

Policy Brief n°2: The Circular Economy:

Project co-funded by the European Union

Circular Economy: Why is it necessary?

Most of the natural resources are finite¹, and we are currently consuming more than 3 times the resources which could be renewed naturally². Global Consumption of resources such as fossil fuels, metals and minerals is expected to double in the next forty years, while the annual waste generation is projected to increase up to 70% by 2050³. Only a minor part of the materials produced globally are recycled. And yet, half of the GHG emissions and more than 90% of biodiversity loss comes from resource extraction and processing⁴. Drawing on concepts such as “cradle to cradle”, the circular economy indeed proposes alternatives to solve this problem by proposing concrete solutions to reduce, repair, recycle, reuse and recover waste (or rethink the current production patterns).

Circular Economy: What is the logic?

While looking for solutions, sustainability innovators started moving away from the traditional and linear economy model of producing and using goods and services (take, make, dispose or extract – produce – consume - dispose) to circular solutions (make, (re)use, recycle), highlighting the importance of the “life-cycle thinking”. Circularity has great potential to reduce the use of raw materials and to keep the materials in the loop as long as it is feasible (Dhawan P.). This reduces and minimizes the ecological footprint of every human-made product, decreasing the final impact on the planet.

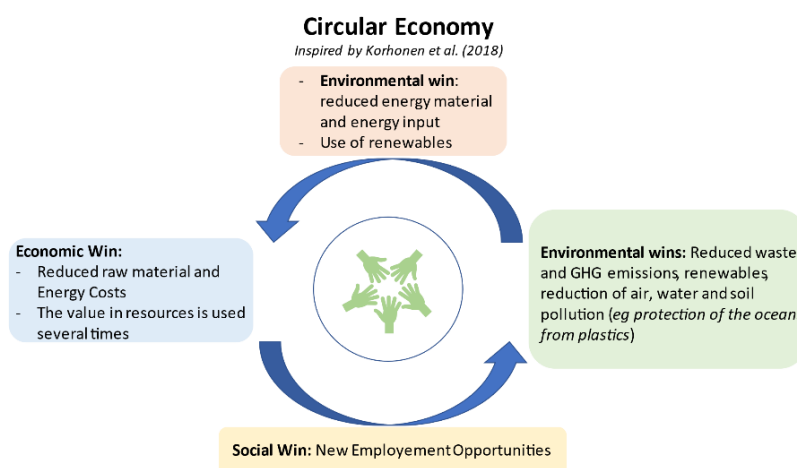


Fig. 01 Circular Economy.
 Pilot4dev-Inspired by
 Korhonen et al. 2018

¹ At least those belonging to the category of exhaustible and non-renewable

² <https://www.un.org/sustainabledevelopment/sustainable-consumption-production>

³ World Bank (2018), *What is a Waste 2.0: A global Snapshot of Solid Waste Management to 2050*

⁴ Communication of the European Commission, The European Green Deal, COM (2019) 640 final

Circular Economy EU relevant texts

The European Union was not the first to promote the Circular Economy as a concept, as other countries such as Japan, Canada and China preceded. The first action for a Circular Economy however, dated back from 2015.

The first evaluation of the **2015 circular Economy Action Plan in the European Union** showed positive outcomes, stressing that 'Circularity has opened up new business opportunities, given rise to new business models and developed new markets, domestically and outside the EU. In 2016, circular activities such as repair, reuse or recycling generated almost 147 billion Euros in value-added while standing for around 17,5 billion worth of investments⁵.

One year ago, on the 11th of March 2020, The European Commission published the communication **'A New Circular Economy Action Plan: For a cleaner and more competitive Europe'**⁶. It proposes a realistic action focusing on Eco Design,

Consumers' awareness, Digital technologies, Electronics and ICT, Batteries and Vehicles, Packaging, Plastics, Textiles, the built environment, food, water and nutrients, waste management, toxic-free environments, regions and cities, and the market of raw materials. Indicators and monitoring were also emphasized.

The EU Strategy on Plastics in 2018 is also an important reference document, aiming at tackling the problem of plastics, microplastics, packaging. It also proposes to set an agenda for global action⁷.

Finally, the DG Research proposed **'Mission Starfish 2030 Restore our Oceans and Waters'** as an ambitious program to promote nature-based solutions, enhance the oceans as carbon sinks, reduce the loss of marine biodiversity and reduce underwater noise. It also proposes to restore the freshwater bodies and to fight against eutrophication (source of methane emissions).

⁵ Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Circular Economy Action Plan Com(2019)190 final p 1.

⁶ Com(2020)98 final

⁷ Com (2018) 28 final

Circular Economy Limitations and challenges

Beyond successful practices (eg. in the food short circuit where local suppliers are given priority), it is still difficult to find successful complete circular economy models. Some limitations or challenges have emerged:

- Some examples show that the circular economy is not always applicable without further assessments: e.g. in the area of biofuels, the investment in large palm oil plantations in Indonesia and Malaysia has proven harmful for the environment
- Some authors have shown the boundaries of the concept, such as the fact that it embraces different conceptions (Kirchher et al. 2017), that it was based on wrong assumptions (Korhonen et al. 2018), but also that it failed to address sustainable development and social aspects such as poverty (Kirchher et al. 2017). Indeed, it is difficult to move beyond “trials and errors” and to make sure that ‘each Circular Economy Project is considered for its contribution to global net sustainability’ or to calculate ‘what is left as improvement or positive outcome after an individual project or action, as compared to the situation before the project’ (Korhonen et al. 2018: 42).
- It is equally difficult to show that the pollution and the environmental externalities have not been displaced along the supply chain.
- Finally, the concept should not replace the question of Corporate or Extended Producer’s extended Responsibility, where the producers are identified as the end responsible for the negative externalities, GHG and other pollution-induced by their activities.

The construction and demolition sector is an exception as the reuse of construction materials has proven both environmental and economic efficiency (89% of waste in the construction and demolition of waste in the EU⁸ is reused). It is indeed difficult at this stage to already capitalize on success models, notably with plastics. In agri-food sector, however, the use of biomass and composting could be integrated into successful circular models in several regions and countries. The trend of circular economy could also be an opportunity for fast-developing countries to leapfrog success models.

⁸ Eurostat News release, ‘Record recycling rates and use of recycled materials in the EU’, 439/2019, 4 March

Circular Economy: Opportunities for the partners of LIFE Adapt Island

1. The protection of the oceans

The project partners of the project LIFE Adapt Island, together with other projects such as the “LIFE” INTERMARES <https://intemares.es/> are well placed to work on innovative ideas on how the circular economy could contribute to the protection of the oceans. This is also the idea of our workshop organized on March 19th.



“Healthy oceans and waters are taken for granted. Yet they are in trouble” (EC Mission Starfish 2030). Oceans are confronted to pressures and their role as climate regulators is threatened. In addition to this, more than one million species are endangered. The project partners could stir more knowledge exchange and identify solutions on nature-based solutions and the restoration of ecosystems. The climate adaptation strategy and the reduction of marine litter could be further connected to the project’s

awareness strategy. Finally, the GPMG⁹ is very well placed to monitor marine species and work on LIFE-COAST strategies to reduce underwater noise.

2. Construction and Demolition waste in the GPMG Area

The public authorities are directly responsible for large work programs, including construction, demolition, infrastructure, facilities but also the dragging of soils.¹⁰ The demand for infrastructure will rely heavily on raw materials like sand (for concrete and mortar), soil, stone (for aggregates) and limestone (for cement). The key challenge will be to make materials available in a manner that considers the exhaustible nature of these resources and addresses ecological impacts associated with their extraction and processing without omitting the impacts for the ecosystems and for an inclusive economy. The recycling of construction materials and of the soil as well as the restoration of ecosystem as developed by the project LIFE Adapt Island, can contribute to reduce the environmental impact, and the impact on resources.

⁹ Grand Port Maritime de Guadeloupe

¹⁰ According to the think tank Mac Kinsey 2016.

3. Awareness Raising on Reuse-Repair-Recycle

In the difficult times of the COVID-19 pandemic, the European overseas territories are faced with a possible reduction of economic exchanges and impacts on the supply chain. This time could be favorable for developing an economy based on reuse-repair and recycle (eg. The development of repair cafés). This strategy could be coupled with awareness-raising on the reduction of marine litter and awareness on how to save and recycle water (as a territory like Guadeloupe is confronted to regular water shortages).

4. Awareness Raising of the private customers.

Finally, the project partners could sensitize further the private customers and industry to decrease their environmental impacts, first by limiting any sea pollution, but also by restricting their use of materials, in particular plastics, to reduce marine litter and further endangering of marine species

and ecosystems. The construction of waste banks could equally be an interesting initiative for customers (in large storage places).

5. Learn more about Processes and Funding.

Regarding recycling, it is increasingly important to get the most recent information from organizations working with the industry in order to better understand any recycling process and its environmental impacts. The LIFE Program also creates regular databases and connections with pioneering and innovative experiences.

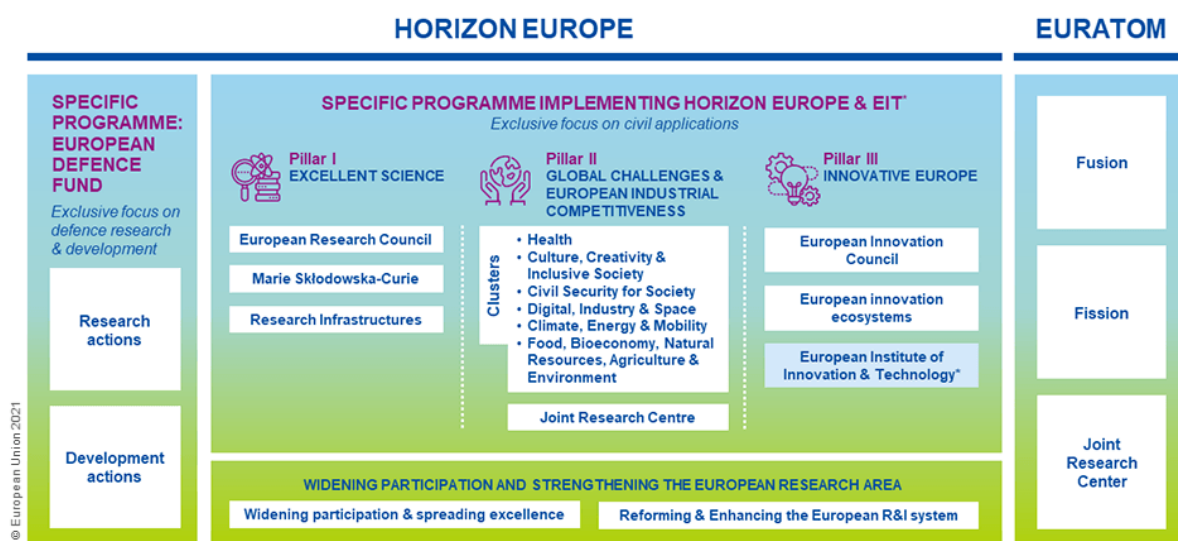
Knowledge Sources:

1. [ACR+](#) the association of regions and cities for sustainable use of resources: [ACR+](#)
2. [The Circular Collective](#) from Piyush Dhawan: www.thecircularcollective.com
3. The EU Horizon 2020 [Bamb project](#) on circularity in construction,
4. The EU Horizon 2020 FISSAC project [Fostering Industrial Symbiosis](#)
5. Prof. Youssef Diab's [research book](#) on the reuse of soil in C&D,

It is expected that more funding will be available in the future:

Funding Sources:

- [The Horizon Europe Program](#) from the European Commission [Horizon Europe | European Commission \(europa.eu\)](#)



* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

- The Luxembourg [International Business Partnership Facility](#) www.bpf.lu/appeal-a-candidatures
- The [HSBC Global Equity Climate Change Fund](#)
- [Germany IKI International Climate Initiative Small Grants: IKI Small Grants - Internationale Klimaschutzinitiative \(IKI\) \(international-climate-initiative.com\)](#)
- EREF: The environmental Research and Education Foundation promotes circular projects on waste and recycling including municipal solid waste, construction and demolition waste, industrial waste etc. www.erefdn.org

More References:

Dhawan Piyush and Beckmann Jan Pieter “Circular Economy Guidebook for Cities”, CSCP

DG Research of the European Commission 2020 ‘Proposed Mission Starfish 2030 Restore our Oceans and Waters’

EC Commission Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Circular Economy Action Plan COM(2019)190 final

EC Commission 2020 ‘A New Circular Economy Action Plan: For a cleaner and more competitive Europe’. Com(2020)98 final

Eurostat Newsrelease, ‘Record recycling rates and use of recycled materials in the EU’, 439/2019, 4 March

Kircherr J, Reike D., Hekkert M. 2017 ‘Conceptualizing the circular economy: An analysis of 114 definitions’ in *Resources, Conservation and Recycling*, 127 (2017) 221-232

Kolk, A. 2016. ‘The social responsibility of international business: From ethics and environment to CSR and sustainable development’, *Journal of World Business*, 51(1),

Korhonen J, Honkasalo A. Seppälä J. (2018), ‘Circular Economy: The concept and its Limitations’, in *Ecological Economics*, 143 (2018) 37-46

Author: Dr. Pascaline Gaborit Director Pilot4Dev. **Layout and contribution:** Emmanuel Rivéra, project officer Pilot4dev **Review:** Danko Aleksic, ACR+

Useful links:

- [Life'Adapt Island webpage](#)
- [Pilot4dev website](#)
- [ACR+ website](#)