



National Circular Economy Framework & Guide for Entrepreneurs for Madagascar

Country report

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Introduction

The circular economy (CE) has gained momentum worldwide due to a growing concern about the rates of resource extraction and pollution arising from production processes under the linear economic model.

CE is «an industrial system that is restorative or regenerative by intent and design» (EMF 2013). It goes beyond recycling and waste reduction as it aims to add value to waste and keep materials in circulation for as long as possible. It is about extracting more value from fewer resources by increasing productivity and efficiency, and shifting from possession to access to products, creating a mindset of sharing to reduce consumption through increased efficiency in the use of goods. For island states, CE is very relevant because of their vulnerability to climate change and pollution, but also because of the countries' dependence on imports for most consumer products. The Indian Ocean Commission has therefore secured funding from the World Bank to support the regional SWIOFish project and increase efforts to implement a circular economic model for the supply and production chain to reduce downstream marine pollution. The objective of the CE project for each AIODIS country is to foster a circular economy and protect the environment and natural capital while targeting economic growth.

The aim of the report is to present a national policy framework and guidelines for entrepreneurs. Through collaboration with local experts and government representatives, local agencies and international foundations, an understanding of the current situation has been established in the state of play report. Possible approaches and actions were identified for moving forward. These actions are grouped together in this document. Despite the existence of various policy instruments and green initiatives put in place over the last decade, Madagascar does not yet have the necessary basis to move towards CE. However, the involvement of civil society and the private sector helps to improve the understanding of the different aspects related to the circular economy concept and to lay its cornerstones within society.

The document is divided into two parts. First, it presents a policy framework to encourage CE and suggests legislative implementations for Madagascar. To facilitate the connection between authorities and policy and the private sector, it is important to ensure a common understanding and agreement on how to proceed, with the goal of a circular economy in mind. The second part of this paper then presents CE guidelines for entrepreneurs. The implementation of CE goes beyond recycling and waste reduction. It encourages the extraction of more value from fewer resources by increasing productivity and efficiency. Therefore, to move towards a circular economy, it is crucial to involve and support local businesses and the private sector to facilitate collaboration, implementing the respective practices along the way within production, distribution and processing facilities. The guidelines for entrepreneurs are linked to the policy framework and legislative suggestions outlined in the first phase. Explanations on how to set up a business in Madagascar with circularity in mind, as well as the transition to more sustainable business practices for established businesses are included and offer step-by-step advice along the way. This will help to better consider the different informal sectors and better engage authorities and businesses in the common pursuit towards a circular economy.

1. Policy framework

The framework defines possible pathways to achieve a CE based on the particularities of Madagascar and on the information produced by the local expert involved in this work. Based on the existing situation, legislation will be promoted to further develop a circular economy while aiming to identify additional opportunities to expand the economy and improve overall material efficiency.

1.1 Establish regulations for the country's Circular Economy

National policy objective: the government should adopt a declaration of commitment to the circular economy and fill the legal gaps. A number of legal texts exist but they are not harmonised to address CE (see Annex 1).

Rationale: Interaction between industry and authorities for joint action is currently limited. The government has yet to communicate its circular economy objective and give a clear indication of how to implement it.

There is no interaction between industry and authorities for joint action towards the CE. The government does not communicate its circular economy objective and does not offer a clear indication on how to follow up on it. In Madagascar, the polluter pays principle (PPP) is not established in the National Sanitation Policy and Strategy (PSNA). There is control and monitoring by the environmental inspectorate. Industry is responsible for the financial burden of pollution costs. Madagascar has not implemented the full Extended Producer Responsibility (EPR) along the supply chain meant to prevent widespread pollution and reduce the impact on the PPP. EPR and PPP are not generally recognised in waste management legislation. The absence of EPR and PPP implementation texts results in the lack of a good basis for CE. It also hinders the fight against different forms of pollution and in particular marine pollution.

Specific actions required: To achieve the above objective, it is suggested that the country adopts a declaration or framework legislation that promotes the integration of actors and harmonisation actions towards CE. The commitment to CE could be integrated into the country's existing social, economic and other sectorial policies.

There is also a need for specific legislation that is not currently in place to support CE. These include legislation on recycling and legislation on PPP and EPR.

1.2 Train through awareness and education campaigns

Mobilising players for CE: To achieve it in Madagascar, it is essential to increase awareness of CE at all levels, especially in the key sectors of the blue economy. The concept of CE is still new at the national level; the population and government departments are not aware of what CE can bring.

Rationale: Government, civil society or private companies try to raise awareness through agencies, but the scope or geographical coverage is often limited.

Specific actions required: To achieve the above objective, some examples of specific actions required are:

- Awareness-raising campaigns involving society as a whole.
- Strengthened collaboration between major industries and authorities.
- Reintroduction of school campaigns to raise awareness among young people.
- Increased interaction with businesses to introduce them to circular economy models and make them understand their necessity.

It will also be key to support and replicate existing initiatives and other educational activities in place at government, business and public levels. In Madagascar, awareness campaigns on CE are very recent and can be seen in the tourism, agriculture, fisheries and service sectors. (see Annex 2).

1.3 Improve material stock management

1.3.1 Collection and sorting system

Optimising the value of waste: In order to improve the waste management processes currently in place, it is recommended to optimise the existing collection and sorting systems. This is also recognised in the report on marine plastic in the AIODIS project. Although waste is collected, this is not done in a uniform manner throughout the country. Waste sorting procedures are not efficient and do not allow for optimal waste recovery.

Rationale: Waste is collected once a week via curbside containers. Before and after collection, the waste streams are not sorted into different materials such as metal/electronics/paper and cardboard/organic waste/plastic/wood/glass/hazardous waste. Collection and transport of waste is the responsibility of the municipality.

Specific actions required: Based on the above, it is then necessary to increase collection points, improve sorting procedures and introduce a more sustainable treatment site than landfill.

An important step in this process is to support existing collection and sorting companies and replicate them on a national scale. There are currently no companies that collect and sort waste in a responsible way (see Annex 3).

1.3.2 Waste treatment facility

Improving the efficiency of waste treatment facilities: Addressing the processes related to waste treatment facilities is a key step towards achieving circularity. To do so, the country needs to increase the efficiency of current facilities and introduce more sustainable sites such as landfills with gas congestion, incineration with energy recovery, waste sorting and cleaning sites, recycling stations. Current facilities do not allow for waste recovery and do not meet their waste reduction targets.

Rationale: The government has initiated discussions to improve the current landfills. The authorities are currently assessing the possibilities of opening up facilities to standard. Efforts to implement waste separation/ increase waste collection/ reduce litter/ introduce recycling are not yet undertaken.

Specific actions needed: To achieve circularity, existing solutions include the implementation of high efficiency recycling and biogas generation.

For Madagascar, options include the creation of new enterprises and the support and development of existing enterprises that process waste with circular motives. There are very few current enterprises that have waste recovery processes. However, there are many examples of waste recovery in the informal sector that can be enhanced and better supported by government and the private sector (see Annex 3).

1.3.3 Dumping and littering

Reducing pollution through better waste management: For the country's blue and circular economy, reducing waste and associated pollution at all levels and especially in the ocean is paramount. There is currently a significant level of industrial pollution and waste accumulation from litter in cities and on beaches.

Rationale: In Madagascar, the industrial pollution management policy establishes anti-littering and anti-dumping policies, but the corresponding legislation and fines are not yet in place. There is no control body to monitor the waste flows of companies. Industrial dumpsters are not currently monitored by the municipality. Waste is carried to landfill sites.

Specific actions required: It becomes clear that the country needs to better monitor industrial waste and establish fines, introduce an understanding of the use of materials in sectors such as tourism, fishing or agriculture.

For Madagascar, the solution is to create an industrial waste monitoring programme and a subsequent penalty system.

1.4 Restore and better manage the use of natural capital

Natural resource management: To achieve sustainable use of natural resources within a CE, Madagascar needs to further develop and support existing initiatives. These aim to regenerate natural flows, particularly in blue economy sectors such as fisheries, tourism, oil and gas exploration and bioprospecting. Madagascar has put in place various biodiversity and blue economy strategies to increase environmental protection of marine and coastal ecosystems. While there is a wide range of environmental legislation, there is limited implementation and high levels of biomass extraction by fisheries for example.

Rationale: There are a number of agencies and research centres responsible for monitoring natural resources such as fish stocks, forest abundance, wildlife conservation and water pollution. As an extension of existing natural resource monitoring efforts, there are limited control efforts, such as the implementation of resource use permits.

Specific actions needed: Available solutions include increasing the protection of the EEZ through MPAs, strengthening the monitoring of existing MPAs and area-based management as well as increasing restoration activities.

A first step for Madagascar could be to improve existing monitoring practices and capacities. Gaining better knowledge of natural resource use will provide evidence for future decision-making on resource extraction. To address the recovery of natural flows, a parallel step is to support and develop existing activities such as fisheries closures, mangrove restoration, locally managed marine areas and MPAs.

1.5 Incentivize businesses

Putting business at the centre of CE: Increasing the involvement of businesses and entrepreneurs is a stepping stone to achieving circular and blue economy activities. Businesses and entrepreneurs are not aware of the opportunity that CE represents. Those who are already involved in CE-related activities are not well supported.

Rationale: The public sector has little awareness of private sector initiatives and efforts towards a circular economy and does not monitor circular business practices. The government has encouraged green and circular economy objectives within businesses by supporting them with business advice and facilitating business start-up procedures in general.

The lack of government control of business practices and understanding of circular efforts does not allow for the clustering of companies based on equipment, material use and production practices to establish the closed loop system or industry collaboration.

Specific actions required: Existing business advice initiatives need to be better promoted to businesses.

In order to promote the adoption of or transition to a green business, the government should also provide structural and financial support to businesses, including the following measures:

- The creation of a circular economy office within one or more of the government departments.
- The creation of clusters of companies based on activity, material use, equipment needs and proximity to improve material use and infrastructure efficiency while reducing supply chain and waste treatment costs by sharing them among a group of companies.
- Engage in a dialogue with industry to create value from waste.
- Introduce a system of tax relief such as a 3 to 5-year start-up period that is completely tax free or reduced.
- Reduce value added tax for repair and refurbishment activities to encourage reuse businesses.

2. Guide for entrepreneurs

To implement a circular economy model within companies and across sectors through synergies, public and private sector efforts are needed to create the right environment. As private sector players are able to decide and act quickly, businesses can be the driver of a local circular economy. Businesses are currently in a position where they can lead the change. By taking the initiative and adopting the transition to circular practices, they can also influence government decisions in this area.

In order to engage businesses in efforts to achieve a circular economy, it is necessary to provide them with guidelines on how to implement and transition to a circular production cycle. Through consultation with local experts and government representatives, this document highlights existing good practices as well as barriers and opportunities for a circular economy. Feasible solutions and stakeholders who can be involved in the process are identified. Guidelines are proposed to create a discussion between sectors to form synergies and break the linear economic model. The identification and highlighting of possible collaborations between companies as well as step-by-step guidelines for companies seeking sustainability are starting points towards the ultimate goal of protecting marine resources and reducing ocean pollution.

The guidelines can help start-ups as well as existing businesses to establish business models that allow for more efficient resource management while phasing out the creation of waste and thus combating maritime pollution at its source. The guidelines provide prospective entrepreneurs with administrative advice on how to set up their business and identify the main ways to implement a circular economy. For existing businesses, the guidelines include step-by-step advice on how to make the transition to sustainable production and system processes that are associated with a circular economy. The guidelines conclude with in-depth solution proposals and opportunities that companies can take up 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 better resource management, reduced waste generation and less marine pollution.

2.1 Creating a new CE business

2.1.1 Establish the mission, vision and objectives of the company

The mission of the company should embody its essence and purpose. The vision is the way in which the company is envisaged in the medium and long term. The company's objectives are derived from the founders' goals (personal and professional motivations) and should address environmental and social challenges and satisfy customer needs.

For a CE enterprise, these three elements must refer to one of the CE principles: (1) preserving and enhancing natural capital by controlling finite stocks and balancing renewable resource flows; (2) optimising resource efficiency by circulating products, components and materials to their maximum utility at all times through technical and biological cycles; and (3) promoting system efficiency by revealing and eliminating negative externalities

In Madagascar, the tourism, fisheries, agriculture and industry sectors have been identified as key sectors. They offer opportunities with high and deep impacts to reduce marine and land pollution and introduce circularity in Madagascar.

2.1.2 Identify key stakeholders and customer segments

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

To promote CE in Madagascar, it is essential at this stage to include stakeholders such as governments, civil society organisations promoting CE, institutions such as the Ellen MacArthur Foundation. To identify key stakeholders, entrepreneurs should target key suppliers, intermediaries, processing partners as well as customers and public interest partners. In the tourism, fisheries, agriculture and industry sectors identified above, some key stakeholders are essential (see Annex 4).

2.1.3 Develop the value proposition

CE companies create environmental value by addressing the challenges of circularity and the environment (which is a key factor in their existence) through their business solutions and operations. They create 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 at all levels and to involve customers and stakeholders in the process of designing and delivering the value proposition (through co-creation).

In Madagascar, the problem(s) of marine pollution, excessive waste generation, lack of waste responsibility, extensive resource extraction, lack of locally available material inputs are key challenges that will form a good value proposition.

2.1.4 Identify the modalities of implementation

2.1.4.1 Key activities and resources

Key activities outline what needs to be done to define and deliver a value proposition to a specific customer group. These activities may include problem solving (such as consultancy or advice), production (manufacturing, etc.), platform/network/sales and supply chain management.

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

Key resources are all the elements and aspects that are essential for the proper functioning of the business. They include human resources, physical assets, intellectual resources, financial resources and natural resources. For the latter, particular attention should be paid to the use of recycled materials, sustainable or renewable resources as raw materials.

Entrepreneurs should also consider upcoming legislative changes in the country, such as EPR and PPP laws or recycling. At this stage, it may also be useful to find out about possible government support, such as tax reductions on certain products and activities.

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 or co-creation.

In order to correctly establish the different types of relationships with customers, it can be useful to draw up a customer journey map for the concerned customer group. A customer journey map is an oriented graphic that describes the journey of a user by representing the different contact points that characterise her/his interaction with the service or product.

It is also necessary to distinguish between the way (channels) to get the customer's attention and the way to establish and maintain a close relationship with her/him. Channels include all means of communication and distribution to reach customers and deliver a value proposition.

For CE companies in Madagascar, there is an opportunity to explore existing initiatives for sharing economies, introduce take-back options for customers to return products and help materials stay with the company, while exploiting options to continue interacting with customers.

2.1.4.3 Cost structure

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

Within a CE, it is useful to explore potential costs related to CE niches and to identify savings from CE practices such as shared equipment, purchase of recycled materials or procurement and transport costs from abroad.

2.1.4.4 Revenue streams

The company needs to have a clear idea of the size of each revenue stream and which one best fits a particular customer segment and channel. These streams can include asset sales, user fees, subscription fees, licences, etc.

2.1.5 Test the product or service

Before fully implementing the above, the entrepreneur must test key variables:

- The problems and needs identified should be tested by talking to experts in the field or by interviewing key stakeholders.
- The involvement of key stakeholders should be verified through various types of consultations and meetings on business objectives where several stakeholders can provide a good measure of their willingness to engage
- Customer segments need to be validated to ascertain their needs, aspirations, gains and pains, etc.
- Focus groups, interviews, debates and conversations could be used including on social media.
- The value proposition should be tested by building a small-scale prototype or semi-functional versions of the services/products. Here, the reaction of the test participants could include the level of satisfaction, feedback and curiosity/demand for more.

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

To test the circular product or service, the company can mobilise existing platforms for green entrepreneurs and products, such as the EDBM (see Annex 4 for more details).

2.1.6 Mobilise tools for implementation

Once the business model is validated, the implementation of the above modalities can be facilitated by various tools. The **first** is the establishment of a financial plan with profit and loss accounts, balance sheets and cash flow projections, as well as a financing plan identifying traditional investors and banks as well as other financing mechanisms such as participatory financing, financial cooperatives, microcredit, ethical banks. **Second**, have a legal management plan to choose the legal form best suited to the needs and business model. **Thirdly**, a roadmap is needed to plan the progress of the business from year 0 to the medium and long term. The **fourth** is to have an operations and management plan that dictates how operations are carried out and managed by staff, assigning roles and responsibilities and setting a timetable. The tools used should be adapted to the CE business model adopted.

To find appropriate tools, contractors can refer to existing government services and companies that provide assistance to businesses such as the EDBM (see Annex 4 for more details).

2.1.7 Measure impacts and improve

Effective measurement of environmental and social impacts is essential for CE companies. In addition to measuring the company's performance in achieving its 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 should be used. Continuous business improvement is essential to achieve the goals of the circular economy. Typical areas of improvement include levels of stakeholder involvement, communication and marketing to engage customers, improve environmental performance, ensure green procurement and increase environmental awareness among the public.

2.2 Transitioning to a CE business

2.2.1 Map your impact and set priorities

The first step is to bring together an internal «sustainability team» to set objectives, define targets, review environmental impact and determine priorities. In this process, it is necessary to assess the impacts on the use of natural flows and the management of material stocks. In Madagascar, the main environmental impacts of the economic sectors are marine pollution, waste production, the loss of biodiversity and the importation of end products.

2.2.2 Choose indicators and understand data needs

The next step is to identify the indicators that are important for the company and the data that should be collected to support continuous improvement. To assess the company's circularity, indicators related to the CE can be used, such as: use of renewable energy, greenhouse gas and energy intensity, waste intensity, releases into the air and water.

2.2.3 Measure inputs used in production

It is then necessary to identify how the materials and components used in the production processes influence environmental performance. Companies can also measure CE-related performance, including: material consumption, resource use, renewable energy consumption, waste generation, imported inputs, non-renewable materials, restricted substances, recycled or reused materials. Companies

can check the availability of recyclable materials and monitor that of waste and recycled materials as inputs into the production process.

2.2.4 Assess the operations of your facility

It is essential to measure the impact and efficiency of operations in the facility. The generation of residual waste and surplus materials that can be phased out and managed more efficiently in the future (e.g. water consumption, energy intensity, greenhouse gas production, air and water emissions, waste generated). Efforts to improve the efficiency of production and use of materials towards circularity while reducing the creation of waste must be continuous.

2.2.5 Evaluate your products

Here it is essential to identify factors such as energy consumption in product use, resource use, recyclability and use of hazardous substances that help determine the sustainability of the final product. Companies can use CE-related indicators such as: recycled/reused content of products, recyclability of products, renewable materials used in products, non-renewable materials used in products, regulated substances in products, energy consumption in use of products, greenhouse gas emissions resulting from use of products. It also aligns with the CE to assess the possible incentives to recycle and encourage customers to return products to possibly keep materials in the cycle.

2.2.6 Understand your results

It is important to know how to read and interpret indicators and understand performance trends. Companies can focus on CE-related indicators that align with proposed business models.

Entrepreneurs and companies can refer to existing government services and companies that can provide assistance in this process, such as the EDBM.

2.2.7 Take action to improve your performance

Finally, opportunities for performance improvement should be selected and action plans drawn up to implement them. CE companies should focus on CE-related indicators that align with the suggested business models. It is also useful to stay informed of new sustainable opportunities as they arise. They should also make continuous progress in identifying areas of improvement or non-circular practices.

2.3 Circular Business models for entrepreneurs

2.3.1 Circular design

This CE model relies on the following elements:

- Circular product design: use recyclable materials for goods and packaging that allow for a circular system and a maximum local supplies;
- Product/service design and provision: access over ownership and product service systems;
- Local supplies and local demand for service/good; 2.3.2. O
- Economy of functionality (rent resources rather than buy and own them)

There are no known existing companies that operate based on an entirely circular design (Annex 5).

2.3.2 Optimal material and resource use

To adopt this model, the following activities can be undertaken:

- Understand the 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 companies that have optimised the use of resources by operating solely with renewable and recycled materials as inputs (see Annex 5 for key examples).

2.3.3 Value recovery

This CE model is based on the following elements:

- **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 very few companies that maximise the utility and value of some of their materials in their production cycle and achieve greater efficiency in the production process, thereby minimising waste generation (see Annex 5 for key examples).

2.3.4 Collaborative economy

To adopt this model, the following activities can be undertaken:

- **grouping** together companies that use similar materials in order to share transport supply costs and open up channels for the exchange of materials between companies
- **encourage** cooperation; exchange good practices and learning experiences between companies to accelerate the transition to circularity

- **introduce a sharing economy:** collaborate with other companies to build expensive infrastructure or buy equipment to improve efficiency of use (e.g. cooling units, trucks, sorting site ...)

There are very few existing businesses that operate on the basis of a collaborative economy and exploit all the potential by-products and collateral uses that arise during their production. In addition, the sharing of equipment and materials is maximised by strong industrial networking (see Annex 5 for key examples).

3. Annexes

Annex 1: Type of policies and laws towards circular economy

Management of renewable flows	Protection of the environment/of bio-diversity	✓	Law n°2015-003 on the Malagasy Environment Charter
	Fisheries management	✓	Environmental programme for sustainable development (2016)
	Forestry management	✓	National strategy for forest landscape restoration and green infrastructure (2017)
	Protected Areas	✓	Law 2015-053 on the fishing and aquaculture code (2015)
	Water management	✓	Law 97-017 on the revision of forestry regulations (1997)
	Renewable Energy	X	Madagascar Forest Policy Towards Sustainable and Responsible Forest Management (2017)
Management of stocks	General waste management	✓	Law 2015-015 on the code of protected areas (2015)
	Solid waste management	✓	Law 98-029 on the water code (1999)
	Recycling	X	
	Ban/phase-out of plastic bags	✓	Law n°95-035 on urban sanitation fees (1995)

Annex 2: Existing awareness raising initiatives and campaigns towards CE

Initiative name	Description of activity	CE aspect addressed	Link / Contact
GreenNKool awareness raising	Raising awareness on recycling among young people	Recycling	https://green-n-kool.jimdofree.com/
World Cleanup Day Campaign	Cleaning of beaches to raise awareness about waste pollution	Waste reduction	https://da-dk.facebook.com/CetaMadaMG/posts/10158122279189678/
DHL Madagascar	Partnership with the Société Malgache de Production d'Articles Hygiénique (SPAH) for waste sorting	Waste reduction	http://www.midi-madagasikara.mg/societe/2016/05/31/dhl-recyclage-dechets-papier/
Ecovillage Madagascar	Raising awareness on permaculture and the use of sustainable materials for construction	Production efficiency	https://www.facebook.com/ecovillagemadagascar/
Madacompost - KOMPOSTECO	Promotion of the elaboration of natural compost made from the organic matter present in household waste	Waste recovery and recycling	http://madacompost.mg/komposteco/
Ecolodges	Use of local materials for construction and environmental protection	Regeneration of natural flows	https://travel2madagascar.com/inside-madagascars-incredible-eco-lodges/
Mahajanga Clean City	Raising awareness of children from a fishing village in local schools in the hope that the future generation will develop a culture of respect for the environment	Waste reduction	https://web.facebook.com/MahajangaVillePropre/?_rdc=1&_rdr

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

CE aspect	Company	Description of activity	Link / Contact
Collection	SMA (Société Municipale d'Assainissement)	Waste collection in the city of Antananarivo	
Sorting, Processing, Recycling, Export	Adonis Environnement Group	Collection, treatment and recovery of hydrocarbon waste and derivatives in Madagascar as well as medical waste	http://www.adonis-madagascar.com/
Processing, Recycling, Reuse	SMTP Antananarivo Company	Processing and recycling company for plastics and polymers	http://groupe-smtpl.com/fr/les-metiers/industries/
Processing, Recycling and Disposal	Madacompost	Management and recovery of waste in Madagascar - Social and environmentally friendly company - Compost, Fuels, Services and expertise.	http://madacompost.mg/
Reuse	Very small informal shops on all national roads	Reuse of PET bottles and bottles for the sale of local food	

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

Key sector	Identified key stakeholders	Relevance of the stakeholder	Platform liable to support CE
Agriculture	Directorate General of Agriculture	Coordinates agriculture's management activities	EDBM - https://edbm.mg/
Industries	Ministry of Industry, Trade and Handicrafts (MICA)	Coordinates the activities of industry, commerce and crafts	
Fisheries	General Directorate of Fisheries and Aquaculture of the MAEP	Coordinates fisheries management activities	
	Fisheries surveillance centre	Surveillance of territorial waters	
Tourism	ONTM - Madagascar National Tourism Bureau	Promotion and protection of tourist sites	

Annex 5: Key examples of companies operating under CE business models

Business model	Company	Activity	Link / Contact
Circular design	SMTP	Processing and recycling of plastics	https://groupe-smtp.com/fr/les-metiers/industries/
Optimal use of materials and resources	Madacompost	Recycling of household waste into tiles and bricks	http://madacompost.mg/
Value recovery	Fakofia	Resale of metal and plastic components to local craft companies.	https://www.lerelais.mg/rubriques/collecte-et-valorisation-des-dechets