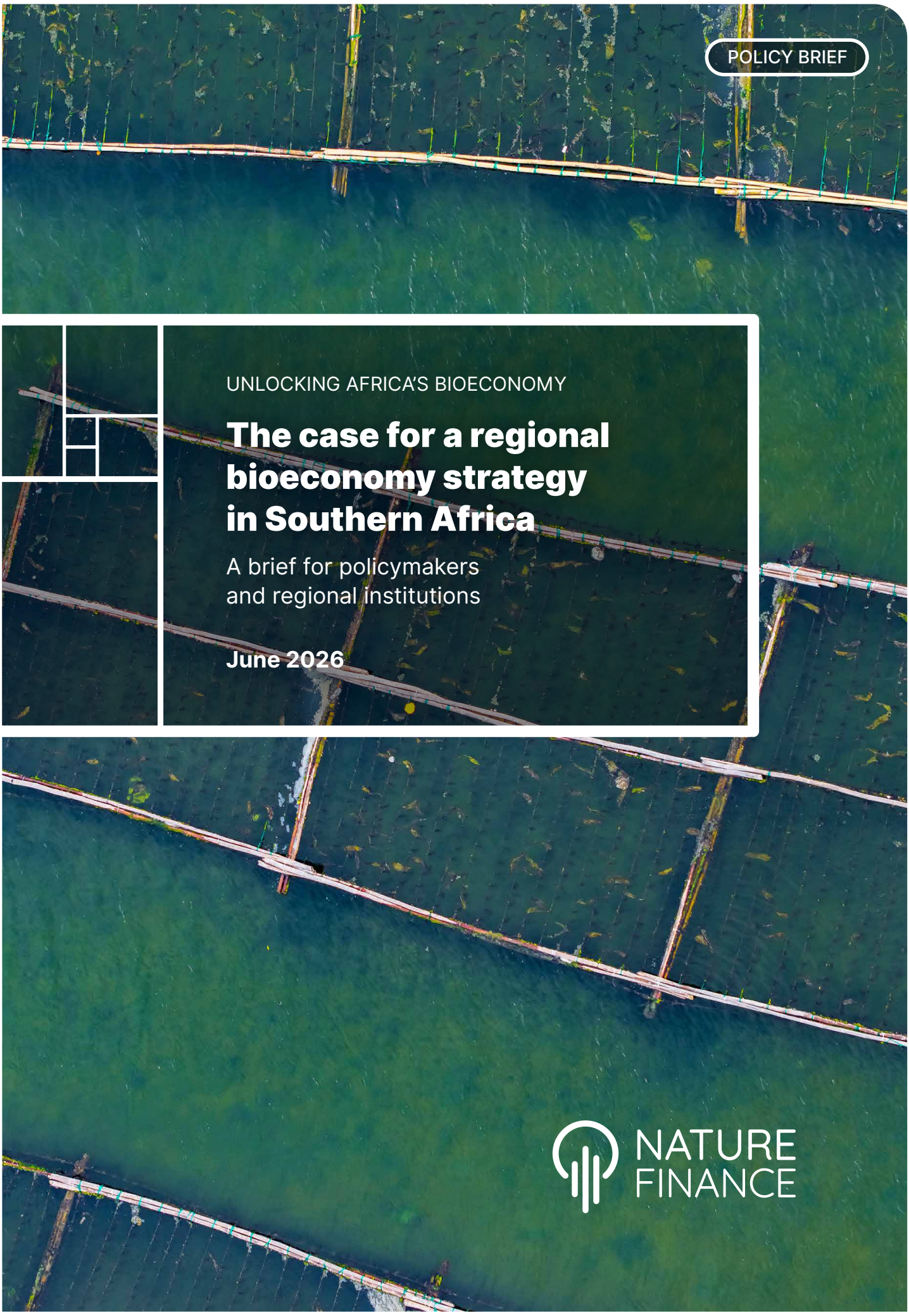

POLICY BRIEF

UNLOCKING AFRICA'S BIOECONOMY

The case for a regional bioeconomy strategy in Southern Africa

A brief for policymakers and regional institutions

June 2026

NATURE FINANCE

This publication forms part of NatureFinance's *Unlocking Africa's bioeconomy* series, which explores how African countries and regions can move beyond resource extraction patterns toward value addition that strengthens economic resilience, supports nature-positive growth and attracts investment.

Other publications in the series

From agricultural production to bioeconomy value creation in Africa
A strategic brief for policymakers, finance and economic leaders, and value chain actors

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Abbreviations

BSF	Black soldier fly
EPR	Extended producer responsibility
GDP	Gross domestic product
GIB	G20 Initiative on the Bioeconomy
R&D	Research and development
SADC	Southern African Development Community
SAF	Sustainable aviation fuel
SISR	SADC Industrialisation Strategy and Roadmap
US$	United States dollar

The bioeconomy is not a niche environmental agenda but a whole-of-government economic and industrial strategy and the cornerstone of a new regional development model.

Executive summary

- **The bioeconomy offers the Southern African Development Community (SADC) a pathway to macroeconomic resilience and long-term futureproofing.** It provides a strategic response to the intersecting risks of trade exposure, economic volatility, high unemployment and climate change.

- **The economic opportunity is substantial: expanding the circular bioeconomy could add 2.2% to Africa's GDP and generate 11 million jobs.**[1] By diversifying into bio-based industries, SADC members can build comparative advantage, strengthen domestic value addition and leapfrog toward green industrialisation, positioning the region as a market shaper in emerging global bio-based industries.

- **SADC's extraordinary biodiversity, fertile agricultural landscapes, young workforce and abundant biomass give the region a natural competitive edge,** providing a strong foundation for developing biotechnology value chains in order to derive greater economic value addition from biomass.

- **Financing is a critical bottleneck.** Private investment is concentrated in commercially mature sectors, leaving most bioeconomy sectors underfinanced. Blended finance, strategically layering public, concessional and private capital, is the key mechanism to de-risk early-stage ventures and bio-innovation. This will unlock investment at scale as well as drive industry wide growth of bio-based value webs.

- **Realising the bioeconomy's potential demands a fundamental shift in ambition, which could be guided by developing a SADC bioeconomy framework.** The bioeconomy is not a niche environmental agenda but a whole-of-government economic and industrial strategy and the cornerstone of a new regional development model. Mainstreaming means moving beyond fragmented sectoral policies toward a region-wide economic transition, underpinned by coordinated institutions, policy levers and strategic financing that deliver inclusive and resilient growth for both people and planet.

01 Introduction

This policy brief summarises the findings of an accompanying broader research report on the bioeconomy potential of the Southern African Development Community (SADC). The report was prepared by NatureFinance as a contribution to the South African Presidency's G20 Initiative on the Bioeconomy (GIB). Drawing on the evidence base of the full report, this brief sets out the economic opportunity, examines the sectors with the greatest potential for growth and resilience, identifies the structural barriers to investment, and presents a focused set of recommendations for policymakers, regional institutions and development partners.

It highlights the factors that make SADC uniquely placed to harness the potential of the bioeconomy and argues that a more coordinated regional approach will amplify national efforts and deliver benefits that no member state could achieve alone. Central to this argument is the case for a dedicated SADC bioeconomy framework or strategy, the institutional and policy foundation needed to translate regional ambition into coordinated action and investment at scale.

BOX 1

Defining the bioeconomy

The bioeconomy is more than a shift in production - it represents a strategic approach to decoupling growth from resource depletion, while enabling new forms of value creation and a new bio-based development approach. The bioeconomy also helps ensure resources are used efficiently by turning renewable biological materials into valuable, circular or low-waste products. Beyond this, it offers the opportunity to increase the productivity, competitiveness, industrial upgrading and valorisation of biomass while investing in resilience and adaptation of nature-rich countries such as SADC members.[2]

02 The bioeconomy: a transformative economic opportunity

The bioeconomy offers SADC a compelling pathway to address critical development challenges while driving sustainable economic growth and green industrialisation. The region's extraordinary biodiversity, fertile agricultural landscapes, scientific entities and abundant biomass provide a competitive edge in developing nature-based and high-tech value chains. With over 40% of species endemic and exceptional ecological processes, SADC is extremely well positioned for the development of new bio-based industries.[6] A young and growing population further strengthens the case, positioning SADC to build the skilled workforce needed.

SADC comprises 16 member states across nearly one third of the African continent's landmass, with a mandate to promote sustainable and equitable economic growth through deeper cooperation, good governance, and durable peace and security. Its Industrialisation Strategy and Roadmap (SISR) 2015–2063 sets out a clear ambition to shift the region from commodity dependence toward diversified, innovation-driven economies, through four mutually reinforcing pillars: building industrialisation, productive capacity, competitiveness, regional integration and sustainable resource use.[7] The bioeconomy opportunity offers a direct mechanism to deliver on that ambition, turning natural capital into competitive, low-carbon industrial systems.

The bioeconomy is a seamless fit for the SISR but must be explicitly named within it to become investment ready. This requires clear roadmap thinking on how to translate national industries into scalable, competitive bio-based production regional systems, whether through practical mechanisms such as biorefineries, agro-industrial parks, circular industrial parks, multi-product biomass utilisation or waste-to-value systems.

THE OPPORTUNITY IN NUMBERS

11 million jobs

potential employment generated by Africa's circular bioeconomy[3]

+2.2% GDP

potential increase in Africa's GDP from expanding bioeconomy-related sectors[4]

700,000 new green jobs

projected in Africa's agriculture sector by 2030[5]

BOX 2

What a regional bioeconomy could unlock for SADC

- New employment and innovation opportunities especially for youth and women
- Greater competitiveness in low-carbon and sustainability-sensitive markets
- More resilient supply chains for critical bio-pharmaceuticals
- Reduced climate related losses in key economic sectors
- Stronger rural livelihoods and sustainable biomass supply chains
- More reliable bioenergy options and lower production costs
- More circular economic models and greater waste valorisation across traditional sectors

Why regional coordination matters

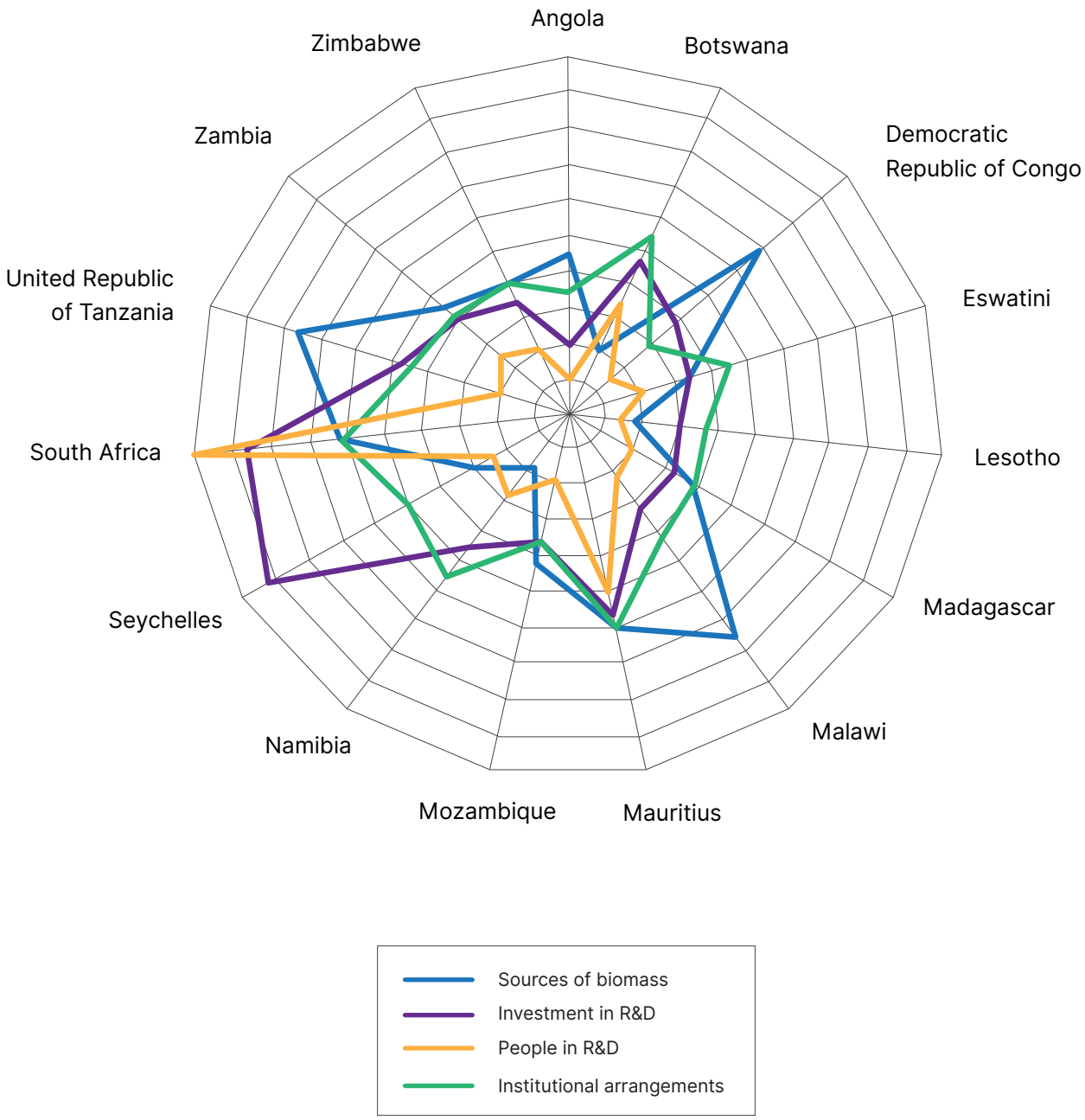
Realising the bioeconomy's transformational potential requires moving beyond isolated sectoral initiatives to an integrated regional strategy. Individual countries acting alone face higher costs, limited scale and weaker market competitiveness, whereas coordinated regional action can position SADC as a first mover in nature-based industries and unlock greater economic opportunities through collective competitive advantage. Strong regional agreements, frameworks and institutional coordination are essential to amplifying national bioeconomy efforts, providing the coherence and scale needed to meet international commitments and to signal clear sectoral investment priorities.

The Southern African bioeconomy is evolving along multiple, interconnected pathways each reflecting different levels of technological intensity, investment readiness, and policy maturity. This places countries at varying degrees of bioeconomy readiness, with South Africa, one of the African countries with the oldest bioeconomy strategies, scoring the highest Bioeconomy Readiness Index score on the continent (Figure 1). This demonstrates the integral role of comprehensive policy frameworks, especially when integrated across relevant sectors and the national development agenda.

FIGURE 1

SADC countries show different levels of bioeconomy readiness

The Bioeconomy Readiness Index reveals SADC's strong existing potential to develop the bioeconomy across its four determinants: sources of biomass, investment in R&D, people in R&D and institutional arrangements (Oguntuase and Adu, 2021).[8]



Four critical enablers for a thriving regional bioeconomy

Unlocking SADC's bioeconomy potential will not happen through isolated national efforts alone and requires regional coordination. While the region has the natural assets, biodiversity and demographic advantages to become a global bioeconomy leader, translating this potential into inclusive economic growth requires the right enabling conditions.

1. Coordinate strategic investment to pool resources and mobilise private capital. Coordinated investment mobilisation is crucial for scaling the regional bioeconomy to ensure investments are complementary rather than duplicative, pooling resources for transformative projects no single country could fund alone. Bioeconomy infrastructure and early-stage innovation require patient capital that most private investors will not provide without de-risking, making coordinated strategic public and development finance investment an important enabler of subsequent private sector participation at scale.

2. Harmonise policies and standards to unlock investor confidence. Fragmented policies, overlapping mandates and regulatory uncertainty continue to deter investment and favour incumbent fossil fuel industries. Policy coherence is a critical enabler: a harmonised regional approach aligns national and regional priorities, sends clear investment signals, and gives investors the certainty needed to commit capital to emerging bioeconomy sectors.

3. Invest in innovation, skills and infrastructure development to build competitive advantages. Human capital, research capacity and physical infrastructure are fundamental to building the competitiveness of the bioeconomy. Such as research institutes which train individuals in bio-manufacturing, R&D and quality control accelerate knowledge diffusion, building the scientific and technical base on which a competitive regional bioeconomy depends. Regional coordination also enables strategic specialisation and efficiency, allowing countries to develop infrastructure aligned to their comparative advantage, while cross-border access agreements build complementary regional capabilities.

4. Develop a baseline for monitoring and evaluating progress. Clear baselines, indicators and monitoring systems ensure bioeconomy investments deliver their promised economic, social and environmental outcomes. Importantly, robust baseline monitoring demonstrates impact to investors, identifies bottlenecks early and provides the evidence base needed to assess whether growth translates into meaningful progress.

03 Sectors with the greatest potential for growth and resilience

The bioeconomy is not a single sector but a cross-cutting economic transformation strategy that touches all sectors, from agriculture to manufacturing, energy, healthcare to urban services. What unites these diverse sectors is their shared foundation in renewable biological resources, their capacity to generate labour-intensive employment, and their alignment with emerging global market demands for sustainable, low-carbon products. Unlike the just transition which has largely focused on decarbonising the energy sector, the bioeconomy represents a leapfrogging opportunity beyond this: creating economy-wide transformation toward a more circular biobased economy.

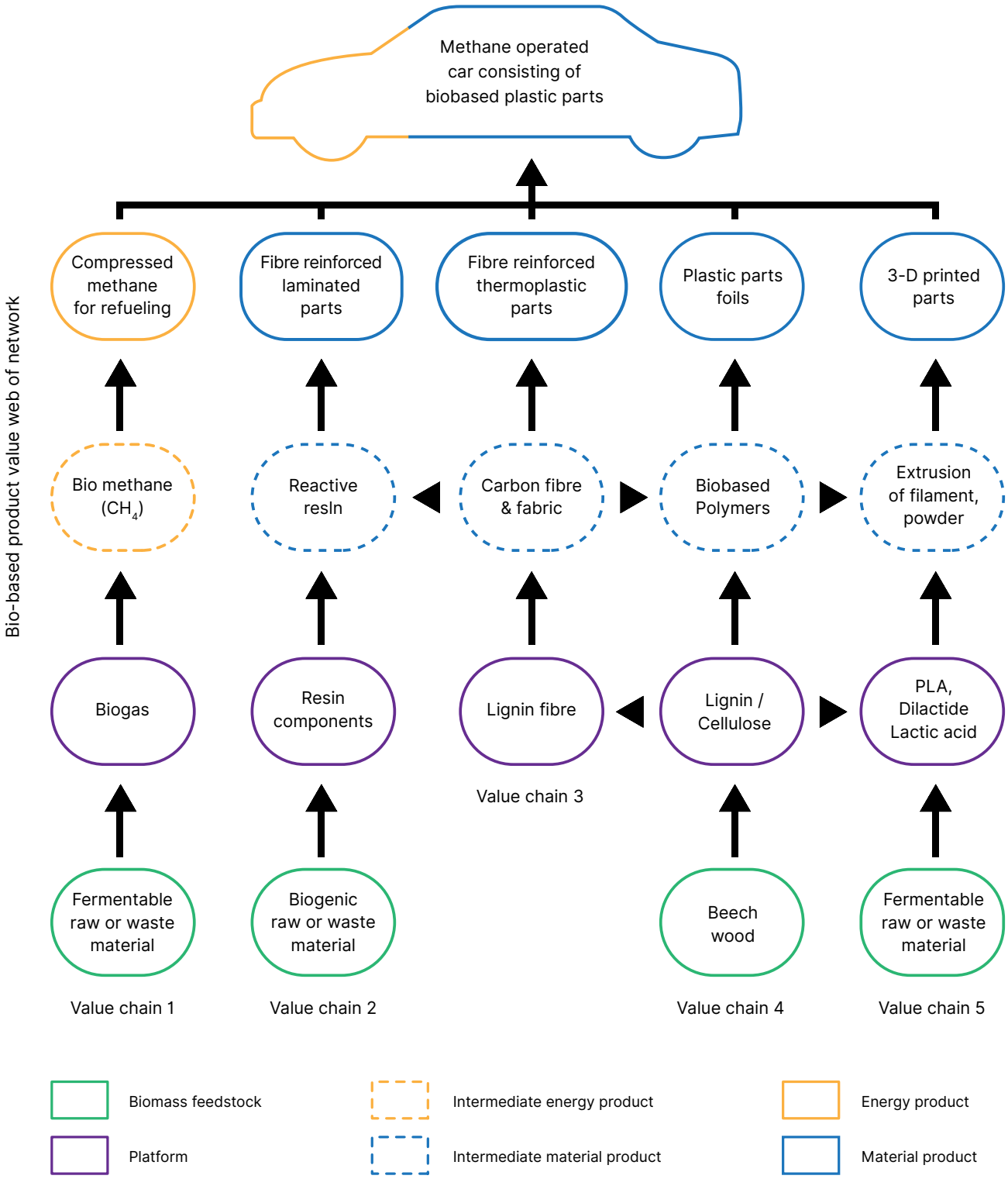
One strategic way of approaching this, well suited to a regional competitive industrial strategy has been described by Lewandowski et al, is bio-based value webs, as opposed to value chains, which expand into a network of interconnected chains.[9] Instead of one pathway, there can be multiple products from the same biomass, with cross-sector linkages and circular flows. For example, from sugarcane one could develop bio-ethanol, bioplastics and biochemicals, and from the 'waste streams' fertiliser, energy, wax products and animal feed.

Investing in the bioeconomy can increase macroeconomic resilience and futureproof the region's economy, while also helping the region become a market shaper for emerging green industry.

FIGURE 2

A single biomass feedstock can support multiple bio-based value chains

Bio-based value webs in practice. A single biomass feedstock can generate multiple products across integrated value chains, which is illustrated here through a car operated with biomethane and built with bio-based plastic parts.



SADC could apply this thinking to a number of biomass value webs and as a starting point, this section examines high-potential bioeconomy sectors across SADC members, demonstrating how the region's competitive advantages in biodiversity, biomass density, and underutilised labour translate into investable pathways that address the region's core vulnerabilities: trade exposure, climate volatility, commodity dependence and youth unemployment.

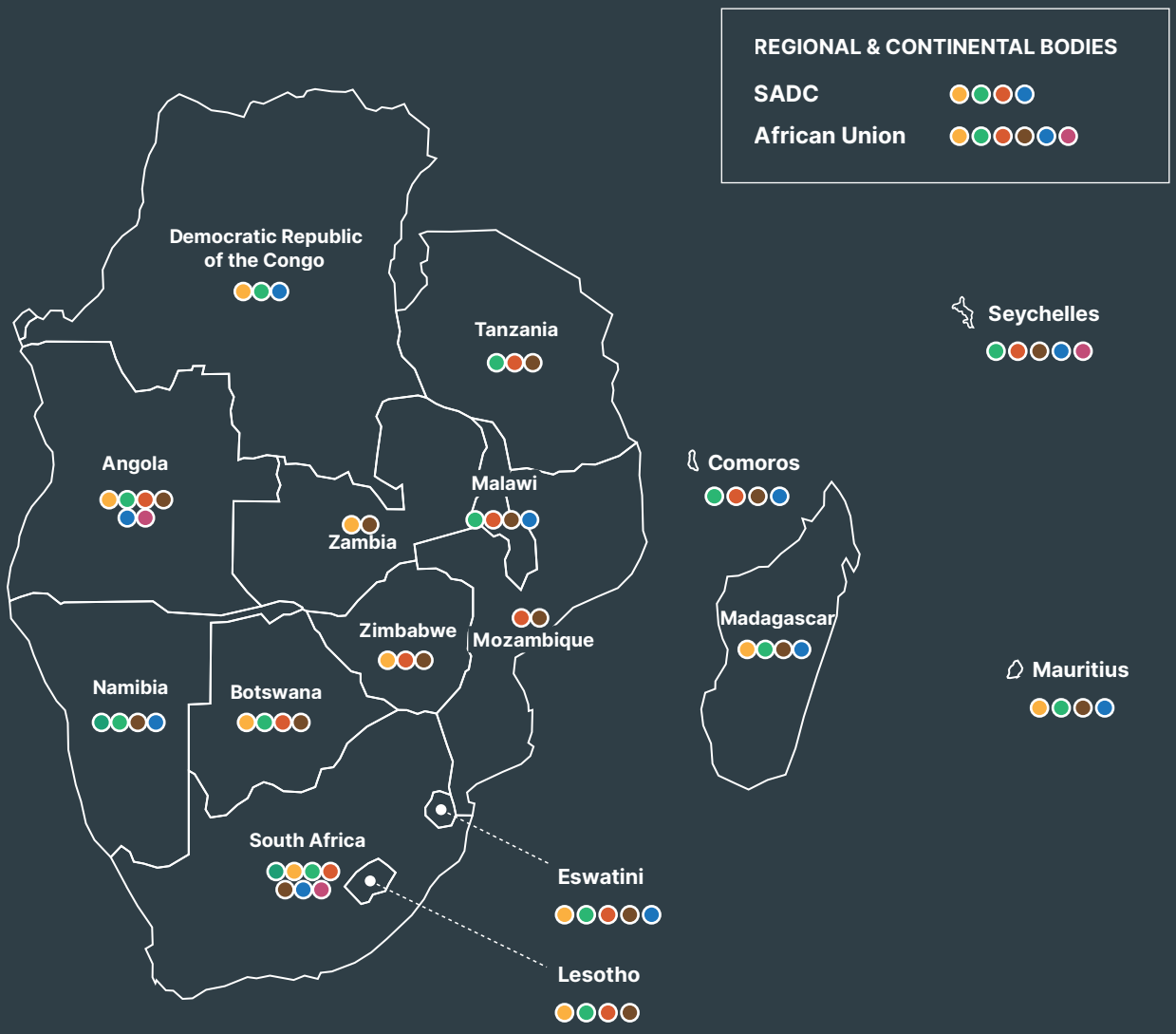
The six key sectors examined in this section demonstrate the breadth of the bioeconomy across agriculture, advanced manufacturing, healthcare, biotechnology, energy, marine resources, urban services and wildlife-based industries. What unites them is their shared foundation in renewable biological resources, their potential to generate labour-intensive employment, and their alignment with global policy and sustainability transitions. Figure 3 shows the bioeconomy-related sectoral policies currently being implemented by SADC member states.

However, realising the bioeconomy's full potential requires moving beyond sectoral initiatives to an integrated regional strategy. Individual countries pursuing isolated bioeconomy development face higher costs, limited scale, and weaker overall market competitiveness than coordinated SADC action that pools resources, harmonises standards, locates infrastructure strategically, and negotiates collectively.

A coordinated regional bioeconomy approach can generate economies of scale, strengthen regional value chains and establish Southern Africa as a credible and formidable force in the global green economy.

FIGURE 3

SADC member states are already implementing bioeconomy-related policies



Key sector 1.

Agriculture, agro-processing and food systems

The opportunity

Agriculture is the region's dominant economic sector, but faces a triple threat from climate change, low value capture from commodity exports and global price volatility. The bioeconomy can transform agriculture from **a source of vulnerability into a sector for resilience.** Africa's agricultural sector is projected to reach a gross production value of US$189.1 billion by 2025 and US$1 trillion by 2030, contributing 30% to GDP.[10] However, value capture depends on moving up value chains. Processed products command 3-5x higher margins than raw commodities.[11] Agro-processing requires more capital-intensive infrastructure but generates strong employment multipliers with each processing facility creating 5-10 jobs in primary production for every processing job.[12]

THE OPPORTUNITY IN NUMBERS

US$1 trillion
projected gross production value of Africa's agriculture sector by 2030

3-5x higher margins
for processed agricultural products compared with raw commodities

377,000 new jobs
projected in climate-smart agriculture in Africa by 2030[13]

BOX 3

Key sub-sectors of the agricultural bioeconomy

- **Climate-smart agriculture technologies:** Agroforestry, drip irrigation, conservation agriculture, and drought-resilient crop varieties that maintain productivity under climate stress while sequestering carbon, addressing both adaptation needs and emerging carbon market opportunities.
- **Bio-based agricultural inputs:** Locally produced biofertilisers and biopesticides reduce import dependency (strengthening balance of payments), lower input costs for farmers, and align with sustainable agriculture premiums in export markets.
- **Agro-processing and value addition:** Moving from raw commodity exports to processed foods, specialty ingredients and certified organic products captures significantly higher margins.
- **Biotechnology applications:** Crop improvement, biogenetics, biofertilisers and bio-stimulants, biopesticides and precision agriculture increase yields and resilience while creating employment in R&D, extension services and technical support.

Enablers of the transition

Realising this potential requires deliberate regional coordination across several levers:

1. **Patient capital is needed for farmer training, input systems and market linkages,** but will offer stable returns through reduced risk exposure and premium pricing.
2. **Harmonised organic and sustainability certification styles** to reduce costs. This could be achieved through the development of a regional SADC bioeconomy strategy.
3. **Shared research platforms** to accelerate development and technology diffusion.
4. **Regional standards for bio-inputs** to enable cross-border trade and economies of scale.

Key sector 2.

Biotechnology and bioprocessing

The opportunity

Biotechnology and bioprocessing present **the highest value chain and export earnings** opportunity. SADC has significant potential in the arena, primarily driven by its **rich biodiversity, a strong focus on agricultural development, regional initiatives in pharmaceuticals and healthcare sovereignty, industrial biotechnology as well leveraging indigenous knowledge systems** in healthcare, pharmaceutical, nutraceutical and cosmetic applications.

THE OPPORTUNITY IN NUMBERS

88% market growth
in Africa's pharmaceutical and biotechnology market[14]

US$138.2 million
projected value of Africa's pharmaceutical and biotechnology market by 2030[15]

14,000 full-time jobs
needed to support vaccine manufacturing in Africa by 2040[16]

BOX 4

Key biotechnology and bioprocessing sub-sectors

- **Biopharmaceutical manufacturing:** Local production of essential medicines addresses three objectives: 1) reduces import dependency and improves healthcare security; 2) creates high-skilled employment in manufacturing and R&D; and 3) positions SADC as a supplier to other African markets and potentially globally. The COVID-19 pandemic and recent livestock disease outbreaks starkly exposed vulnerability in pharmaceutical and vaccine supply chains. Regional manufacturing capacity is now a strategic priority for governments and development finance institutions.
- **Industrial biotechnology:** Converting biomass into biochemicals, bioplastics, bio-packaging and industrial bio-based inputs replaces imported fossil-based products with domestic renewable alternatives and paves the way for green industrialisation. This is import substitution at industrial scale, strengthening balance of payments while creating manufacturing jobs. Applications span construction materials, packaging, textiles, adhesives and specialty chemicals.
- **Agricultural biotechnology:** Development of climate-resilient crop varieties, biofertilisers, biopesticides, and veterinary biologics serves both domestic agricultural needs and export markets across Africa and developing regions with similar agro-ecological conditions.
- **Indigenous knowledge commercialisation:** SADC's rich biodiversity and traditional medicine systems represent untapped intellectual property. Scientific validation, standardisation, and commercialisation of traditional medicines, cosmetic ingredients and nutraceuticals with equitable benefit-sharing transforms cultural heritage into economic value while maintaining community rights.

Enablers of the transition

Realising this potential requires deliberate regional coordination across several levers:

1. **Shared R&D infrastructure, centres of excellence and harmonised regulatory frameworks** will create the market scale needed to attract significant investment.
2. **Coordinated industrial planning** can ensure bio-refineries and processing facilities are sited near feedstock sources and transport corridors, improving competitiveness.
3. **Regional IP and benefit-sharing frameworks** will protect traditional knowledge while enabling responsible commercialisation.
4. **Collective bargaining on technology transfer and manufacturing licences** will strengthen SADC's negotiating position, securing more equitable access to critical technologies.

Key sector 3.

Bioenergy and biofuels

The opportunity

Bioenergy and biofuels offer a compelling **response to one of the region's most binding development constraints and competitiveness threats: energy access and security.** Beyond energy security, they offer opportunities for **rural development, agricultural growth and diversification, foreign currency savings as well as reduced greenhouse gas emissions.** Alongside renewable energy rollout, bioenergy systems enhance domestic energy access and security, while positioning SADC to supply sustainable fuels for trade-intensive sectors, particularly where there are no other viable alternatives, such as aviation and maritime fuels, ensuring continued competitiveness in global markets as these sectors decarbonise.

THE OPPORTUNITY IN NUMBERS

US$17.6 billion

projected value of Africa's bioenergy market by 2035[17]

40 million litres per year

produced by one of Zimbabwe's largest ethanol producers[18]

2 million jobs

expected from Africa's renewable energy sector by 2030[19]

BOX 5

Key bioenergy and biofuel sub-sectors

- **Sustainable aviation fuel (SAF):** With current technology, aviation simply cannot electrify at scale and SAF is the only credible decarbonisation pathway for global airlines. As the European Union and other major markets roll out strict blending mandates (with targets rising as high as 70% by 2050), demand for reliable SAF suppliers will surge. SADC can position itself as a competitive producer, drawing on existing work such as the Roundtable on Sustainable Biomass 10-year SAF roadmaps for South Africa and Ethiopia, which already demonstrate technical and commercial feasibility.
- **Agricultural residue to energy:** Turning crop residues, bagasse and other agricultural by-products into biogas, bioethanol or power converts waste liabilities into energy assets. This is especially compelling for agro processing zones where energy intensive industries operate next to abundant feedstocks, reducing waste-management costs and improving energy security simultaneously.
- **Biodiesel from vegetable oils:** Several SADC countries already grow suitable feedstocks and have basic processing capacity. With coordinated regional standards and blending requirements, the region can create the market certainty and scale investors need to expand production and upgrade facilities.
- **Decentralised bioenergy for rural electrification:** Small-scale biogas systems using agricultural and household organic waste offer a practical, locally owned solution to energy poverty in off-grid areas. Beyond providing clean electricity and cooking fuel, these systems generate employment across installation, maintenance and feedstock supply chains, helping to keep economic value within communities.

Enablers of the transition

For bioenergy and biofuels to scale up, stronger regional coordination will be essential to unlock investment and competitiveness.

1. **Policy certainty on harmonised blending mandates** across SADC would create predictable demand and build the scale needed for serious capital mobilisation
2. **Shared sustainability standards** would lower transaction costs and safeguard access to international markets.
3. **Greater integration of regional power grids** would allow bioenergy to complement other renewable sources, helping stabilise supply and support broader energy transitions.

Key sector 4.

Blue bioeconomy

The opportunity

The blue bioeconomy offers pathways to diversify beyond terrestrial agriculture, creating up to 57 million jobs across Africa and harnessing nature-based climate solutions.[20] SADC's extensive coastlines, including two large marine ecosystems (Benguela and Agulhas Currents), and numerous lakes and rivers, represent a rich aquatic resource base with exceptional economic potential.

Currently, the SADC blue bioeconomy contributes approximately **2% of SADC's GDP, equivalent to around US$13–14 billion.**[21] This significantly understates potential, while some areas are overutilised, for the most part the sector is underdeveloped with low value addition relative to SADC's aquatic resources and the livelihoods it could support. Where terrestrial agriculture and extractive industries face increasing climate stress and commodity price volatility, aquatic resources offer complementary diversification that strengthens overall economic resilience.

THE OPPORTUNITY IN NUMBERS

57 million jobs
could be supported by Africa's blue economy by 2030

2% of SADC GDP
contributed by the blue bioeconomy in 2023

~US$22 million
estimated value of South Africa's kelp value chain in 2023[22]

BOX 6

Key sub-sectors of the blue bioeconomy

- **Artisanal fisheries and aquaculture:** Strengthening capacity in fish farming technologies, processing facilities and value addition to expand beneficiaries in fish value chains. This addresses both food security and export diversification where sustainable seafood commands premium prices.
- **Marine biotechnology:** Creating cross-sectoral products and processes from marine organisms, from agricultural inputs (biofertilisers) to healthcare applications (pharmaceuticals), alternative packaging materials, and novel industrial compounds. SADC's marine biodiversity is globally significant but commercially under-utilised. This represents high-value manufacturing potential.
- **Trade and logistics infrastructure:** Improving trade corridors, modernising ports, and harmonising policies and quality standards to facilitate intra-regional fish trade and leverage the African Continental Free Trade Area. Regional coordination reduces transaction costs and enables SADC producers to access premium markets.
- **Blue carbon ecosystems:** Protecting and investing in mangroves, seagrass beds and kelp forests that sequester carbon at rates exceeding terrestrial forests while providing coastal protection and livelihood opportunities. Investment in restoration and conservation accesses carbon markets while delivering adaptation benefits that reduce climate-related fiscal losses.
- **Marine renewable energy:** Harnessing wind, tidal, wave and hydropower from coastal and aquatic sources to contribute toward bridging energy gaps and strengthening energy security, particularly in coastal regions where grid access remains limited.
- **Seaweed and kelp cultivation:** Rapidly scalable, relatively low-capital sector with diverse applications (food, animal feed, bioplastics) and significant carbon sequestration co-benefits.

Enablers of the transition

1. **Harmonised fisheries management and aquaculture standards** can prevent a race to the bottom on overfishing and ensure the long-term sustainability of shared marine resources.
2. **Shared quality and certification systems** can make it easier for producers to trade within the region and access premium global markets. Collective negotiation under the African Continental Free Trade Area and in international fisheries agreements can strengthen SADC's bargaining position, and integrated coastal-zone management frameworks are essential for balancing economic opportunities with environmental integrity and the rights of coastal communities.
3. **Regional marine biotechnology platforms** would allow countries to pool expertise and avoid duplicating research as they explore and commercialise marine-derived compounds.
4. **Training in specific skills required for blue economy jobs** such as developing technical expertise in aquaculture, marine engineering and in Geographical Information System (GIS).

Key sector 5.

The circular and waste economy

The opportunity

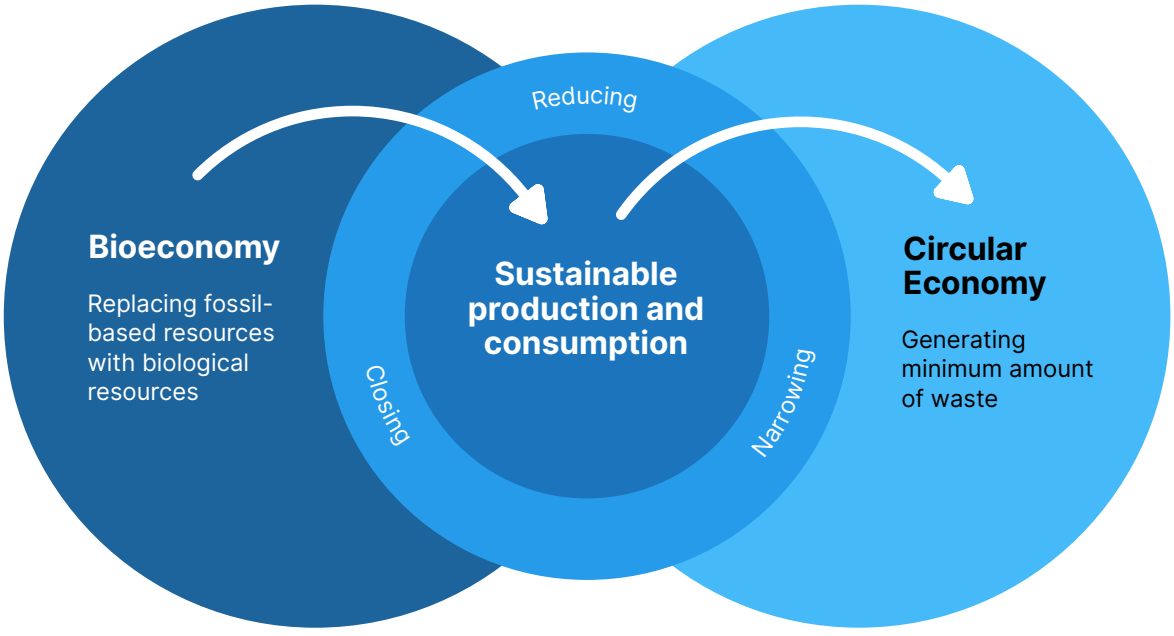
The circular and waste economy remains a major untapped opportunity, with significant potential to transform waste streams into higher-value inputs across regional industries and to generate up to 11 million jobs across the continent.[23]

Sub-Saharan Africa currently generates the least amount of global waste but is set to increase by 124% by 2050. Waste governance is generally weak and currently the collection rate in the region is less than 31%.[24] Much of this sector is in the informal economy, making the value chain partially visible, fragmented and under-capitalised. However, the region is presented with a unique leapfrogging opportunity in that 50% of waste generated now is organic – which poses an opportunity to **pioneer waste valorisation and green industrialisation** (Figure 4).

FIGURE 4

The circular bioeconomy can turn waste streams into economic value

The circular bioeconomy can help transform waste from a cost centre into an economic opportunity while simultaneously addressing environmental challenges.[25]



BOX 7

Key sub-sectors of the circular bioeconomy

- **Organic waste conversion:** Municipal and agricultural organic waste transformed into compost, biogas, animal feed (via insect protein), and biochemicals. This addresses waste management costs while producing valuable inputs for agriculture and energy.
- **Black soldier fly (BSF) systems:** BSF larvae efficiently convert organic waste into high-protein animal feed and organic fertiliser. This is particularly strategic as it reduces feed imports while solving waste challenges. Several SADC countries have emerging BSF operations with strong growth potential.
- **Industrial symbiosis in agro-processing zones:** Clustering food processing, biomass energy, and by-product utilisation facilities creates efficiency through waste-to-feedstock loops. One facility's waste becomes another's input.
- **Plastic waste valorisation:** While problematic environmentally, plastic waste streams can be converted to fuel, construction materials, or recycled—bridging toward eventual bio-based plastic substitution.
- **E-waste processing:** Growing electronic waste contains valuable metals and rare earths. Proper processing creates jobs while recovering materials and preventing environmental contamination.
- **Tailings and wastewater treatment:** Biotechnology and nanotechnology applications to mining tailings and industrial wastewater reduce environmental liabilities while potentially recovering valuable materials.

Enablers of the transition

1. **Harmonised waste classification systems, mandating waste separation, extended producer responsibility (EPR) and green procurement** through platforms like SADC Circular Economy and EPR that can help transform practices around e-waste and hazardous chemicals and create stable demand for circular economy products and services, de-risking investment.
2. **Training in the specific skills required for the circular economy jobs** such as waste engineering and environmental management essential as the sector expands and formalises.
3. **Shared quality and certification standards for secondary materials** can make it easier for producers to trade recovered inputs as well as access premium markets

Key sector 6.

The wildlife-based and biodiversity economy

The opportunity

SADC's extraordinary megafauna and flora populations and protected areas are globally significant ecological assets that generate economic value through tourism, hunting, wildlife ranching, bioprospecting and derived products. The wildlife-based economy demonstrates that conservation can be economically productive rather than purely a cost, aligning environmental and development objectives. Research by the African Leadership University's School of Wildlife Conservation reinforces this potential, showing through the State of the Wildlife Economy in Africa and the Wildlife Economy Investment Index that wildlife can be treated as an investable economic asset that drives jobs, inclusive growth and conservation outcomes across African countries.

THE OPPORTUNITY IN NUMBERS

4.6% of SADC GDP

estimated contribution of wildlife-based economies in 2023[26]

95,000 jobs

supported by hunting tourism in South Africa[27]

US$42.9 billion

total revenue from wildlife-based safari tourism across Africa[28]

BOX 8

Key sub-sectors of the circular bioeconomy

- **Wildlife-based tourism:** SADC's biodiversity and megafauna attract high-value ecotourism, particularly from Europe, North America, and increasingly Asia. Post-COVID recovery offers a reset opportunity to strengthen community participation and sustainability standards.
- **Hunting and wildlife ranching:** Regulated hunting on private and communal lands generates revenue while incentivizing conservation. Wildlife ranching provides sustainable protein while maintaining biodiversity.
- **Bioprospecting and natural products:** SADC's biodiversity provides genetic resources for pharmaceuticals, cosmetics, and agricultural applications. Equitable benefit-sharing with communities is essential for social license and sustainability.
- **Non-timber forest products:** Honey, essential oils, medicinal plants and specialty foods create diversified rural income. South Africa's Aloe ferox value chain demonstrates potential.
- **Conservation-linked carbon and biodiversity credits:** Protected wildlife areas qualify for carbon and biodiversity finance, creating revenue streams that fund conservation while demonstrating economic value of intact ecosystems.

Enablers of the transition

Unlocking the full potential of SADC's wildlife based economy equitably including dealing with human-wildlife conflict will require continued regional coordination, investment in ecological infrastructure and community-centred models that treat local communities as rightful beneficiaries and active stewards.

1. **Wildlife based economy investments must include community ownership, participation and equitable benefit-sharing models.** Where communities meaningfully share in the returns, they become effective custodians; wildlife economies fail without local community buy-in.
2. **Regional certification systems for sustainably sourced wildlife products** can improve market access and support premium pricing.
3. **Shared research platforms on human–wildlife conflict and climate adaptation** enable countries to pool expertise and tackle common challenges more effectively.

04 Closing the finance gap and attracting investment

Investment is concentrated in commercially mature sectors, leaving most of the bioeconomy underfinanced.

Despite the scale of SADC's bioeconomy potential, financing remains at an early stage, with private investment concentrated in sectors demonstrating clear commercial viability and quick returns, including sustainable agriculture, wildlife value chains, ecotourism and nutraceuticals. The absence of mature pipelines, bankable revenue structures and credible risk mitigation mechanisms makes investment at scale difficult, particularly for early-stage ventures characterised by long gestation periods and exposure to policy and currency volatility.

Different sectors need different types of finance.

Bioeconomy investments span a wide risk continuum. Nature-intensive sectors typically need grants and concessional loans at early stages. More advanced sectors, such as biofuels, are beginning to attract private capital where regulatory clarity creates stable revenues. High-tech sectors such as pharmaceuticals remain strongly reliant on grants and niche venture capital. No single financial instrument can address the full spectrum.

Closing the bioeconomy financing gap in the region requires structured deployment of instruments that reallocate risk and crowd in private capital.

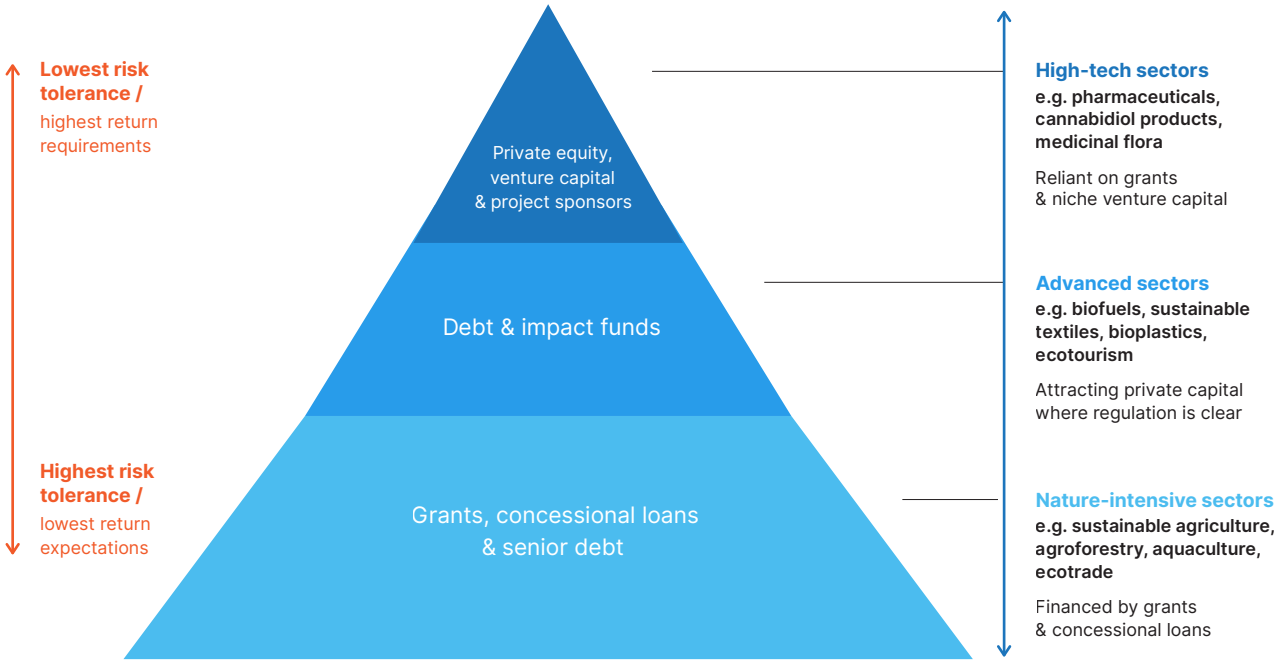
Deploying blended finance more strategically.

The most effective approach for de-risking early stages ventures layers different forms of capital strategically. Public and concessional capital absorb early-stage risks, crowding in commercial investors as projects mature and revenues become more predictable. By allocating risks to investors with differentiated risk appetites, capital can be mobilised across the full value chain (Figure 5).

Countries are already drawing on more diverse approaches, from public-private partnerships and catalytic finance to risk-sharing instruments and insurance mechanisms. The challenge is not an absence of tools but structured coordination and sequencing: deploying existing mechanisms within a coherent capital stack that absorbs risk where tolerance is highest.

FIGURE 5

Different stages of bioeconomy development require different types of finance



05 Key recommendations

Several SADC member states are already developing dedicated bioeconomy strategies, and the current momentum offers a timely opportunity to establish a coordinated regional approach. Many of the necessary policy levers already exist. The bioeconomy provides a unifying framework to align and deploy them more strategically, unlocking economic benefits that no single member state could achieve alone. SADC is uniquely placed to realise this opportunity, but doing so will require coordinated and bold steps:

1. Develop a SADC bioeconomy framework or strategy

A lack of harmonisation, unclear definitions and absent prioritisation across national and regional policies has produced fragmented investment signals and missed opportunities for scale. Developing a dedicated SADC bioeconomy framework or strategy would address these gaps directly, aligning national policies, investment priorities and standards to unlock larger markets, provide investment confidence, foster trade integration and mobilise the capital needed to realise the bioeconomy's full potential.

2. Name the bioeconomy as a key driver in the SADC Industrialisation Strategy and Roadmap (SISR) 2015–2063 to make it investment ready

The bioeconomy speaks directly to each of the SISR's four pillars (productive capacity, competitiveness, regional integration and sustainable resource use), connecting natural capital to competitive, low-carbon industrial systems. It is a seamless fit for the SISR, but must be explicitly named within the strategy to become investment ready.

3. Coordinate regional infrastructure and trade corridors to support cross-border bioeconomy value chains

A trade corridors and clusters approach would strengthen cross-border bioeconomy value chains, with infrastructure strategically located according to each country's comparative advantage and cross-border access agreements ensuring that capabilities across the region are complementary rather than duplicative.

4. Pool regional expertise and finance to build shared R&D platforms, processing hubs and special economic zones

Shared investment in research platforms, biorefinery hubs, centres of excellence and data systems would accelerate knowledge diffusion and build the collective technical skills needed to compete in global markets. Bioeconomy-focused special economic zones complement this by concentrating investment through targeted incentives to de-risk early-stage ventures and bio-innovation, and provide a key concentration of infrastructure and enabling policy to harness corridors and clusters.

5. Use regional diplomacy to position SADC as a competitive global supplier of sustainable bio-based products

SADC should actively leverage regional diplomacy and trade relationships to position itself as a competitive supplier of sustainable bio-based products on the continent and globally, securing market access and advocating for standards that reflect the region's strengths.

06 Conclusion

The transition from bioeconomy strategies to bioeconomy mainstreaming across SADC represents a fundamental shift in ambition, from individual sectoral policies to a regional economy and society-wide transition. Most SADC countries have some bioeconomy-related sectoral policies, but a lack of harmonisation, unclear definitions and absent prioritisation has produced fragmented investment signals that favour incumbent fossil fuel industries, created regulatory uncertainty that deters patient capital, whilst missing opportunities for regional scale economies.

Developing the bioeconomy as a transformation and resilience pathway for SADC therefore requires regional coordination of industrial, trade, climate, labour policy levers, championed by ministries of finance, health, trade and industry – not solely by environment or science ministries. By deliberately aligning these levers, SADC can leapfrog carbon-intensive development models and deliver the inclusive growth needed for both people and the planet.

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