; eligibility tied to IEC/SABS compliance.	DBN (lead); MIME; NSI; MEIYSAC; private banks; TVET Centres; Electrical Equipment Manufacturers.	Use Industrial Finance Facility under DBN's SME lending window; link to Public Procurement Act for local sourcing.	X	X	X	Strong collaboration between banks and anchor firms, awareness campaigns for SMEs, and shared risk mechanisms to ensure sustainability.
		High capital cost of entry and long import lead times for equipment	Fast-track customs green lane for certified electronics equipment; MIME issues "priority equipment list" with pre-approved HS codes.	NamRA (lead); MIME; MIRT; MFPE; NIPDB; NSI.	Issue Customs Circular defining HS priority list; MIME validates industrial eligibility.	X	X	X	High-level coordination between MIME and NamRA, and clear communication of eligibility to reduce confusion and delays.
		High cost of machinery and tooling	Shared SMT/PCB prototyping lab (pay-per-use), plus tooling mini-grants for jigs/fixtures if tied to a purchase order.	NUST and MIME (lead); NSI; DBN; private electronics firms.	Create under Science and Technology Park framework; NCRST recognizes as national R&D infrastructure; DBN provides initial capex funding.	X	X	X	Participation of industry champions, active promotion among start-ups, and affordable access schemes for small firms.
		Limited market demand knowledge and access to R&D	Problem-led match events between firms and labs.	NIPDB (lead), NCRST; UNAM; NUST; industry associations.	Organize within Innovation related events organized and coordinated by NCRST or NIPDB.	X	X	X	Active engagement by chambers and universities, trust between firms and researchers, and well-structured follow-up mechanisms.
		Lack of test labs and product certification capacity	NSI-accredited EMC/safety lab; subsidized pre-compliance testing; publish step-by-step certification guides.	NSI (lead), MIME; NUST; DBN; industry partners.	Deliver through *National Quality Infrastructure Framework*; DBN finances capital costs; MIME ensures industrial linkages.	X	X	X	Predictable funding, industry demand to justify operation, and training of specialized certification staff.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
		Restricted access to smart manufacturing	MES/IoT starter kits with 50 per cent grant if firm reports KPIs for 12 months to NTA/MEIYSAC learning network.	MIME and NTA (lead); MEIYSAC; NUST; UNAM; DBN.	Implement via an Industrial Digitalisation Pilot under NSTIP; NTA certifies trainers; MEIYSAC monitors uptake through learning network.	X	X	X	Firms' willingness to share production data, MEIYSAC coordination to integrate learnings, and incentives for performance reporting.
		No domestic capacity to build components or machinery, such as PCB machines or moulding devices	Localization pilot for enclosures, harnesses, heatsinks; standard drawings and quality specs; public procurement preference.	MIME and NIDA (lead); NSI; SMEs; Procurement Board.	Use Public Procurement Act to enforce preference; NSI develops product standards; MIME provides matching grants.	X	X	X	Strong government procurement preference, SME readiness, and transparent NSI standards to guide production.
		Weak R&D-industry linkage and limited applied technology development	"Design-in-Namibia" vouchers (N$ 0.5–1.0 million) to co-develop product variants for local grid/industry needs; IP templates pre-agreed.	NCRST (lead); UNAM; NUST; MIME; private firms.	Implement via the establishment of an Innovation Voucher Scheme funded through the National Research Fund; NCRST oversees IP sharing templates.	X	X	X	Firms' openness to co-develop products with universities and consistent promotion of the scheme to build trust in voucher mechanisms.
	Food processing	Absence of advanced extraction and refining technology for oil production	Modular oil extraction pilot with energy-efficient presses and hexane-free options; revenue-share with co-ops; embed HACCP.	Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR) (lead); MIME; MEIYSAC; co-operatives; DBN.	Deliver under Agro-Processing Strategy and Rural Development Policy; DBN finances infrastructure; NSI ensures HACCP compliance.	X	X	X	Coordination with cooperatives, strong community engagement, and industry participation to ensure scalability and inclusiveness.
		Few local producers of basic food processing equipment	Light-equipment maker program to localize mixers, washers, conveyors; MIME offers design packages and concessional loans.	MIME (lead); NIDA; NTA; UNAM; NSI; DBN.	Implement through SME Development Policy; NTA integrates into skills framework; DBN offers concessional loans.	X	X	X	Early engagement of local workshops, financial literacy training for SMEs, and public recognition of pilot successes.
		Few platforms connecting innovation with traditional food knowledge	Indigenous Foods Lab: micro-grants to standardize recipes, shelf-life studies, and packaging with GI/branding support.	NCRST and UNAM (lead); MIME; MEIYSAC; NSI; NIPDB; and agribusiness chambers.	Operate under NSTIP innovation clusters; funded by National Research Fund; NIPDB supports commercialization.	X	X	X	Support from agribusiness associations, awareness among SMEs of product standardization benefits, and access to micro-grants for experimentation.
		Gaps in cold chain infrastructure, logistics, and packaging machinery	Regional cold-chain hubs (three sites) with pay-as-you-use rooms and a packaging demo center; operate via PPP.	MIME and MAFWLR (lead); NIPDB; NSFAF; private logistics firms; AfDB.	Deliver via PPP Act and SEZ framework; DBN/AfDB co-finance; NSI ensures certification.	X	X	X	Collaboration between government and private logistics firms, predictable PPP, and incentives for co-investment.
		High cost of machinery and tooling	SME capex co-financing (30–40 per cent) for HACCP-ready lines, tied to retailer onboarding.	DBN (lead); MIME; NSI; MEIYSAC; retailers; NTA.	Deliver under the IUMP; NSI certifies HACCP compliance.	X	X	X	Retailer participation to align quality standards, awareness of HACCP benefits among SMEs, and predictable financing instruments.
		High-efficiency rendering and purification equipment considered expensive	Performance-based rebate on kWh/ton saved and effluent reductions post-retrofit; verify via NSI audit.	MEFT (lead); NSI; MIME; DBN; private firms.	Implement via the Environmental Management Act; verification through NSI audits.	X	X	X	Strong monitoring mechanisms, trust between firms and auditors, and public recognition of sustainability achievements.
		Limited access to smart manufacturing	Digital traceability kits (barcode/QR and ledger) for co-ops.	MIME and NSI (lead); agribusiness associations; retailers; co-ops; NCRST.	Deliver under the Digital Economy Strategy; MIME provides equipment grants; NSI ensures data compliance.	X	X		Digital literacy among users, collaboration with retailers to enforce adoption, and communication on cost and market benefits.
		Weak R&D-industry linkages and limited applied technology development	Establish a food technology lab and turn buyer-driven problem statements (retail/exporters) into rapid trials; winning solutions get procurement commitments.	NCRST and MIME (lead); MIRT; UNAM; NUST; retail chains; DBN.	Integrate into Food Innovation Cluster of NSTIP; NCRST funds R&D; DBN supports pilots.	X	X	X	Strong university–industry cooperation, awareness among retailers and exporters, and recognition of innovative solutions to drive participation.
	Cross-sectoral	Lack of market intelligence, R&D linkages, and forward-looking industrial vision	Online portal/marketplace for market intelligence that includes free and paid-for information. Brings all actors with market into under one platform. Create a National Product and Technology Foresight Cell under NPC/MIME: yearly market scans at HS-6 with price tiers, a rolling 3-year "opportunity list."	Universities (consultancy services); industry associations (sector-specific intelligence); NIPDB (marketing support); MIME (industrial policy); private consultancy firms; MIRT (bilateral agreements; transfer); EMPRETEC; NCRST.	Implement through the NSTIP 2020–2030 innovation governance framework. NCRST to manage data protocols; NPC to integrate foresight into NDP monitoring; MIME to fund via the IUMP.	X	X	X	Strong political endorsement, industry association buy-in, and a culture of collaboration between universities, NCRST, and private consultants to ensure data relevance and regular foresight updates.
	Iron and steel	High cost of machinery and tooling	SteelCap facility: import duty relief and capex rebate for rolls, reheating furnaces, Non-destructive testing (NDT) equipment with local skills obligations.	MFPE and MIRT (lead); MIME; DBN; NTA; NSI; private steel firms.	Deliver via Industrial Incentives Regulation; DBN manages fund; NSI certifies compliance.	X	X	X	Stable fiscal policy, predictable customs administration, and industry awareness of rebate procedures.
		Lack of facilities and technology for precision part manufacturing	Precision Metals Cell (CNC, heat-treat, and CMM) as shared facility; firms buy hours; training integrated.	NUST and MIME (lead); NTA; NSI; private manufacturers.	NUST manages facility; MIME funds through IUMP.	X	X	X	Strong commitment from industry users, collaboration between NUST and private firms, and technical training to ensure effective use.
		Lack of strategic industrial vision	Develop a steel roadmap 2030 linking ore to fabricated products; align procurement and tariff policy to roadmap.	MIME and NPC (lead); Chamber of Mines; NCRST; MIRT; industry associations.	Deliver via IUMP; align with NDP7 sectoral targets.	X	X	X	High-level policy coordination, cross-ministerial support, and engagement of industry stakeholders in strategy formulation.
		Large machinery, such as rolling mills, furnaces, and presses, not available locally	OEM framework MoUs with spare-parts depots and Namibia-based service academies; include uptime SLAs.	MIME (lead); NIDA; DBN; private OEMs; NIMT.	Implement under MIME; NIMT provides training.	X	X	X	Partnership trust between government and OEMs, clarity in contractual expectations, and transparent monitoring of service performance.
		Limited access to smart manufacturing	EAF/rolling digitalization grants for sensors, coil tracking, energy management.	MIME and DBN (lead); NTA; NSI; MEIYSAC; private firms.	Embed in IUMP; NTA monitors training compliance.	X	X	X	Firms' openness to automation, alignment with industrial digitalization initiatives, and training in energy management.
		Weak integration of downstream sectors, including construction and engineering	Local content and design for steel programme in construction codes and framework contracts for domestic sections/fabrications.	MIME and NSI (lead); NCRST; Chamber of Mines; Construction Council of Namibia.	Deliver through Public Procurement Act; NSI provides design certification.	X	X	X	Collaboration between regulators and construction firms, inclusion of domestic

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
									producers in tenders, and clear enforcement mechanisms.
		Need for robotic and AI-based quality control systems in metallurgy	Robotic NDT pilot with university partner.	UNAM and MIME (lead); NCRST; private metallurgy firms.	Execute under an University Innovation Fund; NCRST provides matching grants.	X	X	X	University–industry collaboration, availability of trained engineers, and demonstration of cost-effectiveness to attract replication.
		Poor access to high-temperature process technologies	Mobile furnace training rigs at a TVET.	NTA and MIME (lead); NIMT; private steel producers.	Implement under TVET Reform Implementation Plan; MIME co-finances equipment.	X	X	X	NTA leadership to integrate into TVET curricula and engagement from local steel producers to host training sessions.
		Weak R&D-industry linkages and limited applied technology development	Biannual industry-lab call.	NCRST and MIME (lead); UNAM; NUST; Chamber of Mines.	Deliver through National Innovation Challenge framework; results published under NSTIP progress reports.	X	X	X	Active communication between ministries, universities, and chambers, and transparent evaluation of project outcomes.
	Machinery	Absence of domestic machine-building capacity, including CNC and die-making	Establish a toolmaking and light machine build hub: build jigs, dies, small CNC retrofits.	MIME and NUST (lead); NIMT; NTA; DBN; private SMEs.	Operate as part of Science Park network; MIME funds via IUMP; NCRST accredits as R&D facility.	X	X	X	Strong MIME coordination, buy-in from SMEs, and active participation of NIMT in skills development.
		High cost of machinery and tooling	Capex and depreciation super-deduction for firms investing in toolrooms; linked to apprentice hours.	MFPE (lead); MIME; DBN; NIPDB.	Deliver through Tax Amendment Regulation; DBN integrates with industrial finance window.	X	X	X	Predictable tax regulations, clarity in eligibility, and outreach to firms to raise awareness of the incentive.
		High reliance on imported know-how and equipment	Supplier development contracts requiring OEMs to train local partners.	MIME (lead); private firms; industry chambers; DBN.	Execute under Procurement Directive; DBN provides performance-linked credit.	X	X	X	Commitment from OEMs to train partners, support from DBN for credit access, and clear monitoring of performance milestones.
		Lack of frontier capabilities in robotics, control systems, and automation software	Robotics and controls academy with vendor-neutral curriculum; firms get grants if they deploy within six months.	NUST and NCRST (lead); MIME; UNAM; private automation firms.	Embed in National Skills Development Programme; NCRST aligns curriculum with NSTIP.	X	X	X	Coordination between universities, vendors, and industry; requires early pilot successes to build demand.
		Limited access to smart manufacturing	MES-Lite rollout with cloud options for SMEs.	MIME and NTA (lead); NUST; DBN; industry associations.	Deliver under the National Digital Strategy; cloud system managed by NUST.	X	X	X	Digital readiness among SMEs, affordable internet access, and awareness campaigns to demonstrate benefits.
		No advanced manufacturing hubs or industrial technology centers	Advanced manufacturing centre (AMC) at NUST: additive manufacturing, metrology, surface treatment; pay-per-use and prototyping grants.	NUST (lead); MIME; NSI; NIMT; and private partners.	Create as national centre of excellence under NSTIP at NUST; DBN finances initial setup.	X	X	X	Sustained government investment, partnership with private firms for applied projects, and awareness of AMC services among SMEs.
		No training infrastructure for advanced mechanical engineering	Graduate practice schools (12 months) embedded at industry sites.	MEIYSAC and NTA (lead); UNAM; NUST; MIME; and industry hosts.	Implement under National Graduate Internship Policy; MIME links with firms for placements.	X	X	X	Industry willingness to host trainees, consistent funding for placements, and coordination between MEIYSAC and NTA.
		Weak R&D-industry linkages and limited applied technology development	Establish a makers lab and turn buyer-driven problem statements (retail/exporters) into rapid trials; winning solutions get procurement commitments.	NCRST and NUST (lead); MIME; MIRT; UNAM; DBN; private firms.	Integrate into Innovation Ecosystem under NSTIP; DBN provides prototype funding.	X	X	X	Creativity incentives for innovators, access to prototype funding, and mentorship from industry practitioners.
	Pharmaceuticals	Absence of precision machinery, including capsule fillers, sterilizers, and vial lines	GMP equipment facility: pooled procurement and validation service; on-site FAT/SAT support; shared lines for SMEs.	MIME and NMRC (lead); NUST; UNAM; DBN; MHSS; private pharmaceutical firms.	NSI manages laboratory accreditation (ISO 17025 / GMP compliance). NMRC provides regulatory validation and maintains a vendor-qualification list of approved equipment suppliers. UNAM and NUST provide validation and calibration expertise through seconded engineers and pharmacists. DBN operates a GMP Capex Window, offering concessional loans or guarantees for firms procuring certified equipment through the pooled framework. Private Sector and OEMs sign framework agreements for FAT/SAT witnessing and training.	X	X	X	Collaboration between NMRC, NSI, and MIME, awareness among SMEs of pooled procurement advantages, and visible early adopters.
		Fragmented innovation support ecosystem, including labs, incubators, and certification	Establish a pharmaceutical innovation hub: co-located GMP training lab, incubation bays, and regulatory helpdesk, (NMRC in residence).	MHSS; NMRC; and MIME (lead); NCRST; UNAM; NUST; NSI; DBN.	Establish under NSTIP biotechnology pillar; NCRST funds infrastructure; NMRC ensures GMP alignment.	X	X	X	Strong coordination among health and industry ministries, buy-in from universities, and consistent funding to ensure continuity.
		High cost of machinery and tooling	pharmaceutical capex window via DBN with interest buy-downs; must meet local training and GMP milestones.	DBN (lead); MIME; MHSS; NMRC; NIPDB.	Deliver through the DBN; aligned with Industrial Policy.	X	X	X	Alignment between financial and regulatory institutions, awareness among firms, and transparent eligibility criteria.
		Limited access to smart manufacturing	e-Batch and e-QMS adoption grants with validated templates; NMRC fast-track if digital records implemented.	NMRC and NSI (lead); MIME; NUST; private firms.	Implement via National eHealth Strategy; NMRC fast-tracks compliant firms.	X	X	X	Trust in digital systems, awareness campaigns on data integrity, and collaboration between NMRC and NSI to build confidence.
		Low R&D capacity and few technology transfer partnerships	Tech-Transfer Partnerships Program: 2–3 MoUs/year with regional firms for finished dose and reagents; milestone-based grants.	NCRST and MIME (lead); NMRC; MIRT; UNAM; regional pharmaceutical firms; AfDB.	Deliver through Bilateral Cooperation MoUs under NSTIP; AfDB co-finances via innovation grants.	X	X	X	Regional cooperation, institutional continuity in NCRST, and sustained engagement of private firms in joint R&D.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
		No local manufacturing of pharmaceutical equipment	Localization of utilities and ancillaries (clean-steam skids, CIP carts, laminar benches) pilot at Pharma Innovation Hub.	MIME and NMRC (lead); NUST; UNAM; DBN; private engineering firms.	NSI certifies equipment; DBN finances SMEs.	X	X	X	Collaboration between engineering firms and universities, incentives for SMEs, and demonstration of success at the pharmaceutical Hub.
		No domestic production of active pharmaceutical ingredients	Selective API pilot (heparin precursor or simple APIs) with university–industry consortium, starting with purification and quality control steps.	UNAM and NMRC (lead); MIME; DBN; NCRST; private manufacturers.	Deliver through National Biotechnology Cluster under NSTIP; financed by R&D Fund and DBN.	X	X	X	Strong academic-industry coordination, transparent quality monitoring, and commitment to long-term R&D funding.
		Weak R&D-industry linkages and limited applied technology development	Hospital–Lab–Industry problem boards (quarterly) to define reagent/device gaps; fund 6-month sprints to production trial.	MHSS and NMRC (lead); NCRST; UNAM; MIME; hospital networks.	Institutionalize under MHSS; quarterly meetings funded by NCRST.	X	X	X	Participation of hospitals and researchers, communication on mutual benefits, and consistent funding for innovation sprints.
		Weak regulatory infrastructure and GMP standards	Regulatory strengthening plan: inspector training, guideline updates, facility GMP readiness audits, and a public registry of compliant sites.	NMRC (lead); MHSS; NSI; MIME; UNAM; NUST; international partners (WHO; SADC).	Inspector training: Conducted jointly by NMRC and WHO/SADC Regulatory Training Network, creating a certified cadre of GMP inspectors and “train-the-trainer” modules housed at UNAM’s School of Pharmacy. NMRC issues Namibia-specific GMP guidance notes and checklists (data integrity, HVAC qualification, cleaning validation, e-QMS), reviewed by NSI and MIME. NSI and the GEVS unit deliver voluntary pre-inspection audits with clear separation from enforcement; reports feed into DBN’s GMP Finance Window milestones. NMRC develops and maintains an online Registry of Licensed and GMP-Compliant Facilities with support from NCRST’s Data Infrastructure Programme and MIME’s Digital Economy Unit.	X	X	X	Political commitment to transparency, alignment with WHO/SADC guidance, and industry cooperation to adopt updated GMP standards.
Finance and Investment	Chemicals	Financial ecosystem unprepared for hazardous materials management and technology acquisition	Create a hazardous materials management and technology upgrade facility that offers loans and guarantees only to projects that meet upgraded environmental and safety standards (ISO/REACH-equivalent).	MIME; MFPE; DBN; Environmental Commissioner; NSI; DFIs.	Develop sector-specific risk manuals; provide partial credit guarantees and compliance-linked interest rebates for investments in safe storage, waste treatment and advanced processing technologies.	X	X	X	Updated hazardous-materials regulations; NSI capacity for audits; environmental risk-assessment tools in banks; MoUs with DFIs for technical support.
		Limited access to public guarantees and co-investment instruments	Expand public guarantee schemes through a Co-Financing Mechanism for Industrial Innovation (CFMII), enabling co-investment between government, DFIs, and private capital in strategic chemical and machinery ventures.	MFPE (lead); MIME; DFIs.	Master guarantee agreements with banks; joint investment committees with DFIs; sector ceilings and risk-sharing ratios (e.g. 50–70 per cent).	X	X	X	Law on public guarantees; budgetary provision for first-loss capital; bank participation; pipeline of strategic ventures.
		Few blended finance mechanisms to de-risk innovation	Establish a national industrial innovation de-risking facility to provide blended finance for R&D and pilot projects in advanced materials and chemical processing.	MEIYSAC; MFPE; DBN; NCRST; universities (UNAM; NUST); climate/innovation funds.	Competitive calls using TRL (technology readiness level) stages; public funds take first-loss; private investors and corporates co-finance pilots with option to scale.	X	X	X	IP and technology-transfer framework; R&D tax incentives; peer-review mechanisms; partnerships with GCF/GEF, KfW, EIB, etc.
		Major gap in capital investment financing for high-risk industrial production	Create a high-risk industrial projects window within DBN to structure syndicated, long-tenor loans for large chemical plants, with DFI participation and embedded environmental and social covenants.	DBN; MFPE; DFIs; MIME; Bank of Namibia.	Project finance unit in DBN; risk syndication with DFIs and commercial banks; use CFMII guarantees for portions of senior debt.	X	X	X	Bankable pipeline (pre-feasibility and ESIA done); stable power/water/logistics agreements; predictable tariff and tax regime.
		Heavy reliance on external financing, including DFIs and international banks	Develop a local-currency chemicals credit line programme funded partly by DFIs but on-lent in Namibian dollars through the DBN and commercial banks, with GIPF and insurers co-investing in mezzanine tranches.	MFPE; DBN; Bank of Namibia; DFIs; GIPF; insurance companies.	Currency-risk sharing arrangements; issuance of NAD-denominated notes to domestic institutional investors; on-lending through partner banks under harmonised terms.	X	X	X	Prudential rules allowing long-tenor assets for pension/insurance funds; clear governance of on-lending; FX-risk hedging tools.
	Copper articles	Access to finance constrained by limited risk capital and sector-specific instruments	Launch a copper fabrication growth fund providing equity and mezzanine finance to firms producing wires, cables, busbars and components for power, construction and EV markets.	DBN; NIPDB; MIME; MFPE; private fund manager; major copper miners.	Public–private fund with miners as cornerstone investors; professional GP; ticket sizes tailored to mid-cap manufacturers; exit via regional listing or strategic sale.	X	X	X	Clear industrial strategy for copper products; stable mining policy; corporate governance standards for investee firms.
		Lack of early-stage investment and capital for manufacturing infrastructure	Create a copper manufacturing infrastructure facility offering construction loans and infrastructure co-financing (power, substations, warehousing) for new copper-products plants in industrial parks.	DBN; MFPE; MIME; local authorities; utilities.	Co-finance plant construction with park developers; blend loans with limited capital grants where externalities are high (e.g. shared testing labs).		X	X	
		Critical need for startup and growth financing	Introduce a copper products startup and scale-up facility offering seed loans and convertible notes to entrepreneurs producing niche components (connectors, harnesses, precision parts) with export potential.	NIPDB; DBN; MIME; innovation hubs.	Annual competitive calls; convertible instruments that can turn into equity at later rounds; mentoring and export-readiness support.	X	X	X	Business incubation services; simple IP and patent registration processes; export promotion support.
	Electronics	Limited SME participation in large industrial supply chains	Create an electronics and electrical supplier development scheme that links SMEs to anchor buyers (utilities, mines, construction) and provides guarantee-backed supplier credit and invoice discounting.	MJLR; MIME; NTA; TVET centres; Electrical Industry Associations; DBN; commercial banks.	Supplier development agreements; factoring/invoice discounting products; training for SMEs on quality and delivery	X	X	X	Commitment by SOEs/large firms to local sourcing; NSI-backed product standards; dispute-resolution mechanisms for supply contracts.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
		Domestic financial institutions unfamiliar with electronics sector needs	Develop electronics sector credit guidelines and a risk observatory to provide banks with benchmark data on margins, failure rates and collateral structures in electronics manufacturing and assembly.	MIME; NSI; NTA; Electrical Contractors association; Bank of Namibia; Bankers association in Namibia.	Joint task force; periodic sector reports; integration of guidelines into banks' internal credit-policy manuals; workshops and on-site training.	X	X	X	Access to firm-level data; cooperation from industry associations; BON support to incorporate guidelines into supervisory dialogue.
		Firms lack capital for assembly lines and compliance testing facilities	Start an electronics production equipment and testing upgrade scheme providing lease-to-own finance for assembly lines and grants for NSI-accredited testing equipment.	NUST; UNAM; MEIYSAC; NIPDB; NSI; Private design and manufacturing firms.	Framework agreements with equipment suppliers; DBN leasing products; cost-sharing grants for testing labs hosted by universities or industrial parks.	X	X	X	Leasing legislation; NSI accreditation systems; maintenance and calibration capacity for testing equipment.
		High initial investment deters entrepreneurs without dedicated financing options	Establish an electronics entrepreneurship acceleration fund providing pre-seed grants, small equity tickets and business-model mentoring for hardware and embedded-systems startups.	NSI; MEIYSAC; NUST; Electrical and Electronics Industry Association; NIPDB; innovation hubs.	Annual accelerator cohorts; staged grants linked to prototypes and first sales; follow-on equity for the best performers.	X	X	X	Incubation spaces; access to prototyping labs; IP and standards advisory services.
	Food processing	Underdeveloped equipment financing and leasing instruments	Create a food processing equipment leasing and vendor finance platform that allows SMEs to access processing lines, cold storage and packaging machinery through lease-to-own and vendor-backed instalment plans.	Agribank; DBN; MAFWLR; equipment suppliers; MFIs.	Framework agreements with key OEMs; standard leasing contracts; partial guarantees from Agribank/DBN.	X	X	X	Enforcement framework for leasing; asset-tracking systems; technical service capacity for maintenance.
		Financial institutions hesitant to lend without collateral	Introduce a food SME guarantee window under a national credit-guarantee scheme, combined with a movable-collateral registry that recognises equipment and inventory as security.	Agribank; DBN; MAFWLR; MFPE; Bank of Namibia.	Guarantee agreements with banks and MFIs; training on use of movable-collateral registry; performance-based guarantee fees.	X	X	X	Secured-transactions law; political support for guarantees; strong recovery procedures.
		High interest rates and short repayment periods discourage investment	Provide long-tenor agro-processing investment lines with partial interest-rate subsidies for climate-resilient and export-oriented plants (e.g. HACCP-grade facilities).	MFPE; Agribank; DBN; DFIs.	Blended credit lines to Agribank/DBN with maximum tenor 10–12 years; subsidy funded by MFPE to reduce effective cost for eligible projects.	X	X	X	Fiscal space for subsidies; credible targeting criteria; monitoring of investment and repayment.
		Lack of microcredit or guarantee schemes for agro-processors	Develop a rural and micro agro-processing finance programme delivering small loans and simple guarantees for village-level processors (drying, milling, basic packaging).	Agribank; MFIs; MAFWLR; SME agencies; NGOs.	Wholesale funding to MFIs; simple scoring tools; technical assistance bundled with credit.	X	X	X	MFI supervision; local advisory networks; digital tools for low-cost delivery.
		Limited working capital for SMEs	Create seasonal and receivables-backed working-capital lines tailored to harvest and processing cycles, including small factoring products for supermarket and exporter invoices.	Agribank; DBN; commercial banks; MAFWLR	Dedicated credit lines; warehouse receipts; simple factoring/discounting contracts.	X	X	X	Warehouse infrastructure; legal clarity on assignment of receivables; reliable buyer payment behaviour.
	Cross-sectoral	Limited financing products	Create a dedicated diversification sleeve in the Sovereign Wealth Fund with a minimum allocation (e.g. 10–15 per cent of assets) to domestic value-addition projects in priority sectors.	Bank of Namibia; NPC; MFPE; DBN; NIPDB; commercial banks (as co-investors).	Amend SWF investment policy; establish a Diversification Investment Committee; set pipeline selection criteria; deploy instruments as grants, loans and equity co-investment aligned with NDP priorities.	X	X	X	Clear conditions for withdrawal from the Fund; eligibility framework for loans/equity; safeguards on governance and conflict of interest; robust project-preparation support.
		Limited financing products	Launch a diversification bond programme (value-addition, mining services, green/tech/renewables) with tranches targeted at pension funds, insurance companies and regional investors.	MFPE; Bank of Namibia; NSX; MIME; DBN; commercial banks (as arrangers).	Approve bond framework; issue inaugural sovereign or DBN-backed bond; on-lend proceeds to a venture/public capital fund and the SWF diversification window.	X	X	X	Investor awareness; market-intelligence platform to match projects and investors; interface between BON, DBN and NSX; pipeline of bankable diversification projects.
		Lack of finance specific to diversification purposes	Establish a priority sector diversification fund with ring-fenced windows for mining-linked manufacturing, agro-processing, fisheries processing, green technology and health industries.	NSI; MIME; Ministry of Urban and Rural Development (MURD); DBN; BON; NIPDB; EIF; AfDB; NamPower; line ministries; UN and climate funds	Multi-stakeholder steering committee; PPP structure with pooled funding; targeted project calls; co-investment with private and DFI partners.	X	X	X	Enabling regulatory framework for pooled vehicles; predictable public budget contributions; strong leadership of SC; industry and political buy-in.
	Iron and steel	Access to finance remains a major obstacle to downstream industrialization	Set up an iron and steel downstream development fund to finance rolling, fabrication and component plants using slabs/billets as input.	DBN; MIME; MFPE; steel producers	Co-investment with anchor steel producers; loans and equity to downstream SMEs and mid-caps; link support to local-content commitments.	X	X	X	Clarity on upstream steel investment; demand from construction/renewables; park/cluster locations.
		No instruments for retrofitting or upgrading outdated equipment	Introduce a steel retrofit and efficiency facility that provides soft loans and climate grants to replace obsolete furnaces and install energy-efficient, low-emission technologies.	MFPE; DBN; MIME; climate funds; steel firms	Project identification with industry; blended packages with grants disbursed on verified efficiency/emission gains.	X	X	X	MRV systems for energy and emissions; commitment by firms; supportive environmental regulation.
		No concessional finance for infrastructure-intensive production	Create a steel cluster infrastructure finance window to co-fund rail sidings, substations and water infrastructure that serve multiple steel and fabrication firms.	MFPE; DBN; MIME; utilities; transport agencies	PPP structures; long-tenor loans backed by cluster firms' offtake agreements and availability payments.	X	X	X	SEZ or cluster designation; cost-sharing agreements; guarantees for minimum usage.
		Policy gaps in incentivizing import substitution and steel transformation	Design a steel transformation incentive package comprising accelerated depreciation, time-bound tariff tweaks and public-procurement preferences for locally processed steel products.	MIME; MFPE; NamRA; Procurement Directorate.	Amend tax code and procurement regulations; publish a list of eligible products; link incentives to investment and performance conditions.	X	X	X	WTO/FTA compatibility; strong monitoring; transparency to avoid rent-seeking.
		Lack of long-term industrial finance and tax-subsidized capital programs	Introduce a steel long-term investment credit scheme providing 10–15-year loans combined with tax credits on interest and capital costs for strategic investments in the priority products of the sector.	MFPE; DBN; NamRA; MIME	Dedicated DBN products; tax-credit certificates issued to compliant firms; coordination with Steel Retrofit Facility.	X	X	X	Fiscal modelling of costs; legal amendments; robust eligibility and audit systems.
	Machinery	Lack of long-term patient capital for manufacturing plant development	Launch a machinery plant patient capital facility offering long-tenor loans and revenue-share instruments for greenfield and brownfield machinery plants.	DBN; DFIs; MIME; MFPE.	Specialised structuring team within DBN; blending DFI funds with public capital to extend tenor and grace periods.	X	X	X	Clear pipeline; SEZ/industrial park infrastructure; robust governance.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
Enterprise support and trade	Pharmaceuticals	Access to finance remains a barrier to local manufacturing	Create a machinery SME credit guarantee scheme targeted at component manufacturers, repair shops and toolmakers.	DBN; MFPE; Bankers Association; MIME	Portfolio guarantees to banks; simplified appraisal templates; capped interest rates for guaranteed loans.	X	X	X	Adequate guarantee capital; buy-in from banks; credit-information systems.
		Limited financing for technology partnerships and prototyping	Set up a machinery technology partnership and prototyping grant scheme to co-finance joint projects with foreign OEMs and universities (proto-machines, test rigs, digitalisation).	MIME; MIRT MEIYSAC; NCRST; DBN; universities; foreign OEMs.	Calls for partnership proposals; cost-sharing (e.g. 50:50); soft loans for follow-up commercialisation.	X	X	X	IP-sharing templates; strong project-management capacity; lab/testing infrastructure.
		No industrial bonds or concessional loans for medium- and high-technology sectors	Issue machinery and industry 4.0 bonds whose proceeds finance concessional credit lines for medium- and high-technology machinery producers (automation, robotics, precision tools).	MFPE; NSX; DBN; MIME; DFIs.	Bond issuance backed by partial guarantees; on-lending to target firms through DBN; reporting on tech-upgrade outcomes.	X	X	X	Investor demand; credit-rating; clear project pipeline; transparent reporting.
		No venture capital or technology acquisition finance	Create a machinery innovation venture fund to invest in high-growth firms (CNC, robotics integration, digital maintenance) and finance acquisition of strategic technologies and patents.	NIPDB; DBN; MFPE; private VC managers.	Public anchor capital; independent GP; focus on minority stakes; sidecar loan facility for technology acquisition.	X	X	X	Legal basis for public investment in VC; pipeline of innovative firms; IP and licensing frameworks.
		No funding schemes for R&D and local formulation activities	Establish a pharmaceutical R&D and formulation fund focusing on basic generics, reagents and medical consumables with strong local health impact.	MHSS; MFPE; DBN; NCRST; universities; development partners (WHO; UNIDO; Global Fund).	Competitive calls; grants for lab work and formulation; soft loans for scale-up of successful candidates.	X	X	X	Strengthened medicines regulatory authority; GMP roadmaps; collaboration agreements with teaching hospitals and universities.
		Limited access to public health-linked finance for domestic producers	Implement a health procurement finance facility that provides pre-shipment and post-shipment finance backed by framework contracts and framework purchase agreements with MHSS.	MHSS; DBN; MFPE; procurement agencies; health partners.	Multi-year tenders specifying minimum offtake; banks/DBN use contracts as collateral; partial guarantees from MHSS or donors.	X	X	X	Predictable health budget; timely payment record; clear quality and delivery standards.
		Lack of concessional loans for startups and small pharmaceutical ventures	Create a small pharmaceutical start-up facility offering concessional startup loans with revenue-share repayment options for early-stage firms producing priority medicines and consumables.	DBN; MHSS; SME agencies; MFPE	Screening of business plans; concessional loans with grace periods; revenue-based repayment once sales commence.	X	X	X	Business-development support; simplified licensing; access to contract manufacturing where needed.
		No patient capital for regulatory compliance and GMP certification	Introduce a GMP compliance and certification financing scheme that finances plant upgrades, quality-system implementation and third-party audits with long-tenor loans and milestone-based grants.	DBN; MHSS; NSI; international health partners.	Diagnostic audits to identify gaps; financing packages tied to GMP roadmap; disburse grants when specific compliance milestones are reached.	X	X	X	Robust and predictable GMP regulatory framework; pool of recognised auditors; donor co-financing; capacity to monitor and verify compliance milestones.
	Chemicals	Insufficient maintenance and technical support services, affecting operational continuity	Set up regional industrial maintenance hubs for chemicals in key industrial zones, operated through PPPs, offering shared equipment maintenance, calibration and safety inspections. Provide tax deductions or vouchers for SMEs that use hub services, and link the hubs to TVET curricula to create a pipeline of certified industrial technicians.	MIME; NCRST; NTA/TVET Centres; MJLR; NSI; Chemical Industry Firms; Municipal Industrial Parks.	Select industrial park locations, tender PPP concessions for hub operation, equip shared workshops and calibration labs, embed maintenance and safety modules in TVET curricula, and offer subsidised service packages and training vouchers to chemical SMEs.	X	X	X	Suitable industrial park locations and infrastructure, investor interest in PPP concessions, predictable tax and incentive framework, sufficient pipeline of technicians from TVETs, and environmental and safety regulation enforcement.
	Copper articles	Mining database not leveraged for other sectors	Transform the existing mining database into a national product and supplier intelligence platform: integrate data on domestic producers, inputs, logistics corridors and export markets across priority sectors (chemicals, food, metals, electronics). Provide open dashboards for policymakers and targeted access for SMEs, with a data governance unit mandated to maintain quality and use insights for industrial policy targeting.	NIPDB; MIME; NSA; NSI; Industry Associations; UNCTAD.	Upgrade the existing mining database architecture, sign data-sharing agreements with key agencies and industry associations, harmonise classification (HS/ISIC), build user-friendly dashboards and secure SME interfaces, and establish a small data governance unit to maintain and exploit the platform.	X	X	X	Long-term funding for platform development and upkeep, binding data-sharing agreements with key agencies and industry associations, technical capacity for data management and analytics, and buy-in from SMEs and policymakers to use and update the system.
		Insufficient maintenance and technical services for equipment	Create a copper equipment service partnership between mining companies, equipment OEMs and TVET centres: framework contracts that guarantee periodic maintenance, on-site troubleshooting hotlines, and in-company apprenticeship placements for maintenance technicians, financed partly by a small levy on copper exports earmarked for maintenance and skills.	MJLR; NTA; MIME; MIAN; TVET Centres	Delivered through upgraded TVET workshops; short-course training contracts with mining companies; certification through NTA/NQA; mobile training units for regional outreach.	X	X	X	Agreement among mines, OEMs and TVETs on cost-sharing and governance, legal basis for a small export levy or other funding mechanism, availability of trainers and equipment for workshops, and commitment by firms to host apprentices.
		Weak backward and forward linkages, hindering local supplier ecosystem development	Design a copper fabrication linkage initiative to foster local production of rods, wires, busbars, plumbing fittings and simple components used in construction and electrical industries. Combine long-term purchase agreements from utilities and construction firms, concessional finance for rolling and drawing mills, and tariff/NTB review to discourage pure raw copper exports relative to semi-processed products.	MIME; NIPDB; NamPower; MIAN; DBN; Agribank; Construction Industry Federation; NSI	Conduct feasibility studies for rolling/drawing mills, structure concessional credit and guarantee schemes, sign long-term offtake agreements with utilities and construction firms, adjust tariffs/NTBs to favour semi-processed exports, and support new firms with technical and standards assistance.	X	X	X	Stable power and logistics infrastructure, access to medium- and long-term finance for mills, clear and predictable tariff/NTB regime, credible long-term offtake commitments from utilities and construction sector, and technical support for new firms to meet standards.
	Electronics	Inadequate access to technical specifications and standardization knowledge	Establish an electronics standards and design support centre (hosted at NUST/UNAM with NSI) that provides an online library of standards, template technical specifications, open-source reference designs for low-voltage systems, and a helpdesk offering firm-specific guidance. Subsidise training fees via the National Training Fund and require firms to maintain training logs and gender-balanced participation.	NTA; MEIYSAC; Private Electrical and Battery Firms; NSI (for standards compliance)	Competitive application by firms; subsidized training costs via the National Training Fund; training logs and quarterly quality reviews by NTA; gender quotas embedded in placement rules.	X	X	X	Start-up and recurrent funding for the centre, availability of specialised technical staff, access to international standards databases, cooperation from universities and private firms, and robust digital connectivity for online resources.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
		Weak integration of local SMEs into regional and global value chains	Implement an electronics supplier readiness programme that identifies a pipeline of SMEs and helps them reach supplier status for regional OEMs (ABB, Siemens, regional solar firms, etc.) through targeted assistance: quality management systems (ISO 9001), ESD programme alignment, packaging/logistics upgrades, and support to participate in SADC/AfCFTA supplier fairs.	MEIYSAC; NUST; Electrical Engineering Industry Association; NSI; Private firms (ABB; Siemens; etc.)	Screen SMEs for participation, conduct detailed supplier diagnostics, implement tailored upgrading plans (QMS, logistics, documentation), co-finance compliance investments, and broker supplier-buyer meetings and framework contracts with regional OEMs.	X	X	X	Willingness of OEMs to integrate Namibian SMEs into their supply chains, adequate budget for firm diagnostics and upgrading, technical experts in QMS and logistics, and coordination with DFIs to finance compliance investments.
		Low awareness of AfCFTA, SADC, and global market demands	Run AfCFTA and export market intelligence clinics for electronics and battery firms, combining short courses on rules of origin, customs procedures and digital trade with quarterly "market briefs" on demand trends in neighbouring countries. Link participation to eligibility for trade promotion grants and e-commerce platform onboarding.	NUST; UNAM; MEIYSAC; NTA; MIRT; Industrial Training Institutes; Private sector partners	Develop short training modules on AfCFTA rules and customs procedures, schedule quarterly clinics in main industrial centres, circulate concise market briefs to participants, link graduates to export promotion grants and e-commerce platforms, and maintain an online Q&A helpdesk.	X	X	X	Access to up-to-date information on AfCFTA/SADC rules and markets, sustained budget for training delivery, collaboration with customs and trade facilitation agencies, and incentives (e.g. link to grants) that motivate firms to attend and apply the learning.
	Food processing	Limited know-how in food safety standards – regulatory (standards) – sanctions and incentives	Revise food safety regulations to embed graduated compliance pathways: clear minimum standards for domestic markets and higher tiers for export markets, linked to a mix of sanctions (for non-compliance) and positive incentives (reduced inspection frequency, label recognition) for firms that invest in certified HACCP and ISO 22000 systems.	NSI; MHSS; MAFWLR; MIME; MIRT; NPC; Food Processors; Extension Services.	Revise and gazette tiered food safety regulations, develop practical compliance guides, train inspectors and extension officers on risk-based enforcement, introduce recognition labels and reduced inspection regimes for compliant firms, and enforce sanctions for persistent non-compliance.	X	X	X	Political commitment to enforce standards fairly, laboratory and inspection capacity, resources for communication and training of firms and inspectors, and coordination among NSI, MHSS and MAFWLR to apply risk-based approaches.
		Limited know-how in food safety standards – regulatory (standards) – inspector training	Create a national food safety inspectorate academy to train inspectors and agricultural extension staff in risk-based inspections, lab sampling, and SME-friendly enforcement. Require joint field missions with extension officers so that inspections are coupled with advisory visits rather than pure policing.	NSI; MHSS; MAFWLR (including extension service); MEFT; NPC; MIME; MIRT; MJLR.	Establish the academy within existing training institutions, design competency-based curricula and certification, train master trainers, roll out regular courses and joint field practicums with extension services, and maintain a database of certified inspectors.	X	X	X	Budget for curriculum development and facilities, mobilisation of experienced inspectors as trainers, recognition of the academy's certification by all relevant ministries, and integration with HR policies for recruitment and promotion of inspectors.
		Limited know-how in food safety standards – financial (incentives)	Launch a food safety upgrade grant scheme targeting small and medium processors, co-financing investments in basic hygiene infrastructure, testing services and certification audits. Prioritise firms that source from smallholders, employ women and youth, or commit to enter school feeding and hospital procurement schemes.	MHSS; NSI; MAFWLR; NTA; TVET Colleges; UNIDO; Testing Labs; Municipal Health Units.	Create a grant window within an existing development finance institution, publish calls with clear eligibility criteria, appraise proposals focusing on SME and inclusive value chains, disburse funds against verified investment and certification milestones, and evaluate impact on compliance and markets accessed.	X	X	X	Allocation of dedicated grant resources within a DFI, clear eligibility criteria and transparent selection procedures, capacity to appraise and monitor projects, and alignment with broader food safety regulations and inclusive-value-chain objectives.
		Limited export guidelines and market demand intelligence – food processing	Establish an agri-food export helpdesk within NIPDB/MIRT, providing product-specific export guides (by HS code), simplified checklists for entry into key regional markets, and regular market demand briefs. Integrate the helpdesk with an online query system and periodic "export readiness" coaching for firms identified through the SME trade accelerator.	NIPDB; MIRT; NSA; NSI; Agricultural Extension; Diplomatic Missions.	Set up a joint NIPDB–MIRT helpdesk with dedicated staff, prepare HS-coded export guides and checklists, develop an online portal and ticketing system for SME queries, organise periodic export-readiness workshops, and coordinate with embassies for updated market intelligence.	X	X	X	Commitment from NIPDB and MIRT to staff and fund the helpdesk, cooperation from NSA and diplomatic missions to supply timely market data, interoperable IT systems for the portal and ticketing, and outreach to SMEs to build awareness and trust.
		Weak understanding of agri-processing standards and certification among SMEs	Introduce a Standards Coach Network of trained consultants and lead firms who provide on-site mentoring to clusters of agri-SMEs on good manufacturing practices, traceability and certification. Use a cost-sharing model where SMEs pay a symbolic fee and government/partners cover the bulk, with performance indicators tied to the number of firms reaching certification milestones.	NSI; MIME; NTA; Large Food Processors; Local Consultants; Regional Councils.	Identify and accredit a pool of standards coaches from NSI, large firms and consultants, match coaches to SME clusters, sign cost-sharing agreements for on-site mentoring cycles, track firms' progress toward certification, and refresh the coach roster based on performance.	X	X	X	Availability of qualified coaches from NSI, large firms and consultants, funding for coaching cycles and travel, participation incentives for SMEs, and strong coordination with other food-safety and export-readiness programmes to avoid duplication.
	Cross-sectoral	SMEs need trade know-how, registration and B2B links – partnerships/coordination	Expand the regional one-on-one trade clinics into a structured "SME Trade Accelerator" programme: cohorts of 30–40 firms per region receiving diagnostic assessments, modular training on standards/logistics/financing/ROO, plus tailored B2B matchmaking with supermarkets, mining houses and regional buyers. Include a graduation pathway linking the best performers to incubators/accelerators and export credit schemes.	MIME; NTF; NIPDB; MEFT; MIRT; NSI; regional councils; chamber of commerce; agricultural extension services; private sector (mentorship; NCCI).	Design and development of workshop content, training of trainers, roll out workshops, design a standard accelerator curriculum, sign MoUs with regional partners, recruit SME cohorts through open calls, train local trainers, deliver modular clinics and B2B matchmaking events, and track firm performance through simple M&E tools.	X	X	X	Political will and budget for multi-year SME support, strong coordination among MIME/MIRT/NIPDB/NTF and regional councils, availability of qualified trainers and mentors, data systems to track firm performance, and active participation of private buyers and accelerators.
		SMEs need trade know-how, registration and B2B links – regulatory and coordination (business registration)	Implement a single digital business entry portal that bundles tax, social security, environmental clearance and municipal permits, with a 48-hour "green channel" for low-risk SMEs. Pair the portal with fee waivers for first-time youth- and women-owned firms, and automatic	NamRA; BIPA; SSC; EEC; MFPE; MIME; MEFT.	Establish an inter-agency task force, map and re-engineer all registration processes, develop and pilot the online one-stop portal with integrated payments and e-signatures, roll out nationally with helpdesks in regional	X	X	X	Cabinet backing for process re-engineering, stable funding for IT development and maintenance, inter-agency data-sharing agreements, cybersecurity and data-protection

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
			onboarding into NSI information on standards, AfCFTA trader registration and export documentation.		offices, and run a communications campaign to drive uptake.				framework, and sustained user-support capacity in regional offices.
		Triggering markets for strategic products, and "Buy Local, Grow Namibia" – financial and institutional	Establish a strategic products promotion facility that combines (i) a co-funded "Made in Namibia" branding campaign, (ii) temporary output-based grants or vouchers for public and large private buyers that switch to certified local products, and (iii) small matching grants to help SMEs upgrade packaging, labelling and certification so they can qualify for the label and associated procurement preferences.	NIPDB; MIME; MFPE; NSI; NCCI; Retailers; Municipal Councils; National Media Agencies.	Create a dedicated facility within NIPDB, issue operating guidelines, launch competitive calls for SME branding and certification grants, negotiate co-funding agreements with large buyers for output-based vouchers, and coordinate a nationwide "Made in Namibia" media campaign.	X	X	X	Government commitment to ring-fence resources for the facility, clear governance rules for grants and vouchers, alignment with procurement and competition rules, strong engagement of retailers and public buyers, and credible standards/branding regime from NSI.
		Weak supply development from large firms to new products – institutional and partnerships	Launch a local supplier development and linkage programme anchored in anchor firms (mines, utilities, supermarkets, large manufacturers). Require each anchor to develop three-year supplier development plans with targets for local sourcing of components and services, joint process upgrading projects, and co-funded supplier training in quality, logistics and financial management.	MIME; NIPDB; Mining Companies; NamPower; Agribank; NCCI; NSI; TVET/NTF.	Identify anchor firms and priority inputs, sign supplier development compacts, conduct joint SME diagnostics, implement firm-level upgrading and training projects co-financed by the programme and anchors, and review results annually to adjust sourcing targets.	X	X	X	Commitment of anchor firms through formal compacts, availability of co-financing for supplier upgrading, effective coordination between MIME, NIPDB and DFIs, and trust-building mechanisms so SMEs participate and share sensitive operational data.
		Local content not integrated in procurement rules – regulatory and institutional	Issue local content implementation guidelines under the Procurement Act, defining product-specific minimum local value thresholds, standard evaluation formulas, and verification procedures. Pilot in priority CETM-related and food sectors, with an annual reporting requirement on local content achieved by major procuring entities and a review mechanism to adjust thresholds in line with WTO/AfCFTA commitments.	MFPE (Public Procurement Unit); MIME; MIRT; NSI; NPC; Local Content Advisory Committee; NIPDB; Attorney General's Office.	Draft detailed guidelines and model clauses, consult procuring entities and private sector, approve and gazette the guidelines, train procurement officers and auditors, and introduce annual local-content reporting requirements tied to performance reviews.	X	X	X	Political support for local content within WTO/AfCFTA constraints, effective consultation with procuring entities and private sector, legal clarity in the Procurement Act, capacity for monitoring and verification, and functioning M&E system for local-content reporting.
		Limited visibility of locally produced products – informational	Develop a digital and physical Namibia product catalogue: an online searchable database of certified local products (HS-coded, with quality/standard tags) plus an annual "Diversification Expo Namibia" rotating between regions, where new products and firms are showcased to public buyers, retailers and regional importers.	NIPDB; MIME; MIRT; NSA; Regional Councils; NSI; NCCI; Logistics/Retail Sector.	Develop an online catalogue platform with standardised product and certification fields, verify and onboard firms through NSI and regional councils, and organise an annual rotating expo where catalogue firms exhibit to public and private buyers.	X	X	X	Dedicated budget for platform and expo organisation, cooperation from regional councils and NSI for firm verification, strong communication and outreach to SMEs, and coordination with public and private buyers to attend and use the catalogue in sourcing decisions.
		Local content may increase prices – financial and regulatory	Introduce a local content price offset scheme combining (i) temporary rebates on selected taxes/levies for local suppliers meeting content thresholds, and (ii) capped "preference margins" in procurement where locally produced goods can be accepted at slightly higher prices, with periodic reviews to phase out support as productivity rises.	MFPE; MIME; MIRT; NamRA; NIPDB; Procurement Unit; NSI; Private Sector Associations.	Design eligibility criteria and rebate formulas, integrate the scheme into tax and procurement systems, invite applications from qualifying suppliers, process and audit claims periodically, and review price-offset levels every two to three years.	X	X	X	Fiscal space to finance rebates and preference margins, integration between tax, customs and procurement IT systems, transparent eligibility and audit mechanisms, and safeguards against rent-seeking or capture by non-productive firms.
		Lack of productive branching support	Build on the proposed matching service by creating a tomato and horticulture value addition fund that co-finances (with private equity partners, including Nigerian firms) processing lines, cold-chain logistics and product development for regional markets. Tie financial support to adoption of NSI standards, climate-smart technologies, and long-term supply contracts with small farmers around Etunda and other irrigated schemes.	NIPDB can coordinate private sector; MIRT for regulatory aspects; NSI (product specific standards for exporting; consideration of environmental standards and carbon footprint); MEFT (government support for tourism firms to buy local (example of Zambia); Industry association in food processing; TVETs can play a role in skills dissemination (e.g.; maintenance of equipment; etc); NAB; NCRST provide support to SMMEs already on STI.	Matching service/investment facilitation hosted at NIPDB, done in collaboration with industry associations and TVETs to ensure that the experience expands beyond individual firms/learning (technologies and skills).	X	X	X	Availability of seed capital and concessional finance, willingness of Nigerian and regional partners to invest, reliable market intelligence on regional demand, smallholder supply coordination via NAB, and NSI capacity to support compliance with food and environmental standards.
	Iron and steel	Heavy reliance on imported scrap metal, due to weak local collection and incentives	Implement a national scrap management and recycling scheme with (i) licensing and registration of scrap collection points, (ii) differentiated pricing and tax incentives for segregated, high-quality scrap delivered to local mills, and (iii) municipal by-laws and public campaigns that channel construction and end-of-life vehicle scrap into formal recycling rather than exports or dumps.	MIME; Municipalities; MEFT (Environmental Affairs); Scrap Dealers; NamRA; Steel Mills; Transporters.	Register and license scrap collectors and yards, introduce differentiated pricing and tax incentives for segregated scrap sold to local mills, adopt municipal by-laws guiding scrap flows, run public awareness campaigns, and monitor material flows through basic reporting requirements.	X	X	X	Legal authority for new licensing and municipal by-laws, collaboration between municipalities, MEFT and tax authorities, sufficient demand from local steel mills, public awareness on scrap separation, and enforcement capacity to curb illegal exports or dumping.
		Absence of smaller local parts manufacturers, leading to fragmented value chains	Develop an iron and steel components cluster near existing steel facilities, offering serviced land, shared design and machining centres, and concessional finance for SMEs producing standard parts (flanges, bolts, brackets, simple structures) for construction, agriculture and mining. Encourage large projects (mines, infrastructure) to unbundle tenders so that local part manufacturers can bid for smaller contracts.	MIME; NIPDB; Industrial Parks Unit; Construction Federation; Mining Companies; DBN.	Design and service an industrial cluster site near steel facilities, provide shared design/machining centres and business support, offer concessional finance and rental packages to qualifying parts manufacturers, and require large projects to unbundle tenders and source from cluster firms.	X	X	X	Access to serviced land and utilities near steel plants, funding for common facilities and business services, availability of credit for SME investment, procurement rules that allow unbundled tenders favouring local parts, and safety/environmental compliance capacity.

Topic	Sector	Gap	Proposed Action	Responsible Actor	Delivery Mechanism	2026	2027	2028	Enabling Conditions
	Machinery	Limited enterprise upgrading and managerial support	Roll out a machinery productivity and management upgrading programme that provides firm-level diagnostics, lean manufacturing/Kaizen coaching, and mentoring on financial and export management for machinery workshops. Link participation to access to credit lines for equipment modernisation and to supplier development programmes with mining and agro-processing firms.	MIME; MIRT; NIPDB; NTA; NCRST; Mining Firms; Agro-Equipment Buyers; DBN.	Recruit machinery firms through open calls, conduct in-firm diagnostics, deploy expert coaches to deliver Kaizen and management training cycles, link participating firms to DBN credit lines for equipment upgrading, and measure productivity and export performance before and after support.	X	X	X	Budget for expert coaches and diagnostics, buy-in from machinery firms to share operational data, coordination with DBN to align credit products, and monitoring systems to measure productivity and export outcomes.
	Pharmaceuticals	Slow regulatory approval for pharmaceuticals – regulatory	Create a fast-track pharmaceutical approval window within the medicines regulator, with risk-based review procedures, clear maximum response times, and a "silence is escalation" rule. Introduce reduced fees and dedicated case managers for locally produced essential medicines and products aligned with regional demand (SADC, AfCFTA), conditional on compliance with GMP and pharmacovigilance reporting.	NMRC/MHSS; MIME; MIRT; NSI; Pharmaceutical Industry Association; UNIDO/WHO.	Amend regulatory procedures to introduce a fast-track channel, assign specialised reviewers and case managers, publish service-level standards and checklists, digitise dossier submission and tracking, and monitor turnaround times with quarterly public reporting.	X	X	X	Legislative and regulatory space to amend procedures, adequate staffing and specialised skills within NMRC, reliable IT infrastructure for e-submissions, cooperation from industry in providing high-quality dossiers, and alignment with SADC/WHO norms.
		Limited access to legal, quality assurance, and compliance services	Create a pharmaceutical regulatory and quality support facility offering pooled legal, IP, QA and GMP advisory services to domestic producers, funded through a mix of government resources and cost-sharing. Services would include template dossiers, contract review, support for pharmacovigilance systems and training of in-house QA teams.	NMRC/MHSS; NSI; MIME; MIRT; Pharmaceutical Manufacturers; Legal/IP Firms; WHO/UNIDO.	Establish a small multi-disciplinary facility hosted by NMRC/MHSS, develop service packages (legal/IP, QA, GMP advisory), create a cost-sharing fee schedule, provide hands-on support for dossier preparation and pharmacovigilance systems, and track firm compliance outcomes.	X	X	X	Long-term funding for the facility and specialised staff, cooperation between NMRC, NSI and industry, clear service-level agreements and cost-sharing rules, and complementary investment by firms in internal QA/GMP systems.
		Regulatory and certification issues create major compliance challenges	Strengthen the national medicines regulatory authority through a regulatory capacity upgrade plan: harmonise regulations with SADC/WHO standards, invest in laboratory infrastructure and digital dossier management, and pursue participation in WHO pre-qualification schemes. Introduce clear roadmaps and timelines for firms to achieve GMP certification with transitional guidance.	NMRC; MIRT; MIME; MHSS; NSI; MEIYSAC; WHO PQ Programme; SADC Medicines Agencies Network.	Conduct a gap assessment against SADC/WHO norms, adopt a phased roadmap for legal and procedural reforms, invest in laboratory and IT infrastructure, train regulators through regional and WHO programmes, and progressively implement electronic submissions and WHO prequalification participation.	X	X	X	High-level political backing for regulatory reform, access to external technical assistance (WHO, regional agencies), investment in labs and IT infrastructure, retention of skilled regulators, and participation in regional harmonisation initiatives.
		Low export orientation and lack of international certification	Establish a pharmaceutical export readiness and certification programme that identifies a shortlist of products with regional demand (e.g. essential generics, basic medical supplies), co-finances international GMP audits and certifications, organises participation in regional pharmaceutical trade fairs, and brokers long-term supply agreements with public procurement agencies in neighbouring countries under AfCFTA/SADC frameworks.	NIPDB; MHSS; MIME; MIRT; NSI; AfCFTA Secretariat; SADC Procurement Agencies; WHO PQ; pharmaceutical industry.	Select priority exportable products and firms, design tailored certification and market-entry plans, co-finance international GMP and quality audits, facilitate participation in regional pharmaceutical trade fairs and procurement forums, and support negotiation of long-term supply contracts under AfCFTA/SADC frameworks.	X	X	X	Sufficient pipeline of viable pharmaceutical firms and products, availability of funds for international audits and trade-fair participation, recognition of Namibian GMP by regional buyers, functional AfCFTA/SADC procurement channels, and strong cooperation between regulators and trade promotion agencies.





unctad.org

Coverpage © Adobe Stock

Printed at United Nations, Geneva – 2601266 **(E)** – February 2026 – 100 – **UNCTAD/TCS/DITC/INF/2026/2**