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Support for the development of a SADC Circular Economy Strategy

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Support for the development of a SADC Circular Economy Strategy

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(Draft) SADC Regional Strategy for a Circular Economy transition (Output 5)

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ACEA	African Circular Economy Alliance
ACEF	African Circular Economy Facility
AfCFTA	African Continental Free Trade Area
AFCIA	Adaptation Fund Climate Innovation Accelerator
AUDA-NEPAD	African Union Development Agency
BSF	Black soldier fly
CE	Circular Economy
CSR	Corporate Social Responsibility
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
EAC	East African Community
ESG	Environmental, social, and governance
EU	European Union
FANR	Directorate for Food, Agriculture and Natural Resources
FSB	Financial Stability Board
FTA	Free Trade Agreement
GE	Green Economy
GCF	Green Climate Fund
GEF	Global Environment Facility
GGGI	Global Green Growth Institute
GHG	Greenhouse gas
GiZ	Gesellschaft für Internationale Zusammenarbeit
NGO	Non-governmental Organisation
PPP	Public-Private Partnership
RECs	Regional Economic Communities
SADC	Southern African Development Community
SADC Sec	Secretariat of the Southern African Development Community
SACREEE	SADC Center for Renewable Energy and Energy Efficiency
SDGs	Sustainable Development Goals
SIPS	Support to Industrialisation and Productive Sectors
SISR	SADC Industrialisation Strategy and Roadmap
SME	Small and Medium-sized Enterprises
TWG	Technical Working Group

0. Background, acknowledgements and intentions

With the intention to strengthen regional value chains and promote non-linear production approaches, the EU agreed to fund the support of the SADC Secretariat to develop a strategy on circular economy during the first semester of 2022. The development of the regional strategy on the circular economy is based on an assessment of current policies, for example in the areas of industrialisation, waste management and value chains development, and the consultation of key stakeholders, as well as the mainstreaming of cross-cutting aspects such as environment and climate change, rights-based approach, persons with disability, indigenous peoples, gender equality and the empowerment of women.

The draft strategy was developed in a participative and consultative approach during March and June 2022, taking into account the inputs and feedback from more than 85 institutions from several stakeholder groups (International development partners and initiatives, SADC Secretariat, SADC member countries representatives, businesses/ value chain, Training centers/ universities/ academia / research institutions, Financiers/ investors/Development Finance Institutions, NGOs/CSOs), including the valuable support by the ACEN Network[1], among others. The Southern African Development Community (SADC) would like to sincerely thank all SADC Member States for the technical support and guidance provided in preparing this Circular Economy Strategy. A full list of consulted parties, which serves at the same time as an indication of key stakeholders for the circular economy transition in the SADC Region, can be found in the Annex 01. Special thanks to the European Union, whose financial and technical contribution made the development of this Strategy possible.

The Expert team analysed circular economy activities in selected sectors and SADC countries with potential for circular economy interventions from a regional perspective, and an assessment of selected pilot projects. The analysis followed an appreciative inquiry approach to develop a solid and feasible strategy based on what works in the region and how these positive dynamics can be further supported, strengthened, upscaled and bottlenecks unlocked

During the consultations, the different stakeholder groups made it clear that practical and operational support would benefit them most, which is how the idea of a handbook was developed. Therefore, elements of the strategy will include information and action-oriented chapters, which builds on the syntheses of findings, conclusions and recommendations of the various sub-deliverables of this assignment. This handbook aims at providing tools and making links to already available resources where possible. The main analytic insights from the desk review and consultation phases, which have been presented in a stakeholder workshop for validation, build the basis for the CE strategy.

[1] The ACEN Network was so kind to facilitate several interviews through their country representatives in Botswana, Zambia, Tanzania, and South Africa.

1. Principles

1.1. Get Started – Prudent Principles

Today's applied Circular Economy concept, its principles and elements have been around since the 1970ies and then with more force in 1990ies but have often remained within the environmental management niche. This is why the transition from the commonly applied, extractive economic model to a more regenerative (circular) one might be new for many stakeholders who previously have not been exposed to such approaches. In such a case, what helps to get started is the application of prudent principles:

1. **Build on what is there** – Even if the circular economy approach is new to some, in most cases, some sources of circular value creation have already been introduced to the country, the economic sector, the organization and/or its value chain. Policies can be "carrots" or "sticks", economic or legislative, informational or educational, voluntary or mandatory. Policies can be positive, enforcing (e.g., right to repair), or discouraging (e.g., plastic bag ban).

   The Annex 02 can serve as a checklist for policy makers and the identification of key initiatives.

2. **Take one step at a time** – Jeff Bezos' approach ("big things start small"[2]) can be taken as an example for this principle. The Amazon corporation was not built in one day but instead started as a digital book sales company which gradually built upon and developed opportunities to expand. To get started, it will be good to identify what is already there (principle 1) and to nurture and harvest the low hanging fruits: strengthen and reward the positive dynamics that are already happening.

3. **Allow for parallel tracks** - Along the same way of opportunistic start, make sure you allow for parallel tracks. Nothing is 'perfectly circular' (and this is even not yet properly defined) from the first moment onwards. There is no "black" or "white" but rather different shades of green, and also different shades of grey and brown. So, mainstreaming the circular economy and continuing the business as usual in parallel is perfectly normal in a transition environment. The speed and pattern of how such parallel tracks will be steered by decision-makers depends on the impact and target levels set as a commitment (see possible model alternatives in Figure 01).

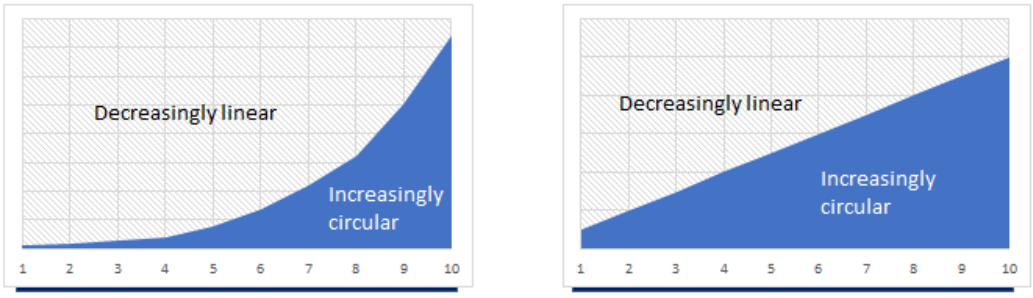

Figure 1: Alternatives of a steady and gradual development of the circular economy [3]

[2] "You can't sit down to write a business plan and say you're going to build a multibillion-dollar corporation, that's unrealistic"; in: Brian, R. (2015): The Man who sells everything: A conversation with Jeff Bezos, Foreign Affairs, Vol. 94, No. 1, Special Entrepreneurship Issue (January/ February 2015), pp. 2-6 (5 pages), Published By: Council on Foreign Relations. (Link)

[3] Source: Own illustration to showcase different ambitions for the transition journey.

For example, it is possible to promote renewable and alternative energy sources while utilising the existing oil/gas reserves for stability and poverty alleviation. What should though be evaluated very carefully is the exploration of even new fossil fuel mines, as the amount of time needed from exploration to exploitation is very long, and therefore, there is a risk of locking in a "brown" technology for too long, while (a) both country and corporate net-zero commitments are kicking in, and (b) the efficiency and effectiveness of renewable and alternative energy sources is advancing fast.[4] In this particular case, for example, it might make sense to, at a regional level, initiate the development of a Regional Renewable/Alternative Energy Masterplan, in which available fossil energies are counted in to support this plan as "stabiliser" for the intermittent energy needs. This could be based on the Gas Master Plan that is currently being developed by the SADC Center for Renewable Energy and Energy Efficiency (SACREEE).

4. **Consider regional sandboxing** – Early or first-to-market innovations are untested, and their potential risk can be difficult to predict. Some innovations have not yet been tested in a crisis such as an economic downturn, or they might not fit into the traditional definitions of markets as recognized by existing regulatory bodies.[5]

   To allow for innovations and novel technologies needed for the circular economy transition and for private sector buy-in required in this context, the leaders of the SADC region may decide to establish the concept of 'sandboxing' for policy development and testing. Sandboxes are frameworks that provide participant companies with some regulatory flexibility while insulating the impact on consumers. Sandboxing is a relatively new approach of using experiments to test technologies in a controlled space, for example with a small sample group, before launching the ideas at scale, allowing to dramatically reduce costs and limit the chances of failure and negative impacts. Such sandboxing and experimenting can help governments to engage in efficient, targeted and creative solutions and technologies in priority areas for sustainable development.

   Countries approach regulatory sandboxes quite differently. The following Figure 02 outlines the elements and sequences of a general sandboxing approach. It is important to note that each step must be completed within a defined timeframe.

[4] Burkhardt, P. (2022): Namibia has 10 years to get oil industry going before net-zero, Bloomberg, 21.04.2022. (Link)

[5] Carney, M. (2017): The promise of fintech – Something new under the sun?, speech at the Bank of England, 25 January. (Link)

Figure 2: Building blocks and flow of a sandbox [6]

Regulatory sandboxes often include common features, which include:[7] (i) Firms need to demonstrate that their business idea is a **genuine innovation or novelty** in how to apply an existing technology. (ii) Firms often have to identify the specific regulation that **constrains** it, as well as demonstrate that their product or service is ready to be tested in a 'live' market or controlled environment. (iii) Most regulatory sandboxes include **safeguards** to achieve overarching regulatory objectives, including consumer protection, safety, and data governance. That is why, limitations often exist regarding the scope of the testing, for example in the form of timeline, but can also include sectoral or geographic limits. In some cases, sandboxing even requires the applicants to demonstrate how the proposed innovation can lead to consumer benefit (e.g., higher quality or lower prices), or how the business model addresses an otherwise unmet societal need.[8]

5. **Everyone can contribute and inspire**: All potential implementers of an economic reform have a large role to play in this transition. Any of them can make a difference and take the lead. Who are they? (see Table 01)

[6] Source: Wechsler, M.,/ Perlman, L./ Gurung, N. (2018): The state of regulatory sandboxes in developing countries.

[7] Lesher, M. (2020): Bringing new digitally enabled products and services to market: Sandboxes and the role of policy experimentation, 13.10.2020 (Link); Wai Min Kwok. et al. (2021): UN DESA PolicyBrief No. 123: Sandboxing and experimenting digital technologies for sustainable development, 03.12.2021. (Link)

[8] For more details, a recently drafted practical guide for policy makers can be found here (in English, French and Spanish): Jenik, I./ Duff, S. (2021): Regulatory Sandboxes: A Practical Guide for POlicy Makers, January 2021. (Link)

Businesses	Large corporates and state-owned enterprises, SMEs and microenterprises, as well as entrepreneurs and the informal sector
Organisations	Business membership organisations, civil society organisations, non-governmental organisations, as well as community-run initiatives
Innovators	Public and private educational institutions, training centers, research institutes, innovation incubation
Financiers and investors	Banks, microfinance institutions, impact investors, angel investors
Grantors	Philanthropy, CSR, funds and development partners
Government	City, province and central government authorities - The role of the government is largely "enabling". In line with Prof. Mariana Mazzucato's leading work on collective value creation; innovation-led growth; financing structural changes, and on mission-oriented policy government has a role as a regulator but also as innovator (e.g., with a suitable incentives system and transparently communicated ambition levels) as well as an implementer (e.g., consuming goods and services, providing education/training).
Individuals	It is good to be inclusive when thinking about individuals, how to reach out to them and how to convince and incentivize them about a sustainable lifestyle of sufficiency. For example, develop Personas, or groups of similarly motivated and like-minded individuals, e.g., people of a certain age group (e.g., youth, the working population, the elderlies), people's gender/ sex (female, male, LGBTQ), people's different cultural backgrounds (indigenous people, tribes, etc.), people that like a certain lifestyle, people that share a hobby, the less affluent/poor population, mothers, persons with disability (e.g., the vision- or walking-impaired), etc.
Spaces and networks	A. There are **confined spaces**, in which the above actors can act jointly. For example, provinces, cities or villages, protected areas, landscapes (such as watersheds, or transboundary conservation areas), or communities, can be innovated through the collaboration of organisational networks, driving the change towards more regenerative practices. Who that is in the specific space can differ from space to space, based on the primary sources for livelihoods and opportunities for circular innovation, based on the availability of local leaders and specialized actors, or based on the specific needs of the area (e.g., environmental protection/ restoration, job creation for youth). B. **Regional value chains**: When it comes to cross-border movements, stakeholders such as quality infrastructure, standards boards, testing centers, accrediting agencies and sustainability certifiers, as well as customs are relevant product value chain specific networks that need to be aware, as well as to design and adapt to new standards (such as, recycled content, cross-border movement of broken parts or goods for repair). For example, product value chains that could serve as entry points in the short-term, please refer to the plan for action and resource mobilization (below, Chapter II).

Table 1: Potential leaders and implementers of the economic transformation

6. **Collaborate**: Recognising the needed transition towards a circular economy as a first above all regional, but also global, transboundary issue with multidisciplinary challenges that require both

integrated national, regional and international cooperation. Therefore, establishing circular supply chains at a regional and international level requires the rethinking of cross-border trade in support of facilitating the free movement of goods, people and capital for reuse, repair, remanufacturing and recycling. Working together makes it easier and can create a larger voice for a shift towards circular practices and the benefits these bring.

- For governments: **Enter into dialogue** with multiple (regional) stakeholder groups (e.g., with COMESA, EAC) as well as the continental level (e.g., through the African Union) to exchange knowledge about the latest development in the market and innovations; such knowledge will inform better policies and incentive schemes including, for example, public procurement criteria with which the government can design desirable markets. Take into account the **multiple dimensions of the transition**, i.e. bottom up and top down, i.e., allow for the regional strategy to not to be designed and implemented in isolation but in constant inter-relation with other regions and the continental level, as well as the possibilities to utilise the regional platform for mutual learning and information exchange as well as collaboration when it comes to demonstrating circular practices in multi-country central level or province/city network engagements of taking leadership.
- Encourage **public and private markets** through public procurement, enabling public-private collaboration and partnerships (PPPs) and through policies that reward any businesses that create value from design for sustainability with less harmful content, reuse models, repair, refurbishment as well as the contribution to ecosystem services conservation and restoration.
- **Aid for trade by development partners** – Advocate for better conditions (e.g., no tariffs for imports) that could be granted by development partners to SADC businesses, e.g., the EU, for regionally developed 'circular' products under the Preferential Rules of Origin scheme(s) of the applicable FTAs and the Everything but Arms Scheme.[9]

1.2. Circularity Principles

Why circular? Circularity is not an end goal, it is a way of doing things differently (linear versus circular) to avoid the collision with the stable and resilient Earth systems, on which human wellbeing, prosperity and safety depend. The circular economy is based on three principles, driven by design (Table 02):

[9] The EU currently grants duty-free, quota-free EU access under the EU's Everything but Arms scheme to 7 of the 16 SADC member states as they classify as Least Developed Countries, i.e., Angola, DRC, Comoros, Madagascar, Malawi, Tanzania, Zambia, see: EU Website on Everything but Arms, January 2019 (Link). Moreover, the EU and six SADC countries have entered into an Economic Partnership Agreement (EPA) which allows for Free trade between businesses based both in the EU and the SADC region. Those include the SADC EPA (Link) with Mozambique, Namibia, South Africa, Eswatini, Botswana and Lesotho, the Eastern African Community (EAC) EPA (Link) with six African countries including Tanzania (which has not yet signed the agreement); the Central African EAP (Link) with eight African countries including the DRC (which has not yet signed the agreement, as it benefits from duty-free, quota-free EU access under the EU's Everything but Arms scheme), and is currently negotiating an EPA with Eastern and Southern Africa (ESA) which includes countries like Mauritius, Seychelles, Zimbabwe and Madagascar (currently all trading under an interim EPA). Not all EPAs have been ratified yet by all EU MS (see EU (2022): Overview of Economic Partnership Agreements, updated February 2022, Link). Further, the EPA supports the continental Free Trade Area (African FTA), signed by all SADC countries but not yet ratified by Botswana, Mozambique and Madagascar (see: Tralac (2022): Status of the AfCFTA Ratification, 03.05.2022, Link).

1	2	3
Eliminating waste and pollution by design - instead of continuing to work in a “take-make-waste” system[10]	Circulating products and materials in the economy as long as possible, and at their highest values as possible[11]	Regenerating nature by allowing for regeneration and a much-decreased speed of landfilling by re-designing the supply chains to gain value from circularity[12]

Table 2: Three principles of the circular economy

The transition to a circular economic model is accompanied by an increased energy and resource efficiency and regeneration, as well as the transition to renewable energy and materials. A circular economy slows down economic activity from the consumption of finite resources and seeks to redesign goods to be built on regenerative resources. It is meant to be a more resilient system that is good for business, people and the environment. Therefore, both regulators and businesses as well as civil society can benefit from the shift to circular practices.

Gain value from circularity. Value creation for businesses and supply chains: With the shift towards an economic model in which the materials and goods extracted and produced are kept in the economy as long as possible, businesses have new opportunities of creating value and revenue that go beyond ‘quality’ and durability. They are summarised in the below Figure 03.

[10] For more details, see: Ellen MacArthur Website on “Eliminate waste and pollution” (Link)

[11] For more details, see: Ellen MacArthur Website on “Circulate products and materials” (Link)

[12] For more details, see: Ellen MacArthur Website on “Regenerate nature” (Link)

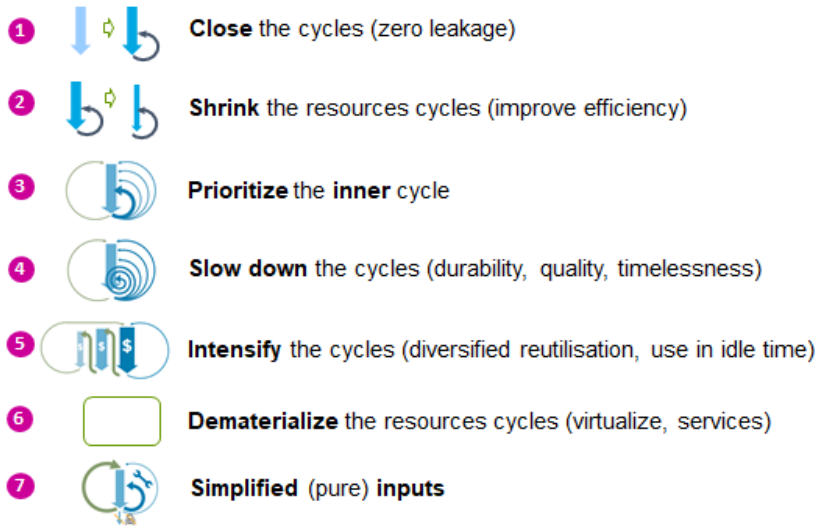

Figure 3: Sources of value creation in cycles [13]

While most above sources of value creation are explained in brackets, the prioritisation of inner cycles means to use the 'inertia principle', that means to reuse when possible and only repair what is broken, only refurbish what cannot be repaired and only recycle what cannot be refurbished. To maximise recyclability, the products are designed with mono-materials.

Advanced circular business models focus on retaining product ownership (product as a service, renting out instead of selling) and design for durability, repairability and dismantlability and design for recycling (product life extension). When it comes to transitioning to more circular practices, products of high embedded value, which are easy to access and to process, are ideal, as they require no significant business model change.[14] Others that are less accessible, lower quality or less easy to process, might need accompanying incentives to support the pioneers towards more circular practices (e.g., innovating and replacing materials, redesigning their goods, innovating their supply chains towards reuse or reversed logistics), especially when markets for circular goods and businesses are not yet developed or demanded by business partners and consumers.

Impact positively with circularity: The circular economy is a systems solution framework that tackles global challenges like climate change, biodiversity loss, waste and pollution (including marine litter, which has become an increasing concern since 2015), as well as job creation (provided that workers acquire the skills required for a 'green'/'circular' transition)[15]. This means, it can benefit policy makers as well as responsible corporations that seek to achieve the Sustainable Development Goals (SDGs).

[13] Source: Adopted from Ellen MacArthur Foundation; Beissdörfer et al (2018): Business models and supply chains for the circular economy.

[14] Atasu, A./ Dumas, C./ Van Wassenhove, L.N. (2021): The Circular Business Model, Harvard Business Review, 07-08/2021.

[15] EU Website on "Impact of shift to circular economy" (Link). The 'green'/ 'circular' job creation processes and factors are important because they offer a combined solution for climate, economic, and social crises. On one hand, the implementation of CE indicators and measurement of changes affects culture and awareness at enterprises, employees, and individual recipients to allow the closing of production cycles. The environmental goods and services sector is a special environmental sector of the economy where specifically, but not exclusively, green/circular jobs are created. Besides that, this sector aims to reduce or eliminate environmental

- **Climate change mitigation**: The circular economy can substantially contribute to lower GHG emissions through especially the early cycles that lead to the extension of product lifespan and product use phases such as reuse, repair, refurbishment. In fact, a focus on solely recycling would not be productive for climate change mitigation, because recycling often is very energy-intensive.
- **Biodiversity regeneration**: Due to the extraction and processing of natural resources in our current linear economy, more than 90% of biodiversity has been lost.[16] Conservation efforts will not be enough to halt and reverse biodiversity loss. Instead, there is a need to fundamentally transform the way to produce, use and consume the products generated.[17] The circular economy provides such a new approach.[18]
- **Elimination of waste/ pollution**: The closing of loops towards a supply chain of zero leakage will eliminate efficiencies along the value chain. Further, and more advanced, a circular economy aims at redesigning materials to be more efficient, long-lasting, less harmful and more regenerative, as well as the redesign of timeless quality goods for extended product lifetimes and using materials that match the needs/ purpose of the good and which are easy to dismantle, repair, refurbish, repurpose, and recover (e.g., through mono-materials rather than composites). Goldman Sachs has provided a helpful overview of the interconnectedness between waste, carbon emissions and the circular economy.[19]
- **Creation of better jobs/ employment/ revenue**: The reform of the economy provides an opportunity to redesign labour markets. There are a minimum of four ways through which green jobs can impact on the labour market and employment as the economy is oriented toward greater sustainability and a circular economy.[20] (i) **Job creation** - In some cases, additional jobs will be created (e.g., in certain sectors such as repair, refurbishment, product system services, IT, manufacturing and servicing of clean(er) technology). (ii) **Job substitution** - Some employees will be substituted when shifting from linear to regenerative practices (e.g., workforce specialised on fossil fuels by workforce trained on renewables; jobs needed in landfilling by jobs needed in repair, refurbishing, recycling). (iii) **Job elimination** - Certain jobs may be eliminated without direct replacement (e.g., decreasing jobs in the extractive industries, replacement through automatisation, or decreasing jobs through shifted practices if materials or goods are discouraged or banned, and their production is discontinued). (iv) **Job transformation and redefinition** - Many existing jobs (especially such as plumbers, electricians, metal workers, and construction workers) will be transformed and redefined as day-to-day skill sets, work methods, and profiles are

pressures. The green jobs number is further increasing due to technological changes and growing investments in environmental protection and resource management.

[16] UNEP Website on "Global Resources Outlook. 2019: Natural Resources for the Future We Want" (Link).

[17] Secretariat of the Convention on Biological Diversity (2020): Global Biodiversity Outlook 5 (Link); Leclère, D./Obersteiner, M./Young, L. (2020): Bending the curve of terrestrial biodiversity needs an integrated approach, Nature, 585 551-556 (2020). (Link)

[18] Ellen MacArthur Foundation (2021): The Nature Imperative: How the circular economy tackles biodiversity loss. (Link) Forslund, T./ Gorst, A./ Briggs, C./ Azevedo, D./ Smale, R. (2022): Tackling root causes; Halting biodiversity loss through the circular economy, 15.05.2022.

[19] Goldman Sachs (2022): The evolution towards Circular Economy; GS Sustain, Equity Research, 03.05.2022 (Link)

[20] Schröder, P. (2020): Promoting a just transition to an inclusive circular economy, Chatham House Research Paper, April 2020, p. 14. (Link)

"greened".[21] Furthermore, the minimization of negative environmental impacts such as global warming, pollution, biodiversity loss, which the circular economy intends to address, can also mitigate any possible negative effects on working conditions or health that are generally larger for vulnerable groups and people in poverty, e.g., informal workers, women, youth, migrants, indigenous/ tribal people, or the disabled, and therefore create more decent livelihoods.[22]

The **application of a circular economic model** (opposed to applying a linear one) is a means to an end (rather than an end by itself) and can therefore be considered as a modality to achieve a 'green' economy and 'sustainable development'. The SADC's 'Green' Economy Strategy aims at improving resource efficiency, promoting environmental sustainability, low-carbon and at the same time climate change resilient and adapted practices. Furthermore, the strategy seeks to adopt and promote production, consumption and distribution patterns of goods and services that maximises resource use efficiency while minimising wastage of resources and the production of process and industrial wastes. All these qualities are provided by an economy that applies, prioritises and maximises circular practices over linear ones.

Possible system-based approaches to assess the tipping points of crossing the planetary boundaries in certain spaces or networks include Kate Raworth's Doughnut Economics[23], or the University of Tokyo's Global Commons Stewardship Framework (Figure 04). Particularly, the latter illustrates an approach, in which regeneration and circularity has been mainstreamed. Specifically for the built environment, Metabolic and TU Delft also have developed a number of tools and expert trainings.[24]

[21] Renner, M./ Sweeney, S./ Kubit, J. (2008) Green jobs: towards decent work in a sustainable, low-carbon world, UNEP publication. (Link) and IISD/Sitra (2022): Effects of the Circular Economy on Jobs. IISD/SITRA Literature review, November 2020. (Link)

[22] ILO (2018): World Employment and Social Outlook 2018: Greening with jobs. (Link)

[23] See the role of the Doughnut Economics Action Lab Website on "Designing the Doughnut: A Story of Five Cities" (Link)

[24] Thisdell, K. (2022): The Circular Toolbox delivers resources on sustainability in the built environment, Metabolic/Copper8 (Link); TU Delft Website (Link).

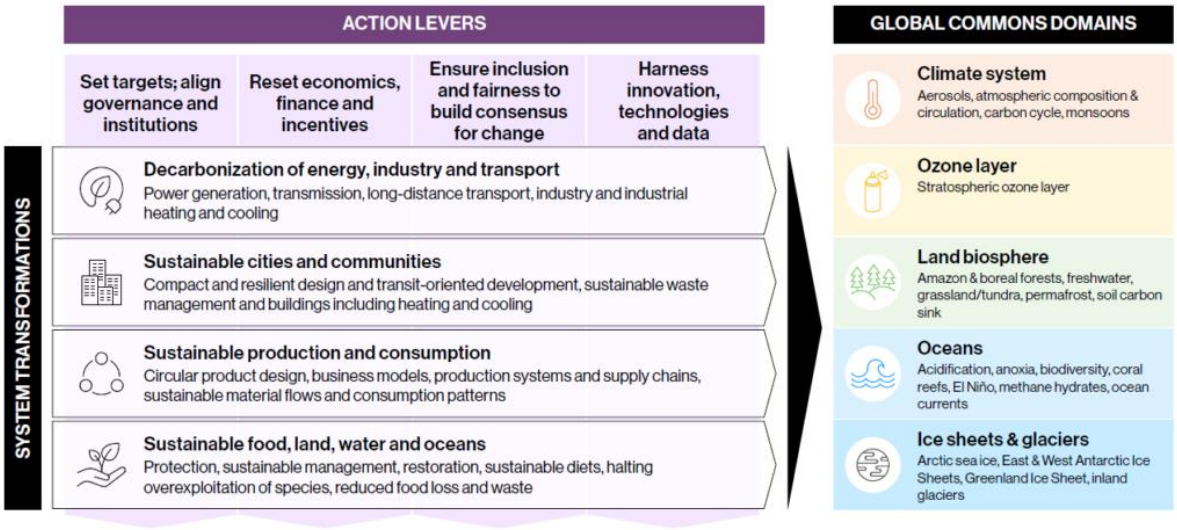

Figure 4: The Global Commons Stewardship Framework[25]

The Center for Global Commons emphasizes four action levers that need to be combined for a systems transformation, such as the circular economy transition: Those include: (i) the setting of targets, the alignment of governance and institutions; (ii) resetting economics, finance and incentives; (iii) ensuring inclusion and fairness to build consensus for chance ("just transition"); (iv) harnessing innovation, technologies and data (which links to digitalisation/ industry 4.0).

Possible ways to design and implement an "**inclusive/just transition**", i.e., a transition that ensures environmental sustainability, decent work, social inclusion, and poverty eradication, include the mainstreaming of cross-cutting aspects such as environment and climate change, but particularly a rights-based approach, and inclusiveness through addressing people in their diverse roles from different perspectives.

It is key to identify which countries, sectors, communities and workforces may be adversely affected by the transition. Three types of justice – **distribution, procedures and recognition** – need to be taken into consideration when planning for and designing interventions to support the circular economy transition (Table 03).[26]

Distributive justice	Procedural justice	Recognition of rights

[25] Ishi, N./ Dasgupta, A./ Lafortune, G./ Oppenheim, J./ Rockström, J./ Schmidt-Traub, G./ Cornehl, F./ Von Preussen, A. (2022): Safeguarding the Global Commons for human prosperity and environmental sustainability. The Global Commons Stewardship Framework, Center for Global Commons, University of Tokyo, Japan.

[26] Williams, S./ Doyon, A. (2019): Justice in Energy Transitions, Environmental Innovation and Societal Transitions, 31, pp. 144-153.

How are the costs and benefits of the current linear system distributed? How will the burdens of transition be distributed? In which sectors and countries are jobs gained? Where are jobs lost? Who carries the burdens of the transition?	Who has influence? Who decides? Who is involved? Is the decision-making process managed or inclusive? Do all stakeholders have a seat at the table? Do all stakeholders have adequate capabilities and skills to participate in the circular economy, contribute their ideas and, if necessary, voice their concerns?	How are marginalised circular economy views and narratives, knowledge and values recognised and integrated into dominant narratives? How can competing development interest be resolved through participatory processes? Which institutions can guarantee recognition and protection of rights during the transition process?

Table 3: Three types of justice[27]

This is relevant to the SADC region in two ways: (a) internally – to jointly develop as a region, and (b) externally – to position the SADC member countries in the global economic transition towards circular practices. For example:

- **Extractive and agricultural sectors**: Countries and communities that depend on mining and resource extraction (e.g., DRC, Botswana, Namibia, South Africa) as well as agriculture (applicable to almost all SADC countries) might need extra support with the diversification of the economy, a shift towards recovery and economic activities that allow for higher value adding. The identification of realistic scenarios and what would be possible roles to play is key to position the SADC member states in the global circular economy.
- **Digitalisation**: The digitalisation and industry 4.0 might imply threats for jobs through automation, especially in the labour-intensive manufacturing sector. Increased circularity in terms of increased reuse instead of fast fashion could increase such threats, especially for the suppliers, often SMEs from lower-and-middle-income countries. At the same time, digitalisation allows for new approaches (e.g., climate-smart technology) and business models such as platform solutions and business as a service.
- **Responsible consumers**: On the one hand, it is important to recognise the sufficiency lifestyle of most low-income groups in the SADC region, which repair and reuse out of necessity. This could be rewarded through a cap-and-trade scheme, or through an ecosystem service payment scheme, both internally within SADC and externally with trade and development partners seeking to improve their carbon and biodiversity footprints. On the other hand, high income groups are expected to increasingly demand more sustainable lifestyle options such as reuse, repair and sharing of assets, and with a positive impact both on the environment and society. This aspect could be factored in the above-mentioned identification of options of the SADC's role within the global circular economy.

[27] Schröder, P. (2020): Promoting a just transition to an inclusive circular economy, Chatham House Research Paper, April 2020, p. 14. (Link)

- **"End-of-first-life" products**: The SADC region and its member states are receiving many end-of-life goods, components and materials (e.g., electronics, textiles, cars). Therefore, there might be a large population working in the field of waste trade, waste management, waste processing as well as its logistics.[28] It is important to consider that a circular economy transition aims at eliminating waste by design and therefore decrease the amount of waste that needs handling. This means that the number of jobs in the waste management area might proportionally decrease and instead jobs in other areas (reverse supply chain, material flow management, repair, refurbishment, etc.) can be created at the 'end-of-first-life' stage with the right skills development. On the other hand, the quality of jobs can be improved through such a systemic shift, as currently workers in waste management often operate in the informal economy, without social security and occupational health and safety measures in place.

A just transition is needed to reduce inequalities within and between countries, and to ensure that the commitment of the UN Sustainable Development Goals to "leave no one behind" is fulfilled.

Those priorities for a just CE transition are synthesised in the below overview (Figure 05).

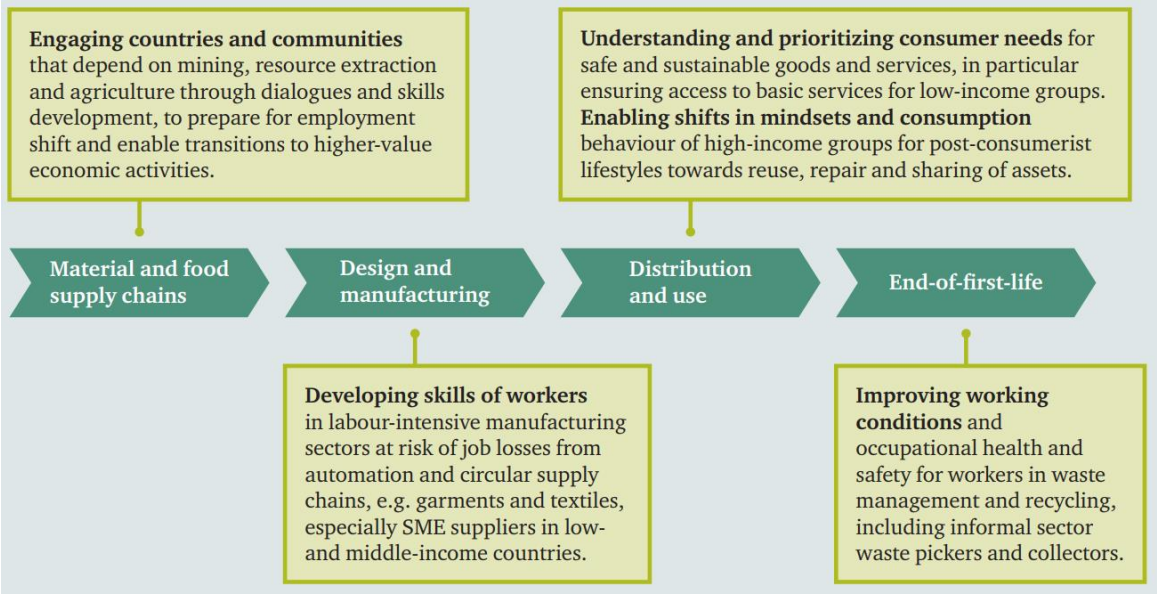

Figure 5: Priorities for a just transition[29]

The SADC Secretariat can be a role model in incorporating feedback and inputs from civil stakeholders to identify possible 'circular solutions' and/or the likely negative and positive impacts on people's lives, and especially employment or livelihoods, as a result of digitalization and industrial restructuring under a 'circular economy transition' perspective. Identifying potential winners and losers through such **participatory 'roadmapping'** can help shape effective

[28] UNEP (2018): Africa Waste Management Outlook, chapter 7- Appropriate solutions for Africa, p. 118ff.

[29] In dark green: linear supply chain; in light green: circular economy approaches. Source: Schröder, P. (2020): Promoting a just transition to an inclusive circular economy, Chatham House Research Paper, April 2020, p. 14. (Link)

cooperation mechanisms and partnerships nationally, regionally, and internationally. When it comes to policies, the combination of circular economy policies with social protection measures can ensure that the burden of efforts to promote circularity will not fall on the poor through worsening working conditions and health impacts, reduced livelihoods, or job losses.

2. Vision and Objectives

2.1. Vision

The Vision of this Strategy is to strengthen the capacity of designing, starting and delivering a circular economy transition in the SADC region and its 16 member states, as well as its benefits. The Regional CE Strategy shall help the SADC Member States to mainstream or align their policy frameworks with the circularity principles. The regional level can support mutual learning (e.g., from leading economies both in areas of research and innovation, and the valorisation of indigenous/traditional knowledge), cooperation (e.g., in multi-country partnerships) and collaboration (e.g., in value chains, or in transboundary landscapes).

The Vision of the CE Strategy is aligned with the SADC Regional Indicative Strategic Development Plan's[30] **SADC Vision 2050**, which seeks to shape "*a peaceful, inclusive, competitive middle- to high-income industrialized region, where all citizens enjoy sustainable economic well-being, justice and freedom*". Particularly, the circular economy strategy addresses the competitive, just and resilient development of an industrialized region within the global, planetary boundaries. In this context, it combines the efforts of the **SADC Industrialisation Strategy and Roadmap 2015–2063**, which aims to promote "*industrialisation, enhance competitiveness, deepen regional integration through structural transformation, leading to an increase in manufactured goods and exports*", and the **SADC Green Economy Strategy**[31], which aims at "*facilitating a balanced and accelerated attainment of the agreed goals anchoring on the three pillars of sustainable development, namely environmental sustainability, economic wellbeing, and social equity (i.e., promoting the alignment of operational planning across SADC Secretariat and Member States)*"[32], and into which the elements of a circular economy transition can be easily incorporated as a means to an end to achieve the desired impact.

Furthermore, at the heart of the CE is the concept of keeping the products in a perpetuated flow, at their highest possible value. Therefore, what is also needed is the support of innovation for downstream markets and new business models, including the use of digital technology, e.g., for a sharing economy, for tracking and tracing, or smart applications that can serve the circular economy. The SADC region is currently developing a **SADC Regional Strategy for Digitalisation**, which should be kept aligned further with the CE transition to maximise the enabling effects of sustainable digital technology for combating climate change, protecting the environment, and adopting the principle of twin green and digital transformation, also mitigating or minimising the negative impact of digitalisation.

[30] SADC (2020): SADC Regional Indicative Strategic Development Plan (RISDP) 2020-2030, October 2020. (Link)

[31] SADC (2015): Green Economy Strategy and Action Plan for Sustainable Development, supported by the UNDP, World Bank Group and GIZ. (Link)

[32] SADC (2015): Green Economy Strategy and Action Plan for Sustainable Development, supported by the UNDP, World Bank Group and GIZ, p.9. (Link)

2.2. Objectives

In line with the other relevant SADC policies, the main objectives of the CE Strategy would be the following:

1. Green and digital job creation and decent work (which includes decent revenue, job quality, OHS), especially for SADC youth and the vulnerable population
2. Competitiveness and innovation capability of the SADC private sector to participate in circular global and regional value chains
3. Regional integration and institutional strengthening (standards, testing, customs, service providers, businesses) in support of cross-border movements for circular value chains
4. Reduction of production losses, waste and material footprint in the SADC region and its global partners.
5. Reducing environmental and carbon footprint.

Once the formal validation of this draft CE strategy is agreed, a process to determine measurable indicators, baselines and targets should follow suit.

3. Policy areas and capacity aspects addressed for strategic alignment in the SADC Region

Technical aspects: To make sure that the circular economy transition can be effective, it needs to be made an integral part of the SADC's policies and strategies throughout. This means that the best Regional CE Strategy will be the updating of already existing and applied strategies rather than the creation of yet another strategic file with additional KPIs. This mainstreaming approach will also help to keep the absorption capacity low. This mainstreaming includes particularly the intended infrastructure investments for the regional integration and regional economic development; specifications need to be revised to include circular-economy supportive infrastructure, such as ICT, Energy/Water/Construction technology[33], mobility[34], etc. This directly links to the mainstreaming of circularity into the procurement and public-private partnership processes at regional and national levels.

Building the institutional capacity for the CE transformation and its coordination/management: The SADC Secretariat could act as an inspiration for its members' country governments and steer, as such acknowledging and working with the cross-cutting nature and systems thinking perspective of circularity when developing a common vision for transitioning towards a circular economy. This suggestion could be introduced, for example, by the Directorate for Food, Agriculture and Natural Resources (FANR, being the official host of the CE transition), but could also be proposed by other Directorates, such as the Directorate for Industrial Development and Trade (being the host of the SISR, and therefore an important regional integration policy for the SADC region). Another possibility is the promotion of good practices of inter-institutional examples from the region, if and where available.

Examples can include the coordination of institutional mandates to identify circular opportunities in the context of regional product value chains, design cross border eco-industrial frameworks, developing infrastructures, setting up production facilities, and transboundary conservation areas as well ecosystem service payment schemes, etc. to maximise positive environmental and social impacts.

To facilitate effective institutional ownership, it is recommended to build, as far as possible, on existing structures, such as the cross-sectoral Climate Change Technical Working Group (CTWG), which is chaired by the Food Agriculture and Natural Resources (FANR) Directorate. This TWG should consists of representatives of all the relevant Directorates and Units in the SADC Secretariat and the Environment focal persons of the SADC member states and other stakeholders to coordinate and guide the development of the SADC Regional Circular Economy Strategy.

Any such created or strengthened inter-disciplinary focal point or working group should have Terms of Reference with a clear mandate, roles and responsibility of each member. Key responsibilities of such a focal point would include:

- Developing criteria for assessing potential partnerships and resource mobilization;
- Ensuring that SADCs processes for evaluating opportunities for partnership and funding are effective and comply with relevant requirements;
- Providing technical guidance to align inter-department initiatives and policy coherence;

[33] technology that fosters energy/water/material efficiency, renewable energy/materials and water treatment, circular processes for the needed capital equipment and materials used (e.g., material passport)

[34] removal of trade barriers (e.g., harmonised definitions and standards for waste and secondary resources) and barriers to human trans-border movements within the SADC region

- Ensuring that implementation of the strategy complements and supports national level CE transition initiatives and complements and aligns with ongoing continental initiatives and agendas, e.g., other Regional Economic Communities (RECs), African Continental Free Trade Area (AfCFTA), African Circular Economy Alliance.
- Ensuring an effective roll out including the necessary capacity strengthening of relevant SADC units.

Over the medium-term, it would be good to upskill all Directorates with sufficient knowledge about the circular economy and how the transition relates to their individual units. For example, to clarify with the ICT Unit how the technology can be supportive of the circular economy transition, or to clarify with the Conference Services Unit that interpreters and translators could benefit from an adapted vocabulary and understanding of the subject matter; but also mainstream circularity into the work approach of the organisational modifications foreseen under "Next Steps", for example, into the operations of the think tank that should advise and guide the implementation of the SADC Common Agenda (to be developed), the principal regional coordinator of policies, strategies and programmes of the regional integration programmes (to be recruited), the professional programme manager that plans, budgets and facilitates the implementation process including through monitoring and reporting (to be recruited).[35] To accompany the implementation of the circular economy, the capacity to generate and measure a baseline, as well as the capacity to monitor progress, use effective tools and analytics gain in importance. Possible multi-country and regional approaches can be found in Annex 04.

[35] SADC Website on "Institutional Strengthening" (Link).

4. Proposed initiatives and intervention action

4.1. Strategic frame

The Circular Economy Strategy is framed by suggestions for entry points at different timelines, and also to allow for parallel tracks between those aspects that can be influenced in a short-term and those that complement these short-term achievements with aspects that might need longer timeframes (medium- to longer-term) to influence different practices and behaviour towards more sustainable standards.

- **Stronger together**. Based on the above Prudent Principles, the advantage of a Regional CE Strategy is that SADC member states, and the economic actors within (consumers, producers, investors/ financiers, regulators, etc.), can benefit from a collaboration with (actors from) other member states to, jointly, gain more leverage to shift towards an impactful regenerative economic system. For example, this could be of benefit when applying for funding (for research projects, for development projects, for private funding from companies with larger supply chains across the region, etc.) or when attempting to make the economics work (e.g., access to a larger market, economies of scale, sufficient feedstock for viable operation of a technology).
- A multi-country initiative can be built with complementary partner(s) (in the case of joining hands to tackle technical or financial issues), a partner with similar characteristics (in the case of replication of local initiatives) or a border country (in the case of merging feedstocks to increase the viability of investment projects).
- Note: Suggestions regarding a possible resource mobilisation strategy is based on the list of projects available on the SADC website and any other projects shared by stakeholders during the consultations (see Annex 06). A full compilation of currently ongoing initiatives and of those in the pipeline, both at the regional level and at country level, including available public and private sources, could include the options for co-funding. Possible ways to identify resources:
    - Public sources:
        - Several Facilities mainly funded by the SADC's development partners are in place that welcome continental, sub-continental/ regional, or multi-country/ sub-regional initiatives (African Development Bank and its recently launched multi-donor trust fund African Circular Economy Facility[36], Transfrontier Conservation Area Financing Facility (TCAFF[37]),). Competent partners (e.g., ministries, businesses, NGOs) can join forces.
        - Contribution agreements with the SADC Secretariat[38]

[36] funded by trust fund with the government of Finland funding a large share, see: Chuilamphuma, E. 82022): AfDB launches dedicated trust fund for circular economy, Further Africa, 02.06.2022. (Link); for the ACEA member states: ACEA Website (Link)

[37] The grants are administered by IUCN East and Southern Africa Regional Office (IUCN ESARO) as the Project Executing Agency.

[38] SADC Secretariat now meets international standards of good practice in accounting, audit, internal controls and procurement. Achieving this status allows SADC to enter into direct Contribution Agreements with the EU, amounting to EUR 50 million, to support SADC's regional integration process. (Link)

        - In the future, the SADC's own Regional Development Fund (RDF) might take over a more relevant role as well.[39] Specific "financing windows" in support of the CE transition can be established that can be supported by development partners[40].
    - Private sources:
        - To mobilise the resources needed for the CE transition and a more sustainable economic development and regional integration, it is important to get the buy in from the private sector, both from businesses (project owners), financing institutions (offering both equity and debt financial instruments), as well as from institutional investors. The requirements to demonstrate the positive impact on the environment and climate action as well as social inclusion and human rights have increasingly gained importance through ESG criteria, and compliance with green taxonomies and efforts to create the ecosystems that enable the issuance of 'green' and/or 'sustainable' bonds.
        - Conservation finance (blue/ green finance such as through the GEF), climate finance (e.g., through the GCF) or eco-innovation finance (such as through the GGGI)

- **Parallel tracks.** Overall, the Regional CE Strategy allows for parallel tracks with different time horizons.

The below Action plan makes initial suggestions for a resource mobilisation strategy, which needs to be refined based on the feedback from invited stakeholders in the validation workshop.

[39] As per Article 26A of the 2001 Agreement Amending the Treaty of the SADC (Link), the SADC Regional (infrastructure) Development Fund (RDF), which shall be the main instrument of SADC for the social and economic development and integration of the SADC region. The SADC RDF is a self-financing and revolving mechanism intended to end the reliance on external support to drive its development agenda. The initial authorised capital for the SADC RDF would be US$13 billion. Each Member State is expected to pay an initial subscription fee of US$120 million. RDF-shareholding would be split into a majority shareholding by the SADC Member States (51%), private sector (37%) and international cooperating partners (12%). The Fund would be instrumental for the delivery of the Revised Regional Indicative Strategic Development Plan (RISDP) 2020–2030 as well as the SADC Industrialisation Strategy and Roadmap. However, there has been a lack of support by the majority of Member States, who are yet to sign and ratify the agreement that establishes the SADC RDF. By September 2021, only nine had signed the agreement (Angola, the Democratic Republic of Congo, Eswatini, Lesotho, Malawi, Mozambique, the United Republic of Tanzania, Zambia and Zimbabwe), but by September 2021 none of them had yet deposited instruments of ratification with the SADC Secretariat. The agreement enters into force a month after it has been ratified by at least two-thirds of the 16 SADC Member States. See: Mambo, C. (2021): SADC needs to operate its own development fund. Southern African Research and Documentation Center, 09.09.2021 (Link)

[40] A good example is the SADC Water Fund (SADC Regional Fund for Water Infrastructure and Basic Sanitation), which is supported by SADC Member States and KfW to provide development financing to the SADC Water Sector (Link)

Short-term (1-3 years[41])	**Medium-term** (3-5 years[42])	**Long-term** (5-7 years[43])
• Concentrate on "Low hanging fruits" • Connect key actors • Preparatory actions	• Be the example • Tactical actions (pilot demonstration of circular practices and the benefits; of nature/resources rehabilitation and strengthening measures) • Start establishing other essential tracks with longer duration (e.g., education, innovation, market building, scale, local added value)	• Live and consolidate the transition (dissemination) • Result and Impact-oriented monitoring of the circular economy transition • Give priority to circularity and the future generations
A I.1: Mainstream the CE approach in Projects/Programmes/Facilities, tenders/procurement and policies A I.2: Promote circularity in stages, while in parallel continue developing regional value chains A I.3: Generate evidence for the benefits of a CE transition A.I.4 Review policy instruments in favor of the CE transition A.1.5 Connect to key actors	A II.1: 'Circular' office, circular procurement and PPPs A II.2: Focus on innovation and establishing a functioning 'circular' innovation ecosystem (incentives, removal of bottlenecks, link to the ICT/digital tech) A II.3: Strengthening available investment and finance for the circular economy transition A II.4: Support to multi-country circular economy initiatives in support of technical and biological cycles A II.5: Shift the circular economy from the environmental niche to the center of economic growth and competitiveness.	A III.1: Support the education and upskilling of students and workforce with 'green' and 'digital' skills in support of the CE. A III.2: Inspire and deliver both national, multi-country, regional, continental and international circular supply chains and business models A III.3: Monitor and adjust to achieve the intended impact

4.2. Plan for action and resource mobilization

I. Proposed short-term actions ("low hanging fruits") and possible resources:

For the short-term, the SADC region would concentrate on the "low hanging fruits" which include the no budget and low budget initiatives and such initiatives for which there is already a strong dynamic which can be further supported. This phase of 1-3 years serves to conduct preparatory actions for later phases of the CE transition and to connect trustful and effective working relations with key actors.

Action area I.1: Mainstream the CE approach in Projects/ Programmes/ Facilities, tenders/ procurement and policies

(1) Mainstream and incorporate the circular economy approach and the SADC's CE transition intentions into all ongoing and upcoming regional, and ideally national, Projects, Programmes and Facilities. Those are mostly donor or development partner supported Programmes and Facilities, which is why the acceptance of such intentions will likely be high and of no additional cost.

[41] This is the timeline for incremental operational steps that can be taken with relatively high certainty.

[42] The typical timeline for strategic plans; data and evidence still have their place but there is also some uncertainty.

[43] Beyond 5 years is where uncertainties are relatively high; it is possible to describe a high-level vision and make sure that longer-term action areas are followed through.

Budget estimate	• Cost neutral
Resource mobilisation strategy	• Such mainstreaming would be implemented by the respectively ongoing Projects, Programmes and Facilities as well as by the respective development partners when programming their new SADC and SADC member state strategies and budgets.
Intended Output(s)	• Regional, and ideally national, Projects, Programmes and Facilities into which the CE approach has been mainstreamed

(2) Mainstream the circular economy in all public tenders/procurement procedures of the SADC Secretariat and its PPP promotion. Regarding the procurement, the SADC Secretariat spends approximately USD 75,537 million per year.[44] The latter takes mainly place at national level, however harmonisation of business and investment climate, and practices of PPP regulations, and contracts is being facilitated by the SADC Secretariat at the regional level (SADC Public Procurement Unit for the regional public procurement, regional budget users, and the PPP Network in collaboration with relevant national ministries for PPPs). When it comes to bringing in private capital into the needed investments, a viable model for attracting private investment for public projects can include e.g., public-private partnerships (e.g., concessions, built-own-operate/BOO, build-operate-transfer/BOT, design-build-operate/DBO[45]), as they allow governments access to additional capital and off-balance sheet financing.[46] The use of PPPs are particularly relevant for the SADC region's infrastructure development plans as basis of the SADC Industrialisation Strategy.

CE would best be incorporated by reviewing documents and practices resulting from the SADC Procurement Policy, the SADC Procurement and Grants Guidelines (technical approach, technical evaluation criteria), SADC Procurement Unit Application Support Package, the Invitation letters for bidding, the General Terms and Conditions both for procurement and PPPs, the SADC Official Supplier Checklist (eligibility criteria),[47] the SADC PPP Regional Framework, the SADC PPP Manual, the PPP Reference Guide (award criteria), the Unsolicited Proposals Guidelines, as well as the possibly underlying procurement and PPP guidelines of the respective development partner(s). Furthermore, the SADC region

[44] It is estimated that public procurement represents between 10-15% of the GDP of developed countries and up to 25% of GDP in developing states. The SADC region jointly amounts to an annual GDP of USD 755,374 million, of which 25% is roughly USD 75,537 million. See: Wittig, W.A. (1999): Building value through public procurement: A focus on Africa. UNCTAD/WTO(ITC) (Link). GDP data source:

[45] World Bank on PPPs (Link)

[46] Sikuka, K. (2017): 37th SADC Summit – Harnessing Public Private Partnerships, SADC Documentation Center (Link)

[47] These procurement documents are available at the SADC website on Procurement Documents (Link).

could benefit from reviewing the Member States' public-private partnership policy frameworks and modifying counterproductive, hampering or missing aspects for a successful CE transition.

Budget estimate	• (Partly) Cost neutral
Resource mobilisation strategy	• The SADC Public Procurement Unit, regional budget users, and the SADC Development Finance Resource Center's PPP Network (responsible for PPP harmonisation in collaboration with the relevant ministries in SADC member states[48]) can proactively incorporate strategic preferences for regenerative and less harmful (circular) goods, businesses with circular practices and efficient supply chains in the regional tenders, request for offers and in the weighing scheme of awarding the procurement contracts. • On request, such mainstreaming might need technical assistance or advice by the above-mentioned ongoing Projects, Programmes and Facilities in collaboration with the SADC's development partners. The PPP work can build on the previous work done by GIZ in support of the SADC Development Finance Resource Centre PPP Network.
Intended Output(s)	• Recommendations on how the CE approach can be mainstreamed into the procurement documents and, correspondingly, the public tenders/ procurement procedures of the SADC Secretariat are developed and being implemented • Recommendations on how to improve the Regional PPP Framework and related guidelines, as well as the SADC Member States' PPP policy frameworks in support of the CE transition are developed and being implemented

(3) Mainstream the circular economy thinking into the SADC Green Economy Strategy (as a means to an end) and the SADC Industrialisation Strategy (as a modality). When mainstreaming the circular economy into these central policies, review relevant impact indicators about relevance under the circular economy scenario as well as the different economic scenarios and trends as presented in the RISDP 2020-2030 (trade, inequality, climate change, technical innovation, geopolitics/migration, and success of regional integration). Furthermore, the SADC Digitalisation Strategy should be kept aligned with the CE Strategy.

[48] The SADC DPRC PPP Network was established as a platform for exchange of information and experiences, and as a basis for capacity development in PPP in the public and private sectors as well as promoting harmonisation in PPP policy and regulatory frameworks in the region. SADC DFRC Website (Link)

Budget estimate	• (Partly) Cost neutral
Resource mobilisation strategy	• The FANR (responsible for the GE Strategy) can proactively incorporate strategic preferences for regenerative and less harmful (circular) goods, businesses with circular practices and efficient supply chains as a means to an end for a more sustainable economic development in the SADC region. • As much as possible, the SADC Industrialisation Strategy should incentivize the introduction and acceleration of circular practices in suitable sectors to instil a transition where key players are ready to stay relevant and competitive within the shift towards an increasingly circular and regenerative global economy. • On request, such mainstreaming might need technical assistance or advice by the above-mentioned ongoing Projects, Programmes and Facilities in collaboration with the SADC's development partners.
Intended Output(s)	• SADC Green Economy Strategy and the SADC Industrialisation Strategy (already available) into which the CE approach has been mainstreamed • SADC Digitalisation Strategy (under development) into which the CE approach has been mainstreamed

Action area I.2: **Promote circularity in stages, while in parallel continue developing regional value chains**. **Part I: Short-term (1-3 years).** When overcoming complex barriers such as it can be the case with transitioning the economic model from an extractive (linear) to a regenerative (circular) one, it is recommendable to take an incremental approach. The development of regional circular value chains could particularly be promoted through the value chains.[49] As an entry point, ideally those value chains will be locally or regionally sourced, and/or low tech which does not require high skills levels nor high capital investments, and which are therefore easier to start and replicate. In parallel, policy measures to raise consumers awareness about circular economy practices and products can encourage the adoption of circular business models. Possible regional issues to address in this context include: doing business and foreign direct investment; preparation for export (standards, quality infrastructure); cross-border movements (customs, trade facilitation); post-consumption/ end-of-life (waste valorisation options).

Recommended value chains proposed for starting CE interventions in the short-term (in the next 1-3 years onwards) include the Renewable energy value chain, the Food and beverages value chain, the Built environment (construction, refurbishment, building materials) and the Mining sector.

[49] Note: These combinations of timelines and value chain selection are proposed based on the respective sectors', products' and services' potential contribution to the SADC region's GDP, employment creation, stimulating and fostering technological and innovation capacity and skills development, as well as the quality, quantity and accessibility of secondary byproducts. These regional value chains are believed to entail comparative as well competitive advantage for economic, environmental, social, and regional integration impacts. The availability and access to infrastructure, possible budget lines and donor support were also taken into consideration. Above all, the role for facilitating regional integration as the context for industrial development and economic prosperity has framed the recommendation as well.

Renewable energy value chain

(A) **SADC electrifying and transitioning to RE**: Once businesses procure their energy from regenerative sources, they already have taken a foundational step towards circular practices. Therefore, the RE value chain is a cross-cutting enabler of the circular economy transition. The renewable energy sector has been promoted in many SADC countries over the past decade. A circular economy transition can capitalise on the already shifted mindset and awareness among many stakeholders. With RE, the SADC region decrease a major cost factor (electricity cost, water pump cost) in some of the SADC member states.[50] This also improves the possibility to enable the local manufacturing of more 'circular' goods, using regenerative, locally sourced, or locally recovered raw materials. In addition to the RE transition, the opportunities implied by decentralised and off-grid renewable energy sources enable the electrification of so far unelectrified SADC citizens to improve their health and wellbeing through access to more affordable electricity, e.g., for simple processing (e.g., washing, cooking/ preserving), continuation of the cooling chain (which supports less food waste), or simple recovery practices (e.g., washing, crushing, melting of used glass into new glass products). This action area should also assess the relevance and possibly support of designing an Alternative/Regenerative Energy Masterplan in addition to the SACREEE's Gas Masterplan.

(B) **SADC as critical raw materials provider**: Furthermore, circularity aspects in this value chain also comprise the SADC's role as provider of critical raw material for the world's increasing raw material requirements for the quantity of technology that enables a 100% renewable energy generation worldwide. Many of the materials needed for the RE transition worldwide can be sourced in SADC member states, such as Cobalt, Copper, Platinum, Gold, and are included in the Project Blue[51]'s Critical Materials Risk Index 2022.[52] Sustainable sourcing of these raw materials is of political importance and the SADC region can play this card in its favour. Therefore, an action area would be the identification of realistic scenarios and possible political and economic roles in the context of the global circular economy movement (here: specifically in the context of the global competition for critical raw materials that are needed for the global RE transition).

Food and beverages value chain

(A) **Import replacement with locally produced, 'circular' F&B goods**: The basic processing of food and beverages in the SADC region can capitalise on the high importance of (and affordable access to) agricultural production, which includes farming (relevant for many SADC countries), livestock (e.g., the meat industry in Namibia) and fisheries, as well as the use of non-timber forest produce (e.g., in highly

[50] For example, Namibia has been importing expensive energy from South Africa. A renewable energy transition can help lower the cost for electricity and therefore enable a more competitive operation of manufacturing businesses, including those that have so far not been economically viable. Interview with Alensys Energy Solutions Pty Ltd. in March 2022.

[51] Project Blue provides an independent view on supply chains, looking into analysing the bottom up supply side and the demand side through primary and secondary research.

[52] Roughly half of the world's vanadium, platinum, and diamonds originate in the region, along with 36% of gold and 20% of cobalt, see: SADC Website on Mining (Link).

forested areas such as in the DRC).[53] Local processing, including with locally generated non-chemical fertilisers and packaging solutions based on less harmful, locally sourced materials, brings the opportunity to replace expensive imports of such products and at the same time reduce the impact that is currently caused by e.g., single-use plastic packaging.

(B) **Mainstreaming CE in both bioeconomy and technical cycles**: Increased productivity and higher quality products are the central focus areas for action to the development of agriculture-based value chains, which include the agro-industry and agro-based F&B industry and connected capital equipment. In terms of renewable natural stocks, the SADC region is characterised by water scarcity, agricultural land degradation and nutrient depletion, loss of biodiversity as a result of deforestation and overgrazing. Looking at the entire value chain from farm to table and the reversed supply chain, mainstreaming circular practices through the technical and biological cycles can both add value to the process. The technical cycle applies to maintaining, returning, renewing and reusing processing technologies and capital equipment (agri-processing, food and beverages manufacturing, F&B packaging, etc.) that support productivity through efficiency, minimizing waste and cost savings. The biological cycle can minimize the demand and use of agro-chemicals which ends up polluting the environment, while recapturing value from waste in the system and recycling nutrients (agricultural waste, agricultural by-products, post-consumer food waste). Biowaste can become the input to new products to support crop production, food processing, feed and energy, as well as the cosmetic and pharmaceutical industries. For example, choosing to replace chemical pesticides by organic, replacing monocultures by polycultures, taking advantage of symbioses of plants as pest control. Such regenerative agricultural practice will close the loop of nutrient recycling and restore the ecosystem.[54]

Construction, refurbishment, and building materials

(A) **Material passports and better building codes can decrease the negative impact of demolition waste material**: a large amount of building materials for construction in the SADC region is imported from international markets.[55] At the same time, demolition waste, that occurs at the end-of-life of a building, counts as one of the major sources of unrecoverably waste that usually ends up on scarce and expensive landfill and sometimes is hazardous to the environment[56]. A proper inventory management service of the used materials that are stored over 'long-term' in buildings and improved local building

[53] Agriculture-led growth through agricultural value chains and agro-processing; natural resource-led growth including minerals benefaction and downstream processing and enhanced participation in value chains (both regional and global) are the three clear-cut priorities for the SADC region's accelerated industrialization, see: SADC Industrialisation Strategy and Roadmap, p.4).

[54] Ellen MacArthur Foundation Website on Food and the Circular Economy (Link)

[55] Except for South Africa and to a lesser extent, Mauritius, SADC member states are net importers of construction services. The exports for SA in 2012 were 35.82 and 60.85 million USD for Mauritius as compared to their imports, which were 11.23 and 8.01 million USD respectively; Deepali Fernandes (2014): Study on the liberalization and regulatory frameworks of construction services in the SADC Region (Link – latest available data point for the SADC region).

[56] When construction and demolition waste is not separated at source, it can contain small amounts of hazardous materials such as solvents and asbestos. These can pose particular risks to the environment and impede recycling; see: EU Website on Construction and demolition waste (Link)

codes (prioritisation of refurbishment over new construction) can help decrease the burden of demolition waste.

(B) **Replacing imported (more linear) with locally sourced, waste-based building materials**: Agricultural waste (e.g., fibres) can serve as ingredient for less harmful/ regenerative construction/ building materials and capitalise on a local value addition.

Mining sector

(A) **Monetize mining tailings**: In the mining sector, first activity and interest in the circular economy can be observed. For example, first business initiatives investigate the possibility to monetize the available and currently unused mining tailings (e.g., further extraction of valuable resources with newly available technologies), or their use for suitable products (e.g., tiles for roofs made from mining sand). Also, there is a stronger pressure to mine responsibly both from consumers, investors (ESG) and governments (due diligence laws), and first initiatives from the industry can be observed in the SADC region[57].

(B) **Shift from extraction to recovery modus**: The SADC region is endowed with natural resources like minerals, and many of the SADC countries have built their growth on the export of mineral raw materials. On one hand, the availability of these minerals and metals are a blessing in the global competition to access critical raw materials for the RE transition but also the health and security sectors. On the other hand, for the medium-term, it will be important to raise the awareness among the industry to introduce both efficiency thinking and to develop/ diversify into a material recovery strategist rather than focusing solely on the extraction of virgin raw material. With the consumers and governments/ regulations becoming more and more demanding on sustainable business practices, it is to be expected that future markets will value the traceable/ trackable second-hand and recovered material higher than virgin material.

Concrete options for **short-term pilot or demonstration projects** could include the following:

Indicative pilot/ demonstration projects	**Proposed key implementers and**

[57] Corporate Social Responsibility is still mostly practiced for philanthropic motivations, but according s recent study, Debeer, the Botswana Diamond company is researching about corporate social responsibility (CSR) and the extractive industry in Southern Africa to develop a draft that covers Angola, the DRC, Malawi, Mozambique, South Africa, and Zambia. (Link)

	'development partners'
01. **Demonstrate the value of renewable energy to enhance the viability of SADC-based manufacturing for the SADC private sector**. With RE, the SADC region decrease a major cost factor (electricity cost, water pump cost) in some of the SADC member states, and increase the availability of electricity in some areas.[58] This also improves the possibility to enable the local manufacturing of more 'circular' goods, using regenerative, locally sourced, or locally recovered raw materials. For example, SADC MS like Namibia or Botswana, who have been net importers of (highly priced) fossil energy, can benefit from energy efficiency and developing renewable energy sources, that are cheaper already now, or over the medium term. A renewable energy transition can help lower the cost for electricity and therefore enable a more competitive operation of manufacturing businesses, including those that have so far not been economically viable. Such cases would be piloted to demonstrate their value for a circular and increasingly regionally integrated economy in the SADC region.	A possible demonstration venue could be a 'green'/'circularity' oriented industrial park (e.g., Namibia Biomass Industry Park, Botswana Innovation Hub Science and Technology Park) in collaboration with a university (e.g., University of Namibia/ UNAM; University of Botswana).
02. **Demonstrate the profitable regenerative farming schemes, e.g., insect farming to increase profits**: In the context of the **circular bioeconomy**, it is time to stop thinking about "composting" only. The business case for substituting inorganic fertilisers with organic fertilisers is weak and has often shown not to be profitable or even a cost-factor at a larger scale. SADC member states should instead support regenerative agricultural/farming, fishing and forestry practices, which could include insect farming based on organic waste for selected value chains to demonstrate the cost-benefit analysis. For example, the Black Soldier Fly (BSF) is capable of consuming and rapidly transforming food and organic waste products into high quality, affordable, and sustainable protein for animal feed. Commercial rearing of BSF for high protein (it contains 40% protein and 30% fat) feed for livestock for poultry, aquaculture, pigs, requires relatively low cost and low technology. Investing to setup BSF farm can build the core circular pillars, avoid organic waste from being disposed to landfills or littered in the environment, and the manure from the insect can be used as soil enhancer/ fertilizer. The advantage of demonstrating the value of bio-waste-based insect farming in the 16 member states is that there is not much investment nor skill needed to start insect farming at the small-scale level, which is easily upscalable and replicable. At the same time, such demonstration projects could record the amounts of "saved GHG emissions from unmanaged biowaste".	An insect farming company providing TA services (e.g., Nambu Group based in South Africa), in collaboration with an n incubator/ impact investor (e.g., Impacttank based in Namibia) Possible beneficiaries can be smallholder farmers (as generator and receiver of biowaste) and catering/tourism services (as generator of biowaste)

[58] Interview with Alensys Energy Solutions Pty Ltd. in March 2022.

03. **Demonstrate the social inclusiveness of stackable recycled bricks or tiles**. Worldwide and in the SADC region, easily stackable (standardised) bricks and tiles made from plastic waste (including from marine litter), fly ash (by-product of coal combustion), or from recycled construction sand or mining tailings make it possible to build more affordably and faster, which improves the opportunities for less wealthy populations both to build their houses and to reduce the size (and re-sell the parts), and expand flexibly their houses when needed.	Bricks manufacturers like CRDC's EcoArena in South Africa[59], or the BITRI KGALAGADI SAND Brick Technology (KSBB) in Botswana

More information about good examples for further inspiration, and the mentioned potential cooperation partners, can be found in the Annex 05 (good examples).

[59] The Centre for Regenerative Design and Collaboration (CRDC) produces EcoArena Preconditioned Resin Aggregate (PRA); these have been tested and used in cement blocks, paving stones, pipes, kerb stones and ready mix at between 5% and 10% per volume of the mix. See: Plastics SA Website on "Turning plastic pollution into building materials", Industry News, 15.08.2019. (Link)

Budget estimate	• 400 expert working days, up to 24 months
Resource mobilisation strategy	• The proposed value-chain based action could be supported by the ongoing EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, or could be funded by the SWITCH to Green Facility or the EU Africa RISE Programme, or their successors. • Furthermore, it is possible that the Private Financing Advisory Network (PFAN) could have interest in being involved.
Intended Output(s)	• Businesses and their supply chains have switched to energy-efficient renewable energy consumption • Recommendations regarding the relevance of an Alternative/Regenerative Energy Masterplan which incorporates/complements the SADC Regional Gas Masterplan have been developed and are being implemented • The SADC region's role as a provider of critical raw material to the global RE and CE transition is defined in a sustainable way (Roadmap is available and is being implemented) • Resource-efficient, locally sourced, regional value chains in (a) the food & beverages sector; (b) the construction, refurbishment, and building materials sector; and (c) the mining sector have been strengthened through circular practices and 'waste' has been turned into a resource/ secondary raw material (Roadmaps are available and are being implemented) • Businesses and their supply chains have changed their strategy from an extraction-based to recovery-based modus, particularly in the SADC's mining sector (Strategies are available and are being operationalised)

Action area I.3: **Generate evidence for the benefits of a CE transition**. Conduct different preparatory activities to create useful evidence to assess and demonstrate the benefits of the SADC CE transition. The outcomes of the qualitative and quantitative analysis can support the SADC Secretariat to make informed evidence-based decisions when planning, adjusting and implementing the CE transition.

For example:

(1) Undertake global supply chain scenario assessments under a circular economy perspective to assess the future material flows and job creation potential. Worldwide, creating a CE offers a USD 4.5 trillion economic opportunity by avoiding waste, while also creating business growth and employment opportunities[60]. To generate evidence for the benefits of a CE transition for the SADC region, the job creation potential of the circular economy transition should be identified by conducting an ex-ante macroeconomic modeling study to illustrate the vast benefits that an intra-regional and circular supply chain design can have on net job creation and on job improvement/ improved working conditions. This is important as the SADC region suffers from a combination of high youth population and a high unemployment, which was aggravated by the measures taken in response to the recent COVID-19 pandemic. Evidence shows that especially vulnerable actors in the economy often struggle for survival of their businesses and face inequalities when it comes to support measures, e.g., there are inappropriate terms and conditions for SME finance in place, and only marginal support to women entrepreneurs[61], just to name a few. Also, there are still very few such ex-post studies that go beyond the renewable energy sector. Such a study should look at the effect of energy and resource efficiency,

[60] Lacy, P./ Rutqvist (2015): Waste to Wealth. (Link)

[61] SADC Development Finance Resource Center Website on Support for SMMEs (Link)

maintenance, reuse, refurbishment, pre-processing for material recovery and recycling. Technological change through increased digitalization, automation and other technologies of the promoted "industry 4.0" (such as additive manufacturing and smart sensors) can potentially exacerbate wage inequality and displace workers and jobs through automation, while also likely creating new jobs in the ICT sector of countries with advanced internet networks and IT skills among businesses and youth. While the circular economy concept seeks to improve the wellbeing of all human beings through a healthier environment, and while the circular economy transition will rely on above mentioned IT-based systems to increase efficiencies and accuracy, increase resource productivity, optimise production systems and reduce waste, the circular economy concept is not necessarily also just and inclusive. However, this intended transformation can be taken as an opportunity to introduce a more inclusive and equitable development. Further, the scenarios should include a multi-country and individual country scenario to showcase the positive effect of collaboration and to identify the success factors for such an approach.

Budget estimate	• 80-100 expert working days, up to 12 months
Resource mobilisation strategy	• Such a study could be supported by the ongoing EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, or could be combined with support to piloting circular economy transitions and then be funded by the the SWITCH to Green Facility or the EU Africa RISE Programme. • Possibly, the Africa Circular Economy Facility can support selected activities in the current ACEA member states. •
Intended Output(s)	• The ex-ante macroeconomic modeling study for the CE transition's job potential is available • Recommendations are developed and are being implemented

(2) Undertake an assessment of waste reduction, valorisation and material flow optimisation to develop policy recommendations. Such a study would comprise, among other aspects, opportunities of how what today is called 'waste' can be repurposed into a resource/ secondary raw material, and how material flows can be optimised. The SADC member states' investment schemes, their EPR schemes, their set-up of the informal economy that is involved and that could be involved (and possibly transition into more formal set-ups) in circular supply chains (e.g., repair, refurbishment, logistics, waste/used material processing) would be reviewed to resolve any possible bottlenecks of a circular economy delivery and to develop policy recommendations. Moreover, the SADC Member countries' waste definitions should be compiled and compared in the context of this exercise to prepare a harmonisation thereof.

Many SADC countries and communities, out of necessity, embrace the core aspects of a circular society, i.e., they reuse what can be reused and repair what is broken. The region has been receiving vast amounts of 'end-of-life' products (especially electronics, textiles/ garments, plastics, vehicles) from other countries led by the European Union[62], Japan, and the USA, that have put a burden on the environment. The assessment should therefore also include sources of waste (domestic, regional, continental, international, transit) and corresponding volumes of HS codes at a 6-8 digit level to draw recommendations for possible technology applications and investments.

[62] For example, the ports of Amsterdam and Antwerp were used as examples of gateways for used EEE. In both ports, used EEE is often declared as "second-hand goods", "private goods", "for charities", "for personal use", "miscellaneous" and "effets personnels" (referring to EEE as second-hand goods, etc.). Secretariat of the Basel Convention (2011): Basel Convention; Where are WEee in Africa? Findings from the BASEL Convention E-Waste Africa Programme. (Link)

The outcome of the study would further clarify the future role of the SADC in the global waste and secondary materials trade within the global circular economy ambitions. In this context, it would be good to acknowledge and monetize (e.g., through ecosystem services pay) the value of 'sufficiency' lived in many SADC countries and communities out of necessity, for the region and in attempt to learn lessons for the global community.

Budget estimate	• 80-100 expert working days, up to 18 months
Resource mobilisation strategy	• Such a study could be supported by the ongoing EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, or could be combined with support to piloting circular economy transitions and then be funded by the SWITCH to Green Facility or the EU Africa RISE Programme. • UNEP's special global programme fund focusing on waste, chemicals and pollution could be a good partner for co-finance. The experts in support of the SADC region can support with respective applications to this and other third-party budgets (e.g., climate finance).
Intended Output(s)	• Waste reduction/ valorisation opportunities are assessed • Material flow is optimised • Policy recommendations are developed and are being implemented

(3) Conduct an impact assessment of the circular economy under different regional integration scenarios to evaluate the importance of deeper integration for the CE and vice versa. On the one hand, the SADC region is committed to regionally integrating further, however, some SADC members have not yet signed or ratified all relevant policies needed to allow for the free movement of goods, services and labour/ human talent.[63] This means that the SADC region essentially undergoes two transformations in one, namely the deeper regional integration and the circular economy transition. Both trajectories are complex in nature and likely have feedback and feedforward loops.

When it comes to impact, the introduction and implementation of CE principles can support the multilateral, regional and national intentions and commitments of country governments in the SADC region. Therefore, it will be helpful to showcase the link between the circular economy and the desired impact (multilateral commitments and the SISR in particular). The SADC Industrialisation Roadmap comprises 36 policy areas for action. For each of them, it would be good to evaluate the positive impact that can be achieved with the circular economy transition. Other important sectors that go beyond the SISR and are also essential for the CE transition, include (eco-)tourism and others. They should equally be included in the review.

The circular economy[64] - which is an industrial economy that is restorative or regenerative by value and design - has the potential to help achieve national and multilateral commitments, such as the following: (i) reducing pressure on the environment and natural capital; (ii) improving the sustainable extraction,

[63] For example, three of 16 member states still need to ratify the AfCFTA. TRALAC (2022): The African Continental Free Trade Area (Link).

[64] The Ellen MacArthur Foundation (EMF) defines the circular economy as an industrial economy that is restorative or regenerative by value and design. It follows 3 core principles: **Eliminating waste and pollution**, focusing on recycling measures, efficiency improvements, refurbishing, remanufacturing, repurpose and the substitution of products by service and software solutions (dematerializing); **Circulating** products and material, design of material recovery processes and related circular supply chains; **Regeneration of nature**, focus from extraction of raw materials and biological material to regeneration practices which can re-build natural capital. See: Morseletto, Piero (2020). "Restorative and regenerative: Exploring the concepts in the circular economy". Journal of Industrial Ecology. 24 (4): 763–773.

utilisation and supply of raw materials; (iii) increasing competitiveness; (iv) stimulating innovation and technology advancement; (v) boosting economic growth and diversification; (vi) attracting investment; (vii) creation of jobs and improvement of job quality/ revenue.

The assessment should therefore highlight the added values of mainstreaming circular economy principles into the production and consumption trends of the region. Further, the study can help correlate how the CE can contribute for the qualitative and quantitative targets set under the SISR[65] in terms of its impact.

Budget estimate	• 100-120 expert working days, up to 12 months
Resource mobilisation strategy	• Such a study could be supported by the ongoing EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, or could be combined with support to piloting circular economy transitions and then be funded by the EU Africa RISE Programme. • The Global Green Growth Institute's Green Investment Programmes[66] could be a good source for co-finance. The experts in support of the SADC region can support with respective applications to this and other third-party budgets, such as the Global climate Fund (GCF[67]).
Intended Output(s)	• Impact of the circular economy under different regional integration scenarios is assessed • The importance of deeper integration for the CE and vice versa (importance of the CE transition for a deeper integration) is evaluated • Recommendations are developed and are being implemented

(4) Review of key value chains regarding their circular economy growth potential in the SADC region, as well as their environmental and social impact. This should result in concrete conclusions on investment opportunities. The SADC Industrialisation Strategy has selected key value chains for the SADC regional development without having in mind the global transition towards a more circular economic system. Therefore, when mainstreaming the CE principles, the review of the potential of each of these sectors can be helpful to determine what are most likely growth potential, as well as if and for which of the key value chains, under a CE transition, are the hypotheses and therefore the objectives and target levels still relevant under the circular economy transition. For example, all things remaining equal, with a larger amount of regeneration and circularity (e.g., the phase out of single-use packaging in favour of reuse) within both regional and global supply chains, extractive businesses might become less important in general. When it comes to the renewable energy transition, the sustained supply of critical raw materials seems to be a potential bottleneck, which is why a dramatically increased extraction might be a business opportunity for the mineral rich SADC countries in a global circular economy scenario. Questions of sustainability and regenerative capacities as well as opportunities to diversify towards the recovery of such materials from reversed supply chains are topics that could be addressed with economic reviews and cost-benefit-analyses. Other key value chains for the SADC region, that go beyond the SISR and are also essential for the CE transition, include (eco-)tourism, dry recyclables (metals, minerals, rare earths, plastics parts/components) from, e.g., capital equipment, photovoltaic, electronics, vehicles, and others. They should equally be included in the review. Overall, this exercise

[65] SADC Industrialization Strategy and Roadmap p.13.

[66] GGGI Website (Link)

[67] GCF Website (Link)

would develop diagnostics to validate the proposed regional circular businesses/ value chains and to identify next steps to support viable regional circular businesses/value chains, including with the identification of concrete investment pipelines for public and private infrastructure.

Budget estimate	• 120 expert working days, up to 18 months
Resource mobilisation strategy	• Such a study could be supported by the ongoing EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, or could be combined with support to piloting circular economy transitions and then be funded by the Switch-to-Green Facility, the EU Africa RISE Programme, or their successors. • Coordinating with the EU-funded Switch to Circular Economy Value Chains[68] might provide interesting insights and the opportunity for information exchanging information and lessons learnt.
Intended Output(s)	• Key value chains are reviewed regarding their circular economy growth potential in the SADC region, as well as their environmental and social impact. • Conclusions on investment opportunities are available • Recommendations are being implemented

Action area I.4: **Review policy instruments in favor of the CE transition**.

Policy, i.e., law and effective governance are what creates the rules of the SADC society. It is a good exercise to take a comprehensive baseline among existing policies and other instruments at regional and respective national (SADC Member States) levels that incentivise eco-innovation and material innovation (e.g., mono-materials, chemical-free materials), circular business practices and supply chains (e.g., product-as-a-service, take-back-mechanisms) and that take into account a wide variety of product groups. In the context of the development of this Strategy, an initial policy review has been completed (Annex 06). This can be taken as a starting point, but the important aspects to deepen will be enabling and hindering factors for actual enforcement and delivery of more responsible and circular practices.

Moreover, possible enabling policies to promote circularity can further include:

- Institutional policies framed within national or regional policies as well institutional mandate and mission that aim to promote CE implementation;
- Policies supporting market systems and conditions for secondary raw materials, repaired, reused and manufactured products;
- Polices that foster technological advancement and innovation by speeding up the development of different technological solutions and technology transfer and adaptation;
- Polices like fiscal instrument for financing the CE transition (such as taxation, subsidies, financing and internalizing the cost of externalize);
- Educational policies (to increase knowledge and awareness on resource efficiency and CE skills)
- Social policy and procurement standards (to engage consumers and producers);
- Policies to facilitate collaboration and partnerships in circular business.

[68] Switch to Circular Economy Value Chains Website (Link)

Part of this review should also be the review of trade incentives with trade partners (Aid for Trade, payment for ecosystem services):

- On one hand, this can include the EU and EU Member States' trade policy incentives, e.g., Aid-for-Trade that incentivises circular business practices and goods made from regenerative materials that are designed for durability/longevity, easy repair, refurbishment and repurposing;
- On the other hand, the support to the AfCFTA provides opportunities to create a regional trade system, which could be developed to have the potential to support the circular economy. For example, trade agreements could include specific provisions for the development of regional standards for secondary materials and goods, e.g., better conditions (e.g., no tariffs for imports) that could be granted by development partners to SADC businesses, e.g., the EU, for regionally developed 'circular' products under the Preferential Rules of Origin scheme(s) of the applicable FTAs and the Everything but Arms Scheme
- Through regional trade, industrial development in SADC countries could be shaped towards circularity, taking into account the demands of the neighbouring countries. Such an approach could create stronger regional economies and higher value products by harnessing the potential of the continent's domestic resources and people.
- Review tax incentives to incentivize circular business practices and goods made from regenerative materials that are designed for durability/longevity, easy repair, refurbishment and repurposing.
- Review the availability of policies to enable or incentivize a just transition, which includes assessing possible opportunities and bottlenecks of encouraging the involvement of informal actors and the improvement of their job quality through a (semi-)formalisation process. This could include a payment for ecosystem services from those actors that pollute to those actors that help clean up and/or create a positive impact on the environmental footprint. For example, this relates to the European supply chain diligence laws that have been launched in recent years (e.g., by France[69] and Germany[70], and a corresponding EU Directive is in the making[71]) and also first attempts of development partners to include consumption-based carbon emissions.[72]

It will be helpful to organise an information exchange on the different incentive systems to understand which Member States could need which next steps of technical assistance and which would be interested to jointly move ahead (e.g., align with circular economy-inspired frameworks, or design explicit CE national roadmaps).

Budget estimate	• EUR 500,000-700,000

[69] In France, the Duty of Vigilance Act was enacted on 27 March 2017.

[70] In Germany, the German Supply Chain Due Diligence Act (GSCDDA) was promulgated in the Federal Law Gazette on 22 July 2021 and will enter into force on 1 January 2023.

[71] On 23 February 2022, the European Commission (the Commission) published a proposal for a directive on corporate sustainability due diligence. The proposed policy creates several new obligations for eligible companies in relation to their supply chain, with a view to identifying and, where necessary, preventing, ending, or mitigating adverse impacts of their activities on human rights, such as child labor and exploitation of workers, and on the environment, for example pollution and biodiversity loss. (Link)

[72] Sweden has decided to include consumption-based emissions within its climate targets, making it the first country taking responsibility for the carbon footprint of imported goods. The 2045 net-zero climate targets were written into law. Dahl, C. E. (2022): Sweden Sets Historical Climate Target; Aims to Reduce Consumption-based Emissions Created Abroad, Natuskyddsföreningen, 07.04.2022 (Link)

Resource mobilisation strategy	• The policy review could best be supported by the globally operating Switch-to-Green or, perhaps the Africa Circular Economy Facility can support selected activities, going beyond the current ACEA member states, but benefiting the region. • Possibly the African Union Development Agency (AUDA-NEPAD) can be of assistance when identifying and mobilising resources[73].
Intended Output(s)	• The list of policies and incentives is verified and validated with a wide network of relevant stakeholders including main the SADC's main trade and development partners • Key factors that hinder and enable enforcement have been determined • Processes for information exchanges and dialogue among the Member States are established

Action area I.5: Connect to key actors

Based on the compilation of actors and key actors during the development of this Regional CE Strategy, it is advisable that the SADC Secretariat as well as relevant national and sub-national agencies reach out to the corresponding actors that are essential for the next steps of this Strategy, i.e., of the targeted sectors/ supply chains and respective service providers to ensure the support of positive dynamics that are already happening in the region, and by stakeholder group to ensure a just transition. Building partnerships with nations that are strong in innovation and technology can equally promote and strengthen SADC's capacity to reimagine its circular future, e.g., through joint product redesign and/or designing alternative materials and products, smart/digitalisation-based and service-oriented circular business models, reversed supply chains and other waste reduction and management solutions.

(A) Key stakeholders: The identified stakeholder groups include: International development partners and initiatives, the SADC Secretariat and its different directorates and units, SADC member countries' representatives, businesses/ value chains and business services providers, training centers/ universities/ academia / research institutions, financiers/ investors/ development finance institutions, and NGOs/ CSOs (Annex 05 – Compilation of good practices; Annex 01 – Key stakeholders).

International development partners and initiatives	Administration / authorities (SADC Secretariat, its different directorates and units, SADC member countries government representatives)	Businesses/ value chains and business services providers	Training centers/ universities/ academia / research institutions	Financiers/ investors/ development finance institutions	NGOs/CSOs	Households and citizens
Facilitators of innovation (finance, alliances, technical	Regulators Consumers (public budget users)	Designers Producers	Skills development and innovation	Access to relevant (co-)finance	Watchdogs	Opinion-makers Consumers

[73] It is the African Union Development Agency-NEPAD (AUDA-NEPAD)'s mandate to undertake the full range of resource mobilisation for the African Union Member States and Regional Economic Communities to strengthen their capacity, see: AUDA-NEPAD Website "Mandate". (Link)

knowledge and skills transfer)		Consumers (purchasing/ souring) Supply chain actors	Preparing a labour market relevant workforce and service offer Research, technological development and innovation	Blended finance		
Continental level – African Union; continental technical and financial initiatives **Inter-regional level** – Cooperation and alignment with other regional initiatives, e.g., the COMESA, the EAC, the Indian Ocean Islands **Regional level** – SADC Secretariat; SADC Business Council with its recent activities in support of a CE transition **Multi-country level** (sub-regional level) – different forms of cooperation and joint initiatives between different SADC member states **National level** – country governments, larger businesses, larger facilitators (e.g., incubators) **Subnational level** – provinces or cities, local businesses, local facilitators						

Table 4: Key stakeholders and their possible roles (examples)

This compiled stakeholder mapping can be seen as a snapshot of some positive drivers but cannot be considered as a complete list of all important stakeholders. The stakeholders need to further be verified and validated, as well as updated and further completed in the process of the CE transition.

(B) Good practices and affordable technology: The compilation of good practices can serve as a first basis to create a compendium of smaller scale affordable technology that can be maintained with knowledge and parts that are locally available. As the scale of feedstock and market size are often an issue for investors in the region, it would be recommended to start compiling any findings about smaller scale, affordable technology that can be maintained with knowledge and parts that are locally and regionally available. This could build on the available good examples: In the region, there have been several attempts to compile such examples for different sectors or geographies, e.g., the South African Ministry for Science and Innovation for South Africa[74], ACEN, or the African Circular Economy Alliance, or also this present regional exercise of compiling good practices from within the SADC region. These could provide a good basis to be expanded upon at the regional level, with a shared platform for mutual inspiration and exchange of experiences.

Budget estimate	• EUR 50,000-100,000
Resource mobilisation strategy	• The starting point for relevant actors in 16 SADC member countries could be built with initial support by a development partner or a business (e.g. inspired by a start-up accelerator), or jointly. An online platform could be established, which invites any stakeholders to submit suggestions for good practices following a same template to together create and update this compendium. • Possibly the Adaptation Fund Climate Innovation Accelerator (AFCIA[75]) could also be a helpful actor in being involved for co-funding.

[74] Interview with the South African Department of Science and Innovation.
[75] AFCIA Website (Link)

Intended Output(s)	• The list of stakeholders and good practices is verified and validated, as well as updated and further completed in the process of the CE transition • Processes for regular exchanges and dialogue with key stakeholders are established

II. Proposed medium-term actions ("Other essential tracks") and possible resources:

This phase of the CE transition would focus on the SADC Secretariat "being the example" and providing guidance for national and sub-national member states to do the same.

Questions to address, and for which to create the foundation, include:

- How can we hold the systems of production accountable for the harm that they are producing?
- How can we hold the systems of consumptions accountable for the harm that they are generating (in the case of over-consumption), and for the benefit that they are providing (in the case of sufficiency)?
- How can we (together as a responsible society) create effective legislation and a good governance system in support of the rules that serve us to drive the changes that we need to see?

This phase of the upcoming 5 years includes tactical actions, i.e., pilot demonstration of circular practices and the benefits of measures that rehabilitate and strengthen nature and natural resources.

This phase will also start establishing other essential tracks, with longer duration, that have not yet been addressed in the first phase of the transition (e.g., education, innovation, market building, scale, local added value).

Action area II.1: **Just and 'Circular' office, circular procurement and PPPs – Be the example!**

(1) Government can act as a good example by implementing a 'green and circular' office with an emphasis on promoting (a) repair, (b) reuse, (c) refurbishment and (d) recycling where possible, caring for efficiency of resource use (water, energy, cleaning services, stationaries); being aware of possible ways to decrease the footprints of the goods and goods-services combinations procured to deliver public services and how to treat any goods at their 'end-of-first-life' or 'end-of-second-life' (definition of "waste", its segregation, collection and repurposing, as well as the link to biodiversity conservation/ ecosystem services as well as GHG emissions).

Budget estimate	• EUR 2-4 million for a 3-5 years' initiative
Resource mobilisation strategy	• This initiative could be implemented, maximising the support of local experts, utilising international blueprints that would be adapted for the SADC region, as well as incorporating available good examples of a local and regional 'sufficiency' approach. This action area could be supported by the EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, the SWITCH to Green Facility or the EU Africa RISE Programme.

Intended Output(s)	• A Roadmap for the SADC Secretariat and a practical handbook for national government 'green and circular' office are available • The Roadmap is being implemented at the SADC Secretariat; the handbook is being utilised by assigned parties at national level and sub-national agencies in SADC Member countries.

(2) Government stakeholders can include circularity into public procurement practices by providing guidance on how to make "circular" criteria and "circular" business models a reality in the public procurement by SADC member states (e.g., procuring its electricity and fuels from alternative and renewable energy sources over fossil-based energy sources; refurbishment - e.g., of buildings, roads - over new construction, and reuse over recovery over avoidance of single-use practices). The role of governments to facilitate innovation through their spending (public procurement, Public-Private Partnerships) is an essential way of discouraging unsustainable practices and supporting circular and inclusive businesses. Consequently, government stakeholders can include circular economy criteria into both their procurement contracts as well as their public-private partnership contracts (especially relevant for infrastructure investments). The large purchasing power, especially in terms of volume, of the SADC region and its member states, enables them to create demand and shift the market to new ways of providing goods and services, from the individual product level to the system level. They can accelerate the demand for circularity by embedding circular economy criteria into public procurement policies and tenders for goods and services. Procurement decisions made at the SADC level can develop procedure and facilitate the purchase of products and services take into account the three principles of circularity, namely: design out waste and pollution; keep products and materials in use by purchasing for durability, repair, product ownership, reuse, remanufacturing, and recycling; and regenerate natural systems, e.g., electronics and electrical equipment, building materials like lighting, event coordination. Therefore, in public procurement and PPP, government could reward the achievement of inclusiveness and circularity criteria with a higher scoring for products and contractors and include inclusiveness and circularity clauses into the procurement or PPP contracts.

Practical examples from other countries include: Circular Procurement Requirements can express in the specifications and award criteria, the evaluation, the in-use phase and in contract management. An example by the Danish procurement agency summarises possibilities of how to include the CE into the public procurement as an innovation instrument.

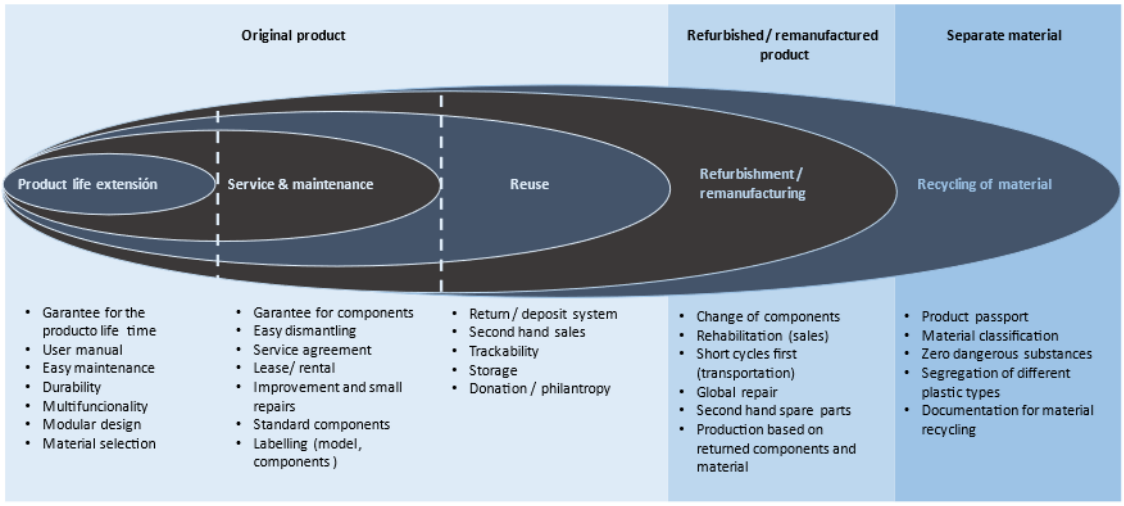

Figure 6: Criteria for circularity example [76]

Other good practices and guidance can be found in targeted publications by EU Member States and the European Commission[77].

Relevant technical support would include the establishment and strengthening of participative dialogues with pioneering private sector and research institutions to understand their ambitions and readiness to create the goods and services that the government would like to see more. Moreover, assistance might be needed for the development of training material/ training sessions including for public procurement agencies and budget users as well as possible contract partners both for tender awards and PPPs in the SADC Secretariat and national governments.

Budget estimate	• EUR 3-5 million for a 3-5 years' initiative
Resource mobilisation strategy	• Such a technical assistance for participative dialogues, the preparation of training sessions and actual support to the delivery of circular procurement and contracting could perhaps be supported by the pioneering European Member States, such as the Netherlands, Scandinavia (Finland, Sweden), the German cooperation, or the European Union, or could be (partly co-) funded by the EU Africa RISE Programme and SWITCH-to-Green. Alternatively, or in addition, the UN-PAGE as well as German development cooperation have been active in the support of 'circular' government procurement; other EU Member State pioneers (e.g., the Netherlands, or Denmark, or Finland) can serve as good examples for this action area as well and might be interested in being a development partner.
Intended Output(s)	• A Roadmap for the SADC Secretariat and a practical handbook for national government's incorporation of 'circularity' into their public procurement (tenders, offers, PPPs and corresponding contracts) are available • The SADC Roadmap is being implemented; the handbook is being utilised by the SADC Secretariat, and by national and/or sub-national budget users.

[76] Source: Netværk for Bæredygtig Erhvervsudvikling NordDanmark.

[77] ICLEI (2017): Public procurement for a circular economy; good practice and guidance, funded by the European Commission. (Link)

(3) Establish and strengthen public-private dialogue with representation of the voice of vulnerable groups to ensure a just CE transition. To make sure that the CE transition is just, inclusive and equitable, within and among the 16 member states, the government can safeguard that such a CE transition by enabling a wide variety of stakeholder groups, especially the traditionally vulnerable ones (informal actors, women, youth, the disabled), to participate in the transformation of the economy either as an informed entrepreneur, as an employee with knowledge and skills that are relevant for employers, and as informed consumers that make prudent choices based on the increased understanding of how their consumption choices are directly interconnected with the social and environmental impact of the goods and services and the inefficiencies, pollution and waste they generate when their materials are being extracted, when they are manufactured, when they are sold/ transported to the market, when they are used and kept in circulation, and when they come to an end-of-life stage. To ensure a just transition, the SADC Secretariat and its member states should be able to hear the concerns of vulnerable groupings as well as create the opportunity to inform about the capacity and skills needed for a CE transition. This is particularly important to make both policy development and policy enforcement more effective. This can be achieved by entering into dialogue with not only the larger association but also representative voices that can report and feedback important messages from informal and vulnerable actors of the economy to such public-private dialogues to find suitable ways forward that emphasize the opportunities created by the circular economy transition.

Budget estimate	• 100-120 expert working days
Resource mobilisation strategy	• The public-private dialogue at the SADC level would best be implemented jointly with the SADC Business Council, which has recently embarked on supporting the circular economy transition from a business perspective. • The EU and its Member States have been instrumental in establishing effective and inclusive public-private dialogues with like-minded partners worldwide. For example, the SADC Dialogue Facility Initiative could be a good framework for that if continued in the future, but also the CESARE Programme or any similar programme could be a possible partner of this Action Area.
Intended Output(s)	• Public-private dialogue in support of the CE is established at the SADC regional level • Good practices are compiled, and a handbook has been developed about how to establish effective public-private dialogues in favor of a CE transition; they are being utilised by relevant decision-makers at national and sub-national levels.

(4) Create and implement an aligned roadmap for SADC microenterprises and SMEs to benefit from circular practices: Almost all Member States have acknowledged the importance of SMEs with specific support initiatives and programmes in place, but they are largely ineffective in sustaining and promoting the sector. The failure and exit rates are generally high. Additionally, existing laws, policies and practices in accessing finance are not sufficiently geared towards making credit more easily accessible for women and youth. For SMEs to thrive and be competitive they, face constraints like, limited access to funding is scale up their business, low awareness of opportunities and a lack of financial knowledge, accessing the right markets to sell products, limited human resource due to lack of finance to hire skilled and empowered staff to lead and drive the business. Developing countries, including in the SADC region, tend to have a large share of (often informally operating) microenterprises, small and medium-sized

enterprises[78]. These smaller businesses are also responsible for providing 60-70% of employment, driving innovation and competition in many economic sectors.[79] A joint effort to cater for the specific needs of SMEs in the SADC region should therefore ameliorate these limitations.[80] This roadmap should also include steps for microentrepreneurs that currently work in the informal economy, pointing out benefits of the circularity principles and strategize feasible steps in how to empower these actors to become potent participants of the formal economy.

Examples for what governments can do to support microenterprises and SMEs include:

- Designing the roadmap in a participative manner (see above) can help shape effective cooperation mechanisms and partnerships nationally and regionally by identifying potential winners and losers of the CE transition and possible mitigation mechanisms. Especially, the SADC Secretariat should make sure to support an inclusive and equitable advancement for ICT infrastructure among the SADC member countries, so that all can equally participate in possible virtually made calls, remote meetings and trainings, and/ or possible regional platforms/databases about good practices, or cooperation mechanisms, or even platforms that inform about available feedstocks and by-products. If not all 16 countries can access such opportunities equally, the transition is not inclusive.
- Facilitating market system development which can incentivize and create market access to circular products and services, e.g., by offering skills development and training to business development service providers (e.g., advisors, financiers) about circular economy; by promoting locally sourced or locally made circular goods; by connecting disruptive entrepreneurs to supply chains that seek to innovate to become more circular/ regenerative; by promoting repair and refurbishment services through business model innovation and professionalisation of the sector; by facilitating access to finance outside the traditional banking system; by purchasing circular goods and services instead of spending the budget on unsustainable businesses.
- Combining circular economy policies with social protection measures will be important in order to ensure that the burden of efforts to promote circularity will not fall on the poor through worsening working conditions and health impacts, reduced livelihoods, or job losses.
- Promoting local value adding by rewarding SADC member states that support sufficiency principles, repair and refurbishment or local value adding by lengthening the currently 'short' (extractive) value chains that continue in international markets (e.g., oil and gas and mining industries) or other unsustainable practices that destroy the common goods/ ecosystem services (e.g., unsustainable agricultural practices leading to soil depletion).
- Exploring partnerships with development partners and development finance institutions to design programs and projects for a just CE transition.

[78] In a 2018 keynote speech, SADC's Policy, Planning and Resource Mobilization Director, Mr. Mubita Lwabelwa sait that, in Southern Africa, MSMEs accounted for more than 90 percent of businesses, creating over 60 percent of employment opportunities, see: UNECA (2018): SMEs key to unlocking Southern Africa's economic potential says Mauritian Minister. (Link) Antoldi, F./ Cerrato, D./ Depperu, D. (2012): Export Consortia in Developing Countries: Successful Management of Cooperation Among SMEs. Berlin: Springer Science & Business Media, January 2012. (Link)

[79] Cueto, L.J./ Frisnedi, A.F.D./ Collera, R.B./ Batac, K.I.T./ Agaton, C.B. (2022): Digital Innovations in MSMEs during Economic Disruptions: Experiences and Challenges of Young Entrepreneurs. Adm. Sci. 2022, 12, 8. (Link); Fourie, E. (2017): Perspectives on Workers in the Informal Economy in the SADC Region, in: Revue, 4/2017, p.76-95. (Link)

Marta de la Cuesta-González & Manuel Morales-García (2022) Does finance as usual work for circular economy transition? A financiers and SMEs qualitative approach, Journal of Environmental Planning and Management (Link)

[80] SADC Industrialisation Strategy and Roadmap, p.20.

Budget estimate	• 100-120 expert working days
Resource mobilisation strategy	The SIPS programme could be a good partner for this action. Also, the ACEF could perhaps be mobilised for selected participating SADC Member States (e.g., a multi-country approach under South African leadership).
Intended Output(s)	• A Roadmap for SADC SMEs and microenterprises to benefit from circular practices has been created and is aligned with the SADC Regional CE Strategy • The Roadmap is being implemented

Action area II.2: **Focus on innovation and establishing a functioning 'circular' innovation ecosystem.** The emphasis on circular innovation of materials, goods/ services, business models and value chains, needs the overall support of the SADC region's innovation capacity and that of its member states. Innovation can be supported in many ways and by different actors, yet it helps to help create incentives (e.g., ensure offtake through 'green' and/or 'circular' public procurement, tax holidays, or awards/image gains). Recent studies about the innovation ecosystem in the SADC region indicated that "*while the SADC region is not far behind in the use of technological innovation to foster growth, it is still trailing in the translation of tech-enabled innovation into meaningful social and economic impact*." The commitment to a circular economy transition could be taken as a motivation to achieve such an impact with eco- and social innovations, i.e., allowing for environmental benefits and improved ecosystem services while improving economic and financial inclusion). Common themes that emerged from a regional study of the innovation ecosystem in the SADC Region finds the availability and affordability of infrastructure as a critical barrier for innovation, while the availability of mobile money platforms was considered as a key building block for innovation in the region.[81] Available incubators, technology hubs and impact investors (venture capital funding, angel investors, crowdfunding platforms) show defensive attitudes and a focus on technology based, low-capital, fast exit-high gain business ideas, which are criteria that often are not compatible with the needs of circular innovators. Furthermore, secondary and tertiary education pathways seem to fail to provide adequate skills relevant both to product adoption/use and those necessary for developing innovations. The study particularly emphasises digital skills, but in the case of the circular economy transition, circular skills are of utmost importance, too. In addition, national governments in the region lack a coordinated national digital strategy that requires ministries to consult and support national initiatives, and which includes government digital services to improve services for businesses and investors of the circular economy transition.

(1) Turn educational centers into circular innovation spaces:

(A) Circular Campus: At the core of such a transformation, educational centers (primary, secondary, higher education) can act as live examples for young people to experience circular practices ("circular campus"[82]). Furthermore, these educational centers, in collaboration with other actors (research institutes, private sector) can run contests for youth to support identifying responses to society's main environmental issues through circular solutions and to link these with incubation services and angel investment/ venture capital. Especially the latter, the support and adequate finance of entrepreneurship, start-ups and innovation for a circular economy will encourage the cradling of ideas to circular businesses including the provision of capital needed. Ideally, circular businesses are being provided

[81] Jones, R. (2020): Innovation ecosystem scoping in the SADC region, 11.08.2020, Finmark Trust (Link).

[82] A case study by Ellen Mac Arthur Foundation of a Circular Campus was done for MIT in 2020 (Link) and has been replicated in other universities in the UK (e.g., in Edinburgh, Link).

with a minimum of 2 years of incubation and larger amounts for CapEx than currently available in the emerging start-up scenes, to allow for proper material innovation, prototyping and test-running.

(B) Mapping the on-going and already achieved applied research outputs to convert the ideas into bankable projects to attract investment. Circular economy (CE) research plays an important role to accelerate the CE transition in Africa. At this moment, CE research is conducted by different individuals (as part of their academic MSc and PHD thesis) and organizations (like Council for Scientific and Industrial Research in South Africa) research topics cover. Further, several universities in SADC support students in developing innovative and novel processes, materials and business ideas. A SADC-wide coordination and compilation of the ongoing research and already achieved research outputs both at the academic and at the applied research levels would help prepare meaningful research partnerships between universities within SADC as well as between SADC and international research institutes.

(C) Bridging academic innovation with investors through support to contracting/ using the university's IPR. Universities often take the role of a cradle for eco-innovation, and in the past few years, many graduates in the SADC region have successfully presented novel and innovative ideas that fit with the circularity principles. However, and despite the availability of funds and impact/ venture investors that were willing to invest, these innovations have remained unfunded, often due to unused intellectual property rights by the universities. The unlocking of these would be instrumental to make use of the innovation capacity of young entrepreneurs and to create first employment for recent graduates. To bridge the idea-to-market and help overcome the universities hesitation to use their IPR rights in favour or start-up creation and a revenue flow, support to contract negotiations, contract design as well as the set-up of spin off companies and financial models that cherish and comply with the IPR rights of the academe could be an effective enabler in many countries of the SADC region.

SADC member states could make additional efforts for even strengthening the link between universities and technology and innovation hubs[83], which can promote innovations, commercialize products, and transfer technologies to unlock competitiveness and deliver social economic value. An idea that would need to be tested is e.g., the possibility to set up a regional centre (or a unit under the SADC Business Council) which can become a strong nucleus to channel the expertise and best practices of the respective member states, and with the ambition to develop products with a regional value chain.

Budget estimate	• 300-350 expert working days
Resource mobilisation strategy	• The EU has been a partner in research and innovation worldwide; which is why this action could be suitable to be supported by the EU and/or its member states. • Furthermore, the interest of private actors (businesses, Ellen Mac Arthur Foundation and universities) could be gauged to contribute both in-kind and with additional budget. • The African Leadership Academy in cooperation with leading universities in the region, e.g., Stellenbosch/South Africa, Namibia University of Science and Technology /Namibia (e.g., its Bioeconomy Center). • Possible stakeholders include, moreover, African incubation hubs and business accelerator programs (e.g., Tony Elemelu Foundation, Baobab Network).

[83] E.g. Botswana Innovation Hub (BIH), Botswana Technology Centre (BOTEC) or similar (Link); SADC countries have tech and innovation hubs, which can be owned either by the government, private sectors or PPP structure. Some of them (e.g., the National Technology business centers in Zambia) go the extra mile in not only helping the entrepreneurs to design business models but also facilitating access to the market.

Intended Output(s)	• University campuses in the SADC region have modified their operations towards regenerative and circular practices. • Contests for youth are innovating processes materials, goods and processes while solving local sustainability issues. • Mapping of applied research outputs has been compiled • Recommendations for research partnerships have been developed and are being materialised • Academe business partnerships established and are being implemented • Contracts in support of the university's IPR have been facilitated with innovative graduates/ possible entrepreneurs

(2) Assess opportunities for improving the innovation performance in the SADC member countries: For the transition towards a more circular economy, it is crucial to have a functioning innovation ecosystem in place. While the SADC's challenges to the innovation ecosystem have been recently assessed,[84] the level of success in promoting innovation, opportunities, and challenges varies among the 16 SADC member countries. To allow for an inclusive and equitable development, it is crucial to understand the unique cultural, economic, and logistical difficulties facing innovation ecosystems in each SADC region is a crucial first step in overcoming key developmental challenges through innovation, and in the long run to find a common ground, a framework, that works for all to promote CE innovations. The assessment should result in concrete recommendations how to increase the performance of the SADC's innovation capacity in favour of the circular economy transition.

The Analysis would also identify key market players in each of the SADC member states and the determining factors that influence the actual innovation performance in the respective member states.

Budget estimate	• 80-100 expert working days
Resource mobilisation strategy	• Such an analysis could be led and guided by the SADC Science and Technology and Innovation Desk, and in cooperation with relevant national actors (e.g., national ministries of science of technology, public and private research institutes, universities, entrepreneurship incubation centres, financiers/ investors). • Coordinated through the SADC Secretariat, the individual member countries might be able to co-finance their individual contribution through a national resource mobilisation strategy with bilateral development partners.
Intended Output(s)	• Opportunities for how to improve the SADC Member States' innovation performance are assessed • Recommendations have been developed and are being implemented

(3) Fostering the innovation capacity of the region and individual SADC member states through the IPR policy framework, clear mandates, and incentives. Based on the assessment and recommendations developed above , the suggested recommendations would be implemented to deliver a more productive regional innovation capacity framework, both at regional and national levels. Possible areas for this circular innovation delivery include the following three:

[84] Jones, R. (2020): Innovation ecosystem scoping in the SADC region, 11.08.2020, Finmark Trust (Link).

(A) IPR Policy framework: The Circular economy transition and innovations/ new product development goes hand in hand. Therefore, any policy in support of innovation will also be essential for this transition. To date, 14 SADC member countries have either a policy in place or are developing one (i.e., all except Angola and the DRC). Such IPR rights are important including for the circular economy transition, to make sure that new products and prototypes can enjoy patent rights, as this is often a key element in the monetization of circular business ideas. They are helpful in the advent of creating circular inventions, designs, brands, and even new agricultural products, to create strong assets out of the products created, protect trademarks that are useful in differentiating products/services, leveraging the customer base, especially in digital platforms. Having IPR rights in place also facilitates partnerships with upstream and downstream businesses which is increasingly important in a circular economy to collectively design materials, products and processes in a way that goods have a longer lifespan and are easier to be collected, repaired, recycled, and refurbished. The strengthening and harmonising the intellectual property rights framework in the SADC region could contribute to increased innovation efforts by local and regional companies. A recent report summarises key recommendations for a functioning IPR framework in the SADC region, which mostly concentrate around the following six topics: (i) Policy benchmarking with regional and international norms; (ii) Policy harmonization; (iii) National intellectual property infrastructure and framework development; (iv) Use of patent flexibilities; (v) Sharing experience in intellectual property rights; (vi) Membership of regional and international intellectual property institutions and organizations.[85]

(B) Clear mandates for the promotion of "pro-CE" innovation are needed to effectively implement the intended transition. In this context, it is important to highlight that the SADC policies (e.g., the Industrialisation Strategy) confirms the role of the state in line with Mariana Mazzucato's perspective, which highlights the role of government as regulator, but also facilitator, innovator and implementer, including through the spending practices (incentives, public procurement). Therefore, the government actors can be active market participants versus the often very static and passive role of a "regulator" only, namely by: (a) assuming leadership functions in strategizing for long term inclusive and sustainable growth, by shaping economic structure, creating more jobs, reducing inequality, strengthening research and development and enhancing the overall productivity of the economy; (b) building industrial infrastructure (e.g., industrial parks) to support cluster development; and (c) investing in research and development for industrial development and innovation.

(C) Benefits of the CE transition and incentives/ disincentive system: Based on the review in Action Area II.2 #2, a modification of the incentives and disincentives system in combination with the promotion of the actual benefits for value creation in businesses can support an increased uptake of the actual economic players, including business and industrial players, as well as academia and other organisations. What is needed in this context is a coherent (i.e., non-contradictory) innovation, start-up and banking policy. Incentives specifically for eco-innovative and circular businesses can include measures such as clarifying rules surrounding angel, seed and venture capital funding, alleviating their tax and social security contribution burdens through waivers or discounts, providing access to forex bank accounts and offering subsidies for founders to decrease the high initial investment costs, ease any requirements for space rentals, facilitate the requirements on collaterals for bank loans.[86] The review of relevant business environment and the possible development of a regional innovation and start-up framework can help unlock the potential of entrepreneurs to establish, grow, and scale up with economic activities on a regional level. It can facilitate access to incentives for young people to start a venture, encourage investors to put their money into promising companies, intellectual property protections, and enable ecosystem services provision. For example, countries like South Africa, Tanzania have drafted national start-up acts which could serve as a basis for other SADC countries who are in various stages

[85] UN Economic Commission for Africa (2022): Developing an intellectual property rights framework in the SADC, 2019.

[86] For example, this can be achieved through ‚Start-up acts', see: Ashebir, A. (2020): African countries need start-up acts more than ever to support innovation. Tech Crunch, 19.05.2020. (Link)

of developing and passing their own versions which can be ultimately aligned or harmonised in a regional version.

Budget estimate	• 300-340 expert working days
Resource mobilisation strategy	• Coordinated through the SADC Secretariat, the individual member countries might be able to co-finance their individual contribution through a national resource mobilisation strategy with bilateral development partners. • While the SADC Secretariat as well as the governments of the SADC Member States in their role as regulators and facilitators of change would take substantial ownership, additional technical assistance can be helpful. • Especially the European and international DFIs but also the African Development Bank would be ideal technical partners and might have additional funding available (e.g., in the form of a policy-based loan, or technical assistance).
Intended Output(s)	• Key recommendations for a functioning IPR framework in the SADC region have been reviewed/confirmed as relevant, and are being implemented • Clear mandates for the promotion of "pro-CE" innovation have been defined at the SADC Secretariat, and guidelines for SADC Member States have been developed and are utilised • The benefits resulting from the CE transition are compiled; incentives and disincentives are reviewed

(4) Link between the Circular Economy transition and the ICT/ digitalisation strategy

On the one hand, circular practices and novel business models benefit from the availability of smart and artificial technology, and analytics (e.g., big data), the availability of and wide access of both users and service providers to internet (e.g., for platform solutions and product as a service solutions), internet-of-things, and satellite data. On the other hand, impact-related data and analytics can also help the investment into the circular economy transition. Therefore, it is important to acknowledge the importance of digital capabilities both in the sense of infrastructure as well as skills among the human resources that would make use of these facilities, machinery and other digital technology as well as the results (data, analytics, synthesis reports).

Through the ongoing and future digitalisation of many processes in the SADC economy and society as well as the introduction of new IT, sensors and satellite technology, new data streams can be facilitated to monitoring business and behavioural processes, often even at product or consumer level which allows for the utilisation of big data analytics in an otherwise data scarce environment. This can be an attractive add-on to complement the more traditional (and often expensive) data collection, which in the SADC member states has not assumed large budgetary priorities so far. This can help to build the data needed for investment, policy and monitoring in a data-free space.

Also, the SADC region, being a receiver of many 'end of first life' products, can support the rest of the world with proper tracing, measurement and assessment of global circularity. This would need to be factored in the regional digitalisation strategy to account for both governmental and private sector actors that could be involved in such a role.

Budget estimate	• 450-550 expert working days
Resource mobilisation strategy	• The identification of implications through digitalisation is addressed in the SADC Strategy for Digitalisation, which is being developed currently, and which response strategy includes resources from the European Union.
Intended Output(s)	• CE benefits, needs and operational fields have been mainstreamed into the Digitalisation Strategy and are being delivered

Action area II.3: Strengthening available investment and finance for the circular economy transition.

The right environment for investment and financing needs to be in place for a successful circular and inclusive economy transition, to support materialising the innovation capacity of the region, especially in view that the SADC region aims to shift to an investment driven expansion (switching from consumption-led economic growth).[87]

(1) Support the promotion of access to finance for 'circular' business ideas/ projects. To innovate and 'green' the public and private infrastructure that is needed for the CE transition, suitable access to finance is needed that covers longer maturities, a larger risk appetite and a larger capital expenditure. A large amount of the SADC economy is covered by (often informal) microenterprises and SMEs. Access to suitable finance is particularly needed for these smaller businesses. For these seeking to develop an innovative product within a circular economy context, access to suitable sources of finance is more challenging. With regards to the circular economy transition, the development, prototyping and demonstration of new materials and new products as well as novel business models and value chains might need more capital with higher risk appetite (or de-risking schemes) than what is currently in the market ("missing middle") or accessible for the small business owners/founders. The respective investment projects can be private, public and public-private collaboration.

(A) Capacity strengthening of banks/financing institutions: Banks and financing institutions may require increased awareness and about the CE to inspire circular alternatives and understand the functioning of available technologies, the possibilities of revenue generation through circular business models, and to perform a realistic risk assessment. This can be achieved through training and assistance with building a pipeline of possible circular economy projects jointly with their existing and possible new clients. Such pipeline structuring by itself might need several months (12-24 months). In this context, it might be valuable to explore the possibilities for creating synergies between the financial sector's ESG (Environmental, Social and Governance) framework and the circular economy approach. The set of standards and criteria used for evaluating environmental, social, and governance (ESG) scores of companies, help investors to screen potential investments. Moreover, International Sustainability Standards Board Reporting (ISSB)[88] require disclosures on climate and other sustainability issues that align with CE both in the upstream (raw material input, manufacturing, transportation and distributions, waste generation) and downstream (processing of end-of-life products, leased assets, etc.) with other accompanying remediation solution like, for example, carbon taxing. Screening investment opportunities against their respective ESG scores can help identify how the company safeguards the environment. Based on the gaps identified, solutions based on circular concepts and principles can be in designed and implemented.

[87] SADC Industrialisation Strategy and Roadmap, 2015-2063, p.13.

[88] Value Reporting Foundation Website on SASB Standards (Link)

(B) New financing mechanisms/ blended finance: The promotion of circular business ideas might need the availability of new co-financing mechanisms and blended finance, including of guarantee schemes for de-risking (financing through regional banks and the private sector). What has shown effective in other occasions is the involvement of larger private buyers with equity and a loan commitment to help make their supply chain more circular and regenerative. These alliances generally need a facilitator as it can take several months (12-24 months) to come to an agreement with the several involved stakeholders (e.g., supply chain, buyer/borrower, lender, guarantor). Investment managers and impact investors might be the best actors to support such facilitation. Development banks and development partners can assist with co-finance and guarantee instruments.

To increase the economy of scale, clustering similar microenterprises/SMEs and similar (municipal) government projects within SADC member states and in multi-country approaches can overcome the lack sufficient scale in terms of feedstock throughout (waste material produced in absolute terms) and in terms of market size (small populations), as these can hamper the attraction of viable investments and financing.

Budget estimate	• 120-150 expert working days over 12-24 months
Resource mobilisation strategy	• Possible technical and financial partners could be the SADC national development banks, but also FSD Africa, or the World Bank/IFC. • Development partners and development banks can help with guarantee instruments. Impact investors and investment managers can provide the facilitation of co-financing mechanisms. In some cases, such a role has also taken by the UN (e.g., UNDP).
Intended Output(s)	• Access to finance for 'circular' business ideas/ projects is being promoted through capacity strengthening of banks/financing institutions and the development of new financing mechanisms. • A pipeline of 'circular' business ideas/projects has been identified and is being operationalised using traditional and innovative financing approaches.

(2) Create the preconditions to issue 'sustainability' bonds and/or 'green' bonds for the circular economy transition. When it comes to sustainability bonds (use-of-proceeds) and green (thematic) bonds, in a global comparison by region, pre-pandemic (2007-2018), Africa has only assumed a mere 0.4% of the market share by value of the total green bonds issued worldwide.[89] That means there is still a large potential to tap into. Among the SADC countries, South Africa, Namibia, Seychelles and Mauritius have issued green bonds.[90] A recent study by the FSB concluded that several elements can be addressed when accessing institutional investors for "green" or "circular economy" finance and to deepen the SADC capital market for 'green' bonds: (1) Taking stock of different possible investor groups, including financing institutes and banks, credit unions, pension funds, insurance companies, hedge funds, mutual funds, real estate investment trusts, venture capital funds, and other impact investors. (2) Performing a capacity needs analysis of these groups to support their positive dynamics in the region. (3) Capacitation of the SADC member states' stock exchanges. (4) Moreover, setting up the right incentives for green investment instruments. Next to the above mentioned, more generic support to the capital market, a dedicated study could explore how the investment into circular economy for different sectors can be

[89] Holtz, L./Heitzig, C. (2021): Africa's Green Bond Market trails behind other regions, Brookings, 26.03.2021 (Link); Marbuah, G. (2020): Green Bonds in Africa, 05.10.2020, Stockholm Sustainable Finance Center. (Link)

[90] Kwinika, S. (2021): New Green Bonds Programme for SADC, CAJNews Africa, 12.03.2021 (Link)

made possible and aligned with the real financing needs to transform the SADC region, taking into account the high importance of the informal sector and the relatively low population density.

Budget estimate	• 100-120 expert working days
Resource mobilisation strategy	• The technical assistance to such an activity area can benefit from the ongoing regional initiative SADC Green Bond Programme which comprises four components: (1) Regulatory affairs to establish a robust legal and regulatory framework to enforce transparency and compliance from issuers. (2) Developing a pipeline of issuances for both sovereigns and corporates and demonstration transactions (listing a green bond will be novel for most issuers). (3) Capacity building and market education to ensure wider uptake of green finance and to ensure that best practice for labelling green financial products is understood. (4) Undertake a demand study for green bonds in the SADC Region and understand the existing and estimated future investment potential.[91] • Links to the climate and biodiversity funding can be created through development partnerships and through support to the application for the GCF or GEF. • FSB could build on the previous analytical work and continue to support the strengthening of the capital market. Likewise, individual national development banks could be interested in being involved. • A possible role for the AfDB's Africa Climate Change Fund could be explored as well.
Intended Output(s)	• Recommendations for 'sustainability' and/or 'green' bonds in the SADC regions are reviewed/ have been confirmed as relevant and are being implemented. • Study results are available on how the investment into circular economy for different sectors can be made possible and aligned with the financing needs to transform the SADC region.

(3) Linking ecosystem services pay schemes and other innovative finance with the circular economy transition. Overall, the circular economy can help to keep GHG emissions in check and to rehabilitate landscapes and their biodiversity. Therefore, with the introduction and cherishing of circular practices both of technical and biological cycles, ecosystem services can be restored. For example, the productivity of land, and with it, the provision of food, water, and the regulation of climate, is determined by the amount of soil biodiversity (the variety of organisms they contain) are ecosystem services that can be fostered by circular practices. Circular practices can help preserve and restore the health of soils, e.g., by utilising natural fertilisers and avoiding or replacing chemically fuelled intensive agricultural production, as well as by using agricultural residue to rebuild soil.

[91] Committee of SADC Stock Exchanges (2021): CoSSE Invests in Developing the SADC Green Finance Market, 15.10.2021 (Link)

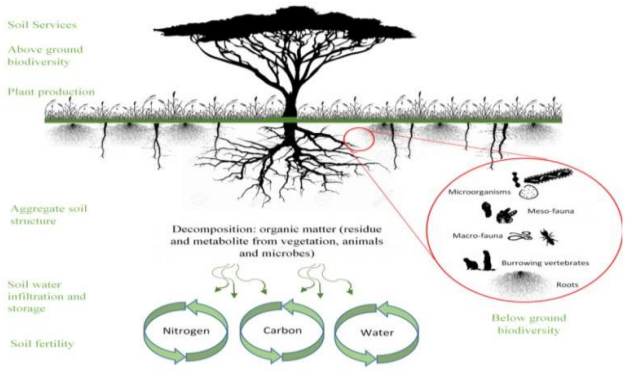

Figure 7: Circular practices can support "healthy soils" [92]

Therefore, this activity area includes opportunities to explore climate finance (e.g., Green Climate Fund) and conservation finance (e.g., Global Environment Fund) for the circular economy transition as well as the reward for the protection and/or restauration of ecosystem services.

Climate/ conservation Finance are possibilities to fund and finance activities that impact positively on the climate and/or nature and biodiversity. SADC Member States have successfully accessed such Green finance, e.g., though the GEF or the GCF or similar outfits. Technical assistance might be needed to unlock any bottlenecks to access such funding. Particularly this includes the support to lesser advanced countries and communities, including those that might not yet see the value of sufficiency practices, as these often arise out of necessity rather than from 'green' intentions, and traditional knowledge (natural building materials, non-chemical agricultural practices, etc.) for the transition towards a circular economic model.

Payments for ecosystem services (PES) can be agreed between beneficiaries or users of an ecosystem service and providers of enabling such a service. In practice, this may take the form of a series of payments in return for receiving a flow of benefits or ecosystem services.

The principle of payment for ecosystem services can also be taken to a higher political level, as the SADC region is currently receiving a lot of end-of-life product from its trade partners. The adequate handling of this end-of-life product into proper circular technical and biological cycles and the respective reward for such a service, especially if it includes the handling of hazardous substances that would put at risk pollution at the trade partners' environment, could be incorporated into sustainability chapters of the trade agreements both in terms of (co-)investment into the proper facilities and logistics in the SADC region as well as the training/ skilling of people. Ecosystem services restauration or conservation could be rewarded if results are nature-positive, i.e., more biodiversity is being conserved and restored than threatened, more emissions are being avoided than caused, etc. The other way is to link the trade partners' EPR schemes with disincentives (e.g., fiscal interventions and other post-sales support of the (international) downstream value chain(s).[93]

For both opportunities (climate/ conservation finance and payment for ecosystem services), it is an important first step to both identify the budget needs for conservation or restauration as well as to determine science-based targets, the mechanisms how to achieve them and to agree how to remunerate these achievements to whom.

[92] Source: Laban, P./ Metternicht, G./ Davies, J. (2018): Soil Biodiversity and Soil Organic Carbon: keeping drylands alive. Gland, Switzerland: IUCN. (Link)

[93] Such as, for example, the case with the French and German Supply Chain Diligence Laws, which require the mapping and disclosure of social and environmental practices in line with the trade partner country's laws and regulations.

Budget estimate	• 120 expert working days
Resource mobilisation strategy	• The regional (FNB), international (World Bank) and European DFIs (e.g., AFD, FMO, KfW) have shown to be partners in the exploration of innovative financial products and might be interested in supporting such an action initially in its conceptualization and demonstration. • The IUCN, which is already funding the SADC transboundary conservation areas initiatives, might be interested in this activity as well. • Links to the climate and biodiversity funding can be created through development partnerships and through support to the application for the GCF or GEF.
Intended Output(s)	• Identification of budget needs and possible ways how to close these • Science based targets and ways how to achieve and reward them have been determined – (a) in the case of climate/ conservation finance through technology or nature-based solutions); (b) in the case of payment for ecosystem services through beneficiaries, service providers, and agreed mechanisms between the two groups

Action area II.4: **Promote circularity in stages, while in parallel continue developing regional value chains. Part II – medium-term (3-5 years)**. Support to multi-country circular economy initiatives in support of technical and biological cycles: Value chains proposed for starting CE interventions in the **medium-term** (in the next 3-5 years onwards) would include any efforts to reduce and valorise waste and used material along all industrial value chains, through a combination of: (A) good-will investigation of smaller scale, lower tech repurposing technology (e.g., for e-waste, textile waste, etc.); (B) feasibility studies and multi-country cooperation and logistics/routing optimisation models; (C) the promotion of waste reducing business models overall (e.g., efficiency, product-as-a-service, virtual products), including in coordination with major trade partners of imported goods, capital equipment and product service-combinations. Part of the demonstration would be to identify and solve bottlenecks and to support the workers and businesses operating today in the field of waste trade, waste management, waste processing as well as its logistics to upskill and/or retrain and participate in a future, circular supply chain. Also, in about 3-5 years, the preconditions for regional integration (signatures and ratification of important agreements) will have made more progress and the SADC national governments and businesses are more familiar with the circularity principles, circular economy interventions can be introduced in key value chains in which the economies of scale determine if local value addition can be implemented or not (i.e., if it is economically feasible or not), and for which of them a multi-country approach can create the necessary economies of scale (selected TA measures and policy review or enforcement of policies might be needed).

Elements that should be covered for concrete demonstration projects include:

- The identification of regulatory instruments that need to be adapted to foster the transition to the circular economy (regulation)
- Help to mobilise financial resources and allocate them efficiently (resource mobilisation)
- Adapting human and technical resources to the challenges to be met (capacity building)
- Supporting specific business development and innovation
- Generating an information system and assess results (data and assessment).
- Facilitate connections and dialogue and provide soft and hard infrastructure for new circular businesses, in particular through implementing effective multi-level governance (co-ordination), fostering system thinking (policy coherence), facilitating collaboration amongst public, not-for-profit actors and businesses (stakeholder engagement), and adopting a functional approach (appropriate scale).

Concrete options for **medium-term pilot or demonstration projects** could include the following:

Indicative pilot/ demonstration projects	Proposed key implementers and 'development partners'
01. **Demonstrate EPR policies and responsible consumption policies as an incentive for repurposing and innovation in favor of regional circular supply chains**. Currently there is no common EPR policy at SADC level, but there are some member countries, e.g., South Africa, that have established policies for responsible production (EPR) and consumption. Given that the SADC member states do not create sufficient secondary materials to make repurposing viable, such EPR and responsible consumer policies have the chance to incentivize regional cooperation and trade of secondary resources. The case of South Africa can be researched and possibly replicated in other multi-country approaches to reduce the amounts of waste going to landfill, create jobs and reduce the cost of production by repairing and refurbishing as much as possible as well as to encourage recycling as the last option of repurposing what is today called 'waste'. The initiative can help design a reverse logistics network within the region with the purpose of capturing value, proper disposal, remanufacturing and refurbishing activities for unused and discarded obsolete products.	Suitable stakeholders include the South Africa's Council for Scientific and Industrial Research (CSIR), or the Africa Circular Economy Network (ACEN).
02. **Demonstrate the collaboration between cities for mutual learning about the adoption of Circular Economy practices**: With the rapid rate of urbanization in the SADC region, cities and city networks can play a role to stimulate, adopt and explore options on how to apply the principles of the circular economy at individual, local governance (municipality) and regional scales. Cities are confined spaces that concentrate businesses and jobs and consume high amounts of natural resources, generate waste, and contribute to greenhouse gas emissions, hence the need to regenerate the urban ecosystem to make it healthier and more liveable. Furthermore, the circular economy implies a mindset change, moving away from single-use and disposal towards reusing and recycling material and products. Two or more cities in the SADC region can forge twin city partnerships to jointly design and implement circular solutions like circular food systems and construction, water, and nutrient recycling; adaptive reuse of spaces and pop-up activities; bioremediation of contaminated sites and integration of waste management infrastructure throughout cities. Transforming these cities will require public and private investment, political support and public engagement which is easier through joint resource mobilization.	Suitable stakeholders include ICLEI Africa as well as stakeholders involved in concrete 'circular economy' cities experiences, e.g., the City of Capetown has a 'green' public procurement policy which could be used as an instrument to encourage 'circular' products and services
03. **Demonstrate the suitability of SADC Special Economic Zones (SEZ) for circular regional industrialisation**. There has been relative success of Special Economic Zones (SEZ) in SADC countries, allowing investors special rights and easier rules for doing business. The role of such SEZ as an entry point for the CE transition could be the promotion of industrial symbiosis and other forms of circular industrialisation. Out of the 237 SEZ currently operational in Africa, the SADC comprises only 16% with Botswana, South Africa and Tanzania leading the block with eight SEZs each. The establishment of multi-country SEZ could provide spaces for joined repurposing facilities. Such an approach to SEZ development warrants that SEZ policies should not remain stand-alone interventions but instead become the means for the diffusion of greater innovation and knowledge in hosting regions.	For example, the Special Economic Zones Authority (SEZA) of Botswana could be interested in such a demonstration project.
04. **Demonstration of the co-benefits of measures that rehabilitate and strengthen natural capital (ecosystem services payment, nature-based solutions) for the circular economy transition**.	TFCAs, such as, the Greater Limpopo (GLTFCA) or the Kavango

Compensating individuals or communities in the SADC region, including in Trans-frontier Conservation Areas, for the strengthening and reviving of ecosystem services, e.g., water purification, flood mitigation, or carbon sequestration, including through nature-based solutions, can co-benefit the circular economy, which ultimately aims at exploring nature at a speed that is bearable by the planetary system and/or regenerate nature while creating increased economic value. Technologies can include both those relying on the technical and biological cycles. Such initiatives can increase the resilience of societies to adverse climate impacts, protect and restore the ecosystems, and to maintain the necessary economic growth without further undermining the planet's boundaries.[94] The circular economy approach and targets can create the necessary framework and favourable conditions to attract more investments for designing new or scaling up existing nature-based solution projects especially those focusing on reducing carbon and environmental footprints of the industry sector.	Zambezi (KAZA) cooperation, cultivation and processing of non-timber forest products (e.g., plant oils)

More information about good examples for further inspiration, and the mentioned potential cooperation partners, can be found in the Annex 05 (good examples).

Budget estimate	• 500-600 expert working days
Resource mobilisation strategy	• The suitable resource mobilisation strategy should be defined for each of the above demonstration projects when the identification mission is performed. A wide range of possible resources and co-finance including in-kind is possible. Also, incubation hubs and business accelerators like AfriLabs and Fetola might be interested in supporting selected measures. The identification mission itself could be supported by the EU-funded Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, the SWITCH to Green Facility or the EU Africa RISE Programme, or their successor programmes.
Intended Output(s)	• Demonstration results of circular business models and circular supply chains are available and being taken into account • (Multi-country) Feasibility studies have been conducted and their recommendations are being implemented • Reports of pilot interventions are available, increased awareness and know-how has been created both in SADC's regional technical and biological cycles and serve as lessons learnt

(2) Incorporate a consumer perspective through (a) improved access to information about 'circular' options, standards and labelling; (b) economic attractiveness of a sustainable lifestyle: To enable better consumer choices for a circular economy, it is important to include not only extraction and production related aspects in a CE strategy but also consumption related action areas. Current policies mainly aim to give consumers information (e.g., eco-labels) and to a lesser extent to make circular alternatives more economically attractive. In this context, it is important to take into account that every organisation and

[94] Stefanakis, A.I., Calheiros, C.S. & Nikolaou, I. Nature-Based Solutions as a Tool in the New Circular Economic Model for Climate Change Adaptation. *Circ.Econ.Sust.* 1, 303–318 (2021). https://doi.org/10.1007/s43615-021-00022-3

every individual can be a 'consumer', e.g., businesses when procuring their inputs, components and services; governments when tendering their works and services; as well as individuals when deciding about how to spend their savings. Especially tourism and gastronomy can be an important consumer group to engage for the circular economy transition, as this sector is relevant in many SADC countries. Other specific consumer groups include government, larger buyers, the poor and middle-class households.

(A) The circular economy transition implies the promotion of innovations of materials, business models and supply chains, and it is difficult to keep track of the introduced changes and benefits for the environment, for climate, biodiversity, and human health, which the CE transition might bring to both individuals and societies as a whole. This is where the sharing of information about the distinctive characteristics of circular solutions can make a difference. To the opposite, any form of intended greenwashing can distort consumers' understanding of the impact of their choices as well. [95] It can help to create a compendium of good examples (see AA 1.5) as well as to provide results of life-cycle analyses of both circular and linear goods and services. The promotion of eco-labels and the connection between eco-labels and the circularity principles can make consumption choices easier, if clearly and widely communicated to relevant consumer groups. As per the SADC Green Economy Strategy, "*establishing regional standards and labelling for green goods exchanged can contribute to conserving and protecting natural resources from over exploitation while encouraging the sustainable trade of resources where their availability is abundant*."[96] In practice, the compliance with international standards and labelling might be more important for export-oriented companies and the respective quality infrastructure. This is why it is advisable to adapt the labels that are currently in use in the SADC region to provide clear, accurate, and objective information on the environmental benefits of products and services, including the benefits achieved through circularity. This could be done jointly with international trade partners, e.g., the EU and the EU member states, to make sure that these labels do not lead to additional non-tariff trade barriers. Also, it will be helpful to incorporate and inform about the currently developed ISO standard for the circular economy project management once it is available.[97]

(B) Policies that are aiming to promote circular economy-consistent decisions by any of the above consumer groups will be most effective if they take account of the factors that influence consumers towards making choices that favour the greatest circularity. Consumers in the SADC region, and particularly those with lower budgets such as the poor, microenterprises, or government of Least Developed Countries[98] or those countries that have less debt sustainability[99], are mostly basing their purchasing decisions on economic factors, for example, most SADC governments have been basing their procurement or tender award decisions on the economic value, or end-consumers are looking at sales price, or tranche payment options rather than quality aspects such as sales price over expected lifetime of the respective good. Other consumption drivers include the fit between needs and offering, information, social factors, and individual consumer preferences and beliefs.[100] For policy makers, a possibility to account for this is, for example, to establish a taxation system that is favouring circular alternatives (e.g., VAT exemptions or reductions for repair services), or imposing taxes on linear

[95] European Environment Agency (2022): Enabling consumer choices for a circular economy, 17.05.2022. (Link)

[96] SADC (2015): Green Economy Strategy and Action Plan for Sustainable Development (Link)

[97] The ISO technical committee was formed based on the idea that was promoted by the French AFNOR with its X30-901 "Circular economy – Circular economy project management system – Requirements and guidelines" that was published in 2018.

[98] Angola, Comoros, DRC, Lesotho, Madagascar, Malawi, Mozambique, Tanzania and Zambia are Least Developed Countries according to the UN list of least developed countries (Link).

[99] Angola, Zambia, Zimbabwe have a very high risk of debt distress; Comoros and Malawi have a high risk of debt distress; and DRC, Lesotho Madagascar and Tanzania have a moderate risk of debt distress, according to their most recent IMF debt sustainability assessments.

[100] European Environment Agency (2022): Enabling consumer choices for a circular economy, 17.05.2022. (Link)

alternatives (e.g., tax on non-recycled plastic packaging or on virgin materials). Other market drivers can be the establishment of 'circular' public procurement criteria (see above).

Budget estimate	• 400-450 expert working days
Resource mobilisation strategy	The technical assistance that is required for this action could be supported through, e.g., bilateral support (e.g., GIZ/Germany), or EU-funding, e.g., Framework Contracts, the Support to Industrialisation and Productive Sectors (SIPS) in the SADC Region, the SWITCH to Green Facility or the EU Africa RISE Programme, or their successors.
Intended Output(s)	• Access to information about 'circular' options, standards and labelling has been improved and serves as an added value for responsible consumer choices. • The economic and social benefits of a sustainable lifestyle have been promoted and demonstrated through better policies, enforcement and implementation; they are being perceived as the best option by SADC citizens, businesses, and governments.

Action area II.5: **Introduce inter-institutional collaboration to allow for systems thinking**. Circular economy discourses highlight the importance of taking a systems perspective. The mandate for the circular economy transition both at the regional level as well as in SADC member states lies in Directorates or national ministries that have little convening power, low budgets (e.g., line ministries in charge of the environment and waste management) and that often work in isolation, while the circular economy transition, its governance, regulation, management and implementation, requires an interdisciplinary approach and systems thinking, as well as to put the transformation of the economic model at the centre stage of the economic growth discourse. Topics like competitiveness, innovation, education and finance therefore are essential for the transition, especially when it comes to circular practices in industrial activities.

The SADC Secretariat could act as an inspiration for its members' country governments and steer, as such acknowledging and working with the cross-cutting nature and systems thinking perspective of circularity when developing a common vision for transitioning towards a circular economy. This suggestion could be introduced, for example, by the Directorate for Food, Agriculture and Natural Resources (FANR, being the official host of the CE transition), but could also be proposed by other Directorates, such as the Directorate for Industrial Development and Trade (being the host of the SISR, and therefore an important regional integration policy for the SADC region). Another possibility is the promotion of good practices of inter-institutional examples from the region, if and where available. Examples can include the coordination of institutional mandates to identify circular opportunities in the context of regional product value chains, design cross border eco-industrial frameworks, developing infrastructures, setting up production facilities, and transboundary conservation areas as well ecosystem service payment schemes, etc. to maximise positive environmental and social impacts.

Budget estimate	• 500-550 expert working days
Resource mobilisation strategy	• At the regional level, the use of Framework Contracts, the EU-funded SWITCH to Green Facility, or the EU Africa RISE Programme could be suitable ways to support this action. • At the national level, bilateral development partners could contribute and co-finance accordingly.

Intended Output(s)	• Interdisciplinary working groups are established at regional level and are being implemented • Guidance has been developed for national governments and SADC businesses about interdisciplinary political dialogue, working groups and public private development alliances, and is being implemented by relevant actors in the SADC region • Participatory methods for policy development and supply chain innovation have been tested and are being implemented

III. Proposed long-term actions to consolidate the CE transition

This third phase continues to implement over the long-term (next 7-10 years) the essential tracks that need longer to be established and operationalised (e.g., education, innovation, market building, scale, local added value). After phase 2, it is time to live and consolidate the transition, including the dissemination of demonstration results and lessons learnt. Also, this is the time in which it makes sense to start a more sophisticated result and impact-oriented monitoring of the circular economy transition to provide further evidence that can validate and complement the "upfront" scenarios and assumptions on the impact potential developed in the preparatory action areas in phase 1 of the CE transition. As from in 7-10 years onwards, circularity, regenerative practices and the wellbeing of future generations will be given utmost priority over any non-linear operations.

Action area III.1: **Support the education and upskilling of students and workforce with 'green' and 'digital' skills in support of the CE.** The SADC Industrialization Strategy and Roadmap identifies human capital development and in particular, skills development, as an important enabling factor for industrialization.[101] Fostering skills for research and innovation is important for designing and prototyping circular products, goods and services. With the intention to transition to more circular economic practices, the labour force and market participants (students, graduates, self-taught entrepreneurs and the unemployed) need to be familiarised and upskilled about circular skills. Such skill sets include, among others:

- Engineering and technical skills for designing, construction and assessment of technology needed for eco-buildings, renewable energy design and efficiency considerations, and other circularity and material research, innovation and development projects
- Soft skills related to design thinking, creativity, adaptability, resilience
- Technical and vocational skills for product repair, maintenance or innovating the product design process to improve longevity)
- Operation management skills related to change in organizational structure required to support circular activities and an integrated view of the firm through life-cycle management, lean production and closer cooperation with external actors, including both customers and suppliers
- Legal and monitoring skills required to assess the observance of technical criteria and legal standards. Examples are environmental compliance inspectors, nuclear monitoring technicians, emergency management directors and legal assistants.

In more general terms, to bridge the technology gap between the SADC region and its international competitors, education systems would need to be restructured and re-purposed with a focus on technical and vocational skills of all kinds, especially those appropriate for a modern, knowledge economy.

[101] Southern African News Features (SANF) (2019): Industrial Centers of Excellence and Specialisation to Support Skills Development, 13.07.2019 (Link). The process is guided by the Regional Framework and Guidelines for the establishment of Regional Centres of Excellence and Centres of Specialisation approved by the SADC Council of Ministers in 2018.

This includes digital skills, such as how to capitalise on IT applications and software, platform solutions (sharing economy), sensor- and satellite-based technology and data, big data analytics, internet of things, and other intelligent or analytical technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. Examples include automating and optimising processes to reduce waste, detect cleaner production alternatives, reduce emissions and collecting data and using artificial intelligence, big data AI and machine learning to produce algorithms for smarter resource management.

(1) Improve the circular economy skills development infrastructure: To disseminate the knowledge and support infrastructure for a circular economy transition, business development services, trading services and financing/investment services need to be empowered to be a competent partner in the transition. The parallel work on the regional integration transition first and foremost means to continue trade facilitation for future circular value chains through infrastructure, logistics and cross-border facilitation.

Within the circular economy transition this means, e.g., to upskill the export quality infrastructure (e.g., standards, test laboratories), to familiarize customs departments/ officers to acknowledge materials of recycled content, or goods using such, to determine the difference between waste and secondary material, or similar. Business membership organisations and other business development service providers can benefit from updating their knowledge to act as a competent advisor for their members. The SADC Business Council, which functions as an apex organisation for the SADC countries' associations and chambers of commerce, has been embracing the circular economy transition and can be a key actor in improving the CE infrastructure through outreach in its network. Particularly important is the support to designers of all kind: The designers' ability to identify new ideas and transform them into new/improved materials, products, services or processes.

Budget estimate	• 500-600 expert working days
Resource mobilisation strategy	• Green and digital skills in support of a circular economy transition is central to the EU's Green Deal diplomacy, which is why Team Europe or individual EU Member States might be willing to support this action area. Other possible development partners include UN-PAGE, ICLEI for sub-national governments, international NGOs (e.g., Conservation International, WWF) to address skills that influence consumers and their decision-making patterns, or producers and their supply chains. • Such skills development can be made a core element of the 'just' transition and 'just' (post-pandemic) economic recovery.
Intended Output(s)	• Needed CE skills sets for key actors of the SADC political framework economy, supply chain networks, and within SADC societies are identified, corresponding training measures are available and are being implemented

(2) Facilitate upskilling and knowledge transfer of students and businesses through incubation and innovation of value chains linked to multinational corporations as well as formal education. To make sure that materials, goods, services, businesses and supply chains can transition from extractive to regenerative models, economies need to enable, promote and finance innovation. Especially the private sector has a large role to play to drive research and innovation as well as the delivery of the actual CE transition. The SADC policies (e.g., the Industrialization Strategy) gives due recognition of the private sectors role and in particular the contribution of small, medium enterprises (SMEs) to drive the

industrialization, economic diversification, employment growth and national development.[102] Private sector-led innovation can come through multinational corporations and their global responsibility policies as well as through disruptive smaller companies, often micro-entrepreneurs that dare to think differently. Upskilling and CE training therefore should address both larger and smaller players of the economy through information and incentive systems (shorter term effect), and education and training for skills that are needed for a CE and the transition period (longer term effect). Possible channels include the following:

(A) Incubators and innovation services: Possible channels for such upskilling and knowledge transfer is the work through incubation and innovation services for pioneer value chains on the one hand. In fact, one way of successfully supporting innovation in Africa, where the number of youth is relatively high, is through the strengthening of urban and rural entrepreneurship incubation and acceleration hubs and/or co-working spaces which allow for access to internet and digital tools (e.g., internet of things, satellite data, analytics), learning, mentoring, and financing that cradles the best performing ones into formal micro businesses. Technical support would strengthen the quality of the incubation and acceleration hubs with particular view on the 'circular economy transition' and respective investment and finance needs. Those incubators and accelerators can then become partners of multinational corporations that seek to innovate their value chains from unsustainable/linear practices to regenerative/circular materials, goods, and practices.

(B) Educational and training institutes: The education system should gradually be updated with formal curricula and practices at educational, vocational training centers and academic campuses that incorporate circularity principles. While the academic sector in the SADC region is already taking up the topic of the CE for research projects, there are still unused opportunities to support them with acting as an example to both their students and companies in their surroundings. For example, the academic facilities could mainstream the circularity principles into their operational management and become 'circular' universities, for example through the establishment and better equipment of any testing or prototyping facility or circular economy excellence centers, which could provide services to the private sector in support of their material/ business model innovation and the education of their staff. Relevant subjects include, for example, engineering, IT, supply chain, bioeconomy. Private sector-academe partnerships which can enhance innovation, encourage translating STEM education research into practice, by bridging between research and applied education in the industry could both improve the educational relevance and innovate businesses that are interested in inspiration about the circularity principles. In this context, an academe-private sector partnership can benefit in both ways: (a) The private sector can expand its role to promote research and innovation partnerships and cooperation through knowledge transfer and capacity building for CE in form of apprenticeships, study exchanges and collaboration with higher universities both within the SADC region and beyond. (b) In the same way it is important that CE-related knowledge present in academic and other knowledge institutions is transferred to the private sector and translated into concepts that can be practically implemented by businesses. Partnerships should also be planned to finance the research, design, prototyping and upscaling production for the market.

General bottlenecks might include the weaker qualifications, professionally and technically, of the personnel of organisations that can be involved in the skills development, as well as a rather weak scientific and technological base to advance the industrialization agenda.[103] The government can utilize public expenditure to finance capacity building, hands on practical trainings for soft skills and

[102] SADC Industrialisation Strategy and Roadmap, p.8.

[103] Southern African News Features (SANF) (2019): Industrial Centers of Excellence and Specialisation to Support Skills Development, 13.07.2019 (Link). The process is guided by the Regional Framework and Guidelines for the establishment of Regional Centres of Excellence and Centres of Specialisation approved by the SADC Council of Ministers in 2018.

entrepreneurship and business model development, apprenticeship programs. This can absorb the cost associated in the learning curves when transitioning towards CE and empower communities.

On a regional level, since 2019, the SADC Secretariat has been identifying regional industrial Centres of Excellence and Centers of Specialisation with the mandates of skills and capacity development to implement the SADC Industrialisation Strategy and Roadmap.[104] The mandates of several of these Centers align with the principles of the circular economy. For example, the Trans-frontier Conservation Areas (TFCA[105]), the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE[106]), the SADC Groundwater Management Institute (SADC GMI[107]) and the SADC Climate Services Centre (SADC CSC[108]). These technical centers can be engaged to mainstream CE into their respective planning, programming, and budgeting. Others have a mandate for training and skills development in the SADC region, for example the Center for Specialisation in Public Administration and Management (CESPAM[109]), or the SADC Centre for Distance Education (SADC-CDE[110]). It will be essential to capacitate the educational centers with the circular economy principles and to involve them in the process of the CE transition.

Budget estimate	• 200-240 expert working days
Resource mobilisation strategy	• The technical assistance to such an activity area includes the technical advice and financial support (fundraising, development partners, third party investors) to create specific 'circular business' windows.
Intended Output(s)	• Incubators and accelerators have been strengthened in their function to act as a cradle for circular innovation (both technically and financially) • Students and businesses have been upskilled, and knowledge has been exchanged between students/graduates and businesses • Good practices of academe-business cooperation for skills and knowledge transfer are being institutionalized into the educational system in the form of syllabus and curriculum development • Specific academe-business partnerships for research and innovation (incl. the creation or collaboration with centers of excellence) have been established and are being implemented

[104] Southern African News Features (SANF) (2019): Industrial Centers of Excellence and Specialisation to Support Skills Development, 13.07.2019 (Link). The process is guided by the Regional Framework and Guidelines for the establishment of Regional Centres of Excellence and Centres of Specialisation approved by the SADC Council of Ministers in 2018.

[105] The TFCAs, i.e., a component of a large ecological region that straddles the boundaries of two or more countries encompassing one or more protected areas as well as multiple resource use areas, are founded with the objective to, collaboratively, managing shared natural and cultural resources across international boundaries for improved biodiversity conservation and socio-economic development. (Link)

[106] SACREEE's mandate is the promotion of renewable energy development in the SADC region. (Link)

[107] The SADC GMI's mandate is to promote sustainable groundwater management and provide solutions to groundwater challenges across the SADC region for improved livelihoods and socio-economic development (Link)

[108] The SADC CSC provides operational, regional services for monitoring and predicting extremes in climate condition (Link)

[109] CESPAM's mandate is to educate leaders in the SADC public sector in best practice in public administration and management to empower them to lead and manage their respective organizations efficiently and effectively. (Link)

[110] SADC-CDE's mandate is to promote collaborative initiatives in capacity building towards regional best practices in Open and Distance Learning (ODL) for accelerated human resources development (Link)

Action area III.2: **Promote circularity in stages, while in parallel continue developing regional value chains**. **Part III – long-term (5-7 years)**. Over the **long-term** (in the next 5-7 years onwards): It is realistic to assume that the proposed activities for short- and medium-term will sufficiently create awareness among the major economic sectors in the SADC region by then, and that actors of the economy are familiar with the concept. This means that the CE principles can be incorporated into any remaining key value chains either at the business operations level, the strategic business model level, or the supply chain level. At this stage, the SADC Secretariat and actors in the SADC member states would inspire and deliver both national, multi-country, regional, continental, and international circular supply chains and business models.

Concrete options for pilot or demonstration projects could include the following:

Indicative pilot/ demonstration projects	Proposed key implementers and 'development partners'
01. **Demonstrate the replaceability of plastic packaging through natural fibre-based packaging**. All SADC member countries have a significant agricultural sector which generates agricultural 'waste' (organic wet waste, fibres, cellulose, etc.) that can be used for new materials. To support the SADC with a regional innovation, a research and innovation facility could be established to explore, experiment and prototype different sources of local plant fibre and cellulose, both from land (e.g., sugar cane, bamboo) and from water (e.g., algae), which can replace the need for plastics material and that can decrease the need for cellulose obtained from trees to make paper. At the same time, such demonstration projects could record the amounts of "saved GHG emissions from unmanaged biowaste" and "saved GHG emissions and chemical pollution from plastic waste, including marine litter"[111]. The center can share successful solutions and knowledge with possible project owners and financiers in the SADC member states to generate an investment pipeline for these new technologies and to demonstrate cross-SADC circular cooperation models.	To identify the perfect teams for such demonstration, it could be helpful to organise dialogues for information exchange and mutual learning between circular European and African pioneering businesses (such as PaperWise[112] or Zafree[113], manufacturing paper made from agricultural waste), regional and local businesses and entrepreneurs and start-up incubators/ accelerators, as well as local or regional research and innovation centers.
02. **Demonstrate the extractive industries and mineral benefaction in benefit of SADC circular supply chains**. The increasing shift towards adopting renewable energy solutions requires extraction and processing of raw materials, which are available in the SADC region. A potential value chain is to set up a plant to process the minerals to make parts of RE technologies, but also to extract and repurpose such minerals from 'waste' electronics in the SADC region instead of exporting the material to later buy back the refined product (e.g., cooper wires for utility lines, nickel and lithium for solar panels).	Relevant stakeholders can include the private sector in member states with extractive industry (e..g, Zambia, DRC, South Africa, etc.). For example, Southern African-German Chamber of Commerce and Industry (based in South Africa) could be interested in being involved

[111] The SADC bloc accounts for approximately 54% of total African sugar production, coordinating the collection and transportation of the bagasse can create scale. Alternatives by products from agro-processing plants like bagasse from sugar cane factories can reduce deforestation of virgin forests, reduce excessive use water and energy as well GHG emissions.

[112] PaperWise Website (Link)

[113] Dejene, B. (2020): Environment-conscious African Entrepreneur Convert Waste to Tree-free Paper, Tony Elumelu Entrepreneur about "Zafree Papers" (Link).

	in such an action to support its members.
03. **Demonstrate the viability of a modular slaughterhouse which uses any animal by-products (bones, blood, hoofs, hair, feathers, etc.)**. Beef industry is resource intensive in terms of the water and energy it uses. Introducing waste water treatment plant and renewable energy sources to run cold store can optimize resource efficiency. Utilization of offal by products and hides and skins to make income generating products like "green" leather, handicrafts, combs, buttons, ornaments, traditional utensils and compost can regenerate nutrients back to nature.	The Botswana Meat Commission (BMC) could be ideal for this demonstration.

More information about good examples for further inspiration, and the mentioned potential cooperation partners, can be found in the Annex 4 (good examples).

Budget estimate	• 400-440 expert working days
Resource mobilisation strategy	• The suitable resource mobilisation strategy should be defined for each of the above demonstration projects when the identification of these projects is performed. A wide range of possible resources and co-finance including in-kind is possible. Also, incubation hubs and business accelerators like AfriLabs and Fetola might be interested in supporting selected measures. • The identification itself could be supported by the EU-funded Support to Industrialization and Productive Sectors (SIPS) in the SADC Region, the SWITCH to Green Facility or the EU Africa RISE Programme, or their successor programmes.
Intended Output(s)	• Demonstration results and lessons learnt are disseminated and are being adopted, replicated and transferred to other sectors

Action area III.3. Monitor and adjust the achievements of the Circular Economy transition to generate the intended impact. Both companies and governments find it important to measure the level of achievement of circularity in their business models, supply chains, and entire economies. While such a benchmarking should not draw too much attention and budgets from the actual delivery of behavioral change and the intended impact (e.g., jobs, climate action, biodiversity conservation, etc.), it is good to commonly agree on suitable indicators that reflect what is intended to be achieved with the CE transition both in the technical cycle (e.g., design for sustainability; repair/refurbishment/reuse; procurement, trade and logistics of second life goods and secondary materials; recycling) and the biological cycle (e.g., healthy soils; nutritious food and beverages; chemical free products; prevention of food waste through proper packaging, storage and consumer information; nutrients recovery). Annex 03 provides details overviews of the dimensions and example (proxy) indicators how circular practices can be measured. Furthermore, increased 'circularity' can have a positive impact on the triple bottom line (impact level: environmental, social and economic, see Annex 03), which is why such impact indicators often serve as 'CE' indicators as well.

International reporting standards have acknowledged the importance to monitor circular economy practices:

- **ISO/ TC 323 Standard on the Circular economy**[114] – a new standard aiming to cover **all aspects of a circular economy** including public procurement, production and distribution, end of life as well as wider areas such as behavioural change in society, and assessment, such as some kind of circularity footprint or index.
- **Global Reporting Initiative (GRI) 306 Waste Standard**[115] – requires companies to disclose their waste management and impact along the entire value chain.

Possible instruments and tools are emerging for companies (CTI Tool[116], Circulytics[117]) and administrations (The Circular Benchmarking Tool[118]; The Circularity Gap Reporting Initiative[119]). Annex 04 provides a more detailed compilation.

The SADC Secretariat can play a central role in implementing the regional circular economy strategy by designing implementation plan and mobilizing political commitments from member states through annual ministerial level engagements. At national level capturing lessons learned, tracking progress made by member states should be shared by the respective Environment focal points to monitoring, evaluation and learning team established within Directorate: Policy, Planning and Resource Mobilisation Unit. The technical directorates, e.g., FANR and Trade, Industry, Finance and Investment jointly with the Policy, Planning and Resource Mobilisation Directorate and the Regional Statistics department would agree on adequate circular economy transition ambitions (standards, norms, timelines, target levels), suitable monitoring indicators and data sources as well as agree on a framework for data generation and analysis. Ideally, this set of indicators would be incorporated and aligned with the monitoring and implementation of the SADC's long-term Vision 2050[120], its 10-year Regional Indicative Strategic Development Plan 2020-2030[121], any subsequent plan(s), and the corresponding implementation instruments (e.g., standards, norms, dashboards) and knowledge management systems to avoid conflicting directions and redundancies. This framework would also be aligned with the overall impact that the SADC Member states intend to achieve (decent jobs, GDP growth, climate action, biodiversity regeneration, regional integration, SDGs, etc.). Training and dissemination material would be developed to serve as guidance to business membership organisations and national/sub-national governments.

Budget estimate	• 120-160 expert working days
Resource mobilisation strategy	• This action area could be supported by the German development cooperation through, e.g., programmes like the 'Strategic Management of the RISDP' or the CESARE Programme (Cooperation for the Enhancement of SADC Regional Economic Integration).[122]

[114] ISO Website (Link)

[115] GRI 306 (Link)

[116] CTI Website (Link)

[117] Ellen Mac Arthur Foundation Website (Link)

[118] CBT Website (Link)

[119] CGRI Website (Link)

[120] The SADC Vision 2050 (Link) is a 30-year strategic plan seeking to create the conducive environment to foster regional cooperation and integration; suitable mobilisation of resources; improved implementation of SADC policies and programmes; Strengthened compliance by Member States and a strengthened visibility and awareness promotion. (Link).

[121] RISDP 2020-2030 (Link)

[122] SADC-GIZ Projects and Alignment with the RISDP 2020-2030 (Link); the Cooperation for the Enhancement of SADC Regional Economic Integration (CESARE) Programme is foreseen to be ongoing until November 2023.

Intended Output(s)	• Agreed monitoring framework for the SADC CE transition, aligned with the SADC's long-term Vision 2050, the RISDP 2020-2030 and the intended environmental and social impact • Training and dissemination material • BMOs and national/sub-national governments have identified suitable CE monitoring indicators and are following up the data sources for their monitoring and progress assessment

Annexes to the Strategic Handbook

Annex 1: Stakeholder mapping

Annex 2: Checklist for policy assessment

Annex 3: Indicators

Annex 4: Monitoring and Evaluation Instruments and Tools

Annex 5: Compilation of Good Practices

Annex 6: Policy Analysis