

ECOPRENEUR.EU

EUROPEAN SUSTAINABLE BUSINESS FEDERATION

Final report

CIRCULAR ECONOMY UPDATE

OVERVIEW OF CIRCULAR ECONOMY
IN EUROPE

2019

DISCLAIMER

This report has been produced by Ecopreneur.eu, which takes full responsibility for the report's contents and conclusions. While funders, members, their company partners, members of the Board, participating organisations, and those experts who were consulted and acknowledged here have provided significant input to the development of this report, their participation does not necessarily imply endorsement of the report's contents or conclusions.



ecopreneur.eu

About the author - Ecopreneur.eu

Ecopreneur.eu, the European Federation of Sustainable Business, sets a course toward sustainable economic policies on the European level to support the economic and societal transformation across Europe and beyond. Ecopreneur.eu aims at opening solidified structures and brings sustainable matters to European policy-makers.

Ecopreneur is a non-profit non-governmental organisation that now holds five associations from different countries of the European Union. Together they represent over 3000 green businesses, mostly small and medium-sized enterprises.

www.ecopreneur.eu

CONTENTS

Foreword	4
Executive summary	6
Chapter 1. Introduction	9
Chapter 2. Country profiles	13
2.1 Austria	15
2.2 Belgium	18
2.3 Bulgaria	21
2.4 Croatia	24
2.5 Cyprus	27
2.6 Czech Republic	30
2.7 Denmark	33
2.8 Estonia	36
2.9 Finland	39
2.10 France	43
2.11 Germany	47
2.12 Greece	50
2.13 Hungary	53
2.14 Ireland	56
2.15 Italy	59
2.16 Latvia	62
2.17 Lithuania	65
2.18 Luxembourg	68
2.19 Malta	71
2.20 Netherlands	74
2.21 Poland	78
2.22 Portugal	81
2.23 Romania	84
2.24 Slovakia	89
2.25 Slovenia	91
2.26 Spain	94
2.27 Sweden	97
2.28 UK	100
Chapter 3. Conclusions and recommendations	105
Colophon and acknowledgments	111
References	113

FOREWORD

The circular economy is not a new idea, but over the past few years it has built up a potential to transform our economy for the better. An essentially zero waste economy is about as different to the current one as we can imagine. Realising this requires great changes in institutions and incentives. The European Union has shown leadership by creating the first foundations for this new economic framework. Meanwhile, it remains true that the pace of change is largely determined by initiatives within and differences between the member states.

This observation caused Ecopreneur to turn from the EU level, where it is advocating ambitious circular economy policies, to the member states. What was keeping them from accepting excellent proposals for extended producer responsibility? To what extent do member states see economic opportunities from circular models? What models are they using to move forward? Especially the last question culminated in this report, showing a richness of approaches across the EU.

While the EU as a whole has made an excellent start, the real work on creating incentives and regulations to mainstream the circular economy has to be done during the period of the next European Commission – and beyond, because this is a long-term project with a 10-20 year time scale. The analysis by Ecopreneur shows that this work requires leadership, targets, and new resource policies across the EU, as aligned and harmonised as can be. A first step would be to make circular economy a priority again, based on its potential to reach the climate goals in the Paris agreement, reduce plastics pollution in our oceans, rivers and lakes, and generate less waste all round.

However, it will not be easy, and will require commitment – from policy makers, businesses and civil society. Yet many local authorities have other concerns and problems. Businesses, including the SMEs and leading companies in the membership of Ecopreneur, have more incentives for going circular, but their circular activities are as yet largely confined to niche markets. Mainstreaming circularity requires bold policies such as a tax shift from labour to resources, transparency throughout the value chain and a shift away from waste incineration. I hope the best practice examples from individual member states will inspire others to fast-track their economy and the EU in the circular direction.

Paul Ekins
Director UCL Institute for Sustainable Resources
Professor of Resources and Environmental Policy

“ Everything made by people should be separable by people as well. ”

— Herwart Wilms,
REMONDIS



EXECUTIVE SUMMARY

This reports intends to inspire EU member states to accelerate their transition into a circular economy. Combining the Circular Economy Monitoring Framework of the European Commission with available rankings, databases and reports, Ecopreneur presents 28 country profiles using a combination of available quantitative data and qualitative information to highlight specific indicators covering various aspects of the circular economy. These indicators, which range from the waste generated per person to the voting behaviour on EU proposals concerning the circular economy, are accompanied by a description of their current performance, initiatives, most relevant organisations, policies, challenges and examples of good practice. Each country profile is concluded with Ecopreneur’s recommendations.

The overall picture is rich and diverse. The country profiles show 28 different trajectories into the circular economy, reflecting their unique character as well as the presence of leadership. Some countries and regions are leading the way, such as the Netherlands, Scotland, Slovenia, France, Belgium and Finland. Some examples of good practice of circular economy policies are given by the Netherlands with a Green Deal Circular Procurement invoking over € 100 million in procurement done circular, France with 20 extended producer responsibility (EPR) schemes in 14 sectors, and Sweden with a low VAT rate and income tax reduction for certain repairs. Others are making impressive strides, such as Italy which increased their municipal waste recycling rate from 17 to 45 per cent since 2001 and Portugal with a broad circular economy policy mix including many EPR schemes. And some have only just begun the journey, such as Cyprus, Greece, Malta and Romania. Some leading countries including the Netherlands have the longest way to go because they generate enormous amounts of waste per person, on which Romania scores best.

Out of many country-specific recommendations, the following stand out as relevant for all member states:

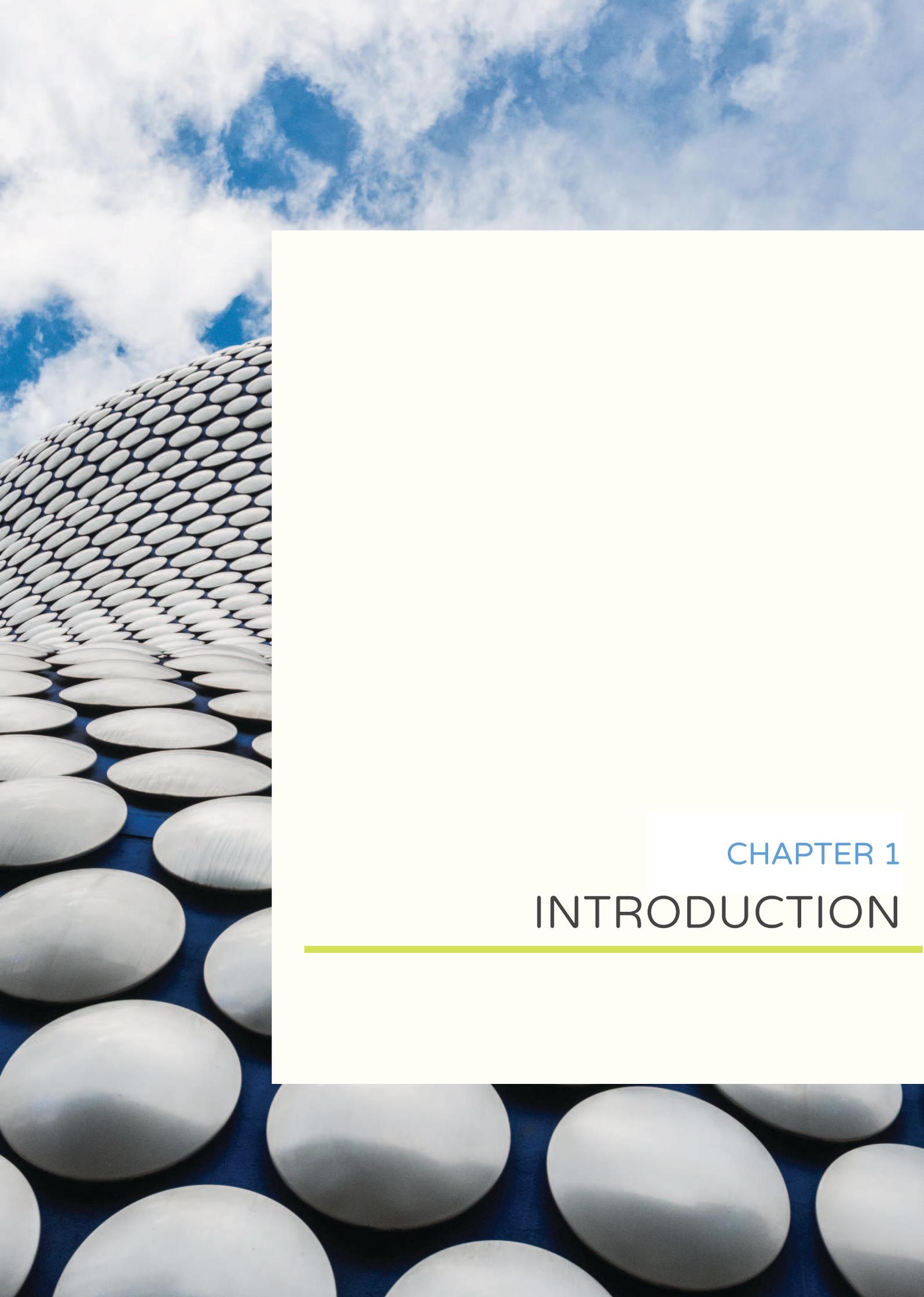
- 1 Start a Green Deal on Circular Procurement
- 2 Create circular “hubs” to support companies with circular models
- 3 Create a national circular economy roadmap with concrete targets
- 4 Improve and extend the extended producer responsibility (EPR) to cover eco-modulation of fees

EXECUTIVE SUMMARY

- 5 Introduce low VAT rates for repair services, resold goods and transactions with clearly defined social reasons
- 6 Create a “Green New Deal” to shift taxes from labour to resources
- 7 Shift investments away from municipal waste incineration.

In addition, Ecopreneur recommends the following to the EU:

- Initiate and fund a massive free training programme on Circular Procurement in all member states and lead by example with circular procurement across the board
- Initiate and fund the development of circular hubs in all member states
- Encourage the development of circular economy roadmaps while ensuring their alignment
- Ensure alignment of national EPR schemes by strong guidelines and reconsider the introduction of harmonised, mandatory schemes
- Prepare the VAT rate proposal in the context of its potential for the circular economy, table it when adoption by all member states can be reached, and continue investigating majority voting on tax matters
- Keep advising member states to introduce a tax shift from labour to resources and set up pilots to demonstrate its potential, including VAT differentiation
- Prevent the use of EU funds for investments in residual waste incineration
- Create a general regulatory framework that creates harmonised transparency and traceability, introduces minimum requirements for circular design by expanding the EU Ecodesign Directive from energy to resource efficiency for all end products, and removes existing obstacles for cross-border shipment of waste within the EU.



CHAPTER 1

INTRODUCTION

This report intends to inspire EU member states to accelerate their transition into a circular economy. In a circular economy, the value of products and materials is maintained for as long as possible. Waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value.¹ During the past five years, one after the other country has embarked on this journey, especially after the European Commission acknowledged the huge potential for jobs and economic growth and launched the EU Circular Economy Action Plan in 2015. The European Commission and Parliament have been progressive in forwarding this. The European Council however, while in favour of the transition to a circular economy and having adopted several important new regulations to foster it, has blocked many ambitious proposals over the past five years.¹⁹⁰

For Ecopreneur, this illustrates the importance of the member states for realising the transition from a linear to a circular economy. The report intends to show how individual member states have managed to move forward, including good practices that can hopefully bring other member states further and convey the key message that going “circular” is good for your economy. If this works, this will hopefully allow the European Union to fast-track the circular economy by harmonised and aligned approaches.

Explanation of the indicators and infographics

Presenting an overview of circular economy performance, initiatives and policies for all 28 EU member states requires some form of circular economy “yardstick” that is as factual as possible. Combining the Circular Economy Monitoring Framework of the European Commission made available by Eurostat² with available rankings, databases and reports, Ecopreneur decided on a combination of available data to highlight specific indicators covering various aspects of the circular economy using infographics:

- The European Commission’s Eco-innovation Index resource efficiency ranking from the Eco-innovation Observatory (2018), specifically highlighting innovation performance and obstacles³
- POLITICO’s circular economy index, offering a different perspective on official datasets⁴ by giving more weight to waste prevention
- The European Commission’s Flash Eurobarometer 456 (2018), reporting on the share of SMEs minimising waste⁵
- The Eurostat data on per capita municipal waste production (using the 2016 data), per capita total waste incineration with energy recovery, recycling rate of municipal waste, recycling rate of packaging, and the circular material use rate, reflecting the progress towards minimising waste.²

INTRODUCTION

To further complement the picture of policies and initiatives to foster the circular economy, the presence of the following qualitative indicators was added under “Activities”:

- Extended Producer Responsibility (EPR) schemes, important as an economic incentive system (see also below)⁶
- The presence of a circular economy roadmap, reflecting the government’s effort and stakeholder support for the circular economy
- Circular economy initiatives, reflecting the bottom-up movement
- Circular economy tax incentives, including VAT measures as well as elements of the so-called tax shift from labour to resources. Just like EPR, these incentives are crucial to create demand for circular products and services.
- The most relevant organisations – indicative and not exhaustive. Insofar present, the national Ecopreneur member is also listed
- Examples of good practice – if present.

Finally, on a completely different note, the voting behaviour of MEPs in the European Parliament on the following recent EU proposals connected to the circular economy is listed on:⁷

- Ecodesign, concerning the extension of the current directive to resource efficiency
- The directive on Single-Use Plastics (SUP), which recently entered into force
- A recent proposal adopted by the Parliament to open up the VAT directive

to differentiate rates beyond the current positive list, which could enable governments to give more economic incentives to circular products and services

- The revised directives for the Waste framework, Landfill, Packaging and End-of-Life Vehicles (ELV’s).

The votes reflect the member states’ support for and/or resistance against these proposals. This is important because they determine the ability of the European Union to accelerate the circular economy by harmonised and aligned approaches. As already mentioned, resistance from member states has been even more apparent in the European Council.

Obviously, these additional indicators are not incorporated in or acknowledged by the Circular Economy Monitoring Framework of the European Commission, so the total picture presented will deviate from the official one. This choice reflects the perspective of Ecopreneur on the circular economy, which is that of green SMEs and leading companies operating at the forefront of circular economy. It aims to highlight certain aspects that would otherwise remain uncovered because the member states chose not to include them in monitoring framework. While it may be tempting to rank the profiles and decide on “winners” and “losers”, we decided not to do this because our purpose is to inspire and because our yardstick is not a generally accepted one.

INTRODUCTION

All these data are represented in the infographics. First, a performance ranking for the country among all 28 EU member states is shown for the quantitative indicators, with the red dots representing relatively poor performance compared to scores in the orange (average) and green (good) and a blue arrow up or down reflecting the change in country ranking during the last year. For the voting behaviour, the full bar represents all MEP votes, e.g. 18 for Austria if they all voted, with “for” votes in green, abstentions in blue and “against” votes in red.

At the same time, the data presented give only a partial picture. This is why the 28 country profiles are accompanied by a short story to give some background for their current performance, initiatives, most relevant organisations, policies and challenges. Each country profile is concluded with “examples of good practice” (if any) and Ecopreneur’s recommendations.

Finally, the publication of the European Commission’s second Environment Implementation Review (EIR) was written in parallel and published a few days before the content of this report was finalised, and could unfortunately not be integrated any more other than with a few last-minute changes.⁸

Reading guide

Chapter 2, the core of this report, presents country profiles for all 28 EU Member states. Each country profile is accompanied by a list of recommendations. While most of them speak for themselves, some require more explanation, such as those concerning EPR. This explanation is given in Chapter 3, which lists Ecopreneur’s conclusions and overall recommendations. The report ends with acknowledgements of dozens of experts from all over the EU that have provided feedback and additional input to the country reports, and with references.



CHAPTER 2

COUNTRY PROFILES

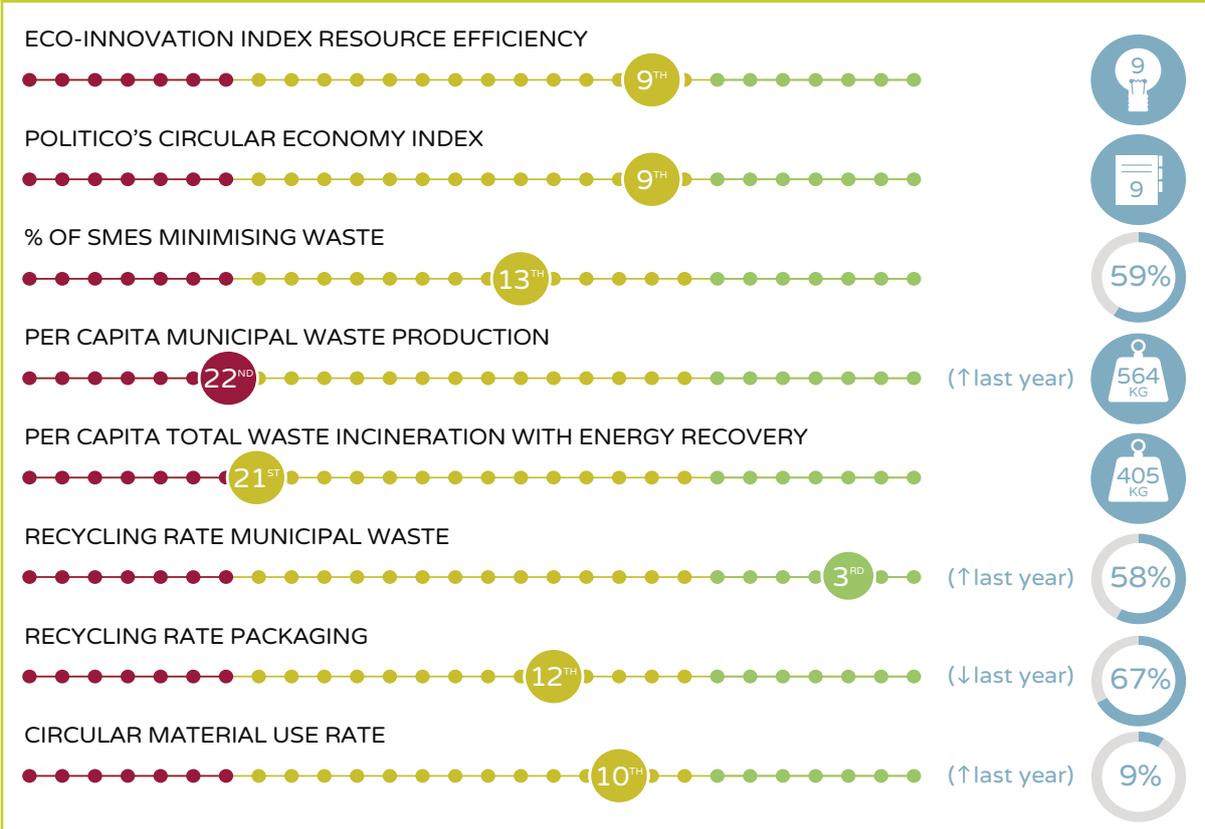
CHAPTER 2 – COUNTRY PROFILES

This Chapter describes circular economy country profiles for the 28 EU member states by a listing of the data presented in Chapter 1, accompanied by a short story describing their current performance, initiatives, most relevant organisations, policies, challenges and examples of good practice. Each country profile is concluded with Ecopreneur’s recommendations.

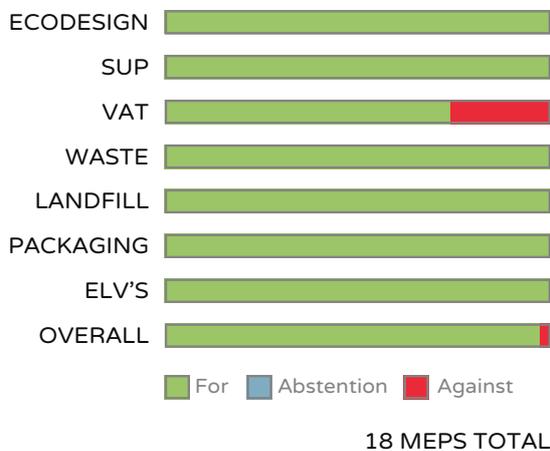


2.1 AUSTRIA

PERFORMANCE-RANKING OF AUSTRIA AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 14 across 4 sectors
 Circular economy roadmap: -
 Circular economy tax incentives: -
 Circular economy initiatives:
 Circular Futures Platform, Resources Efficiency Action Plan (REAP), RESET2020
 Most relevant organisations:
 RepaNET, REVITAL
 Circular Economy Coalition for Europe (CEC4Europe), Umweltdachverband
 Ecopreneur member:
 Grüne Wirtschaft

* For explanation of the infographics see page 10-11 of the Introduction.



AUSTRIA

Austria can be recognised as a hub for environmental innovation within Europe, home to the "Green Tech" cluster located in and around Graz and the "Clean Tech" cluster situated in upper Austria.⁹ This is reflected in its high municipal waste recycling rate, ranking 3rd out of all member states², and in good rankings on resource efficiency³ and POLITICO's circular economy Index⁴. Austria has several extended producer responsibility (EPR) schemes in place for batteries, waste electrical and electronic equipment (WEEE), packaging, and end-of-life vehicles (ELV's)⁶.

There are various initiatives to further foster the circular economy, mainly from NGO side such as the unique Vienna Repair Network,¹⁰ RepaNet – the Austrian Re-Use und Repair Network¹¹ and the recently founded Circular Futures Platform¹². Recently, the Austrian Water and Waste Management Association (ÖWAV) released a position paper setting out clear measures to achieve the respective goals of its numerous stakeholders. These include building a respective data basis, implementation of eco-design, defining quality standards, efficient and effective implementation of an extended producer responsibility (EPR) and several others.¹³

Austria has a well-established environmental technologies sector, with readily available financial support from the state to develop them further.³ In addition, the Cabinet recently approved a ban on non-biodegradable plastic bags set to come into effect in Austria at the start of 2020. New legislation will ban plastic particles in cosmetic and cleaning products if the European Union fails to come up with a solution for this issue before 2020.¹⁴

Regarding circular economy tax incentives currently only the city of Graz reimburses 50% repair costs up to maximum € 100.¹⁵ At the EU level, Austria voted in favour of all recent EU proposals regarding Ecodesign, single-use plastics and waste, with little to no resistance. The only vote to receive moderate resistance was the Council directive amending Directive 2006/112/EC as regards rates of value added tax (VAT)⁷. Moreover, Austria has shown leadership and ambition to drive the European Circular Economy agenda during its Presidency in 2018 and was praised for realising the adoption of the Single Use Plastics Directive.¹⁶

However, while all this gives Austria a good starting position to become a circular

AUSTRIA

economy, the country is by no means there. With 564 kg per person per year, Austria is amongst the highest waste producers². Additionally, SMEs perform below the EU average on waste minimisation⁵. Austria does not have a circular economy roadmap. Existing initiatives are mainly driven by NGOs. Circular economy is currently not a focus of the Austrian Government. It is widely interpreted as waste recycling where Austria is perceived to be already among the top performer. A comprehensive approach towards circular economy in the public debate is missing. Awareness seems focused on waste and environmental concerns rather than economic opportunities in, for instance, the service sector- which accounts for approximately 63% of the country's gross domestic product.¹⁷ Existing barriers include a lack of corporate awareness, little focus on the circular economy from the government and missing market action, for example through public procurement³.

Ecopreneur recommendations: (see also Chapter 3)

- Formulate and launch an Austrian Circular Economy Strategy, including objectives to reduce raw materials use and waste production, to foster secondary raw material use, to establish an appropriate materials accounting system and to become fully circular in 2050
- Adopt a proposal for the reduction of labour costs for repair and exempt repair from VAT. Also introduce low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate

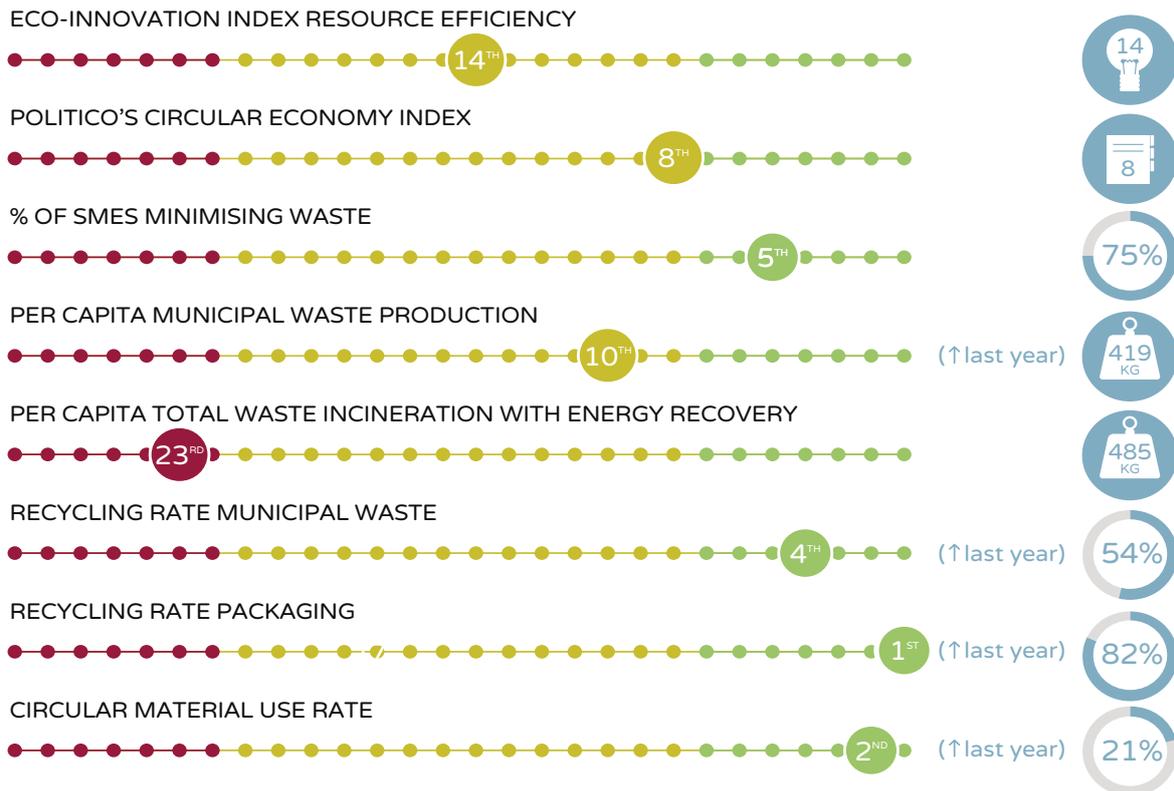
proposal in the context of the circular economy

- Set-up a national R&D and support programme for SMEs with focused activities and access to finance to initiate circular economy pilot projects and create a circular economy “hub”
- Launch a Green Deal on Circular Procurement for both the public and the private sector, including commitments from companies and a free training programme
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Make sure to implement circular economy principles in existing programmes for sustainable tourism, the dominant economic sector

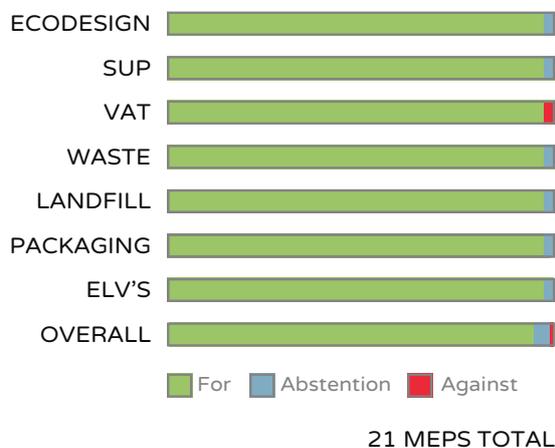
COUNTRY PROFILES

2.2 BELGIUM

PERFORMANCE-RANKING OF BELGIUM AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 11 across at least 7 sectors

Circular economy roadmap: Yes

Circular economy tax incentives: Yes

Circular economy initiatives:

Circular Flanders, Marshall Plan 4.0, MADE DIFFERENT

Most relevant organisations:

OVAM, VITO, Bond Beter Leefmilieu, The Shift, VVSG (Association of Flemish Cities and municipalities)

Ecopreneur member: SEA (Sustainable Economy Association)

Examples of good practice:

- EPR schemes well established and encompassing the most important streams
- Green Deal Circular Procurement

* For explanation of the infographics see page 10-11 of the Introduction.



BELGIUM

Belgium is doing well in many aspects of the circular economy. Especially with a total packaging recycling rate of 82 per cent, the country ranks 1st out of all member states². Belgium has quite a few (11) EPR schemes, they encompass the most important waste streams and are well established^{6,18}. A focus on minimising waste amongst SME's is evident with 75 per cent of all SME's prioritising waste minimisation⁵. The three regions in Belgium (Flanders, Wallonia and Brussels) have implemented landfill and incineration bans (in Flanders combined with landfill and incineration taxes), pay as you throw schemes for household waste, an extensive infrastructure for separate collection, sorting and recycling, and an extensive network of reuse centres, supported by subsidies.

There are many circular economy initiatives currently running, with a select few such as Circular Flanders receiving government backing. Belgium is home to a highly innovative base of companies with circular economy policies being well supported by institutions and individuals alike. Additionally, circular economy initiatives are well integrated and coordinated with other policies on a governmental level.³ Belgium offers a reduced

VAT rate of 6 per cent to social enterprises providing goods and services relating to reuse and the preparation of products for reuse, providing that they are engaged in the social development of disadvantaged groups.¹⁹ The government supported EU proposals pertaining to waste, single-use plastics (SUP), Ecodesign and value added tax (VAT) with virtually no opposition⁷.

Belgium already released a circular economy roadmap in 2014, a joint effort undertaken by Federal Public Services for Health & Environment and for the Economy.²⁰ A Roadmap was created with 21 measures.¹⁹⁸ The Flemish government acknowledged circular economy as a priority transition in its 2050 Future Vision¹⁹⁹ (2016) and recently streamlined various initiatives into a programme focusing on procurement, cities and entrepreneurship, with Flanders Circular as the key organisation.^{200,201} Crucially, Flanders recently introduced a Green Deal Circular Procurement, an initiative that fosters collaboration between organisations and encourages the purchase of circular goods and services.²¹ By further improving on the successful Dutch approach, this initiative has kick-started implementation of circular economy in Flanders. The Wallonian

BELGIUM

government was the first to join the Ellen MacArthur Foundation.²² In 2018 it has adopted a “Waste-Resource” plan for the region, with which it aims to integrate the new European circular economy obligations as well as increase recycling.²³ The three regions launched a common tool for calculating the environmental footprint of buildings.

Despite widespread support for the circular economy, Belgium still faces issues slowing development such as independent policy administration by region, low environmental taxation and a trend in difficult to repair products (expensive repair parts, lack appropriate repair information, product designed without re-use potential or breaks on repair attempt). Finally, in recent years there has been an increase in the operational costs of selective waste collection, resulting partly from new initiatives tackling litter³.

Ecopreneur recommendations: (see also Chapter 3)

- Add objectives to the national strategy to reduce raw materials use, to foster secondary raw material use, and to become 50 per cent circular in 2030 and fully in 2050
- Expand the regional support programmes for SMEs with focused activities and access to finance to initiate circular economy pilot projects and create a circular economy “hub”
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for further improvement, and extend them to cover eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services and resold goods and discuss the EU VAT rate proposal in the context of the circular economy

Examples of good practice:

- Extended producer responsibility (EPR) schemes well established and encompassing the most important streams
- Green Deal Circular Procurement

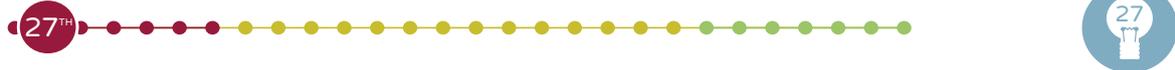
COUNTRY PROFILES



2.3 BULGARIA

PERFORMANCE-RANKING OF BULGARIA AMONG ALL EU MEMBER STATES*

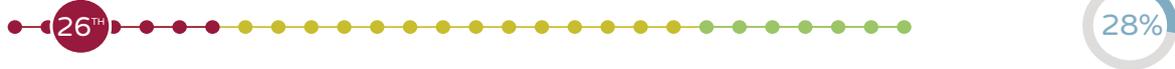
ECO-INNOVATION INDEX RESOURCE EFFICIENCY



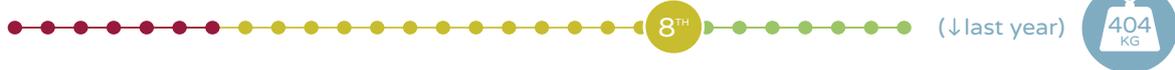
POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



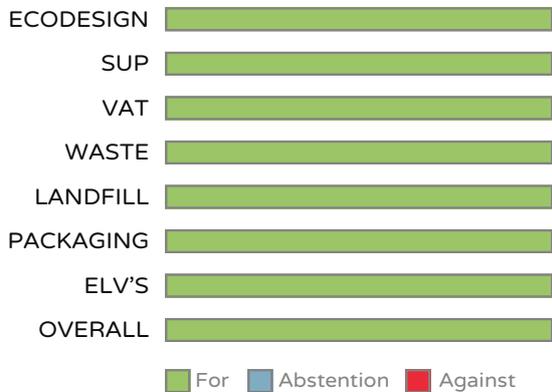
RECYCLING RATE PACKAGING



CIRCULAR MATERIAL USE RATE



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



17 MEPS TOTAL

ACTIVITIES

EPR schemes: 9 across 5 sectors

Circular economy roadmap: -

Circular economy tax incentives: [Cleantech Bulgaria](#)

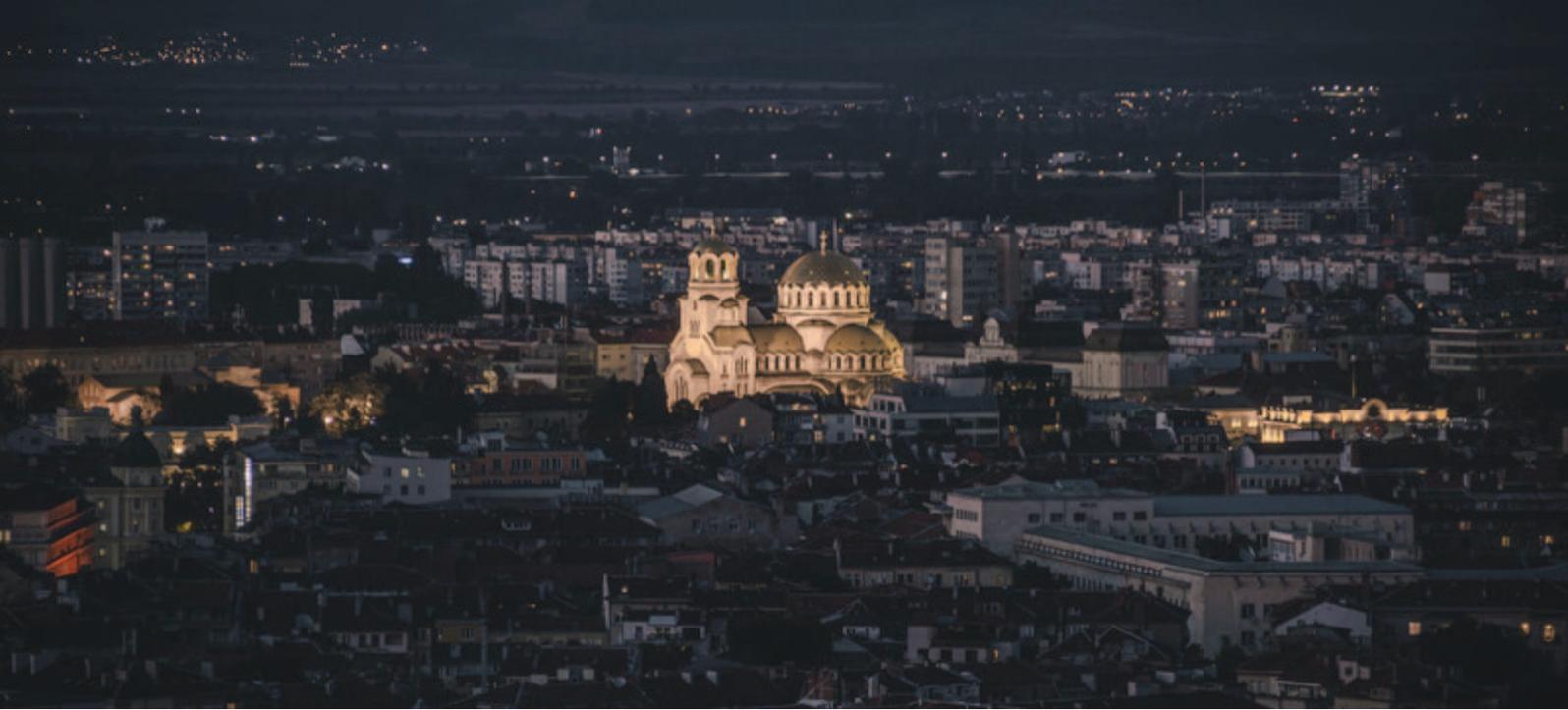
Circular economy initiatives:

[Bulgarian Institute for Circular Economy](#)

Most relevant organisations:

[Green Synergy Cluster](#), [Cleantech Bulgaria Cluster](#)

* For explanation of the infographics see page 10-11 of the Introduction.



BULGARIA

Bulgaria is struggling regarding circular economy efforts. On the bright side, it has a low per capita waste production with of about 400 kg per year², a solid number of EPR schemes in place⁶.

On all other circular economy indicators, Bulgaria ranks very low. Resource efficiency is of particularly concerning, ranking second to last amongst all EU member states³ and little focus on waste minimisations by SME's according to the Flash Eurobarometer⁵. Barriers to circular economy implementation are mostly economic with limited funding available for enterprises to modernise equipment and a notably low level of domestic, private and foreign capital investments. The largest contributing factor to the poor performance can be attributed to a lack of funding at the country's disposal for the circular economy. Government support is lacking and initiatives are few and far between, with those in place focusing primarily on collaboration between businesses.³

Bulgaria has a long way to go to contend with the pioneers of circular economy within

Europe. The country does however have a wealth of human capital, with a multitude of qualified engineers, scientists and R&D institutions increasing the potential for a well monitored transition to a circular economy.⁵ Additionally, the country's accession to the EU improved quality of life for the populace, in turn ramping up demand for high quality products and services. Bulgaria voted wholly in favour of all recent legislative proposals in the EU Parliament regarding the circular economy⁷.

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Apply for EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy "hub"
- Implement the new EU regulations on waste management and plastics as soon as possible



BULGARIA

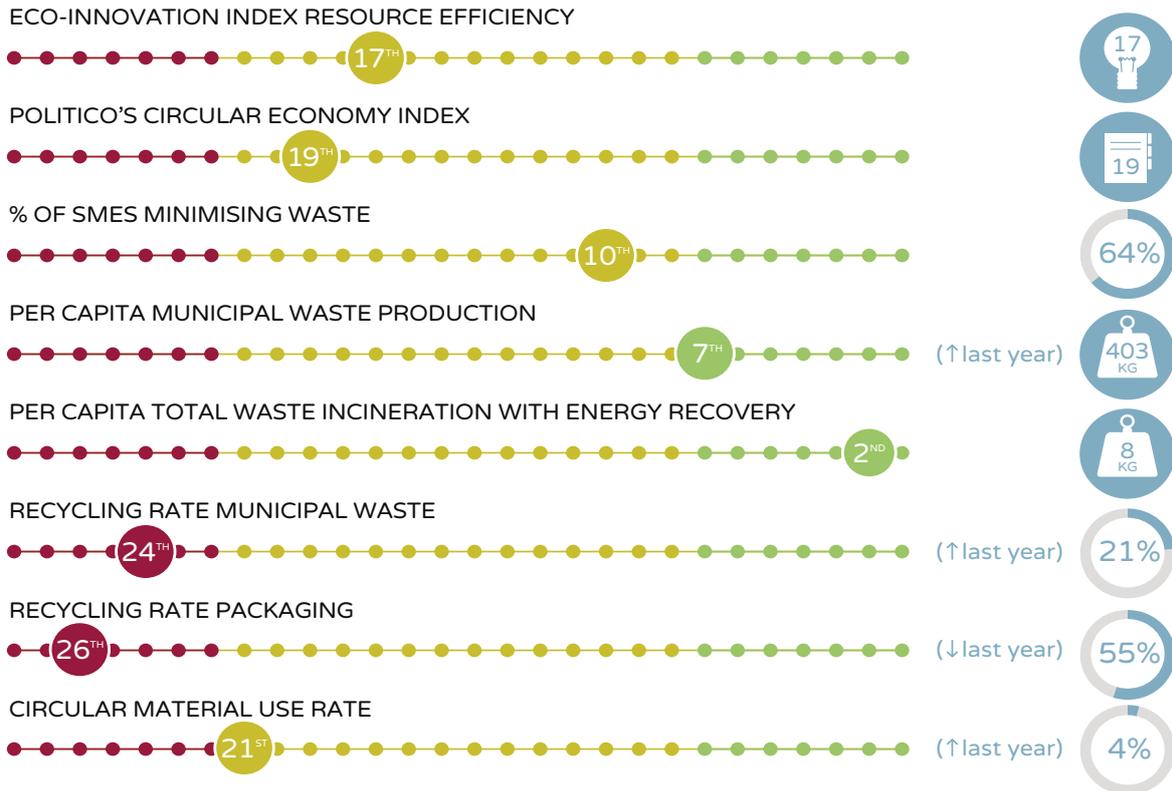
- Formulate and launch a Bulgarian Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production and to become fully circular in 2050
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover eco-modulation of fees
- Monitor the waste per capita as to keep the advantage with growing prosperity
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES

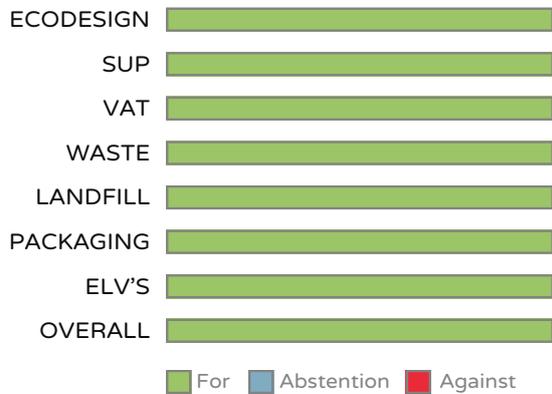


2.4 CROATIA

PERFORMANCE-RANKING OF CROATIA AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 5 across 3 sectors
 Circular economy roadmap: -
 Circular economy tax incentives: -
 Circular economy initiatives: -
 Most relevant organisations:
 Zelena Akcija, Croatian Business Council for Sustainable Development, ECO-OZRA

* For explanation of the infographics see page 10-11 of the Introduction.



CROATIA

Croatia is one of fourteen countries recognised by the European commission as being at risk of not meeting their recycling targets by 2020.²⁴ Positives are its low per capita waste production² and respectable Flash Eurobarometer SME waste minimisation ranking⁵. Extended Producer Responsibility (EPR) seems relatively well developed with schemes in place for 7 sectors^{6,25} and an act on producer responsibility coupled to an environmental fund.²⁶ The country has however one the lowest recycling rates of municipal waste and packaging in the EU at just 21 per cent and 55 per cent respectively².

While Croatia does not have any initiatives focusing on circular economy as such, it is working on waste management and on sustainable tourism.²⁷ For waste management, the country has access to 475 million euros made available by the EU's Competitiveness and Cohesion Operational Programme for the adoption of a Waste Management Plan for the years 2017-2022.²⁸ The plan focusses on developing a recycling and recovery system to separate waste, reducing the total quantity of mixed municipal waste. After a strong shift towards sustainable solutions including

increasing recycling from 10 per cent to 50 per cent by adoption of new Waste Management Plan at beginning of 2017,²⁹ a new minister for the environment took a step backwards in May of the same year by releasing a document with less ambitious targets for the reduction of the incineration capacity for residual waste.³⁰ Noteworthy are huge differences among counties within the country, with recycling rates varying from 3 per cent to 38 per cent reflecting local differences in awareness and willingness to change behaviour.³¹ The Croatian Business Council for Sustainable Development and ECO-OZRA are working on awareness raising. Concerning tourism, Croatia's economy is service sector dominated with tourism accounting for a large portion of the country's GDP.³² In recent years there has been a push for sustainable tourism with the establishment of the Croatian Sustainable Tourism Observatory and an several international conferences, such as the one on Protected Areas and Sustainable Tourism organised by partners of the Central Europe Eco-Tourism project.³³



CROATIA

Meanwhile the country's voting behaviour on EU circular economy proposals is one-sided, with all votes in favour of recent proposals⁷.

- Implement the new EU regulations on waste management and plastics as soon as possible

Croatia is by no means a frontrunner and much more must be done to combat the barriers preventing a smooth transition to a circular economy. A lack of awareness and willingness to engage in circular economy principles by the general population and the country's territorial topography are particularly problematic.³

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy "hub"
- Formulate and launch a Croatian Circular Economy Strategy, including objectives to reduce raw materials use and waste production and to become fully circular in 2050
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES

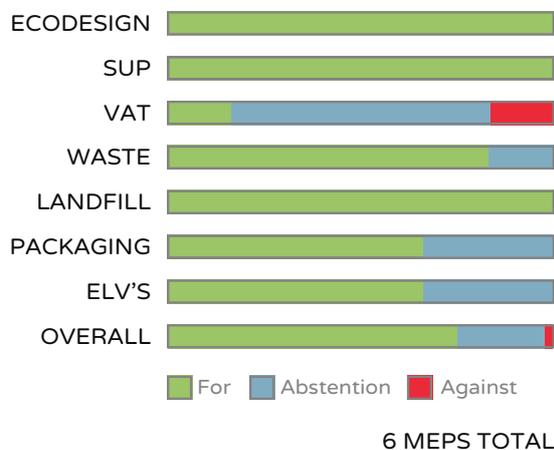


2.5 CYPRUS

PERFORMANCE-RANKING OF CYPRUS AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 3 across 3 sectors
 Circular economy roadmap: -
 Circular economy tax incentives: -
 Circular economy initiatives: -
 Most relevant organisations:
 Cyprus Energy Agency, TESURA Cyprus

* For explanation of the infographics see page 10-11 of the Introduction.



CYPRUS

Cyprus performs well below average in all relevant circular economy indicators, most notably regarding per capita waste production with 640 kg per year, the second highest waste producer per capita of all EU member states². In addition, the country has only 3 EPR schemes established with no coverage for multiple waste streams⁶. Cyprus does not have any ongoing circular economy focused initiatives although one-off events were identified.³⁴

Cyprus provides several tools that help with accessing crucial information to increase innovation and growth. For example, “Ariadni”, a government gateway listing e-services and relevant information, is an online portal for SMEs and the digitalisation of public records³. The country also benefits from its natural capital for renewable energy, mainly wind and solar. Additionally, Cyprus has been allocated € 874 million from ESI Funds over the period 2014-2020 to be used in areas such as resource usage efficiency, competitiveness for SMEs and energy network infrastructure.³⁵

The lack of initiatives combined with a poor legislative framework towards eco-innovation,

puts the country far behind other EU countries in terms of circular economy efforts. Cyprus has several barriers hindering the circular economy, mainly concerning structural factors. The R&D sector is relatively new in the country, resulting in a fragmented system that lacks coordination between stakeholders. The physical location and structure of the economy is not conducive to innovation. The market is small and the island is remote from other countries which acts as a massive disincentive for tech companies to invest and establish a foothold³.

Ecopreneur recommendations: (see also Chapter 3)

- Implement the new EU regulations on waste management and plastics as soon as possible
- Apply for additional EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy “hub”
- Launch a Green Deal on Circular Procurement for both the public and the private sector, including a free training programme



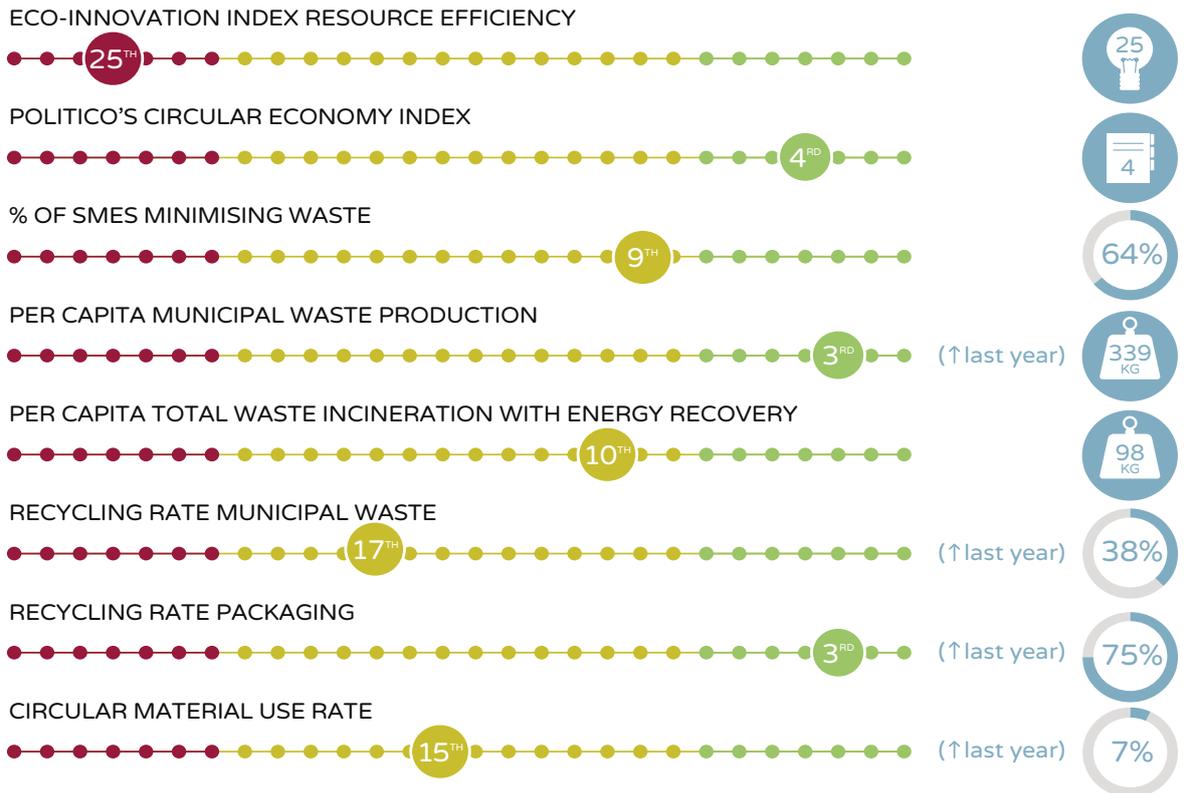
CYPRUS

- Formulate and launch a Cyprus Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production and to become fully circular in 2050, innovation support, and plans for improving EPR
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

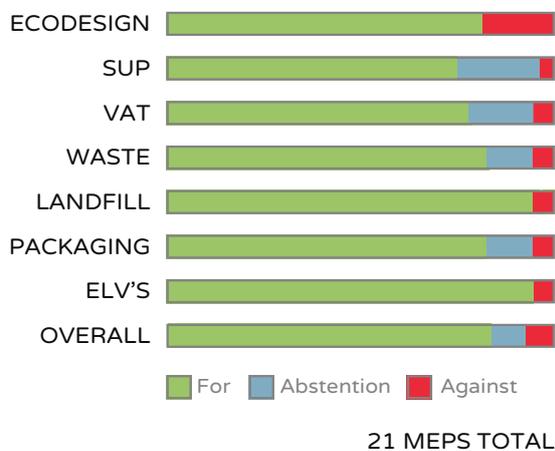
COUNTRY PROFILES

2.6 CZECH REPUBLIC

PERFORMANCE-RANKING OF CZECH REPUBLIC AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 4 sectors
 Circular economy roadmap: Planned in 2021
 Circular economy tax incentives: -
 Circular economy initiatives: Dostybyloplastu
 Most relevant organisations: Institute of Circular Economy (INCIEN)

* For explanation of the infographics see page 10-11 of the Introduction.



CZECH REPUBLIC

The Czech Republic has and third highest packaging waste recycling in Europe in 2016.³⁶ Many SME's are also taking steps to reduce waste, ranking 9th in the Flash Eurobarometer for percentage of SME's minimising waste⁵. The country is also well versed in creating innovative technologies, particularly in the form of start-ups – even without significant funding. It has a large concentration of scientific institutions and universities to facilitate the need for human capital³⁹. The Czech Republic has a well-established extended producer responsibility (EPR) system for municipal waste packaging.³⁷ Still, resource efficiency is a weak point for the country, placing 25th out of all EU member states.³ The main problem with municipal waste management is the high level of landfilling.³⁸

Government support is strong as circular economy policy has been aligned with environmental strategy goals.³⁹ The transition to a circular economy is the main objective of the national Waste Management Plan 2015 – 2024. The Czech Republic has also started work on a national circular economy strategy “Circular Czechia 2040”. Adoption is scheduled for 2021 by the Government. Another initiative is Dostybyloplastu, “Enough Plastic”, a

governmental campaign against single-use plastics by means of voluntary agreements with retailers and the catering sector.⁴⁰ The Czech Republic was very active during the circular economy legislative procedure for packaging waste. The country's voting behaviour on EU circular economy proposals is relatively positive with minimal resistance to all proposals⁷.

On the other hand, an observation has been made that the mentality of the general public and management of industrial companies towards circular economy principles is low. Investors tend not to take risks into areas of eco-innovation. There is also a lack of venture capital to be used to develop new technologies coupled with an overall stagnation of people applying for placements in research institutions³. Finally, The Czech Republic receives a substantial amount of EU funding in the form of European Structural and Investment Funds.⁴¹



CZECH REPUBLIC

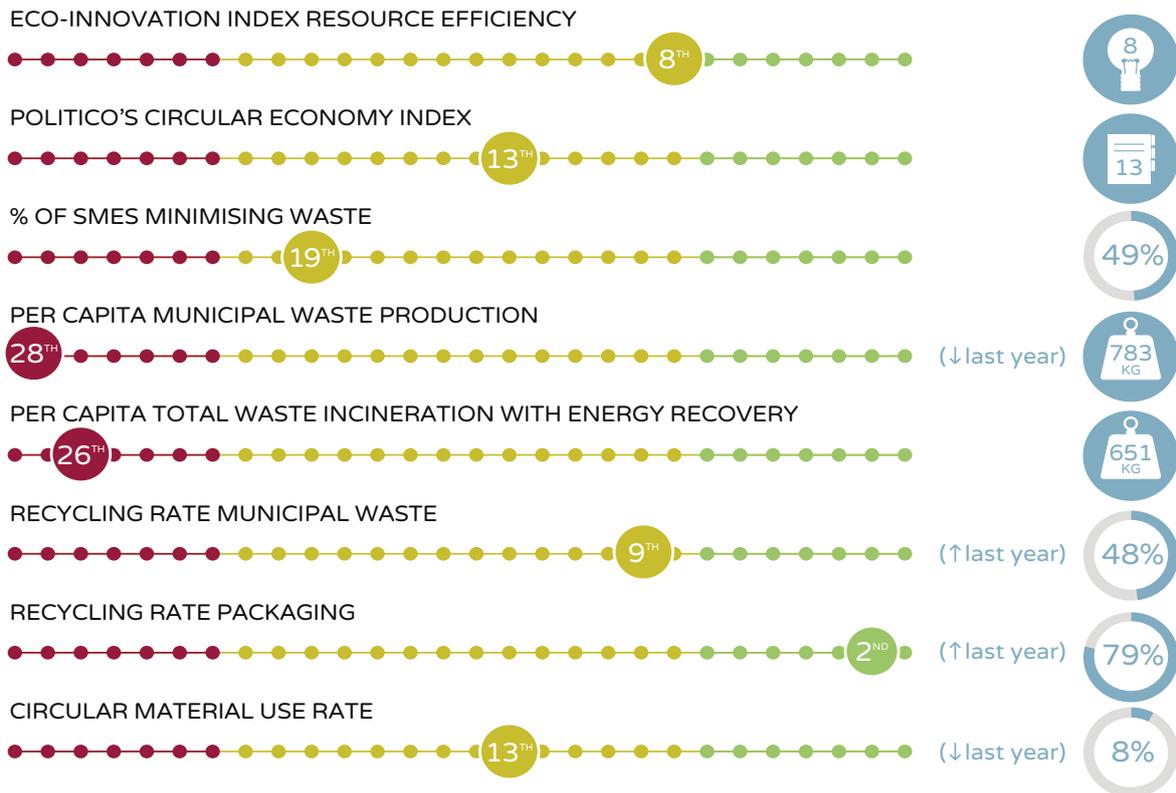
Ecopreneur recommendations: (see also Chapter 3)

- Reduce landfilling of waste and boost waste prevention and recycling of waste
- Adopt and launch the Circular Czechia 2040 Strategy, including objectives for increasing circular business models and to become fully circular in 2050
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Apply for EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy “hub”
- Implement the new EU regulations on waste management and plastics as soon as possible
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

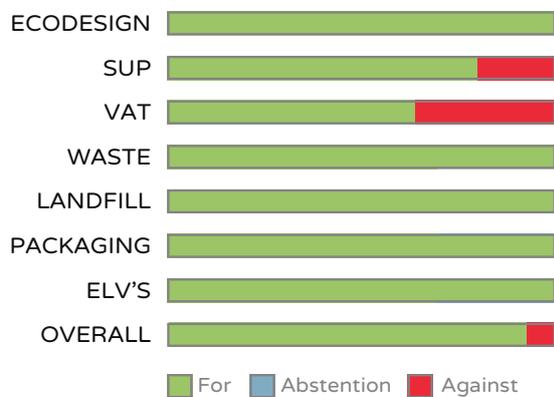
COUNTRY PROFILES

2.7 DENMARK

PERFORMANCE-RANKING OF DENMARK AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 7 across 4 sectors
 Circular economy roadmap: Yes
 Circular economy tax incentives: -
 Circular economy initiatives: 15 government funded initiatives
 Most relevant organisations: State of Green, The Ecological Council

* For explanation of the infographics see page 10-11 of the Introduction.



DENMARK

Denmark is increasingly committed to the circular economy. It is the 2nd highest recycler of packaging² and has long been an international leader in waste management and the reduction of landfill. EPR schemes cover most major sectors, although packaging is a government-lead scheme, which has been well adopted⁶. At the same time, Denmark's performance is conflicted because it is also the highest per capita producer of municipal waste and a high rate of waste incineration.⁴² Additionally, Denmark is well below the EU average for the percentage of SME's minimising waste according to the Flash Eurobarometer⁵.

Circular economy initiatives are plentiful and coordinated. Recently the Danish government published the Danish Strategy for Circular Economy which plans to divide about 16 million euros between 15 initiatives to facilitate the transition towards a circular economy.^{43,44} The strategy focusses on recirculating materials and minimising waste, but also pays attention to eco-innovation and SMEs. While Denmark's attitude towards circular economy is reportedly very positive with individuals,⁴⁵ enterprises and regional governments making noticeable strides in adopting circular economy

principles³, the general awareness is still low and focused on waste.^{46,47} Denmark did show moderate resistance to a recent vote regarding amendments to rates of value added tax (VAT), while other circular economy related votes received virtually no opposition⁷.

Denmark's approach to circular economy is gaining traction, however the massive amount of waste produced and incinerated cannot go unnoticed. A massive barrier still to overcome Denmark's focus on waste for energy, which it has utilised for decades; it requires a fundamental mind shift to gear the waste management sector to reuse, recycling and waste prevention³. The potential for Denmark is large, as highlighted by a case study from the Ellen MacArthur Foundation in 2015.⁴⁸ A well-structured plan and "acceptance" of a transition to a circular economy cannot manifest results if not adhered to and practiced.

DENMARK

Ecopreneur recommendations: (see also Chapter 3)

- Stop investing in waste incineration capacity and adjust the the taxes on landfill and incineration to ensure waste handling according to the EU waste hierarchy
- Revise the Governments Utility Strategy to streamline waste handling at a national scale, across municipal boundaries by private companies. At the same time, ensure public sector control of the recycling value chain to enhance optimal resource handling according to the waste framework directive by EPR schemes
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Add objectives to the Danish Circular Economy Strategy to reduce raw materials use and waste production and to become 50 per cent circular in 2030 and fully in 2050
- Expand the support programme for SMEs with additional focused activities such as circular design training and access to finance to create a circular economy “hub”
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES



2.8 ESTONIA

PERFORMANCE-RANKING OF ESTONIA AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↓ last year)



RECYCLING RATE PACKAGING



(↓ last year)



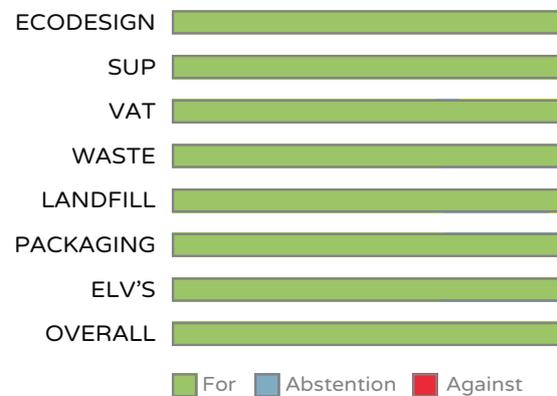
CIRCULAR MATERIAL USE RATE



(↑ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



6 MEPS TOTAL

ACTIVITIES

EPR schemes: 8 across 3 sectors

Circular economy roadmap: Under development

Circular economy tax incentives: -

Circular economy initiatives:

The Institute of Circular Economy and Technology university courses, Stockholm Environment Institute Tallinn Centre project "Towards a Nordic-Baltic circular textile system", CircPro

Most relevant organisations:

Circular Economy Forum, Circular Economy Estonia, Cleantech ForEst

* For explanation of the infographics see page 10-11 of the Introduction.



ESTONIA

Back in 2007, a crazy Estonian idea urged people to clean up their countries in one day⁴⁹ - the NGO Let's Do It established on the same day eventually organised the World Cleanup Day on 15 September 2018 with the participation of 147 countries and over 17 million people. Today Estonia produces little waste - but is very resource inefficient at the same time. The country ranks well in both per capita waste production and circular material use rate coming in 5th and 6th respectively². Still, Estonia is known for its very efficient deposit-refund system for beverage packaging; the system has ensured a collection rate of over 90 per cent.^{50,51}

There are plenty of initiatives. In 2017 the Tallinn TTK University of Applied Sciences established The Institute of Circular Economy and Technology, which offers courses teaching skills necessary to progress a circular economy.⁵² In 2018 the Circular Economy Forum was established, a national circular economy network to unite interested businesses, experts, public sector and other institutions. It is managed by Estonian Association for Environmental Management and aims to gather the expertise, provide encouragement and knowledge, facilitate

dialogue between different parties, and support government in their development. Additionally, the Ministry of Environmental Affairs has also recently shown initiative by reaching out to stakeholders, spurring a discussion into creating national circular economy strategy. Mandatory green public procurement for certain categories is planned for launch. An Estonian Circular Economy strategy and action plan are currently being developed with the aim to adopt them by the end of 2020. In 2019 Estonia is concentrating on the development of a methodology to measure the circular economy in Estonia and to assess potential measures supporting the transition. The methodology will include a set of numeric indicators to map the current situation and to reflect changes in circular economy areas. Strategy development process is supported by stakeholder involvement through seminars and a circular economy webpage. Estonia is also a top labour market performer within the EU and has embraced a strong start-up culture leading to concrete developments in eco-innovation³ such as leading sustainable fashion designer Reet Aus creating garments that are 100% upcycled.²⁰²



ESTONIA

Finally, the INTERREG project CircPro which included Estonia aims at increasing the implementation of circular procurement under the targeted policy instruments so that the circular economy principles and criteria are incorporated or taken into account as a horizontal principle. Voting behaviour on EU circular economy proposals is 100 per cent positive to proposals related to the circular economy⁷. During its EU presidency in 2017, it forwarded the circular economy agenda with an excellent conference on Circular Procurement.⁵³

However, while these are positive elements to Estonia's progress towards a circular economy, there are also many negatives. Estonia ranks last in two significant measures of a circular economy, these being resource efficiency³ and the SMEs' commitment to waste minimisation⁵. The country ranks close to the bottom for both the recycling rate of municipal waste and packaging². EPR is also a weak point for the country, covering 3 sectors only with competition in just packaging and WEEE⁶. Barriers include low R&D intensity in the country's major industries and little diversification making it difficult for newly developing economic drivers, mainly ICT focused, to establish a support network³.

Ecopreneur recommendations: (see also Chapter 3)

- Adopt and launch an Estonian Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production and to become fully circular in 2050, R&D support, and a focused programme for the ICT industry
 - Apply for EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy "hub"
 - Implement the new EU regulations on waste management and plastics as soon as possible
 - Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
 - Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
 - Monitor the waste per capita as to keep the advantage with growing prosperity
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies

COUNTRY PROFILES



2.9 FINLAND

PERFORMANCE-RANKING OF FINLAND AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



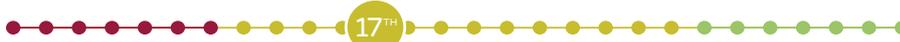
RECYCLING RATE PACKAGING



(↑ last year)



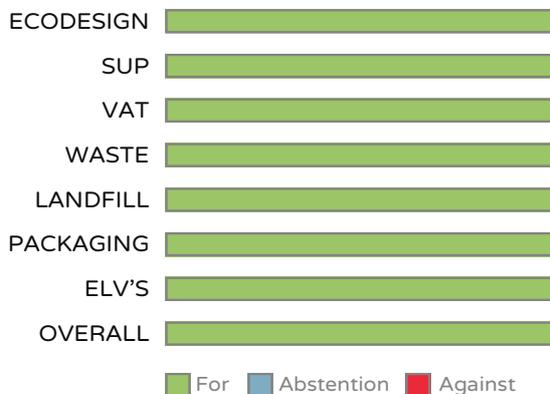
CIRCULAR MATERIAL USE RATE



(↓ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



13 MEPS TOTAL

ACTIVITIES

EPR schemes: 16 across 6 sectors

Circular economy roadmap: Yes

Circular economy tax incentives: No

Circular economy initiatives:

A dozen of initiatives including CIRCWASTE, Relooping Fashion Initiative

Most relevant organisations:

Sitra

Examples of good practice:

Annual World Circular Economy Forum conference

* For explanation of the infographics see page 10-11 of the Introduction.



FINLAND

Finland is on its way to become one of the leaders in the circular economy. It is mostly ranked around the midpoint for circular economy indicators. Notably, EPR scheme coverage in Finland is quite impressive, encompassing 6 sectors with a total of 16 schemes⁶.

Circular economy initiatives are well established and coordinated. Finland, promisingly, released a circular economy roadmap in 2016.⁵⁴ Driving force behind this is the Finnish Innovation Fund Sitra, with a long-standing track record in innovation support, and a circular economy programme. There are a dozen of initiatives on different subjects, including a material efficiency programme, voluntary agreements of Green Deals, a national programme for the recycling of nutrients (RAKI), thematic projects, and a roadmap for plastics and circular economy in all education levels -entity. For example, CIRCWASTE, a seven-year programme funded by the EU LIFE programme, was created by 20 partners and 10 Finnish funding organisations including Sitra to tackle issues such as efficient use of materials, resource management and waste prevention in order guide Finland towards a circular economy.⁵⁵ Sitra also

organises the annual World Circular Economy Forum conference⁵⁶ and has produced an outstanding list of 100 circular economy examples⁵⁷ and a “playbook” for SMEs.⁵⁸ In 2018, Business Finland has launched the Bio and Circular Finland programme which aims to make Finland a leader in the circular economy. The circular economy is seen as an opportunity for the industries traditionally important to Finland, which also opens incredible opportunities for a new kind of business. The expected volume of the four-year programme is € 300 million, of which the share of Business Finland’s innovation funding is € 150 million. In addition, the programme will offer internationalisation services and renewing ecosystems that will also attract foreign experts, companies and investors to Finland.⁵⁹ Finally, since March 2018 a new Competence Centre for sustainable and innovative public procurements (KEINO) is accelerating circular procurement by advising public and private sector actors and piloting with a Green Deal.⁶⁰ Green deals in other themes are also being prepared. Finns are generally very receptive to environmental concepts and for the most part willing to adopt circular economy

COUNTRY PROFILES



FINLAND

principles and concrete changes that come along with the transition³. Finland offered VAT reductions on minor repair services for bicycles, shoes and leather goods¹⁹ but this experiment has ended without follow-up. The country's voting behaviour for proposals relating to circular economy are all positive with virtually no resistance⁷.

At the same time, the country has to come from far. Two low rankings do stand out, these being resource efficiency³ and POLITICO's circular economy index⁴, coming in 24th and 22nd respectively. Barriers to circular economy implementation are identified as a decline in research and innovation investment, a conservative nature or lack of risk-taking regarding eco-innovation³ and conflicting views on waste incineration and bioeconomy sustainability.⁶¹ The latter was reflected in Finnish resistance against attempts by the European Parliament to formulate harmonised criteria for sustainable forestry, while the lack of such criteria is a major barrier for circular economy policies to close the "biocycle". But these are obstacles to be overcome. All in all, Finland is on the right track!

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Introduce more concrete objectives to reduce raw materials use, waste incineration and waste production and to become partly

circular in 2025 and fully in 2050.

- Take a leading role in formulating harmonised criteria for sustainable forestry, renewable materials and biomaterials.
- Expand existing activities for SMEs (such as the Smart & Clean Foundation in the Helsinki region and the national platform on experiments kokeilunpaikka.fi) with focused activities such as free circular design trainings and communities of practice to create a circular economy "hub".
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees Building on the experience with VAT reduction and ongoing studies into green fiscal reform by Green Budget Europe and Valtioneuvoston TEAS, experiment with further tax incentives to boost circular products and services.
- Building on the outcome of a pilot with low VAT rates for repair, introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy.

 **FINLAND**

Example of good practice:

- Annual World Circular Economy Forum Conference

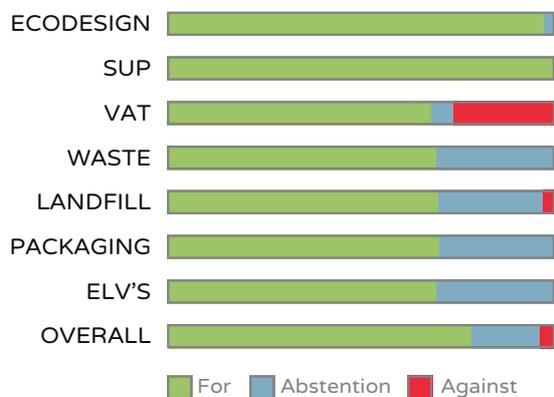
COUNTRY PROFILES

2.10 FRANCE

PERFORMANCE-RANKING OF FRANCE AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

- EPR schemes: 20 across 14 sectors^{64, 65}
- Circular economy roadmap: Yes
- Circular economy tax incentives: Yes
- Circular economy initiatives: Green Deal Achats Circulaires of Paris
- Most relevant organisations: Institut national de l'économie circulaire, ADAME, cd2e - creation development eco-enterprises
- Examples of good practice:
 - Worldwide leader in EPR schemes, including eco-modulation
 - Proposals for VAT reduction and penalties on non-recycled plastic
 - First to implement new EU Circular Economy regulations

* For explanation of the infographics see page 10-11 of the Introduction.



FRANCE

France is on its own, unique path to transform into a circular economy. The country ranks well for all circular economy indicators apart from per capita waste production, coming in 20th place². It ranked 2nd in the Flash Eurobarometer for the percentage of SME's minimising waste⁵ and 3rd in POLITICO's circular economy index⁴, two quality measures for the circular economy. Year over year the country has performed well improving in waste production, recycling rate of municipal waste, recycling rate of packaging and circular materials use rate². France is internationally known as a leader on EPR^{6,189,63} including the only scheme for textiles and the implementation of eco-modulation of fees¹⁹². EPR schemes cover a total of 20 in 14 sectors, including three required by EU directives, and besides two voluntary schemes.^{64,65} In addition, both the scope and the nature of EPR are currently being redefined (see below).

France published its circular economy roadmap in April 2018, the preparation of which was undertaken by the Ministry for an Ecological and Inclusive Transition and Ministry for the Economy and Finance.⁶⁶ The Roadmap was created in close cooperation with the Institut National de l'Économie Circulaire (INEC) and

contains concrete objectives.⁶⁷ In the proceeding press release the government outlined its flagship measures including establishing a repair label for household electronics, elimination of the "Green Dot" as the only mandatory compliance scheme for packaging, acceleration of the collection of plastic bottles and cans, reducing the VAT rate for recycling, creating several new EPR channels, rolling out the implementation of eco-modulation criteria for all the EPR schemes, make eco-modulation a tool for encouraging real behaviour change and establishing re-use and repair targets.^{68,69} In addition, France is to set penalties on non-recycled plastic next year and aims to increase taxes on burying trash in landfills while cutting taxes for recycling operations.⁷⁰ Circular economy efforts are well supported by the French government funding research and development through institutions such as ADEME (Agence de l'Environnement et de la Maîtrise de l'Énergie)³. Additionally, there are a few local stakeholder networks, closely linked to the industrial sector that focus on driving the circular economy. France also offers specialised tax incentives for social enterprises that collect and sell used goods, exempting them from VAT as they are directly



FRANCE

linked to the employment of disadvantaged people¹⁹. France participated in the circular economy North Sea Roundabout project.⁷¹ And last but not least, INEC launched a Green Deal called the “Procurement and Circular Economy Action Programme”, co-sponsored by the Paris Metropolitan area and the Observatory or responsible procurement (Obsar), to support approximately thirty participants in the integration of the circular economy into their procurement.⁷² A platform has also been created to share best practices and initiatives in terms of circular economy.⁷³ France did show considerable resistance to multiple legislative proposals by the European Commission including all those presented alongside the first circular economy package (waste, landfill, packaging and ELV’s) and rates of value added tax⁶. On the other hand, it is now the first country to transpose the circular economy European directives into national law.⁷⁴

Despite all this, as with every country at this moment in time there are still barriers to transition. Individual behaviours towards circular economy principles have proven to be underwhelming, while overly convoluted legislative procedures that would need to be applied in France, particularly in the construction industry, may discourage companies engaging in the circular economy³.

Ecopreneur recommendations: (see also Chapter 3)

- Expand the Green Deal Circular Procurement to more companies and regions and include a free training programme for all participants
- Develop and implement a “Green New Deal” to couple extra taxation of linear products (including fossil fuels) and services to compensating income tax reductions, especially for low income groups
- Building on the French strength to pass innovative legislation, keep piloting with instruments such as EPR, the VAT and other tax incentives. Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for their further improvement concerning harmonisation of fee calculations and extension to cover eco-modulation of fees
- At the same time closely align these initiatives with other progressive member states and the European Commission as to prevent distortion of the internal market
- Set-up a national support programme for SMEs with focused activities including circular design training, communities of practice and access to finance to create a circular economy “hub”
- Establish national concrete objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become 50 per cent circular in 2030 and fully in 2050
- Introduce low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

 **FRANCE**

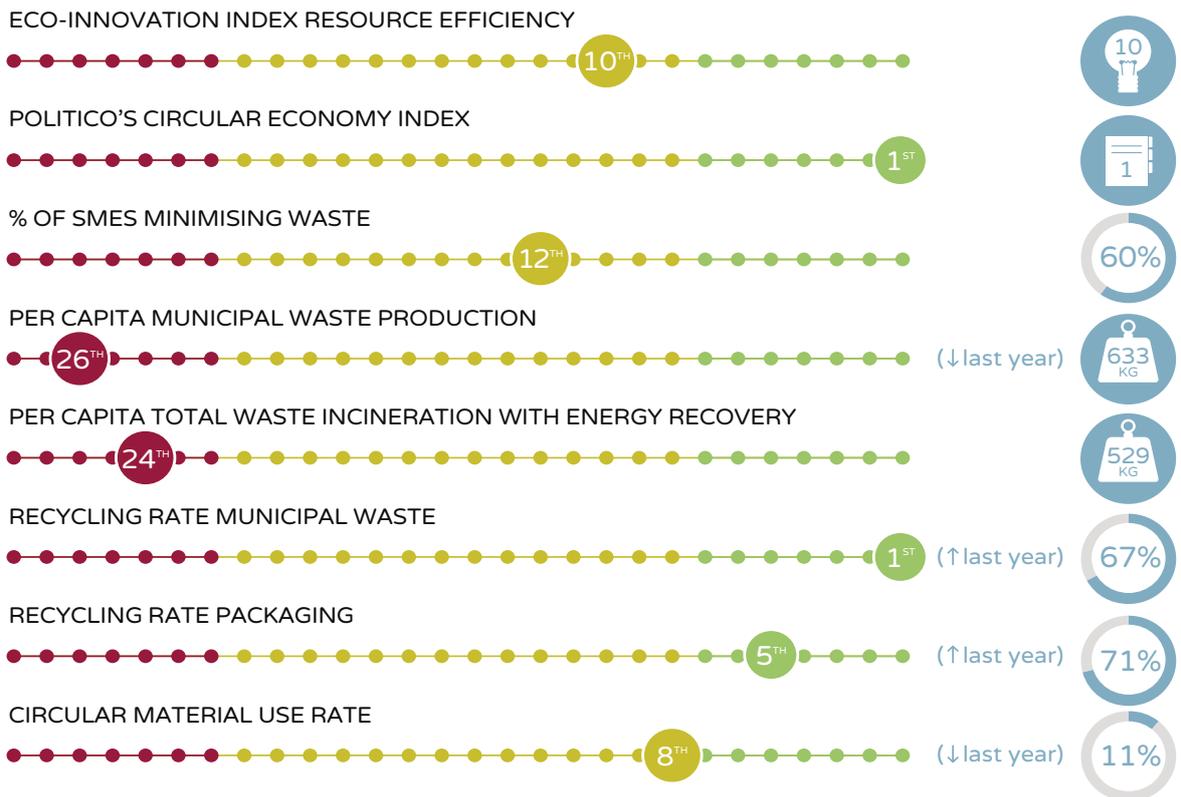
Examples of good practice:

- Worldwide leader in extended producer responsibility (EPR) schemes, including eco-modulation
- Proposals for VAT reduction and penalties on non-recycled plastic
- First to implement new EU Circular Economy regulations

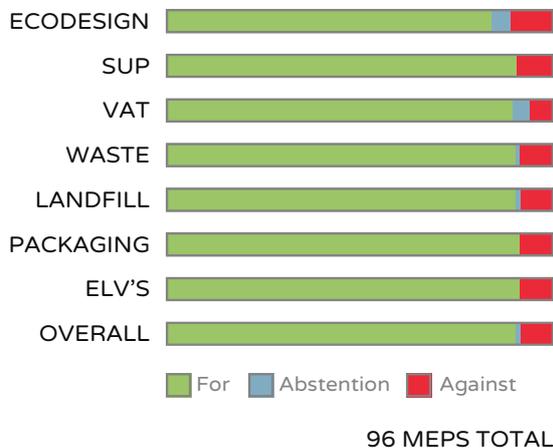
COUNTRY PROFILES

2.11 GERMANY

PERFORMANCE-RANKING OF GERMANY AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 13 across 4 sectors

Circular economy roadmap: Yes (The German Resource Efficiency Programme II)

Circular economy tax incentives: -

Circular economy initiatives: Many, including TextilBündnis, Recyclable Materials Act reforms

Most relevant organisations: Umweltbundesamt, UnternehmensGrün (Ecopreneur member), Kompetenzzentrum Nachhaltiger Konsum, BUND, DUH, NABU, EPEA, Cradle-to-Cradle e.V., CSCP, Wuppertal Institute, Bundesverband der deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e.V. - besides many others

* For explanation of the infographics see page 10-11 of the Introduction.



GERMANY

Germany ranks first out of all EU member states in two circular economy indicators, namely the recycling rate of municipal waste² and POLITCO's circular economy index⁴. EPR schemes have a solid base, although the overall number is heavily weighted towards packaging with a total of 9 collective schemes, indicating strong competition between the producer responsibility organisations⁶.

Public circular economy initiatives are plentiful and particularly well-coordinated at the national level. For example, the German national resource efficiency programme ProgRes presents strategies to foster resource conservation along the entire value chain, including improving the circular economy through better design, more sustainable and resource-efficient production and consumption and product after-use/waste management.⁷⁵ It is currently under revision, with a renewed programme scheduled for publication in 2020 after intensive stakeholder consultations. A new Packaging Act has entered force as of January 2019 with increased recycling targets, incentives for reuse and design for recycling, and mandatory registration with the central packaging registry.⁷⁶ The VDI programme to engage SMEs in resource efficiency forms the

core of the European Resource Efficiency Knowledge Centre EREK.⁷⁷ Finally, a voluntary Partnership for Sustainable Textiles, the so-called Textilbündnis, was launched in 2018 by the fashion industry and the government.⁷⁸

Drivers for the circular economy Germany are its high level of import dependence for resources and a population that is becoming more and more receptive to environmentally friendly consumption³. The country's voting behaviour towards circular economy related proposals clearly shows some resistance by abstentions and votes against, but less than by the UK, France and Italy, and overall strong support⁷. A debate about the definition of recycling was fortunately settled without lowering the EU ambitions.⁷⁹

The only stain on Germany's record is its per capita waste production, with a total of 627 kg per year, ranking 26th overall². Also, barriers to the circular economy are certainly present. Green start-ups are well represented but those with disruptive business models seem to struggle with breaking through political frameworks, while conditions for investment by venture capitalist are not particularly attractive for future-oriented



GERMANY

sectors³. Finally, although promising initiatives concerning sharing and repair workshops are emerging, the continued focus on waste management and resource efficiency may disincentivise industries and individuals from introducing circular business models to prevent waste as long as waste management with recycling offers easy alternatives.

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Formulate concrete policy goals for waste reduction and for increasing reuse, repair and sharing, and to become fully circular in 2050, as well as financial incentives such as a lower VAT rate for reuse and repair
- Expand existing activities for SMEs with free circular design trainings and communities of practice to create a circular economy “hub” including frontrunners
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

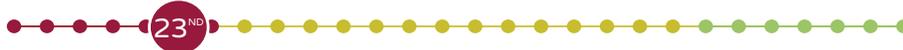
COUNTRY PROFILES



2.12 GREECE

PERFORMANCE-RANKING OF GREECE AMONG ALL EU MEMBER STATES*

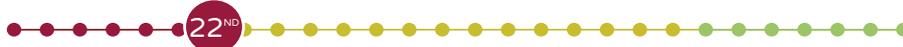
ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↑ last year)



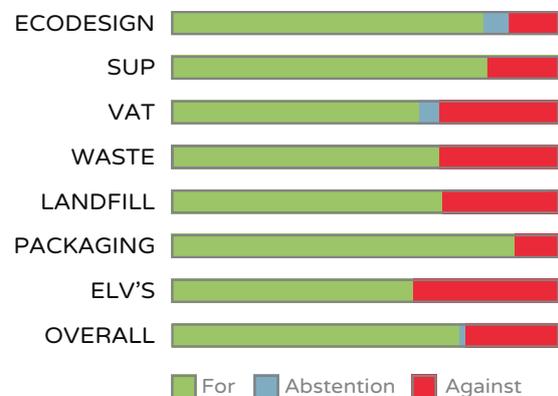
CIRCULAR MATERIAL USE RATE



(↓ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



21 MEPS TOTAL

ACTIVITIES

EPR schemes: 8 across 5 sectors

Circular economy roadmap: Yes (National Action Plan on Circular Economy)

Circular economy tax incentives: -

Circular economy initiatives: City PLUS

Most relevant organisations:

Entrepreneur and Social Economy Group (EKO), Social Economy Institute

* For explanation of the infographics see page 10-11 of the Introduction.



GREECE

Greece's circular economy indicator performance is poor with the majority of rankings coming in the bottom quarter. The most pronounced weaknesses are in circular material use rate² and POLITICO's circular economy index⁴ coming in last place and third to last respectively. Greece also showed considerable resistance to proposals by the EU Commission.

The country is taking action however. Greek companies in many sectors are slowly approaching the EU-28 averages for resource efficiency.⁸⁰ EPR schemes seem to be well established and cover most major sectors⁶. Moreover, several circular economy initiatives have been initiated. In early 2018 Greece released its "National Action Plan on Circular Economy", centred around a long-term adoption and implementation of circular economy principles. Priority actions include removing barriers to a circular economy through new regulatory and legislative interventions, designating funds for these interventions, enhancing knowledge on circular economy and improving governance structures by establishing an Executive Secretariat for the Circular Economy.⁸¹ Another example is City Plus, organised by the Social Economy

Institute, a sustainable Greek city network that focuses on sharing resources, leveraging public, private and governmental capital to empower employability, enhancing social entrepreneurship and laying down the groundwork to shift the populace towards environmental sustainability.⁸² The Technological Educational Institute of Thessaly cooperates in research programmes with the bricks and tiles industry on the valorisation of various types of waste as substitutes to clayey raw material.⁸³ Additionally, Greece has strong natural capital in renewable energies being well situated to take advantage of solar, wind and tidal³.

Although these recent efforts are positive, they are far from enough to make up for the country's pitfalls as is evident by the underwhelming rankings. Most of EY's conclusions from 2016 to move forward still stand, such as the need for law enforcement of hazardous waste legislation.⁸⁴ Malpractices by local authorities and law enforcement turning a blind eye still continues to undermine sustainability efforts³. Waste management is the area where the biggest problems can be observed, with illegal



GREECE

landfilling, very low recycling rates and the management of hazardous waste at the top of the list.⁸⁵ Greece's poor economic situation also creates a bottleneck of research and development funding by the government, relying heavily on EU Structural Funds with a total of over € 20 billion allocated to the country between 2014-2020.⁸⁶

Ecopreneur recommendations: (see also Chapter 3)

- Invest in separate collection and recycling and the use of economic instruments to improve the country's overall waste management and recycling performance, which can create jobs and revenues
- Further apply the waste hierarchy by stimulating waste prevention by design, sharing, maintenance, repair and reuse before recycling, incineration and landfill
- Speed up delivery of concrete actions for implementing the National Action Plan on Circular Economy and improve the involvement of all related line ministries and stakeholders (local authorities, businesses and civil society), with specific regional strategies for the Greek islands.⁸⁷ Also put in place an efficient national system for the comprehensive administration and functioning of the National Action Plan including improving the capacity of competent authorities, ensuring effective environmental and circular economy assessments at plan, project and island level
- Add concrete objectives to the National Action Plan to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become 50 per cent circular in 2030 and fully in 2050
- Step up market surveillance of environmental laws and regulations, launch a separate programme to foster transparency in the value chain
- Simplify administrative procedures and improve cooperation among those public authorities involved in the application of circular economy and environmental policies
- Implement the new EU regulations on waste management and plastics as soon as possible, giving priority to those agglomerations that are subject to an infringement cases
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Apply for EU funds to set-up a national support programme for SMEs with focused activities including the creation of collaboration platforms and access to finance to create a circular economy "hub"
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Monitor the waste per capita as to keep the advantage with growing prosperity

COUNTRY PROFILES

2.13 HUNGARY

PERFORMANCE-RANKING OF HUNGARY AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↓ last year)



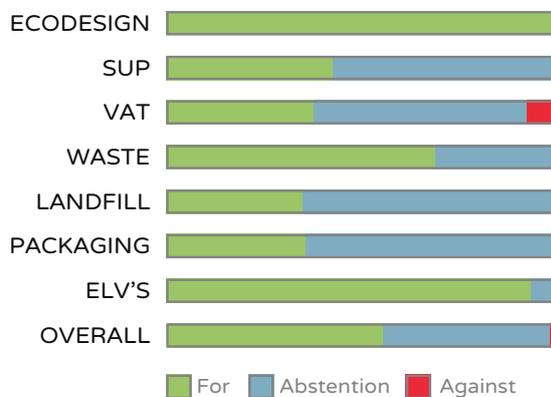
CIRCULAR MATERIAL USE RATE



(↑ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



21 MEPS TOTAL

ACTIVITIES

EPR schemes: 9 across 3 sectors

Circular economy roadmap: -

Circular economy tax incentives: -

Circular economy initiatives:

[The Circular Economy Platform](#)

Most relevant organisations:

[Hungarian Association of Environmental Enterprises \(KSZGY SZ\)](#), [Business Council for Sustainable Development in Hungary \(BCSDH\)](#), [CEEweb for Biodiversity](#)

* For explanation of the infographics see page 10-11 of the Introduction.



HUNGARY

Hungary is mostly positioned in the middle for all circular economy indicator rankings, however the resource productivity is low⁸⁸ while packaging is a clear weakness for the country coming in 27th of all EU member states². EPR schemes are quite limited covering only 3 sectors and the majority of EPR schemes accounting for batteries⁶.

Since the Hungarian Foundation for Circular Economy and CEEWeb for Biodiversity organised a conference “Circular Hungary” in 2017,⁸⁹ there have been few circular economy initiatives. However, in November of 2018 the “Circular Economy Platform” was established by the Business Council for Sustainable Development in Hungary, the Embassy of the Kingdom of the Netherlands, and the Ministry of Innovation and Technology.⁹⁰ The platform’s goal is to build a network of forward-thinking companies that can exchange knowledge and forward the cause of a circular economy.⁹¹ Hungary has access to a wealth of R&D and innovation funds from the EU and domestic sources available for the period from 2014-2020.⁹² Additionally, a survey conducted amongst 200 Hungarian companies displayed a general consensus that material prices are expected to rise in the next 5-10 years, which

coupled with ever increasing awareness of circular economy policies, could lead to an increase in resource-efficient production of materials³.

Nevertheless, Hungary is lagging behind in the area of circular economy. Barriers include a lack of widespread resource-efficient strategic thinking and outdated research infrastructure³. Rather than planning for a national strategy, the government is planning to integrate circular economy principles into the economic development strategy. The general awareness of the concept and importance of a circular economy is low. Furthermore, systemic flaws and distortions in the current Hungarian economic model discourage circular business models (e.g., strong state presence in certain sectors, an unpredictable regulatory environment and public procurement favouring certain business interests) while companies are not incentivised for the valorisation of waste or by-product materials. In addition, the countries’ EU voting behaviour is a worrying indicator for the future. Hungary showed significant resistance to proposed amendments to single-use plastics, value added tax, waste, landfill of waste and

HUNGARY

packaging by the European commission⁷.

Ecopreneur recommendations: (see also Chapter 3)

- Formulate and launch a Hungarian Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become fully circular in 2050
- Further apply the waste hierarchy by stimulating waste prevention by design, sharing, maintenance, repair and reuse, before recycling, incineration and landfill
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Apply for EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy “hub”
- Implement the new EU regulations on waste management and plastics as soon as possible

COUNTRY PROFILES



2.14 IRELAND

PERFORMANCE-RANKING OF IRELAND AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↓ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



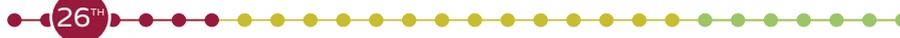
RECYCLING RATE PACKAGING



(↓ last year)



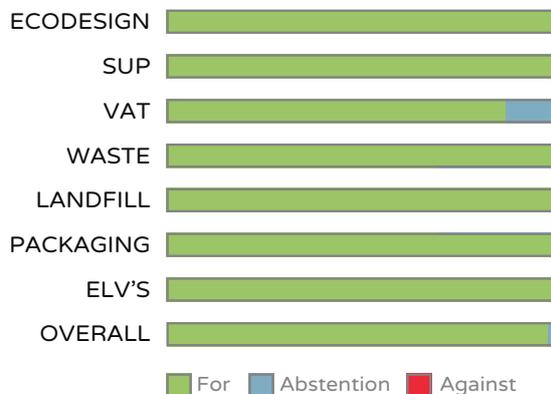
CIRCULAR MATERIAL USE RATE



(↓ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



11 MEPS TOTAL

ACTIVITIES

EPR schemes: 5 across 3 sectors

Circular economy roadmap: Yes (Towards a Resource Efficient Ireland: A National Strategy to 2020)

Circular economy tax incentives: Yes

Circular economy initiatives:

Innovation for a Circular Economy Programme, SMILE Resource Exchange service

Most relevant organisations:

The Rediscovery Centre, Community Reuse Network

* For explanation of the infographics see page 10-11 of the Introduction.



IRELAND

At first glance, Ireland's rankings vary substantially, placing both at the top and bottom of the pack for several indicators. SMEs exceed in waste minimisation⁵ and the country's resource efficiency ranks 3rd amongst all EU member states³. Towards the bottom are POLITICO's circular economy index⁴ and circular material use rate² placing 25th and 26th. EPR for the country is lacking with just 5 schemes covering 3 sectors⁶.

Circular economy initiatives are abundant with a strong re-use and repair network and government support programmes. Ireland's commitment to resource efficiency goes back to 2002, when it inspired the world with a levy on plastics bags which reduced their usage with 90 per cent in 10 years.⁹³ A recent example is the "Innovation for a Circular Economy" programme, funded by the national Environmental Protection Agency (EPA). The programme is intended to help companies and organisations to develop solutions that encourage resource efficiency and the circular economy.⁹⁴ There are several drivers promoting the transition to a circular economy. Ireland has a low corporate tax rate which attracts significant foreign investments. The country has a strong research and development base,

while SME's perform extremely well on innovation. Additionally, Ireland's policy environment is well suited to promoting a circular economy with the country committed to achieving EU targets on renewable energy, recycling, resource efficiency and others³. Ireland has also implemented VAT reductions on minor repairs to movable goods¹⁹. The country's EU voting behaviour is very positive, with virtually no resistance to Commission proposals⁷.

Ireland seems to be pointed in the right direction, although the sparse EPR coverage and high per capita waste production are still issues that need to be addressed. In addition, Brexit will pose a number of challenges, with Ireland likely to take the biggest economic hit of all European countries.⁹⁵ This may affect Ireland's consensus on the priority of eco-innovation, letting it take a back seat during a period of economic downturn.

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and



IRELAND

commitments from companies

- Formulate and launch an Irish Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become fully circular in 2050
- Use the national support programme to create a circular economy “hub”
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

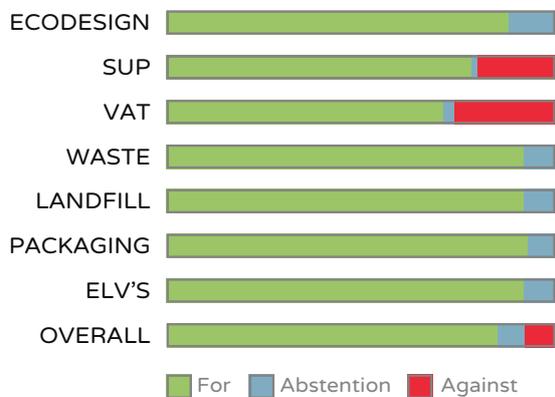
COUNTRY PROFILES

2.15 ITALY

PERFORMANCE-RANKING OF ITALY AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 40 across 5 sectors
 Circular economy roadmap: Yes
 Circular economy tax incentives: -
 Circular economy initiatives:
 The Italian Circular Economy Stakeholder Platform (ICESP)
 Most relevant organisations:
 ReMade in Italy, Symbola, Enel

* For explanation of the infographics see page 10-11 of the Introduction.



ITALY

Italy performs very well in terms of circular economy indicator rankings, with all but one indicator, per capita waste production², placing in the top half of all EU member states. Particularly noteworthy is Italy's resource efficiency rank³, coming in 2nd just below Luxembourg. At first glance EPR numbers look impressive, however out of the total 40 schemes, batteries and WEEE account for 21 and 16 programmes respectively. Nevertheless, EPR schemes in Italy cover a total of 5 sectors⁶. The overall performance is even more impressive given the improvements since 2001, with for instance only 17 per cent municipal waste recycling.⁹⁶

Circular economy initiatives are well-established on both a grassroots and corporate level as described by Enel S.p.A. and the Symbiosa foundation.⁹⁷ Many "circular champions" are active at the regional level, for instance in the industrial Lombardia.⁹⁸ An Italian Circular Economy Strategy was launched in 2017 as the outcome of a shared and participatory process with contributions of all institutions, firms, experts and citizens who deal with the issue.⁹⁹ Remarkably, it stresses the need for fiscal instruments including the use of VAT rates for tax differentiation between

circular and linear products or services. Additionally, the Italian government is also showing support with the recent introduction of the "Italian Circular Economy Stakeholder Platform" workshop by the Italian National Agency for New Technologies, Energy and Sustainable Economic Development.¹⁰⁰ The country's EU voting behaviour is quite positive overall with the exception of single-use plastics and value-added tax votes which received moderate resistance⁷.

Italy certainly has impressive statistics, yet barriers to a circular economy do exist and should not go unnoticed. The regulatory framework is difficult to navigate with environmental policies being implemented at regional, provincial and municipal levels³. The rate of research and development investments is low, partly resulting from the high percentage of small and family owned businesses that do not have the capital at their disposal and a low natural resources capacity compared to other advanced economies³.



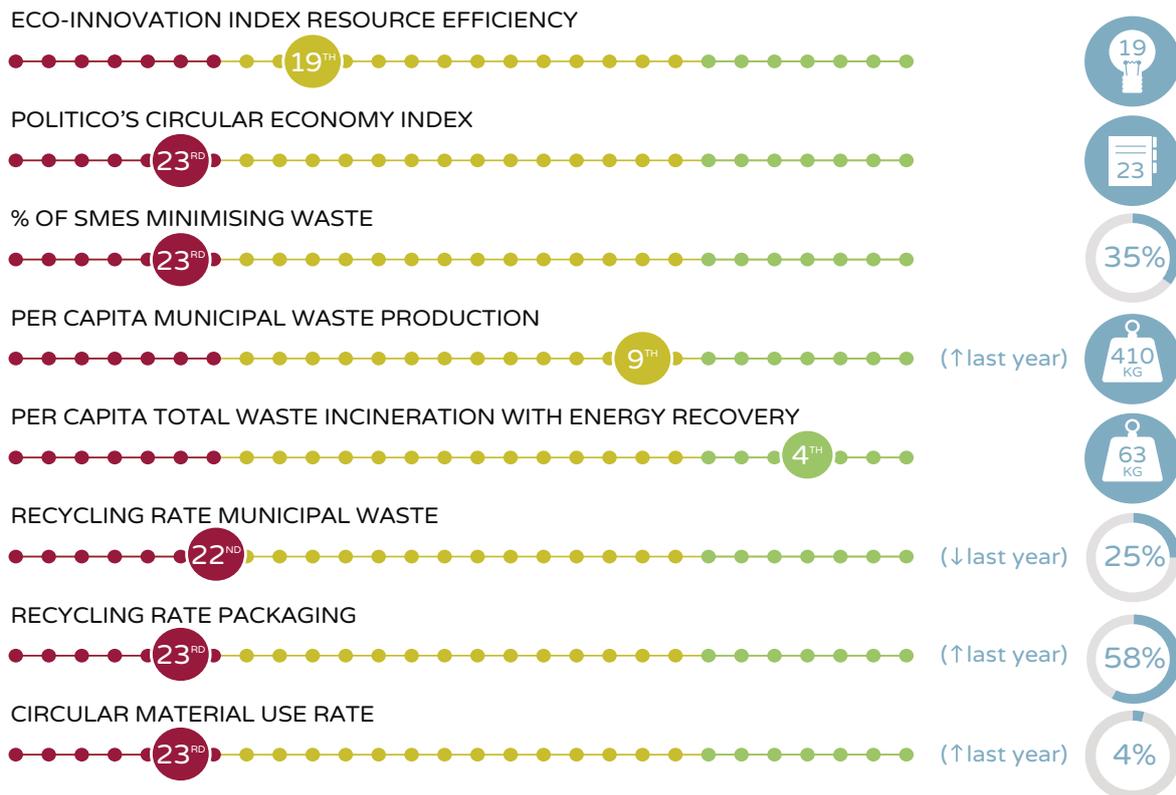
Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Formulate concrete objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become fully circular in 2050
- Apply for EU funds to expand existing activities for SMEs with free circular design trainings and communities of practice to create a circular economy “hub”
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Implement the new EU regulations on waste management and plastics as soon as possible

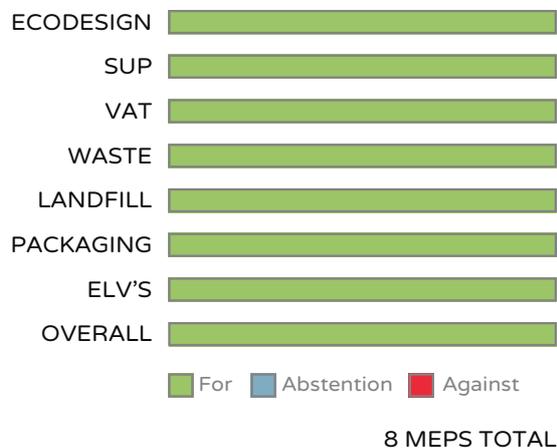
COUNTRY PROFILES

2.16 LATVIA

PERFORMANCE-RANKING OF LATVIA AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 10 across 4 sectors
 Circular economy roadmap: -
 Circular economy tax incentives: -
 Circular economy initiatives:
[Green Technology Incubator](#)
 Most relevant organisations:
[Green Liberty \(Zaļā brīvība\)](#)

* For explanation of the infographics see page 10-11 of the Introduction.



LATVIA

Latvia's circular economy performance is poor with the majority of indicator rankings placing in the bottom quarter. Only one indicator is above the midpoint, namely per capita waste production coming in 9th.² EPR is slightly more promising with a total of 10 schemes covering 4 sectors, a solid effort in its own right⁶.

Circular economy initiatives seem to be very limited and primarily come from the waste management industry, such as separate collection and sorting of materials with the highest economic value. The general awareness of the circular economy and its importance is low, along with a lack of credible information and statistics on waste management. Good news is that Latvia has received funding from in the form of European Economic Area/Norway grants which have been instrumental in the area of ecological innovation.¹⁰¹ An example of this is the "Green Technology Incubator" which supports and encourages new businesses developing products and services that utilise renewable materials, prioritise energy efficiency, minimise the use of natural resources and minimise waste.¹⁰² Latvia's EU voting behaviour is very positive and without any opposition to circular economy focused proposals⁷.

Latvia still has a long way to go regarding the circular economy as is evident by its underwhelming indicator rankings and lack of a concrete plan for the future. Barriers such as the willingness and capacity of business to step out of their comfort zone and invest time into innovative solutions are particularly concerning³. Motivation to apply circular economy principles is lacking along with a general understanding of the processes required to create an environment of innovation, often seen as an expensive alternative³.

Ecopreneur recommendations: (see also Chapter 3)

- Use government policies to improve the waste management infrastructure with common rules for all waste management companies following the waste hierarchy, starting with separate collection for more waste streams (e.g. drink cartons)
- Create a solid waste management data monitoring system (deployment in the market, collection, reuse, incineration, recycling, landfilling, imports and exports) with public access

 **LATVIA**

- Launch a Green Deal on Circular Procurement for both the public and the private sector, including a free training programme
- Formulate and launch a Latvian Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production and to become fully circular in 2050, and innovation support
- Apply for EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy “hub”
- Implement the new EU regulations on waste management and plastics as soon as possible
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Monitor the waste per capita as to keep the advantage with growing prosperity

COUNTRY PROFILES



2.17 LITHUANIA

PERFORMANCE-RANKING OF LITHUANIA AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↓ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↑ last year)



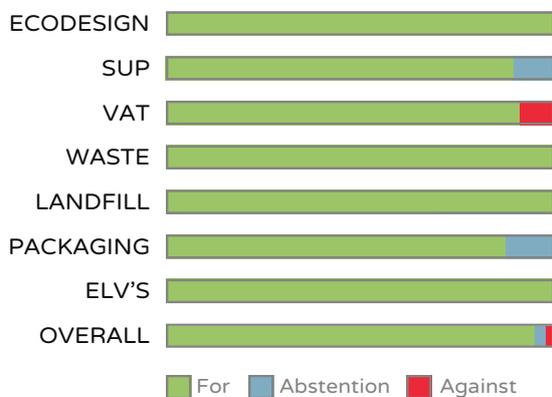
CIRCULAR MATERIAL USE RATE



(↑ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



11 MEPS TOTAL

ACTIVITIES

EPR schemes: 4 across 4 sectors

Circular economy roadmap: -

Circular economy tax incentives: -

Circular economy initiatives:

[Žiedinė ekonomika high school seminars](#)

Most relevant organisations:

[Žiedinė ekonomika \(Circular Economy\)](#)

* For explanation of the infographics see page 10-11 of the Introduction.



LITHUANIA

Lithuania has done well year-over-year, moving up the rankings in four circular economy indicators namely, per capita waste production, recycling rate of both municipal waste and packaging, and circular material use rate². EPR schemes cover a respectable 4 major sectors, although the total number of schemes is not particularly stellar, breaking down to 1 per waste stream⁶.

Lithuania's fondness for eco-innovation has been quantifiably increasing with businesses investing in non-technology innovation, reporting a 157 per cent increase between 2010 and 2016, and venture capital investment³. Circular economy initiatives seem to be rather limited however, towards the end of 2017 NGO Žiedinė ekonomika began organising seminars on circular economy in Vilnius high schools, where students could learn the principals of circular economy and waste minimisation processes.¹⁰³ Additionally, Lithuania has been allocated € 8.39 billion from European Structural Investment Funds over the period 2014-2020, with the intention of the endowment being invested in areas such as innovation and competitiveness, SME support and resource efficiency.¹⁰⁴ The country does not have any tax incentives in place for circular

products or services. Lithuania's EU voting behaviour is very positive towards recent proposals by the European Commission touching on the circular economy⁷.

However much more is to be done if the country is to compete with the top performers. Lithuania's performance in the 3 major circular economy related index's covered is lacklustre with all 3 ranking in the bottom half of EU member states. Particularly concerning is the Flash Eurobarometer 456, measuring SMEs minimising waste, with Lithuania ranking second to last⁵. In addition, the government has recently announced plans to build two new waste incineration facilities. Combined with the already rising rate of incineration this effectively marginalises any positive effects of introducing a circular economy package.¹⁰⁵ Finally, a lack of policy measures for the promotion of eco-innovation and little government involvement continues to hinder circular economy efforts in Lithuania³.



LITHUANIA

Ecopreneur recommendations:

(see also Chapter 3)

- Stop investing in incineration capacity and introduce taxes on landfill and incineration reflecting the EU waste hierarchy
- Implement the new EU regulations on waste management and plastics as soon as possible
- Apply for additional EU funds to set-up a national support programme for SMEs with focused activities and access to finance to create a circular economy “hub”
- Launch a Green Deal on Circular Procurement for both the public and the private sector, including a free training programme
- Formulate and launch a Lithuanian Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production and to become fully circular in 2050, and innovation support
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES

2.18 LUXEMBOURG

PERFORMANCE-RANKING OF LUXEMBOURG AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



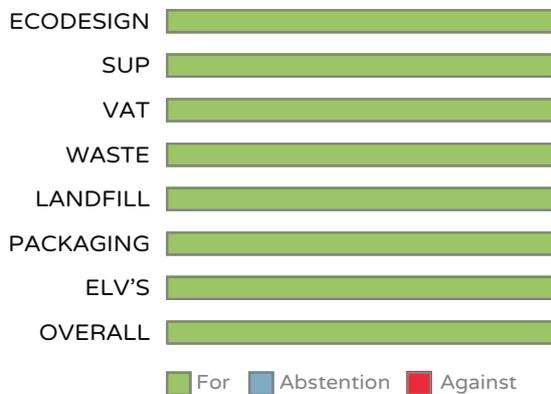
RECYCLING RATE PACKAGING



CIRCULAR MATERIAL USE RATE



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 4 across 4 sectors

Circular economy roadmap: Yes (Plan national de gestion des déchets et des ressources)

Circular economy tax incentives: Yes

Circular economy initiatives:

Fit 4 Circularity, Wiltz circular economy hotspot

Most relevant organisations:

Luxinnoavation, Institut National pour le Développement durable et la Responsabilité sociale des entreprises (INDR), Inspiring More Sustainability Luxembourg, SuperDrecksKëscht

* For explanation of the infographics see page 10-11 of the Introduction.



LUXEMBOURG

Luxembourg is doing well in several areas concerning the **circular** economy, particularly resource efficiency, ranking 1st out of all member states³. Moreover, the country has recently released a roadmap of sorts highlighting issues and drawing out concrete plans to facilitate the transition to a circular economy.¹⁰⁶ EPR schemes cover 4 sectors, although the total number of current programmes available is fairly limited⁶.

Circular economy initiatives are abundant with governmental and non-governmental organisations expressing interest and dedication to the cause. Back in 2015, the Institut National pour le Développement durable et la Responsabilité sociale des entreprises (INDR) co-signed the first Manifesto of Ecopreneur members for a European Circular Economy.¹⁰⁷ In 2017, Luxembourg was appointed Circular Hotspot of the Year.¹⁰⁸ Luxinnovation and the Luxembourg National Innovation agency introduced their “Fit 4 Circularity” programme tasked with accelerating companies’ transition to a circular economy. Objectives include exploring the possibilities of extending the life cycle of products, highlighting potential gains linked to circular supply chains, studying the benefits of

collaborative platforms and proliferating the use of recyclable materials for responsible production.¹⁰⁹ SuperDrecksKëscht (Super Litter Box) has the task to implement the newest technologies for circularity; it develops applications such as the ECOBOX return-and-refill system for take away food and leftovers.¹¹⁰ Additionally, since June 2017 all Luxembourgish municipalities have adopted the “Climate Pact”¹¹¹ under the sign of the circular economy as established by the Grand Duchy of Luxembourg’s Ministry of Sustainable Development and Infrastructure and “myenergy”, the national entity for the promotion of a sustainable energy transition. The measures introduced include procurement of Cradle-to-Cradle certified material, sharing economy initiatives, the use of renewable sources within local circuits and several other circular economy focused strategies¹¹² and a new category of certification called “Circular Economy Climate Pact”. Besides the Climate Pact, Luxembourg also has a Living lab for municipalities,¹¹³ a methodology for circular industrial zones,¹¹⁴ pilot projects in the construction sector.^{115,116} The governmental plan for 2018-2023 contains 27 circular economy references in 6 different domains, in shared responsibility



LUXEMBOURG

between the ministry of the Economy and the ministry of Energy and Spatial Planning. The Dutch State Visit to Luxembourg in May 2018 focused largely on circular economy.

Luxembourg also offers VAT reduction on minor repair services¹⁹, voted wholly in favour of all proposals put forward by the EU Commission regarding the circular economy and emphasised the importance of financing the circular economy during its 2015 EU presidency by drafting report with the EIB and organising a large conference on the topic.¹¹⁷

Overall, Luxembourg's circular economy efforts are certainly gaining traction, yet a few issues still exist. The countries per capita waste production is high at 614 kg per year, placing it 24th amongst all EU member states².

Additionally, the small size but strong influence of Luxembourg on bordering regions puts pressure on the demand for housing, services, infrastructure and transportation flow, increasing the energy demands. Therefore, any eco-innovation solutions developed to mitigate its own resource dependency should also take into account bordering regions³.

- Add objectives to the Luxembourg Circular Economy Strategy to reduce raw materials use and waste production and to become fully circular in 2050
- Expand existing activities for SMEs with additional focused ones such as circular design training and access to finance to create a circular economy “hub”
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including private sector commitments and a free training programme

COUNTRY PROFILES



2.19 MALTA

PERFORMANCE-RANKING OF MALTA AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↓ last year)



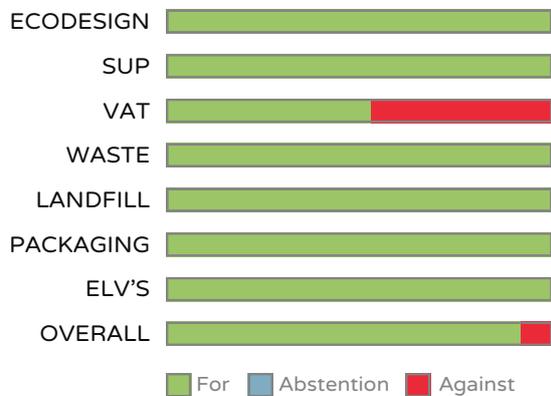
CIRCULAR MATERIAL USE RATE



(↓ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



6 MEPS TOTAL

ACTIVITIES

EPR schemes: 2 across 2 sectors

Circular economy roadmap: Yes (Malta's Sustainable Development Vision for 2050)

Circular economy tax incentives: Yes

Circular economy initiatives:

Green Economy Strategy and Action Plan

Most relevant organisations:

Eco French Malta

* For explanation of the infographics see page 10-11 of the Introduction.



MALTA

Malta is trailing behind the vast majority of EU member states regarding circular economy indicators. The country ranks last in both the recycling rate of municipal waste and packaging, while per capita waste production is not much better coming in 24th at 593 kg per year². Additionally, POLITICO's circular economy index places it 27th, second last only to Cyprus⁴. Just eight per cent is being recycled or sent for composting, while the rest is disposed of at the Magħtab landfill.¹¹⁸ EPR schemes are equally underwhelming with coverage for only 2 sectors being identified⁶. However, on a positive note, Malta did do well in resource efficiency, ranking 4th.³

Circular economy initiatives are somewhat limited although a few concrete plans have taken shape. In 2016 the Ministry for Sustainable Development, the Environment and Climate Change released a short to medium term strategy and action plan titled "Greening our Economy - Achieving a Sustainable Future", covering several circular economy concepts.¹¹⁹ Furthermore, the aforementioned ministry recently published a long-term framework for advancing sustainable development in Malta titled "Malta's Sustainable Development Vision for 2050", focusing on identifying existing gaps

in the country's sustainability efforts where further development is required.¹²⁰ Additionally, in 2016 the non-profit organisation "Eco French Malta" was established. The organisation's objectives include, providing support and information for sustainable development initiatives, assisting and supporting partners who need to progress on sustainable techniques and raising public and political awareness on ecology and sustainable development to name a few.¹²¹ Overall, Malta's EU voting behaviour is positive despite moderate resistance to the amendment of the rate of value added tax⁷. The country also offers VAT reductions on minor repair services¹⁹. Finally, while beyond the country performance, the Maltese European Commissioner Vella has become a driving force for the Circular Economy Action plan.¹²²

Malta faces multiple natural barriers that negatively impact eco-innovation and circular economy efforts. A strong dependence on external energy sources, lack of natural resources, in particular water and little usable space all contribute to the need for innovative solutions but at the same time make the transition harder³.



MALTA

Finally, access to financing options presents a hinderance to SMEs with approximately a quarter of them investing in resource efficiency experiencing higher production costs in the short term leading to need of external funds³.

Ecopreneur recommendations: (see also Chapter 3)

- Implement the new EU regulations on waste management and plastics as soon as possible
- Launch a Green Deal on Circular Procurement for both the public and the private sector, including a free training programme
- Apply for EU funds to set-up a national support programme for SMEs with focused activities, access and innovation support to finance to create a circular economy “hub”
- Add objectives to the Maltese Circular Economy Strategy to reduce raw materials use and waste production and to become fully circular in 2050, and innovation support
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES

2.20 THE NETHERLANDS

PERFORMANCE-RANKING OF NETHERLANDS AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↓ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↑ last year)



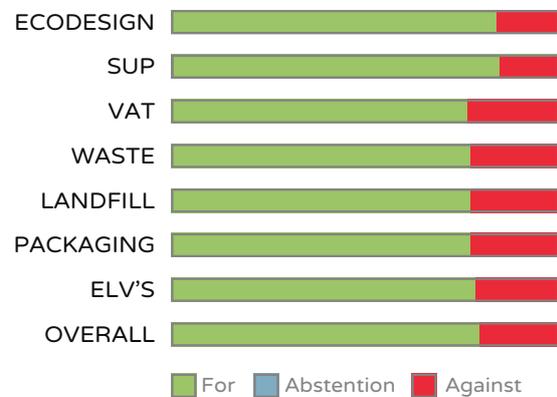
CIRCULAR MATERIAL USE RATE



(↑ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 14 across 5 sectors

Circular economy roadmap: Yes (A Circular Economy in the Netherlands by 2050)

Circular economy tax incentives: Yes

Circular economy initiatives:

[Grondstoffenakkoord](#)

Most relevant organisations:

[MVO Nederland](#) (Ecopreneur member), [Holland Circular Hotspot](#), [Circle Economy](#), [CIRCO](#), [RVO](#), [Natuur & Milieu](#), [PBL](#) – besides many others

Examples of good practice:

- Goals for raw materials use reduction in 2030 and 2050
- Green Deal Circular Procurement
- Circular hub “Nederland Circulair”

* For explanation of the infographics see page 10-11 of the Introduction.



THE NETHERLANDS

The Netherlands is at the forefront of the circular economy in Europe with a multitude of initiatives too vast to cover comprehensively and very respectable rankings in the majority of circular economy performance indicators. The PBL institute estimates a total of about 85,000 activities involving 420,000 jobs are contributing to the circular economy, out of which about 1,500 innovative initiatives.¹²³ Year-over-year the country has improved in per capita waste production, recycling rate of both municipal waste and packaging, and circular material use rate². The circular material use rate is indeed particularly impressive for the Netherlands, coming in 1st with a total of 29 per cent, far above the 2nd ranking country². EPR is well catered for with a total of 14 schemes covering 5 sectors⁶.

Within the abundance of circular economy initiatives, one of the most recognised is the national strategy document “A circular economy in the Netherlands by 2050” developed and published by the Ministry of Infrastructure and the Environment and the Ministry of Economic Affairs in 2016. Setting an example, the programme establishes measures aimed at developing a circular economy in the Netherlands by 2050 including:

the objective to reduce the use of raw materials by 50 per cent in 2030 and become 100 per cent circular in 2050, unifying policy on an international level, interventions (legislation and regulations), waste as a raw material, smart design, conscious use, extending product life and various others.¹²⁴ Additionally, the Netherlands was the first to introduce Green Deal Circular Procurement, an initiative that fosters collaboration between organisations and encourages the purchase of circular goods and services invoking over € 100 million in procurement done circular, and which has since been copied by Belgium and Finland.²⁶ Also, “Nederland Circulair” managed by Ecopreneur member MVO Nederland is regarded as an example of good practice of a circular hub and a public-private partnership.⁸ The EPR scheme for packaging recently introduced a eco-modulated fee on the basis of recyclability by offering a low tariff for plastic packaging with a positive market value that can be well sorted and recycled, as well as for certain drink cartons, while the low fee for biodegradable plastic packaging was cancelled because they remain present in current composting installations.¹²⁵ In line with the EU VAT directive, the Netherlands



THE NETHERLANDS

also offers VAT reduction on minor repair services, particularly for bicycles, shoes and leather goods^{19,126} and on second hand goods¹²⁷. In 2017 more than 80 organisations including the government, MVO Nederland and industry federation VNO-NCW signed the “Grondstoffenakkoord” (Resource covenant) with commitments contributing to the national circular economy strategy. Finally, in February 2019 the government launched the “Versnellingshuis” (Acceleration House) as a joined initiative to implement the Grondstoffenakkoord. Overall the country’s voting behaviour towards circular economy proposals put forward by the EU commission is positive, but resistance against EU proposals is also clearly visible⁷.

The Netherlands is right on track to becoming a fully circular economy, although this will not come without its challenges. Per capita waste production is high with a total of 520 kg per year² while the performance on renewable energy is trailing behind in the EU with a share of only 6.6 per cent.^{128,129} Barriers to achieving a circular economy are generic and probably present in all member states, such as counteracting regulations, lack of commitment from value chain partners and a lack of access to funding. Additionally, companies are finding it difficult to form a specific strategy to become circular and circular entrepreneurship is often still based on existing revenue models³.

Ecopreneur recommendations: (see also Chapter 3)

- Expand the leading role in the implementation of the Versnellingshuis to the other ministries to keep the Dutch circular economy “hub” in the international forefront – other countries are rapidly catching up!
- Ensure long term budget for the circular economy programme connected to the Versnellingshuis and the Grondstoffenakkoord, including sufficient “process” money for assisting companies and municipalities with setting up cross-sectoral collaboration and setting up new circular value chains
- Building on the Circular Procurement Academy and the Green Deal Circular Procurement 2.0, launch a massive training programme for both the public and the private sector, and set and monitor ambitious circular procurement targets
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for transactions with clearly defined social reasons, discuss the EU VAT rate proposal in the context of the circular economy and issue a study on the possibilities for positive price incentives for circular products and services via VAT differentiation or other tax measures



THE NETHERLANDS

- Further apply the waste hierarchy by stimulating waste prevention by design, sharing, maintenance, repair and reuse before recycling
- To enable a next step in the transition, include or even prioritise the circular economy in existing business and industry policies, including the areas of innovation, procurement, financing, and international trade
- Integrate circular economy in curricula across the education field. from high school to university

Examples of good practice:

- Goals for raw materials use reduction in 2030 and 2050
- Green Deal Circular Procurement
- Circular hub “Nederland Circulair”

COUNTRY PROFILES



2.21 POLAND

PERFORMANCE-RANKING OF POLAND AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↑ last year)



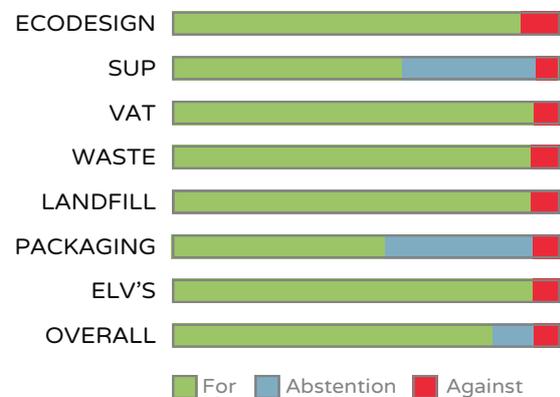
CIRCULAR MATERIAL USE RATE



(↓ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



51 MEPS TOTAL

■ For ■ Abstention ■ Against

ACTIVITIES

EPR schemes: 12 across 5 sectors

Circular economy roadmap: -

Circular economy tax incentives: Yes

Circular economy initiatives:

E-KUMULATOR, Interdepartmental Circular Economy Group

Most relevant organisations:

IGOZ Institute, Waste Management and Recycling Cluster, Mineral and Energy Economy Research Institute of the Polish Academy of Sciences

* For explanation of the infographics see page 10-11 of the Introduction.



POLAND

At first glance Poland may seem to be amongst the lesser circular economy focused EU member states. However, there are a few valuable areas where the country exceeds the majority of the competition, particularly the per capita waste production with 307 kg (2nd) a year² and EPR coverage with a total of 12 schemes spanning 5 sectors⁶. Additionally, Poland ranked very respectably in POLITICO's circular economy index (6th)⁴.

Circular economy initiatives are abundant, particularly by NGOs, although the government is also supportive, involved and in favour of an EU-wide circular economy initiative.¹³⁰ The country has also hosted numerous international conferences on the circular economy with "Polish Circular Week" likely drawing the most attention.¹³¹ A major step forward in Poland's commitment to a circular economy was taken in 2016 with the establishment of an Interdepartmental Circular Economy Group by the Polish Ministry of Development. This Ministry is now working on a circular economy roadmap and has concluded public consultations, however there are still many issues to be addressed before receiving final approval.^{133,134} The Ministry of Enterprises and Technology is very active and open to

implement and promote the circular economy, which is listed as a National Smart Specialisation.¹³⁵ Currently, there is a pilot programme running, encompassing five cities, supported by the National Fund of Environmental Protection and Water with aim of becoming circular.¹³⁶ Additionally, during a panel discussion at the recent United Nations' COP24 climate change conference held in the Polish city of Katowice, Jadwiga Emilewicz, the minister for technology and enterprise declared that Poland aims to move toward a resource-efficient circular economy.¹³⁷ Poland offers VAT reductions on minor repair services for bicycles shoes and leather goods¹⁹. The country's voting behaviour towards circular economy related proposals is relatively positive, however moderate resistance can be seen in the area of single-use plastic and packaging waste⁷.

Although Poland is progressing in some areas, it is clearly regressive in others. Reports of hundreds of thousands of tons of garbage being burned in Poland, sourced not only domestically but also from abroad by the so called "waste mafia" has prompted the EU commission to monitor the situation.¹³⁸ In addition, several barriers to the circular



POLAND

economy exist including: difficult access to capital, insufficient research efforts, rigid public procurement practices that make innovative technologies unattractive and the lack of awareness of both customers and companies as to the benefits of a circular economy³.

Ecopreneur recommendations: (see also Chapter 3)

- Finalise and launch the Polish Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become fully circular in 2050
 - Further apply the waste hierarchy by stimulating waste prevention by design, sharing, maintenance, repair and reuse, before recycling, incineration and landfill
 - Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
 - Step up market surveillance of environmental laws and regulations and launch a separate programme to foster transparency in the value chain
 - Building on existing activities, apply for EU funds to set-up a national support programme for SMEs with focused activities including training, communities of practice and access to finance to create a circular economy “hub”
 - Implement the new EU regulations on waste management and plastics as soon as possible
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover eco-modulation of fees and more sectors
 - Introduce tax incentives such as low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES

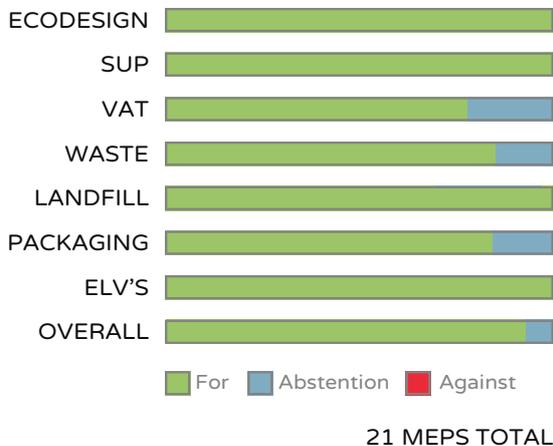


2.22 PORTUGAL

PERFORMANCE-RANKING OF PORTUGAL AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 12 across 7 sectors

Circular economy roadmap: -

Circular economy tax incentives: Yes (SIFIDE programme)

Circular economy initiatives: Portuguese Green Growth initiative, INCOVER project

Most relevant organisations: Circular Economy Portugal, Portuguese Association of Environmental Technology Companies (APEMETA), Portuguese Association for Circular Economy and Bioeconomy, COLAB Circular, SmartWaste Portugal

* For explanation of the infographics see page 10-11 of the Introduction.



PORTUGAL

Portugal finds its place in the middle-ground of other member states when it comes to circular economy performance rankings², however EPR coverage does stand out with a total of 12 schemes covering 7 sectors.¹³⁹

The Portuguese government's dedication to forwarding the circular economy was preceded by the establishment of the "Green Growth Coalition" in 2014, which was signed by over one hundred organisations and formed a "Green Growth Commitment" agenda.¹⁴⁰ In 2015, the Ministry of Environment decided to focus this agenda around three policy axes, one of them being the circular economy. The approach for the circular economy is focused on culture, policy and investment. The promotion of a circular culture included the launch of a web portal as a "one-stop-shop" with information, examples, opportunities and an agenda of events.¹⁴¹ Workshops initiated the discussion on circular economy in many sectors. A circular economy roadmap titled "Leading the transition: Action plan for circular economy in Portugal: 2017-2020" was published in late 2017 by an inter-ministerial group which benefited from extensive public interaction and collaboration with the Dutch government.¹⁴² The plan includes policy

changes towards research and innovation, tax and other economic incentives and supporting circular economy networks, including approaches at the regional and local level. Under the SIFIDE programme, investments by SMEs in R&D benefit from a tax reduction which can be higher for eco-design. Meanwhile the development of circular economy is accelerated by public funding designed to promote emergent solutions; for instance, the Environment Fund alone has invested € 6.6 million in circular economy projects in 2017 - 2018. In 2018, initiatives began to pick up across the country, driven by local communities, NGOs¹⁴³, business associations and professional guilds, such as the National Guild of Engineers that established 2019 as the "Year of Resource Efficiency and Circular Economy".¹⁴⁴

Regarding circular economy drivers, Portugal has a wide array of natural resources, Portuguese research institutions, despite their size have managed to join European research networks and funding schemes for example "Horizon 2020" and INTERREG, and growing political and private support for circular economy³. Regarding EU regulations,



PORTUGAL

Portugal was the first EU country to ban single-use fossil-based plastic products at the government, direct administration and public companies level as of January 1st 2019.¹⁴⁵

Overall, Portugal's circular economy voting behaviour is very positive, displaying only minimal resistance⁷.

Portugal has made great strides in recent years, however there is still more to be done. The country's municipal waste recycling rate and circular material use rate are particularly underwhelming and several barriers to circular economy exist including lack of private-sector investment, little technological development in eco-industry sectors, notably water and waste, low public awareness and insufficient human capital to pursue innovation pathways³.

Ecopreneur recommendations: (see also Chapter 3)

- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover eco-modulation of fees and even more sectors
 - Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Building on preparation in the Centro region, launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
 - Add concrete objectives to the Circular Economy Action Plan to increase reuse, repair and sharing, and to become fully circular in 2050
 - Building on existing activities, apply for more EU funds to extend the national support programme for SMEs with focused activities including training, communities of practice and access to finance to create a circular economy "hub"

COUNTRY PROFILES



2.23 ROMANIA

PERFORMANCE-RANKING OF ROMANIA AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



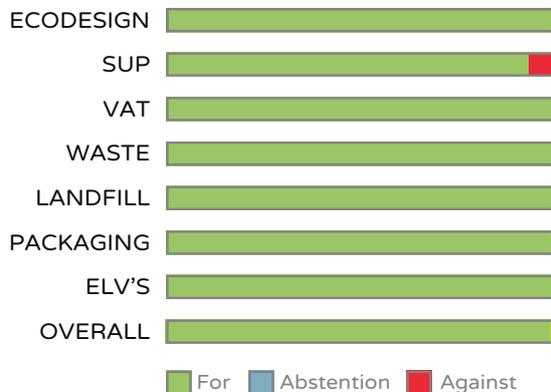
RECYCLING RATE PACKAGING



CIRCULAR MATERIAL USE RATE



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



32 MEPS TOTAL

ACTIVITIES

EPR schemes: 9 across 3 sectors

Circular economy roadmap: -

Circular economy tax incentives: -

Circular economy initiatives:

Green Fibre International recycling and circular economy project

Most relevant organisations:

IRCEM Institute, National Centre for Sustainable Production and Consumption, Green Energy Innovative Biomass Cluster

Examples of good practice:

- Lowest per capita waste production

* For explanation of the infographics see page 10-11 of the Introduction.



ROMANIA

Romania is evidently struggling regarding circular economy efforts with the majority of circular economy performance indicators ranking in the bottom quarter of member states and EPR coverage somewhat limited with 9 schemes in three sectors⁶. Meanwhile its potential for transitioning to the circular economy is high and it has the lowest per capita waste production with just 261 kg per year, compared to 783 kg in Denmark.¹⁴⁶

Circular economy initiatives are sparse but follow a growing trend.¹⁴⁷ They can be identified both at the social entrepreneurship level, with initiatives such as: the development of new products from reused or recycled materials, reusable products, food banks, to that of public local municipalities, that are pursuing the zero waste certification and affiliation to the “Zero Waste Cities” European initiative.¹⁴⁸ The Green Group Holding is a new public-private partnership established to facilitate the collection and recycling of consumer waste, to divert this from landfill.¹⁴⁹ Genesis Biopartner promotes using more organic waste from food processing for the generation of biogas. An initiative in Cluj-Napoca has been established to help ensure that edible but left unsold food can reach those

who need it most.¹⁵⁰ At the same time Romania is implementing key concepts such as pay-as-you-throw (PAYT) and a deposit-system for beverages in the national and local legislation.¹⁵⁰ The circular economy is embraced by civil society with various initiatives, including: advocacy of zero waste legislation, campaigns for food waste reduction and against landfills and Waste-to-Energy technologies. Also, at entrepreneurial level it is worth mentioning the production of reusable products such as Trezy nappies¹⁵¹, slow fashion initiatives, farmers cooperatives that promote and sell local products with biodegradable or reusable packaging, and online freecycle* platforms.¹⁵⁰ Also, Romania has a national certification system for residential buildings and homes (Green Homes)¹⁵² that is linked to a Green Mortgage programme. The system implies the mandatory implementation of zero waste measures during the construction and operation of over 6000 units registered up to date. Moreover, Green Building: RESTORE - the first building certification system developed based on circular economy principles, advocating for the regeneration of industrial site and deep renovations, is being pioneered by the industry and is included in a

* Freecycling, or free recycling, is the act of giving away usable unwanted items to others instead of disposing of them in landfills. Source: <https://en.wikipedia.org/wiki/Freecycling>



ROMANIA

local tax reduction programme.¹⁵⁰

In 2017, the European Investment Fund (EIF) signed three transactions with large financial institutions to provide favourable financing options for Romanian SMEs by partial guaranteeing loans and lowering interest rates.¹⁵³ Additionally, the EIB provided a loan up to € 7.5 million with EFSI guarantee to Green Fibre International to use PET from discarded plastic bottles to produce Polyester Staple Fibre (PSF) and expand its recycling scope into Waste Electrical and Electronic Equipment.¹⁵⁴ Romania's voting behaviour towards circular economy related proposals by the EU Commission is completely positive with virtually no resistance⁷. Currently, Romania offers no tax incentives for circular goods or services.

To prevent Romania from a continued lagging behind the circular economy frontrunners, the country needs a comprehensive circular economy plan and collaboration between all stakeholders involved. Several barriers continue to hinder circular economy efforts. These include: an uncertain political landscape, burdensome regulatory framework, lack of adequate infrastructure for waste management, high risk of non-compliance of environmental regulations by companies due to lack of awareness of proper procedure and difficulties in public-private cooperation³.

Ecopreneur recommendations: (see also Chapter 3)

- Formulate and launch a Romanian Circular Economy Roadmap or Strategy, including

objectives to reduce raw materials use and waste production and to become fully circular in 2050, innovation support

- Apply for EU funds to set-up a national support programme for SMEs, existing initiatives and tools with focused activities including training, communities of practice and access to finance to create a circular economy “hub”
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Step up market surveillance of environmental laws and regulations and launch a separate programme to foster transparency in the value chain
- Implement the new EU regulations on waste management and plastics as soon as possible
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improving existing ones and setting up new schemes covering more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Monitor the waste per capita as to keep the advantage with growing prosperity



ROMANIA

Example of good practice:

- Lowest per capita municipal waste production



COUNTRY PROFILES



2.24 SLOVAKIA

PERFORMANCE-RANKING OF SLOVAKIA AMONG ALL EU MEMBER STATES*

ECO-INNOVATION INDEX RESOURCE EFFICIENCY



POLITICO'S CIRCULAR ECONOMY INDEX



% OF SMES MINIMISING WASTE



PER CAPITA MUNICIPAL WASTE PRODUCTION



(↑ last year)



PER CAPITA TOTAL WASTE INCINERATION WITH ENERGY RECOVERY



RECYCLING RATE MUNICIPAL WASTE



(↑ last year)



RECYCLING RATE PACKAGING



(↑ last year)



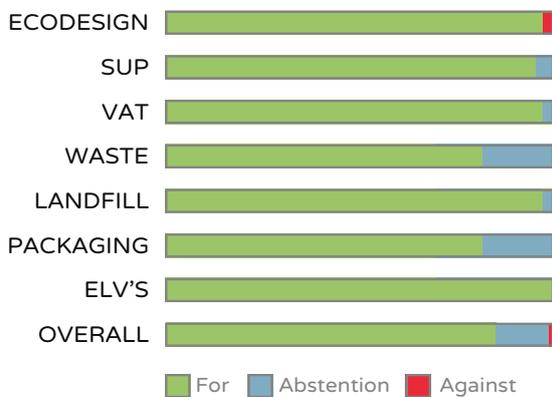
CIRCULAR MATERIAL USE RATE



(↓ last year)



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



13 MEPS TOTAL

ACTIVITIES

EPR schemes: 16 across 4 sectors

Circular economy roadmap: Yes (Slovak Republic goes green economy)

Circular economy tax incentives: -

Circular economy initiatives:

Circular 100 programme, S4, Circular Change platform

Most relevant organisations: Circular Change

* For explanation of the infographics see page 10-11 of the Introduction.



SLOVAKIA

Slovakia has in recent years shown genuine initiative towards circular economy,¹⁵⁵ however the results are still to come in to fruition as if reflected by the country's less than stellar circular economy indicator performance. The majority of rankings are in the bottom half of all EU member states². Particularly concerning is the recycling rate of municipal waste at just 23 per cent (ranked 23rd). On a positive note, Slovakia's per capita waste production is low at 348 kg per year (ranked 4th). EPR coverage is also solid with a total of 16 schemes spanning 4 sectors⁶.

Circular economy is gradually winning political support in Slovakia and several framework conditions have been created to facilitate progress, e.g. in the area of waste management. There are several circular economy initiatives currently running in the country by NGO's, private companies and the government alike. Already in 2016 the Ministry of Environment published a strategy paper about the Slovak Republic towards a green economy that included the principles of the circular economy.¹⁵⁶ In September 2017 a multi-organisational initiative entitled "Circle of Circular Economy" began. The goal of the project is to present the principles of the

circular economy to school students in both Slovakia and Hungary.¹⁵⁷ A prime example of another, private initiative is "Ekovir", started by the Slovak branch of the company "CURADEN", aiming to support the circular economy and corporate social responsibility. Several conferences and workshops were held, including an international conference on circular economy and the automotive industry, one of Slovakia's main economic sectors.¹⁵⁸

To facilitate the implementation of the principles of circular economy in practice, a Green Economy information platform has been established. It offers the possibility to present green solutions and to share the experience with their implementation.^{155,159} During the EU Council presidency in 2016, the main goal within the Environment Council was to actively contribute to the current European discussion about the transition to the green economy and circular economy. The Slovak presidency triggered the development the „Bratislava Green Economy Process“ the main goal of which is to enable regular and broad discussion about progress towards the green economy in the EU context.¹⁵⁵ Slovakia's circular economy voting behaviour is overall positive, displaying



SLOVAKIA

minimal resistance⁷. The country does not currently offer circular economy tax incentives.

Slovakia still has a multitude of issues affecting its transition to a circular economy and its less than impressive circular economy indicator performance cannot be overlooked. The total landfill percentage of municipal waste is very high at approximately 70 per cent with around 80 per cent of this waste being mixed municipal waste of non-defined content.¹⁶⁰

Regarding barriers to circular economy: there is a lack of financial resources, lack of funding for research and innovation, little market demand for innovative solutions, low level of public awareness and a highly fragmented regulatory and policy framework non-conducive environmentally conscious behaviour to name a few³.

increase reuse, repair and sharing, and to become fully circular in 2050

- Implement the new EU regulations on waste management and plastics as soon as possible
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Monitor the waste per capita as to keep the advantage with growing prosperity

Ecopreneur recommendations: (see also Chapter 3)

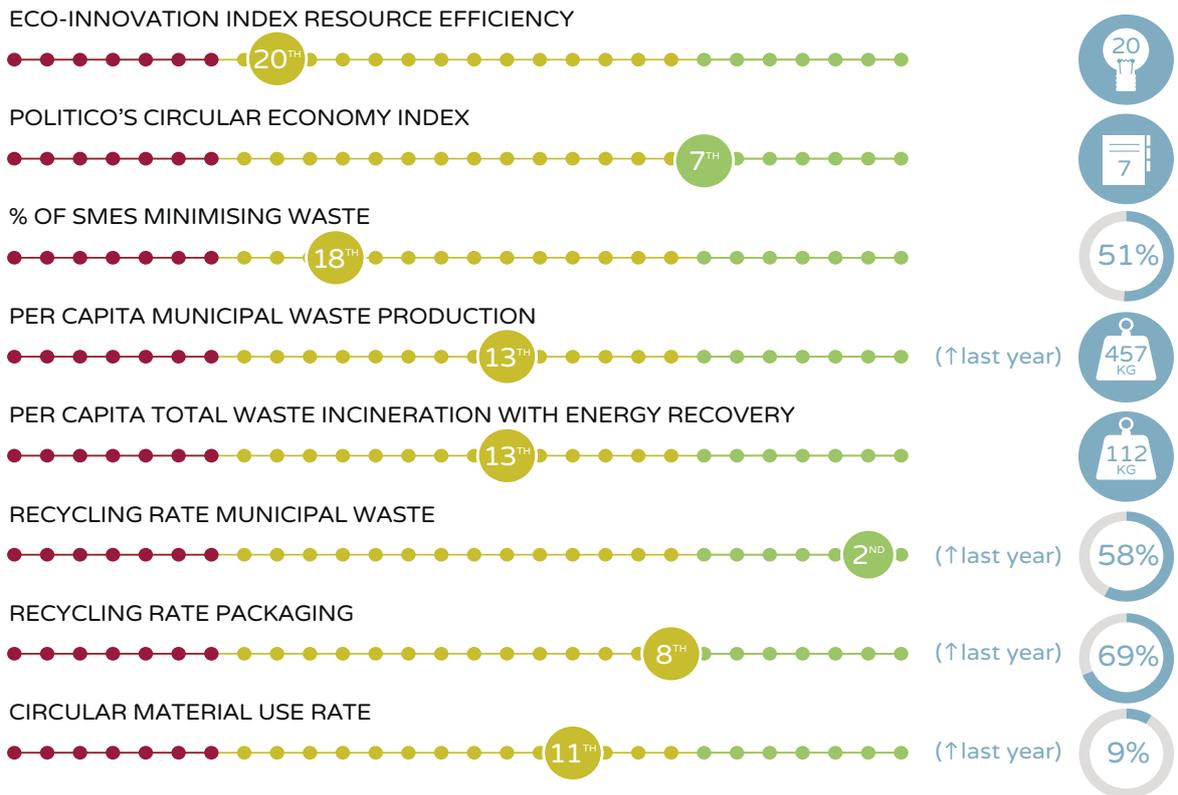
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Apply for EU funds to set-up a national R&D and support programme for SMEs with focused activities and access to finance to initiate circular economy pilot projects and create a circular economy "hub"
- Based on the green growth strategy document from 2016, formulate and launch a Slovak Republic Circular Economy Roadmap, including an action plan with concrete measures and objectives to reduce raw materials use and waste production, to

COUNTRY PROFILES

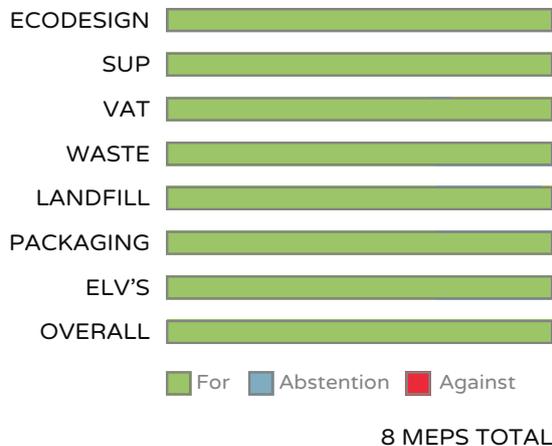


2.25 SLOVENIA

PERFORMANCE-RANKING OF SLOVENIA AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 9 across 3 sectors
 Circular economy roadmap: Yes
 Circular economy tax incentives: Yes
 Circular economy initiatives:
 Circular 100 programme, Slovenian Smart Specialisation Strategy (S4)
 Most relevant organisations:
 Circular Change Platform

* For explanation of the infographics see page 10-11 of the Introduction.



SLOVENIA

Slovenia is doing relatively well in terms of circular economy performance indicators. The country's two highest rankings are in the recycling rate of municipal waste and POLITICO's circular economy index coming in 2nd and 7th respectively². EPR on the other hand is somewhat limited, with 9 schemes covering only 3 sectors⁶.

Slovenia's government joined the Ellen MacArthur foundation's circular economy 100 programme in 2016 and has shown genuine dedication towards circular economy.

Representatives from the ministries of environment, finance, agriculture, economic development, transport and education all attended Slovenia's CE100 workshop held shortly after joining the programme. As a member of this programme, the country aims to form a network of like-minded economic partners, create a number of circular economy tools to benefit SMEs, share best practices, build a national circular case study library and explore resource efficiency opportunities.¹⁶¹

The Cities of Ljubljana and Maribor are very active with circular economy policies.^{162,163} Moreover, Slovenia is home to the influential "Circular Change" stakeholder engagement platform, which aims to create a competence

network in collaboration with a network of international partners in order to facilitate Slovenia's transition to a circular economy. It contributed to the country's circular economy roadmap¹⁶⁵ and its annual Circular Change Conference has grown into a noteworthy annual international event. Slovenia showed no resistance to circular economy proposals by the European Commission⁷. The country also offers VAT reduction on a selection of minor repair services including bicycles, shoes and leather goods¹⁹.

Slovenia is certainly heading in the right direction, exhibited by the multiple circular economy initiatives and a high level of government involvement. Despite the recent surge in the prevalence of circular economy, barriers to achieving a successful transition are still to be overcome. These include decreasing government expenditure in R&D, a lack of financial incentives for green entrepreneurship, a continued "rule of the lowest price" in public procurement, very limited market for recycled materials, in particular for recycled plastics, and the inefficient transfer of knowledge from higher education to private sector³.



SLOVENIA

Ecopreneur recommendations: (see also Chapter 3)

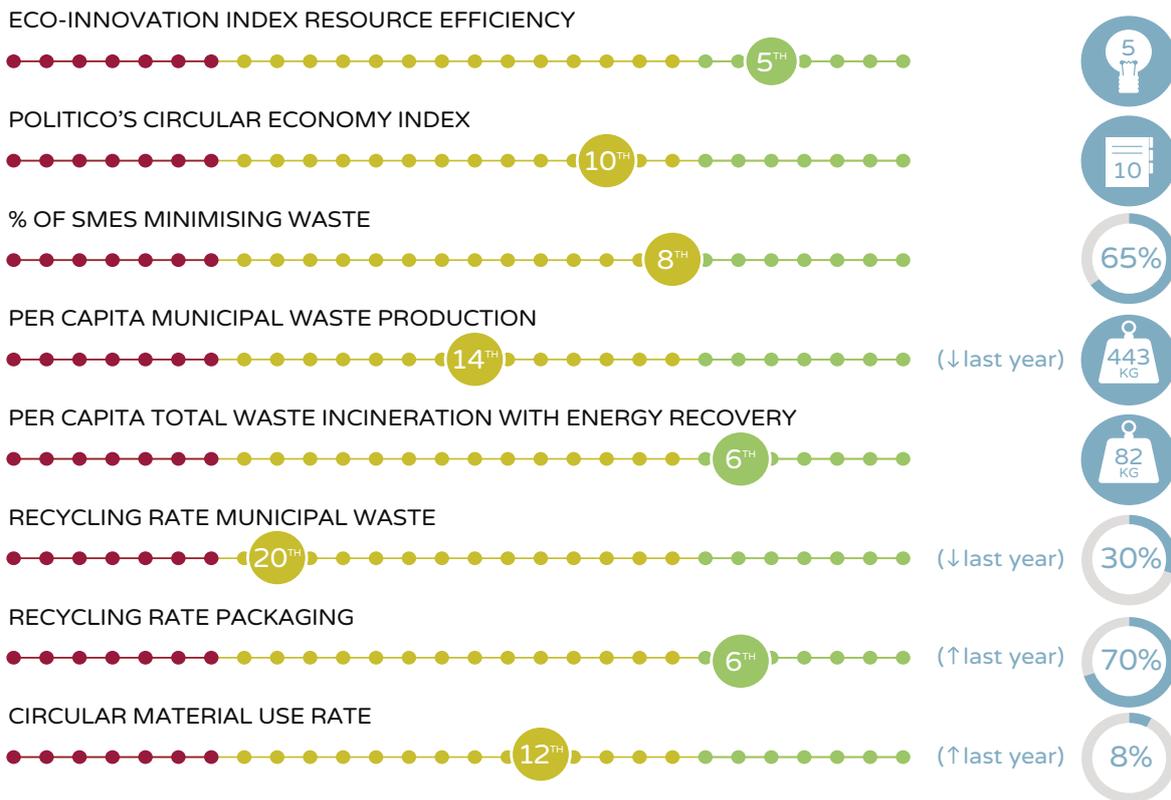
- Together with stakeholders, develop an action plan for the Circular Transition of Slovenia, building on the Slovenian Circular Economy Strategy, including the following recommendations
- Set up a national support programme for R&D and for SMEs with focused activities including training, communities of practice and access to finance to initiate circular economy pilot projects, and expand the Circular Change Platform into a circular economy “hub”
- Launch a Green Deal on Circular Procurement for both the public and the private sector, including commitments from companies and a free training programme
- Set objectives to reduce raw materials use and waste production, to foster secondary raw material use, to establish an appropriate materials accounting system and to become fully circular in 2050
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Introduce tax incentives such as low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

COUNTRY PROFILES

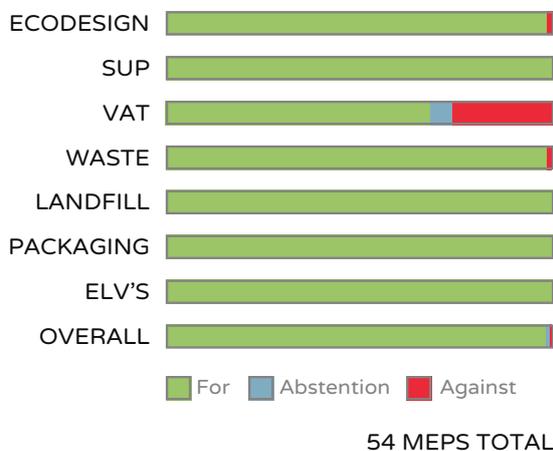


2.26 SPAIN

PERFORMANCE-RANKING OF SPAIN AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 13 across 5 sectors
 Circular economy roadmap: -
 Circular economy tax incentives: Yes
 Circular economy initiatives:
[Extremadura 2030](#), [Spanish Circular Economy Strategy](#)
 Most relevant organisations:
[Circular Economy Foundation \(FEC\)](#), [Ecoembes](#),
[Circular Basque](#), [TheCircularLab](#)

* For explanation of the infographics see page 10-11 of the Introduction.



SPAIN

Spain is doing relatively well in terms of circular economy with the majority of performance indicators placing in the top half of all EU member states. The country's best effort is in resource efficiency, ranking 5th overall³. EPR is another strong point for Spain, with a total of 13 schemes covering 5 sectors⁶.

Spain is home to a solid number of initiatives both at a national and region level. In September 2017 the Ministry of Agriculture and Fisheries, Food and Environmental Affairs held a circular economy based workshop, aimed at devising a new Spanish circular economy strategy with its participants. The workshop resulted in a total of 55 social and business stakeholders signing a pact on the circular economy. The commitment of the pact includes reducing the use of non-renewable resources, improving the analysis of the life cycle of products, incorporating eco-design criteria, updating digital infrastructures and promoting common initiatives that are conducive to developing a circular economy.¹⁶⁶ At regional level, in March 2017 the region of Andalusia held an meeting in Seville with relevant local authorities, municipalities, companies and organisations from civil society.¹⁶⁷ Their "Seville Declaration", a

Manifesto showing their commitment to circular economy policies,¹⁶⁸ has since been signed by over 200 municipalities. In 2018 the region of Extremadura released its own strategy for circular economy entitled "Extremadura 2030". The underlining vision of the strategy is to convert the area into an example of a functioning circular economy for others to follow with concrete objectives, amongst others, outlined as: developing entrepreneurship in emerging sectors, leveraging research and innovation processes related to green and circular economy, focusing on regional smart specialisation related to circular economy and gaining connecting to experienced international circular economy stakeholders.¹⁶⁹

Additionally, in respects to regional circular economy development, the government of Catalonia joined the Ellen MacArthur Foundations CE100 list, making large strides in developing a regulatory framework of policies and measures.^{170,171} Spain's commitment to the circular economy was confirmed at the highest level by a treaty with Finland and Portugal.¹⁷²

Spain offers tax reductions to companies and individuals who donate to charities. No differentiation is made between donating



SPAIN

new and used goods, incentivising the reuse of functioning devices and extending product life¹⁹. The country's circular economy voting behaviour is positive, with practically no resistance shown⁷. Concerning innovation and research, a pioneering lab called "TheCircularLab" was founded in May 2017 in Northern Spain to develop best practices in the field of packaging and its subsequent recycling.¹⁷³

Spain is making solid progress regarding the circular economy, although a few particular areas are in need of attention, for example the recycling rate of municipal waste which is relatively low at just 30 per cent². Additionally, several prominent barriers to circular economy continue to slow the process including: little stimulus from the national government, lack of environmental awareness from both buyers and sellers, cost of circular economy development for SMEs, and a lack of technical skills needed expand the circular economy.³

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Implement the new EU regulations on waste management and plastics as soon as possible
- Formulate and launch a Spanish Circular Economy Roadmap or Strategy, as announced by the Pact in 2017, including concrete actions, measures and objectives to

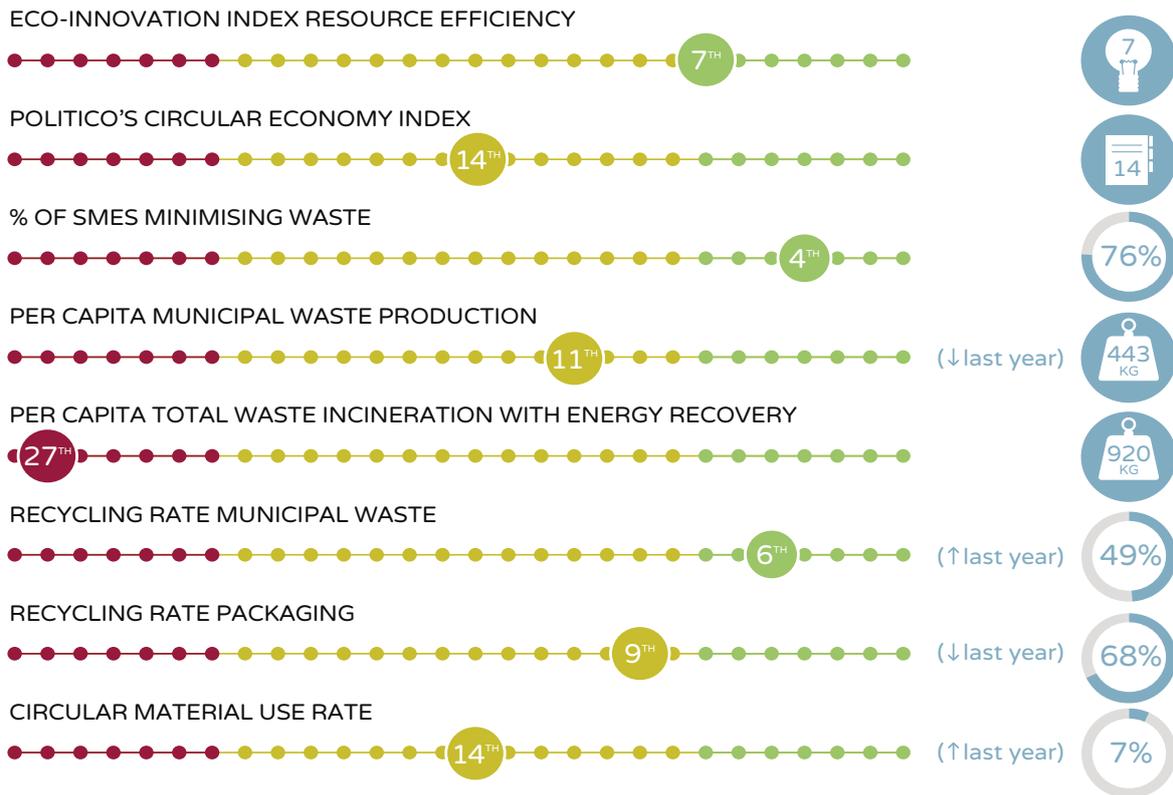
reduce raw materials use and waste production and to become fully circular in 2050

- Building on existing activities, apply for EU funds to set-up a national support programme for SMEs with focused activities including training, communities of practice and access to finance to create a national circular economy "hub" with regional hotspots in Extremadura and Catalonia
- Evaluate the EPR schemes based on the latest insights of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for further improving the schemes and extend them to cover eco-modulation of fees and even more sectors
- Adopt a proposal for the reduction of labour costs for repair and exempt repair from VAT. In addition, introduce tax incentives such as low VAT rates for resold goods and discuss the EU VAT rate proposal in the context of the circular economy

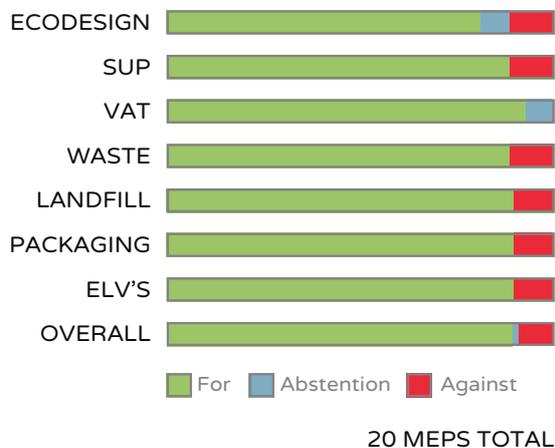
COUNTRY PROFILES

2.27 SWEDEN

PERFORMANCE-RANKING OF SWEDEN AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 11 across 5 sectors

Circular economy roadmap: -

Circular economy tax incentives: Yes

Circular economy initiatives: Resource Effectiveness and the Circular Economy Project, Re:Source

Most relevant organisations: IVA, The Swedish Sustainable Economy Foundation, Swedish Energy Agency, Vinnova, Formas, Cradlenet, CirEko

Examples of good practice: Low VAT rate and income tax reduction for certain repairs

* For explanation of the infographics see page 10-11 of the Introduction.



SWEDEN

Sweden's circular economy efforts are impressive. The country is home to numerous initiatives and ranks respectably in all circular economy indicators covered. In fact, all indicators are in the top half of EU members states with the country's top ranking coming in the percentage of SMEs minimising waste (4th)⁵. EPR coverage is equally remarkable with a total of 11 schemes spanning 5 sectors⁶.

In 2018 the Royal Swedish Academy of Engineering Sciences (IVA) initiated a new project entitled "Resource Effectiveness and the Circular Economy" intent on creating a platform to identify and link the multitude of current circular economy initiatives. From this, IVA can begin to draw conclusions as to what choices Sweden as whole needs to make to facilitate the transition to a circular economy. The project focuses on five main areas, namely: mobility, facilities, food, textiles and plastics.¹⁷⁴ The initiative expands on the Academy's previous project "Resource Efficient Business Models – Greater Competitiveness". This project ran between 2014-2016 in cooperation with 45 companies and highlighted attractive commercial opportunities to make the economy more resource efficient.¹⁷⁵ Another prime example of a coordinated initiative is

"Re:Source", a collaboration between the Swedish Energy Agency, the Swedish agency Vinnova that administers state funding for research and development, and the Swedish Research Council (Formas). Re:Source provides an arena for various stakeholders from Swedish industry, waste management and research sectors to share and develop innovative solutions regarding resource efficiency, but also a platform to apply for funding. The projects objectives are to: be an easily accessible innovation arena, successfully apply sustainable resource business models in the real world, influence the general public's awareness, create world-class expertise and industry know-how, achieve a higher level of representation for Sweden in international innovation projects and create new jobs in eco-innovation.^{176,177} In addition, the non-for-profit business network organisation CirEko aims to facilitate the business community's transition to the circular economy by acting as a development and collaboration arena.¹⁷⁸ Sweden offers a 50 per cent tax reduction on labour charged to repair large household appliances up to a maximum of about € 2.400 per year (€ 4.800 for persons of 65), if the repairs are performed by a professional at the owner's



SWEDEN

residence¹⁹. Overall, the country's voting behaviour is positive regarding circular economy focused proposals by the EU Commission⁷.

Sweden is on the right track when it comes to the circular economy with few barriers hindering eco-innovation. The pilot with tax reduction for repair is an example of leadership. The only considerable challenges that may impede overall innovation include: high taxes, difficult to navigate labour regulations, high city rent prices dissuading young international talent compared to other EU based cities, and the high level of incineration of residual waste.^{179,180}

Ecopreneur recommendations: (see also Chapter 3)

- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Insofar not already there, add objectives to the Swedish Circular Economy Roadmap to reduce raw materials use and waste production, increase reuse, repair and sharing, and become fully circular in 2050
- Set up a national support programme for SMEs with focused activities including circular design training, communities of practice and access to finance to create a circular economy "hub"
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover more sectors and eco-modulation of fees
- Evaluate the pilot with the reduction of labour costs and VAT exemption for repair on its effectiveness to actually foster repair, and communicate the outcome to the EU and other member states. In addition, introduce tax incentives such as low VAT rates for resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Consider developing a "Green New Deal" to couple extra taxation of linear products (including fossil fuels) and services to compensating income tax reductions, especially for low income groups – essentially starting the budget-neutral tax shift from labour to resources
- Stop investing in incineration capacity and introduce taxes on landfill and incineration reflecting the EU waste hierarchy

Example of good practice:

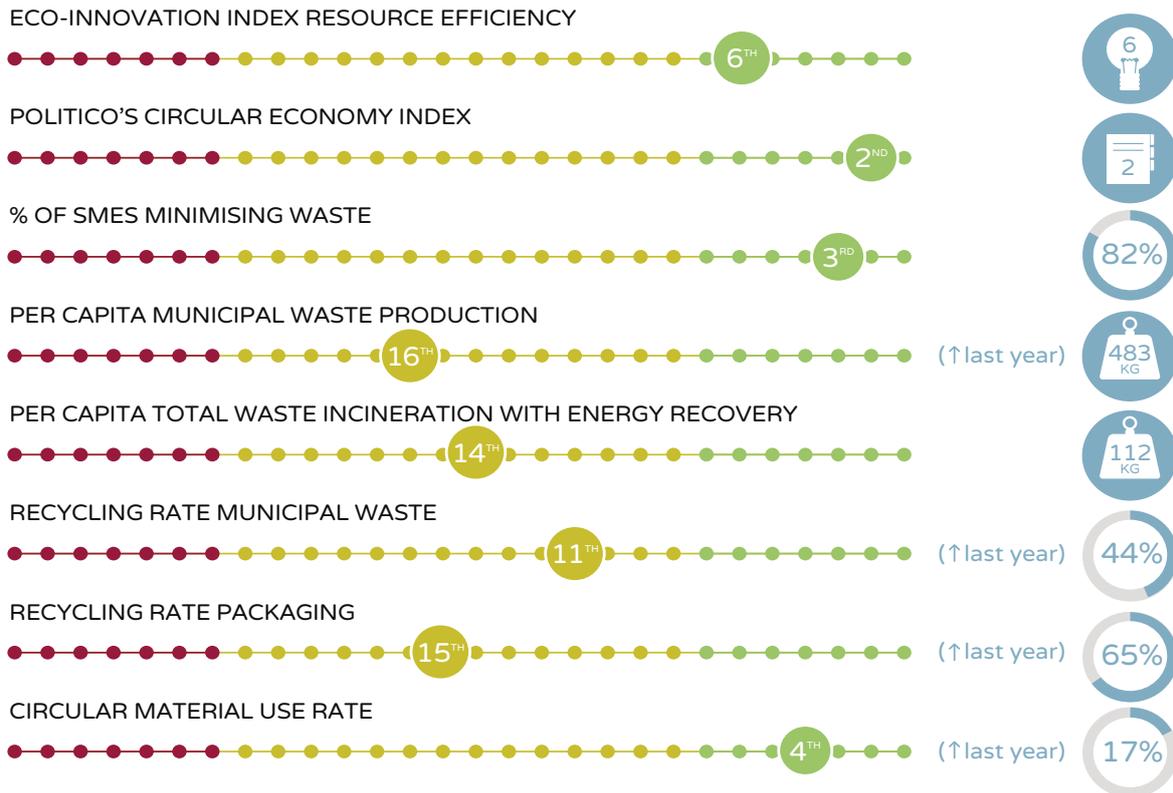
- Low VAT rate and income tax reduction for certain repairs

COUNTRY PROFILES

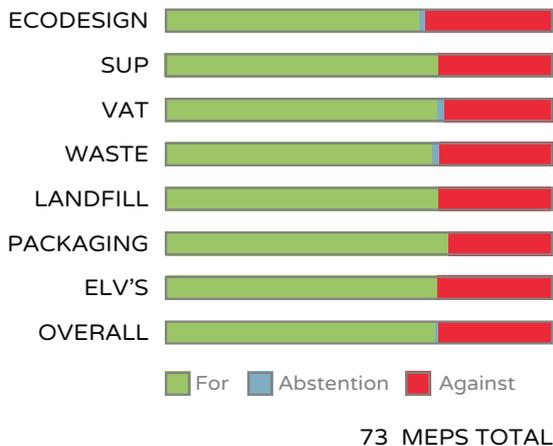


2.28 UNITED KINGDOM

PERFORMANCE-RANKING OF THE UK AMONG ALL EU MEMBER STATES*



NATIONAL VOTING BEHAVIOUR ON RELEVANT PROPOSALS IN EUROPEAN PARLIAMENT



ACTIVITIES

EPR schemes: 58 across 4 sectors
 Circular economy roadmap: -
 Circular economy tax incentives: Yes
 Circular economy initiatives:
 New Plastics Economy, Sustainable Clothing Action Plan (SCAP)
 Most relevant organisations:
 Ellen MacArthur Foundation, EMF, Cambridge Cleantech, WRAPs
 Examples of good practice:
 Zero Waste Scotland's ability to track circular investments

* For explanation of the infographics see page 10-11 of the Introduction.



UNITED KINGDOM

The United Kingdom does well regarding circular economy indicators, with a four out of seven rankings covered in the top 25 per cent of all member states. Particularly impressive is the effort in POLITICO's circular economy index and percentage of SMEs minimising waste, placing 2nd and 3rd overall². EPR schemes are numerous with 58 schemes covering 4 sectors, however they are disproportionately divided between waste streams with packaging (22) and WEEE (29) taking the lion's share⁶. Municipal waste management performs around the EU average.¹⁸¹

For the UK as a whole, there is no circular economy strategy. Instead, the circular economy has been incorporated into a new industrial strategy called "Building a Britain fit for the future". The importance of a circular economy, resource efficiency, and resource productivity are recognised in achieving clean growth, meaning increased economic growth while decreasing carbon emissions. These strategies are supported by the 25-year Environmental Plan and forthcoming Resource and Waste Strategy, aiming to make the UK a world leader in competitiveness, resource productivity, and resource efficiency. However, with material efficiency perceived as more of a

future challenge, these general ambitions are not accompanied by national circular economy targets or policies,¹⁸² and those policies existing focussed on creating a linear economy with waste management.

There are nevertheless a multitude of initiatives currently running within the UK and a respectable level of involvement displayed by the government, regions, NGO's and private organisations alike. First, the UK is home to the Ellen MacArthur Foundation (EMF), an influential organisation leading the charge towards the proliferation of circular economy at home and abroad – although their impact at home seems to take off relatively slowly. In 2018 the EMF launched an international initiative titled "New Plastics Economy" which brought together over 250 organisations, including large multinationals, to sign an ambitious pact showing their commitment to rethinking and redesigning how plastics, particularly packaging, are used in their operations. The plan outlined overall targets but also the main areas of focus, namely: dialogue mechanism, global plastics protocol, innovation, evidence base and stakeholder engagement.^{183,184}



UNITED KINGDOM

Second, Scotland is displaying regional leadership in accelerating the circular economy. A Government Strategy was already published in 2016.¹⁸⁵ In 2018, Zero Waste Scotland organised Circular Economy Hotspot Scotland, an international three-day event in Glasgow.¹⁸⁶ Impressively, they are able to report on investments in circular economy made by companies they advised.¹⁸⁷ Third, an example of a national UK based initiative gaining traction is the Sustainable Clothing Action Plan (SCAP), run by the renowned agency WRAP. It uses collective action to reduce the environmental impact of clothing. Organisations can adopt the action plan which delivers positive environmental and economic outcomes through reductions in carbon and water footprints, and greater use of lower-impact fibres. It covers five key areas: resource efficient business models, design for extending clothing life, fibre and fabric selection, consumer behaviour and sustainable clothing, and re-use and recycling.¹⁸⁸ The UK currently offers VAT exemption for donated items that are resold by a registered charity which has agreed in writing to give all profits to charity¹⁹. At the same time, the UK showed more resistance to all proposals made by the EU commission regarding the circular economy than any other member state⁷.

While the UK is doing relatively well in terms of circular economy efforts, there are still several barriers to overcome and, with Brexit looming, it will likely get harder before it gets easier. These barriers include: misaligned incentives (no payoff for suppliers), lack of consumer awareness, low SME innovation capability, industry's short-term perspective, budget cuts³

and a focus on waste and resource efficiency rather than circular business models.

Ecopreneur recommendations: (see also Chapter 3)

- Develop a mix of supporting regulatory approaches including taxation, reporting, extended producer and consumer responsibility, product bans or standards, mandatory recycling regimes, and a new Waste Prevention Act¹⁸²
- Launch a Green Deal Circular Procurement for both the public and the private sector, including a free training programme and commitments from companies
- Building on Scotland's circular economy Strategy and other regional strengths, continue the current positive curve by formulating and launching a national Circular Economy Roadmap or Strategy, including objectives to reduce raw materials use and waste production, to increase reuse, repair and sharing, and to become fully circular in 2050
- Set up a national strategy providing support programs for SMEs in all regions, with focused activities including circular design training, communities of practice and access to finance to create a circular economy "hub"
- Evaluate the existing EPR schemes based on the latest recommendations of the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³ as a basis for improvement, and extend them to cover even more sectors and eco-modulation of fees



UNITED KINGDOM

- In line with the EU VAT directive, introduce tax incentives such as low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy
- Implement the new EU regulations on waste management and plastics as soon as possible





CHAPTER 3

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS AND RECOMMENDATIONS

Taking in view the country profiles in Chapter 2, what is striking is that we see 28 different trajectories into the circular economy. These differences reflect their unique character in terms of culture, history, economic structure and political reality – as well as the presence of leadership. Some countries are leading the way, such as the Netherlands, Scotland, Slovenia, France, Belgium and Finland. Some are making great strides, such as Italy and Portugal. And some have only just begun the journey, such as Cyprus, Greece, Malta and Romania. Some leading countries including the Netherlands have the longest way to go because they generate enormous amounts of waste per person, on which Romania scores best. The overall picture is rich and diverse, with not just the usual suspects leading the way, reflecting the complex nature of the transition to a circular economy, which touches on many aspects of our society.

Out of 24 different country-specific recommendations in Chapter 2, the following seven stand out as relevant for all member states:

1. Start a Green Deal on Circular Procurement
2. Create circular hubs
3. Create a national circular economy roadmap with concrete targets
4. Improve and extend the EPR schemes to cover eco-modulation of fees
5. Introduce low VAT rates for repair services, resold goods and transactions with clearly defined social reasons
6. Create a “Green New Deal” to shift taxes from labour to resources
7. Shift investments away from municipal waste incineration.

Together, they address many of the obstacles to a circular economy, including especially a lacking awareness and demand. In addition these are topics where member states can learn much from each other, which is why each recommendation is further explained below. For more information we refer to our recent report on Circular Fashion Advocacy.¹⁹⁰

Recommendation 1: Start a Green Deal on Circular Procurement

The successful Dutch and Flemish examples show that a Green Deal on Circular Procurement can fast-track the development of circular economy. Circular procurement can accelerate the transition by creating demand for circular products and services, thereby helping to create economies of scale. It builds on Green Public Procurement, which can lack concrete results even when mandatory. It generates enthusiasm among stakeholders for the economic potential of circular models. Moreover, circular procurement addresses a fundamental barrier by creating business for leading companies with circular products and services. One element of the Deal is a Circular Procurement Academy, with subsidised training for municipalities and companies on how to procure in a circular way.

Another element is the commitment of partners to start piloting and share the results. The Green Deals have already started to spread out to the Baltic States and France.

Recommendation to the European

Commission: *initiate and fund a massive free training programme on Circular Procurement in all member states, building on the Dutch example, and lead by example with circular procurement across the board.*

Recommendation 2: Create circular hubs

Creating “circular hubs”, i.e. multi-stakeholder initiatives in public-private partnerships aiming to accelerating the transition to a circular economy by providing support to SMEs and companies for the implementation of circular models at local, regional and national level, is emerging as a key step in making the transition. This is why they should be set up in each member state. Depending on the regional culture, such hubs can take various forms and be “virtual” or have a physical centre. Existing hubs contain various elements and are managed by stakeholders and organisations providing for example:

- A Green Deal and training on circular procurement (see previous recommendation)
- Training on circular design for companies
- Communities of practice
- Management of circular projects
- Support for access to private funding (venture capital, banks) and subsidies
- Matchmaking between supply and demand

for circular solutions

- Advocacy for ambitious circular economy policies
- Collecting and communicating inspiring examples
- Communicating news
- Research, e.g. on circular economy obstacles and government policies
- Organising challenges
- Incubators for circular start-up companies
- Organising circular cafés and meet-ups
- Organising national or international circular economy conferences
- Tools, such as the free Circularity Check launched by Ecopreneur and MVO Nederland and WeSustain, which can be used by companies for self-assessment, as input for internal discussions about their circularity strategy and to measure the completeness of their circular strategy. The Check is already used within the Enterprise Europe Network (E.E.N.)

The schemes are funded or backed up by national or EU financial programmes. At the national level, the Dutch “Nederland Circulair” is an example of good practice.⁸ Another example is Zero Waste Scotland’s ability to track circular investments. At the European level, the European Resource Efficiency Knowledge centre (EREK) was founded to foster this kind of activities, while the E.E.N. is already supporting enterprises on the topic of the circular economy, e.g. by matchmaking activities. The European Circular Economy Stakeholder Platform (ECESP) enhances knowledge exchange and networking. Together with KPMG, MVO Nederland has trained circular economy stakeholders in various member states as part of a project for

CONCLUSIONS AND RECOMMENDATIONS

the European Commission.¹⁸⁹

Recommendation to the European

Commission: *Initiate and fund the development of circular hubs in all member states by scaling up the E.E.N., EREK, ECESP, Horizon 2020 / Europe, Cohesion Funds, Climate/KIC and other instruments with focused activities*

Recommendation 3: Create a national circular economy roadmap with concrete targets

Many member states have already established national and/or regional circular economy roadmaps, strategies and/or programmes. This is another powerful lever for change. The process of formulating it creates support within the government, fostering cooperation between the ministries involved, and from stakeholders. In addition, Ecopreneur advises to follow the example of the Netherlands (again...) to set a target to develop a circular economy by 2050 and the (interim) objective of a 50 per cent reduction in the use of primary raw materials (minerals, fossil and metals) by 2030. While the 2050 goal may not be 100% clear because no one knows exactly what a fully circular economy will look like, these targets create a sense of direction and urgency with enough time to clarify the end goal.

Recommendation 4: Improve and extend the EPR schemes

As explained in our recent report on circular fashion advocacy, EPR is a strategy to add all of the environmental costs associated with a particular product's life cycle to the market price of that product. While in need of further improvements, EPR is a proven policy in sectors such as packaging, electronics, tires, cars and batteries. The coverage and quality of EPR schemes is important because they give economic incentives needed for two reasons: to accelerate the new, circular regime and to destabilise the old, linear one. From the perspective of sustainable companies, such as those in the membership of Ecopreneur, the lack of demand for circular products and services at current prices is the number one hurdle for implementing circular business models. First, France and Belgium present excellent examples of EPR. Second, detailed recommendations on how to improve existing schemes are given by the OECD¹⁹¹, EY¹⁹² and Ecopreneur¹⁹³. For instance, they need to incentivise innovation including physical take-back by manufacturers, for instance by including it in the eco-modulation. Third, more sectors can be covered by EPR, even by countries with good coverage already. Finally, EPR has the unique potential to foster innovation in circular design for all companies by applying eco-modulation of fees to give a positive economic incentive. For all member states, more sectors could be covered, while the implementation of eco-modulation of fees has only just begun.

Alignment of these national approaches is crucial. Unfortunately, an opportunity to harmonise EPR systems was recently missed which may or may not come back in the following years. While undocumented, in 2017, several Nordic and Central European member states resisted a proposal from the European Commission for mandatory, harmonised approaches to EPR as part of the revision of the Waste Framework Directive. Harmonisation of EPR is important for business because there are dozens of schemes with different compliance and fee calculation regimes, many of which are lacking transparency. The member states' resistance had various backgrounds including the principle of subsidiarity, problems with their own EPR systems or vested interests in waste incineration. Instead, the European Commission is now investigating "guidelines" for EPR, which will be voluntary and non-binding, but nevertheless can play a crucial role in aligning EPR policies throughout Europe.

Recommendation to the European

Commission: Ensure alignment of national EPR schemes by strong guidelines and reconsider the introduction of harmonised, mandatory schemes.

Recommendation 5: Introduce low VAT rates for repair services, resold goods and transactions with clearly defined social reasons and discuss the EU VAT rate proposal in the context of the circular economy

VAT differentiation can, as part of a tax shift (see recommendation 6), play a role to accelerate circular fashion by 'nudging' consumers towards circular. This approach can be very effective, as evidenced by the plastic bag levy scheme. Furthermore, companies investing a lot in the circular economy keep asking for positive incentives, often starting with a low VAT. In line with the current EU VAT Directive, several member states have implemented VAT reductions on minor repairs to movable goods, including Sweden, France, Slovenia and the Netherlands, on resold goods in the UK, and/or for "clearly defined social reasons", including Spain, Belgium and the UK.¹⁹⁰ Meanwhile, a proposal to open up the VAT directive (COM 2018/0005 (CNS)) has been adopted by the European Parliament which could enable member states to implement low VAT rates on the basis of circularity. However, since the European Council decides on tax matters on the basis of unanimity, all member states must vote for the proposal before adoption.

Recommendation to the European

Commission: Prepare the VAT rate proposal that was adopted by the European Parliament in the context of its potential for the circular economy, table it when adoption by all member states

CONCLUSIONS AND RECOMMENDATIONS

Recommendation 6: Create a “Green New Deal” for a tax shift from labour to resources.

The need for tax reform in general is becoming more apparent. Recent protests in France (the yellow vests movement) and other countries across the globe against rising fossil fuel prices show that environmental taxes can only be successfully introduced in combination with social policies, connecting social and environmental domains. Maybe this requires a new type of green deal or “Green New Deal”. The political support for introducing a tax shift from labour to resource use and environmental impact is considerable and growing. An example of good practice in the context of the circular economy is Sweden, which combined a VAT rate reduction for repair services with an income tax reduction.

Recommendation to the European Commission: *Keep advising member states to introduce a tax shift from labour to resources and set up pilots to demonstrate its potential, including VAT differentiation*

Recommendation 7: Shift investments away from municipal waste incineration.

Investing in waste incineration or “energy recovery” creates a growing problem for many countries because over capacity is being created. Especially the Nordic countries score low on incineration per person, and some countries including the Netherlands are already importing waste to fill their ovens with non-reusable waste. Waste incinerators form a

“honey trap” for municipalities and governments because they can prevent landfill, bring financial rewards and generate energy. However, creating an over capacity invites to incinerate reusable waste, which goes against the waste hierarchy and poses a financial risk if the capacity can no longer be filled in the future, when the waste per capita decreases due to the transition to a circular economy or if a European over capacity is created. Member states with high rankings on incineration, such as Malta, Croatia, Greece and Latvia, have a unique opportunity to leapfrog to the circular economy by investing in waste prevention and recycling instead.

Recommendation to the European Commission: *Prevent the use of EU funds for investments in residual waste incineration.*

These seven recommendations do not cover everything. The first recommendation to the UK, to develop a mix of supporting regulatory approaches including taxation, reporting, extended producer and consumer responsibility, product bans or standards, mandatory recycling regimes, and a new Waste Prevention Act, actually applies to all member states and the EU. The five pillars identified for circular fashion seem to apply as well: innovation policies, economic incentives, regulation, trade policies and voluntary actions. This includes creating a general regulatory framework that creates harmonised transparency and traceability, introduces minimum requirements for circular design by expanding the EU Ecodesign Directive from energy to resource efficiency for all end products¹⁹⁰ and removes existing

obstacles for cross-border shipment of waste within the EU.¹⁹⁴

Final key message of this report: Make circular economy a priority

A key message Ecopreneur wants to convey to all member states to make circular economy a priority at the national and European level. Embarking on the transition to a circular economy is good for your economy. The European Commission and many governments already fully acknowledge that it provides new jobs, substantial additions to the GDP, saves valuable resources and decreases dependence on import.^{195,196} Creating a circular economy “hub” at the member state level is probably the only way to generate national examples that can convince national stakeholders. The benefits this brings will in turn increase the support at the member state level and in the European Council for bold European circular economy policies in the years to come.

Finally, there is a strong link between climate and circular economy policies. Since EU citizens have become broadly concerned about the impacts of climate change, climate policy will be politically important in the coming years. About 50 per cent of greenhouse gas emissions stems from resource extraction and processing.¹⁹⁷ This strong link between climate and resources means that circular economy policies can be further accelerated by demonstrating their importance for meeting the climate goals.

COLOPHON AND ACKNOWLEDGEMENTS

Colophon

Published by Ecopreneur.eu - www.ecopreneur.eu

Authors: Galen Ashley, Arthur ten Wolde

Infographics: www.noble.studio

Based on a grant from Adessium Foundation

Final report published in September 2019 based on the draft report published in May 2019

Citations

For bibliographic purposes, this document should be cited under the Creative Commons License as follows: EU Circular Economy Update, Overview of circular economy in Europe, Ecopreneur.eu, 2019

This report is published under a Creative Commons License (CC BY- ND 2.0). This means that you are free to share (to copy, distribute and transmit) this work under the following conditions: You must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work); and you may not alter, transform or build upon this work. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nd/3.0/>

Acknowledgements

The authors would like to thank all of those who contributed their time and expertise to this report:

Many thanks go to Paul Ekins for writing the foreword. Special thanks go to Galen Ashley, the lead author of this report, who worked for Ecopreneur as a student intern for 5 months, for his excellent work in doing the research, the drafting of all 28 country profiles, and providing the basis for the final layout. Lots of thanks go to the following circular economy experts for providing feedback and/or additional information to the draft country profiles:

Renate Zrikat, Yorg Aerts, Lieze Cloots, Olivier Beys, Slaven Dobrović, Mirjana Matesić, Jan Maršák, Arne Remmen, Sönnich Dahl Sönnichsen, Susanne Kuehn, Agnes Schuurmans, Kaupo Heinma, Aire Rihe, Marko Siller, Kadri Kalle, Anne Raudaskoski, Piekkari Leena-Kaisa, Laura Järvinen, Caroline Marcouyoux, Marline Weber, Jan-Karsten Meier, Herwart Wilms, Martin Hirschnitz-Garbers, Alexis Figeac, Panos Gredis, Máté Kriza, Christian Tock, Norman Fisch, Michel Schuurman, Joanna Kulczycka, Inês Costa, Simina Lakatos, Milan Chrenko, Niko Korpar, Luis Morales, Steve Carter, James Greyson

Finally, we thank the Ecopreneur Circular Economy Advocacy Group (REMONDIS Germany, ROCKWOOL International, Tarkett EMEA, Werner & Mertz Germany, Interface EMEA) for their support for our circular economy advocacy.

REFERENCES

- ¹ European Commission. (2019). Circular Economy, DG GROW, Retrieved on April 12 from https://ec.europa.eu/growth/industry/sustainability/circular-economy_en
- ² Eurostat (2017). Circular Economy Indicators. Retrieved January 7, 2019, from <https://ec.europa.eu/eurostat/web/circular-economy/indicators/monitoring-framework>
- ³ Eco-innovation Observatory. (2018). Research Efficiency Outcomes. Country profiles for all EU member states retrieved in January - February, 2019, from https://ec.europa.eu/environment/ecoap/indicators/resource-efficiency-outcomes_en
- ⁴ Hervey, G. (2018). Ranking how EU countries do with the circular economy. POLITICO's Circular Economy Index. Retrieved January 7, 2019, from <https://www.politico.eu/article/ranking-how-eu-countries-do-with-the-circular-economy/>.
- ⁵ European Commission. (2018a). Flash Eurobarometer 456, SMEs, resource efficiency and green markets, January 2018, Online: <http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/ResultDoc/download/DocumentKy/81280>
- ⁶ Monier, V. et al. (2014). Development of Guidance on Extended Producer Responsibility (EPR). Final Report by Deloitte BIO Intelligence Service in cooperation with Arcadis, Ecologic, Institute for European Environmental Policy (IEEP) and Umweltbundesamt (UBA) for the European Commission DG Environment, p. 41-45. Retrieved January 7, 2019 from http://ec.europa.eu/environment/waste/pdf/target_review/Guidance%20on%20EPR%20-%20Final%20Report.pdf
- ⁷ European Parliament. (2019). MEP VOTE.EU: Vote result source. Statistics retrieved from <http://www.mepvote.eu> and number of MEPs per country from <http://www.europarl.europa.eu/meps/en/home>
- ⁸ European Commission. (2019). Second Environment Implementation Review (EIR), Retrieved from http://ec.europa.eu/environment/eir/country-reports/index2_en.htm
- ⁹ Austrian Business Agency. (2019). Environmental Clusters in Austria. Retrieved January 7, 2019, from <https://investinaustria.at/en/sectors/environmental-technologies/clusters.php>
- ¹⁰ European Circular Economy Stakeholder Platform. (2019). Repair Network Vienna. Good Practices. Retrieved January 7, 2019, from <https://circulareconomy.europa.eu/platform/en/good-practices/repair-network-vienna>
- ¹¹ RepaNet. (2019). RepaNet Homepage. Retrieved from <https://www.repanet.at>
- ¹² Circular Futures. (2019). Circular Economy Platform Austria. Retrieved January 7, 2019, from <https://www.circularfutures.at/ueber-uns/english-language-summary/>.
- ¹³ The Austrian Water and Waste Management Association (ÖWAV). (2018). ÖWAV Position Paper. Retrieved from <https://www.oewav.at/Page.aspx?target=196960&mode=form&app=134598&edit=0&t=323524&view=205658&predefQuery=-1>

-
- ¹³ The Austrian Water and Waste Management Association (ÖWAV). (2018). ÖWAV Position Paper. Retrieved from <https://www.oewav.at/Page.aspx?target=196960&mode=form&app=134598&edit=0&t=323524&view=205658&predefQuery=-1>
- ¹⁴ Associated Press. (2018). Austria to ban most plastic bags starting in 2020. Retrieved January 7, 2019, from [https://www.apnews.com/92fc2476\[193d45b1a7744674176ca5bb](https://www.apnews.com/92fc2476[193d45b1a7744674176ca5bb)
- ¹⁵ RREUSE. (2018). Households in Graz offered 100 € per year to have their things repaired, 5 May 2018. Retrieved from <https://www.rreuse.org/households-in-graz-offered-100-eur-per-year-to-have-their-things-repaired/>
- ¹⁶ EEB. (2018). It's OFFICIAL: EU agrees unprecedented cuts to single-use plastics, 19 December 2018. Retrieved on January 11, from <https://eeb.org/official-eu-agrees-unprecedented-cuts-to-single-use-plastics/>
- ¹⁷ Statista. (2018). Austria: Distribution of gross domestic product (GDP) across economic sectors from 2007 to 2017. Retrieved January 7, 2019, from <https://www.statista.com/statistics/375659/austria-gdp-distribution-across-economic-sectors/>
- ¹⁸ VITO. (2012-2019) Navigator Wetgeving Leefmilieu, Natuur en Energie. Chapter 3. Extended Producer Responsibility Obligation. Article 21.2 of the Materials Decree and Vlaremo art. 3.1.1. Online at: <https://navigator.emis.vito.be/mijn-navigator?wold=44165>
- ¹⁹ RREUSE. (2017). Reduced taxation to support re-use and repair. Retrieved January 7, 2019, from http://www.rreuse.org/wp-content/uploads/RREUSE-position-on-VAT-2017-Final-website_1.pdf
- ²⁰ SPF Santé publique. (2014). Sécurité de la Chaîne alimentaire et Environnement, SPF Economie, P.M.E., Classes moyennes et Energie. Vers une Belgique Pionnière de l'économie circulaire. Retrieved January 7, 2019, from <https://economie.fgov.be/fr/publicaties/vers-une-belgique-pionniere-de>
- ²¹ One Planet (2018). Green Deal Circular Procurement. Retrieved January 7, 2019, from <http://www.oneplanetnetwork.org/initiative/green-deal-circular-procurement>
- ²² Ellen MacArthur Foundation. (2013). Wallonia becomes first region to collaborate with the Ellen MacArthur Foundation on the circular economy. Retrieved January 7, 2019, from <https://www.ellenmacarthurfoundation.org/news/wallonia-becomes-first-region-to-collaborate-with-the-ellen-macarthur-foundation-on-the-circular-economy>.
- ²³ Association of Cities and Regions for sustainable Resource management (ACR). (2018). Wallonia: Adoption of a new "Waste-Resource" plan for the region. Retrieved January 7, 2019, from <http://www.acrplus.org/en/news/news-from-our-members/1482-wallonia-adoption-of-a-new-waste-resource-plan-for-the-region>
- ²⁴ EUbusiness. (2018). 14 EU countries risk missing recycling targets. Retrieved January 7, 2019, from <https://www.eubusiness.com/news-eu/waste-recycling.24hg>
- ²⁵ Croatian Government. (2017). Report on end-of-life vehicles in 2016 (in Croatian only). Zagreb, 2017, Retrieved on February 26 from

http://www.fzoeu.hr/en/environmental_fees/fees_pursuant_to_the_act_on_sustainable_waste_management/

²⁶ Croatian Environmental Protection and Energy Efficiency Fund. (2019). Fees pursuant to the Act on Sustainable Waste Management. Retrieved on February 26, 2019 from http://www.fzoeu.hr/en/environmental_fees/fees_pursuant_to_the_act_on_sustainable_waste_management/

²⁷ Matešić. (2017). The holistic approach to environment, Vol. 7 No. 4, 2017, p. 177-188. Concept of Circular Economy: Critical Thinking, by Mirjana Matešić ; Croatian business Council for sustainable Development, Zagreb, Croatia. Retrieved January 28, 2019, from <https://hrcak.srce.hr/file/282938>

²⁸ Total News Croatia, Pavlic, V. (2017). 475 Million Euros for Croatia's Waste Management Efforts. October 8, 2017. Retrieved January 7, 2019, from <https://www.total-croatia-news.com/business/22630-475-million-euros-for-croatia-s-waster-management-efforts>

²⁹ Croatian Government. (2017). Croatian Waste Management Plan WMP 2017, Online: https://narodne-novine.nn.hr/clanci/sluzbeni/full/2017_01_3_120.html

³⁰ Croatian Government. (2017b). Decision of Implementation of the Croatian Waste Management Plan, May 2017, Retrieved on February 26, 2019 (in Croatian only) from https://www.mzoe.hr/doc/implementacija_plana_gospodarenja_otpadom_republike_hrvatske_za_razdoblje_2017-2022_godine.pdf

³¹ Croatian Agency for Environment and Nature. (2017). Report on Waste management in Croatia 2016 (Croatian only). Retrieved on February 26, 2019 from http://www.haop.hr/sites/default/files/uploads/dokumenti/021_otpad/Izvjesca/komunalni/OTP_Izvje%C5%A1%C4%87e%20o%20komunalnom%20otpadu_2016..pdf

³² World Travel & Tourism Council. (2018). Economic Impact 2018 Croatia, p.1. Retrieved January 7, 2019, from <https://www.wttc.org/-/media/files/reports/economic-impact-research/countries-2018/croatia2018.pdf>

³³ EUROPARC Federation (2018). CEETO: Outcomes of the sustainable Tourism Conference in Croatia, October 25, 2018. Retrieved January 7, 2019, from <https://www.europarc.org/news/2018/10/ceeto-sustainable-tourism-conference-in-croatia/>

³⁴ Cyprus Energy Agency. (2018). Construction Waste and the Circular Economy: Workshop, 13-14 September, Nicosia, August 31, 2018. Retrieved from <http://www.cea.org.cy/en/construction-waste-circular-economy-workshop-13-14-september-nicosia/>

³⁵ European Commission. (2016a). European Structural and Investment Funds: Country factsheet – Cyprus, May 19, 2016. Retrieved on February 26, 2019 from https://ec.europa.eu/regional_policy/en/information/publications/factsheets/2016/european-structural-and-investment-funds-country-factsheet-cyprus

³⁶ Eurostat (2017). Waste generation by packaging material. Share of treatment of all packaging waste in 2016. Retrieved on February 26, 2019 from

REFERENCES

- https://ec.europa.eu/eurostat/statistics-explained/index.php/Packaging_waste_statistics#Recycling_and_recovery_rates
- ³⁷ European Commission. (2017a). The EU Environmental Implementation Review. Country Report – Czech Republic. Commission Staff Working Document SWD(2017) 37 final. Brussels, 3.2.2017. Retrieved on February 26, 2019 from http://ec.europa.eu/environment/eir/pdf/report_cz_en.pdf
- ³⁸ European Commission. (2018b). 2018 European Semester: Country Reports. Retrieved on February 26, 2019 from: https://ec.europa.eu/info/publications/2018-european-semester-country-reports_en
- ³⁹ Interreg. (2018). National SWOT analysis on Eco-innovation - Czech Republic. Retrieved January 7, 2019, from http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/21/f25515a55a85bb2e7dbb467ed204d251c9829735.pdf.
- ⁴⁰ Czech Ministry of the Environment. (2019). Dostybyloplastu. Retrieved on February 26, 2019 from <http://www.dostbyloplastu.cz/>
- ⁴¹ European Commission. (2016b). European Structural and Investment Funds: Czech Republic Fact Sheet. May 19, 2016. Retrieved January 7, 2019, from https://ec.europa.eu/regional_policy/sources/policy/what/investment-policy/esif-country-factsheet/esi_funds_country_factsheet_cz_en.pdf.
- ⁴² European Environment Agency (EEA). (2013). Municipal waste management in Denmark. Retrieved January 9, 2019, from <https://www.eea.europa.eu/publications/managing-municipal-solid-waste/denmark-municipal-waste-management/view>
- ⁴³ State of Green. (2018). New national Danish strategy for circular economy. September 3, 2018. Retrieved from <https://stateofgreen.com/en/partners/state-of-green/news/new-national-danish-strategy-for-circular-economy/>
- ⁴⁴ Ministry of Environment and Food. (2018). Strategy for Circular Economy: More value and better environment through design, consumption, and recycling. September 2018. Retrieved from <https://stateofgreen.com/en/uploads/2018/10/Strategy-for-Circular-Economy-1.pdf>
- ⁴⁵ Danske Kommuner. (2018). Copenhageners sort waste in great style (in Danish), February 23, 2018. Retrieved on April 15 from <http://www.danskekommuner.dk/Nyhedsarkiv/2018/Februar/23/Kobenhavnerne-sorterer-affald-i-stor-stil/>
- ⁴⁶ Epinion. (2017). Circulær Økonomi Borgerundersøgelse; Circulær Økonomi Virksomhedsundersøgelse, October 2017.
- ⁴⁷ Sönnich Dahl Sönnichsen. (2018, November 28). Private communication
- ⁴⁸ Ellen MacArthur Foundation. (2015). Delivering the Circular Economy - A Toolkit for Policymakers. Retrieved January 9, 2019, from https://www.ellenmacarthurfoundation.org/assets/downloads/publications/EllenMacArthurFoundation_PolicymakerToolkit.pdf

⁴⁹ Estonian World. (2018). A crazy Estonian idea urges people to clean up their countries in one day. Retrieved January 10, from <http://estonianworld.com/life/crazy-estonian-idea-urges-people-clean-countries-one-day/>

⁵⁰ Regions 4 Recycling. (N.D.). Good practices for Recycling. Good Practices Factsheet 1: Tallin. System of deposit packagings. Retrieved on February 26, 2019 from https://www.regions4recycling.eu/upload/public/Good-Practices/GP_Tallinn_deposit-packaging.pdf?fbclid=IwAR0YYH4UUS5J6ts_F2wEPYfOHEKaPJdTqO3cPEfLJruBG1a7Fk0s7MrNcDw

⁵¹ Dace, Elina & Pakere, Ieva & Blumberga, Dagnija. (2013). Evaluation of economic aspects of the deposit-refund system for packaging in Latvia. *Management of Environmental Quality An International Journal*. 24. 311-329. 10.1108/14777831311322631. Retrieved on February 26, 2019 from https://www.researchgate.net/publication/236622072_Evaluation_of_economic_aspects_of_the_deposit-refund_system_for_packaging_in_Latvia?fbclid=IwAR1dOuzTDGj9E2Fmo-vLurvESeQDeEEwnVeKpg42nwhHd-t5kwpTnF7f8vA

⁵² TTK University of Applied Sciences. (2019). Institute of Circular Economy and Technology. Retrieved January 7, 2019, from <https://www.ttkk.ee/en/ttk/faculties/institute-of-circular-economy-and-technology>

⁵³ Estonian government. (2017). Tallin – Estonia Circular Procurement Congress 'Mainstreaming Circular Procurement' on 18 & 19 October 2017, retrieved on January 11, from <http://www.cpcongress.eu/>

⁵⁴ Sitra. (2016a). Leading the cycle. Finnish road map to a circular economy 2016–2025. Retrieved January 7, from <https://www.sitra.fi/en/projects/leading-the-cycle-finnish-road-map-to-a-circular-economy-2016-2025/#contact-us>

⁵⁵ CIRCWASTE (2018). Circwaste - towards circular economy in Finland, August 21, 2018. Retrieved January 7, 2019, from <http://www.materiaalitkiertoon.fi/en-US/Circwaste>

⁵⁶ Sitra. (2018a). World Circular Economy Forum. Retrieved January 9, 2019, from <https://www.sitra.fi/en/projects/world-circular-economy-forum-2018/>

⁵⁷ Sitra. (2017). The most interesting companies in the circular economy, December 2017. Retrieved January 9, 2019, from <https://www.sitra.fi/en/projects/interesting-companies-circular-economy-finland/#what-is-it-about>

⁵⁸ Sitra. (2018b). Circular Economy Playbook for Finnish SMEs, September 19, 2018. Retrieved January 9, 2019, from <https://www.sitra.fi/en/publications/circular-economy-business-models-manufacturing-industry/>

⁵⁹ Business Finland. (2019). Bio and Circular Finland. New Business Opportunities for Finnish Companies. Retrieved 27 March 2019 from <https://www.businessfinland.fi/en/for-finnish-customers/services/build-your-network/bioeconomy-and-cleantech/bio--circular-finland/>

⁶⁰ Ministry of Economic Affairs Competence. (2018). Centre to boost sustainable and innovative public procurement. Press release, march 15, 2018. Retrieved from https://valtioneuvosto.fi/en/artikkeli/-/asset_publisher/1410877/osaamiskeskus-vauhdittamaan-kestavia-ja-innovatiivisia-julkisia-hankintoja

REFERENCES

- ⁶¹ Sitra. (2016b). Leading the cycle. Finnish road map to a circular economy 2016–2025, p. 50. Retrieved January 7, from <https://www.sitra.fi/en/projects/leading-the-cycle-finnish-road-map-to-a-circular-economy-2016-2025/#contact-us>
- ⁶² Private communication. (2018). Input from one of the participants during the CE100 Report ‘Renewable Materials for a Low-carbon Circular Economy’ Launch Event hosted by Bas Eickhout MEP (Greens, NL) in the European Parliament, Brussels, 5 November 2018.
- ⁶³ Bukhari, M. A., Carrasco-Gallego, R., & Ponce-Cueto, E. (2018). Developing a national programme for textiles and clothing recovery. Retrieved from <https://journals.sagepub.com/doi/pdf/10.1177/0734242X18759190>
- ⁶⁴ Rapport Vernier. (2018). Jacques Vernier, Les filières REP. Responsabilité élargie des producteurs en matière de prévention et de gestion des déchets générés par leurs produits. Retrieved on April 1, 2019 from https://www.ecologique-solidaire.gouv.fr/sites/default/files/REP_Rapport_Vernier.pdf
- ⁶⁵ Assises National des déchets. (2017) The future of French EPR. Retrieved on April 2, 2019 from <https://www.assises-dechets.org/en/news/2017-conference/383-the-future-of-french-epr>
- ⁶⁶ Ministry for an Ecological and Solidary Transition, & Ministry for the Economy and Finance. (2018). 50 measures for a 100% circular economy. Retrieved January 7, 2019, from <https://www.ecologique-solidaire.gouv.fr/leconomie-circulaire>
- ⁶⁷ INEC. (2018). Advocacy for circular economy. April 24, 2018. Retrieved on April 2, 2019 from <https://institut-economie-circulaire.fr/plaidoyer-pour-leconomie-circulaire/>
- ⁶⁸ SagisEPR. (2018, April 27). France: Circular Economy Roadmap Introduces 50 Measures. Retrieved January 7, 2019, from <http://blog.complianceandrisk.com/commentary-analysis/france-circular-economy-roadmap-introduces-50-measures>
- ⁶⁹ INEC. (2019). The circular economy in the sectors with Extended Producer Responsibility (EPR): perspectives of evolution. INEC, February 2019. Retrieved on April 2, 2019 from <https://institut-economie-circulaire.fr/focus-leconomie-circulaire-dans-les-filieres-a-responsabilite-elargies-des-producteurs-rep-perceptives-devolutions/>
- ⁷⁰ France 24. (2018) France to set penalties on non-recycled plastic next year, August 12, 2018. Retrieved from <https://www.france24.com/en/20180812-france-plastic-penalties-recycling-environment-reduce-reuse-pollution>
- ⁷¹ The Parliament Magazine. (2016). International green deal with France, Flanders and the United Kingdom. Retrieved January 9, 2019, from <https://www.theparliamentmagazine.eu/printpdf/3931>
- ⁷² INEC. (2018) Programme Action „Achats et Économie Circulaire“, INEC, December 12, 2018, retrieved on April 2, 2019 from <https://institut-economie-circulaire.fr/save-the-date-lancement-du-programme-action-achats-et-economie-circulaire/>
- ⁷³ Grand Paris Circulaire. (2018). Space dedicated to program „Procurement and the circular economy“, December 4, 2018. Retrieved on April 2, 2019 from <https://www.grandpariscirculaire.org/community/pg/groups/424/espace-dedie-au-programme-achats-et-economie-circulaire/>

⁷⁴ French government. (2019). First draft law "For a circular economy and better waste management", Ministry for the ecological and social transition, version from January 15, 2019. Retrieved on April , 2019 from http://lamaisondeleconomiecirculaire.fr/wp-content/uploads/ADI-fevrier-2019-PJL_%C3%A9conomie_circulaire.pdf

⁷⁵ BMUB. (2016). Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety. BMUB, 2016, November. German Resource Efficiency Programme II. Programme for the sustainable use and conservation of natural resources. Retrieved January 7, 2019, from https://www.bmu.de/fileadmin/Daten_BMU/Pool/Broschueren/german_resource_efficiency_programme_ii_bf.pdf.

⁷⁶ Plastic News Europe. (2018). New German packaging law to hit market in 2019. July 3, 2018, from <https://www.plasticsnewseurope.com/article/20180703/PNE/180709983/new-german-packaging-law-to-hit-market-in-2019>

⁷⁷ EREK (2019). The EREK core team & VDI Centre for Resource Efficiency. Retrieved from: <https://www.resourceefficient.eu/en/erek-core-team> & <https://www.resourceefficient.eu/en/intermediary/vdi-centre-resource-efficiency-vdi-zre>

⁷⁸ Textilbündnis. (2019). The Textiles Partnership. From <https://www.textilbuendnis.com/en/>

⁷⁹ Euractiv. (2016). Germany must change stance on opposition to recycling targets, October 10, 2016, from https://www.euractiv.com/section/sustainable-dev/opinion/germany-must-change-stance-on-opposition-to-recycling-targets/?nl_ref=22240571.

⁸⁰ European Commission. (2019). The Environmental Implementation Review 2019. Country report Greece. Retrieved on April 8 from http://ec.europa.eu/environment/eir/pdf/report_el_en.pdf

⁸¹ Circular Economy Club. (2018). Greece National Action Plan on Circular Economy. Retrieved January 8, 2019, from <https://www.circulareconomyclub.com/listings/strategies/greece-national-action-plan-on-circular-economy/>

⁸² Social Economy Institute (Greece). (2019). City PLUS. Retrieved January 8, 2019, from <http://city-plus.weebly.com/english.html>

⁸³ Technological Educational Institute of Thessaly. (No Date). Close the loop in ceramic industry. Retrieved on April 8, 2019 from http://www.teilar.gr/dbData/Labs/Lab_Circular_Economy_Eng.pdf

⁸⁴ EY. (2016). EY Study on the Circular Economy in Greece. Brief edition, May 2016. Retrieved on 29 January from [https://www.ey.com/Publication/vwLUAssets/EY-study-on-the-circular-economy-in-greece/\\$FILE/EY-study-on-the-circular-economy-in-greece.pdf](https://www.ey.com/Publication/vwLUAssets/EY-study-on-the-circular-economy-in-greece/$FILE/EY-study-on-the-circular-economy-in-greece.pdf)

⁸⁵ European Commission. (2017). Factsheet Greece, DG Environment, February 2017. Retrieved February 7, 2019, from http://ec.europa.eu/environment/eir/index_en.htm

⁸⁶ European Commission. (2016c). European Structural and Investment Funds: Greece Fact Sheet, 2016, May 19. Retrieved January 8, 2019, from https://ec.europa.eu/regional_policy/en/information/publications/factsheets/2016/european-structural-and-investment-funds-country-factsheet-greece

REFERENCES

- ⁸⁷ European Commission. (2018c). Challenges for the Islands in the era of the Circular Economy. International conference on Chania/Crete, 20-22 September 2018. Retrieved February 8, 2019 from <https://circle2018.eu/>
- ⁸⁸ European Environment Agency. (2018). Resource productivity, graph created 23 August 2018. Retrieved on April 8, 2019 from https://www.eea.europa.eu/data-and-maps/daviz/resource-productivity-gdp-dmc-5#tab-chart_1
- ⁸⁹ Foundation for Circular Economy. (2017). Agenda for Circular Hungary 2017 Conference. Retrieved on January 10, from http://circularhungary.hu/app/uploads/2017/04/Circular-Hungary-2017_Agenda.pdf
- ⁹⁰ Business Council for Sustainable Development in Hungary (BCSDH). (2018, November 29). Hungary establishes Circular Economy Platform. Retrieved January 10, 2019, from <https://bcsdh.hu/the-circular-economy-platform-has-been-established-in-hungary/>
- ⁹¹ WBCSD. (2018). Hungary establishes Circular Economy Platform. World Business Council for Sustainable Development (WBCSD), Budapest, 29 November 2018. Retrieved on April 8, 2019 from <https://www.wbcd.org/Overview/Global-Network/News/Hungary-establishes-Circular-Economy-Platform>
- ⁹² Hungarian Investment Promotion Agency. (2018). Introduction to the Hungarian R&D Sector, August 2018. Retrieved January 8, 2019, from http://www.investhipa.hu/images/hipa_kiadvany_intro_innovation_201808.pdf
- ⁹³ Reusethisbag.com. (2017). Plastic Bags Usage + Bans Around the World. Retrieved on January 10, from <https://www.reusethisbag.com/articles/plastic-bag-bans-worldwide/>
- ⁹⁴ Environmental Protection Agency. (2018). Green Enterprise Call 2018. Retrieved January 8, 2019, from <http://www.epa.ie/researchandeducation/research/epafunding/researchcall2018/greenenterprisecall2018/>
- ⁹⁵ RTE. (2018). IMF warns Ireland will feel Brexit effects 'the strongest', Raidió Teilifís Éireann, July 20, 2018. Retrieved January 8, 2019, from <https://www.rte.ie/news/business/2018/0719/979852-imf-warns-ireland-will-feel-brexiteffects-the-most/>
- ⁹⁶ EEA (2013). Municipal waste management in Italy, Figure 2.1, p8. Retrieved on April 8, 2019 from <https://www.eea.europa.eu/publications/managing-municipal-solid-waste/italy-municipal-waste-management>
- ⁹⁷ Symbola foundation, & Enel S.p.A. (2018). 100 Italian Circular Economy Stories, May 25, 2018. Retrieved January 8, 2019, from http://www.symbola.net/assets/files/100storie_DEF_Web_pag%20singole_25-05-18_1527247969.pdf
- ⁹⁸ Legambiente. (2017), #circulareconomy Made in Italy. The atlas of Italian Circular Economy Champions, retrieved April 9, 2019 from https://www.legambiente.it/sites/default/files/docs/the_atlas_of_italian_circular_economy_champions.pdf

-
- ⁹⁹ Ministry for the Environment, Land and Sea, in cooperation with the Ministry of Economy. (2018). Towards a Model of Circular Economy for Italy - Overview and Strategic Framework, p 41, from https://circulareconomy.europa.eu/platform/sites/default/files/strategy_-_towards_a_model_eng_completo.pdf
- ¹⁰⁰ ENEA. (2018). Italian Circular Economy Stakeholder Platform - ICESP/Presentazione e lancio. Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile (ENEA), May 31, 2018. Retrieved January 8, 2019, from http://www.enea.it/it/seguici/events/icesp_31mag2018/presentazione-e-lancio-icesp-italian-circular-economy-stakeholder-platform
- ¹⁰¹ European Economic Area (EEA) Grants. (2019). Latvia EEA - Norway Grants. Retrieved January 8, 2019, from <https://eeagrants.org/latvia>
- ¹⁰² Green Industry Innovation Center (GIIC). (2019). Green Technology Incubator. Retrieved January 8, 2019, from <http://www.giic.lv/en/about>
- ¹⁰³ Zero Waste Europe. (2017). Circular Economy for the young? Lithuanian NGO takes zero waste to school, November 30, 2017. Retrieved from <https://zerowasteurope.eu/2017/11/circular-economy-lithuania-school/>
- ¹⁰⁴ European Commission. (2016d). European Structural and Investment Funds: Country factsheet – Lithuania, May 19, 2016. Retrieved from https://ec.europa.eu/regional_policy/en/information/publications/factsheets/2016/european-structural-and-investment-funds-country-factsheet-lithuania
- ¹⁰⁵ Euractiv. (2017). Lithuania plans to burn more waste – but does it have enough? November 8, 2017. Retrieved from <https://www.euractiv.com/section/circular-economy/news/lithuania-plans-to-burn-more-waste-but-does-it-have-enough/>
- ¹⁰⁶ Ministère du Développement durable et des Infrastructures. (2018). Plan national de gestion des déchets et des ressources. Retrieved on April 9, 2019 from https://environnement.public.lu/dam-assets/documents/offall_a_ressourcen/pngd/plan/PNGD.pdf
- ¹⁰⁷ De Groene Zaak, MVO Nederland and Circle Economy. (2015, May). More prosperity, new jobs, Manifesto on Circular Economy Policy in the EU. Retrieved on April 9, 2019 from <https://ecopreneur.eu/wp-content/uploads/2018/10/Circular-Economy-Package-Manifesto-20-5-2015.pdf>
- ¹⁰⁸ Luxembourg Circular Hotspot. (2018). Retrieved on January 12, 2019 from <http://circularhotspot2017.lu/>
- ¹⁰⁹ Luxinnovation. (2017). Fit 4 Circularity. Retrieved on April 9, 2019 from <https://www.luxinnovation.lu/innovate-in-luxembourg/performance-programmes/fit-4-circularity/>
- ¹¹⁰ SuperDrecksKëscht (2019). ECOBOX. Retrieved on April 9, 2019 from <http://www.sdk.lu/index.php/en/>

REFERENCES

- ¹¹¹ Le Gouvernement du Grand-Duché de Luxembourg. (2018). Climate Pact under the sign of the circular economy, June 1, 2019. Retrieved from <http://luxembourg.public.lu/en/actualites/2018/05/30-pacteClimat/index.html>
- ¹¹² European Circular Economy Stakeholder Platform. (2018). Luxembourg's Climate Pact now also mainstreams circular economy in local policy. Retrieved on March 9, 2019 from <https://circulareconomy.europa.eu/platform/en/good-practices/luxembourgs-climate-pact-now-also-mainstreams-circular-economy-local-policy>
- ¹¹³ Delano. (2018). Wiltz: Luxembourg's Circular Economy Laboratory, March 15, 2018. Retrieved on April 9, 2019 from <http://delano.lu/d/detail/news/wiltz-luxembourgs-circular-economy-laboratory/172585>
- ¹¹⁴ +ImpaKT Luxembourg S.a.r.l. (2019). Méthodes et outils pour la mise en oeuvre de l'Economie Circulaire dans de zones d'activités économiques au Luxembourg. Retrieved on April 9, 2019 from <http://ecocirc-zae.lu/>
- ¹¹⁵ Kirchberg Fund. (N.D.). Kirchberg Fund's new holistic approach, retrieved on April 9, 2019 from <http://www.fondskirchberg.lu/doc/document/5a8288db1ccc3.pdf>
- ¹¹⁶ Luxembourg Expo 2020 Dubai (2019). Pavilion, Retrieved on April 9, 2019 <http://www.luxembourgexpo2020dubai.lu/en/pavillon/>
- ¹¹⁷ EIB (2015). Financing the Circular Economy, December 10, 2015. Retrieved on April 9, 2019 from <http://www.eib.org/en/events/financing-the-circular-economy.htm>
- ¹¹⁸ Times of Malta. (2018). Landfill use four times EU average with only 8% recycled. Malta has second highest amount of per capita, April 23, 2018. Retrieved January 12, 2019 from <https://www.timesofmalta.com/articles/view/20180423/local/landfill-use-four-times-eu-average-with-only-8-recycled.677184>
- ¹¹⁹ Ministry for Sustainable Development, the Environment and Climate Change (MSDEC) (2016). Green our Economy - Achieving a Sustainable Future. Retrieved on January 9, 2019 from <http://www.greengrowthknowledge.org/national-documents/malta-greening-our-economy-achieving-sustainable-future>
- ¹²⁰ Ministry for Sustainable Development, the Environment and Climate Change (MSDEC). (2018). Malta's Sustainable Development Vision for 2050. Retrieved on January 12, 2019 from https://meae.gov.mt/en/Public_Consultations/MSDEC/Documents/Malta's Sustainable Development Vision for 2050.pdf
- ¹²¹ Eco French Malta. (2019). Eco French Malta Overview. Retrieved on January 9, 2019 from <https://www.linkedin.com/company/eco-french-malta/about/>
- ¹²² Impel. (2018). Circular Economy: New rules will make EU the global front-runner in waste management and recycling, May 22, 2018. Retrieved January 12, 2019 from <https://www.impel.eu/circular-economy-new-rules-will-make-eu-the-global-front-runner-in-waste-management-and-recycling/>
- ¹²³ PBL. (2019). Circulaire Economie in kaart, Planbureau voor de Leefomgeving (PBL), January 11, 2019. Retrieved on April 10, 2019 from <https://www.pbl.nl/publicaties/circulaire-economie-in-kaart>

-
- ¹²⁴ The Ministry of Infrastructure and the Environment. (2016). A Circular Economy in the Netherlands by 2050, September 2016. Retrieved from <https://www.government.nl/documents/policy-notes/2016/09/14/a-circular-economy-in-the-netherlands-by-2050>
- ¹²⁵ Afvalfonds Verpakkingen. (2019). Alle tarieven. Retrieved on April 10, 2019 from <https://afvalfondsverpakkingen.nl/verpakkingen/alle-tarieven>
- ¹²⁶ Belastingdienst. (2019). Services with 9% VAT. Retrieved on April 10, 2019 from https://www.belastingdienst.nl/wps/wcm/connect/bldcontentnl/belastingdienst/zakelijk/btw/tarieven_en_vrijstellingen/diensten_9_btw/
- ¹²⁷ Government support for entrepreneurs. (2019) VAT rates and exemptions. Retrieved on April 10, 2019 from <https://business.gov.nl/regulation/vat-rates-exemptions/>
- ¹²⁸ MVO Nederland .(2019). De Nieuwe Businessagenda 2019. Retrieved from <https://mvonederland.nl/de-nieuwe-businessagenda-2019>
- ¹²⁹ Eurostat. (2019). Renewable energy statistics. Retrieved on April 10, 2019 from https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics#Renewable_energy_produced_in_the_EU_increased_by_two_thirds_in_2007-2017
- ¹³⁰ Ministry of Environment. (2017). Poland's comments on the circular economy (non-paper). Retrieved on April 10, 2019 from https://archiwum.mpit.gov.pl/media/26446/CE_nonpaper_Poland.pdf
- ¹³¹ Holland Circular Hotspot. (2018). International Circular Economy Summit. Retrieved on April 10, 2019 from <https://hollandcircularhotspot.nl/en/events/international-circular-economy-summit/>
- ¹³² SYMBI. (2017). Interdepartmental Circular Economy Group in Poland. Retrieved on April 10, 2019 from <https://www.interregeurope.eu/symbi/news/news-article/691/interdepartmental-circular-economy-group-in-poland/>
- ¹³³ GRID Warsawa. (2018). Beginning of consultations regarding the roadmap of transformation towards a circular economy. Retrieved from <https://www.gridw.pl/en/news/325-beginning-of-consultations-regarding-the-roadmap-of-transformation-towards-a-circular-economy>
- ¹³⁴ According to Joanna Kulczycka. (Private communication, 2019)
- ¹³⁵ Ministry of Enterprises and Technology. (2018). National Smart Specialisations, January 8, 2019. Retrieved on April 10, 2019 from <https://www.gov.pl/web/przedsiębiorczosc-technologie/krajowe-inteligentne-specjalizacje>
- ¹³⁶ Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodnej (NFOŚiGW). (2017). Gospodarka o obiegu zamkniętym w gminie – program pilotażowy (Pilot programme for circular economy in cities). Retrieved on April 10, 2019 from <http://nfosigw.gov.pl/oferta-finansowania/srodki-krajowe/programy-priorytetowe/gospodarka-o-obiegu-zamknietym/gospodarka-o-obiegu-zamknietym-w-gminie/>
- ¹³⁷ Radio Poland. (2018). Poland to go 'circular': Gov't minister, December 5, 2018. Retrieved from <http://thenews.pl/1/12/Artykul/395544,Poland-to-go-'circular'-gov't-minister>

REFERENCES

- ¹³⁸ Euractiv. (2018). Commission concerned with Poland's 'waste mafia', July 25, 2018. Retrieved from <https://www.euractiv.com/section/circular-economy/news/commission-concerned-with-polands-waste-mafia/>
- ¹³⁹ DGAE. (2018). Specific systems for waste management, Portuguese government, Direção-Geral das Atividades Económicas (DGAE). Retrieved on April 10, 2019 from <http://www.dgae.gov.pt/licenciamentos-e-registos/entidades-gestoras-de-residuos.aspx>
- ¹⁴⁰ Ellen MacArthur Foundation. (2017). Portugal: Green Growth Commitment. Retrieved from <https://www.ellenmacarthurfoundation.org/case-studies/portugal-green-growth-commitment>
- ¹⁴¹ Economia Circular. (N.D.) Web Portal on circular economy from the Portuguese Government. Retrieved on April 10, 2019 from <http://economiacircular.gov.pt/>
- ¹⁴² Ministry of Environment Portugal. (2017). Leading the transition: A circular economy action plan for Portugal. Retrieved from https://circulareconomy.europa.eu/platform/sites/default/files/strategy_-_portuguese_action_plan_paec_en_version_3.pdf
- ¹⁴³ Circular Economy Portugal, All. (2018). Portuguese Association for Circular Economy and Bioeconomy. Retrieved on April 10, 2019 from <http://www.bioec.pt/>
- ¹⁴⁴ Portuguese Guild of Engineers. (2019) Year of material efficiency circular economy. Retrieved on April 10, 2019 from <http://www.ordemengenheiros.pt/pt/>
- ¹⁴⁵ Xinhua Net. (2018). Portugal bans plastic bottles, bags in gov't institutes, October 18, 2018. Retrieved on April 10, 2019 from http://www.xinhuanet.com/english/2018-10/19/c_137542675.htm
- ¹⁴⁶ Eurostat. (2019). 487 kg of municipal waste generated per person, January 29, 2019. Retrieved from <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20190123-1>
- ¹⁴⁷ According to Simina Lakatos. (Private communication, 2019)
- ¹⁴⁸ Zero Waste Europe. (2017). Zero Waste progress in Romania, February 28, 2017. Retrieved on April 10, 2019 from <https://zerowasteurope.eu/2017/02/zero-waste-progress-in-romania/>
- ¹⁴⁹ Green Group Holding (N.D.). Retrieved on April 12, 2019 from <http://www.green-group.ro/en/>
- ¹⁵⁰ ECESP. (2019). Focus on Romania. European Circular Economy Stakeholder Platform (ECSPR), February 13, 2019. Retrieved on April 10, 2019 from <http://cdlink2.eesc.europa.eu/m/1/76282871/p1-b19044-be4818fc7c414b6d89b98905a6051293/1/13/3fd2b728-b1bf-4419-b7f9-540ad21ef56c>
- ¹⁵¹ Ecoizm. (2019). Trezy washable pocket diaper. Retrieved from <http://ecoizm.com/toys-and-baby-products/washable-diapers/pocket-diapers/trezy-washable-pocket-diaper.html>
- ¹⁵² Carmeuse Construction. (2018). The first ecological house in Romania, certified by green homes is now in the construction phase! April 3, 2018. Retrieved from <http://www.carmeuse-construction.com/news/first-ecological-house-romania-certified-green-homes-now-construction-phase>
- ¹⁵³ European Commission. (2017b). Investment boost in Romania: Circular economy project under Juncker Plan, three agreements under SME Initiative, October 19, 2017. Retrieved from https://ec.europa.eu/commission/news/investment-boost-romania-circular-economy-project-under-juncker-plan-three-agreements-under-sme-initiative-2017-oct-19_en

-
- ¹⁵⁴ European Investment Bank (2017). Recycling and circular economy, Green Fibre International, Romania. Retrieved from <http://reports.eib.org/eib-operations-inside-the-eu-2017/recycling-and-circular-economy-green-fibre-international-romania>
- ¹⁵⁵ Ministry of Environment of Slovak Republic. (N.D.). Transition to circular economy. Circular economy policy framework. Retrieved on April 10, 2019 from <https://www.minzp.sk/files/2-sekcia/circular-economy-a4.pdf>
- ¹⁵⁶ Ministry of Environment of Slovak Republic. (2016). Slovak Republic towards Green Economy. Retrieved from <http://www.t2ge.eu/sites/www.t2ge.eu/files/srsmeromkzp-web.pdf>
- ¹⁵⁷ Interreg (SKHU). (2017). Circle of circular economy. Retrieved from <http://www.skhu.eu/funded-projects/circle-of-circular-economy>
- ¹⁵⁸ UNIDO and the Ministry of Environment of Slovak Republic. (2017). International Conference on circular economy in the automotive industries. Retrieved on April 10, 2019 from <https://www.unido.org/sites/default/files/files/2018-05/20180503%20Conference%20report.pdf>
- ¹⁵⁹ Ministry of Environment of Slovak Republic. (N.D.). Slovakia Green Information Platform. Accessed on April 10, 2019 at <http://zelene-hospodarstvo.enviroportal.sk/en>
- ¹⁶⁰ OECD. (2017). Making the Slovak Republic a more resource efficient economy. Retrieved from <http://www.oecd.org/environment/waste/Policy-Paper-Making-the-Slovak-Republic-a-more-resource-efficient-economy.pdf>
- ¹⁶¹ Ellen MacArthur Foundation. (2016). Slovenia joins the Circular Economy 100 programme. December 16, 2016. Retrieved from <https://www.ellenmacarthurfoundation.org/news/slovenia-joins-ce100>
- ¹⁶² City of Ljubljana. (N.D.). Towards a circular economy. Retrieved on April 11, 2019 from <https://www.ljubljana.si/en/ljubljana-for-you/environmental-protection/towards-circular-economy/>
- ¹⁶³ WCycle Institute Maribor. (2018). The strategy for the transition of the city of Maribor to the circular economy. July 2018. retrieved from <https://www.circularchange.com/news/the-strategy-for-the-transition-of-the-city-of-maribor-to-the-circular-economy?rq=Maribor>
- ¹⁶⁴ Circular Change. (2019). Mission and Purpose. Retrieved from <http://www.circularchange.com/mission/>
- ¹⁶⁵ Government of the Republic of Slovenia et al. (2018). Roadmap towards the circular economy in Slovenia. April 30, 2018. Retrieved from <http://www.circularchange.com/wp-content/uploads/2017/09/ROADMAP-TOWARDS-THE-CIRCULAR-ECONOMY-IN-SLOVENIA.pdf>
- ¹⁶⁶ La Moncloa (2017). Isabel García Tejerina inaugurates workshops on "Spanish Circular Economy Strategy", together with European Commissioner, Karmenu Vella. September 18, 2017. Retrieved from http://www.lamoncloa.gob.es/lang/en/gobierno/news/Paginas/2017/20170918_circular_economy.aspx
- ¹⁶⁷ Federación Española de Municipios y Provincias (2017). Municipios y economía circular. Retrieved on April 11, 2019 from <https://www.municipiosyeconomiacircular.org/home/>

REFERENCES

- ¹⁶⁸ Federación Española de Municipios y Provincias a.o. (2017). Declaración de Sevilla: el compromiso de las ciudades por la economía circular. Retrieved on April 11, 2019 from <https://static1.squarespace.com/static/58a3606bb8a79bb8ae7d7847/t/58cbb35e3e00be7918d0adcd/1489744740550/Declaraci%C3%B3n+de+Sevilla+DEF+maquetada.pdf>
- ¹⁶⁹ European Commission. (2018b). EXTREMADURA 2030: Strategy for green and circular economy. Retrieved from <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/policy-document/extremadura-2030-strategy-green-and-circular-economy-0>
- ¹⁷⁰ Ellen MacArthur Foundation. (2015). Government of Catalonia. Retrieved from <https://www.ellenmacarthurfoundation.org/ce100/directory/catalonia-accio>
- ¹⁷¹ Government of Catalonia. (2015). Impuls a l'Economia Verda I a l'Economia Circular. Competitivitat-eficiència – innovació. Una estratègia del Govern de la Generalitat de Catalunya. Retrieved 1 February 2019 from http://mediambient.gencat.cat/web/.content/home/ambits_dactuacio/empresa_i_produccio_sostenible/economia_verda/impuls/IMPULS-EV_150519.pdf
- ¹⁷² La Moncloa (2018). Spanish and Finnish governments reaffirm commitment to innovation and the green economy. Moncloa Palace, Madrid, October 4, 2018. retrieved on 1 February 2019 from <http://www.lamoncloa.gob.es/lang/en/presidente/news/Paginas/2018/20181004finnish.aspx?qfr=121>
- ¹⁷³ The Circular Lab. (2017). <https://www.thecircularlab.com/en/>
- ¹⁷⁴ IVA. (2018a). Circular economy makes Sweden more competitive. March 20, 2018. Retrieved from <https://www.iva.se/en/published/circular-economy-makes-sweden-more-competitive/>
- ¹⁷⁵ IVA. (2018b). Resource Effectiveness and the Circular Economy. Retrieved from <https://www.iva.se/en/projects/resource-effectiveness-and-the-circular-economy/>
- ¹⁷⁶ Re:Source (2016). Sweden will become a world leader regarding minimizing and utilizing waste. Retrieved from <https://resource-sip.se/om-resource/resource-in-english/>
- ¹⁷⁷ Vinnova (2016). First-ever coordinated initiative for efficient resource and waste management. Retrieved from <https://www.vinnova.se/en/m/strategic-innovation-programmes/resource/>
- ¹⁷⁸ CirEko. (2019). The business arena for Circular Business. Retrieved on April 11, 2019 from <https://cireko.se/var-ide/>
- ¹⁷⁹ The Independent (2018). The dark truth behind Sweden's 'revolutionary' recycling schemes. Retrieved on 1 February 2019 from <https://www.independent.co.uk/voices/sweden-recycling-rates-revolutionary-dark-truth-behind-uk-wales-incineration-a7471861.html>
- ¹⁸⁰ Eurostat. (2019). Treatment of waste by waste category, hazardousness and waste management operations [env_wastrt], Last update: 19-02-2019, Retrieved from: <https://ec.europa.eu/eurostat/web/waste/waste-generation-and-management/management/incineration>

¹⁸¹ European Parliament (2018). Waste management in the EU: infographic with facts and figures, 06-04-2018, See infographic at http://www.europarl.europa.eu/resources/library/images/20180328PHT00737/20180328PHT00737_original.jpg

¹⁸² Sustainability (2018). Co-Producing a Vision and Approach for the Transition towards a Circular Economy: Perspectives from Government Partners, by Anne P. M. Velenturf et al., MDPI, Sustainability 10 No. 5, 1401, 2 May 2018. Online at <https://www.mdpi.com/2071-1050/10/5/1401>

¹⁸³ Ellen MacArthur Foundation. (2018a). New Plastics Economy. Retrieved from <https://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy>

¹⁸⁴ Ellen MacArthur Foundation (2018b). A line in the sand. October 29, 2018. Retrieved from <https://www.ellenmacarthurfoundation.org/news/a-line-in-the-sand-ellen-macarthur-foundation-launch-global-commitment-to-eliminate-plastic-pollution-at-the-source>

¹⁸⁵ Scottish Government (2016). Making Things Last: a circular economy strategy for Scotland. Retrieved from <https://www.gov.scot/publications/making-things-last-circular-economy-strategy-scotland/>

¹⁸⁶ Resource (2018). Zero Waste Scotland's Circular Economy Hotspot To Highlight Progressive Circular Businesses, By Gethin Roberts, 31 July 2018. Retrieved from <https://resource.co/article/zero-waste-scotland-s-circular-economy-hotspot-highlight-progressive-circular-businesses>

¹⁸⁷ Iain Gulland (2018). Presentation about Zero Waste Scotland at a workshop from the European Commission on 20 February 2018, SMEs in the Circular Economy, including Official Launch of the European Resource Efficiency Knowledge Centre, Brussels. For a summary of this workshop see <https://www.resourceefficient.eu/en/news/all-eyes-erec-launch-circular-economy-stakeholder-conference>

¹⁸⁸ WRAP (2019). Sustainable Clothing Action Plan (SCAP). Retrieved from <http://www.wrap.org.uk/sustainable-texfactsheetiles/scap>

¹⁸⁹ KPMG. (2019). Accelerating towards a circular economy. Final report for European Commission project Boosting circular economy among SMEs in Europe, February 2019, 024-2019/JT/AW/CC/sk, Retrieved from <http://ec.europa.eu/environment/sme/pdf/024-2019%20Report%20Boosting%20the%20circular%20economy%20among%20SMEs.pdf>

¹⁹⁰ Ecopreneur.eu (2019). Circular Economy Advocacy. A Strategy Towards a Circular Fashion Industry in Europe. Ecopreneur for C&A Foundation, 28 March 2019. Available on <https://ecopreneur.eu/2019/03/28/press-release-bold-policies-needed-to-mainstream-sustainable-fashion/>

¹⁹¹ OECD. (2016). Extended producer responsibility. Updated guidance for efficient waste management, <http://www.oecd.org/development/extended-producer-responsibility-9789264256385-en.htm>

¹⁹² EY. (2018). Study on the implementation of eco-design incentives in Extended Producer Responsibility, EY, July 2018

REFERENCES

- ¹⁹³ Ecopreneur. (2017). Improvement of Extended Producer Responsibility (EPR) crucial for circular economy, Berlin / The Hague, revised version d.d. December 2017, <https://ecopreneur.eu/wp-content/uploads/2018/10/Ecopreneur-Position-on-EPR-revised-6-12-2017-1.pdf>
- ¹⁹⁴ EuRIC. (2019) First NSRR 'Fast-Track' notification for Waste electrical and electronic equipment (WEEE) is a fact. March 25, 2019. Recovered from <https://www.euric-aisbl.eu/news-events/news/item/276-first-nsrr-fast-track-notification-for-waste-electrical-and-electronic-equipment-weee-is-a-fact>
- ¹⁹⁵ European Commission. (2015). Towards a circular economy. Retrieved on April 5, 2019 from https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/towards-circular-economy_en
- ¹⁹⁶ BDE, bvse, BDSV, ITAD, PlasticsEurope, VDM, VDMA, VHI und VKU (2018). Statusbericht 2018 der deutschen Kreislaufwirtschaft. Einblicke und Aussichten. Retrieved April 5, 2019 from https://www.bvse.de/images/pdf/Nachrichten_2018/Statusbericht_2018_Ansicht_und_Druck.pdf
- ¹⁹⁷ UN Environment. (2019). Global Resources Outlook Natural Resources for the Future we want. Retrieved on April 5, 2019 from <http://www.resourcepanel.org/reports/global-resources-outlook>
- ¹⁹⁸ Belgium Federal Government (2016). Ensemble faisons tourner l'économie en développant l'économie circulaire en Belgique. 21 mesures pour l'économie circulaire (in Dutch and French). Federal public service Health, Food Chain Safety and Environment, Retrieved on July 4, 2019 from <https://www.health.belgium.be/en/node/30139>
- ¹⁹⁹ Vision 2050, A long term vision for Flanders, Flemish government, 2016, Retrieved on July 3, 2019 from <http://sdgtoolkit.org/wp-content/uploads/2017/02/Vision-2050-A-long-term-strategy-for-Flanders-.pdf>
- ²⁰⁰ Circular Flanders, kick off statement: see <https://vlaanderen-circulair.be/src/Frontend/Files/userfiles/files/Circular%20Flanders%20Kick-Off%20Statement.pdf>
- ²⁰¹ Circular Flanders, overview of activities: <https://vlaanderen-circulair.be/en>
- ²⁰² SEI Tallinn (2019). UPMADÉ - towards a circular fashion industry. Story by Helen Saarniit and Harri Moora, 14 January 2019. Retrieved on July 4, 2019 from <https://www.sei.org/featured/upmade-circular-fashion-industry/>