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Expert Group on Green and Circular Economy in the Outermost Regions

Final Report

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Introduction

The European Commission has adopted four Communications on the Outermost Regions (ORs) to date (2004, 2007, 2008 and 2012) and plans to adopt the fifth Communication in October 2017, on a renewed EU strategy for the Outermost regions (Guadeloupe, French Guiana, Martinique, Mayotte, Reunion Island, Saint-Martin, the Azores, Madeira and the Canary Islands).

The preparatory works for this renewed strategy involved the engagement of several groups of experts from the Commission, the ORs and their Member States on some key sectors for growth and jobs. One of the working groups focussed on Green and Circular economy issues, and took stock of the situation in the ORs to feed into the development of recommendations for actions at the EU, national and regional level.

The OR Forum held on 30-31 March 2017 and the expert groups launched to explore key potential areas will contribute to informing the objectives and specific measures in the 2017 renewed strategy. The expert group on Green and Circular economy issues, which fed into the development of this report, undertook a reflection on the needs and opportunities for a transition to a green and circular economy, in accordance with the EU legislative package on circular economy and in a broader context, the sustainable development goals (SDGs).

This report presents the state of play of legal and operational issues at EU and national/OR level to be tackled with a view to better support a transition towards a green and circular economy.

It was developed through **direct engagement with experts from the Commission, from the Members States and the ORs as well as** a **questionnaire circulated to the ORs**, and aims to feed reflections into on the 2017 Communication from the Commission.

The report is structured as follows: Section 1 focuses on the green economy, covering: the state of play in the ORs, barriers and drivers, opportunities, measures and good practice. Section 2 focuses on the circular economy, covering the same issues. Section 3 explores priorities to catalyse the green and circular economy in the ORs, focusing on policy and regulatory needs, funding needs, and the role of the EU.

1. Green Economy

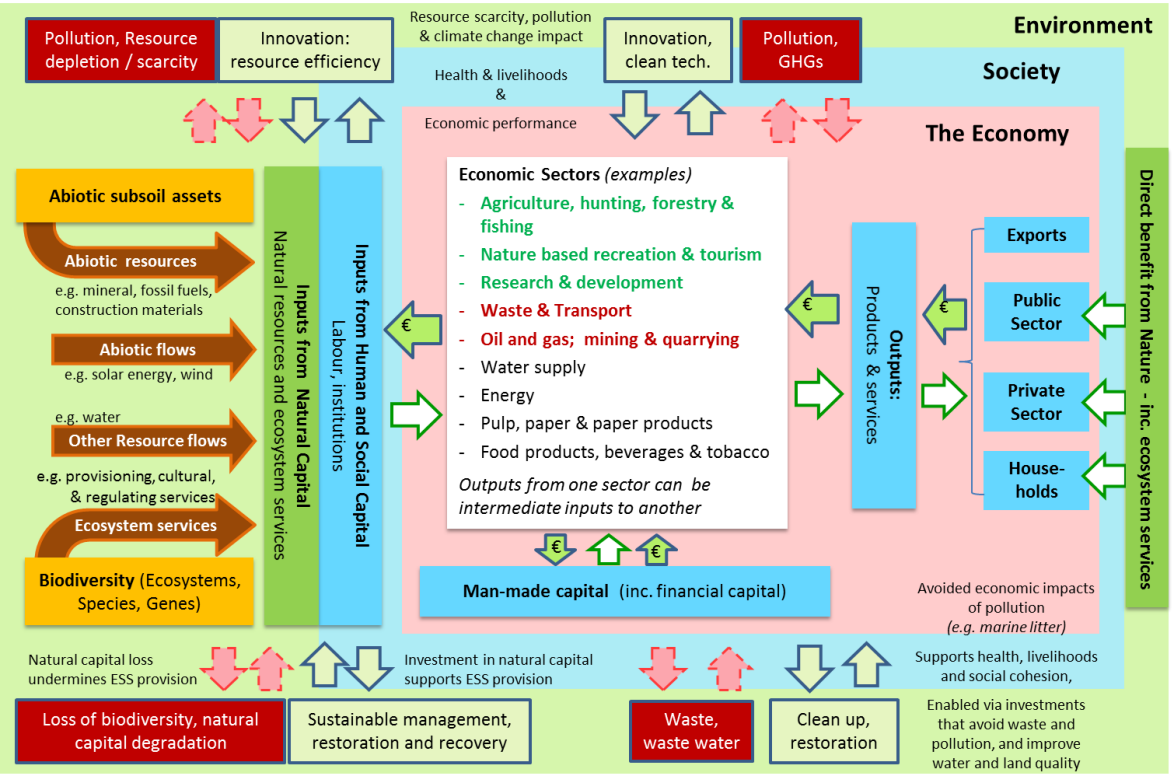
1.1. *What is the Green Economy?*

Green economy is defined as an economy that 'results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities' (UNEP, 2011). In short, a green economy is low carbon, resource efficient and socially inclusive, and has the ability to significantly reduce environmental risks and ecological scarcities.

The transition to a green economy is a departure from the traditional economic approach that depends heavily on fossil fuels, unsustainable resource extraction and environmental degradation (i.e. a 'brown' economy). Investing in green innovations and sectors, such as resource efficient, climate and biodiversity friendly technologies, is a key element of a green economy. The greening of an economy also requires actions on several fronts of the existing economy including increasing the sustainability of both the natural resource dependent sectors (e.g. agriculture, fisheries, forestry) and the 'brown' sectors (e.g. waste, transport). Furthermore, a green economy recognises the multiple social and economic benefits linked to the conservation of nature and actively builds on those benefits (e.g. nature-based tourism), as well as the feedback loops between the economy's resource use and pollution impacts, and the sectors' own performance, given resource scarcity issues, pricing and pollution burdens (see Figure 2.1). One example is the tourism sector, where water pollution, marine litter and degradation to natural assets, such as coral reefs, can reduce the attractiveness of tourist destinations.

A central element of the transition to a green economy is the integration of broader environmental and social criteria in public and private investments, policy frameworks, and governance.

Figure 2.1 Green economy: links between the economy, society and environment



Source: Own representation, Patrick ten Brink (IEEP)

1.2. State of play in the ORs

Policy framework

While neither the EU Strategy for ORs nor the related OR Action Plans explicitly frame themselves as 'green economy' strategies, the content of these documents seems to provide clear support and direction to a transition towards a green economy in the ORs.

The current EU Strategy for ORs, outlined in a Commission Communication published in 2012 (COM 2012/287), consists of a range of elements that support a transition to a green economy. The Strategy explicitly recognises natural capital, including biodiversity, as one of the core assets for the ORs' future development. Furthermore, it puts an emphasis on future economic innovation and diversification (e.g. biotechnology, biomedicine, bio pharmacy and eco-construction) while recognising the need to improve the sustainability of the existing sectors, especially with links to food security. As regards climate change, the EU policy framework explicitly stresses opportunities in the ORs to shift towards renewable, low-carbon energy solutions (e.g. biofuels, wind, solar and geothermal energy) while simultaneously mainstreaming climate change action into all relevant policies and taking appropriate action for adaptation and mitigation measures (e.g. coastal protection).

The OR specific Action Plans, adopted in the context of the EU Strategy and the EU's 2014-2020 programming period, all highlight a range of development needs and opportunities in line with green economy. The ORs identify addressing environmental risks and ecological scarcities, especially those linked to climate change, as prerequisites for their future development. Similarly, all of the ORs explicitly highlight their plans to increase energy security and/or move towards renewable energy sources. Using the rich natural capital (e.g. biodiversity resources) as a starting point for research, numerous ORs have identified development and innovation as a focal area for key future development paths. In particular, exploring opportunities for further growth in the tourism sector (e.g. nature based tourism in the French ORs, Azores and the Canary Islands) and increasing the value added of natural resource based sectors (e.g. value added forest products in French Guiana and organic farming in Saint-Martin) have been highlighted among strategic focal areas. Finally, several of the Action Plans pay explicit attention to increasing social inclusiveness and human capital in the area.

Sectors state-of-play[1]

Sectors depending on natural resources: Natural resources based economic activities include agriculture (livestock farming and agricultural products), fisheries and to some extent forestry. On average, these sectors generate less than 5% of gross value added in the ORs[2]. In comparison, around 80% of gross value added is generated by the service sector and over 15% is produced by industry[3]. Regardless of their limited importance in economic terms, the natural resource based sectors, in particular agriculture, play an important role in employing a high proportion of the workforce across ORs and preserving regional cultural identity and landscapes. The latter forms an important basis for the existence and future development of the tourism sector. In general, agricultural production and employment in several ORs are in decline and can be enhanced only by differentiating and enlarging the product specialisation to create a more varied and value-added system (e.g. to reduce the reliance on one or two products in several ORs, such as sugar cane and bananas in Reunion Island, Martinique and Guadeloupe).

[1] Based on 'Growth Factors in the Outermost Regions' (2011), (http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/rup_growth/rup_growth_sum_en.pdf) and Action Plans (http://ec.europa.eu/regional_policy/en/policy/themes/outermost-regions/#1)

[2] Some OR-specific exceptions to the trend exist, for example in the Azores nearly 10% of gross value added is generated in agriculture, forestry and fishing. In Guadeloupe, the added value of small-scale fishing is significant to the island's economy with a total annual catch of 10,000 tonnes of fish generating EUR 80 million revenue and over 1,600 jobs in 2011.

[3] Eurostat, 2014.

The local and/or organic production of agricultural value added products targeted at tourists and/or wider markets are considered to offer potential for the future. Based on the data from French ORs, with the exception of French Guiana the current level of organic agriculture is low, providing considerable opportunities for further development of the sector (Tables 2.1 and 4.1). Meanwhile, efforts in Madeira have resulted in increased acreage of organic production. Whilst organic production offers potential, it seems to require a change in production structure, moving from small scale producers to more concentrated production. This has both social and economic implications, including creating investment and training needs too high for small farmers who need to be supported in this transition (see also 'barriers and drivers' below).

With regards to fisheries, efforts are being made in Madeira to develop aquaculture as a means of producing food whilst preserving the stocks of marine species.

Table 2.1 Organic agriculture in French ORs (% of total agricultural area)

Area	Year 2008	Year 2013
Guadeloupe	0.2	0.6
Martinique	0.7	1.1
French Guiana	10.3	9.4
Reunion Island	0.5	1.4

Source: https://www.insee.fr/fr/statistiques/2512993

'Brown' economy sectors: There has been a greater use of renewable energy sources across the ORs, but significant room for increasing the importance of this sector remains. Several OR Action Plans explicitly identify this as an area for further development. Similarly, improvement needs have been identified in the current levels of energy efficiency and transport related carbon emissions across the ORs (e.g. needs to increase the availability of public transport).

Sectors building on conservation of the natural environment: Tourism is well developed in Madeira and the Canary Islands (representing around 80% of GDP in the latter). The potential still remains underutilised in the French ORs and the Azores, although in the latter significant growth has occurred in recent years. In addition, the green, nature-based part of tourism is small and pressure over the territory is very high.

1.3. Barriers and drivers

The key drivers for a shift towards a green economy in the ORs include, on the one hand, a pressing need for economic diversification and, on the other, increasing environmental risks caused by climate change leading to issues with food, water and coastal security. The desire to increase the levels of food and energy security underpins the foreseen actions supporting the sustainability and carbon neutrality of agriculture, forestry, fisheries and energy. Furthermore, finding the means to support sustainable economic growth is considered by many ORs as one way to improve the wellbeing of their citizens, including combating poverty and increasing social inclusion.

However, a number of barriers to greening the economy can also be identified:

Data and information: There seems to be a lack of available data in several ORs that would allow robust predictions to underpin changes within existing economic sectors and/or the development of new economic sectors.

Skills and awareness: There is a lack of human capital, including awareness and skills levels, to allow the development, uptake and/or mainstreaming of innovative and sustainable solutions, including the

development of value added products. For example, skills gaps have been identified as one of the reasons for the underutilised tourism sector in the French ORs[4]. Similarly, the wider-scale uptake of organic farming is considered to require further training of farmers.

Investment and supporting regulatory framework: While the OR specific strategies foresee a range of green solutions and opportunities for the future, financial investment both in terms of physical and social capital (e.g. training) is needed to realise these solutions. The investments in ORs are mostly driven by the public sector, whilst the current level of private investments is considered to be insufficient to create specialisation and new jobs in competitive sectors[1], including sectors with 'greening' potential. The EU budget is seen as one of the key drivers for future development and innovation, although as in mainland Europe, it is not likely to be enough to secure progress at a large enough scale. Finally, the uptake and upscaling of green innovations and solutions needs to be supported, or at least not hindered, by the existing regulatory framework.

Scale and remoteness: The small scale of ORs and their economies, combined with their remote location from mainland Europe, poses challenges to their ability to reach the economies of scale likely to be necessary to develop new green sectors and/or create permanent shifts within existing sectors. For example, creating markets for value added products from agriculture, forestry and fisheries is likely to require reaching for an audience outside the ORs. The ORs, with the exception of French Guiana, are also characterised by the scarcity of land and related conflicts over land use. Scarcity of land and related resources make some economic sectors highly dependent on imports (e.g. agriculture). This, and other factors such as climate change impacts, limits ORs' ability to regulate the overall sustainability of these sectors.

Environmental quality and sustainability trade-offs: Several ORs suffer from issues related to water and soil quality and waste management, all of which hinder attempts to shift towards a green economy. For example, in Guadeloupe nearly 5,000 hectares of usable agricultural area are contaminated by pesticides[5]. Furthermore, the foreseen growth of some potentially green sectors is likely to face a number of sustainability trade-offs. In particular, a growing tourism industry is known to create pressures on the natural environment by increasing the need for infrastructure developments (e.g. ports) and increasing the risk of environmental degradation due to overuse. Given the location of the ORs, the overall sustainability of tourism related travel - in particular the carbon footprint of air travel - is a key issue. Similarly, there will be sustainability issues where fishing is beyond the maximum sustainable yield (MSY) as this leads to falling stock levels and available catch over time. This can also lead to social pressures, exacerbated if the catch is destined for export. For example, the current fisheries production in Guadeloupe is already insufficient to satisfy the local market demands and any increase in exports would put further pressure on local supply.

1.4. Opportunities for greening and measures to address barriers / realise opportunities

It seems necessary to strengthening the long-term sustainability of natural resources based sectors through product specialisation and development of value added in order to develop green economies in the ORs. Furthermore, biodiversity and low-carbon related innovations (e.g. biotechnology, renewable energy and eco-construction), sustainable nature-based tourism and investment in the nature-inspired research sector create novel avenues for development across the ORs.

Value added products and green markets: Opportunities are emerging related to alternative uses of existing crops (e.g. sugar cane), production of novel fruits and vegetables with emerging markets, and sustainable fish farming. To bring about changes in the ORs' economies, these emerging opportunities need to be supported by activities that foster innovation within sectors, including targeted market

[4] Growth Factors in the Outermost Regions (2011)
[5] Guadeloupe Action Plan for 2014-2020

oriented research, capacity building, and networking of relevant actors (e.g. investment sector). For example, in Madeira eucalyptus trees are harvested with the timber sent to Portugal for further production. The logging residue (branches and leaves) remains on the island, creating possible opportunities for it to be used for value added eucalyptus oil products. Similarly, on the Canary Islands, certified organic products originating from the islands are highly sought after both among the local inhabitants and tourists. The demand is reported to exceed the current availability, indicating clear growth potential for the sector. Likewise, regional organic markets are promoted in Madeira, e.g. for the sugar syrup *mel-de-cana*. Finally, over 90% of French Guiana's territory is covered by tropical forest which, if sustainably managed with due consideration of biodiversity values, makes the currently underutilised forestry sector and the development of value added forestry products (e.g. for construction) a potential cornerstone for the green economy[6].

Sustainable tourism: Although tourism is well developed in several ORs, its products are still traditional and weakened by increasing external competition. Consequently, the potential for the ORs' tourism sector relies on developing services that differ from the usual mass tourism. This includes both steps to minimise the environmental impact of conventional tourism, and the development of new green forms of tourism including nature-based tourism (e.g. ecotourism, cultural and nature-health tourism) that builds on the ORs' rich biodiversity and environmental quality. Changing the existing model and reorienting the whole sector to be more nature-based will be very difficult due to the socio-economic implications, in particular on employment. The establishment of access quotas to sensitive natural areas could be explored as one means to increase the sustainability of tourism. European sustainability policies targeting tourist accommodation and campsites, e.g. the EU Ecolabel, are likely to be critically important to develop and promote green tourism in the ORs. The Green key Award, an international voluntary eco-label, has been used in Madeira and in the Azores to recognise greener tourism operators and could provide inspiration regarding the certification of greener tourism. As with the green markets, research, professional training and facilitation of networking are also fundamental in realising this potential.

Research, education and innovation linked to nature: The research and innovation sector has been identified as a key promising sector in several ORs, with explicit links to building on the ORs' natural capital (e.g. biodiversity, marine and forest ecosystems, biotechnology and biomedicine). In several OR Action Plans, the regions see themselves as 'natural laboratories' for research and concept testing in the areas of bio-economy, eco-innovation, clean energy, and sustainable water or waste management. Examples could include:

- Obtaining licencing to extract an anti-cancer compound from banana residues (Canary Islands);
- Year-round cultivation of micro-algae to be used as third generation biofuels and to capture CO_2 (Reunion Island);
- Use of biomass from diverse sources (e.g. agricultural and forestry residues, manure, green waste and biomass from invasive alien species) for bio-mechanisation and gasification (the METEOR pilot project is attempting to demonstrate the technical feasibility of these processes) (Reunion Island);
- Greening the transport sector as part of the energy transition (Reunion Island, Madeira, Azores); and
- Using fish processing residues for cosmetics, food and innovative uses such as scaffolds for stem cell growth (Madeira).

Nature-based solutions to environmental risks: The needs to develop the capacity to address environmental risks (e.g. risks related to climate change) are identified in every OR Action Plan.

[6] ERDF 2014-2020 Operational Programme for Guiana

However, all of the plans fall short in recognising the opportunities linked to nature-based solutions to mitigate and/or adapt to these risks. For example, restoration of wetlands is known to provide solutions for improving water quality, whereas the conservation of mangroves is demonstrated to be potentially beneficial for both coastal protection and fisheries. Given the balance that needs to be found between the conservation of biodiversity, improvements in environmental quality and creating opportunities for sustainable sectoral development, identifying explicit opportunities for nature-based solutions seems integral to developing green economies in the ORs.

Finally, a number of key measures need to be in place to enable concrete uptake and sustainable mainstreaming of the above opportunities at the OR level. These include investment and financing (e.g. private sector investment), a sound legislative basis and systems for defining and monitoring the sustainability limits and 'carrying capacities' of different sectors (e.g. maximum fish catch, number of visitors) and ongoing research and support to improve the sustainability of sectoral operations (e.g. low-impact fishing gear and biodiversity-friendly agricultural practices).

1.5. Good practices

Based on the expert's discussion and literature review, a selection of examples of existing good practice in the ORs is presented below:

Value added products and green markets / French Guiana[7]: "Maison de la Forêt et des Bois de Guyane (MFBG)" is a support structure, established by public sector actors, that brings together wood companies and related organisations and professionals (e.g. architects) interested in diversifying their production and developing new products for the internal market. It focuses on providing technical assistance, supporting product evaluations and qualification (e.g. eco-certification), and facilitating marketing and information sharing. This sector support model is considered to be replicable for other sectors such as agriculture and agro-food[8].

Research and innovation on nature-based biotechnology / Madeira[9]: The EU funded AlgaeRef research project, led by the Madeira based company MadeBiotech S.A., identified and valorised naturally occurring substances extracted from algae and other plants. As a result of the project, commercial interest in the compounds extracted from endemic plants has led to an increased demand for the raw products, with local farmers planting abandoned and underused land with endemic plants to supply factories needing the extracts. This has increased the income and stability of these farmers. The project's success has acted as a catalyst for several local companies to start working with MadeBiotech to research and innovate in fields such as food and cosmetics, with a view to developing high-added-value products. The partnerships developed with several major European companies and universities are also a fundamental aspect.

Research and innovation on renewable energy / Reunion Island Work is ongoing with the renewable energy producer Albioma to feed algae with CO_2, and with Veolia to recover nutrients from waste water (i.e. phosphates) and produce fuel from the algae. In addition, the company BIOALGOSTRAL uses micro-algae to produce food, feed, cosmetics and energy, while capturing phosphates and carbon.

Sustainable tourism / the Canary Islands[10]: "Asociación Canaria de Turismo Rural (ACANTUR)" is a non-profit business association established in 1992. It serves as an umbrella organisation for the rural

[7] http://www.guyane-bois.net/iso_album/plaquette_mfbg_maj_2013.pdf
[8] Guyana Action Plan
[9] http://ec.europa.eu/regional_policy/en/projects/portugal/unleashing-the-commercial-potential-of-madeiras-renewable-resources
[10] http://www.ecoturismocanarias.com/

tourism associations in the islands of La Palma, Tenerife, La Gomera, Gran Canaria, Fuerteventura, El Iron and Lanzarote. The organisation supports and promotes tourism activities that are environmentally sustainable and help to preserve the cultural heritage and old infrastructure of the areas (e.g. the rehabilitation or restoration of old dwellings). Similar associations exist in other ORs.

Eco-tourism / Guadeloupe: There is an increasing demand for eco-tourism, in particular in the Basse Terre and its National Park that is a 74 UNESCO biosphere reserve. Eco-tourism is being developed in areas of low employment which is important for rural development. While this is a great success, there are trade-offs as this can lead to reduced tourism in coastal areas, and hence some loss of income and jobs in those regions.

Nature-based solutions / Azores[11]: Furnas Landscape Laboratory is a project initiated in 2007 focusing on the ecological and landscape restoration of the Furnas Lake watershed on São Miguel Island. This lake was affected by eutrophication due to an excess of nutrients, aggravated by agricultural activity in the surrounding areas. This project promoted the closing of various farms surrounding the Furnas Lake and the restoration of the landscape. Since 2007, about 300 hectares of agricultural land within the watershed were bought by the Government of the Azores, enabling the implementation of a multifunctional forest landscape comprising new ecological restoration techniques, economic activities and management practices while promoting widespread public involvement. The initiative is an example of how a multifunctional green infrastructure can promote a sustainable natural area that provides biodiversity and socio-economic benefits (e.g. additional income from tourism, increased social cohesion). The project received the Portuguese National Landscape Award in 2012. It has been supported by the EU Structural Funds and is considered an example of good practice useful to other countries (e.g. other ORs).

Nature-based solutions to environmental risks / Saint Martin[12]: The Saint Martin cooperation programme for the period 2014-2020 (EU Interreg V Saint Martin) includes the regeneration of more than 800 hectares of the Simpson Bay lagoon and preventing flood risk through better management and control of rainwater. As regards the latter, the aim is a 50% reduction in the population exposed to risks of flooding in the Belle-Plaine border area where recurring floods regularly cause considerable damage.

Sustainable agriculture / Reunion Island: Together with the French Agricultural Research Centre for International Development (CIRAD), Reunion Island set up an agro-ecology platform in the Indian Ocean, with a value of EUR 120 million over 6 years using FEDER (EUR 20 million), INTERREG (EUR 9 million), and own funds from **Reunion Island** and CIRAD. This is helping to understand the area's challenges related to agro-environmental transformation. The BIOPHYTO project, for instance, aimed to develop new ways to produce mangoes without insecticides and disseminate the mode of production, including to neighbouring countries (Madagascar, Mauritius, Comoros and South Africa). The project has moved beyond a research action to practical action, with 100 exploitations now active. Another programme with Madagascar is developing sustainable cacao agriculture. Collaborative actions are also taken to avoid the spreading of cattle disease in the Indian Ocean region.
Environmental awareness / Reunion Island where focus has mainly been on the creation of shared gardens demonstrating how individuals interact with the environment, by developing cultivated areas that meet the needs of humans whilst still respecting nature (e.g. development of biodiversity, creation of habitats for beneficial insects and enrichment of the land). A number of such gardens have extensive botany collections and conservatory projects that are both educational and attract recreation and tourist visits.

[11] https://cld.pt/dl/download/ae8c094c-d246-44a5-b139-756de82f6add/FurnasLandLab-2015.pdf
[12] http://ec.europa.eu/regional_policy/en/atlas/programmes/2014-2020/france/2014tc16rfcb043

Biodiversity conservation / La Martinique: La Martinique is one of the world's 34 biodiversity hot spots. To address the risks to these areas, the most vulnerable and important zones (e.g. including high biodiversity value mangroves) have been identified and dedicated legislation (décret interministériel de création du Parc naturel marin de Martinique) was signed on 24 March 2017 to set up a marine national park. In addition, the "Maison de Mangrove" was set up on 14 March 2017. While these two measures were first and foremost adopted to protect biodiversity they are also foreseen to create opportunities to develop eco-tourism.

Recommendations on the Green Economy *(see also last chapter)*

- **Innovation for value-added Green Economy products and green markets** needs to be supported across sectors, with a view to diversify OR economies to increase economic resilience.
- A priority should be given to **build on and safeguard natural assets which both attract tourism and cater for a transition to a sustainable tourism sector**. Support is need to minimise the environmental impact of conventional tourism, as well as for the development of new green forms of tourism including nature-based tourism (e.g. ecotourism, cultural and nature-health tourism) that builds on the ORs' rich biodiversity and environmental quality.
- Explicit **opportunities for nature-based solutions to environmental risks should be systematically identified, supported as key investment priorities** – for flood risk management, climate adaptation, water purification and provision, medicinal products – to make natural assets an integral part of developing green economies in the ORs.
- **Research, education and innovation linked to nature** needs particular attention (including funding) in the ORs, building on the ORs' natural capital (e.g. biodiversity, marine and forest ecosystems, biotechnology and biomedicine). ORs, given their natural assets, are obvious 'natural laboratories' for research and concept testing in the areas of bio-economy, eco-innovation, clean energy, and sustainable water or waste management.
- **The rich biodiversity and environmental quality of the ORs is a strong asset for their development**. Given the uniqueness of this natural capital within the European framework, **specific and predictable financial support at EU level** should be set up to protect it.

2. Circular Economy

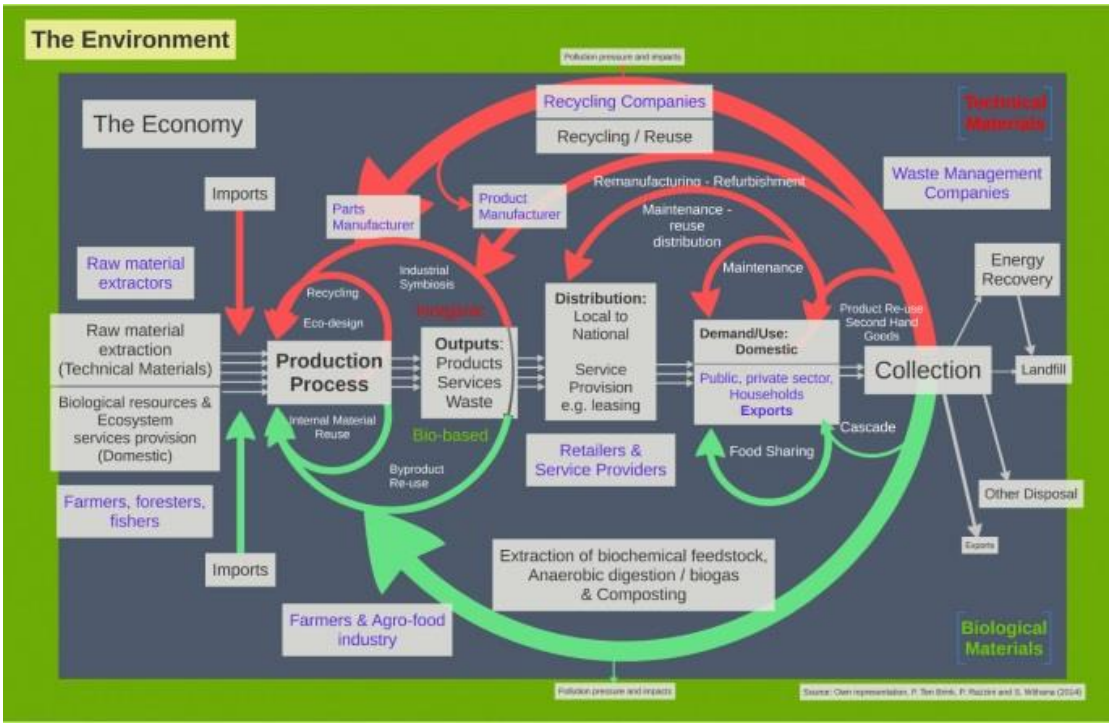
2.1. *What is the Circular Economy?*

The EU Action Plan for the Circular Economy (COM/2015/614)[13] is an important impetus to encourage a transition from a linear economy based on 'take, make, use, dispose', to a circular economy where reuse, repair, remanufacturer and recycling play a more fundamental role. In short, the circular economy is about keeping resources and their value in the economy and avoiding them becoming

[13] See also European Commission report on the implementation of the Action Plan for the Circular Economy [COM (2017) 33 final of 26th of January http://ec.europa.eu/environment/circular-economy/implementation_report.pdf

waste. This requires actions ranging from upstream product innovation to downstream waste and recycling infrastructure, as well as engagement by governments, businesses and citizens. In principle the development of a circular economy should lead to win-wins on preserving resources, reducing waste, improving the quality of the environment and creating jobs, as well as offering financial savings by injecting new value into waste products and materials. The development of a circular economy also has an important role to play in the development of a wider green economy (see above) and in achieving sustainable development objectives in the ORs.

Figure 3.1 The circular economy (IEEP own representation)



The EU Action Plan for the Circular Economy includes a series of actions to be carried out by 2020:

- Funding of EUR 5.5 billion under the cohesion policy funds for improved waste management, and up to EUR 150 billion for support for innovation, SME competitiveness, resource efficiency and low-carbon investments[14]; funding of over EUR 650 million under Horizon 2020; and further support for innovation through the Smart Specialisation Platform;
- Food waste: development of a common measurement methodology, improved date marking, and tools to meet the global Sustainable Development Goal to halve food waste by 2030;
- Development of quality standards for secondary raw materials;
- Measures in the Ecodesign working plan for 2015-2017 to promote reparability, durability and recyclability of products, in addition to energy efficiency;
- A revised Regulation on fertilizers, to recognise organic and waste-based fertilizers in the single market and support the role of bio-nutrients;
- Development of a strategy on plastics in the circular economy, addressing recyclability, biodegradability, hazardous substances, and the Sustainable Development Goals' target to significantly reduce marine litter; and
- A series of actions on water reuse including a legislative proposal on minimum requirements for the reuse of wastewater.

[14] http://ec.europa.eu/regional_policy/en/information/publications/factsheets/2016/cohesion-policy-support-for-the-circular-economy

A revised legislative proposal on waste was included in the Circular Economy package. This includes proposals to: simplify and improve definitions and harmonise calculation methods for recycling rates throughout the EU; promote economic instruments to discourage landfill; develop measures to promote reuse and stimulate industrial symbiosis; and develop economic incentives to discourage landfilling and encourage producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, waste electrical and electronic equipment - WEEE, end-of-life vehicles - ELV). Special rules will be developed for Member States facing the biggest implementation challenges; this may apply to the ORs. The proposal also includes a series of new targets related to waste management, as shown in Table 3.1, which also includes the current targets for comparison.

Table 3.1 Selected current and proposed EU targets on waste management

Aspect of waste management	Current EU targets	Proposed targets under the Circular Economy package
Recycling of municipal waste	50% recycling by 2020	65% recycling by 2030
Recycling of packaging waste[1]	55 to 80% by weight to be recycled by 2008; 60% for glass, paper and board; 50% for metals; 22.5% for plastics; 15% for wood by 2008	65% recycling by 2025; 75% recycling by 2030; 75% for glass, paper and cardboard; 75% for ferrous metal and aluminium; 55% for plastics; 60% for wood by 2025; 85% for glass, paper and cardboard; 85% for ferrous metal and aluminium; 75% for wood by 2030
Landfilling of municipal waste	Reduce amount of biodegradable waste landfilled to 35% of 1995 levels by 2016	Binding target of maximum 10% landfilling by 2030; Ban on landfilling of separately collected waste

[1] 2030 target for plastic to be proposed later based on review of Member States' progress, evolution of the types of plastics, and development of new recycling technologies and the demand for recycled plastics.)

2.2. State of play in the ORs

The geographical remoteness of the ORs represents an obstacle to the sourcing of raw materials (due to limited resources) and outlets for finished products (due to limited local demand), which pose a challenge to the pursuit of a circular economy. The ORs also face particular challenges for **waste management**, including limited landfill capacity and the lack of economies of scale for waste collection, treatment and/or recycling processes, in particular at the specific waste stream level (e.g. for organic waste, packaging, WEEE, ELV etc.). Many of the ORs also have lower average GDPs and a larger population growth than their respective mainland, creating the potential dual challenge of dealing with increased waste generation (linked to population growth) and limited financial resources for waste management infrastructures. This can result in the need to export waste to be dealt with on the mainland. In addition, a significant economic reliance on tourism leads to the (seasonal) generation of increased amounts of waste in urban and tourist centres.

Some **successes related to circular economy** can be observed in the ORs. Regarding waste management, between 2007 and 2013, Guadeloupe saw the closure/rehabilitation of unauthorised landfills, efficient maritime transfer of wastes from the southern islands, and the development of

recycling infrastructures for green waste, WEEE and packaging waste[15]. However, landfilling still remains the dominant waste treatment method, and only around 6-7 kg of non-glass household packaging is recycled per person (compared to 45 kg in mainland France)[16]. In 2016 the Azores had seven waste processing centres, one waste processing and recovery (waste to energy) plant on Terceira island, and was beginning to build waste processing and recovery (waste to energy) plant on São Miguel island. In 2016 the Azores had recycling 54,7 kg per person of household packaging (compared to 31 kg in mainland Portugal).[17]. The separate collection of packaging waste is beginning in Mayotte and in all four of the *collectivités* in French Guiana. In French Guiana, two *collectivités* collect packaging waste themselves (with financial support from the eco-organism); in the other two *collectivités* (which have more limited financial resources) and in Mayotte, the eco-organism directly collects and sorts the waste.

In Madeira, the Meia Serra incinerator is now capable of recovering energy from municipal waste. Around 44 GWh of energy was produced in 2016, equivalent to the energy consumption of 15% of the island's population.

Reunion Island has defined a scheme, in partnership with ADEME (the French Environment and Energy Management Agency), to support projects related to the circular economy and the social economy. The aim is to develop the circular economy and create jobs. In addition, a circular economy forum and an eco-innovation forum were held in 2016, targeting the involvement of students, communities and businesses.

Some strategies and action plans related to circular economy do exist in the ORs, but their coverage is by no means comprehensive. The **Portuguese** *Green Growth Commitment (GGC)* from April 2015, which was catalysed by *The Green Growth Coalition (GGC)*, addresses 16 sectors related to green growth (via working groups), and includes quantitative targets for 2020 and 2030 along with an extensive range of measures aimed at promoting a low-carbon, resource-efficient economy and creating more wealth and jobs through investments in sustainability. Currently, the work is focused on circular economy by directing efforts towards seven Thematic Working Groups, namely: *Waste; Agriculture and Forestry; Energy and Climate; Mobility and Transport; Manufacturing and Extractive Industries; Cities and Territory; and Public Procurement* (see Annex 3 for more details).

In the French ORs, a law adopted in 2015[18] requires regions (*conseils régionaux*) to elaborate new waste prevention and management plans, including a chapter on circular economy; these plans are currently being prepared in cooperation with all relevant local actors. Some other highlights of ORs strategies related to circular economy are outlined in box 3.1 below.

[15] Programme Opérationnel FEDER-FSE Guadeloupe Conseil Régional 2014-2020
[16] Programme Opérationnel FEDER-FSE Guadeloupe Conseil Régional 2014-2020
[17] Autonomous Region of the Azores: Urban Waste Report 2016
[18] Loi portant Nouvelle Organisation Territoriale de la République du 07 août 2015

Box 3.1 Elements of OR strategies and action plans related to circular economy

The *Programme Opérationnel FEDER-FSE* ***Guadeloupe*** *Conseil Régional 2014-2020* contains a target to recycle 110,000 tonnes of waste in 2030, and calls for the development of a local circular economy. There is also a waste reduction plan (the Plan Départemental d'Élimination Des Déchets, PDEDMA).

The *Plan d'action* ***Guyane*** (related to the Europe 2020 Strategy) recognises the need to improve waste infrastructure (including increased waste management capacity) in order to protect and value resources.

Mayotte does not currently have a circular economy strategy or plan, but has launched a study on the implementation of the regional economic development plan for innovation and internationalisation for 2018, which provides for the establishment of a strategy and an action plan in this area.

The *Plan d'action Région Ultrapériphérique* ***Martinique*** *2014-2020* calls for the treatment and valorisation of waste to reinforce local supply chains, and for Martinique to take part in an integrated supply chain for the wider Caribbean. A circular economy strategy is currently being drafted in Martinique. In addition, the prefecture, ADEME and electricity authorities have signed two multi-annual agreements (2016-2020) for the implementation of the *Programmes Territoriaux de Maitrise des Déchets (PTMD) et de l'Energie (PTME)*, with budgets of EUR 24.6 million and EUR 47.2 million respectively to promote a concerted local policy on waste and energy control, circular economy development, environmental protection and sustainable development.

In **Reunion Island,** the Regional Agency for Development, Investment and Innovation (NEXA) is carrying out a study on the circular economy, to: map existing material flows and assist decision-makers in defining a sustainable development strategy; map actors, initiatives and sectors, to mobilise key actors interested in the circular economy; and develop a circular economy roadmap. The *Plan d'Action: Pacte de croissance territorial La Réunion* recognises the need to reconcile development and green growth. The Plan calls for actions including: design of a specific, locally adapted regulatory framework on the storage and recovery of waste; creation of an international shipping line for shipments of waste (with associated state aid); and improving the profitability of recycling.

The *Action Plan for the Outermost Region of* ***Saint-Martin*** *2014-2020* recognises the need for significant waste sector investment, including: local sorting and recovery systems, specialised waste networks and reception centres (e.g. for ELVs and public work waste), the potential installation of an incinerator in collaboration with Sint-Maarten, and the rehabilitation of landfill sites. The Plan also calls for actions to increase awareness and provide information to inhabitants on selective waste sorting and eco-citizenship.

The *Autonomous Region of the* ***Azores****: Assumptions and context for the Action Plan 2014 – 2020* recognises the need for waste management infrastructures to appropriately recover waste and reduce dumps and landfills. A *Strategic Waste Management Plan* aimed to finalise and make operational a network of waste processing centres. Specific solutions were also anticipated for flows of some specific types of wastes.

There is no circular economy strategy or plan for **Madeira**. However, some initiatives regarding the circular economy have been undertaken, linked to the Portuguese green tax law[19]. The *Action Plan OR 2020 for the Autonomous Region of Madeira* recognises that a more in-depth strategic approach is needed to address the structural constraints and shortcomings related to waste removal and treatment services.

The **Canary Islands** do not have a specific circular economy strategy or plan. A Waste Plan is currently under development. A target exists to reduce waste generation to 300 kg per inhabitant per year. The *Europe 2020 Action Plan in the Canary Islands* recognises the need for sustainable growth, including promotion of: entrepreneurship in environmental services; technologies and management to reduce, reuse and recover energy from waste; and to recycle and recover municipal, industrial, agricultural and livestock waste.

[19] Lei n.º82-D/2014, de 31 de Dezembro

Table 3.2 Waste management in the Outermost Regions: Selected indicators

	EU-28 [a]	Guadeloupe [c]	Guiana [c]	Martinique [c]	Reunion Island	Azores [c]	Madeira [c]	Canary Islands
Municipal waste generated per capita (kg/year)	477	652.4	285.1	502.9	604.1	517.9	419.9	569 [c]
% of separate waste collection		35	14	29	46			6 [d]
% of municipal waste landfilled	29.7	83	96	42	58	82	1	
% of municipal waste recycled (material recycling)	28.7	3 + 13 (organic waste)	3	4 + 9 (organic waste)	24 +18 (organic waste)	13	8	

[a] 2015; [b] 2011; [c] 2013; [d] 2014 Source: EUROSTAT

Note: Data for Guadeloupe, French Guiana, Martinique and Reunion Island concern household and assimilated waste (déchets ménagers et assimilés, DMA) which includes household and non-household waste collected by public services; No data available for Mayotte and St. Martin. For Azores, 2016, the values are: 536 kg/year (municipal waste); 52.4 % (% municipal waste landfilled), 19.3+12.8 (organic waste) – (% of municipal waste recycled).[20].

2.3. Barriers and drivers

There is a need to increase the **awareness and understanding** amongst local authorities and decision makers in the ORs on what the circular economy is, why it is important, and how to integrate this into decision making. This has been commented upon by experts contacted in e.g. Madeira and the Canary Islands during the production of this report. Capacity building, awareness raising and best practice sharing activities could help to address this. In addition, clear **strategies for future action** should be drawn up, indicating which institutions/organisations have which roles and responsibilities with regards to the development of circular economy.

As outlined above, the ORs face **particular challenges for waste management**, including lack of economies of scale for waste collection, treatment and/or recycling, aggravated in some cases by the fragmentation of the territory, population growth and seasonal fluctuations in waste generation due to tourism. Several ORs transport specific waste streams (e.g. ELVs, WEEE) to their respective mainlands due to the lack of appropriate infrastructure to deal with them in the ORs. Limited landfill capacity is also an issue in several ORs, including only around 8 years of remaining capacity in Martinique (which may be extendable to 15 years through landfill mining to retrieve recyclable waste), and almost no available capacity remaining for non-hazardous waste storage in Reunion Island or French Guiana. In addition, landfills in coastal areas may lead to environmentally harmful impacts both now and in the future such as waste blowing into the sea, or flooding due to sea swells or longer term sea-level rise linked with climate change.

The OR experts have underlined that in some cases the **different regulatory frameworks in the ORs** do not favour the development of shared circular economies and that some environmental laws have technical requirements that are not easy for smaller operators in the ORs to comply with. With regards to Reunion Island, the provisions of the Indian Ocean Commission (IOC) do not fully meet the European regulatory framework. In addition, the Basel Convention, which seeks to prohibit the export of hazardous wastes for disposal in other non-EU States (in particular the developing countries), hampers the creation of export channels for hazardous waste for IOC countries. Suggestions made by experts include aim to develop a more common set of laws and requirements for the ORs to facilitate circular economy measures, and explore mechanisms to make the Basel Convention more flexible in cases

[20] http://www.azores.gov.pt/NR/rdonlyres/0D55D4ED-6744-45C2-8464-46636C4CAFFA/1087792/RelatórioSRIR2016Síntese_.pdf

where waste can be used either as secondary raw materials, recycled, or otherwise treated in joint facilities.

The EU has supported the development of much waste management infrastructure (see below). This infrastructure, designed in line with existing strategies and targets, has a long lifespan and it may be **difficult and/or costly for the ORs to comply if more ambitious targets** are set in the future.

There is a significant **lack of data/statistics** within the ORs related to circular economy indicators. In addition, some ORs feel that there is a lack of clarity on which indicators to use to assess the extent of development of circular economy in their territory, in particular with regards to reuse and repair. To ensure efficiency, the typology of statistical data and other information to be collected by the ORs' administrations should be clear and well defined. Any indicators already used (or planned) within the EU to assess the evolution of measures adopted in the context of green economy and circular economy should be disseminated to the ORs. More detailed guidance and data, for example on waste generation and management, raw material use and flows, would provide an evidence base for future policy making, and would help to demonstrate the need for action and the costs and benefits of taking steps towards a circular economy in the ORs.

A high percentage of the **products consumed in the ORs are designed and produced outside the ORs**, so they have little or no control over the production phase. Once they are imported, however, they are the responsibility of the ORs, in particular when they reach the end of their useful life and become waste. This means that ORs face the challenge of trying to create a circular economy based on products that they do not make themselves (e.g. the economy of the Canary Islands is around 80% services based and only around 10% industrial).

2.4. Opportunities for circularity

A 2016 study[21] looking at circular economy in Reunion Island suggested **six types of initiatives that can contribute to the circular economy**: ecodesign of products and services; waste recovery; reuse; economy of functionality (i.e. sale of the use of a product rather than the product itself); collaborative economy (i.e. sharing, collaborative consumption); and industrial symbiosis (creating synergies between businesses/economic sectors).

According to experts in the ORs, waste prevention, repair and composting have become new economic activities in the ORs, and offer opportunities for employment, including for low-skilled people or people with disabilities (e.g. repairing computers, electrical devices and furniture). In addition, there are examples of small-scale reuse projects (e.g. small entrepreneurs/humanitarian associations in Guadeloupe recovering old vehicles, computer and household appliances for renovation to be sent to Cuba and Haiti where they live a second life). Such activities could provide some inspiration for future action in the ORs.

Portugal is currently developing a **National Plan for a Circular Economy** (building on experience from the Netherlands), through an inter-ministerial working group (see Annex 3 for details). Under this future Plan, the Government foresees the promotion of 'Green Deals' in order to understand why some solutions with good economic, social and environmental outcomes were not able to become successful and reach the market. The ORs are not currently represented in this process, but this may be considered during a future phase of the development of the Plan.

Specific opportunities that have been identified in the ORs include:

[21] Abington Advisory and EVEA (2016) Etude descriptive et opérationnelle sur l'économie circulaire à l'île de la Réunion – 2016

- Regional collaboration on waste management, to achieve economies of scale (e.g. collaboration with South Africa, Mauritius, Madagascar for Reunion Island);
- Developing the repair sector / repair activities, to build on the tradition of trying to fix items such as computers, small electrical items and furniture, rather than dispose of them (Guadeloupe); and
- Developing composting, to reduce landfilling and achieve high quality compost (Azores and Madeira).

Green public procurement (GPP) could provide a driver to support the circular economy, for example if eco-design criteria are included within GPP processes. French (national) public procurement rules require the use of 40% recycled paper and 70% recycled material for road construction by 2020. However, in the Azores there is limited scope for green criteria to be added within the current legal framework. The potential of GPP should therefore be assessed individually for each OR. Including criteria such as durability and recyclability in the context of sustainable public procurement can play a crucial role in preventing waste.

There is significant potential for **job creation** in various sectors that can contribute to the circular economy, including: renewable energy, energy efficiency, waste, water management, air quality, biodiversity conservation and green infrastructure, and construction. For example, in the Canary Islands, the potential for job creation linked to the circular economy is high since there is currently little activity in this area; circular economy related jobs could provide a new niche of economic activity to help combat unemployment. In Reunion Island, it is estimated that 300 jobs are related directly to the prevention, reuse, recycling and treatment of non-hazardous waste.

In the Canary Islands, **plastics** and **glass** offer opportunities for circularity given the volumes collected as packaging waste. **Agricultural waste** and **food waste** could potentially be reused in the primary sector.

The ORs can serve as **'demonstration sites'** for problems that are also difficult to solve in mainland/continental locations, including achieving greater resource efficiency, as in many cases good practices developed in the ORs may be applicable more widely (whereas the reverse may not be true, i.e. solutions developed on a national, mainland scale may not be suitable for smaller island/remote locations). As discussed in the green economy sections above, this means that the ORs can be seen as living laboratories to show how resource-constrained economies can develop.

2.5. Measures to address barriers and realise opportunities

The development of **dedicated circular economy plans/strategies** at regional level would help the ORs to establish the desired direction and objectives/targets, guide the development of policies to implement them in the short, medium (to 2030) and longer (to 2050) term, and identify the roles of various actors in the process. In addition, such plans would help to direct available funding towards measures in support of the circular economy.

With regards to **practical waste collection**, options that could be explored for the islands in the ORs include door-to-door waste collection, separate collection from tourist related activities, and the development of local reuse and treatment facilities to reduce the need to transport waste[22]. In addition, options should be explored for ORs to work together to deal with certain waste streams, to benefit from economies of scale in waste treatment. Neighbouring ORs could each take responsibility for dealing with a specific waste stream (e.g. ELVs, WEEE); this already occurs in some cases, with for

[22] ENT Environment & Management (2011) Estudio sobre modelos de gestión de residuos en zonas insulares

example Saint-Martin sending its household packaging waste and WEEE to Guadeloupe for sorting and recovery.

Awareness-raising amongst decision makers would enable them to better understand the importance and objectives of a green and circular economy.

Awareness-raising activities for citizens, businesses and industry (e.g. on the environmental impacts of waste, on existing and future opportunities for separate collection, recycling and waste prevention) could help to encourage behaviour change with regards to waste. The private sector has a key role to play, and efforts should be made to demonstrate that becoming green can be profitable and the circular economy provides opportunities rather than being a problem.

Greater clarity within and between EU and national legislation on the **definition of what constitutes 'waste' and 'resources'** could help to redefine some wastes as secondary raw materials, which will help ORs to use certain wastes as a resource, and may also help to develop markets for the use of such materials. In addition, a review of the impacts of existing legislation on **importing and exporting waste** could be beneficial to assess whether the current situation creates barriers to ORs working together to deal with waste. The French law[23] which encourages freight between ORs, their surrounding regions and continental Europe to support recycling activities could provide inspiration in this area.

There is also a need for **skills development and training to help develop the expertise for circular economy activities.** This includes skills in repairs, remanufacture and recycling, research and innovation, technical and engineering skills, and tax specialists and statisticians.

EU legislation combined with **access to EU funds** targeting the implementation of circular economy strategies and measures to support them would help to speed up the transformation of the ORs' economies towards greener and more circular economies. In some cases (e.g. Martinique), potential project proposers could benefit from help with the technical aspects of submitting funding applications, which can sometimes be complex and onerous. In the future, EU funding should continue to allow for measures aiming not only to go beyond the waste management requirements/targets of EU Directives, but also to achieve those targets, since some ORs are struggling to meet them and could use additional support for that purpose. Including circular and green economy considerations in the ORs' Operational Programmes for the next programming period would also be beneficial in directing EU funds to the right projects.

The use of **economic instruments** to drive improvements in waste management in the ORs should be considered. Such instruments (including landfill and incineration taxes, pay-as-you-throw schemes, product/material taxes, lower VAT for repair activities and/or suitably eco-labelled products, and extended producer responsibility, EPR) can provide powerful incentives to encourage both waste reduction and selective collection.

Another idea would be to establish a group of experts to **identify R&D and investment needs** for circular economy adapted to the ORs and explore solutions with other ORs and their neighbours to address the lack of economies of scale.

2.6. Good practices

Below are a selection of examples of existing good practice in the ORs.

[23] See Article 71 of LOI no 2017-256 du 28 février 2017 de programmation relative à l'égalité réelle outre-mer et portant autres dispositions en matière sociale et économique

Door-to-door selective waste collection / Canary Islands: Waste collection experiences in the Canary Islands have demonstrated that door-to-door collection generally achieves a higher rate of selective collection than systems where citizens have to take their separated waste to designated containers (over 27% compared with around 8.5%)[24]. This approach could be considered in other island regions of the ORs.

Recycling of used tyres and plastics / Guadeloupe: The Ecodec recycling centre in Guadeloupe processes tyres and plastics for reuse (including as soil stabilisation materials which are already on the market), avoiding them from being incinerated or landfilled and reducing associated pollution which had been threatening farming and tourism. The centre employs around 30 full time staff and processed 15,000 tonnes of industrial waste, 3,900 tonnes of tyres, 1,800 tonnes of packaging waste and 2,000 tonnes of glass in 2012. The EU contributed over EUR 5 million in European Regional Development Funding towards the total investment of EUR 14.8 million[25].

Other EU funded projects: Other examples of EU funded projects include: a waste treatment centre in Madeira, a plastic waste processing facility in Martinique, a sorting and reprocessing plant in Guadeloupe, and 'Urban strategies for waste management in tourist cities (URBAN WASTE)' in the Canary Islands, Azores and Reunion Island.

Improving waste collection to green the economy / Saint-Martin: In 2016, particular efforts were made to improve the selective collection of packaging waste. A partnership with Eco-Emballages led to a doubling of selective waste collection infrastructure, complemented by a communications campaign to encourage use of this infrastructure via letters to households, posters in building entrances and bus stations, information distribution by "waste collection animators", press work (written, radio, TV), SMS and direct activities in schools.

WEEE treatment plant / Guadeloupe, Martinique and French Guiana: A plant to treat WEEE from Guadeloupe, Martinique and Guiana has been installed in Guadeloupe. WEEE from the three ORs can therefore be treated and valorised in a single location, to ensure greater economies of scale.

Mixed waste treatment units / Reunion Island: Two mixed waste treatment units have been developed in Reunion Island to work towards sustainable waste treatment on the island, and support has also been provided for plants to treat WEEE and ELVs, which has resulted in a reduction of illegal dumping and created permanent jobs.

Bio waste used as compost/fertilizer / Canary Islands: Some municipalities in the Canary Islands are working with hotels to collect and reuse biowaste as compost/fertilizer for public gardens and parks. Such activities demonstrate the opportunities for small scale local circularity, which can provide inspiration for other ORs.

Food waste / Martinique: An organic recovery centre in Robert allows for the methanisation and composting of 23,000 tonnes of waste per year, and the Holdex composting platform (managed by SMITOM) in the commune of François treats almost 17,000 tonnes of green and agricultural waste per year.

Examples of good waste management practice relevant for islands can also be found further afield. These include a **landfill tipping fee** at the Bouffa landfill in Vanuatu (equivalent to around EUR 28.5 per tonne), with annual revenues of around EUR 168,500 used to finance local solid waste management[26]. A successful **pay-as-you-throw (PAYT) scheme**, where the fees paid by households (or

[24] ENT Environment & Management (2011) Estudio sobre modelos de gestión de residuos en zonas insulares
[25] http://ec.europa.eu/regional_policy/en/projects/france/how-guadeloupe-is-turning-waste-into-an-asset
[26] Asian Development Bank (2014a) Solid Waste Management in the Pacific: Vanuatu Country Snapshot

businesses) for waste management are linked to the actual amount of waste generated, has been implemented in Luganville, Vanuatu, where around 96% of residents participate in a scheme where they buy bags for the collection of non-compostable waste[27]. A scheme selling bags for non-organic waste in South Tarawa, Kiribati, saw the amount of household waste landfilled fall by around 60% (from 0.2kg to 0.08kg per person per day) during its first year of operation (2005)[28]. A **deposit-refund scheme** in Palau (the Beverage container deposit fee program) has led to around 94% of containers upon which a deposit is paid being returned for reprocessing. Between April 2011 and September 2013, over 34 million plastic, aluminium and other metal containers, representing almost 450,000 kg of material, were exported for recycling[29].

Recommendations on the Circular Economy *(see also the final chapter)*

- There is a need to **develop dedicated circular economy plans/strategies** at the OR level and between neighbouring regions for specific sectors (e.g. waste management) with quantified objectives where suitable.
- There is a need to **increase the level of practical waste collection** – via increased investment in waste collection and recycling infrastructure and services, repair capacity and skills. This should be complemented by **awareness raising campaigns** to encourage separate collection of waste through the use of the infrastructures. **EU regional funding** would be important driver.
- Capacity building: **establish groups of experts - in each OR and across the ORs - to identify R&D and investment needs** for circular economy adapted to the ORs.
- There is a need to **enhance skills and training** to develop expertise for circular economy activities, such as repairs, remanufacture and recycling as well as in research. This could be facilitated through specialised circular economy hubs, accelerators and incubators.
- Greater clarity and guidance is needed (within and between EU and national legislation) on the **definition of what constitutes 'waste' and 'resources'** - this could help to redefine some wastes as secondary raw materials.
- **EU legislation** would help to speed up the transformation of the ORs' economies towards more circular economies, especially when combined with **access to EU funds** targeting the implementation of circular economy strategies and measures to support them.
- The use of **economic instruments** to drive improvements in waste management in the ORs should be considered. This may include producer responsibility, product charges, deposit refund schemes, fees and fines, and public procurement.
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[27] Volunteer Service Abroad (2015) Mary O'Reilly – Communities better off thanks to waste management

[28] Leney (2006) The impact of the Greenbag on waste generation in South Tarawa, Kiribati. IWP-Pacific Technical Report (International Waters Project) no. 22

[29] Government of Palau (2014) Country Report (Draft) Palau. Prepared for Fifth Regional 3R Forum in Asia and the Pacific, Surabaya, Indonesia, 25-27 February 2014

3. Priorities to catalyse the Green and Circular economy in the ORs

3.1. *Policy and Regulatory needs*

Long-term political commitment is needed amongst decision-makers in the ORs to a shift to green and circular economy, in particular by helping to develop links between sectoral policies. To achieve this, **awareness raising, capacity building and skills development** amongst policy makers and other stakeholders will be crucial, to ensure that there is a common understanding of what the green and circular economies represent. This commitment should also be endorsed and developed in the respective Smart specialisation strategies of each OR. The creation of **platforms/networks** of experts, policy-makers, stakeholders and businesses, across different sectors, would be beneficial to develop and coordinate actions related to the green and circular economy. The Thematic Working Groups within the Portuguese Green Growth Coalition (GGC) could provide inspiration for this.

A clear and stable policy environment, at the EU, national and OR levels, can also contribute to the development of long-term political will. At the OR level, the development of **dedicated circular and green economy action plans/strategies** would help the ORs to establish the desired direction and objectives, guide the development of policies to implement them in the short and medium term, identify the roles and responsibilities of relevant actors (including an entity with overall responsibility for ensuring the plan/strategy is carried out), and direct available funding towards appropriate actions. All relevant actors and government departments, crucially including finance departments, should be involved in such plans/strategies.

Existing EU legislation must be implemented across the EU, including in the ORs. Some of it is directly applicable (regulations) and much of it is transposed into national and/or regional law (for the Portuguese and Spanish ORs). National and regional transposition gives some flexibility to allow the national and regional specificities to be taken on board in legislation, but in some cases legislation can hinder certain types of projects that could otherwise be undertaken in the ORs (see e.g. references to micro-algae and waste shipments above). Some consideration could be given to having compatible regulatory requirements across the ORs, to facilitate inter-OR cooperation.

Through the **EU's Circular Economy package**, many regulatory elements are currently under development or review and will be debated and further developed in the EU institutions. Examples include the recently published Plastics Strategy road map (the aim is for the strategy to be agreed by the end of 2017), and the debate on secondary raw materials and definitions of waste/secondary raw materials which has been a focus of early 2017.

The **Sustainable Development Goals (SDGs)** form an overarching framework for sustainable development policies, and the green and circular economy objectives fit within this wider context. There are a range of synergies in terms of strategic objectives, but also some trade-offs to be made between competing objectives.

3.2. Funding needs and opportunities

As highlighted in the earlier chapters of this report, the need for additional financial investment is one of the key challenges hindering action on - and innovation in - green and circular economy in the ORs.

The **Regional Operational Programmes,** under the regional development fund, reflect the priorities identified in the OR Action Plans, providing a number of opportunities for financing activities and innovation on green and circular economy. In practice this means that public funding, both from the EU and regional budgets, has been made available to support green and circular economy developments in the upcoming years.

Under the **Rural Development Programmes**, all ORs allocate funding to measures supporting environmental protection and action on climate change (Table 4.1). In the Azores the available funding for agri-environment and climate measures represents a considerable share (19%) of the total rural development budget. Most of the ORs also foresee the allocation of financial resources for the development of organic agriculture.

Under regional development, all ORs have allocated resources to be used to support action on the **environment and resource efficiency**. In several regions this priority area represents a considerable share of the total regional development budget (e.g. 22% in Mayotte, 17% in Guiana and 12.5% in Martinique). Most of the regions, with the exception of the Canary Islands, Madeira and Guadeloupe, have actions planned regarding waste management, with a total of EUR 164 million. The objective of strengthening research, technological development and innovation, including green and circular economy priorities, was addressed by all the ORs, with an allocation of EUR 420 million representing around 8% of the budget.

Several ORs have included **low carbon economy, biodiversity conservation and natural risk management among their funding priorities**, including explicit targets for renewable energy, reduction of carbon emissions, **recycling and/or tourism**. For example: Reunion Island, Martinique and Mayotte have identified quantitative objectives for the production of renewable energy during the 2014-2020 period; Mayotte aims to increase the quantities of recycled waste; Madeira aims to increase the number of tourists visiting natural and cultural attractions; and Reunion Island wishes to increase the rate of biotopes in a better condition.

Invasive alien species (IAS) are a threat to many ORs, and dealing with these (e.g. through the restoration of affected areas) represent a significant financial burden which is difficult for the ORs to sustain. In addition, **protected area management** also requires funding, to maintain ecosystems, build on existing genetic knowledge (the 'library of life') and address pressures from climate change and tourism development. Consideration should therefore be given to specific funding to support such actions.

In addition to the opportunities provided by EU rural and regional development funds, EU **Horizon 2020 funding** could support research in the ORs. Whilst Reunion Island enjoys a good rate of success after setting up a service to support project promoters and look for partners, this source of funding is under-used by some ORs. Horizon 2020 funding should be sought to help develop the ORs as centres of knowledge to build on both their unique and rich biodiversity and their capacity for circular economy innovations. The ORs could work together to identify potential joint research projects to propose to the Horizon 2020 programme, thereby reaching a critical mass and being attractive to other researchers with access to Horizon 2020 funding.

EU funds are not currently specifically earmarked or designed optimally to support the challenges and opportunities in the ORs, in particular those related to biodiversity and circular economy. For example, whereas funding is available for small trial projects to test circular and green economy concepts, experts from some ORs suggest that funding is currently lacking to upscale these trials to larger ventures. In other cases, funds are seen not to be flexible enough to support cross-sectorial innovative projects (e.g. in the case of micro-algae, which is considered as an aquaculture activity and therefore in the exclusive remit of the European Maritime and Fisheries Fund (EMFF), whereas in reality the technology integrates marine, climate, energy and waste issues and could therefore be considered eligible for ERDF funding).

3.3. Role of the EU

As one of the key drivers for the development of green and circular economy, the EU has the potential to play a significant role in facilitating such developments across its territory, including in the ORs. This may take the form of hard legislation and targets, policy guidelines, definitions (e.g. of waste and secondary raw materials), sharing of experience and facilitating cooperation amongst the ORs and the continental EU, and offering support for the integration of green and circular economy considerations into the policies and plans of ORs.

To a certain extent, based on Article 349 of the TFEU, the EU has the possibility to **reflect the specific context of the ORs**, including their relative isolation, fragmented territory, limited economies of scale due to size, economies reliant on a few sectors, import dependency, rich biodiversity and unique natural heritage. These specificities could be taken into account for example by including differentiated targets, allowing derogations for the deadline to achieve specific targets, offering financial support for specific actions, allowing the export of certain wastes in the absence of economies of scale for treatment within an OR, and so on. One key opportunity in this regard is the **Circular Economy Package**, which should take into account the realities of the ORs and allow them a certain degree of flexibility. Furthermore, the definition of an 'isolated settlement' in the **Landfill Directive** (1999/31/EC) does not adequately accommodate the situation of Guiana.

The EU could usefully provide **guidance on the definition of circular and green economy**, and other relevant definitions, e.g. on waste, secondary raw materials, to ensure that there is a shared understanding of the issues, objectives and opportunities. The EU could also provide **guidance on indicators to assess the extent of development of circular and green economy** in the ORs. Both of these steps would help to demonstrate the need for action and the costs and benefits of taking steps towards a circular economy in the ORs, through the collection of relevant data which would provide an evidence base for future policy making and could also be used to help allocate future funding.

As discussed in the previous section, the EU should ensure that **EU funding programmes** are suitable to provide support to the ORs for pursuing green and circular economy actions. Funding programmes should also be made more coherent and compatible, to avoid certain types of projects from falling between funding opportunities. Regional cooperation through ERDF and EDF programmes should be facilitated, including providing assistance for skills development related to the green and circular economy.

The EU could also assist by supporting the **development of platforms/networks between the ORs** to share knowledge and exchange information and experience, to enable each OR to learn from how others are addressing similar challenges related to the green and circular economy. This would help to inspire the ORs to 'co-create and –innovate' and to generate critical mass and political momentum in decision-making processes related to green and circular economy, at the OR, national and EU levels.

Priorities to catalyse the Green and Circular economy in the ORs - Recommendations

- The ORs' are characterized by their rich biodiversity and unique natural heritage. However, their relative isolation, fragmented territory, limited economies of scale due to size, economic reliance on a few sectors and import dependency hampers the shift to a greener and circular economy. **This specific context should be reflected by the European Commission in the 2017 Communication.**
- **The EU should provide specific and predictable financial support to protect and value the EU's biodiversity and develop circular economy models in the ORs**.

- The EU should also **recognise the specific opportunities of the ORs to act as innovation centres** and support, financially, institutionally, and via technical assistance, the development of the ORs as frontrunners and dynamic areas of green and circular economy transition.
- There is a need to **support awareness raising, capacity building and skills development** amongst policy makers and other stakeholders to ensure that there is **a common understanding of what the green and circular economies represent.**
- Support should be given for the **creation and operation of platforms/networks** of experts, policy-makers, stakeholders and businesses, across different sectors, to **develop and coordinate actions related to the green and circular economy.**
- The EU should **provide guidance on the definition of circular and green economy**, and other relevant definitions, e.g. on waste, secondary raw materials, to ensure that there is a **shared understanding of the issues, objectives and opportunities**.
- The EU should **provide guidance on indicators** to assess the extent of development of circular and green economy in the ORs.
- **Projects that are innovative from a social, technological and organisational** point of view should be encouraged when they provide tailored solutions to OR specific issues.
- **Funding programmes should also be made more coherent and compatible**, to avoid certain types of projects from falling between funding opportunities - notably cross-sectoral, multi-benefit projects that do not currently fit into a specific EU fund.
- **Regional cooperation through ERDF and EDF programmes** should be facilitated, including providing assistance for skills development and joint use infrastructure related to the green and circular economy.
- The EU should support the **development of platforms/networks between the ORs** to share knowledge and exchange information and experience, to enable each OR to learn from how others are addressing similar challenges related to the green and circular economy.
- Finally, **policies and actions in the ORs on the green and circular economy can usefully take into account international fora and processes such as the SDGs**, to ensure **wider coherence and mutually supporting processes**.

Annex 1: European Structural and Investment Fund measures related to green and circular economy in the ORs

Table 4.1 OR Rural Development Programmes (2014-2020) foreseen contributions to ecosystems management (restoring, preserving and enhancing ecosystems related to agriculture and forestry) (EAFRD P4). Note: Measure M13 can be used to support a range of measures aimed at environmental protection.

ORs	Total Rural Development Programme budget[1, 2] *EUR million*	Agri-environment and climate (M10) *EUR million (% of total)*	Organic farming (M11) *EUR million (% of total)*	Natura 2000 and Water Framework Directive (M12) *EUR million (% of total)*	Areas of natural constraints (M13) *EUR million (% of total)*	Forest environment (M15) *EUR million (% of total)*
Madeira	104.4	8 (4%)	0.1 (0.07%)	2 (0.58%)	40 (19%)	2 (1%)
Azores	141.2	65 (19%)	0.5 (0.2%)	0.04 (0.01%)	74 (22%)	1 (0.3%)
Canary Islands	37.7	16 (8.5%)	1.9 (1%)	-	-	-
Reunion Island	124.6	23 (4%)	4.9 (0.9%)	-	45 (8%)	-
Martinique	22.9	8 (5%)	0.6 (0.35%)	-	9 (6%)	-
Mayotte	80.3	2 (3%)	-	-	1 (1%)	-
Guadeloupe & St Martin	26.6	11 (5%)	0.9 (0.5%)	0.5 (3%)	6 (3%)	-
French Guiana	7.8	1 (0.6%)	1.3 (0.7%)	-	5 (3%)	-

Source: [1] *http://enrd.ec.europa.eu/policy-in-action/rural-development-policy-figures/rdp-summaries_en ;* [2] *total of public funding*

Table 4.2 OR Regional Development Operational Programmes (ERDF 2014-2020) foreseen contributions to priorities linked to sustainable energy, climate change and environment

ORs	Total budget (EU contribution) *EUR million*	Low carbon economy (TO4) *EUR million / % of the total budget*	Climate change and risk prevention (TO5) *EUR million / % of the total budget*	Environment and resource efficiency (TO6) *EUR million / % of the total budget*
Madeira	274	18.0 (6.6%)	-	24.9 (9.1%)
Azores	825	48.7 (5.9%)	31.8 (3.9%)	57.3 (6.9%)
Canary Islands[1]	998	23.4 (2.3%)	5.8 (0.6%)	45.3 (4.5%) 484 (49%) together with TO12*
Reunion Island	1,130	135.8 (12%)	27.9 (2.5%)	151.5 (13.4%)**
Martinique	445	41.5 (9.3%)	33.1 (7.4%)	65.2 (14.7%)
Mayotte	214	27.1 (12.6%)	-	46.6 (26.4%)
Guadeloupe & St Martin	521 + 38.6	49 (9.4%)	Not possible to define as mixed with other priorities	12 (31%) 142.5 (27.3%)
French Guiana	338	46.4 (13.7%)	-	67.5 (19.9%)
St Martin (Interreg)	EUR 10 million, *See section 2.5 on good practice*			

[1] The Spanish national programme *Programa Operativo Crecimiento Sostenible* also has an earmarked budget for the Canary Islands under TO4 and TO5 of EUR 316.1 million and EUR 92.2 million, respectively.

*Special allocations to outermost regions, ***including also TO5. *Source: http://ec.europa.eu/regional_policy/en/policy/themes/outermost-regions/#2*

Table 4.3 OR Regional Development Operational Programmes (ERDF 2014-2020) foreseen contributions in categories linked to green and circular economy *(values in EUR million).*

Categorie	Canary	Guadeloupe & St Martin	Guadeloupe	Martinique	Guiana	Mayotte	La Réunion	Azores	Madeira
Waste management									
Household waste management, (including minimisation, sorting, recycling measures)			20.40	2.00	2.00	2.34	0.00	1.80	
Household waste management, (including mechanical biological treatment, thermal treatment, incineration and landfill measures)			40.80	32.00	3.00	4.80	36.94	5.00	
Commercial, industrial or hazardous waste management			6.80	5.00	0.00	1.00	0.00	0.20	
Waste water management									
Waste water treatment	11.10	7.18	30.00	8.00	8.00	24.00	19.97	5.00	
Support to SMEs									
Support to environmentally-friendly production processes and resource efficiency in SMEs								4	4.1
Nature									
Protection and enhancement of biodiversity, nature protection and green infrastructure	21.17	0.00	3.50	6.00	4.00	0.80	5.69	2.10	
Protection, restoration and sustainable use of Natura 2000 sites								21	
Tourism									
Development and promotion of the tourism potential of natural areas	13.04		2.75	4.65	2.50	1.00	0.00	4.10	0.92

Annex 2: Experts consulted during the drafting of this report

An expert group meeting took place on 4 April in Brussels and brought together experts from the ORs and the European Commission to discuss the green and circular economy in the ORs, the state of play, the barriers, opportunities, and needs to catalyse the transition. In addition, several experts responded to a questionnaire requesting information on the green and circular economy in each OR. The experts involved in these processes are listed in the table below.

Name	Institution	Contact
Hernâni JORGE	**Expert from Açores –** Regional Directorate of Environment	Hernani.H.Jorge@azores.gov.pt
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Annex 3: Additional Details of OR initiatives related to the Green and Circular Economy

Green Growth Coalition (GGC)

The Portuguese Green Growth Coalition (GGC) was created as a government advisory body and currently brings together a total of 96 organisations with representatives from five major areas: business, science & research, the financial sector, public administration, foundations and NGOs for citizenship.

The GGC is committed to the transition to a new sustainable economic model: greener, lower in carbon emissions, resource efficient and circular. Its main aim is to boost the implementation of actions to promote and contribute to an economic transition with a sustainable perspective.

Under the GGC, a strategic framework built on the Green Growth Commitment (April 2015) was defined, which consists of 14 goals for growth, efficiency and sustainability, with targets for 2020 and 2030, based on the development of initiatives around 10 key sectors, with six enablers/catalysts and a set of indicators for monitoring.

The GGC has provision for a total of 16 Thematic Working Groups: Water; Waste; Agriculture and Forestry; Energy and Climate; Mobility and Transport; Manufacturing and Extractive Industries; Biodiversity and Ecosystem Services; Cities and Territory; Sea; Tourism; Financing; International Promotion; Taxation; Research, Development and Innovation; Information and Participation; and Public Procurement. The main challenge is to gather the relative expertise of the coalition to promote debate, collaboration and networking.

Currently, the work is focused on circular economy by directing efforts towards seven of the Thematic Working Groups: Waste; Agriculture and Forestry; Energy and Climate; Mobility and Transport; Manufacturing and Extractive Industries; Cities and Territory; and Public Procurement. A starting point has been set by fine-tuning indicators of success of the initiatives in the framework of the policy instruments that contribute to Green Growth goals. The main goal of the work of these seven Thematic Working Groups is to identify the priority actions that can and should be carried out in the near future, by identifying gaps, constraints and difficulties related to the implementation of initiatives. The Groups are also trying to identify opportunities for (new or existing) projects with a focus on circular economy, keeping in mind synergistic actions both within and between thematic areas. Government advice and practical results are expected by the end of 2017.

Portuguese Action Plan on Circular Economy

The Portuguese Action Plan on Circular Economy is promoted and coordinated by the Ministry of Environment in close cooperation with the Ministry of Economy, Ministry of Agriculture, Forestry and Rural Development and the Foundation for Science and Technology.

Its main objective is to establish a set of actions to accelerate the transition from a linear to a circular economy, accelerating the shift of the current economic paradigm. The work began by setting up the status in respect of the national 'circularity performance' and identifying key sectors for which a long-term vision could be developed.

The first version of the Plan will include seven actions to be developed between 2018 and 2020. The actions will be revised at the end of that period in order to establish the second set of actions for the next five years, and so on. Measures included in the Plan may be regulatory, economic, voluntary or research & innovation related.

At the same time, sectorial and regional agendas will be settled.