



INDIAN OCEAN
COMMISSION



National Circular Economy Framework & Guide for Entrepreneurs for Mauritius

Final report

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Introduction

Circular economy (CE) has been on the rise across the globe due to a growing concern about resource extraction rates and pollution arising from production processes under the linear economic model. The CE is “an industrial system that is restorative or regenerative by intention and design” (EMF 2013). The CE goes beyond recycling and waste reduction as it aims to value waste and keep materials in circulation for as long as possible. It is about extracting higher value from fewer resources by increasing productivity and efficiency, and moving from ownership to access of products, creating a sharing mindset allowing to reduce consumption thanks to increased efficiency of asset use. For island states, the CE is highly relevant due to their vulnerability to climate change and pollution but also due to the reliance of countries on import of most products consumed. The Indian Ocean Commission has therefore secured funding from the World Bank to support the SWIOFish regional project and increase efforts to set up a circular economic model for the supply and production chain to reduce downstream marine pollution. The CE Project’s aim for each AIODIS country is to foster a circular economy and protect the environment and natural assets while aiming for economic growth.

The objective of the report is to present a national policy framework and guidelines for entrepreneurs. Through collaboration with local experts and government officials, local agencies and international foundations, an understanding of the current situation has been established in the review report. Possible approaches and actions have now been identified to move forward. These actions are gathered within the present document. Thanks to incentives and policy adaptations made throughout the past decade, Mauritius implemented the '*strategy and action plan for a new solid waste management and resource recovery system in Mauritius*' and already created the fundamentals to proceed. Involvement from the private sector as well as awareness campaigns have additionally initiated the understanding of the concept of a circular economy and cornerstones have been laid within the society as a special focus has been put on recycling practices.

The document is divided into two parts. First, it presents a policy framework to foster CE and respective suggested legislative implementations for Mauritius. To facilitate the connection between authorities and policies and the private sector it is important to guarantee a common understanding and the comprehension on how to proceed, with the goal of a circular economy in mind. The second part of this document then presents CE guidelines for entrepreneurs. Implementing a CE goes beyond recycling and waste reduction as it aims to value waste and keep materials in circulation for as long as possible. It encourages extracting higher value from fewer resources by increasing productivity and efficiency. Therefore, to move towards a circular economy it is crucial to involve local businesses and the private sector in order to facilitate the collaboration, implementing respective practices along the path within production, distribution and treatment facilities. The guidelines for entrepreneurs are linked to the policy framework and legislative suggestions made during the first phase. Explanations on how to set up a business in Mauritius with a circularity target, as well as the transition toward more sustainable business practices for established companies will be included and offer step-by-step advice along the way. This will allow to close a gap of informality within different sectors and better involve authorities and businesses in the common quest toward a circular economy.

1. Policy framework

The framework to lay out possible paths moving forward based on the particularities of Mauritius and feedback from local experts participating on this work. Acting upon present circumstances in place legislation will be promoted to develop a circular economy further while aiming to identify additional opportunities to expand the economy and improve aggregate efficiency of materials.

1.1 Establish regulations for the country's Circular Economy

National Policy goal: The government needs to adopt a statement committing to a circular economy and fill the legal gaps. A number of legal tests exist in the country but they are not yet harmonised to address CE. (See Annex 1)

Rationale: The concept of CE is relatively new and not widely understood in Mauritius. There is limited interaction between industry and authorities for common action and for a strategic plan. The government did not make its target for a circular economy known and did not offer a clear indication on how to follow through with it.

In Mauritius, the polluter pays principle (PPP)¹ is implemented within the national environmental policy, and is controlled and monitored by the Ministry of Finance, Economic Planning and Development through the Mauritius Revenue Authority and National Audit Office. However, the PPP is not yet entirely picked up throughout the industry and waste management system and the consumer is responsible for the financial burden of the pollution costs. Mauritius does not yet have in place the Extended Producer Responsibility (EPR)² along the supply chain to prevent extensive pollution and reduce the impact on PPP, but the Ministry of Environment, Solid Waste Management and Climate Change is pushing for its implementation for Business Mauritius and international buyers through programs such as Sedex Members Ethical Trade Audits, HIGG Index or brands own standards. While PPP exists in legislation for PET bottlers and in terms of Green tax, EPR is not yet included in the legislation about waste. Despite their existence, they are not developed enough to provide a CE basis and reduce marine pollution.

To achieve the above goal, it is suggested that the country adopts a declaration or an umbrella legislation that promotes integration of actors and harmonisation actions towards a CE. Commitment to the CE could be integrated into existing or upcoming blue economy policy of Mauritius.

Specific actions needed: There is a need to adopt developed specific legislations that are currently missing to foster a CE. These legislations include: a text on banning single use plastic, a law on EPR, water management, waste generation and waste control. The government could also commit to some targets towards circular objectives such as rate of recycling. A re-evaluation of the Green tax is needed to address circular objectives and promote circular strategies such as recycling. Enforcement policies need to be stronger by providing severe penalties to all pollutants including private sector actors as well as the public sector.

¹ The Polluter-Pays Principle means that the polluter has to bear the cost of steps that he is legally bound to take to protect the environment, such as measures to reduce the pollutant emissions at source and measures to avoid pollution by collective treatment of effluent from a polluting installation and other sources of pollution (OECD 1992).

² The Extended Producer Responsibility is a policy approach under which producers are given a significant responsibility – financial and/or physical – for the treatment or disposal of post-consumer products (OECD 2001).

1.2 Educate through awareness and education campaigns

Mobilising actors for the CE: To achieve a CE in Mauritius, it is essential to increase literacy on CE at all levels, especially in key sectors of the blue economy and the manufacturing sector. The concept of CE is still new at the national level, populations and governments are not aware of what benefits the CE can provide.

Rationale: There are limited efforts from governmental, civil society and private companies to sensitise population through agencies. There are insufficient skills and knowledge on circular economy at all levels including at local authorities' level. While the concept is mentioned in various public discourses, there is little implementation in practice. A limited environmental culture is also present amongst the population that can prevent the adoption of circular practices regarding, for example, waste.

To achieve the above goal, examples of specific actions needed include:

- Continued workshops in place engaging society at large.
- Build collaboration between large industrial partners and authorities.
- Reintroduce school campaigns to raise awareness within youth.
- Increase interaction with companies to introduce them to circular economic models and make them understand the necessity of it.
- Raise awareness about the cost implication underlying products used and discarded by buyers and consumers.
- Campaigns through the media promoting products with circular purposes such as local products and projects with circular purposes.

Specific actions needed: There is a need to support and replicate existing initiatives and other educational activities in place at the level of governments, businesses and the population. In Mauritius, awareness campaigns about the CE have started recently and can be seen in several sectors including service, manufacturing, printing and waste management. (see Annex 2)

1.3 Improve material stock management

1.3.1 Collection and sorting system

Optimising Waste value: To improve the waste management processes currently in place, it is recommended to optimise existing collection and sorting systems. This is also acknowledged in the report on Marine plastic under the AIODIS project. While waste is collected, it is not done uniformly across the country and waste sorting procedures are not in place, hence do not allow sufficient valorisation of waste.

Rationale: Waste is collected once or twice a week through household collection but neither sorting nor segregation are practiced. Collection and transport of waste is within the responsibility of the municipality and district council and also outsourced to the private sector. However, several NGO initiatives sponsored by private sector CSR offer bins and starting 2020, the Ministry of Environment will install 400 eco-bins throughout the island, to collect PET and plastic bottles and cans for recycling. Paper and carton boxes are collected by the private sector. There are also adhoc collection of bulky wastes at household level, mainly before festive periods. Additionally, deposit areas for bulky waste has recently been announced but this is still at its initial phase of implementation. Collection costs are also considered high by actors involved.

Based on the above it is then necessary to increase collection points, introduce sorting procedures, implement deposit refund scheme for recyclables and introduce a treatment site that is more sustainable than landfill.

Specific actions needed: An important step in this process is to support existing organisations doing collection and sorting and replicate it nationally. Additionally, a clear waste management structure should be put in place to allocate the responsibilities along the treatment process. Current companies that responsibly collect and sort waste already exist. (see annex 3)

1.3.2 Waste treatment facility

Improving efficiency of waste treatment sites: Addressing processes at waste treatment facilities represent a key step towards achieving circularity. To do so, the country needs to increase efficiency of current facilities and introduce more sustainable sites like landfill with gas congestion, incineration with energy recovery, waste sorting and cleaning sites and recycling stations. Existing facilities do not allow valorisation of waste and do not achieve the goal of reducing waste.

Rationale: The government has started discussion to improve current landfill sites. Options to open recycling plants and setting up of Civic Amenities Centres have just started. As for discussions about existing landfill sites discussions have just started and cannot be evaluated at this initial phase. Efforts to implement waste sorting, waste segregation at the source, increase waste collection, reduce littering and facilitate recycling are not yet undertaken.

To achieve circularity, existing solutions include implementing high efficiency recycling and biogas creation and bringing the Mare Chicose landfill site under control. There is also a need to identify the different barriers to recycling and composting at the national level.

Specific actions needed: For Mauritius, options include creating new companies at the transfer station and replacing sanitary landfill sites to reduce transport costs and facilitate recycling to treat waste with circular motives. Current companies that have existing waste valorisation processes exist (see annex 3). The government has committed to set up one transfer station in each district but these stations are not easily accessible being located far away from towns and villages. To promote a recycling mentality in the population, community recycling centres must be set up close to where people live to make it convenient for them to deposit their recyclables. The Government should seriously consider sorting of waste at source, at the individual household level. This is the only option which will reduce substantially the amount of recyclable waste going to a landfill. The cost implications, incentives and tax implications need to be worked out. The most expensive part of recycling is in the collection and sending it to the vendor who will process the recyclable waste. Promoting and funding of sorting at source and the utilization of the recyclables in the circular economy is an imperative. So far, the allocation of resources for collection of recyclables by local authorities on a systematic method just like for organic waste is practically non-existent.

1.3.3 Dumping and littering

Reducing pollution through improved waste management: For the country's blue and circular economy, reducing waste and related pollution at all levels and especially in the ocean is paramount. There is currently an important level of industrial pollution and accumulation of waste from littering, in towns, villages and on beaches.

Rationale: In Mauritius, anti-dumping and littering legislation are in place and need to be enforced more thoroughly since fines already exist. A body of control is not in place and industrial dumpsters are currently not supervised by the local authorities but there is the 'Police de l'Environnement' and

sanctions under the form of fines are existent. Additionally, industries need to pay annual trade fees to local authorities and waste carriers need to have their permits to be allowed to operate.

It then becomes obvious that the country needs to better monitor industrial waste and establish fines, introduce material use understanding across sectors such as manufacturing, tourism and fisheries.

Specific actions needed: For Mauritius, the solution lies within creating a program for industrial waste monitoring and a subsequent penalty system that is enforced on the entirety of the system. Local authorities can then issue trade licences and request payment of fees per quantity of waste generated.

1.4 Restore and better manage the use of natural flow

Managing natural resources: To achieve a sustainable use of natural resources within a CE, Mauritius needs to upscale and further support existing initiatives. They should aim at regenerating natural flows especially in the blue economy sectors such as fisheries, tourism, oil and gas exploration and bioprospection. There is currently a low level of environmental protection of natural resources with 11.9 percent of their total EEZ and coastal ecosystems being protected. Despite existing environmental texts to protect ecosystems and biodiversity and growing conscience of the issue high levels of biomass are extracted through, among others, fisheries.

Rationale: There are agencies in place responsible for the monitoring of natural resources such as fish stocks, forest abundance, wildlife preservation and water pollution but there is no verification of the effectiveness. As a follow up on existing monitoring efforts of natural resources, there are limited controlling efforts like implementation of resource use permits. However, the implementation of existing regulations is limited.

Available solutions include increasing protection of EEZ through MPAs, reinforcing monitoring of existing MPAs and areas-based management, and increasing restoration activities while also introducing financial reprimands against offenders.

Specific actions needed: A first step could be to improve existing monitoring practices and capabilities while preventing ongoing harmful practices through fines. Building better knowledge on the use of natural resources will provide evidence for future resource extraction decision-making. To address regeneration of natural flows, a parallel step is to support and upscale existing activities such as fishery closures, mangrove restoration, locally-managed marine areas/MPAs, noting that fishery closures exists at this moment for the lagoon only.

1.5 Incentivise businesses

Putting businesses at the centre of the CE: Increasing the involvement of businesses and entrepreneurs is a stepping stone towards achieving circular and blue economic activities. Businesses and entrepreneurs are not aware of the opportunity the CE presents. Further, those already involved in CE related activities are not supported well enough.

Rationale: The public sector is aware of private sector initiatives and efforts toward a circular economy but does not monitor circular business practices in depth. The government has not provided incentives for a circular economy within businesses by supporting them financially in the form of subsidies, aides, tax reductions or operative advice. There is therefore insufficient funding for entrepreneurs to invest in research, testing or new technology.

The lack of governmental monitoring of business practices and the understanding of circular efforts does not allow there to be grouping of companies according to equipment, material use and production practices leading to a closed loop or industrial collaboration called symbiosis. There have been various studies undertaken but no tangible benefits have been felt by entrepreneurs.

To promote the adoption or transition to a CE business, the government needs to provide structural and financial support to businesses through:

- The creation of a circular economy office within one or several of the government departments
- The creation of company grouping according to business activity, material use, equipment requirements and proximity to improve material use and infrastructural efficiency while reducing supply chain and waste treatment costs by sharing them among a group of firms
- Undertaking a dialogue with the industry to create valorisation of waste materials
- Introducing tax relief system such as 3-5 year starting periods with complete tax free or reduced tax help
- Cutting repair and refurbish value added tax to encourage reuse businesses
- Encouraging individuals and entrepreneurs to enter circular economy businesses such as recycling through workshops and training.

Specific actions needed: In Mauritius, existing initiatives of subsidies and aides need to be reviewed and require better promotion amongst recyclers. There is also a need for additional initiatives such as subsidies, aides, tax reductions and operative advice to incentivize businesses to adopt circular models. These could take the form of subsidies for business investment into on-site recycling efforts or production efficiency improvements, aides for infrastructural improvements, tax reductions on the purchase of recycled input materials or lower corporate taxes within the first 5 years of circular transitioning. Countries like China, Sweden or Cabo Verde have put in place such incentives to promote more circular practices within businesses.

The government shall also provide funds to assess existing production processes and to replace existing production processes by CE friendly processes. Subsidies that avoid that the cost of implementing CE does not lead to an increase in cost and selling price to be paid by the consumer should also be considered.

Measures shall be applied without any discrimination, that is, considering not excluding PET bottles in the banning of singly use plastic, should the government be able to put in place a glass bottle recycling or reuse system to cover for the PET bottles. Government shall, through the Mauritius Standard Bureau, establish a standard to assess and certify against CE.

Furthermore, authorities shall, through the National Productivity and Competitiveness Council, establish a programme to assist enterprises to implement CE.

2. Guide for entrepreneurs

To implement a circular economic model within businesses and across sectors through synergies both governmental and private sector efforts are required to create the right environment. Since private sector actors are able to decide and act quickly, companies can be the driving power toward a local circular economy. Businesses are currently in the position where they can drive the change by taking initiative and transition toward circular economic practices and influence governmental decisions on the matter to follow accordingly.

In order to engage businesses in efforts to achieve a circular economy it is necessary to provide them with guidelines on how to set up and transition toward a circular production cycle³. Through consultation of local experts, consultants and governmental officials this document pinpoints to existing good practices as well as barriers and opportunities for a circular economy. Feasible solutions and possible stakeholders to become involved in the process have been identified and the guidelines are designed to create discussion across sectors to form synergies and break the linear economic model. Identifying and pointing out possible company collaborations as well as step-by-step guidelines for sustainability seeking businesses are starting points towards the final goal of protecting maritime resources and reducing ocean pollution.

The guidelines can help start-ups as well as existing companies to establish business models that allow for more efficient resource management while phasing out waste creation and thereby counteract maritime pollution at its source. The guidelines offer upcoming entrepreneurs administrative advice to set up their business and identify the main modalities of implementation for a circular economy. For existing businesses, the guidelines include step-by-step council on how to transition toward sustainable production and system processes that are associated with a circular economy. The guidelines conclude with in-depth solution proposals and opportunities for companies to pick up upon and implement in their ongoing quest for sustainable processes. Based on the content of this document companies will be able to make relevant progress leading to improved resource management, reduced waste generation and diminished maritime pollution for island states.

2.1 Creating a new CE business

2.1.1 Establish the mission, vision and objectives of the company

The company's mission must embody its essence and reason for being. The vision comes as the way the company is envisioned in the mid-long term. Objectives of the company: derive from the founders' goals (personal and professional motivations) and tackle environmental and social challenges and satisfy customer needs.

For a CE business, these three elements should refer to one of the CE principles: (1) preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows, (2) optimise resource yields by circulating products, components, and materials at the highest utility at all times in both technical and biological cycles, and (3) foster system effectiveness by revealing and designing out negative externalities (P3)

³ The guidelines are based on a literature review of international best practices of green, environmental and circular businesses that are most up to date. These include:

- [Circular Economy Guidelines for businesses](#)
- [Créer une entreprise sociale et solidaire: le guide - une autre économie existe](#)
- [Circular Economy Business Strategies Conceptual Framework to Guide the Development of Sustainable Business Models](#)
- [OECD Sustainable Manufacturing Toolkit - Seven Steps to Environmental Excellence](#)

Thanks to the input of local experts and collaborators, the food industry and the sectors of service, chemicals and manufacturing have been identified as key sectors in Mauritius. They offer the most impactful and far-reaching opportunities to reduce maritime and land pollution and introduce circularity in Mauritius.

2.1.2 Identify key stakeholders and customer segments

This step involves identifying and prioritising those stakeholders that will play a significant role in achieving the objectives of the project. Stakeholders include the team (co-founders and employees), partners, beneficiaries (those who benefit from the value your project generates) and customers (customers are at the core of the business model as they buy the services or products). The project's main impact in society has to be intrinsically linked to the local community and cover a local demand that is to be met. Another task is to develop a sound understanding of our potential customer base (customer identification and profiling) and the existing market around it (market assessment).

To promote a CE in Mauritius, it is essential at this stage to collaborate and consult with stakeholders like governments, civil society organisations promoting CE and institutions like the Ellen MacArthur Foundation. To identify key stakeholders, entrepreneurs should target main suppliers, intermediaries, processing associates as well as customers and public partners of interest. In the above identified sectors of the food industry and the sectors of service, chemicals and manufacturing some key stakeholders have been identified and are essential for a development aiming at circular practices. (Annex 4)

2.1.3 Develop the value proposition

CE businesses create environmental value by tackling circularity and environmental challenges (that key driver for their existence) through its business solutions and operations, and social value by empowering their stakeholders (including employees, suppliers, communities and future generations) and meeting the needs of their customers.

To achieve this, it is suggested to create strong collaboration across the board and involve customers and stakeholders in the process of designing and delivering the value proposition (co-creation)

In Mauritius, the issues of marine pollution, excess waste generation and the lack of locally accessible material inputs due to a missing environmental consciousness represent key challenges that will be a good value proposition.

2.1.4 Identify the modalities of implementation

2.1.4.1 Key activities and resources

Key activities define what we must do in order to define and offer a value proposition to a specific customer segment. They include problem-solving (such as consulting or counselling), production (manufacturing etc), platform/network/sale, and supply chain management.

Activities within CE businesses should include those proposed in the different business models (in section 4 of this guideline).

Key resources represent all the elements and aspects that are essential for making the business work properly. They include human resources, physical assets, intellectual resources, financial resources and natural resources. For the latter, a special focus should be on the use of recycled materials, sustainable or renewable resources as input materials.

Entrepreneurs also need to consider incoming legislative changes such as laws on PPP or laws on EPR. At this stage it can also be helpful to enquire about possible governmental support like tax reduction, grants for sustainable practices or investment subsidies.

2.1.4.2 Customer relationships and channels

Different types of relationships can be established with customers such as personal assistance, self-service, automatic service, community based or co-creation.

To properly establish the different types of relations with customers, doing a customer journey map of the particular segment of customers can be useful. A map is an oriented graph that describes a user's journey by representing the different touchpoints that characterise his/her interaction with the service or product.

You will also have to distinguish between the way (channels) to get the customer's attention and how to establish and maintain a close relationship with them. Channels include all means of communication and distribution to reach customers and deliver a value proposition to them.

For CE businesses, it is possible to explore existing initiatives towards sharing economies, re-introduce take-back options that used to exist for customers to return products and help materials stay within a company while exploiting options to continue to interact with customers.

2.1.4.3 Cost structure

It is important to carefully classify costs (fixed and variable costs) so that the business can analyse and improve its performance.

Within a CE, it is useful to explore potential costs linked to niche CE areas and identify cost savings arising from CE practices such as equipment sharing, recycled material purchases or supply and transport costs from abroad.

2.1.4.4 Revenue streams

The business must have an accurate idea of the importance of each revenue stream and which one best matches a particular customer segment and channel. Streams might include asset sale, usage fees, subscription fees, licensing etc.

2.1.5 Test the product or service

Before fully implementing the modalities above, the entrepreneur needs to test key variables:

- Problems and needs identified should be tested by talking to experts in the field or by interviewing key stakeholders.
- Participation of key stakeholders should be verified through diverse types of consultations and meetings on the business objectives where multiple stakeholders can provide a good measure of their willingness to engage.
- Customer segments should be validated through focus groups, interviews, debate or conversations to check their needs, aspirations, gains and pains, etc. Focus groups, interviews, debates, and conversations could be used, possibly on social media.
- Value proposition needs to be tested by building a prototype at small-scale or semi functional versions of the services/products. Here, participants' reactions to the test might include satisfaction level, feedback, and curiosity/demand for more.

Once hypotheses on the different variables have been tested and validated, the service/product has to be scaled up from prototype to the optimal market size where viability is attained.

To test the circular product or service, the business can mobilise existing platforms for entrepreneurs and green products like Business Mauritius. (see Annex 4).

2.1.6 Mobilise tools for implementation

When the business model is validated, implementation of the modalities presented above can be facilitated by various tools. **First** is establishing a financial plan with income statements, balance sheets and cashflow projections, and a funding plan identifying traditional investors and banks as well as other funding mechanisms such as crowdfunding, financial cooperatives, micro-credits, ethical banks. **Second** is having a legal management plan to choose the best-fitting legal form according to the needs and business model. **Third** is setting a roadmap to foresee the progress of the business from year 0 to the medium and long-term. **Fourth** is to have an operation and management plan which dictates how operations are performed and managed by staff and by assigning roles and responsibilities and setting a schedule. Tools used need to be adapted according to the CE business model adopted.

To find the appropriate tools, entrepreneurs can refer to existing governmental departments and companies that provide assistance to businesses such as SME Mauritius. It is however necessary to also invest into such departments and companies to make sure they possess the required competencies to assist entrepreneurs. (see Annex 4)

2.1.7 Measure impacts and improve

Effectively measuring environmental and social impacts is essential to CE businesses. In addition to measuring how the business is doing regarding the achievement of objectives and mission, environmental indicators are needed to assess environmental performance. Environmental indicators such as water consumption, material use, waste generated per service or product, or other CE related indicators are suggested to be used in order to assess current performances. Constantly improving the business is key to achieve the circular economic objectives as it is a process that requires ongoing efforts to improve efficiency. Common areas of improvement include levels of participation of stakeholders, communication and marketing to incentivize customers, improve environmental performance, ensure green procurement and increase environmental awareness amongst the public.

2.2 Transitioning to a CE business

2.2.1 Map your impact and set priorities

Learn how to bring together an internal "sustainability team" to set objectives, define targets, review your environmental impact and decide on priorities. In this process, you need to evaluate impacts regarding natural flow use and material stock management. Relevant fields and key aspects to take into consideration in Mauritius could be, among others, biodiversity protection, marine pollution and waste generation.

2.2.2 Choose indicators and understand data needs

Identify indicators that are important for the business and learn about what data should be collected to help drive continuous improvement. To assess the circularity of the business, one can use CE related indicators such as: use of renewable energy; greenhouse gas intensity; and energy intensity, intensity of your residuals; releases into the air and water.

2.2.3 Measure inputs used in production

Identify how materials and components used into the production processes influence environmental performance. Businesses can also measure CE related performance including: material consumption, resource extraction, renewable energy consumption, waste generation, import of inputs, non-renewable materials, restricted substances, recycled or reused materials. Businesses can check the availability of recyclable materials and monitor availability of waste materials/recycled materials as inputs into the production process.

2.2.4 Assess the operations of the facility

Consider the impact and efficiency of the operations in the facility. Residual waste generation and excess material that can be phased out and managed more efficiently going forward (e.g. water consumption, energy intensity, greenhouse gas generation, emissions to air and water, waste generated). Efforts to improve production and material use efficiency toward circularity while reducing waste creation must be ongoing.

2.2.5 Evaluate your products

Identify factors such as energy consumption in use, recyclability and use of hazardous substances that help determine how sustainable the end product is. Businesses can use CE related indicators such as: recycled/reused content of the products, recyclability of the products, renewable materials used in the products, non-renewable materials used in the products, restricted substances contained in the products, energy consumption in using the products, greenhouse gas emissions from the use of the products. One can also evaluate the possible incentives to recycle and engage customers to return products and possibly keep materials in cycle.

2.2.6 Understand the results

Learn to read and interpret the indicators and understand trends in performance. Businesses can focus on CE related indicators that align with business models suggested. At the current time, there is no organisation to evaluate performance against CE.

2.2.7 Take action to improve the performance

Choose opportunities to improve the performance and create action plans to implement them. CE businesses should focus on CE related indicators that align with business models suggested, and stay up to date with new arising sustainable opportunities and drive ongoing progress by pinpointing areas of improvement or non-circular practices.

2.3 Circular Business models for entrepreneurs

2.3.1 Circular design

- circular **product design**: use recyclable materials for goods and packaging that allow for a circular system and **local supplies** at a maximum
- product/service design and provision: **access over ownership** and product service systems
- local supplies and local demand for service/good
- **economy of functionality** (rent resources rather than buy and own them)

There are organisations that operate based on an entirely circular design. (see Annex 5)

2.3.2 Optimal material and resource use

- **Understand value** of waste materials and engage in opportunities from materials
- **Buy recycled materials** and reduce input material costs
- **Target recyclable and sustainable materials** and pioneer in industrial waste valorisation
- **Introduce Industrial symbiosis**; internalise a maximum of production steps within the company on the same site to reduce transport costs. This also helps with waste creation as all accrues on the same site, making recycling or reusing easier since larger amounts hold more potential
- **Redefine retail**; skip retailers by directly interacting with consumers. Simplifies recycling practices, understanding of consumer behaviour and increases revenue
- **Inspect daily practices** to identify non-sustainable production practices such as use of single use plastics, equipment and garment
- **Adopt a closed-loop process**; use residual outputs and by-products as input for other production processes
- **Set up internal target rates** to increase recycling rates and encourage sorting to improve employee understanding of a circular economy and its benefits

There are very few organisations that optimise resource use by functioning solely with renewable and recycled materials as input (see Annex 5).

2.3.3 Value recovery

- **Reuse and recycle**: Introduce ways to keep waste materials within the company and the production cycle; Increase material use efficiency
- **Repair and recondition**: produce goods and services to last (quality over quantity) and provide service to repair and refurbish products and services
- **Remake** products that did not meet standards and were considered waste
- **Consumer awareness**: inform customers of recycling and repair opportunities to incentivize closed-loop material use while explaining competitive advantage of your service/product compared to non-circular business models

There are existing companies that maximise the utility and value of all their materials within their production cycle and reach higher production process efficiency leading to a minimized waste creation (see Annex 5).

2.3.4 Collaborative economy

- **Group businesses** that use similar materials to share transport supply costs and open channels to trade materials between firms
- **Foster cooperation**; exchange good practices and learning experiences between companies to accelerate transition toward circularity
- **Introduce a sharing economy**: collaborate with other businesses to build expensive infrastructure or purchase equipment to improve efficiency of usage (ex; cooling units, trucks, sorting site, ...)

There are no existing companies that operate on the basis of a collaborative economy and exploit potential side products and collateral uses that accrue during their production. Equipment and material sharing practices that are maximised through excessive industrial networking (see Annex 5). Collaborative economy has been developed in other countries in sectors like sale, services or transport⁴. The Seychelles also presents a model of collaborative economy in terms of waste management.

⁴ See examples here: <http://sharingandcaring.eu/sites/default/files/files/CountriesReport2018.pdf>

3. Annexes

Annex 1: Type of policies and laws towards circular economy in Mauritius

Renewable Flow Management	Environmental protection/ Biodiversity Conservation	✓	Environment Protection Act 2002 (No. 19 of 2002)
	Fisheries management	✓	Fisheries and Marine Resources Act 2007 (Act No. 27 of 2007)
	Forestry management	X	Forests and Reserves Act 1983 (Act No. 41) National Native Terrestrial Biodiversity and National Parks Act 2015 (No. 14 of 2015)
	Protected Areas	✓	Biodiversity Strategy and Action Plan 2017 – 2025 (2017)
	Water management	✓	National Water Policy of 2014 Waste Water Management Authority Act. (2004)
	Renewable Energy	X	
Stock Management	General waste management	✓	National Environment Policy – including waste management (2007) Environment Protection (Collection, Storage, Treatment, Use and Waste Oil) Regulations (2006) Local Government Act (Registration of Scavenging Contractors) Regulations (2004) Local Government Act (Dumping and Waste Carriers) Regulations (2003)
	Material specific waste management	✓	Environment Protection Regulation on sound management of PET bottles (2001)
	Recycling	✓	Registration of Recycler and Exporter Regulations (2013)
	Plastic Bag Ban/ Phase out	✓	Environment Protection (Banning of Plastic Bags) Regulations 2020 GN 197 of 2020 Environment Protection Regulation on the Banning of Plastic Bags (2015)

Annex 2: Existing awareness raising initiatives and campaigns towards CE in Mauritius

Initiative name	Description of activity	CE aspect addressed	Link / Contact
Signenatir	Brochure in Circular Economy; Has set up a Waste Management within the Sustainable Development and Inclusive Growth Commission, Committee that promotes circular economy in the Mauritian private sector	The brochures promote all aspects of CE	signenatir.mu https://www.businessmauriti.us.org/

Annex 3: Examples of actors doing CE related activities in waste management

CE aspect	Company	Description of activity	Link / Contact
Collection	• Polypet Recyclers Ltd	Collection and export of PET bottles	NA
	• We-Recycle	Collection of PET bottles, cans and other plastics (PETE, HDPE, LDPE, PP) for recycling	https://www.facebook.com/WeRecycleMU
	• Greencycle Ltd	Collection of cartons for recycling	NA
Sorting	• WECycle	Collection, destruction, baling for export to mills in Asia	https://www.wecycle.mu/
Treatment	• Compagnie Mauricienne de Commerce Ltee	Tyre retreating	https://www.facebook.com/Compagnie-Mauricienne-de-Commerce-Limit%C3%A9e-1953344981377540/
Recycling and disposal	<ul style="list-style-type: none"> • Plankton Recyycling • BEM Recycling • RVE Ltd • Mission verte • Ministry of Environment, Solid Waste Management and Climate Change 	<p>Collection and recycling of glass bottles</p> <p>Recycling of electronic waste</p> <p>Collection and recycling of electronic waste</p> <p>Collection and recycling of various waste streams</p> <p>Permits to recycle waste</p> <p>Promote awareness to potential entrepreneurs on the importance of CE</p>	<ul style="list-style-type: none"> • https://www.facebook.com/plankton.recycling • http://bemrecycling.com/en • https://www.facebook.com/Mauritius.Island.mu/ • http://missionverte.org • https://environment.govmu.org

Annex 4: Key sectors and actors to foster CE and related stakeholders and supporting platforms

Key sector	Identified key stakeholders	Relevance of the stakeholder	Examples of circular practices linked to marine pollution
Fisheries	Ministry of Blue Economy, Marine Resources, Fisheries and Shipping	Issuing of fishing permits	Global Ghost Gear Initiative
Tourism	Tourism Authority - Sustainable Mauritius	Issue of permit Support	Intercepting plastic from Resorts – Parley Maldives
Manufacturing	National Productivity and Competitiveness Council	Promotes productivity including waste reduction in enterprises	MARPLASTICS for businesses
	Association of Mauritian Manufacturers	AMM regroups manufacturing companies and provide the Made in Moris label	
Industrial assistance	Ministry of Commerce and Consumer Protection	Control of importation of raw materials	OECD key areas against ocean pollution
	Ministry of Industrial Development SME'S and Cooperatives through SME Mauritius SME Division	Support in setting up and promotion of businesses	
	Economic Development Board	Promoting, facilitating and assisting in the development of industries and services	
	Business Mauritius	Business Mauritius is an organisation which regroups the main private economic operators and has initiated activities in Circular Economy	
Research	University of Mauritius	The University of Mauritius conducts research, sometimes in collaboration with the private sector. Is also represented at different committees	EMF Resources
	Mauritius Research and Innovation Council	Funding of research project	

Annex 5: Key examples of actors in Mauritius operating under CE business models

Business model	Company	Activity	Website link or Contact
Circular design	Double Life	Double Life promotes Sustainable Fashion by taking on consignment branded female used clothing from individual users and selling these during events. Unsold ones are taken back by the users or donated to the Good Shop.	https://doublelife.shop
Optimal material and resource use	Plastic Industries Mauritius	Plastic Industries Mauritius manufactures plastics containers and utilities using imported and has started using plastic waste as well. It has also started with recycling.	https://www.facebook.com/PlasticIndustryMtiusLtd
Value recovery	The good Shop	The Good Shop, on a permanent basis, accepts used items as donations for repairs and sale and in return make donations to the NGOS and Prison	https://www.facebook.com/thegoodshopmu The Good Shop - Give, Shop, Change Lives (eshops.mu)

