

Make Circular Economy Simpler, More Efficient and More Competitive

Interreg MED
GREEN GROWTH Community
Policy Recommendations



Key Messages

In order to reach the goal to **make Circular Economy (CE) simpler, more efficient and more competitive**, this document suggests to take a **holistic, integrate and cooperative approach**, by considering all the phases in which CE is structured, all the scales (from local to European) and all the stakeholders involved in the implementation of CE models.

The policy recommendations proposed by SYNGGI partners are structured into six main areas as follows:

- **Investments and access to finance:** support long-term investments and access to finance, while developing instruments to ensure an adequate evaluation of the risks of investments and assessment parameters for bankability and encourage the adoption of circular business models
- **Technological infrastructure:** conceive infrastructures as platforms, improve infrastructures with a high Technology Readiness Level (TRL) and promote knowledge about innovative technologies
- **Legal framework:** counteract both overregulation and the lack of specific policies on the field of CE, increase awareness and knowledge on existing regulatory frameworks impacting on CE development, and focus on waste management regulation and procurement laws as key factors to promote CE
- **Labour market and employment:** provide adequate qualified professionals, also by tackling disruptive effects on existing labour segments and linking social protection and re-training processes in the transitional phase
- **Awareness and knowledge:** promote social and economic desirability of CE and CE entrepreneurial culture, building on public opinion's good predisposition towards CE
- **Cooperation among stakeholders and technology transfer:** stabilise relational and capitalisation mechanisms and reinforce trust among actors



Summary

Making circular economies simpler, more competitive and more desirable than the linear, traditional ones: this is the perspective defined within this document, which embraces the main characteristics of circular economies and suggests policies and interventions to reach the abovementioned goals.

The document is the results of the **active involvement of SYNGGY's partners** and promotes an framework for the development of CEs, involving different actors across different phases (production, consumption, management of waste, re-use of waste as secondary raw material) and scales (local, regional, national, European). Indeed, suggested policies and interventions presented are

supposed to be implemented as a result of a cooperation among institutional, economic and social stakeholders.

The document specifically focuses on **six thematic areas**: investments and access to finance, technological infrastructure, legal framework, labour market and employment, awareness and knowledge, cooperation among stakeholders and technology transfer. Policy recommendations and possible interventions are clustered according to these categories.



Introduction

Circular Economy

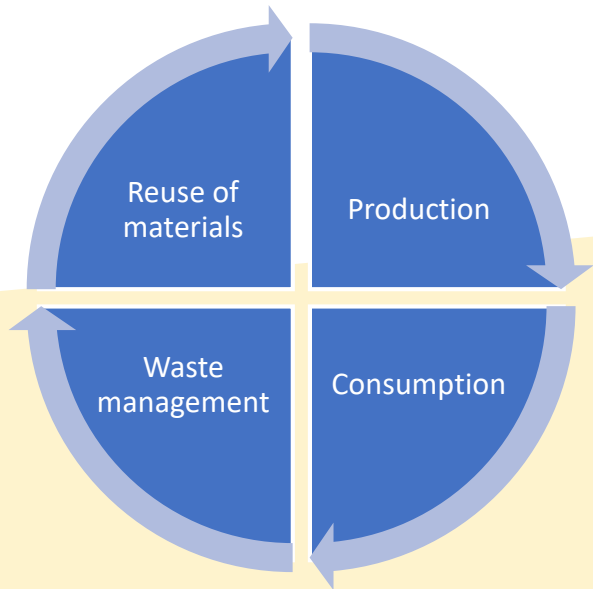
With the **Circular Economy Package** (2015)¹, the European Commission has defined several measures aimed at closing the resource loop. The Circular Economy Package intervenes along the **whole lifecycle of products and materials**, including:

- Production
- Consumption
- Management of waste
- Re-use of waste as secondary raw materials

The strategy is strictly related with **climate change** issues.

Energy saving and greenhouse gas emissions reduction, as well as the first-ever European Strategy for Plastic, are, indeed, at the core of CE strategy. **CE is a key factor to succeed in the ambitious goal to transform the EU into the world's first climate neutral major economy by 2050**, as foreseen by the European Commission in November 2018².

A CE strategy requires a **holistic approach** in the process of transforming the way we produce and consume goods and manage waste. **All the dimensions of sustainability** (i.e. environmental, economic and social) **and the scales of intervention** (from local to global and vice versa) **must be taken into consideration**.



This implies also the need of a **strong cooperation among different stakeholders**.

SYNGGI

SYNGGI (Synergies for Green Growth Initiative - Energising the Impact of Innovation in the Mediterranean) is a **horizontal project**³, funded under the **Interreg MED Programme** (2016-2019). The main aim of the project is to create a collaborative environment among the Interreg MED Green Growth Community (GGC). The GGC is composed by **14 modular projects**⁴.

SYNGGI's main aim is to **establish a Green Growth Community among project partners in order to promote the transition to a Circular Economy (CE)**.

1 More information can be found at: https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en

2 https://europa.eu/rapid/press-release_IP-18-6543_en.htm

3 Horizontal projects' main aim is to support modular projects in exploiting and disseminating the obtained results, by means of communication and capitalisation activities.

4 <https://green-growth.interreg-med.eu>

Introduction

GGC «act[s] as a hub to collect modular project results and disseminate them among partners, consortia and countries». A GGC is a horizontal community, enabling the transfer and dissemination of transnational strategies and practices.

It responds to the goals of competitiveness, innovation, sectorial development, urban sustainability, socioeconomic inclusion of young people, among others.

Sharing practices among project partners would empower the participants themselves, enhancing creative discussion and active support. In order to do so, the project works on a “quadruple helix” (research institutions, firms, public entities and civil society actors) with a holistic approach (research, connectivity, networking, visibility).

In order to define the policy recommendations proposed below, the 14 SYNGGI projects were divided into **4 thematic working groups (TWGs)**.



TWG 1

● Production and Consumption: *Resource Efficiency*

Projects CAMARG, ESMARTCITY, MADRE, MED GREENSHOUSES, PEFMED, REINWASTE

Relevant CE Indicator EU self-sufficiency for raw materials, Waste generation

Main targets energy efficiency, sustainable production & consumption, market uptake of eco-innovative patterns & zero-km products, greener supply chains, prevention of waste generation, food safety, smart city paradigm

TWG 3

● Waste Prevention & Management

Projects REINWASTE, RE-LIVE WASTE

Relevant CE Indicator Waste generation, Overall recycling rates, Recycling rates for specific waste

Main targets municipal waste, packaging waste, food waste, bio-waste and critical raw materials

SYNGGI's TWGs

TWG 2

● Production and Consumption: *Smart and Green Public Services*

Projects ESMARTCITY, GRASPINNO, GREENMIND

Relevant CE Indicator Green Public Procurement

Main targets capacity building of Pas and SMEs, urban ICT

TWG 4

● Competitiveness & Innovation

Projects ARISTOIL, CREAMINNOVATION, EMBRACE, FINMED, GRASPINNO, GREENOMED, REINWASTE

Relevant CE Indicator Private investments, Jobs and gross value added, Patents

Main targets technological and methodological innovation, green jobs, patents, industrial symbiosis

Vision

Within the framework of SYNGGI, CE is framed as a **transitional and multi-dimensional approach towards the goal of environmental neutrality of the European market system**, combining environmental sustainability with social equality, fairness of labour conditions and empowerment of local communities.

The process towards the implementation of CE models implies to intervene on:

- **The overall economic system**, by reframing the relationship between the economic sphere and other systems, such as the environment. According to this vision, institutions have a key role in addressing the pure profit view of many private operators, establishing a medium/long-term view on the environmental costs of non-sustainable productions (Life Cycle Cost) and intervening by means of rules and financial and non-financial incentives. This approach would preserve and eventually increase natural capital, by controlling limited stocks and balancing the flow of renewable resources;
- **Productive processes**, both of goods and services, by shifting from linear to circular/closed-loop systems and by addressing the problem of side effect/negative externalities of traditional productive chains (i.e. greenhouse gas emissions, among others);
- **Product lifecycles** (i.e. length and articulation), by extending it through reuse, repairing, upgrade, and exchange strategies. Product lifecycles are also linked to the optimization of the use of biological and non-biological resources. The reconfiguration of waste management cycle constitutes one of the biggest challenges in the field of CE;
- **Relationships among stakeholders**, as a consequence of the previous aspects. CE may trigger cooperative and innovative processes, paving the way to new business models. These models may lie within different sectors (i.e. when the reshaping of products lifecycles and waste management connects different production chains), actors (private, public, R&D, third sector organisations, etc.) and scales (regional, national, European). CE may also promote the development of innovative (eco)systems, where the exchange of products and materials is associated with the sharing of knowledge, information and social capital.



Vision

Advantages deriving from the full implementation of CE models pertain to different spheres, namely:

- Creation of new jobs and **economic growth**
- Creation of opportunities for **social integration** and cohesion
- Better **quality of life** (also for future generations)
- **Energy savings**
- **Reduced greenhouse gas emissions**
- Boosting of **innovation**
- Boosting of competitiveness and of **new business strategies/opportunities**, deriving from the transformational and regenerative effects of CE
- **Stabilisation of the economic system** against scarcity of resources and volatile prices
- Positive effects on **social perception and consumers' awareness** about topical issues as the climate change
- Promotion of **efficient ways of producing and consuming**



Policy Recommendations

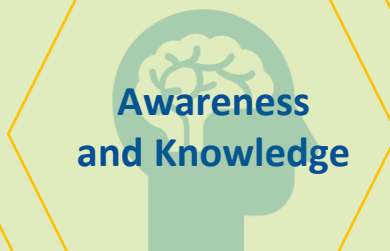
The document identifies **17 policy recommendations** and **33 suggested interventions** which are presented below as clustered in the following **6 thematic areas**:



Investments and Access to Finance



Awareness and Knowledge



Labour Market and Employment



Cooperation Among Stakeholders and Technology Transfer



Technological Infrastructure



Legal Framework





Investments and Access to Finance

Policy Recommendations

The area of investments and access to finance involves issues as:

- **risk of investments**
- **financial barriers and incentives**
- **trust of entrepreneurs**
- **knowledge about the existing financial instruments and innovative funding**

Encourage the adoption of circular business models

It is fundamental to raise awareness and promote capacity building for SMEs and Public Authorities on the advantages and financial opportunities deriving from CBM. Moreover, a specific financial support could encourage SMEs to transform their business model

Support long-term investments and access to finance

Long-term investments have a crucial role in promoting product and process innovation. Such investments are particularly difficult to be implemented in Mediterranean countries, due to the overall economic situation, the average size of enterprises, and the low level of awareness and trust of both entrepreneurs and investors

Ensure an adequate evaluation of the risks of investments and assessment parameters for bankability

The majority of Banks are not ready to evaluate CE projects and innovative business models due to a lack of adequate evaluation and assessment parameters for bankability. New risk assessment methodologies and/or the improvement of existing ones could support businesses and financial institutions in evaluating whether an investment supports the CE or not

Investments and Access to Finance

Possible Interventions

Proposals were collected from:

TWG1 ●

Resource Efficiency

TWG2 ●

Smart and Green Public Services

TWG3 ●

Waste Prevention&Management

TWG4 ●

Competitiveness&Innovation

● **Promotion of foreign/national private investments** Innovative approaches towards CE need the support of private investors. Private investments could transform ideas into business opportunities, bringing innovative solutions directly to the market, enhancing their optimization and their replicability potential. Networking environments with potential investors should be promoted and reinforced (e.g. business forums, matchmaking events, business support platforms). Incentives and trainings could further encourage investors

● ● **Improvement of the accessibility to national/EU financing, funding and blending schemes** The promotion of CE solutions could be fostered by programmes supporting companies in exploring the available financing and funding schemes, in order to identify the most suitable instruments. Tools, such as the European Investment Advisory Hub and the European Investment Project Portal, could provide technical assistance for investments. More tools and raising-awareness activities could further promote well-designed investment proposals with high implementation potential

● ● **Inclusion of green and smart mobility industry in Regional Operational Programmes (ROPs), national funding programmes and Research and Innovation Strategies for Smart**

Specialisation (RIS3) Absence of open data related to mobility represents an issue that hinders the development of new innovative services and solutions in a strategic sector for the development of the Mediterranean area. There is an open discussion on whether existing data should remain closed or be open to industries that could develop greener and smarter mobility schemes. Funding mechanisms at the regional and national level could support the transition towards more open schemes for the benefit of new application paradigms enhancing sustainability

● ● **Inclusion of specific Green Public Procurement (GPP)-CE related working programmes in upcoming EU-funded research** So far, EU-funded research on GPP has been mainly focused on energy-related topics, not considering other relevant aspects of CE related to material efficiency (including product design to tackle planned obsolescence) and the promotion of a collaborative economy in general. Future EU research framework programmes should, therefore, include specific calls for the integration of the CE in GPP. This could be promoted within programmes with a regional focus (e.g., INTERREG, ERDF, etc.) due to their local-scale approach. Such programmes could enhance key aspects for GPP and CE, especially in the sector of public services (e.g. local cooperation and public-private partnership)



Investments and Access to Finance

Policy Recommendations

- **EU definition of taxonomy and benchmarks** The definition, at the EU level, of CE finance along with a taxonomy and benchmarks is fundamental in order to measure the “circularity” of projects and to correctly evaluate the risks connected to “linear” ones. This will ultimately support businesses and financial institutions to identify CE opportunities

- **Development by financial institutions of new CE financial strategies** The development, by financial institutions, of a CE financial strategy where the risk assessment considers the negative and the positive externalities generated by projects in a long-term perspective is a key factor in promoting CE development. A compared analysis of risks/benefits deriving from linear and circular business models should be considered as well

Relevant Actors

European institutions
Regional institutions
Local institutions
Development agencies
Banks and financial institutions
Research institutions
Clusters/consortiums
Chambers of Commerce
Enterprises
Trade associations



Technological Infrastructure

Policy Recommendations



The area of technological infrastructure involves issues as:

- **availability of technological infrastructure**
- **maintenance of technological infrastructure**
- **definition of business models able to seize the opportunities generated by the development of CE**

Conceive infrastructures as platforms

1 Infrastructures can be conceived as platforms, giving the possibility to innovatively (re)organise the relationship between productive processes, product lifecycles and waste management (i.e. GPP platforms, platforms to exchange waste and to aggregate enterprises logistic needs)

Improve infrastructures with a high TRL

2 Infrastructures with a high TRL (Technology Readiness Level) give the possibility to small and medium enterprises (SMEs) to understand, test and evaluate advanced innovations

Promote knowledge about innovative technologies

3 The lack of knowledge about innovative technologies, and, more in general, a high digital divide, call for a strong commitment to promote accessibility to technological infrastructures. The access to knowledge, moreover, is a key factor in connecting environmental sustainability with social sustainability

Proposals were collected from:

- TWG1
Resource Efficiency
- TWG2
Smart and Green Public Services
- TWG3
Waste Prevention&Management
- TWG4
Competitiveness&Innovation

Technological Infrastructure

Possible Interventions

- **Collaboration with tech hubs** Tech hubs support new companies (start-ups, SMEs) and provide infrastructure and trainings for successful feasibility studies and business plans, thus ensuring a high TRL and self-sustainability. Moreover, they encourage experimentation, networking and synergies. In this sense, tech hubs and tech hubs networks could have a key role in CE development, through the sharing of resources, experiences and knowledge to develop large scale projects regarding CE

- **Creation of new SMEs/start-ups addressing the needs for technological infrastructure** There is a strong need for new business models and services to provide new technological infrastructure (or upgrade/maintain existing ones) in the green sector. To this end, the creation of new innovative SMEs can result in new services, ensuring a connection between different domains and a proper upgrade/maintenance of existing infrastructure. Trainings for start-ups and provision of information related to technological infrastructures could support the development of new business models, fostering the implementation eco-innovative solutions

- **Adoption of context-related rather than one-size-fits-all approaches and solutions** The costs and the availability of expertise are two of the main issues for technological infrastructure deployment (especially in smaller and more isolated areas, such as mountain and islands). Furthermore, issues related to the maintenance and upgrade of deployed infrastructures are relevant both in small and in larger areas. A possible solution could be the adoption of a context-related

approach, followed by a standardization of solutions, allowing for a decrease in overall costs and the accomplishment of economies of scale. Moreover, widening the “context” by following a “breaking down the silos” approach could further contribute to this

- **Inclusion of Ecosystem Services (ES) evaluation in economic strategies** A method for the adoption context-related approaches and solutions could be to classify and assess ES for specific areas according to multiple benefits (both goods and services) provided by ecosystems to humans. This method adopts a long-term view, considering the overall benefits provided by CE-produced goods and services, (i.e. modern economic systems based on economies of scale and few standardized products)

- **Promotion of standards in ICT procurement** One of the most important aspects hindering the development of CE in the ICT sector (Information and Communication Technology) is the lack of interoperability and compatibility between different elements of a system/network or between different products. A key tool to foster interoperability among products and/or services could be the use of standards in ICT procurement. This approach could foster companies to set standards and share intellectual property/data with other actors. In turn, this can facilitate the creation of common platforms. The establishment of a common framework could allow competing suppliers of ICT solutions to focusing on further innovations rather than developing their own proprietary system, thus enhancing interoperability

Technological Infrastructure

Possible Interventions

- **New recycling processes and markets to transform low value plastics into energy** Substitution of fossil-based materials used in agri-food production with bio-based, biodegradable and compostable materials is a key strategy to enhance CE solutions

Relevant Actors

*European institutions
National institutions
Regional institutions
Local institutions
Development agencies
Standardisation bodies
Research institutions
Technological centres
Universities
Clusters/consortiums
Enterprises
Companies of the ITC sector*





Legal Framework

Policy Recommendations

The area of legal framework involves issues as:

- stakeholders' involvement in shaping local, national and international policies
- differences among regional and national legislation
- Smart Specialization Strategies

1 Counteract both overregulation and the lack of specific policies on the field of CE

The need to find a balance between the development of specific policies, while avoiding overregulation, is particularly challenging. A further element to be considered is the need to define a proper scale of intervention, both at the institutional (i.e. local, national, European) and sectorial level (since sectors are more interconnected in CEs)

2 Increase awareness and knowledge on existing regulatory frameworks impacting on CE development

3 Focus on waste management regulation and procurement laws as key factors to promote CE

Waste management regulation and procurement laws hinder the full development of CE. In the first case, traditional processes of waste treatment are often still encouraged. In the second case, legal frameworks usually provide for the rule of procurement at the best cost and maximum discount, making it difficult for administrators to choose CE products and services (that still have a higher cost than “traditional” ones)

Legal Framework

Possible Interventions



- **Implementation of national strategies to support project actions and outcomes** National strategies are needed to promote eco-innovative investments, as well as actions developed in network, not only individual initiatives. In this sense, a bottom-up approach should be adopted, identifying the gaps at the local/regional level, though the involvement of relevant stakeholders

- **Promotion of energy efficiency measures in urban infrastructures** According to municipal energy audits, measures that promote the use of efficient street lighting systems and the renovation of existing buildings (the main energy consuming municipal services) would lead to significant energy savings. Moreover, in some regions of the MED area, water pumping facilities are another sector in which energy savings can be achieved. In order to improve the capacity of public authorities to achieve energy efficiency, it is fundamental to act not only at the technical level, but also at the legal level (i.e. public procurement process). In this sense, a fundamental step could be the adoption of a Smart City Strategy at the municipal level (or by other Public Authorities)

- **Integration of metropolitan agriculture in strategic city planning** The creation of a normative environment that addresses the specificities of metropolitan agriculture and facilitates the development of urban and peri-urban food-related projects is crucial in fostering sustainable and resilient local food systems. The integration of such elements in territorial and sectorial strategic planning is needed at all levels (EU, national, regional, local). Some of the

actions that could help to preserve and strengthen urban and peri-urban agriculture are the following: adoption of practices that align with a CE perspective (e.g. reusing rainwater or recycling urban organic waste as fertilizers); facilitation of the access to appropriate land for new farming projects; trainings on sustainable farming

- **Use of bio-based packaging materials in the agri-food sector** In the agri-food sector, oil-based plastic can be replaced by more sustainable bio-based material. The diversification of exploitable non-food bioresources, in particular the by-products of agriculture, is one of the main areas of research in the 3 agri-food sectors (horticulture, meat and dairy products). The choice of different materials should take in account the product nature, the food processing, the logistic part and the expected use for the consumer. Chosen bio-based materials should be compliant regarding the specifications on several characteristic (e.g. gas barrier, light barrier, mechanical and thermal resistance, microwavable etc.). The end of life of products should also be studied (i.e. recyclability, energy recovery, compostability and/or biodegradability)

- **Extension of the Product Environmental Footprint (PEF) approach to the agri-food sector** 2013/179 EU Commission Recommendation establishes two harmonised methods for the calculation of environmental performance throughout the lifecycle, namely: the PEF and the Organisation Environmental Footprint (OEF). The recommendation asks for the use of these methods by Member States, companies, private



Legal Framework

Possible Interventions

organisations and the financial community. National roadmaps have been developed, with the aim to pave the way to a favourable policy and entrepreneurial context, for the extension of the PEF approach to the agri-food sector. This emphasizes the readiness of the sector to embed the PEF analysis as a “normal practice”, as well as to adopt sustainability standards of PEF

● ● **Measures to guarantee the achievement of the extended producer responsibility** It is fundamental to develop measures and legislative proposal, at the national level in each Member State, for the achievement of the extended producer responsibility (i.e. to transpose Directive 2018/851, amending Directive 2008/98/EC on waste)

● **Measures to guarantee alternative waste treatment** It is necessary to develop measures to ensure that waste management is in line with CE principles, while traditional processes of waste treatment are often still encouraged

● ● ● **Adoption of Life Cycle Costing (LCC) criteria in Green Public Procurement (GPP) and by public authorities in general** Procurement laws usually provide for the rule of procurement at the best cost and maximum discount. This makes it difficult for administrators to choose CE products (that still have a higher cost than “traditional”/linear ones). LCC estimates all the costs that will be incurred throughout the lifetime of a product (work or service) especially those not reflected in the purchase price (such as resource use, maintenance and disposal). The application of this methodology remains limited, due

to the lack of reliable data, for the evaluation of costs, and the lack of competence and knowledge of public purchasers and regulating authorities. Possible actions to promote the adoption of LCC by public authorities are: extension of LCC to new product categories and simplification of the existing ones; development of a proper legal framework and technologies to make available relevant information regarding production cycles

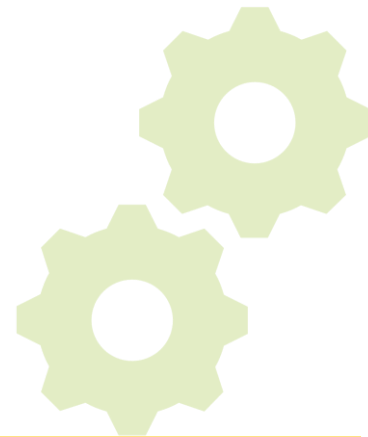
● **Enhancement of CE aspects into the GPP procedures** Public procurement accounts for 14% of EU GDP. If circular requirements (e.g., reparability, durability, recyclability etc.) would be systematically used to procure public services and products, public procurement could play a key role in boosting the CE. To this end, policymakers should enhance and further develop GPP criteria linked to CE, by ensuring the practicability of the requirements; they could also develop guidance on how to use criteria to proactively create circular outcomes

Relevant Actors

European institutions
National institutions
Regional institutions
Local institutions
Infrastructure providers
Research institutions
Technological centres
Universities
Enterprises
Food companies
Environmental consultancies
Civil society

Labour Market and Employment

Policy Recommendations



Labour market is a crucial issue at stake when discussing CE development. In fact, **the development and the expansion of new economic models has relevant impacts** – and even disruptive effects – **on the existing labour market** (e.g. need of new skilled professionals).

PR2 Tackle disruptive effects on existing labour segments

The disruptive effects on existing labour segments pose a crucial challenge to training organisation and innovation and research centres. Training processes are the focus of this policy recommendation; in this case, however, the goal would be to re-train workers who are already in the labour market

Provide adequate qualified professionals

The lack of qualified professionals in the field of CE, with proper technical, communication and dissemination skills, could hinder the development of CE models in the short term. Institutions, training systems and enterprises should cooperate to provide adequate qualified professionals to address the emergent needs of the economic system

Link social protection and re-training processes in the transitional phase

In the transitional phase from high-carbon and linear economies to low-carbon and circular economies, social protection measures and re-training instruments are key

Proposals were collected from:

- TWG1
Resource Efficiency
- TWG2
Smart and Green Public Services
- TWG3
Waste Prevention&Management
- TWG4
Competitiveness&Innovation

Labour Market and Employment

Possible Interventions

- **Reinforcement of SMEs' and entrepreneurs' capacities to access to the green market (energy, smart city, mobility) and use/exploit open data opportunities** Capacity building is necessary for a model shift, towards CE. First of all, companies now competing should perceive themselves as partners, cooperating in a wider, more standardised and more open ecosystem. For example, in the framework of technological innovation, exploiting standardised technologies and building on top of open data, could lead to overcome scale costs and define new products and services. Secondly, at a time of such disruptive technologies (e.g. Virtual Reality, Augmented Reality, Artificial Intelligence and Collaborative Platforms) there is also a need for a disruptive education, to be offered to SMEs and entrepreneurs, allowing them to understand and grasp the direction in which the market goes (e.g. through Hackathons, Datathons, or LABs - Innovation hubs or Living LABs, etc.)

- **Capacity building activities to address labour market need for qualified professionals** Companies' lack of qualified professionals in the field of CE is growing, while new jobs are needed in the CE sector (i.e. along the whole supply chain and in the application of eco-innovative, resource-efficient and smart technologies). Capacity building activities would support the training of new professionals while improving the skills of already involved stakeholders (i.e. research institutes, technological centres and enterprises)

- ● **Development of clusters** In order

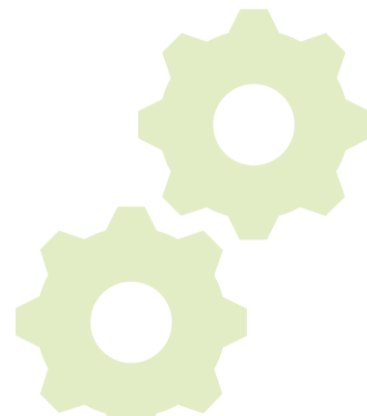
to share knowledge and available best practices, cooperation among different actors is crucial. Moreover, it is fundamental to promote the collaboration and the sharing of knowledge among different actors, stakeholders and existing clusters and networks. This could be done by establishing networking mechanisms (e.g. networks, associations, clusters etc.). Some regions, for instance, are currently providing added value support services, through cluster initiatives, or by establishing partnerships pivoting on strategic enterprises

- **Localisation of food systems through short supply chains** Localising food systems is one of the top priorities in order to create sustainable links between producers and consumers. In order to achieve the localisation of food system it is key to implement alternative food production-distribution-consumption configurations, for a better sharing of added value, and to avoid high power structures and intermediaries, through economically and socially fair relations. Shorter supply chains facilitate the access to high quality seasonal and local products at an affordable cost, through an environmentally friendly and resource efficient model. Within this framework, local public authorities should act as facilitators, adopting easier administrative procedures and establishing open spaces, for the development and growth of these models

- **Promotion of SMEs innovation processes on an international level** It is necessary to support SMEs in their innovation & internationalisation

Labour Market and Employment

Possible Interventions



processes to seize, in cooperation with local institutions and research institutes, market opportunities of the green and smart mobility industry. The development of transnational services for SMEs, by capitalizing the partners' and other local/regional stakeholders' previous experience, is crucial to support market analysis, business matching and application to public funding

- **Support of education & training for green economy job's opportunities**

Proper training for future workers and capacity building to improve technical, communication and dissemination skills and knowledge of already active workers, are needed to address the lack of qualified professionals in the field of CE. BAT (Best Available Technologies) are essential in order to ensure a constantly "updated" labour force. Social protection and re-training instruments, as well as economic incentives during the pioneering steps, should be provided as well

- **Creation of specific professional qualifications** It is recommended the

creation of specific legally recognised "green job" professional qualifications (e.g. through professional orders and/or mandatory product certifications)

- **Provision of social protection and re-training instruments** Provision of social protection and re-training instruments, as well as economic incentives, are needed, especially during the pioneering phase, when emerging economic models (e.g. CE) could have a significant impact in the labour market

Relevant Actors

Regional institutions

Local institutions

Development agencies

Research institutions

Technological centres

Universities

Enterprises

Clusters/consortiums

Training organisations

Professional associations

Trade associations

Environmental consultancies

Civil society





Awareness and Knowledge

Policy Recommendations

Awareness and knowledge issues involve **knowledge on CE and its benefits, awareness about long-term benefits and entrepreneurial culture**

Promote CE entrepreneurial culture

Increasing awareness is a way to tackle the physiological inertia in the adoption of new business models and the lack of an adequate entrepreneurial culture

Promote social and economic desirability of CE

The issue of social and economic desirability of CE, which lies on the field of awareness and knowledge, is crucial in strengthening CE policies effectiveness

Exploit public opinion's good predisposition towards CE

In general, there is a good perception of CE in the public opinion. This could be "extended" beyond its current horizon. For example, the problem of plastic pollution, at the centre of public debates, led many countries to act towards the abolition of plastic

Awareness and Knowledge

Policy Recommendations

Proposals were collected from:

TWG1 ●

Resource Efficiency

TWG2 ●

Smart and Green Public Services

TWG3 ●

Waste Prevention&Management

TWG4 ●

Competitiveness&Innovation



● Promotion of local participation

Environmental and awareness campaigns, raising the attention on the social, environmental and economic benefits of the CE, should be developed among citizens and other stakeholders. A wide participatory process is required in order to involve the different stakeholders in the process of defining CE models adapted to local needs. Success stories and ambassadors would be helpful to this end, while Smart Specialization Strategies in different regions could present an adequate forum for such a participation

● **Increase of public awareness on technology availability and towards the industry sector's awareness regarding actual market needs** The rapid pace of technological advancement makes it difficult for the general public, and for end users as well, to be constantly aware about technological availability, the direction of the technological progress and its disruptive effects. It is thus important to raise awareness about this,

among both end users and the general public. Pilot actions should focus more proactively on the involvement of end users in a participatory process for collecting their feedback on their actual needs and possible solutions

● **Contrast to digital divide** High digital divide should be addressed through investments, information/dissemination activities and knowledge transfer

Relevant Actors

European institutions

National institutions

Regional institutions

Local institutions

Development agencies

Research institutes

Technological centres

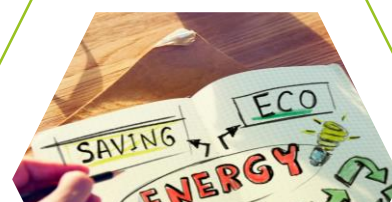
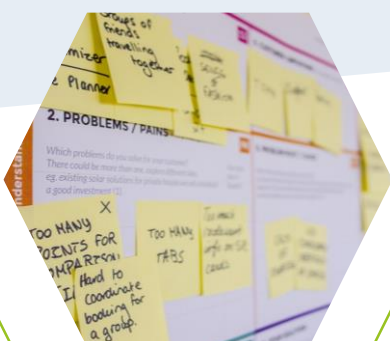
Universities

Enterprises

Trade organisations

Consumers associations

Civil society





Cooperation Among Stakeholders and Technology Transfer

Policy Recommendations

Cooperation and technology transfer issues involve:

- the sharing of knowledge and good practices
- cooperation among enterprises, public bodies, universities, technological and research centres
- public-private partnership

Stabilise relational and capitalisation mechanisms

Widespread lack of stable relational and capitalisation mechanisms among CE actors should be addressed, considering that effective cooperation is dependent on economic stability, common ideology and/or an appealing infrastructure model

Reinforce trust among actors

The lack of trust among different actors involved in the development of CE could be counteracted by giving more visibility to the positive results of cooperation in this field. Trust is a key resource in building a CE-friendly environment

Cooperation Among Stakeholders and Technology Transfer

Policy Recommendations



- **Promotion of eco-innovative technologies to support sustainable and resource-efficient production patterns**

The agri-food sector is one of the most resource (soil, energy, water) demanding sectors and, on the same time essential and critical for the prosperity of the MED countries, which is, in turn, one of the areas most affected by the effects of climate change. The capitalisation and the promotion of eco-innovative technologies will contribute to CE development, by supporting sustainable and resource efficient production patterns and energy and water efficiency, ultimately contributing to Green Growth and sustainable agriculture

- **Provision of greater support to already existing clusters and promotion of their cooperation (rather than competition)** Clusters, usually focusing on a specific thematic or technological domain, could foster a collaborative attitude among their members. It is key to enhance collaboration among clusters at the national and international scale, avoiding the oxymoron of competing organisations. Cooperation should address common problems, by following a holistic approach (i.e. conceiving problems of a specific sector as resources/opportunities for another one). To create new networks, possible actions are: test new market strategies; gain access to new public funding; offer to SMEs services for "network tariff"; provide a transferable model of services for clusters and agencies; set up a

Proposals were collected from:

TWG1 ●

Resource Efficiency

TWG2 ●

Smart and Green Public Services

TWG3 ●

Waste Prevention&Management

TWG4 ●

Competitiveness&Innovation

transnational innovation network involving authorities, companies and research institutes; implement a program targeted to clusters and agencies for the promotion of their transnational activities; support local authorities to integrate the project with the involved regions' specialisation strategies

- **Promotion of small scale eco-industrial parks (EIPs)** CE is the result of a complex interaction between different systems, the mere possibility of a profit may not be sufficient to fully and systematically implement it. An effective planning is needed to have a non-marginal application of the CE concept. In this sense, EIPs could support the development of economies with a stable system for material flow within the industrial areas. (i.e. enterprises manage their resources using a lifecycle approach, in order to optimise the use of water, energy, and materials and minimise environmental damage. Their practices will include recycling and reuse, minimising waste products and exchanging by-products not recycled internally)



Cooperation Among Stakeholders and Technology Transfer

Policy Recommendations

- **Establishment of an open network of technological infrastructures for SMEs at EU level to promote the integration of advanced manufacturing technologies into production processes**

Research infrastructures represent a key tool of the EU in order to foster scientific research and innovation in sectors of critical importance. It would be advisable to establish in a similar way technological infrastructure for SMEs, for the integration of manufacturing technologies into their production processes. In this context, a two-step approach is recommended:

- First step: identification of existing technological infrastructures, at the EU level (e.g. Industry 4.0, Industrial Internet of Things, Edge Computing, Big Data analytics for manufacturing processes, Artificial Intelligence, New Materials)
- Second step: networking. It implies an agreement on the “model architecture”, in order to offer remote and on-place access to their facilities for dissemination, capacity building, and experimentation purposes, ultimately developing a common collaborative platform

- **Enhancement of the “communication” between platforms**
Platforms developed by different projects with the aim to reach CE goals, which is becoming the inspiring model for the global economic system, should be

connected in order to disseminate knowledge, lessons learned and common challenges

- **Involvement of actors in the definition of Smart Specialization Strategies**
The creation of regional networks, e.g. through platform where different actors can interact and share resources, could facilitate the encounter of supply and demand and help to reach an efficient use of resources. At the same time, regional actors should be actively involved in the definition of regional development strategies. This could be done, for example, by promoting public consultations by regional authorities, in order to collect stakeholders’ inputs and needs before planning the regional strategy (Smart Specialization Strategy)

Relevant Actors

European institutions
National institutions
Regional institutions
Local institutions
Development agencies
Research institutions
Technological centres
Universities
Clusters/consortiums
Enterprises
Agri-food producers, greenhouse owners
Chambers of commerce
Trade organisations

Organized by



Project co-financed by the European
Regional Development Fund

MED Green Growth project partners



Interreg MED Green Growth Website
green-growth.interreg-med.eu

