

“Report on additional funding opportunities”

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Executive Summary

This deliverable aims to investigate additional private and public funding opportunities that could be applied to the CE solutions addressed in ECOBULK project to enhance their implementation and deployment at larger scale and scope. The report will be split into two versions, with the first version being due at M24 and the final version at M48.

The first version of this report (M24) provides the background information and establishes the funding landscape supporting the circular economy initiatives by looking at relevant European, national and regional schemes (both private and public). The key EU instruments identified and analysed in this report are: the European Structural and Investment Funds, Horizon 2020 programme, COSME, LIFE programme, InnovFin, European Fund for Strategic Investments, European Investment Bank, Public contracts and Instrument for Pre-accession Assistance.

National and regional funds, which are different for each EU country, can be used to support more local projects, as well as to conduct interregional cooperation initiatives under the European programmes. Examples of the national and regional funds are provided for those countries that are present in ECOBULK.

This report also recognises a growing number of private and private-public organisations supporting the circular economy initiatives. The Public-Private Partnerships, such as Sustainable Process Industry (SPIRE), Energy-efficiency Buildings (EeB), The Joint Technology on Bio-based Industries (BBI) and Factories of the Future (FoF), start to be considered as important measures to accelerate the circular economy transition. The private financial instruments include banks, venture capitals, business angels, incubators, foundations, professional associations and corporations.

The first version of this deliverable should be considered as a tool for providing key information available to all of those interested in the EU funding programmes, as well as other national and regional programmes (both public and private) supporting the circular economy initiatives. In the next version of this deliverable (M48), a clear strategy for seeking additional funding for the ECOBULK consortium will be decided, depends on the developments and key exploitation opportunities that will arise from the project. Contacts will be established with the funds managing bodies, as well as other relevant stakeholders, during the duration of the project in order to find additional funding and support for the ECOBULK innovative technologies and solutions.

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1. Introduction

In December 2015, the European Commission (EC) adopted a Circular Economy Action Plan¹ to help accelerate Europe's transition towards a circular economy, boost global competitiveness, promote sustainable economic growth and generate new jobs. The action plan also identifies that the development of the Circular Economy (CE) will require public and private sources of financing to scale up improved technologies and processes, develop infrastructure and increase cooperation between actors in the value chain. Significant support for these objectives will come from EU funding programmes such as Cohesion Policy, LIFE and COSME; however, the private finance sector also needs to be directed towards new opportunities created by the CE.

This deliverable aims to investigate additional private and public funding opportunities that could be applied to the CE solutions addressed in ECOBULK project to enhance their implementation and deployment at larger scale and scope. This deliverable will be split into two versions, with the first version being due at M24 and the final version at M48.

The first version of this document establishes the background information about the private and public funding opportunities by looking at relevant regional/national schemes under the European Structural and Investment Funds (ESIF), such as the European Regional Development Fund (ERDF) and Cohesion Policy, or other relevant funds (e.g. Instrument for Pre-Accession Assistance (IPA II)) and other private funding resources (e.g. foundations, professional associations and corporations). Through the later version of this deliverable (in M48), the background information will be evaluated and discussed in the context of results obtained and exploitation opportunities identified in the project. Contacts will be established with the funds managing bodies, as well as other relevant stakeholders, during the duration of the project in order to find additional funding and support for ECOBULK innovative technologies and solutions.

¹ <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-614-EN-F1-1.PDF>

2. European financial instruments supporting CE

The EC supports financially the transition towards CE through different financial streams, such as the European Structural and Investment Funds, Horizon 2020, the European Fund for Strategic Investments, and the LIFE programme.² This section looks at these instruments in details to assess how they could potentially support the CE initiatives.

2.1. European Structural and Investment Funds (ESIF)

Over 76% of the EU budget is managed in partnership with national and regional authorities through a system of "shared management", largely through 5 big funds clustered under the umbrella of ESIF.³ These 5 funds are as follows:⁴

- **European Regional Development Fund (ERDF)** – promotes balanced development in the different regions of the EU.
- **European Social Fund (ESF)** - supports employment-related projects throughout Europe and invests in Europe's human capital – its workers, its young people and all those seeking a job.
- **Cohesion Fund (CF)** – funds transport and environment projects in countries where the gross national income (GNI) per inhabitant is less than 90% of the EU average. In 2014-20, these are Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.
- **European Agricultural Fund for Rural Development (EAFRD)** – focuses on resolving the particular challenges facing EU's rural areas.
- **European Maritime and Fisheries Fund (EMFF)** – helps fishermen to adopt sustainable fishing practices and coastal communities to diversify their economies, improving quality of life along European coasts.

With their objective of promoting economic and social cohesion across the EU, the ERDF and the CF are most relevant structural funds to assist the transition towards circularity of EU Member States.⁵ The ERDF focuses its investments on several key priority areas, such as: innovation and research, the digital agenda, support for SMEs and the low-carbon economy. Potential beneficiaries of ERDF are broad, including local, regional

² https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en

³ https://europa.eu/european-union/about-eu/funding-grants_en

⁴ https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/european-structural-and-investment-funds_en

⁵ Houston et al., 2018. Stakeholder Views Report Enablers and Barriers to a Circular Economy.

R2PiProject, available at: <http://www.r2piproject.eu/wp-content/uploads/2018/08/R2pi-stakeholders-report-sept-2018.pdf>

and national authorities and administrative bodies, NGOs, associations and foundations, enterprises and SMEs.⁶

The CF is also directed towards supporting the circular economy, including support for reuse and repair, improved production processes, product design and SMEs. The Commission will assist Member States, regions and local authorities in strengthening their circular economy approach in this context through targeted outreach.⁷ Investment priorities for the CF are: supporting the shift towards a low-carbon economy in all sectors, promoting climate change adaptation, risk prevention and management, preserving and protecting the environment and promoting resource and promoting sustainable transport and removing bottlenecks in key network infrastructures. Potential beneficiaries of the CF are all Member States with a Gross National Income less than 90 % of the EU average.⁶ In the funding period 2014-2020 this criterion is met by one country from the ECOBULK project, which is Portugal.

In general, resources available from the ESI Funds for the CE transition in years 2014-2020 distributes as follows:⁸

- €35 billion committed to environment and resource efficiency
- That includes €5.5 billion for waste management:
 - €2.1 billion for prevention and recycling
 - €2.8 billion for incineration and thermal treatment
 - €0.6 billion for hazardous waste management

Additional funds may be channelled to the CE from the financial envelopes dedicated to the following:

- the competitiveness of SMEs
- low carbon economy
- network infrastructure in transport and energy

The large part of ESI Funds consists of EU grants with national co-financing but other financial instruments are also available at in some regions (e.g. loans, guarantees or equity financing).

⁶ Margaras, 2017. Guide to EU Funding 2014-2020. European Parliament, available at: http://www.europarl.europa.eu/EPRS/Funding_Guide.pdf

⁷ <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-614-EN-F1-1.PDF>

⁸ Stuchtey et al., 2018. The Role of Business in the Circular Economy Markets, Processes and Enabling Policies. Report of e CEPS Task Force, available at: <https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>

2.2. Horizon 2020

The Horizon 2020 Work Programme supports the objectives of the CE and industrial competitiveness in the EU in a wide range of industrial and service activities, including process industries, manufacturing, and new business models. It also explores a pilot approach to help innovators facing regulatory obstacles (e.g. ambiguous legal provisions), by setting up agreements with stakeholders and public authorities ('innovation deals').⁹

This initiative adds to a wide range of existing Horizon 2020 programmes supporting innovative projects relevant to the CE, in fields such as waste prevention and management, food waste, remanufacturing, sustainable process industry, industrial symbiosis, and the bioeconomy. The current main Horizon 2020 work programme, as well as all thematic sections and the general annexes describing general rules such as standard admissibility conditions and eligibility criteria, types of action, selection and award criteria, etc, can be found at <https://ec.europa.eu/programmes/horizon2020/>. Each thematic section is self-contained, and describes the overall objectives, the respective calls for proposals, and the topics within each call.

In the Working Programme 2018–20, €941 million is allocated in the form of grants to the CE initiatives under the headline of 'Connecting economic and environmental gains – the Circular Economy'.¹⁰ The programme is open to everyone and the rules and procedures to follow are simple enough to allow participants to focus on what is important: research, innovation and results. The SME Instrument of the Horizon 2020 Framework Programme for Research and Innovation offers funding and support particularly for SMEs' innovative projects to help them grow and expand their activities into other countries.

A summary actions available through H2020 programme are provided in Table 1.

⁹ <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-614-EN-F1-1.PDF>

¹⁰ Stuchtey et al., 2018. The Role of Business in the Circular Economy Markets, Processes and Enabling Policies. Report of e CEPS Task Force, available at: <https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>



Table 1 Summary of actions available through Horizon 2020 programme
(source: <http://www.futuring-project.eu>)

Type of action	Minimum participations	Funding Rate	Typical Duration	Average EC Contribution	Goal
Research & Innovation Action – RIA	≥ 3 legal entities from 3 MS/AC	100%	36-48 months	€2.0 – 5.0M	Collaborative research projects
Innovation Action – IA	≥ 3 legal entities from 3 MS/AC	70% or 100% for non-profit organisation	30-36 months	€2.0 – 5.0M	Produce plans & arrangements or designs for new, altered or improved products, processes or services
Coordination & Support Action – CSA	1 legal entity	100%	12-30 months	€0.5 – 2.0M	Accompanying measures (standardisation, dissemination, policy dialogues etc.); Does not include research
SME Instrument	1 SME from MS/AC	3 phases: Phase 1: lump sum of € 50K / project Phase 2: € 1 – 2.5M / project (1-2 years) (70% of eligible costs reimbursed) Phase 3 : minor funding (other support)			Combination of demonstration activities (testing, prototyping, ...), market replication
Fast Track to Innovation – FTI	≤ 5 legal entities from 5 MS/AC	70% or 100% for non-profit organisation		≤ €3.0M	Produce plans & arrangements or designs for new, altered or improved products, processes or services
ERA-NET	≥ 2 legal entities from MS/AC	33% Maximum EU contribution, complemented by national funds		≤ €10M	Co-funding of regional, national & international doctoral & fellowship programmes

2.3. COSME

The programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME) was created to improve access to finance for SMEs through two major financial instruments:¹¹

- **Loan Guarantee Facility (LGF)** - provides guarantees and counter-guarantees for financial intermediaries (e.g. guarantee organisations, banks, leasing companies) to help them provide more loan and lease finance to SMEs. This facility will also include the securitisation of SME debt-finance portfolios.
- **Equity Facility for Growth (EFG)** - dedicated to investments in risk capital funds that provide venture capital and mezzanine finance to expansion and growth stage SMEs, in particular those operating across borders.

COSME has a budget of over EUR €1.3 billion to fund these financial instruments that facilitate access to loans and equity finance for SMEs where market gaps have been identified. Thanks to this budget, it is foreseen to mobilise up to €25 billion in financing from financial intermediaries via leverage effects. The financial instruments are managed by the European Investment Fund (EIF) in cooperation with financial intermediaries in EU countries. COSME financial instruments are designed mostly for SMEs or entrepreneurs looking for debt or equity finance.

2.4. LIFE programme

The LIFE programme is the EU's funding instrument supporting nature, the environment and quality of life in Europe's transition to a more sustainable and low-carbon future. It has been supporting projects relevant to the CE and resource efficiency since 1992 with over 670 waste reduction, recycling, and reuse projects, totalling over €1 billion of EU funding.¹² The current LIFE funding period 2014-2020 has a budget of €3.4 billion and it is dedicated to two main sub-programmes: Environment and Climate Action. Environment includes, among others, thematic priorities for water, waste and resource efficiency. Resource efficiency includes activities for industrial symbiosis and knowledge transfer, and development of new models for the shift towards a circular and green economy.¹³

Anyone registered in the EU can make a proposal for LIFE traditional, integrated, preparatory, and technical assistance projects under the sub-programmes for environment and climate action, including public body operating under a national government's authority (e.g. local authority,

¹¹ https://ec.europa.eu/growth/access-to-finance/cosme-financial-instruments_en

¹² <https://www.switchtorgreen.eu/?p=846>

¹³ Stuchtey et al., 2018. The Role of Business in the Circular Economy Markets, Processes and Enabling Policies. Report of e CEPS Task Force, available at: <https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>

national administration etc.), private commercial organisation and private non-commercial organisation (NGOs etc.). In contrast to other funding programmes, LIFE projects are very flexible in terms of how they are set up. They can be run by individual entities or by joining forces with partners from own or another country.¹⁴

2.5. InnovFin

InnovFin (EU Finance for Innovators) is a joint initiative launched by the European Investment Bank Group in cooperation with the European Commission under Horizon 2020. InnovFin aims to facilitate and accelerate access to finance for innovative businesses and other innovative entities in Europe.¹⁵

InnovFin provides €24 billion in financial instruments for innovative SMEs, startups and midcaps, made available through Horizon 2020 and the EIB Group. Its financing tools cover a wide range of loans, guarantees and equity-type funding, which can be tailored to innovators' needs. Financing is either provided directly or via a financial intermediary, most usually a bank or a fund. InnovFin is available to companies and other entities of all sizes and age and across all eligible sectors in EU Member States and Associated Countries.

2.6. The European Fund for Strategic Investments (EFSI)

The Investment Plan for Europe, the so-called Juncker Plan, is one of the European Commission's top priorities. It focuses on boosting investments to create jobs and growth by making smarter use of new and existing financial resources, removing obstacles to investment and providing visibility and technical assistance to investment projects. The EFSI is the central pillar of the Juncker Plan. The projects and agreements approved for financing under the EFSI so far are expected to mobilise more than €236.1 billion in investments and support over 454 000 SMEs across all 28 Member States.

EFSI is a €26 billion guarantee from the EU budget, complemented by a €7.5 billion allocation of the European Investment Banks's own capital. With EFSI support, the European Investment Bank Group is providing funding for economically viable projects, especially for projects with a higher risk profile than usually taken on by the Bank. It will focus on sectors of key importance for the European economy, including:¹⁶

- Strategic infrastructure including digital, transport and energy
- Education, research, development and innovation
- Renewable energy and resource efficiency

¹⁴ <https://ec.europa.eu/easme/en/life>

¹⁵ <https://www.eib.org/en/products/blending/innovfin/index.htm>

¹⁶ <https://www.eib.org/en/efsi/what-is-efsi/index.htm>

- Support for small and mid-sized businesses

EFSI is demand-driven and provides support for projects everywhere in the EU, including cross-border projects. There are no geographic or sector quotas. Projects are considered based on their individual merits. The CE per se is not targeted but environment and resource efficiency is defined as an eligible sector and made up 4% (€9.4 billion) of the mobilised investment as of September 2017. Circular business models may also be eligible in transport infrastructure, R&D&I, ICT, and SME/mid-cap support.¹⁷

2.7. European Investment Bank (EIB)

In light of the EC Circular Economy Package, the EIB, as the EU bank, aims to support the transition to a CE, in particular in the EU, but also in other parts of the world. While the EIB has a long track record of lending to projects focusing on recycling and the recovery of waste and by-products in various sectors, there is room for expanding the lending volume to innovative CE projects aimed at systematically designing out waste, extending the life of assets and closing material loops.¹⁸

The EIB allocated approximately €2.4 billion in co-financing for circular projects over the last five years:¹⁹

- €680 million in lending for industry and service
- €640 million for water management
- €530 million for agriculture and the bio-economy
- €360 million for waste management
- €170 million for product-to-service

Special activities run by the EIB in partnership with other institutions may also play a role, such as:

- Green Bonds (Climate Awareness Bonds), which raised over €15 billion in a decade to finance over 60 projects with a strong environmental impact.
- The 2020 European Fund for Energy, Climate Change and Infrastructure (Marguerite Fund) with €710 million committed.

¹⁷ Stuchtey et al., 2018. The Role of Business in the Circular Economy Markets, Processes and Enabling Policies. Report of e CEPS Task Force, available at: <https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>

¹⁸ <https://www.resourceefficient.eu/en/support-programme/european-investment-bank-funding-circular-economy-projects>

¹⁹ Stuchtey et al., 2018. The Role of Business in the Circular Economy Markets, Processes and Enabling Policies. Report of e CEPS Task Force, available at: <https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>

The EIB has a range of financing products and instruments that are well adapted to support the transition to the CE. Financing can be tailored to the specific needs of the borrower and the project reflecting that investment needs vary widely depending on a project's scale, maturity, type of promoter, position in the value chain, etc. For more traditional and larger scale CE projects, the EIB offers medium and long-term direct loans with fixed or variable interest rates. For smaller operations, the EIB offers financing indirectly through credit lines to local banks and other intermediaries, particularly targeting SMEs and mid-caps. More information about EIB's standard lending products can be found on the website.²⁰

The EIB also offers the CE advisory services, and is active in CE networking, sharing of best practices, connecting different CE stakeholders and facilitating access to CE finance. Finally, the EIB has developed a Circular Economy Guide²¹ that aims to promote a common understanding of the CE concept and related challenges and opportunities among the financial and project partners, raise awareness about and promote circular solutions among project promoters and other stakeholders, facilitate and harmonise due diligence of and reporting on CE projects by the financial and project partners, communicate the vision of how the EIB can further support the transition to a CE. The Guide is a living document that will be updated in response to the evolving understanding of CE needs, opportunities and risks, and growing experience with the appraisal and financing of CE projects.²²

The financial support is available to all industries and sector, to all type of companies and organisations and for all EU countries.

2.8. Public contracts

The European Commission uses public contracts to buy services, works and goods from the market for its internal use. They are not considered a form of EU funding, but, accounting for a significant part of overall demand for goods and services, public procurement could therefore be utilised as a major demand-side policy instrument for the creation of markets for more environmentally friendly products and services. At the EU level, it is estimated that public procurement annually accounts for about 14% of EU GDP in expenditure.²³

Public procurement can therefore play a key role in the CE, and the Commission will encourage this role through its actions on Green Public

²⁰ <https://www.eib.org/en/products/lending/>

²¹ European Investment Bank, 2019. The EIB Circular Economy Guide. Supporting the circular transition. Available at: https://www.eib.org/attachments/thematic/circular_economy_guide_en.pdf

²² <https://www.resourceefficient.eu/en/support-programme/european-investment-bank-funding-circular-economy-projects>

²³ Stuchtey et al., 2018. The Role of Business in the Circular Economy Markets, Processes and Enabling Policies. Report of e CEPS Task Force, available at: <https://www.ceps.eu/publications/role-business-circular-economy-markets-processes-and-enabling-policies>

Procurement (GPP), where criteria are developed at EU level and then used by public authorities on a voluntary basis. The European Commission will make sure that in future, special emphasis is placed on aspects relevant to the CE, such as durability and reparability, when setting out or revising criteria. Secondly, it will support a greater uptake of these criteria by public authorities and reflect on how GPP could be used more widely across the EU, in particular for products or markets that have high relevance for the CE.²⁴

2.9. Instrument for Pre-accession Assistance (IPA II)

The Instrument for Pre-accession Assistance (IPA) is the mean by which the EU supports reforms in the 'enlargement countries' with financial and technical help. The IPA funds build up the capacities of the countries throughout the accession process, resulting in progressive, positive developments in the region. For the period 2007-2013 IPA had a budget of €11.5 billion; its successor, IPA II, was built on the results already achieved by dedicating €11.7 billion for the period 2014-2020. Current beneficiaries are: Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia, and Turkey.²⁵

IPA II can support investments in public administration reform, rule of law, sustainable economy, people and agriculture and rural development. IPA II support to economic development is diverse and depends on the countries' economic structure. Actions include preparing feasibility studies for loans from the International Financial Institutions, support to SMEs to improve access to finance, setting up quality infrastructure agencies, and boosting the energy and transport infrastructure.

3. Support of CE at the national/regional level

In addition to the European Instruments supporting CE, Governments' interventions also play an important role in setting directions towards the CE. Table 1 summarises interventions developed in different European countries that are represented in ECOBULK project by project partners.

Table 2 Examples of CE supporting instruments in different European countries where the ECOBULK consortium is present

Country	ECOBULK partners	Key instruments supporting CE initiatives
United Kingdom	Exergy, Oakdene Hollins, Netcomposites, Microcab, Cranfield	<ul style="list-style-type: none"> • Innovate UK • Knowledge Transfer Network (KTN) • Waste and Resources Action Programme (WRAP) • Zero Waste Scotland • Innovation Centres

²⁴ <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-614-EN-F1-1.PDF>

²⁵ https://ec.europa.eu/neighbourhood-enlargement/instruments/overview_en

	University, Granta Design	<ul style="list-style-type: none"> • Scottish Institute for Remanufacture (SIR) • Litter Innovation Fund • Catapult Centres • Plastics Research and Innovation Fund • Plastics and Waste Investment Fund
Spain	ITENE, UPC, Maier, IRIS, KNEIA, UNE, Aimplas, Bellver	<ul style="list-style-type: none"> • Plan Estatal Marco de Gestión de Residuo 2016 - 2022 (PEMAR 2016 – 2022) • Estrategia Española de Bioeconomía Horizonte 2030 • Programa Estatal de Prevención de Residuos 2014-2020 • Estrategia Estatal de Infraestructura Verde Conectividad y Restauración Ecológicas – EEIVCRE • Estrategia Andaluza de Bioeconomía (Andalucía) • La Estratègia d’impuls a l’economia verda i a l’Economia Circular (Cataluna) • IV Plan Ambiental del País Vasco (Basque Country)
Italy	CNR, CRF, NTT, Technoplants, Moretti Compact	<ul style="list-style-type: none"> • Public Guarantee Funds (e.g Marguerite Fund II, Fondo Rotativo Imprese, EEEF fund) • National and regional funding and policy measures (e.g. States General of the Green Economy, Symbiosis Users Network, Start to be circular (Milan), Lazio Green) • “Green” public procurement of goods and services (National Action Plan on Green Public Procurement) • National Operational Programme (NOP)
Germany	Tecnaro, Tomra	<ul style="list-style-type: none"> • Resource Efficient Circular Economy— Innovative Product Cycles initiative • German Resource Efficiency Programme (ProgRes II) • Waste prevention Programme • National High-Tech Strategy • Central Innovation Programme for SMEs • Framework Programme for Research for Sustainable Development
France	FCBA, Vertech	<ul style="list-style-type: none"> • Green Transition Accelerator • Ecotechnologies Fund • Green Tech • ADEME • Fond Unique Interministerie (FUI) • Fond Dechets/R&D programmes
Sweden	AkzoNobel	<ul style="list-style-type: none"> • Green Investment Fund • Almi Invest GreenTech

		<ul style="list-style-type: none"> • Vinnova • Business Sweden • Almi • The National Agency for Public Procurement
Austria	ISWA	<ul style="list-style-type: none"> • Waste Prevention Programme • RESET2020 – Resources Efficiency Technologies • Green Tech Cluster • The Programme on Technologies for Sustainable Development • The National Action Plan on sustainable public procurement (NaBe)
Portugal	Lipor	<ul style="list-style-type: none"> • Fundo Ambiental • The FITEC fund • The Operational Competitiveness Programme (COMPETE 2020) • National Science Foundation (FCT) • Estratégia Nacional para as Compras Públicas Ecológicas 2020 (ENCPE 2020) • The Portugal 2020 Competitiveness and Internationalization Programme
Finland	Conenor	<ul style="list-style-type: none"> • Finnavera • Finnish Industry Investment (FII) • Business Finland • Academy of Finland • Invest in Finland • The Finnish Innovation Fund (SITRA) • Finnish municipalities and regional development companies
Netherlands	TU Delft	<ul style="list-style-type: none"> • The Netherlands Enterprise Agency • Circular Procurement Green Deal • VAMIL/MIA • KIEM-VANG 2 • Innovation Credit
Turkey	KEAS	<ul style="list-style-type: none"> • Clean Technology Fund (CTF) • The Environment Protection and Packing Waste Recovery and Recycling Foundation (ÇEVKO) • Innovative Sustainability Solutions Contest • Turkey Materials Marketplace (TMM) • Ministry of Finance • Turkish Standards Institution

3.1. United Kingdom

Efforts in the UK in the areas of eco-innovation and the CE are actively promoted by the UK Government, the devolved administrations of Scotland,

Wales and Northern Ireland, Innovate UK, the Knowledge Transfer Network, WRAP and the Catapult Centres. Actions mainly evolve around four key areas:

- sustainable resources;
- rationale use of natural resources and critical materials;
- low carbon transport, focusing in particular on ultra-low emission vehicles; and,
- clean and carbon abatement technologies.

These areas and sectors have continuously grown over the past few years and significantly shape the UK's eco-innovation and CE profile. All key national instruments promoting the CE in the UK are as follows:²⁶

- **Innovate UK** is the UK's innovation agency, which was founded "to find and drive the science and technology innovations that will help the UK economy grow". Since 2007, Innovate UK has invested more than £2.2 billion in innovation and helped more than 8,000 organisations to develop projects estimated to add £16 billion to the UK economy and create 70,000 new jobs. Innovate UK offer various other funding streams which are open to any innovations, regardless of industry, and we are confident that these funding streams will help any truly game-changing technology to develop and flourish.
- Funded by Innovate UK, the **Knowledge Transfer Network (KTN)** contributes to eco-innovation in the UK, with 16 focus areas including Biosciences (agriculture, food and industrial bioscience sectors) Energy, Sustainability & Resources Efficiency, Built Environment and Transport. Innovate UK and the KTN share the belief that innovation is more successful when leveraged by collaboration. The KTN adds value by identifying where the knowledge is in the UK economy and linking it between complementary actors such as academics, businesses and manufacturers in order for the most innovative ideas to emerge and to materialise.
- **The Waste and Resources Action Programme (WRAP)** provides advice and support to businesses, consumers and public agencies to address innovation, resource and waste challenges in products and supply chains. Its objective is to minimise resource use, divert materials from landfill and create a market for recycled materials. WRAP operates in England, Wales (WRAP Cymru) and Northern Ireland.
- **Zero Waste Scotland** is funded by the Scottish Government to promote a society where resources are valued and nothing is wasted. Their mission is to influence and enable change – from gathering

²⁶ https://ec.europa.eu/environment/ecoap/united-kingdom_en

evidence and informing policy, to motivating practical behavior change in individuals and organisations. They also make direct interventions to affect change, commonly in the form of finance, business support, technical advice, training and competence development or communications support. As Scotland's Circular Economy expert, they are supporting delivery of the Scottish Government's CE Strategy – Making Things Last – and work with a range of partner organisations to enable businesses, consumers and householders to understand and implement CE practices.

- Eight **Innovation Centres** have been set up in Scotland of which two are of particular interest in the sphere of eco-innovation – the Construction Scotland Innovation Centre (CSIC) and the Industrial Biotechnology Innovation Centre (IBioIC). Since launching in October 2014, CSIC's industry-led team have been linking together businesses, university experts and public sector providers including Scottish Enterprise and Scottish Development International to support businesses to deliver transformational change in construction. IBioIC's role, as a specialist in the Industrial Biotechnology (IB) sector, is to stimulate the growth of the IB sector in Scotland to £900 million by 2025. IBioIC connects industry, academia and government and facilitates collaborations, provides scale-up capabilities, creates networks and develops skills.
- **The Scottish Institute for Remanufacture (SIR)** brings together businesses with academic partners to stimulate and drive remanufacturing projects, addressing industry challenges to increase innovation in remanufacturing. This institute is one of four global centres of excellence in remanufacturing.
- **Litter Innovation Fund** is a £450,000 programme (jointly funded by Defra and Ministry for Housing Community and Local Government) to reduce litter by funding innovative approaches to pilot, implement and evaluate small scale local research projects that could be replicated more widely.
- **The Catapult Centres** are not-for-profit, independent technology and innovation centres connecting businesses of all sizes with the UK's research and academic communities. This network with its overall large-scale investments in innovation research plays a strong role in eco-innovation activities and in bridging the gap between business, academia, research and government.

Progress has been made over the past few years in terms of waste recycling, driven by EU the legislation, such as the EC Waste Framework Directive, EC Waste Statistics Regulation, EC Landfill Directive and EC Packaging and Packaging Waste Directive. The UK Government has announced recently a new strategy to combat the UK's growing waste



problem.²⁷ The new strategy will result in businesses and manufacturers having to pay the full cost of recycling or disposing of their packaging waste. This will transform the waste system by putting more ownership on the companies that produce the damaging waste. The new strategy also offers new funding opportunities, such as:

- **The Plastics Research and Innovation Fund (PRIF)** – £20 million was pledged to the PRIF (co-ordinated by Innovate UK and EPSRC), which aims to reduce the environmental costs of plastic and litter. Funded activities will be focused around developing solutions to reduce plastics entering environment, funding for smart waste tracking data collection, storage and reporting services, for smart local energy systems, and for technology which advances the UK's low carbon automotive capability.
- **Plastics and Waste Investment Fund** - a £20 million of funding focusing on research and development to help business transition away from polluting plastics. This will include exploration of new packaging materials, new recycling processes and packaging waste management. The other £10 million will pioneer innovative approaches to boosting recycling and reducing litter. This funding will be made available during the 2019/20 financial year.

3.2. Spain

Public policy support for the CE in Spain is a mix of first and second-generation policies and measures addressing technologies and resources for pollution control and energy efficiency. The circular economy and eco-innovation are generally embedded in national and regional policies targeting resource efficiency, environmental innovations, clean technologies and sustainable development. In February 2018, the Spanish Ministry of Agriculture and Fisheries, Food and environment released the **first Spanish Strategy on Circular Economy (Estrategia Española de Economía Circular)**²⁸ in order to promote the shift towards a model of CE in the country. Related to this is the Pact for a Circular Economy: the compromise of the economic and social agents 2018 – 2020 that was signed by more than 300 stakeholders in September 2017. The aim is to involve the most relevant economic and social agents of Spain in order to make the shift in the system. The strategy includes an action plan for the period 2018-2020 that will require an investment of €834 million. The action plan focuses on five priority sectors, such as building, agriculture, industry, consumer goods and tourism. Within these sectors, the Plan's actions raise five major lines, that includes: production, which will allocate €31.7 million; consumption, €20 million; waste management, €28.5 million; secondary raw materials, €997,362; water reuse, €478.2 million; research, innovation and

²⁷ <https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england>

²⁸ https://www.miteco.gob.es/images/es/180206economicircular_tcm30-440922.pdf

competitiveness, €241 million; awareness and participation, €553,883, and employment and training, €36.6 million.

Before the national CE strategy was established, a few key instruments for the application of waste prevention and management policy in Spain already existed (both at national and regional levels), such as: **Plan Estatal Marco de Gestión de Residuo 2016 - 2022 (PEMAR 2016 - 2022)**, **Estrategia Española de Bioeconomía Horizonte 2030**, **Programa Estatal de Prevención de Residuos 2014-2020**, **Estrategia Estatal de Infraestructura Verde Conectividad y Restauración Ecológicas - EEIVCRE**, **Estrategia Andaluza de Bioeconomía** (Andalucía), **La Estratègia d'impuls a l'economia verda i a l'Economia Circular** (Cataluña) and **IV Plan Ambiental del País Vasco** (Basque Country).²⁹

3.3. Italy

In November 2017, The Italian government published a strategic paper on the promotion of the CE in the country, outlining its commitment to the efficient use of resources paired with support for sustainable consumption practices. The document, entitled "Verso un Modello di Economia Circolare per l'Italia" (Towards a Circular Economy Model in Italy)³⁰, was created by the Ministry of the Environment and the Ministry of Economic Development and is part of the broader national strategy for sustainable development. It proposes a paradigm shift, where steps to improve sustainability can be taken from both the supply and demand side of the economy. The paper stresses the obligation of manufacturers to take responsibility for the full lifecycle of the product, inviting business actors to come together and develop consortia to manage waste. In addition, environmental communication plans need to raise awareness among consumers to trigger new consumption models, such as repairing instead of replacing, sharing over ownership, and recycling.

Apart from that, below is a list of selected good practices of policy measures and initiatives from national, regional or local government on the resource efficiency and CE:³¹

- **Public guarantee funds - Marguerite Fund II:** CDP, EIB and the principal Promotion National Institutes (BGK, CDC, KfW and ICO) launched in 2017 the successor fund of Marguerite I: €700 million EUR for projects in sustainable infrastructures. **Fondo Rotativo Imprese:** revolving fund that supports research and innovation projects, with the participation of the Ministry of Economic Development, ABI and CDP. In 2017, €75 million have been released for the industrial sustainability target. **EEEF fund** managed by "Cassa

²⁹ https://ec.europa.eu/environment/ecoap/spain_en

³⁰ https://circulareconomy.europa.eu/platform/sites/default/files/strategy_towards_a_model_eng_completo.pdf

³¹ https://ec.europa.eu/environment/ecoap/italy_en

depositi e prestiti”, which is funded by the EC and EIB, among others. It funds local authorities, utilities, public transport operators, and ESCOs. It amounts to €800 million.

- **National and regional funding and policy measures – national R&D tenders published the Ministry of Environment** - e.g. €1.2 million to finance industrial research and/or experimental development to encourage products eco-design and correct waste management; €0.9 million tender to increase the technological level of treatment plants, in order to maximise the quantity of recoverable or recyclable material. **States General of the Green Economy** - multi-stakeholder process, promoted by the National Council of the green economy, composed by 66 business organisations, in collaboration with the Ministry of Environment and the Ministry of Economic Development. **Symbiosis Users Network** - an Italian industrial symbiosis network promoting eco-innovation and the transition to the circular economy through the application of industrial symbiosis. **Start to be circular** (Milan municipality) - an initiative of the municipality of Milan promoted by the Bracco Foundation, the Giuseppina Mai Foundation of Confindustria and Banca Prossima, created to promote the transition to sustainable growth through innovative entrepreneurial initiatives.
- **“Green” public procurement of goods and services** – The Green Public Procurement (GPP) National Action Plan (NAP) document³² outlines the strategy for the diffusion of GPP in Italy, the commodity categories, the reference environmental targets to be attained - both qualitative and quantitative - and the general methodological aspects. Moreover, from 2016, the Law n.221 of 28 of December 2015, established the compulsory commitment for the Italian Public Administration to the GPP. Italy thus became the first country in the world to adopt such an obligation.
- **National Operational Programme (NOP)** – supporting research, technological development and innovation

3.4. Germany

In January 2017, the Federal Government approved an updated Sustainable Development Strategy³³, which is the most extensive enhancement of the Strategy since its first adoption in 2002. It presents Germany’s measures to implement the 17 SDGs (including Goal 12 Sustainable consumption and production) at three levels and contains 63 “key indicators”, mostly associated with quantified targets.

³² <https://www.minambiente.it/pagina/piano-dazione-nazionale-sul-gpp>

³³

<https://www.bundesregierung.de/resource/blob/975274/1588964/1b24acbed2b731744c2ffa4ca9f3a6fc/2019-03-13-dns-aktualisierung-2018-englisch-data.pdf?download=1>

The German government strategy has set the goal of conserving natural resources and increasing total raw material productivity in Germany by 30% by 2030 compared to 2010. One of the government's programs to achieve this is the **Resource Efficient Circular Economy—Innovative Product Cycles initiative** which provides grants over the period 2019–2022 to collaborative projects that focus on innovative product designs that lower environmental impacts and costs across the life cycle, as well as enable subsequent repair and upgrades.³⁴

Examples of other programmes and measures supporting the resource efficiency and CE in Germany are:³⁵

- **German Resource Efficiency Programme (ProgRes II)** - in 2012 the German government adopted the ProgRes Resource Efficiency Programme which aims to strive for a more sustainable use of natural resources and the reduction of any adverse impacts on the environment. Measures include improving the efficiency consulting for SMEs, support for environmental management systems, the increased procurement of resource efficient products and consumer information as well as a stronger technology and transfer of knowledge to developing countries and improved services by the public sector.
- **Waste Prevention Programme** – following the introduction of the Waste Management Act in 2012, the Federal Cabinet adopted the first German Waste Prevention Programme, which comprehensively introduces and promotes waste prevention approaches, such as the reuse of products, the design of minimal-waste products, and the extension of the life span of products. Along with information policy, awareness rising and support of R&D, the Waste Prevention Programme pursues further objectives, such as the support of the EU Ecodesign Directive, organisational and financial support of reuse and multiple use of products, repair centres, encouraging a more intensive use of commodities by a larger group of users (such as car sharing), minimise food waste at every stage of the production and supply chain, and the extension of the Blue Angel scheme to widen the range of product groups, etc.
- **National High-Tech Strategy** - strategy on innovation policy to systematically support priority fields (e.g. digital economy and society, sustainable economy and energy, innovative working, healthy living, intelligent mobility and civil security). The High-Tech Strategy introduced new instruments such as the innovation alliances – a strategic long-term cooperation between industry and public research in key technology areas that require strong funding.

³⁴ <https://medium.com/mark-and-focus/germanys-2022-circular-economy-214b7ad8470f>

³⁵ https://ec.europa.eu/environment/ecoap/germany_en

- **Central Innovation Programme for SMEs** – designed to increase the innovative capacity and competitiveness of SMEs willing to develop new or significantly improve existing products, processes and technical services.
- **Framework Programme for Research for Sustainable Development** – design to support any activities contributing to a sustainable economy that is both competitive and environmentally-friendly at the global scale.

As an example of good practice at the regional level, The Federal State of Bremen provides subsidies for investments to build of a pioneering environmentally friendly recycling and disposal infrastructure, as well as for projects that comply with the prevention principle aspired in the recycling and waste management act.

3.5. France

In February 2018, the French government presented the first draft of the roadmap for the CE³⁶ that tackles waste management, product eco-conception, consumption, the financial means needed for the transition towards the CE, and the stakeholders involved. The roadmap contains five main objectives:

- reduce by 30% the resource use and consumption compared to the GDP until 2030, compared to 2010;
- reduce by half the amount of non-hazardous waste in landfills in 2025, compared to 2010;
- recycle 100% of the plastic waste in 2025;
- reduce GHG emissions through plastic waste recycling; and,
- create 300,000 new jobs.

The following examples of policy measures addressing the CE have been adopted in France:³⁷

- **Green Transition Accelerator** – is a think-tank that aims at uniting the economic actors (enterprises, training centres, social partners) to support the employment and the innovations, in order to enhance the green growth. It will work on ecorenovations, renewable energies, circular economy and adapting ecological taxation to the challenges of the transition and development of green finance.
- **Ecotechnologies Fund** – this €150 million fund invests (between €1m and €10m) in innovative SMEs that cover the following areas:

³⁶ <https://www.ecologique-solidaire.gouv.fr/sites/default/files/FREC%20anglais.pdf>

³⁷ https://ec.europa.eu/environment/ecoap/france_en

new renewable energies, green chemistry, circular economy, smart grids, vehicles of the future.

- **Green Tech** – is a national incubator for start-ups, targeting ICT-enabled ecoinnovations.
- **ADEME** - is responsible for guiding, scheduling and coordinating research in its areas of action: energy and climate; sustainable consumption, waste and material management; sustainable land management and preservation and remediation of environments (soil and air).
- **Fond Unique Interministeriel (FUI)** – involves industries and SMEs in particular in collaborative projects. Projects should be labelled by a French competitive pole and involve at least 2 SMEs and a RTD.
- **Fonds Dechets/ R&D Programmes** – supports investment of equipment for recycling valorization and to increase the maturity of innovative technologies.

3.6. Sweden

The Swedish policy landscape provides the following examples of instruments supporting transition to the CE:³⁸

- **Green Investment Fund** – provides funding for early-stage research project.
- **Almi Invest GreenTech** - is an investment fund that is financed partly by the government and partly by EU-funds. Its focus is on start-ups in greentech. The fund has SEK650 million at its disposal.
- **Vinnova** - Sweden's innovation agency has a budget of approximately SEK3 billion to invest in projects each year.
- **Business Sweden** - is the official investment promotion agency of Sweden. Business Sweden (formerly Invest Sweden) connects international companies with business opportunities in Sweden and offer comprehensive, one-stop investment consultancy services free of charge.
- **Almi** - is owned by the state with the task to promote the development of competitive small and medium-sized businesses as well as to stimulate new enterprises with the aim of creating growth and innovation in Swedish business life.
- **The National Agency for Public Procurement** - gives support through consultation, practical tools and methods within the area of public procurement in general. The agency puts extra emphasis on

³⁸ https://ec.europa.eu/environment/ecoap/sweden_en

environmentally friendly procurement as an instrument to achieve the policy objectives in the environmental area.

3.7. Austria

In Austria, despite the lack of an overarching policy programme, increasing efforts towards ecoinnovation and CE can be observed. In recent years, a number of measures and initiatives have been set up by different government bodies. Besides the elaboration of ecoinnovation activities, new approaches towards circular economy have been initiated. The main institutions involved include the Federal Ministry of Sustainability and Tourism (BMNT, former BMLFUW - Ministry of Agriculture, Forestry, Environment and Water Management), the Ministry of Transport, Innovation and Technology (BMVIT), and the Ministry of Science, Research and Economy (BMWFW). In addition, other organisations, such as the Austrian Federal Economic Chamber (WKÖ), play an important role in (co-)financing eco-innovation and CE related initiatives. More specific examples of policy measures and instruments supporting circular economy in Austria are as follows:³⁹

- **Waste Prevention Programme** – a new Waste Prevention Programme (Bundes-Abfallwirtschaftsplan BAWP) has been published by the BMNT in 2017, supporting environmental goals by defining the targets of avoiding waste, reducing pollutants and establishing the CE. The vision of this program is to realise a CE through various measurements among the action areas ‘waste prevention’ and ‘waste re-use’.
- **RESET2020 – Resources Efficiency Technologies** - aims at integrating resource efficiency in the areas of environmental technologies and sustainable production and consumption. The thematic centre of this initiative is the optimisation of the non-energy use of natural resource in the context of the CE. This goal shall be implemented among the five action areas of ‘sustainable consumption and procurement’, ‘sustainable resource management’, ‘renewable resource use’, ‘sustainable production’, and ‘innovative environmental technologies’ (e.g. recycling technologies).
- **Green Tech Cluster** - The Green Tech Valley, located in and around Graz (Austria) consists of 200 companies and research institutions working in the area of green technologies and innovations as part of Green Tech Cluster. Following the three “I”s of innovate, internationalise and initiate, the cluster supports companies with R&D project development in the areas of bioenergy, solar energy, waste and resource management and green buildings.

³⁹ https://ec.europa.eu/environment/ecoap/austria_en

- **The Programme on Technologies for Sustainable Development** - is the biggest and most important programme promoting eco-innovation in Austria. It aims at supporting the economy with future-oriented innovations, initiates and supports trendsetting research and development projects and the implementation of exemplary pilot projects. It consists of the four subprogrammes "Building of Tomorrow", "City of Tomorrow", "Factory of Tomorrow", "Energy systems of Tomorrow". A significant share of Austria's passive house and ecological construction knowledge stems from this programme.
- **The National Action Plan on sustainable public procurement (NaBe)** - In 2016, a focal area is being set on "circular procurement", i.e. purchase of products with a high degree of circularity of the involved raw materials.

3.8. Portugal

Only recently Portugal has introduced **Fundo Ambiental**, which was created by the Decree Law n.º 42-A/2016, replacing several other funding instruments, to support the implementation of environmental policies to pursue the sustainable development goals, to help achieve the national and international objectives, namely concerning climate change, water resources, waste management and nature and biodiversity conservation. The strategic coordination of the Fundo Ambiental falls on the Ministry of Environment, which determines by Ministerial Order the yearly allocation of available funds. In 2017, the first year with the Fundo Ambiental was in full operation, several CE projects were supported through open calls in key areas. Other examples of public measures addressing CE in Portugal are as follows:⁴⁰

- **The FITEC fund** - with the main focus is to provide a public guarantee to the CE and eco-innovation related projects, helping these projects obtain lower financing costs.
- **National Science Foundation (FCT)** - with the aim to supports the scientific community in Portugal through a range of funding schemes, tailored for individual scientists, research teams or R&D centres.
- **The Operational Competitiveness Programme (COMPETE 2020)** - provides a specific funding for joint R&D projects based on the collaboration between the industry and R&D institutions (e.g., universities, research institutes). The end-goal is to increase the private investment in R&D activities.
- **Estratégia Nacional para as Compras Públicas Ecológicas 2020 (ENCPE 2020)**, - approved by Ministerial Order n.º 38/2016, of July

⁴⁰ https://ec.europa.eu/environment/ecoap/portugal_en

29, aims to foster green public procurement and therefore prevent pollution and reduce the consumption of natural resources.

- **The Portugal 2020 Competitiveness and Internationalization Programme** - has specific funding instruments for technology adoption, at different TRL (e.g., first-adopters, etc.).

3.9. Finland

Finland's public support regarding the CE is generally strong. Finland's ambition is to become a global leader in the CE by 2025, which is embedded in the country's climate change act⁴¹ which came into force in June 2015. Examples of instruments supporting CE include:⁴²

- **Finnvera** - is the official export credit agency for Finland. It offers loans, credits and guarantees for companies interested in eco-innovation and related investments.
- **Finnish Industry Investment (FII)** - is a government-owned venture capital and private equity company, with a focus on cleantech and mining.
- **Business Finland** - combines direct funding with guaranteed loans, especially in R&D. It grants funding and subsidies for the development of products, services and processes that are in accordance with sustainable development in general. Business Finland's funding specifically concerns innovation – transforming research-stage ideas (also those from universities and research institutes) into viable businesses.
- **Academy of Finland** - is a governmental funding body for scientific research. The Academy has funded several projects and researchers on topics related energy and the environment.
- **Invest in Finland** - helps to promote different industries and technologies, including cleantech services and trade (e.g. Cleantech).
- **Finnish municipalities and Regional development companies** - work in close operation with governmental organisations and local companies to in supporting start-ups to facilitate growth and new sustainable businesses.
- **The Finnish Innovation Fund (Sitra)** - promotes public discussion and informs consumers about the carbon-neutral CE.

⁴¹ [https://www.ym.fi/en-](https://www.ym.fi/en-US/The_environment/Climate_and_air/Mitigation_of_climate_change/National_climate_policy)

[US/The_environment/Climate_and_air/Mitigation_of_climate_change/National_climate_policy](https://www.ym.fi/en-US/The_environment/Climate_and_air/Mitigation_of_climate_change/National_climate_policy)

⁴² https://ec.europa.eu/environment/ecoap/finland_en

3.10. Netherlands

The Dutch Cabinet presented the plans of the government on the CE in September 2016 in the Government-wide program “**A Circular Economy in the Netherlands by 2050**”.⁴³ The programme acknowledges that both the economic structure and the material streams must change in order to change to the CE, which requires technical, social and systems innovations. Examples of other initiatives supporting CE in Netherlands are as follow:

- **The Netherlands Enterprise Agency** – provides various research subsidy programmes also in the area of the CE.
- **Circular Procurement Green Deal** – Green Deals are non-financial support actions to create conditions for innovation and new sustainable entrepreneurial activities. Forty-five participants of the Green Deal Circular Procurement brought together their knowledge and experiences. With the Circular Procurement Green Deal public and private parties together performed almost 80 pilot projects.
- **VAMIL/MIA** - fiscal support schemes for green investments. On top of regular tax deductions for investments, organisations can deduct up to 36% of the investment costs for an environmentally friendly investment through the Environmental investment rebate (MIA). The Arbitrary depreciation of environmental investments (Vamil) can be used to write off sustainable investment costs in the years of your choice. All entrepreneurs can use these rules, as long as their investments are on the Environment list that has been made, which includes around 270 investments.
- **KIEM-VANG 2** – finances small targeted research projects which focus on applied research for the transition to CE. The scheme aims at closing some material chains, prevention of waste and the simulation of high-quality material. Additionally, cooperation between SMEs, research organisations and governments is developed.
- **Innovation Credit** – to provide SMEs with financial support for risky innovation projects.

3.11. Turkey

The CE is still a new concept in Turkey, although some instruments supporting circular economy have been adopted in the recent years, such as:⁴⁴

- **Clean Technology Fund (CTF) combined with EBRD lending** – recently released the Near Zero Waste Programme (NØW), which is a

⁴³ <https://www.government.nl/documents/policy-notes/2016/09/14/a-circular-economy-in-the-netherlands-by-2050>

⁴⁴ <http://www.skdturkiye.org/en/surdurulebilir-sanayi-ve-dongusel-ekonomi>

strategic initiative to promote waste minimisation and pollution prevention projects in various sectors of the economy in Turkey. It will finance waste recycling infrastructure, biomass and biogas facilities, technologies which reduce packaging waste, and use of alternative fuels in energy intensive industries. The programme is expected to fund up to 12 investments for up to US\$ 125 million in total.

- **The Environment Protection and Packing Waste Recovery and Recycling Foundation (ÇEVKO)** - is a follower of the New Plastics Economy model, an initiative by the Ellen MacArthur Foundation, the European Commission's "Circular Economy Package. the ÇEVKO foundation aims to set up an action plan for Turkey, together with NGOs and the public and industrial sector. the foundation contributed 2.6 billion Turkish Liras to the economy in 2017, thanks to the recycling efforts conducted together with industrial and local administrations.
- **Innovative Sustainability Solutions Contest** - was launched in 2013, and it is organized biennially. The contest rewards valuable sustainability solutions. This event's purpose is to emphasize the importance of innovation for industry, and to highlight good practices and make them widespread. The jury of the contest consists of stakeholders who are experts in public or private sectors, NGOs, academia or media. As a result of the assessment made by the jury, awards are granted in "Environmental", "Social" and "Economic" Innovative Solutions branches in "Large Company" and "SME" categories.
- **Turkey Materials Marketplace (TMM)** - aims to create a closed-loop, collaborative network of businesses, organizations and entrepreneurs where one organization's hard-to-recycle waste and by-products becomes another organization's raw material. The European Bank for Reconstruction and Development (EBRD) has launched the Circular Vouchers Scheme to provide technical support to the company members of the TMM in developing material exchanges transactions. The Circular Vouchers are funded by the EU's IPA 2013, in order to support energy and resource efficiency in Turkey.

Also, circular economy initiatives in Turkey are directly supported by Ministry of Finance and Turkish Standards Institution.

4. Private financial opportunities supporting CE initiatives

In order to boost the transition towards the CE, it is important that public funding is supported by the private institutions investing in circular and innovative ideas and technologies. Financial institutions and banks are the

main funding bodies providing private capital to organisations to help them grow and achieve their strategic objectives. There are two main types of financing for companies: debt and equity. While debt needs to be repaid, equity does not require to be paid back, but it relinquishes ownership to the shareholders. Companies can use combination of both to finance operations. Private financing organisations, such as banks, tend to avoid early-stage activities where risks are high and return uncertain. However, for projects and technologies that are close to the market, loans could be the most suitable instrument for raising required capital.

The EIB (the European Investment Bank and the European Investment Fund) conducts an initiative in the circular economy domain by providing finance and advisory for CE projects. Apart from the EU EIB, there is a growing number of private green banks declaring the importance and support to circular entrepreneurship and innovation. For example, three large banks in the Netherlands (ABN-AMRO, Rabobank and ING) released a joint statement supporting the CE initiatives. They will also investigate what else is necessary to increase the knowledge of financial products and risk management in light of the CE. In France, the Banque Publique d'Investissement (Bpifrance) provides a green loan (Prêt Vert) for up to €3 million over seven years to SMEs investing in the CE at a subsidised interest rate, with no guarantees made against company assets. In Germany, Kreditanstalt für Wiederaufbau (KfW) offers low-interest rate loans, with some repayment bonus, via lending banks to small businesses for investments in energy-efficient production systems, using industrial waste heat, heat recovery systems, and more. Along with Germany's nonprofit Sparkassen banks, KfW has largely funded the country's green energy revolution. In Italy, Cassa di Risparmio di Padova e Rovigo (CR) wants to stimulate the sustainable development of the Italian economy – with several components directly relevant to Italian SMEs.

Private financing can also be provided by other organisations with business interests, including venture capital, business angels, incubators, foundations, professional associations and corporations. For early-stage projects and high-risk innovation, business angels can play an important role in exploring the potential of new ideas, even at pilot/demonstration phase. Venture capital provides access to financing and managerial guidance when other sources of financing are not available.⁴⁵ Some examples of other private institutions supporting the CE initiatives are as follows:

- **Circularity Capital** – the company invests in innovative and market leading businesses that create value from a defined range of circular activities: product-to-product, product-to-service, waste product, circular design and enabling data solutions. Circularity

⁴⁵ http://www.futuring-project.eu/static/deliverables/FUTURING_D3.4.pdf

Capital seeks to identify SMEs operating in Europe that require £1m - £5m of equity investment.⁴⁶

- **Funding Circle** – one of the best-capitalised lending platforms in the world and listed on the London Stock Exchange (Ticker: FCH) in October 2018. They have raised approximately £550 million since 2010 from some of the largest and most sophisticated investors around.⁴⁷
- **Kickstarter** – a crowdfunding platform.⁴⁸
- **Sustainable Accelerator** - venture capitalists investing in sustainable start-ups.⁴⁹
- **Fifo Capital** – a leading provider of business finance solutions for corporations through to SME's.⁵⁰ The company opened in New Zealand and Australia but recently expanded also into the UK.

The exploitation of intellectual property rights, such as patents, licences, technology transfer and copyrights by third parties may also be a source of additional funding on close to the market technologies.

5. Combined CE funding opportunities

In addition to public and private funding, a combined instrument (e.g. the Public-Private Partnership) is also considered a very important measure to accelerate the CE uptake. Combined public and private funds are the mix of various public and/or private financial instruments. The advantage of public-private funds is that the risk for potential private investor is reduced, which may thus bring more capital for a given investment. Public funding acts as a leverage to attract more funding coming from private sources.

A good example of the Public-Private Partnership (PPP) relevant for the CE is the **Sustainable Process Industry (SPIRE)** created by the European Commission together with eight sectors of the process industry: chemical, cement, ceramics, minerals, steel, non-ferrous, industrial water and process engineering. The sectors united under SPIRE include more than 450k individual enterprises, provide jobs for 6.8 million employees and generate annually more than €1.6 billion turnover. SPIRE supports the development of novel technologies for improved resources and energy efficiency in the process industry, making it more sustainable and competitive.

Another example of the PPP is **Energy-efficiency Buildings (EeB)**, which is a partnership between the European Commission and the private sector represented by the Energy Efficient Buildings Association (E2BA), an

⁴⁶ <https://circularitycapital.com>

⁴⁷ <https://www.fundingcircle.com/uk/>

⁴⁸ <https://www.kickstarter.com>

⁴⁹ <https://www.sustainableaccelerator.co.uk/>

⁵⁰ <https://fifocapital.com.au/use-sustainability-disrupt-industry/>

Initiative of the European Construction Technology Platform. The multiannual EeB roadmap is the document containing the research and innovation priorities of the private sector, which are essential inputs for the design of the research work programmes by the European Commission. The construction sector is crucial to the EU environment and energy policies as buildings use 40% of total EU energy consumption and generate 36% of GHGs in Europe. Hence, the construction sector is on the critical path to decarbonize the European economy by 2050, which creates a unique opportunity for sustainable business growth provided by the products and related services for both new and refurbished buildings.⁵¹

The Joint Technology on Bio-based Industries (BBI) is a €3.7 billion PPP between the EU and Bio-based Industries Consortium. Its aim is to increase investment in the development of a sustainable bio-based industry sector in Europe by contributing to more resource-efficient and low-carbon economy, increasing the competitiveness and economic growth of Europe and contributing to establishing Europe as a key player in research demonstration and deployment of advanced bio-based products.

Factories of the Future (FoF) is another PPP initiative aiming at helping EU manufacturing enterprises, in particular SMEs, to adapt to global competitive pressures by developing the necessary enabling technologies across a broad range of sectors. The objective is to help the European industry to meet increasing global consumer demand for greener, more customized and higher quality products through the necessary transition to demand-drive industry with less waste and a better use of resources.

6. Conclusions

This report constitutes the first version of D1.4 by providing the funding landscape supporting the circular economy initiatives. It provides an overview of the main funding instruments (public and private) at the European, national and regional level available to different type of organisations seeking investment in the circular economy.

Considering that the circular economy has become central to the European Commission, in order to promote sustainable economic growth in Europe, the EU financial mechanisms are still considered as the major financial streams supporting the circular economy initiatives. This deliverable identified and analysed several of them, including the European Structural and Investment Funds, Horizon 2020 programme, COSME, LIFE programme, InnovFin, European Fund for Strategic Investments, European Investment Bank, Public contracts and Instrument for Pre-accession Assistance.

National and regional funds, which are different for each EU country since they highly depend on the structure of national budget of individual

⁵¹ http://www.futuring-project.eu/static/deliverables/FUTURING_D3.4.pdf

countries, can be used to support more local projects, as well as to conduct interregional cooperation initiatives under the European programmes. This report provides examples of the national and regional funds in those countries that are present in ECOBULK, although it is important to note that the list is not exhaustive, and more opportunities arise each year in the EU member states.

Despite the large interest and uptake of the public funding in Europe, there is a growing number of private and private-public organisations supporting the circular economy initiatives. The Public-Private Partnerships especially start to be recognised as important measures to accelerate the circular economy transition. Good examples of Public-Private Partnership initiatives identified in this report are: Sustainable Process Industry (SPIRE), Energy-efficiency Buildings (EeB), The Joint Technology on Bio-based Industries (BBI) and Factories of the Future (FoF). Private financing can be supported by private banks, venture capitals, business angels, incubators, foundations, professional associations and corporations.

This deliverable should be considered as a tool for providing key information available to all of those interested in the EU funding programmes, as well as other national and regional programmes (both public and private) supporting the circular economy initiatives. In the next version of this deliverable (M48), a clear strategy for seeking additional funding for the ECOBULK consortium will be decided, depends on the developments and key exploitation opportunities that will arise from the project. Contacts will be established with the funds managing bodies, as well as other relevant stakeholders, during the duration of the project in order to find additional funding and support for the ECOBULK innovative technologies and solutions.