



REPORT

Promotion of the circular economy in the Hotel Industry in Cyprus and Greece – Preliminary assessment of the current status of circular economy

Hotels4Climate

On behalf of:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety



European
Climate Initiative
EUKI

of the Federal Republic of Germany

Promotion of the circular economy in the Hotel Industry in Cyprus and Greece

Preliminary assessment of the current status of circular economy

Hotels4Climate

Authors: **Anthi Charalambous (OEB), Andri Constandinou (OEB), Panayiotis Kastanias (OEB),** Aris Ikkos (INSETE), Michalis Kyriakides (INSETE), Sotiris Mylonas (INSETE) Madeline Schneider (adelphi), Jessica Weir (adelphi), Anton Barckhausen (adelphi),

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Anthi Charalambous

Director of Energy & Environment Department

acharalambous@oeb.org.cy

www.oeb.org.cy

INSETE

INSETE is a non-profit organisation founded in early 2013, on the initiative of the Greek Tourism Confederation (SETE), by four partners with intense activity in critical areas of the Greek tourism market: SETE (principal partner), the Hellenic Hoteliers Federation (HHF), the Hellenic Association of Travel & Tourist Agencies (HATTA) and the Confederation of Entrepreneurs of Rented Rooms and Apartments (SETKE).

The mission of INSETE is to contribute with well-substantiated ideas to promoting both public and private policies that will support, modernise and improve the Greek tourism sector and any other service sector which is directly or indirectly associated with it.

Specifically, INSETE supports the Greek Tourism Confederation with:

- documented and thought out interventions in social and public dialogue (positions, proposals, etc.) aimed at promoting policies to support, modernise and improve Greek tourism.
- implementing actions to research, inform and disseminate knowledge, to develop human resources and improve and certify quality of enterprises and the skills of professionals and workers in Greek tourism.

Furthermore, the main activities of INSETE are:

- To research, safeguard and promote the position and contribution of tourism to sustainable economic, social and cultural growth and development at both a national and European level.
- To support and promote entrepreneurship (both conventional and social) in the tourism sector, and in any other service sector which is directly or indirectly associated with it.
- To enhance Human Resources development policies and tools for the tourism sector and any other service sector which is directly or indirectly associated with it.
- To provide scientific, technical or other form of documentation and support to SETE on issues relevant to its activities and operations, and to help it achieve its objectives.

Aris Ikkos

Research Director

ikkos@insete.gr

insete.gr

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Madeline Schneider

Senior Manager

schneider@adelphi.de

www.adelphi.de

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List of abbreviations

BRPCE	The Brussels Regional Programme for Circular Economy
DG EPCD	Directorate General for European Programmes, Coordination and Development
EC	European Commission
ECB	European Central Bank
EGD	European Green Deal
EPR	Extended Producer Responsibility
ESIF	European Structural and Investment Funds
ETS	Emission Trading System
EU EMAS	EU Eco-Management and Audit Scheme
EU	European Union
GDP	Gross domestic product
GHG	Greenhouse Gases
GPP	Green Public Procurement
ICT	Information and Communications Technology
OECD	Organisation for Economic Co-operation and Development
RES	Renewable Energy Sources
SME	Small and Medium Enterprise
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNWTO	United Nations World Tourism Organization
w/w	Weight/Weight
WEEE	Waste Electrical and Electronic Equipment

1 Executive Summary

Global momentum for a fundamental economic restart is greater than ever, as our current linear economy, where resources are considered to be unlimited, is unsustainable with severe consequences in the short, medium and long term. More and more businesses feel squeezed between rising and less predictable prices in resource markets on the one hand and high competition and stagnating demand for certain sectors on the other. Businesses are now searching of a better industrial model that decouples revenues economic activity from the consumption of finite resources, and designs waste out of the system, a circular economic model. Underpinned by a transition to renewable energy sources, the circular economy builds economic, social and natural capital. In a circular economy, products are highly valued, waste and pollution are designed out of the system, products and materials are kept in loops for continuous use, and natural systems are regenerative.

Circular economy is one of the top priorities of European Union (EU) policies and plays a key role for its transformation into a modern, resource-efficient and competitive economy, where there are no net emissions of greenhouse gases (GHGs) by 2050. The European Commission (EC) has established an ambitious agenda via the European Green Deal (EGD) and the 2020 Circular Economy Action Plan, to transform EU's economy into a circular and climate neutral economy. The EGD provides an action plan to boost the efficient use of resources by moving to a clean, circular economy and restore biodiversity and cut pollution.

At a national level, many member states, Greece and Germany included, incorporated circular economy within their national agendas and formulated their own circular economy strategies and action plans. In 2018, Greece has adopted a national strategy on circular economy with priorities such as implementing ecodesign, more efficient waste management practices, energy efficiency, and innovative forms of consumption. The Greek national strategy will be implemented across different sectors, including the hotel industry, as it is identified as one of the essential industries contributing to significantly to the country's gross domestic product (GDP). **However, even though circular economy is in the spotlight these last years, there is still no overarching policy or legal framework for the promotion of circular economy in Cyprus.**

The tourism sector is one of the major economic activities across the EU, with wide-ranging impact on economic growth, employment, and environmental sustainability. Therefore, it is a priority industry for transition to circular economy. Before the outbreak of COVID-19 pandemic, tourism contributed to the 10% of EU's GDP (Publications Office of the EU, 2020), with a 12.2% of nominal GDP for Cyprus. This has changed significantly in 2020, after the outbreak of COVID-19 pandemic, as a long-term drop of the EU's GDP by 2% to 5% is predicted in the coming years (United Nations Conference on Trade and Development [UNCTAD] 2020). Nevertheless, tourism is expected to rebound, increasing the demand for energy, mobility, water and other services. In 2018, the global carbon footprint of tourism has been calculated to account for about **5 to 8%** of global GHG emissions and it is expected to increase significantly (Lenzen, 2018) (World Economic Forum, 2019). This is mainly due to hotels' intensive energy consumption and the use of non-renewable resources in their daily operations for electricity, air conditioning, waste, and refrigeration.

There is a growing sense of urgency to find long-term, resilient, sustainable tourism industry development pathways respectful of destinations' natural and local ecosystems, and not just returning to 'business as usual'. While the industry's long-term sustainability challenges are acknowledged by the majority of stakeholders, effective solutions and strategies are still complex and puzzling. The United Nations World Tourism Organisation (UNWTO) recommends circular economy as one of the six actions to restart tourism after COVID-19. The EU has, for example, since before the pandemic paved the way by establishing the European Green Deal—of which the Circular Economy Action Plan is a key pillar—and in light of the current context, it is now being placed at the core of the COVID-19 recovery package offering a roadmap to reinvigorating the economy and ensuring climate-neutrality.

The COVID-19 crisis has raised awareness of the importance of local supply chains and the need to rethink how goods and services are produced and consumed, both key elements of a circular economy. Governments therefore also have a role to play in supporting businesses that offer more localised, diversified, and distributed production—through repair, refurbishment, remanufacturing, and local production—as they can help pave the way towards a more resilient future that enhances the economic development of communities. As economies restart, there is an opportunity to restructure businesses and wider business support schemes of the hotel industry towards long-term resilience, supporting key developments and trends of the industry that were already apparent before the pandemic. These include the growing interest in sustainable tourism, digitisation of the tourism experience and increased importance of authenticity and adaption to personal needs of travels.

This preliminary assessment is part of the [Hotels4Climate](#) project, which aims to reduce GHG emissions generated by the hotel industry in Cyprus and Greece by transitioning to circular economy, as the way forward to a more resilient and carbon neutral economy, especially after the outbreak of the COVID-19 pandemic in 2020. The project aims to build capacities and raise awareness around the concept of circular economy and its impact on climate change via workshops and business coaching. This report aims to assess and define the current status of the circular economy in the hotel industry in Cyprus and Greece, identify the priority sectors within the main services hotels offer (accommodation, food and other activities such as wellness) and define the business needs and opportunities for the hotel industry to transition to circular economy and establish circular business models.

The results of the preliminary assessment showed that the hotel representatives have a basic level of understanding of the circular economy and its principles and what is required from their business for a successful transition. For them, circular economy means another way of presenting waste management, recycling, or “going zero waste”. This incomplete interpretation does not capture all the significant aspects of circular economy, resulting in the inability of hoteliers to understand the potential benefits and opportunities circular economy can offer to the hotel industry and to businesses in general. Their lack of awareness on existing and forthcoming national and European legal framework indicates they are not familiar with their compliance obligations, as well the potential funding opportunities that might arise. Also, respondents do not consider having the top management on board as a key driver to a successful transition to circular economy, and hoteliers, especially in Cyprus, do not believe the circular economy can be applied to services, including the services hotels offer to their customers.

At the same time, there is an overall appetite for transition to circular economy, from both businesses and customers. Hoteliers generally believe that a circular hotel would attract more customers and this opinion is based on the growing environmental awareness of their customers witnessed in the past years. Therefore, their efforts are mainly focused on waste management and increasing recycling rates; optimisation of resource use; implementing green procurement practices; utilising renewable energy sources; raising staff and guests’ awareness on these matters; having relevant policies in place, (e.g., sustainability, social responsibility, environment, etc.); and investing in sustainability certifications.

Even though the hoteliers do not believe that by going circular they will strengthen the relationship with their suppliers, they believe that working with them could help them find circular and economic viable solutions. Greek hoteliers value the implementation of green procurement practices, in contrast to Cyprus, as they already have a sustainable procurement policy/strategy in place. They have designated staff responsible in identifying sustainable solutions; and engaged with their suppliers to find a more sustainable and circular solution, product, or packaging. Greek respondents argue that both circular suppliers and circular solutions are widely available in Greece, **in comparison to Cyprus, where the majority of respondents are not aware whether circular solutions are available in their country.** This might be potentially linked to two reasons: a. the lack of a clear green procurement policy in place; b. lack of understanding of what a circular supplier and a circular solution are.

Seven product value chains were identified by the survey as the key priority sectors for the hotel industry in Cyprus and Greece, where accelerating to a circular economy would be most beneficial and capacity building would have a particular role to play in the successful transition of the hotels. The survey also highlighted how difficult it is for the hoteliers to identify opportunities under these 7 priority sectors. The priority sectors are the following, listed in a descending order according to the priority given by the hoteliers in both countries: **Plastic and Packaging, Food Waste, Wastewater, Chemical materials, Construction and Renovation, Electricals and Electronics, Furniture and Textiles** (see Figure 1).

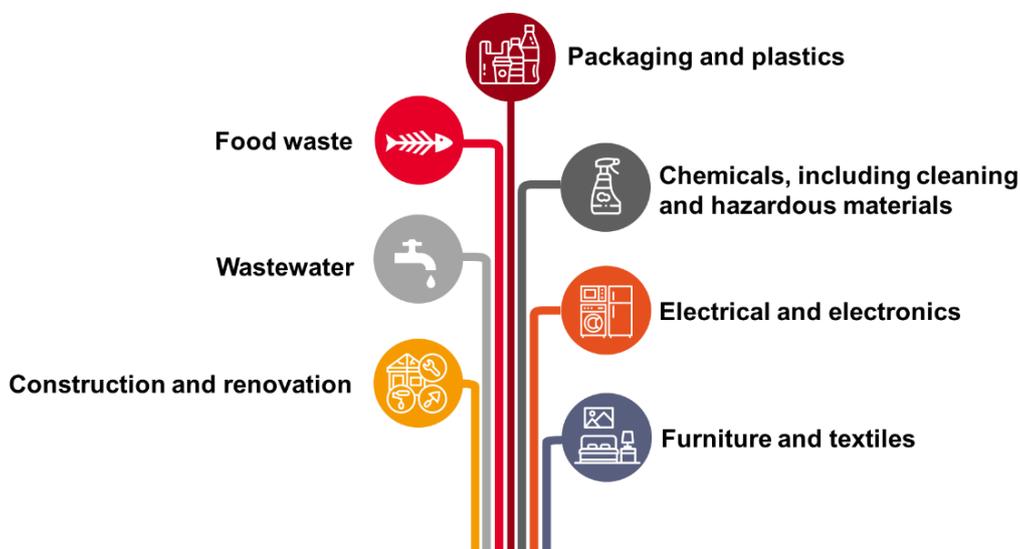


Figure 1: Priority sectors of the hotel industry in Cyprus and Greece

A number of internal and external barriers that raise obstacles to the transition of the hotel industry to circular economy have been identified (see Figure 2). Internally, hoteliers believe that there is a general resistance in cultural change and a lack in skills, know-how and understanding, which hinder the actual implementation of circular economy. External barriers are the economic crisis, especially now in a post-COVID-19 era; the availability of circular suppliers and solutions in affordable and competitive prices; poor market co-ordination and collaboration; and the poor local recycling infrastructure.

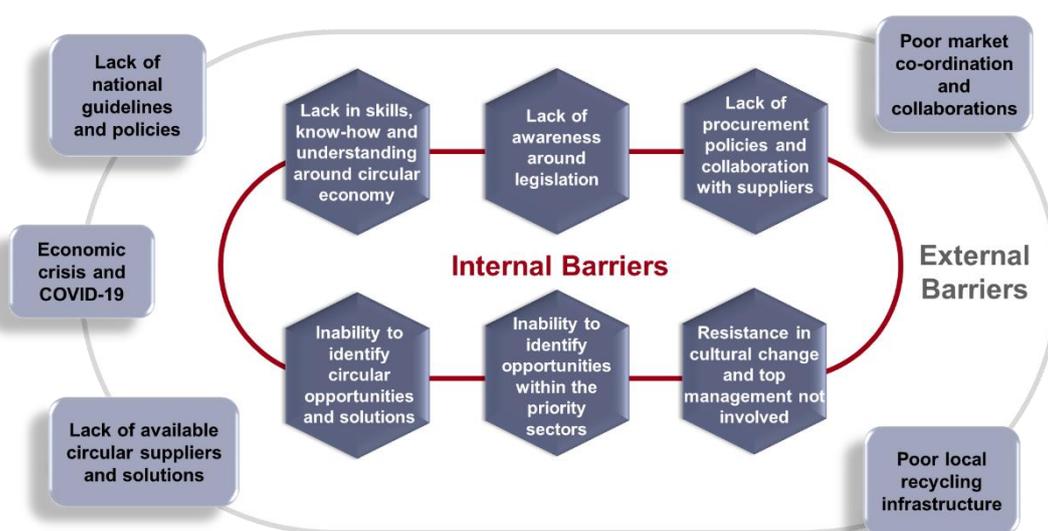


Figure 2: Internal and external barriers to the transition of the hotel industry to circular economy

A number of business opportunities were identified when analysing the responses from the hotel industry in Cyprus and Greece. These opportunities are general business opportunities, not segregated by priority sectors or value chains, but segregated by business areas and activities. This is explained by the fact that, hotel representatives, due to their lack of knowledge and understanding on circular economy and its implementation, stated that they are not able to identify specific opportunities for each of the priority sectors. The business opportunities for the hotel industry in Cyprus and Greece, as identified by the hotel representatives, are listed below:

- **Circular procurement, diverse and innovative suppliers and new collaborations.**
- **Competitiveness and business advantage, adding value to community**
- **Culture, knowledge and understanding of circular economy, and environmental awareness.**
- **Renewable energy and energy efficiency.**
- Waste management.

Waste management is included in the listed opportunities, however, its role in the transition of the hotel industry in a circular model of operation is misunderstood and overrated, due to their lack of knowledge and understanding on circular economy.

The business needs that were identified by the hotel representatives follow the same pattern as the business opportunities. The identified needs and opportunities are listed below:

- Increase the level of knowledge and understanding of the circular economy and the benefits to their businesses.
- Promoting the implementation of sustainable procurement policy in the hotel industry in Cyprus and Greece.
- Promoting and strengthening the cooperation of companies with their suppliers to find more circular solutions.
- Exploring opportunities and promoting the application of circular business models and practices in the supply chain as well as in priority areas.
- Need for circular suppliers and circular products and services, especially in Cyprus, as respondents believe that they are not widely available or do not know their availability.
- Great need for training and improvement of skills of business executives for the implementation and benefits of the circular economy.

In contrast with the business needs and opportunities, the expectations of the hotel industry in Cyprus and Greece is focused solely on their suppliers and the supply chain. Hoteliers expect it will be easier to adopt circular practices and business models and it would be more economically viable if they engage with their suppliers. They expect from them to be able to advise them in various matters and suggest ways to become more circular. Through the engagement with the market, hoteliers expect there will be opportunities for new markets and there would be a shift to more service-based solutions.

These results are intended to feed into the development of circular economy training materials, which will be used for building capacities and raise awareness around the concept of circular economy and its impact on climate change via workshops and business coaching. Capacity building and business coaching will assist the hoteliers in developing a strong understanding of the circular economy, and its principles; what circular economy means for the hotel industry in terms of the provided services; the potential benefits, compliance obligations and funding opportunities; deep dive in the priority sectors and identify potential opportunities and incentives for circular interventions; understand the important role of supply chain in the successful transition to circular economy.

2 Background information on circular economy

2.1. Circular economy in the EU

Our current linear economy responds to an industrial mentality in which production and resources are considered to be unlimited, and economic benefits are placed above all other criteria. This system dates back to the Industrial Revolution, and it has been the prevailing model in the market ever since. Nonetheless, the linear economy is becoming unsustainable and it presents various problems which will have severe consequences in the short, medium and long term.¹ In a circular economy, products and the materials they contain are highly valued. This contrasts with the traditional, linear economic model, which is based on a 'take-make-consume-throw away' pattern. In practice, a circular economy minimises waste through reusing, repairing, refurbishing and recycling existing materials and products.²

Moving towards a more circular economy could deliver benefits, including reduced pressure on the environment by decoupling resource consumption; enhanced raw materials supply security; and increased competitiveness, innovation, growth, and jobs. However, there are also challenges, such as finance, key economic enablers, skills, consumer behaviour, business models, and multi-level governance. Managing the life cycle of natural resources, from extraction through the design and manufacture of products, to what is considered as waste is essential to resource efficiency and part of developing a circular economy where nothing is wasted. Smarter design - allowing products to be repaired, re-used, remanufactured and then recycled again - should become the norm.²

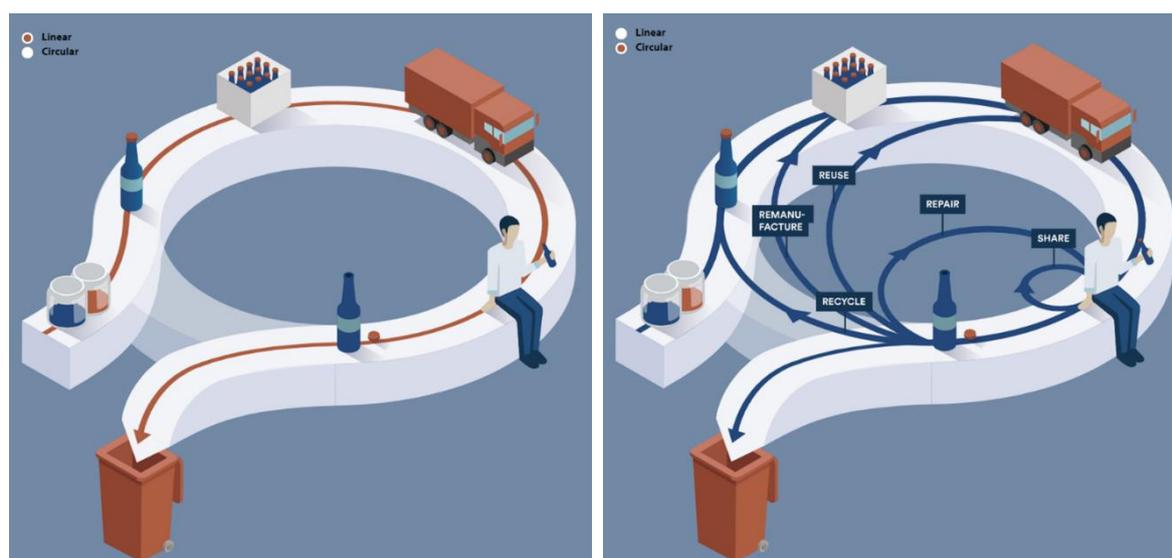


Figure 3: Linear economy – the the “take-make-dispose” flow versus “circular economy – closing the loops”³

Historical and current patterns of natural resource use are resulting in increasingly negative impacts on the environment and human health. The extraction and processing of materials, fuels and food make up about half of total global greenhouse gas emissions (not including climate impacts related to land use) and more than 90% of biodiversity loss and water stress. An estimated 11% of global species were lost by 2010 due to global land use. The focus is on resource extraction and processing up to “ready-to use,”

¹ C-voucher (2019): Circular economy vs. linear economy. Retrieved from: <https://c-voucher.com/circular-economy-vs-linear-economy/>

² European Commission (2020): Green growth and circular economy. Retrieved from: https://ec.europa.eu/environment/green-growth/index_en.htm

³ The European Parliamentary Research Service (2017): Circular Economy animated infographic [Accessed on 21.09.2020]. Retrieved from: <https://www.europarl.europa.eu/thinktank/infographics/circulareconomy/public/index.html>

materials and fuels (including waste disposal processes in the extraction and processing phase). This is also termed ‘cradle-to-gate,’ as it assesses only the part of the products’ life cycle until leaving the gate of the factory. In the absence of urgent and concerted action, rapid growth and inefficient use of natural resources will continue to create unsustainable pressures on the environment.⁴

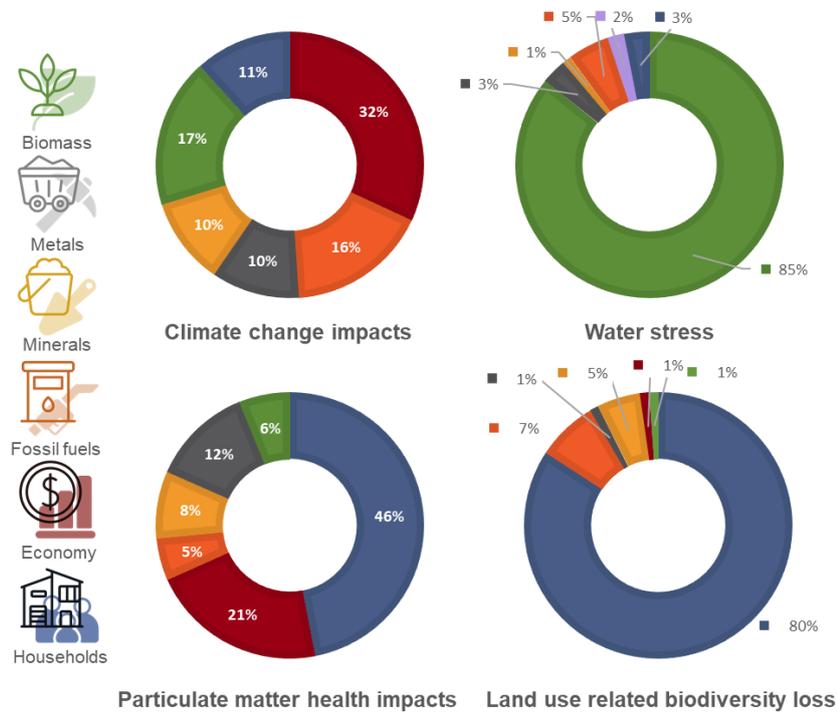


Figure 4: Historical and current patterns of natural resource use are resulting in increasingly negative impacts on the environment and human health⁴

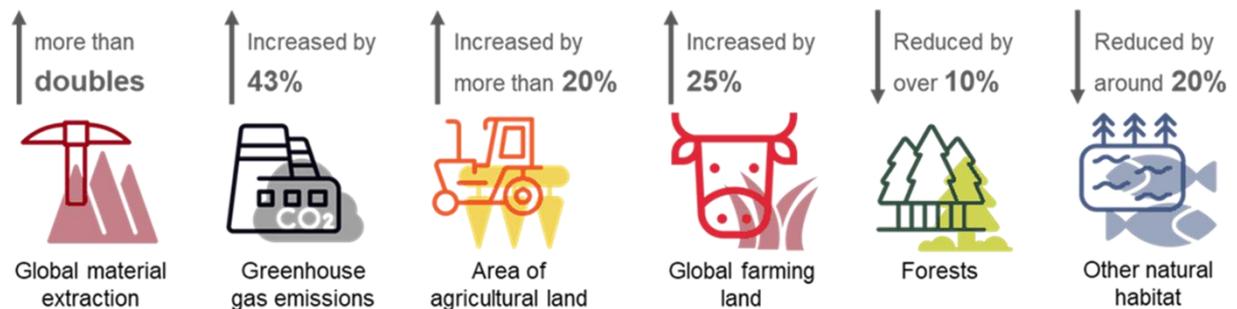


Figure 5: Historical trends from 2015 to 2060 as predicted in the Global Resources Outlook 2019⁴

The European Union (EU) has become the global leader in the field of circular economy by setting its single market on a transition pathway towards a circular economy. As half of total greenhouse gas (GHG) emissions and more than 90% of biodiversity loss and water stress come from resource extraction and processing globally, in **December 2019**, the European Commission (EC) presented the *European Green Deal (EGD)*, an ambitious plan to transform the EU’s economy into a fair, sustainable, and prosperous economy. The EGD is a comprehensive growth agenda which aims to make Europe

⁴ Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya. Retrieved from: <https://www.resourcepanel.org/reports/global-resources-outlook>

the first climate-neutral region and boost the efficient use of resources by moving to a clean and circular economy, restoring biodiversity, and minimising pollution.^{5,6}

In addition, the EGD outlines investments needed and available financing tools. To achieve climate neutrality by 2050, the EC proposed a *European Climate Law*⁷ in **March 2020** to turn this political commitment into a legal obligation. The EU will also provide financial support and technical assistance to support the move towards the green economy (*Just Transition Mechanism*⁸) and it will help mobilise at least €100 billion over the period 2021-2027.^{5,9}

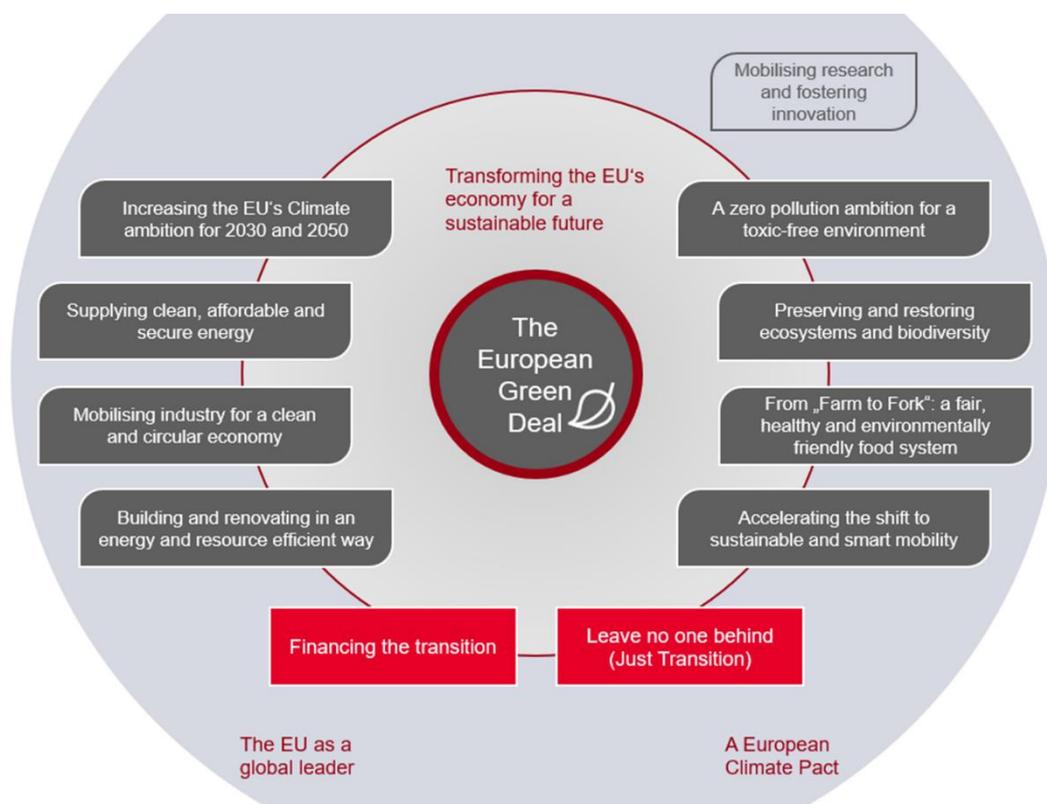


Figure 6: The European Green Deal policy areas⁵

In **March 2020**, the EC has adopted a new “*Circular Economy Action Plan For a cleaner and more competitive Europe*”, one of the main blocks of the EGD. This new *Action Plan* provides a future-oriented agenda for achieving a cleaner and more competitive Europe in co-creation with economic actors, consumers, citizens and civil society organisations. It aims at accelerating the transformational change required by the European Green Deal, while building on circular economy actions implemented since 2015. It includes initiatives along the entire life cycle of products, targeting their design, promoting circular economy processes, fostering sustainable consumption, and aiming to ensure that the resources used are kept in the EU economy for as long as possible. The *Action Plan* introduces legislative and non-legislative measures and targets areas where action at the EU level brings real added value.⁶

However, the creation of these ambitious strategies was not a simple process. The *European Green Deal* and the *Circular Economy Action Plan* the result of an evolution in the EC’s thinking and of a series of policy developments across different areas since 2011.⁹ Prompted by resource price volatility, a

⁵ European Commission (2020): A European Green Deal. Retrieved from: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

⁶ European Commission (2020): EU Circular Economy Action Plan - A new Circular Economy Action Plan for a Cleaner and More Competitive Europe. Retrieved from: https://ec.europa.eu/environment/circular-economy/index_en.htm

⁷ European Commission (2020): European Climate Law. Retrieved from: https://ec.europa.eu/clima/policies/eu-climate-action/law_en

⁸ European Commission (2020): Commission launch the European Just Transition Platform. Retrieved from: https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1201

⁹ Ellen MacArthur Foundation (2020): The EU’s Circular Economy Action Plan - case study. Retrieved from: <https://www.ellenmacarthurfoundation.org/case-studies/the-eus-circular-economy-action-plan>

dependence on imports of raw materials, and increasing pressure on resources, the EC adopted its *Roadmap for a Resource-Efficient Europe* in **September 2011**, aimed at providing high-level guidance and facilitating the transition to a resource efficient economy.¹⁰

In **June 2012**, the *European Resource Efficiency Platform* was launched by the EC to bring together stakeholders from different sectors and various experts, such as the Ellen MacArthur Foundation, Unilever, Veolia, Siemens, the European Environmental Bureau, University College London, Organisation for Economic Co-operation and Development (OECD), United Nations Environment Programme (UNEP), and the ministries for the Environment of Germany, Denmark, Italy, and Estonia, among others. In its policy recommendations, the platform advocated for a transition towards a circular economy.¹¹



Figure 7: The 7 key product value chains as a matter of priority (priority product groups) of the 2020 Circular Economy Action Plan¹²

In **December 2015**, the Commission presented its first *Circular Economy Action Plan*, including several legislative proposals on waste.¹² A revised waste legislative framework entered into force in **July 2018**. Directive (EU) 2018/849 amended the following directives:¹³

- Directive 2008/98/EC on **waste** amended by Directive 2018/851,
- Directive 1999/31/EC on the **landfill of waste** amended by Directive 2018/850,
- Directive 94/62/EC on **packaging and packaging waste** amended by Directive 2018/852,
- Directive 2000/53/EC on **end-of life vehicles** amended by Directive 2018/849,
- Directive 2006/66/EC on **batteries and accumulators and waste batteries and accumulators** amended by Directive 2018/849,
- Directive 2012/19/EU on **waste electrical and electronic equipment (WEEE)** amended by Directive 2018/849.

These amendments included new recycling rates, new clarified legal status for recycled materials and by-products; reinforced rules and new obligations on separate collection (bio-waste, textiles and hazardous waste produced by households, construction and demolition waste); minimum requirements for Extended Producer Responsibility (EPR); and strengthened waste prevention and waste

¹⁰ European Commission (2019): Communication from the commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the regions the European Green Deal (COM/2019/640). Retrieved from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN>

¹¹ European Commission (2014): European Resource Efficiency Platform. Retrieved from: https://ec.europa.eu/environment/resource_efficiency/re_platform/index_en.htm

¹² European Commission (2015): First Circular Economy Action Plan. Retrieved from: https://ec.europa.eu/environment/circular-economy/first_circular_economy_action_plan.html

¹³ Official Journal of the European Union (2018): Volume 61, L150. Retrieved from: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2018:150:FULL&from=EN>

management measures, including for marine litter, food waste, and products containing critical raw materials.¹³

The first *Circular Economy Action Plan* defined five priority areas, which face specific challenges. According to the Action Plan, these challenges have been addressed by amending relevant legislation and introducing numerous legislative initiatives between 2015 and 2019. As presented in Figure 8, the new *Circular Economy Action Plan* includes the five priority areas as they continue to be a priority for Europe and extends their scope to capture additional priority areas, which are now called priority key product value chains.¹²

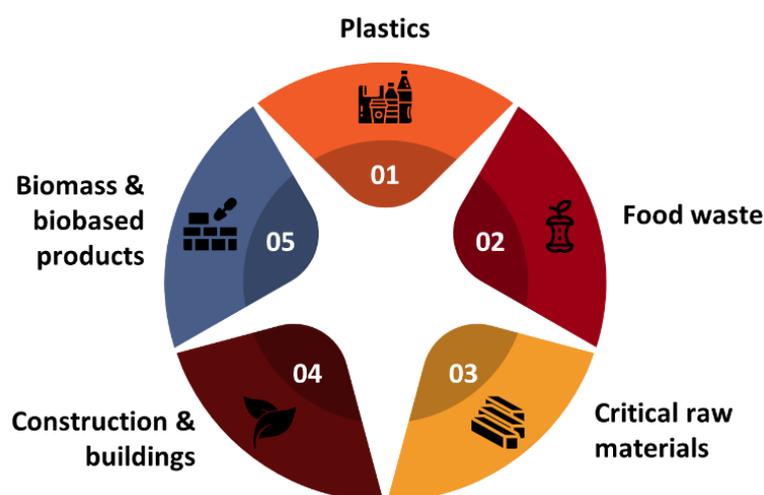


Figure 8: The 5 Priority areas of the first *Circular Economy Action Plan*¹²

To promote the exchange of best practices, and foster collaboration around the circular economy, several platforms were created. **In March 2017**, the *European Circular Economy Stakeholder Platform* and the *Circular Economy Finance Support Platform* were launched to help increase knowledge among actors involved in the transition. The *European Circular Economy Stakeholder Platform* is a "network of networks", which highlights cross-sector opportunities and challenges. It is also a hub for gathering knowledge, a place for dialogue, and a bridge between existing initiatives. It contributes to disseminating the concept of the circular economy at national, regional and local level by making the information more easily accessible and by providing a frame for exchange and discussion.¹⁴

To measure progress towards circularity, the EC implemented a *Monitoring Framework for the Circular Economy* at both the EU and national levels. This framework consists of ten indicators across four thematic areas: production and consumption, waste management, secondary raw materials, and competitiveness and innovation. Based on these metrics, the EC presented progress towards circularity in its implementation report **in March 2019**.¹⁵

Based on this monitoring framework, **by March 2019**, all 54 actions of the plan were delivered or being implemented, therefore, three years after adoption, the first *Circular Economy Action Plan* can be considered fully completed. According to the Monitoring Framework, the European economy is becoming more circular. Implementing this *Action Plan* has accelerated the transition towards a circular economy in Europe, which in turn has helped putting the EU back on a path of job creation. Circular activities such as repair, reuse, and recycling generated almost €155 billion in value-added in 2017.^{16,17} There was also a 6% increase in jobs¹⁷ related to the circular economy between 2012 and 2016. The

¹⁴ European Commission (2019): European Circular Economy Stakeholder Platform. Retrieved from: <https://circulareconomy.europa.eu/platform/en>

¹⁵ Eurostat (2019): Monitoring Framework for Circular Economy [Accessed on 21.09.2020]. Retrieved from: <https://ec.europa.eu/eurostat/web/circular-economy/indicators/monitoring-framework>

¹⁶ Eurostat (2013): Statistics Explained - Glossary: Value added at factor cost. Retrieved from: https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Value_added_at_factor_cost

¹⁷ Eurostat (2020): Your key to European statistics - Private investments, jobs and gross value added related to circular economy sectors. Retrieved from: https://ec.europa.eu/eurostat/web/products-datasets/-/cei_cie010

EU's overall circularity rate¹⁸, the percentage of recovered and recycled materials used in production, increased from 3,4% to 11,7% between 2004 and 2016.^{15,19}

To identify the existing circular economy strategies at national, regional and local levels, desk-based exercise was carried out, the results of which are illustrated in Figure 9. These areas have different opportunities and challenges in moving towards a circular economy, such as density, industrial clusters, natural resources, etc. Circular economy strategies or roadmaps aim to further the transition to a circular economy. In doing so, they present a clear strategic plan and define objectives or a desired outcome and include key steps or milestones. Circular economy strategies or roadmaps are comprehensive and address the transition from multiple points of view in one document. All stages of the value chain such as production, consumption, waste management, secondary raw materials, and innovation and investments are considered. A full inventory of existing and planned circular economy strategies can be found in Table 2 below.

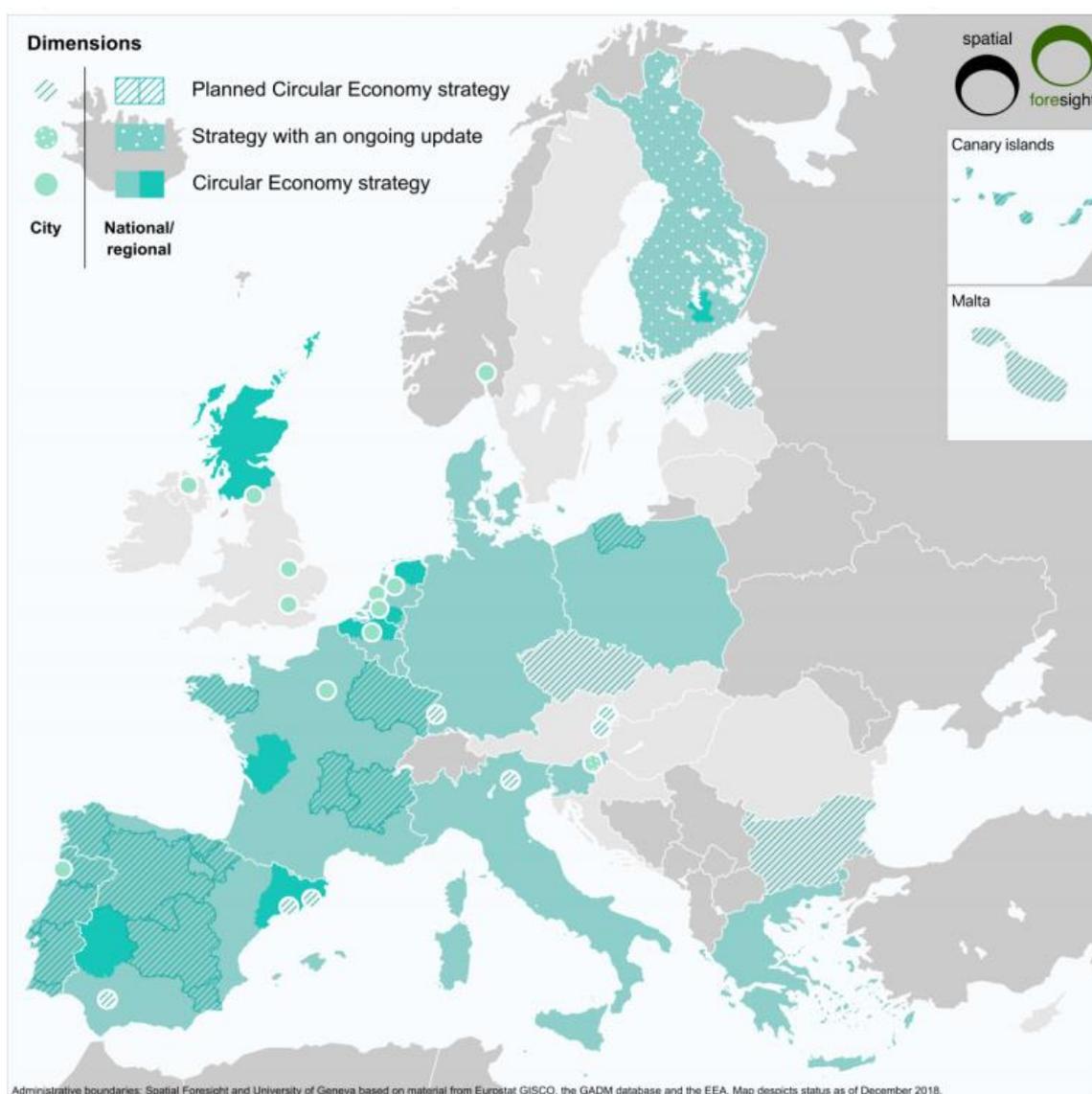


Figure 9: Overview of existing and planned circular economy strategies in Europe

¹⁸ Eurostat (2020): Your key to European statistics - Circular material use rate. Retrieved from: https://ec.europa.eu/eurostat/web/products-datasets/-/cei_srm030#:~:text=Dataset%20Details&text=The%20circular%20material%20use%2C%20also,the%20circular%20use%20of%20materials.

¹⁹ European Commission (2019): Closing the loop: Commission delivers on Circular Economy Action Plan. Retrieved from: https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1480

Table 1: Inventory of existing and planned circular economy strategies at a country and city levels

At a country level:
<p>NETHERLANDS – The Circular Economy in the Netherlands by 2050²⁰:</p> <p>Focus: Raw material consumption</p> <p>The government-wide programme for a circular economy is aimed at developing a circular economy in the Netherlands by 2050. It will make the Netherlands less dependent on the import of scarce raw materials and will contribute to a cleaner environment. The Dutch Circular Economy Roadmap aims at 50% reduction in the use of raw materials by 2030. Indicators and monitoring of the CE Netherlands have been also developed. Strategic goals are:</p> <ol style="list-style-type: none"> 1. Raw materials in existing supply chains are utilised in a high-quality manner. 2. In cases in which new raw materials are needed, fossil-based, critical and non-sustainably produced raw materials are replaced by sustainably produced, renewable, and generally available raw materials. 3. Develop new production methods, design new products and organise areas differently. Promote new ways of consumption. <p>Identified barriers: 1) Insufficient regulations, 2) External efforts not internalised, 3) Lack of knowledge for technological, social and system innovations, 4) Non-circular behaviour among citizens and professionals, 5) Coordination problem in supply chains, 6) Vested interests and investments made, 7) Limited influence in the international playing field.</p> <p>Government’s Interventions: 1) Fostering legislation and regulations; 2) Intelligent market incentives; 3) Financing; 4) Knowledge and innovation; 5) International cooperation.</p> <p>Priority Sectors: Biomass and food, Plastics, Manufacturing industry, Construction sector, Consumer goods.</p> <p>Some of the planned actions: 1) Promoting circular revenue models, 2) Phasing out subsidies that are detrimental to the circular economy, 3) Apply Producer Responsibility to new streams and the possibilities for strengthening the instrument itself, 4) Actions aimed at contributing to the climate policy, 5) Promoting circular product design at the EU level and in transition agendas, 6) Shift from origin (waste/no waste) to the characteristics of a raw material (market for secondary raw materials), 7) Enforce the dialogue between policymakers, inspectorate and entrepreneurs.</p>
<p>SERBIA - Roadmap for circular economy in Serbia published in September 2020^{21,22}:</p> <p>Focus: Use of circular business models, Create new jobs, Innovative and sustainable solutions for the market, Digitalisation</p> <p>The Ministry of Environmental Protection of the Republic of Serbia has developed a Roadmap for the circular economy in Serbia, a document that aims to bring together, connect and promote all those actors whose knowledge, innovativeness and creativity can contribute to a faster transition to the circular economy.</p> <p>The roadmap seeks to encourage the private sector to use circular business models and to motivate industry to create new jobs, as well as to inspire a shift in business operations through the introduction of innovative and sustainable solutions. The roadmap has been developed by the Circular Economy Platform for Sustainable Development in Serbia project, which was initiated and implemented by the United Nations Development Programme (UNDP).</p>

²⁰ Government of the Netherlands (2016): A Circular Economy in the Netherlands by 2050. Retrieved from: <https://www.government.nl/documents/policy-notes/2016/09/14/a-circular-economy-in-the-netherlands-by-2050>

²¹ European Commission (2019): European Circular Economy Stakeholder Platform – Strategies. Retrieved from: <https://circulareconomy.europa.eu/platform/en/strategies>

²² Serbia Ministry of Environmental Protection (2020): Roadmap for circular economy in Serbia. Retrieved from: <https://circulareconomy.europa.eu/platform/en/strategies/roadmap-circular-economy-serbia>

Strategic goals are:

1. Provide information about the importance of transition to circular economy, i.e., new business models, competitiveness, opportunities for a faster development of Serbia, solutions to problems such as management of secondary raw materials (including waste), need for resource and energy independence, and environmental security.
2. Identify the sectors in which the circular economy tools can be introduced more easily, but without underestimating the less developed sectors and traditional industries that will require more investments to transition to the new production models.
3. Recognize the key actors of change whose synchronized, joint activities can contribute to a faster transition to circular economy.

Priority sectors: Manufacturing industry (Wood furniture industry, textile industry), Agriculture and food (including food/organic waste), Plastics and Packaging, Construction

Recommendations for: decision makers, companies, citizens

IRELAND - Waste Action Plan for a Circular Economy in Ireland published in September 2020^{21,23}:**Focus: Waste**

The Waste Action Plan for a Circular Economy fulfils the commitment in the Programme for Irish Government to publish and start implementing a new National Waste Action Plan. This new national waste policy will inform and give direction to waste planning and management in Ireland over the coming years.

It will be followed later this year by an All of Government Circular Economy Strategy. The need to embed climate action in all strands of public policy aligns with the goals of the European Green Deal. The overarching **objectives** of this action plan are to:

1. shift the focus away from waste to ensure that materials and products remain in productive use for longer, by preventing waste and supporting reuse through a policy framework that discourages the wasting of resources and rewards circularity;
2. make producers who manufacture and sell disposable goods for profit environmentally accountable for the products they place on the market;
3. ensure that measures support sustainable economic models;
4. harness the reach and influence of all sectors including the voluntary sector, R&D, producers /manufacturers, regulatory bodies, civic society;
5. support clear and robust institutional arrangements for the waste sector, including through a strengthened role for Local Authorities.

The policy document contains over 200 measures across various waste areas.

Priority areas: Household and business; Plastic, Packaging and Single-use plastic; Food waste; Extended Producer Responsibility; Construction and Demolition waste; Textiles; Enforcement; Treatment; Government Leadership on circular economy

SPAIN - España Circular 2030 the new Circular Economy Strategy for a #FuturoSostenible in Spain published in June 2020^{21,24}:

At the beginning of June 2020, the Spanish Government published España Circular 2030, the new Strategy for Circular Economy in Spain until 2030. It contains circular economy objectives and a series of strategic orientations for the period 2020-2030. The strategy:

1. sets up a series of objectives for 2020-2030 which will, inter alia, allow a **30% reduction** in the national **consumption of resources** and a **15% reduction in waste generation** (as compared to 2010);

²³ Ireland Department of the Environment, Climate and Communications (2021): Waste Action Plan for a Circular Economy. Retrieved from: <https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/>

²⁴ Government of Spain (2020): España Circular 2030: the new Circular Economy Strategy for a #FuturoSostenible in Spain. Retrieved from: https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/espanacircular2030_def1_tcm30-509532.PDF

2. contributes to Spain's efforts to transition to a **sustainable, decarbonized, resource-efficient and competitive economy**;
3. takes the form of successive **three-year action plans** providing for concrete measures to deliver on circular economy.

Priority Sectors: Construction; Agri-food, fisheries and forestry; Textile and clothing; Manufacturing; Tourism; Consumer goods

POLAND - Poland's Circular Economy Roadmap published in September 2019^{21,25}:

The aim of Poland's Roadmap towards the Transition to the Circular Economy, which was adopted in 2019, is twofold:

1. to identify cross-cutting measures capable of having the broadest possible impact in Poland, both socially and economically;
2. to prioritise areas that will enable Poland to take advantage of its current opportunities, and to deal with existing or future challenges.

The Roadmap includes a set of tools, which are not purely legislative, to create the conditions for a new economic model in Poland.

Priority areas: Sustainable industrial production; Sustainable consumption; Bioeconomy; New business models; Implementation, Monitoring and Financing of Circular Economy.

DENMARK - Danish Strategy for Circular Economy published in September 2018:

In 2018, the Danish Ministry of Environment and Food and the Danish Ministry of Industry, Business and Financial Affairs launched a Strategy for Circular Economy, based on recommendations by an Advisory Board for Circular Economy.^{21,26} The strategy will be implemented in the period 2018-2022.

The government launched initiatives within six thematic areas:

1. Strengthening enterprises as a driving force for circular transition.
2. Supporting circular economy through data and digitalisation.
3. Promoting circular economy through design.
4. Changing consumption patterns through circular economy.
5. Creating a proper functioning market for waste and recycled raw materials.
6. Getting more value out of buildings and biomass.

FRANCE- A French act of law against waste and for a circular economy published in February 2020:^{21,27}

This French act of law contains about 50 measures providing for:

1. new obligations of new producer responsibility sectors to include new product families in the circular economy (toys, sports and do-it-yourself equipment, building materials, cigarette butts, sanitary textiles);
2. new prohibitions on single-use plastics and to fight waste of food and non-food unsold products;
3. new tools to better control and sanction offences against the environment (greater power for mayors to combat littering and illegal dumping), to support companies in their eco-design initiatives (bonus/malus-type incentives) and to assist citizens in new consumption practices (repairability index, information on environment and health impacts of products, harmonisation of info on sorting, etc.).

Circular Economy roadmap of France published in April 2018: The French roadmap includes 50 measures for the transition to circular economy.

²⁵ Poland Ministry of Development, Labour and Technology (2019): Poland's Circular Economy Roadmap. Retrieved from: <https://www.gov.pl/web/rozwoj-praca-technologie/gospodarka-o-obiegu-zamknietych>

²⁶ Ministeriet for Fødevarer, Landbrug og Fiskeri & Miljøministeriet (2020): The City of Helsinki's Roadmap for Circular and Sharing Economy. Retrieved from: <https://mfvm.dk/publikationer/publikation/pub/hent-fil/publication/strategy-for-circular-economy/>

²⁷ France Ministère de la Transition écologique (2021): The anti-waste law for a circular economy. Retrieved from: <https://www.ecologie.gouv.fr/loi-anti-gaspillage>

Priority Areas: better production, better consumption, better waste management, and engaging all stakeholders.²¹

PORTUGAL - Leading the transition: A circular economy action plan for Portugal published in December 2017^{21,28}:

The action plan presents three levels of actions to be introduced and worked on during the following three years: cross-cutting, national actions that consolidate some of the actions of various governmental areas for this transition; sectoral agendas, especially for more resource-intensive and export-oriented sectors; and regional agendas, which must be adapted to the socio-economic specificities of each region.

Priority sectors: Tourism, Textiles and Clothing, Distribution and Retail

At a city level:

HELSINKI - Circular and sharing economy to help tackle sustainability challenges in Helsinki published in June 2020^{21,29}.

The City of Helsinki's Roadmap for Circular and Sharing Economy is one of the 147 actions in the Carbon-neutral Helsinki 2035 Action Plan.

Priority areas: Construction; Procurement; Green Waste; Sharing Economy and New Circular Business Opportunities

The goals for each focus are set until 2035, with interim goals and supporting practical actions for each one. Reducing plastic consumption and increasing the use of recycled plastic are among the main topics of the roadmap. This roadmap is the result of debates in workshops with experts from both inside and outside the City. A team of representatives of the City's Environmental Services coordinated the work.

BRUSSELS - Brussels Regional Programme for Circular Economy published in March 2016^{21,30}:

The Brussels Regional Programme for Circular Economy (BRPCE) is an integrated strategy involving 111 measures aimed at delivering circular patterns at the city level. The **main objectives** are:

1. to transform environmental objectives into economic opportunities;
2. to anchor economic activities within Brussels' borders, maximising resource circularity and boosting entrepreneurship, and;
3. to create new employment opportunities.

THE HAGUE – Circular: The Hague: transition to a sustainable economy in the Netherlands published in February 2018^{21,31}:

In this policy note, the City of the Hague outlines why a circular transition is necessary and what benefits it can provide to the city for its sustainable development. Continuing with a state-of-play, the note sketches out the policy framework at European, national and regional level to provide strategic context and introduce analysis of a non-exhaustive list of 143 ongoing circular projects in The Hague area.

Links to further research show that making use of the opportunities a circular economy provides in the **Construction, Procurement and Retail Trade sectors** alone could substantially reduce carbon emissions and deliver 3,500 jobs in The Hague area.

²⁸ Ministry of Environment (2017): The Action Plan for the Circular Economy (PAEC) in Portugal. Retrieved from: <https://dre.pt/web/guest/pesquisa/-/search/114337039/details/maximized>

²⁹ City of Helsinki (2020): Circular and sharing economy to help solve sustainability challenges in Helsinki. Retrieved from: <https://www.hel.fi/uutiset/en/kaupunginkanslia/circular-and-sharing-economy-to-help-solve-sustainability-challenges>

³⁰ Le Gouvernement de la Région de Bruxelles-Capitale (2016): Programme Régional En Economie Circulaire, 2016 – 2020. Retrieved from: http://document.environnement.brussels/opac_css/elecfile/PROG_160308_PREC_DEF_FR

³¹ City of the Hague (2018): Circulair Den Haag, Transitie naar een duurzame economie. Retrieved from: https://denhaag.raadsinformatie.nl/document/6291317/1/RIS299353_Bijlage_1

LONDON - London's Circular Economy Route Map published in June 2017^{21,32}:**Focus: Creating the right conditions to accelerate the circular economy**

The London circular economy route map outlines a vision of a capital city thriving through the adoption of the principles of circular economy: an economy which keeps products, components and materials at their highest use and value at all times. The map provides guidance for the acceleration of London's transition to become a circular city and it recommends actions for stakeholders. Stakeholders such as London's higher education, digital and community sectors, as well as London's businesses, social enterprises and its thriving finance sector.

Priority sectors: Food, Textiles, Plastics, Electricals, Built environment

2.2. Circular economy status in Cyprus

Even though circular economy is in the spotlight these last years, there is still no overarching policy or legal framework for the promotion of circular economy in Cyprus. Policy, funding measures and mechanisms promoting the transition to circular economy depend to a large extent on the European Commission's directives and co-financing through the European programmes, including the European Structural and Investment Funds (ESIF), European Green Deal, European Social Fund, and European Regional Development Fund.

Cyprus has incorporated circular economy in the national agenda with the Ministry of Energy, Commerce & Industry to have commissioned a study to determine the current industry state regarding circular economy and assess potential opportunities. Furthermore, the Ministry of Agriculture, Rural Development & Environment has incorporated circular economy into its national strategy, aimed at reducing emissions in the non-ETS³³ sectors and to develop a strategy in line with the 2030 Energy & climate action plan.

Additionally, the government, through the Ministry of Agriculture, Rural development and Environment, has a Support Scheme to support the implementation of Eco-Management and Audit Scheme (EMAS)³⁴ in public or private organizations/companies. This scheme intends to provide governmental sponsorship to all interested in applying Environmental Management Systems according to EMAS to reduce the use of natural resources and continue to improve their environmental performance. The grant covers 70% of total eligible expense up to 2.000€. However, in general, policy and funding measures and other means of promoting the circular economy still largely depend on co-financing through the ESIF.

In 2015, both the Municipal Waste Management Plan and the National Waste Prevention Programme were adopted, with main objectives being to achieve 50% recycling at least for paper, plastic, metal and glass, 15% in the separate collection of the organic content of municipal waste, and a 20% reduction in landfill. Recycling and infrastructures for collection and waste separation are still the main gaps and focus for environmental policies, since the targets set by the European union are far from being achieved.

The main strategies of Cyprus that contribute to the transition to circular and climate neutral economy are the following:

- The Cyprus' Integrated National Energy and Climate Plan under the Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action³⁵
- The Low-Carbon Development Strategy to 2050³⁶

³² London Waste and Recycling Board (2017): London Circular Route Map. Retrieved from: <https://www.lwarb.gov.uk/what-we-do/circular-london/circular-economy-route-map/>

³³ European Commission (2015): EU Emission Trading System (EU ETS). Retrieved from: https://ec.europa.eu/clima/policies/ets_en

³⁴ European Commission, Environment (n.d.): EU Eco-Management and Audit Scheme (EMAS). Retrieved from: https://ec.europa.eu/environment/emas/index_en.htm

³⁵ Republic of Cyprus (2020): Cyprus' Integrated National Energy and Climate Plan. Retrieved from: https://ec.europa.eu/energy/sites/ener/files/documents/cy_final_necp_main_en.pdf

³⁶ The Republic of Cyprus, Ministry of Agriculture, Natural Resources and Environment, Department of Environment (2014): The Low-Carbon Development Strategy Of Cyprus. Retrieved from:

- The National Municipal Waste Management Plan 2015 - 2021³⁷
- Cyprus New Industrial Policy 2019-2022³⁸

In October 2020, the Minister of Energy, Commerce and Industry highlighted the Ministry of Commerce schemes to support digital economy, green growth and circular economy, adding the Ministry has submitted proposals to the Directorate General of European Programmes, Coordination and Development (DG EPCD) for the utilisation of funds by the EU Recovery and Resilience Fund.

Since 2012, Cyprus's Government has implemented the Green Public Procurement³⁹ (GPP) Action Plans⁴⁰ (mandatory for all state authorities). Since 2014, the Ministry of environment awards the best practices in GPP. In some sectors, GPP is used at a very high level: in 90% of product and services purchases, such as office, IT and imaging equipment and 100% of road sign, public fountain and toilet cistern purchases, for example.

2.3. Circular economy status in Greece

The transition to a low-carbon, resource efficient and circular economy is of paramount importance for Greece. It ensures environmental protection, but also boosts green growth, creates new jobs, and supports innovation in production, consumption, value chain of materials, sharing use methods and reduction, reuse and recycling of waste, in order to extend the life circle of products and optimize the resources, water and energy.⁴¹ Greece as an EU Member State has adopted the EU strategy on Circular Economy and has developed its own national framework, which is aligned with EU requirements.

Greece has adopted a national strategy on Circular Economy in 2018, with priorities such as ecodesign and product life cycle approaches, effective and more efficient waste management, energy efficiency, and promoting innovative forms of consumption, such as the use of services instead of buying products or the use of computers and digital platforms. In addition, the Ministry of Environment has promoted various actions contribution to the transition to circular economy, such as the introduction of national targets for the promotion of bio-waste separate collection by 2020;⁴² the development of various technical guidelines, (such as for bio-waste management practices, for promoting bio-treatment of food waste and composting) and their dissemination to the relevant stakeholders. The Ministry released a new Recycling Law regarding separate waste collection and a series of incentives for Municipalities and citizens. From January 2022, municipalities are obliged to organize separate collection of packaging waste in four streams, plastic, paper, metal, glass), in many sectors, including hotels and catering shops.

Moreover, various inter-ministerial working groups were established for promoting the incorporation of circular Green Public Procurement (GPP) criteria in public tenders, the reduction of food waste and the establishment of the Waste Electronic Registry. According to an Ernst & Young (EY) report on circular

[http://www.moa.gov.cy/moa/environment/environmentnew.nsf/0/2BCB63425CF2488FC225802F002FD0DB/\\$file/141124_cyprus_v12_clean_EN.pdf](http://www.moa.gov.cy/moa/environment/environmentnew.nsf/0/2BCB63425CF2488FC225802F002FD0DB/$file/141124_cyprus_v12_clean_EN.pdf)

³⁷ The Republic of Cyprus, Ministry of Agriculture, Natural Resources and Environment, Department of Environment (2015): Waste Management Strategy. Retrieved from: http://www.moa.gov.cy/moa/environment/environmentnew.nsf/page20_en/page20_en?OpenDocument

³⁸ Service of Industry and Technology, Ministry of Energy, Commerce and Industry of Cyprus (2015): Cyprus New Industrial Policy 2019-2022. Retrieved from: <http://www.mcit.gov.cy/mcit/sit/sit.nsf/All/220B7D9555067150C225819C002A15CC?OpenDocument&highlight=%CE%B2%CE%B9%CE%BF%CE%BC%CE%B7%CF%87%CE%B1%CE%BD%CE%B9%CE%BA%CE%AE%20CF%83%CF%84%CF%81%CE%B1%CF%84%CE%B7%CE%B3%CE%B9%CE%BA%CE%AE>

³⁹ European Commission (2008): Green Public Procurement. Retrieved from: https://ec.europa.eu/environment/gpp/gpp_criteria_en.htm#:~:text=The%20basic%20concept%20of%20GPP,approach%20and%20scientific%20evidence%20base.

⁴⁰ European Commission (2020): GPP National Action Plans. Retrieved from: https://ec.europa.eu/environment/gpp/action_plan_en.htm#:~:text=GPP%20National%20Action%20Plans&text=They%20allow%20Member%20States%20to,the%20level%20they%20have%20reached.&text=The%20document%20National%20GPP%20Action,the%2027%20EU%20Member%20States

⁴¹ UN Sustainable Development Goals Partnerships Platform (n.d.): Greece's commitment to green growth through Circular Economy. Retrieved from: <https://sustainabledevelopment.un.org/partnership/?p=33843#:~:text=The%20transition%20to%20a%20low,materials%2C%20sharing%20use%20methods%20and>

⁴² Greece Ministry of Environment and Energy (2020): National Waste Management Plan (ESDA) for 2020-30. Retrieved from: <http://www.opengov.gr/minenv/?p=11115>

economy for Greece⁴³, the following are the main conclusions on the current state of the Circular Economy in Greece: there is still space for further legislative and regulatory reform towards the circular economy; fragmented adoption of circular models is observed, due to inefficient systemic approach; emphasis is placed more on the 'end-of-life' stage, rather than on the design stage; lack of infrastructure on recycling and recovery of construction and demolition waste; energy consumption is largely dependent on non-renewable sources and efficiency is relatively low; bio-waste and food waste recovery is limited, there are gaps regarding the national hazardous waste legislation; and significant waste market barriers are still present.

Various compliance obligations on reuse and circular design will be in force in the coming years. Reuse is promoted as one of the main measures to prevent waste generation. Citizens will be able to be served in their own reusable utensils of food and drink and even with a discount. In particular, from January 2022, retailers and caterers are obliged to serve the consumer who brings his own reusable packaging, discount when selling products in consumer reusable packaging consumers and inform customers about this reusable scheme. Plastic bag producers are obliged to incorporate into their products as minimum 30% of recycled content in plastic transport bags from January 2025, with the aim of making more ecological, but also to strengthen the market of recyclable materials in Greece. In all new constructions, with the entry into force of the law, the direct obligation of 4 separate streams of municipal waste collection (metal, paper, plastic, glass) is introduced. In each new building should be provided the appropriate space for the collection of 4 streams of waste (e.g., on ground floors, yards, pilots, easily accessible basements). This will facilitate the separate collection, the implementation of "I pay as much as I fly," but also the reduction of bins on the road.

2.4. Projects promoting the principles of circular economy in Cyprus and Greece

Using the Circular Economy Stakeholders Platform, a number of projects promoting the principles of circular economy in Cyprus and Greece have been identified and are presented below.⁴⁴ While none of the projects identified were directly relevant to the hotel industry, a few to have potential applications to the hotel industry. For example, the ReWeee (Reducing Waste electrical and electronic equipment) Project in Greece aims to prevent the creation of Waste Electrical and Electronic Equipment (WEEE) – this can be applied to hotels as they purchase and manage significant volumes of electrical and electronic equipment in their facilities. In order to achieve this objective, two WEEE sorting centres will operate for the first time in Greece, in the wider region of Attika and Central Macedonia. The core activity of those centres is the collection, storage and sorting of WEEE, depending on their condition, they are then prepared for reuse or treatment.

Table 2: Projects promoting the principles of circular economy in Cyprus and Greece

Title	Description	Country
Synergies for Green Growth: a transversal White Paper by the Interreg MED Green Growth Community ⁴⁵	This transversal White Paper by the Interreg MED's Green Growth community displays the horizontal approach towards cooperation on Circular Economy and Green Growth in the Mediterranean as well as challenges, success factors and lessons learned.	Croatia, Cyprus , France, Greece , Italy, Malta, Portugal, Slovenia, Spain, United Kingdom, Albania, Bosnia and

⁴³ EY Greece (2016): EY Study on the Circular Economy in Greece. Retrieved from: <http://globalsustain.org/en/story/11222>

⁴⁴ European Circular Economy Stakeholder Platform (n.d.): Good Practices. Retrieved from: <https://circulareconomy.europa.eu/platform/en/good-practices?populate=&country%5B%5D=CY&country%5B%5D=GR>

⁴⁵ Interreg MED Green Growth Community (n.d.): Synergies for Green Growth: a transversal White Paper by the Interreg MED Green Growth Community. Retrieved from: <https://circulareconomy.europa.eu/platform/en/good-practices/synergies-green-growth-transversal-white-paper-interreg-med-green-growth-community>

		Herzegovina, Montenegro
WaysTUP!: Transforming urban waste into valuable products ⁴⁶	The project aims to demonstrate the establishment of new value chains for urban bio-waste used in the production of high value purpose products, through a multi-stakeholder approach according to circular economy principles.	Greece
A Better Life with MgO: a flue gas desulphurisation process with a positive net environmental impact ⁴⁷	LIFEPOSITIVEMgOFDG - a project co-financed under the EU's LIFE programme - is about designing and implementing a novel technique for air pollution abatement which respects circular economy principles.	Greece
LIFE DIANA - turning Petroleum Refinery Sludge into soil with added value ⁴⁸	The overall objective of the project is the "smart" exploitation of Petroleum Refinery Sludges (PRS) produced by the Refinery of Motor Oil Hellas in Corinth (Greece).	Greece
KLIMIS - From the production of agricultural lime to summer barbecues, olive pits make a perfect circular fuel ⁴⁹	KLIMIS has been using the woody part of Greek olive pits as heating fuel for its kiln in order to bake lime stones since 1968. In 1992, it developed a patented process to recycle the residual material from this combustion into highly efficient, low-emission barbecue briquettes.	Greece
ReWeee: Reducing Waste Electrical and Electronic Equipment in Greece ⁵⁰	The project aims to prevent the creation of WEEE and to demonstrate that WEEE can be efficiently sorted and re-used.	Greece
Close the loop in ceramic industry ⁵¹	In circular economy secondary resources (i.e., end-of-life products), the industrial side streams and wastes, are the "wasted resources of today", if they are not utilized and returned for use.	Greece
RE-LIVE WASTE ⁵²	The objectives are to help farmers use innovative equipment to transform slurry into an eco-friendly fertilizer and reuse it within a circular economy approach, help public institutions draft new regulations to recognize struvite as a fertilizer and provide legislative and financial support to promote the use of innovative effective equipment and improve transnational cooperation and connections between researchers, businesses, public authorities, the civil society and other stakeholders.	Italy, Spain, Cyprus and Bosnia-Herzegovina

⁴⁶ WaysTUP! (n.d.): WaysTUP! Transforming urban waste into valuable products. Retrieved from:

<https://circulareconomy.europa.eu/platform/en/good-practices/waystup-transforming-urban-waste-valuable-products>

⁴⁷ Grecian Magnesite S.A. (n.d.): LIFEPOSITIVEMgOFDG A Better Life with MgO: a flue gas desulphurisation process with a positive net environmental impact. Retrieved from: <https://circulareconomy.europa.eu/platform/en/good-practices/better-life-mgo-flue-gas-desulphurisation-process-positive-net-environmental-impact>

⁴⁸ MOTOR-OIL HELLAS (n.d.): LIFE DIANA - turning Petroleum Refinery Sludge into soil with added value. Retrieved from:

<https://circulareconomy.europa.eu/platform/en/good-practices/life-diana-turning-petroleum-refinery-sludge-soil-added-value>

⁴⁹ KLIMIS (n.d.): From the production of agricultural lime to summer barbecues, olive pits make a perfect circular fuel. Retrieved from:

<https://circulareconomy.europa.eu/platform/en/good-practices/production-agricultural-lime-summer-barbecues-olive-pits-make-perfect-circular-fuel>

⁵⁰ Appliances Recycling SA (n.d.): ReWeee: Reducing Waste Electrical and Electronic Equipment in Greece. Retrieved from:

<https://circulareconomy.europa.eu/platform/en/good-practices/reweee-reducing-waste-electrical-and-electronic-equipment-greece#:~:text=The%20ReWeee%20Project%20entitled%20Development,be%20efficiently%20sorted%20and%20prepared>

⁵¹ Chemical and Construction Materials Technology Laboratory, TEI of Thessaly (n.d.): Close the loop in ceramic industry. Retrieved from:

<https://circulareconomy.europa.eu/platform/en/good-practices/close-loop-ceramic-industry>

⁵² Interreg Mediterranean (n.d.): RE-LIVE WASTE. Retrieved from: <https://re-livewaste.interreg-med.eu/>

2.5. The EU tourism industry^{53,54,55,56}

Tourism is a major economic activity in the EU with wide-ranging impacts on economic growth, employment, and social development. According to a study on the contribution of tourism to local and regional development, and evidence from the European Structural and Investment Funds 2012-2018, the EU is the world's most visited region. Before the COVID-19 pandemic, it was estimated that tourism contributed, directly and indirectly, to 10% of the EU's gross domestic product (GDP) and was becoming one of the fastest growing economic sectors in the EU. In 2019, Cyprus welcomed approximately 4 million visitors with total revenue estimated at € 2.7 billion, presenting Cyprus as a top European holiday destination. In economic terms, this accounts for the equivalent of 12.2% of nominal GDP (EY Cyprus 2020).^{56,57}

As illustrated in Figure 11, there are several global sustainability megatrends that have great impacts on businesses, especially the hotel industry, as the tourism and hotel industry is highly dependent on the environment and available resources, which determine a region's touristic offerings and seasonality of travel as well as operating and insurance costs.⁵⁸ As much as tourism is dependent on the climate, it also contributes to climate change through a high volume of energy and water consumption, waste generation, and use of further resources. The global carbon footprint of tourism has been calculated to account for about 5 to 8% of global GHG emissions.^{53,59} According to INSETE study the waste production per guest per day in Greece is estimated at 2 to 2.5kg, with an average of 2 kg per guest per day.⁶⁰ Plastic pollution is one of the major environmental challenges of our time, and tourism has an important role to play in contributing to the solution. Much of the plastic used in tourism is made to be thrown away and often cannot be recycled, leading to large amounts of pollution.

Tourism has its toll on the environment and climate, however, at the same time it is highly vulnerable to a broad range of consequences from climate change, such as flooding or increased heat. Besides, for many decades leading up to 2020, tourism was one of the fastest growing sectors in Europe, further contributing to energy use and GHG emissions in the tourism sector.⁶¹ Figure 12 shows that the Mediterranean region is already suffering from heat waves, wildfires and coastal erosion, among other effects. Extenuating the circumstances, the frequency and magnitude of extreme weather events is expected to increase under the current climate trends.

⁵³ Lenzen, M.; Sun, Y.; Faturay, F.; Ting, Y.; Geschke, A.; Malik, A. (2018): The carbon footprint of global tourism. *Nature Research*. Retrieved from: <https://www.nature.com/articles/s41558-018-0141-x>

⁵⁴ Muñoz, E.; Navia, R. (2015): Waste management in touristic regions. *Waste Management & Research Editorial*, Vol. 33(7) 593–594. Retrieved from: <https://journals.sagepub.com/doi/full/10.1177/0734242X15594982>

⁵⁵ One Planet Network (n.d.): Tourism's Plastic Pollution Problem. Retrieved from: <https://www.oneplanetnetwork.org/sustainable-tourism/tourisms-plastic-pollution-problem>

⁵⁶ Publications Office of the EU (2020): Study on the contribution of tourism to local and regional development - Evidence from the European structural and investment funds 2012-2018: final report. Retrieved from: <https://op.europa.eu/en/publication-detail/-/publication/f38cad5e-72f8-11ea-a07e-01aa75ed71a1>

⁵⁷ EY Cyprus (2020): EY Cyprus COVID-19 updates – Industry Pulse Report: Tourism. Retrieved from https://www.ey.com/en_cy/covid-19-updates

⁵⁸ KPMG (2012): Expect the Unexpected: Building business value in a changing world. Retrieved from: <https://home.kpmg/ru/en/home/insights/2012/05/expect-the-unexpected.html>

⁵⁹ World Economic Forum (2009): Towards a low carbon travel & tourism sector. Retrieved from: <http://www.greeningtheblue.org/sites/default/files/Towards%20a%20low%20carbon%20travel%20&%20tourism%20sector.pdf>

⁶⁰ INSETE (2018): Προώθηση της ανακύκλωσης στις επιχειρήσεις του τουριστικού τομέα. Retrieved from: <https://insete.gr/project/%CF%80%CF%81%CE%BF%CF%8E%CE%B8%CE%B7%CF%83%CE%B7-%CF%84%CE%B7%CF%82-%CE%B1%CE%BD%CE%B1%CE%BA%CF%8D%CE%BA%CE%BB%CF%89%CF%83%CE%B7%CF%82-%CF%83%CF%84%CE%B9%CF%82-%CE%B5%CF%80%CE%B9%CF%87%CE%B5%CE%B9/#>

⁶¹ Organisation for Economic Co-operation and Development (OECD) (2020b): OECD Tourism Trends and Policies 2020. Retrieved from: <https://www.oecd.org/cfe/tourism/OECD-Tourism-Trends-Policies%202020-Highlights-ENG.pdf>



Figure 10: Travel and tourism total economic impact for 2018 in EU⁶²

The attractiveness of many destinations around the globe could be undermined, resulting in gradual long-term changes in tourism demand, which can affect hotel properties and their energy use, or, over time, the demand for hotels in a destination. Some examples of tangible effects on the hotel industry include increased exposure to and damage from climate-related hazards such as flooding and increasing sea levels, higher costs for air conditioning and cooling due to rising temperatures, or water shortages. In addition to the direct impacts, climate change affects the hotel industry by damaging the biodiversity and landscapes on which tourism relies. With climate change and tourism being so closely interlinked, it is therefore important that the hotel industry and tourism sector contribute to the mitigation of emissions and creation of resilient frameworks to avoid further damages.

Looking closely on hotels contribution to climate change, hotel operations are responsible for one-eighth of all tourism emissions. GHG emissions throughout a hotel's life cycle and associated value chains create additional emissions that also need to be considered. Some of the emissions resulting indirectly from the hotel sector supply chain include those from transportation of goods and guests to and from the hotel, or energy used in other sectors that are a part of the supply chain for hotel products and services. The hotel industry additionally relies heavily on the buildings and construction sector, which accounted for nearly 40% of energy related carbon dioxide (CO₂) emissions in 2018.⁶²

⁶² International Tourism Partnership (ITP) (2020): Carbon emissions. Retrieved from: <https://www.tourismpartnership.org/carbon-emissions/>

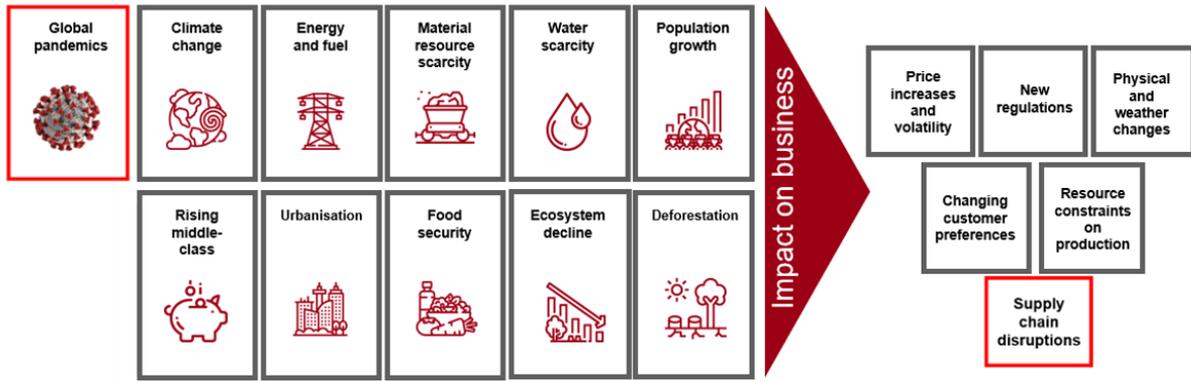
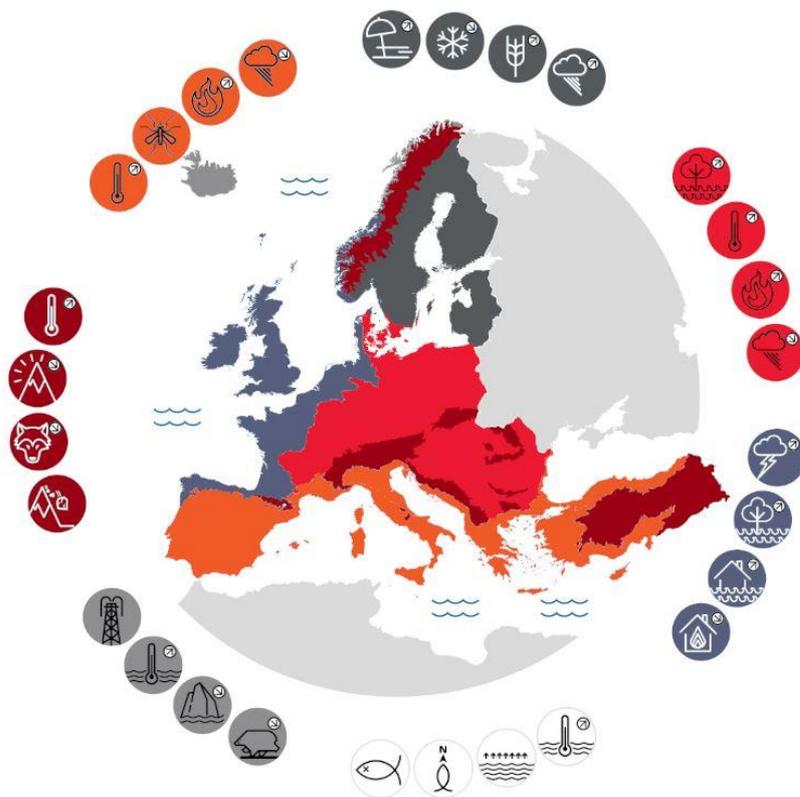


Figure 11: Global sustainability megatrends that will affect the tourism sector and the hotel industry⁵⁸



Mediterranean region:

Increase in extreme heat, risk of drought, forest fires, biodiversity loss, expansion of habitat of disease carrying species.
Decrease in precipitation and river flow, crop yields, potential for energy production, *summer tourism*.

Boreal region:

Increase in heavy precipitation, river flows, potential for forest pests, damage risk from winter storms, crop yields, *summer tourism*.
Decrease in snow, lake, and river ice cover, energy demand for heat.

Continental region:

Increase in extreme heat, river floods, forest fires, energy demand for cooling.
Decrease in summer precipitation, economic value of forests.

Atlantic region:

Increase in heavy precipitation, river flow, risk of coastal flooding, energy demand for cooling.
Decrease in energy demand for heating.

Coastal zones and regional seas:

Increase in sea level, sea surface temperatures, ocean acidity, migration of species northward, changes in phytoplankton communities, number of marine dead zones, risk of water-borne disease.

Arctic region:

Increase in temperatures more than the global average, risk of biodiversity loss, risk to livelihood of indigenous peoples.
Decrease in ice coverage, ice sheets, permafrost areas.

Mountain regions:

Increase in temperatures beyond the European average, shift of plant and animal species, risk of forest pests, risk of avalanche, rock fall and landslides, changes in hydropower potential.
Decrease in glacier extent and volume, *ski tourism*.

Figure 12: Climate change impacts in Europe's regions⁶³

⁶³ European Environment Agency (EEA) (2017): INFOGRAPHIC: Climate change impacts in Europe's regions. Retrieved from: <https://www.eea.europa.eu/signals/signals-2018-content-list/infographic/climate-change-impacts-in-europe/view>

These figures have changed significantly in 2020, due to the outbreak of COVID-19 pandemic. First, it is estimated that in the first quarter of 2020, the GDP of the euro area decreased by about 3.8%.⁶⁴ The United Nations Conference on Trade and Development (UNCTAD 2020) therefore estimates a long-term drop of the GDP by 2% – 5% in the coming years.⁶⁵ Since the beginning of the travel restrictions in Europe in March 2020, considerable declines in arrivals of at least 50% at tourism establishments across all sub-regions occur (see Figure 12). Consequently, it is expected that substantial revenue loss will affect around 85% of European hotels. With the coronavirus pandemic persisting and tourism activity unlikely to return to 2019 levels for at least a few years, the priority challenges expected for the hotel industry include the need for health and safety management, revenue reductions, lack of liquidity and changing travel behaviour.

2.6. Circular economy and the hotel industry in a post-COVID-19 world

The Mediterranean region is considered one of the most climate vulnerable areas that are, at the same time, first-class tourist destinations. Sustainable tourism is not a new concept; competitiveness and sustainability of the tourism industry go hand-in-hand. The quality of tourist destinations is strongly influenced by their natural and cultural environment, and their integration into the local community. In 2007, as part of the *Agenda for a sustainable and competitive European tourism*, the EC determined and proposed solutions to the challenges of sustainable tourism. Some of the major challenges for sustainable tourism identified, such as seasonality and environmental degradation are presented in Figure 13.



Figure 13: Key challenges for sustainable tourism as identified in the Agenda for a sustainable and competitive European tourism⁶⁶

In addition to the challenges presented above, the tourism sector now faces a new series of challenges during the global pandemic of COVID-19. The outbreak of COVID-19 has put the EU tourism industry under unprecedented pressure and tourism companies of all sizes are facing acute liquidity problems. The significant impacts from the coronavirus crisis in Europe are reflected in the focal countries of the Hotels4Climate project (i.e., Cyprus, Germany and Greece). They all dealt with similar situations regarding restrictions and lockdowns, and Figure 14 shows that arrivals at tourist accommodation establishments had dropped to long-time lows far below the previous year for all three countries. The drops in tourists arriving in Cypriot, German and Greek destinations, in turn had significant impacts in not only the hotel industries, but also associated value chains, causing widespread economic impacts.⁶⁷

⁶⁴ KfW Group (2020): KfW Research: Economy. Retrieved from: <https://www.kfw.de/KfW-Group/KfW-Research/Themenseite-Konjunktur.html>

⁶⁵ United Nations Conference on Trade and Development (UNCTAD) (2020): Covid-19 and Tourism: Assessing the Economic Consequences. Retrieved 06/08/2020 from: <https://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=2810>

⁶⁶ European Union Law (2007): Agenda for a sustainable and competitive European tourism. Retrieved from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52007DC0621>

⁶⁷ Hotels4Climate (2020): Opportunities for a green restart of the hotel industry arising from the COVID-19 pandemic. Retrieved from: https://www.oeb.org.cy/wp-content/uploads/2020/11/A-I.5.4-REPORT_Green-restart-from-COVID-19_final.pdf

While in the midst of the crisis, other current global risks and challenges that would have a great impact on tourism are currently overlooked. As illustrated in Figure 15, global biodiversity loss and the climate crisis are some of the most pressing underlying global risks, especially for the tourism and hotel industry. Therefore, building economic and ecological resilience is more than ever of fundamental importance. There is a growing sense of urgency to find long-term, resilient, sustainable tourism industry development pathways respectful of destinations' natural and local ecosystems, and not just returning to 'business as usual'. While the industry's long-term sustainability challenges are acknowledged by the majority of stakeholders, effective solutions and strategies are still complex and puzzling.⁶⁸

UNWTO recommends circular economy as one of the six actions to restart tourism after COVID-19. The COVID-19 crisis has raised awareness of the importance of local supply chains and the need to rethink how goods and services are produced and consumed, both key elements of a circular economy.⁶⁹

With the COVID-19 pandemic revealing the vulnerability of global systems to protect the environment, health, and economy, many voices from governments, businesses, and civil society have been calling for a response to the devastating impacts of the pandemic that is inclusive and does not turn attention away from other global challenges. Over 100 investors, representing EUR 11,9 trillion in assets either managed or advised, have also called on European business and finance leaders to ensure a green recovery be delivered. The notion of the circular economy is gaining more and more momentum for its potential to be the backbone of a sustainable tourism and hospitality, especially now at a post COVID-19 era, as it will significantly optimise resource use and reduce production and consumption related GHG emissions while at the same time offering competitive advantage and opportunities for businesses through redesigning products and services.⁶⁸

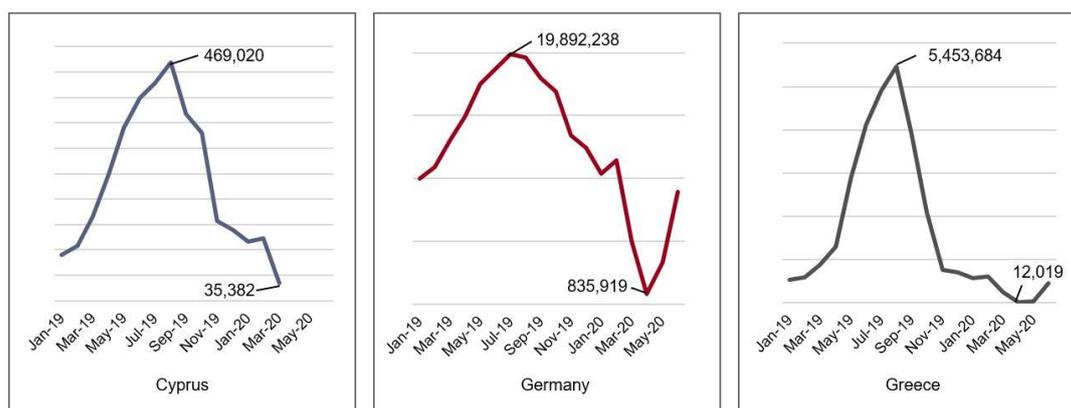


Figure 14: Arrivals at tourist accommodation establishments – monthly data for Cyprus, Germany, and Greece⁷⁰

The circular economy, as an instrument to decouple economic growth from resource use and environmental impact, opens up the way for a resilient recovery. It not only addresses the negative impacts of the linear economy, but more importantly it represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal

⁶⁸ Einarsson S. and Sorin, F. (2020): Circular Economy in travel and tourism: A conceptual framework for a sustainable, resilient and future proof industry transition, CE360 Alliance, 2020. Retrieved from: <https://circulareconomy.europa.eu/platform/sites/default/files/circular-economy-in-travel-and-tourism.pdf>

⁶⁹ UNWTO World Tourism Organization (2020): COVID-19 Response – One Planet Vision for a Responsible Recovery of the Tourism Sector. Retrieved from: <https://webunwto.s3.eu-west-1.amazonaws.com/s3fs-public/2020-06/one-planet-vision-responsible-recovery-of-the-tourism-sector.pdf>

⁷⁰ Eurostat (2020): Arrivals at tourist accommodation establishments - monthly data. Retrieved from: http://appsso.eurostat.ec.europa.eu/nui/show.do?query=BOOKMARK_DS-321950_QID_59C866F_UID_-3F171EB0&layout=TIME_C,X,0;GEO,L,Y,0;C_RESID,L,Z,0;UNIT,L,Z,1;NACE_R2,L,Z,2;INDICATORS,C,Z,3;&zSelection=DS-321950UNIT.NR:DS-321950NACE_R2,I551-I553;DS-321950INDICATORS.OBS_FLAG:DS-321950C_RESID.FOR:&rankName1=C_RESID_1_2_-1_2&rankName2=UNIT_1_2_-1_2&rankName3=INDICATORS_1_2_-1_2&rankName4=NACE-R2_1_2_-1_2&rankName5=TIME_1_0_0_0&rankName6=GEO_1_2_0_1&sortC=ASC_1_FIRST&rStp=&cStp=&rDCh=&cDCh=&rDM=true&cDM=true&footnes=false&empty=false&wai=false&time_mode=ROLLING&time_most_recent=true&lang=EN&cfo=%23%23%23%2C%23%23%23.%23%23%23

benefits. The Ellen MacArthur Foundation highlights how policymakers can help pave the way towards a low-carbon and prosperous future, while drawing on ten attractive circular investment opportunities.

For policymakers, embracing the roles of setting a common direction of travel, making the economics work, unlocking circular investment opportunities, and fostering collaboration will be essential in creating the enabling conditions for the recovery. As part of this, directing investment into ten circular opportunities across five key sectors of built environment, mobility, plastic packaging, textiles, and food, can help jump-start the transition in these industries while ensuring their improved future resilience. Together, these policy actions and investments can help achieve both the short- and long-term goals of the public and private sectors, while contributing to the creation of a more resilient economy and reducing the risk of future shocks.

Policies that are aligned with circular economy principles can play a vital role in recovery packages by stimulating value creation and economic resilience. Prior to the pandemic, a number of governments were taking steps to promote a circular economy approach, recognising that a new economic model is required that is less wasteful and environmentally damaging, as well as not so critically dependent on globalised linear supply chains and cheap virgin raw materials. In the aftermath of the COVID-19 crisis, it is crucial for policymakers to address the global systemic risks of our current linear economies as they aim to deliver more jobs and equitable growth in the short-term, and reduce long-term risks linked to climate change and biodiversity loss.

Many countries around the world are still prioritising ‘brown’ stimulus packages over ‘green’ ones, relaxing, for example, laws around controlling pollution and standards for vehicle energy-efficiency. Only a few of the member states of the European Union, the United Kingdom, and Canada are attaching some conditions to ensure stimulus packages dedicate attention towards shaping a more sustainable transition. As an example, Spain has prominently featured green investments in their draft national recovery plans. Over the next 3 years, 37% of the EUR 72 billion in funds will be spent on the green and ecological transition which include schemes aimed at: expanding renewable power, promoting e-mobility, and making buildings energy efficient.

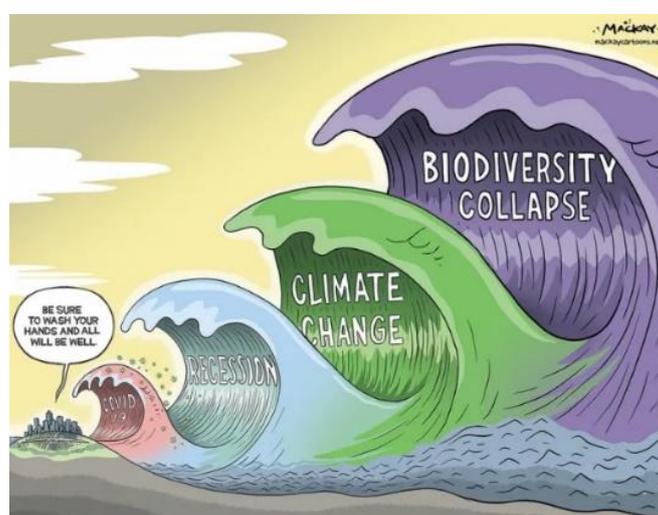


Figure 15: Editorial cartoon by Graeme MacKay, The Hamilton Spectator – Originally drawn for March 11, 2020. Revised May 23, 2020⁷¹

This therefore presents a missed opportunity for many, since recent analysis by the European Central Bank (ECB), World Bank, and OECD, shows that ‘greener’ economies with less carbon-intensive activities are better placed to ensure faster recoveries. In particular, countries with higher environmental protection measures in place, are expected to experience higher GDP and sectoral growth compared to countries that do not prioritise these measures. The EU has, for example, since before the pandemic paved the way by establishing the European Green Deal—of which the Circular Economy Action Plan

⁷¹ Graeme MacKay's Editorial Cartoon Archive (2020): Wednesday March 11, 2020. Retrieved from: <https://mackaycartoons.net/2020/03/18/wednesday-march-11-2020/>

is a key pillar—and in light of the current context, it is now being placed at the core of the COVID-19 recovery package offering a roadmap to reinvigorating the economy and ensuring climate-neutrality.

As economies restart, there is an opportunity to restructure small and medium enterprises (SMEs) and wider business support schemes towards long-term resilience. The dramatic and sudden loss of demand and revenue that followed the pandemic has caused many businesses, especially SMEs, to face severe liquidity shortages. Public financial support will therefore be essential to help SMEs bounce back or even survive the impacts of the pandemic. While policymakers in the EU, in response to this challenge, have increased budgets for direct public support mechanisms and SME subsidies, many of these tend to only focus on short-term liquidity needs. However, to shape a stronger and more resilient long-term recovery, there is an opportunity to restructure SME schemes. For example, schemes could be provided that help businesses implement circular economy principles to improve their competitiveness and environmental performance, leverage digital technologies, achieve inclusivity, and strengthen their resilience against future shocks.

The pandemic has also shown the importance of local value chains, while reliance on stretched international supply chains is now being perceived as riskier. Governments therefore also have a role to play in supporting businesses that offer more localised, diversified, and distributed production—through repair, refurbishment, remanufacturing, and local production—as they can help pave the way towards a more resilient future that enhances the economic development of communities. In achieving these cross-cutting objectives, the circular economy acts as a key delivery framework.

3 Preliminary assessment methodology

3.1. Survey methodology

This preliminary assessment aims to assess the circular economy status in the hotel industry in Cyprus and Greece. Therefore, the target group of the survey was hoteliers within the Cyprus and Greek hotel industries. Figure 16 provides an overview of the survey's objectives. The study is intended to feed into the development of circular economy training materials used for the capacity building.

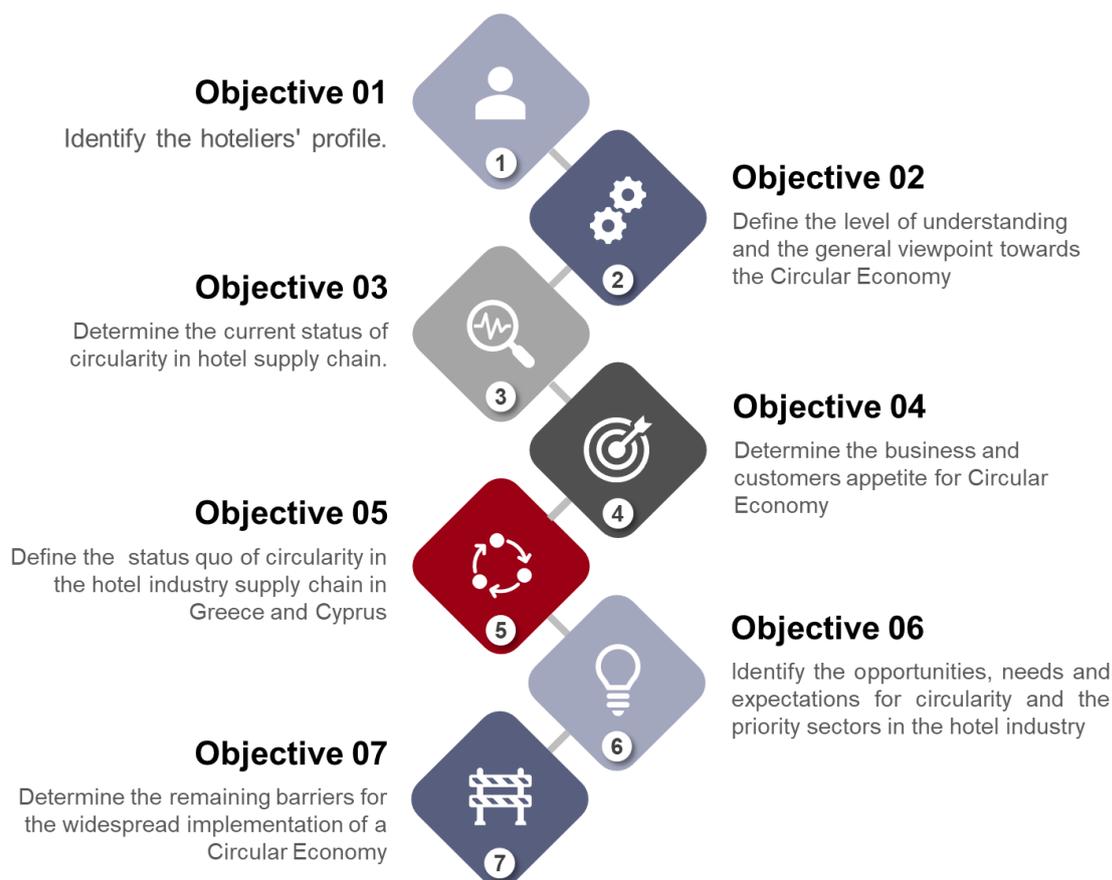


Figure 16: Objectives of the preliminary assessment of circularity in the hotel industry

The preliminary assessment methodology consists of five steps, as illustrated in Figure 17. A tailored questionnaire was designed to meet the needs of the specific work package, which was later made available to hoteliers in Cyprus and Greece. Data was collected, analysed and consolidated in this report.



Figure 17: Preliminary assessment methodology steps

3.2. Designing the questionnaire and reporting results

Designing the questionnaire was crucial, as the information collected should assist in meeting the work package's objectives. The questionnaire was designed to contain closed-ended questions: a combination of multiple selection questions (the respondent could select several answers); and multiple-choice questions (the respondent could only select one option). Such closed-ended questions facilitated the data collection, enabling the data analysis, and finally, provided comparable results. In addition, the questionnaire also contained some open-ended question, aiming to gain insights into the current situation.

Google Forms was chosen as the hosting platform for conducting and facilitating the survey and the link to access the questionnaire was sent via email alongside a cover letter which described the research and its objectives. The questionnaire was also made available online on the relevant partners' websites and social networks (OEB,^{72,73} INSETE⁷⁴) to allow access to the wider network of the hotel industry. Due to the fact that the survey took place during the peak holiday season and hoteliers were already dealing with increased workload due to the pandemic, phone interviews were also conducted. To ensure the success of the survey the questionnaire was translated to the partners' local language (i.e. Greek).

Before designing the questionnaire, it was important to map the journey tourists take and the hotel's value chain to deliver the services in order to identify the areas of most interest in terms of environmental hotspots, location, context and circular economy opportunities. This would help shape the questions and indicate the valuable information needed to be collected. The tourist experience was mapped at a high level to illustrate how the hotel industry operates, how it is supported by other sectors of the economy (e.g. energy and water supply infrastructure, building and construction, facilities management, food and beverage, transportation), and show the activities that are in scope of this study (see Figure 18 and Figure 19).

A value chain approach is based on a comprehensive look at the entire commodity chain, from all involved producers to end market consumers to end of life management and it will provide a holistic approach, which would indicate which activities will be included within the survey boundaries, based on the identification of hotspots, threats and opportunities. Clear boundaries are essential to ensure that appropriate information is obtained and used within the analysis. Transportation and logistics were excluded from the scope of this survey and the project.

As seen in Figure 18, a tourist's holiday journey starts before the beginning of the travel, as the majority of activities and accommodation are selected, booked and confirmed. Then, the tourist travels to the destination country, and with local transportation, reaches the accommodation. Activities such as food,

⁷² OEB (2020): Promotion of the Circular Economy in the hotel industry in Cyprus and Greece, Preliminary Assessment Questionnaire. Retrieved from: <https://www.oeb.org.cy/en/proothisi-tis-kyklikis-oikonomias-stin-xenodocheiaki-viomichania-stin-kypro-kai-ellada/>

⁷³ OEB (2020): Promotion of the Circular Economy in the hotel industry in Cyprus and Greece, Preliminary Assessment Questionnaire. Retrieved from: <https://twitter.com/AnthiCharalamb4/status/1293239901203431424>

⁷⁴ INSETE (2020): Promotion of the Circular Economy in the hotel industry in Cyprus and Greece, Preliminary Assessment Questionnaire. Retrieved from: <https://forms.gle/FSCdUPs2ME9hvEnb9>

drinks and other can occur within or outside the booked accommodation, e.g., in a restaurant or a shop nearby. When the holidays end, the return travel takes place.

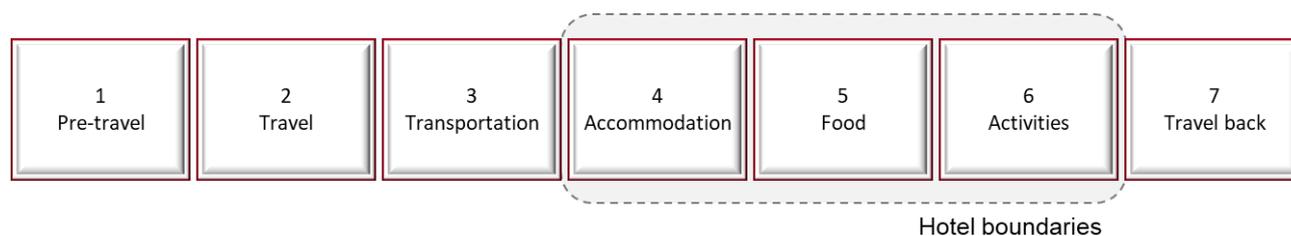


Figure 18: Steps of a tourist's holiday journey and the hotel boundaries as defined

As the project's main objective is to reduce GHG emissions caused by the hotel industry, through promoting circular economy practices, the hotel boundaries were defined as can be seen in Figure 18, which are the main services a hotel in Cyprus and Greece is providing, accommodation, food and drink and a range of activities, such as spa, gym, swimming pool, etc. Therefore, the focus of the analysis of carbon emissions and circular measures is on these stages. To produce and deliver these services and enhance their competitive position in the market, the hotels rely on their value chain. The activities in a value chain in hospitality services could be categorised into primary (accommodation, food and drink and activities) and functional activities, as well as its supply chain as presented in Figure 19.

The functional services are mainly utilities such as water and electricity supply, sewage services and waste management and indirectly support the hotels to produce and deliver their three main services (accommodation, food, and activities). These functional services have significant impacts on the environment, including GHG emissions, therefore, by transitioning to circular practices, the hotels will optimise the use of functional services and indirectly minimise their environmental impacts, as well as their operating costs.

The hotel industry supply chain activities are an important part of our analysis, as they are not usually considered for environmental hotspots. The supply chain is an important element within the hotel industry as these strategic relationships allow hotels to work well with a small number of vital suppliers who help the hotels not only to improve the quality and service, but also to drive down costs. Whereas a supply chain includes the activities of all parties involved in fulfilling a customer request (such as a product or service), a value chain also includes the customer and the impact of their subsequent waste.

In addition to the data collected and analysed via the survey questionnaire and interviews, a desk-based analysis of the industry and policy environment in Cyprus and Greece was conducted, in order to gather additional information and provide a more comprehensive picture of the current circular economy status of the industry, such as the current legal framework, any circular economy projects and case studies in the hotel industry, not just in Cyprus and Greece, but also at a European level.

It is important to note that this preliminary assessment was conducted between August and September 2020 when the global travel and tourism industry was facing unprecedented economic and existential challenges due to the COVID-19 pandemic. The economic and social uncertainty in the industry might have affected the opinions of hoteliers in Cyprus and Greece and consequently the results of the survey.

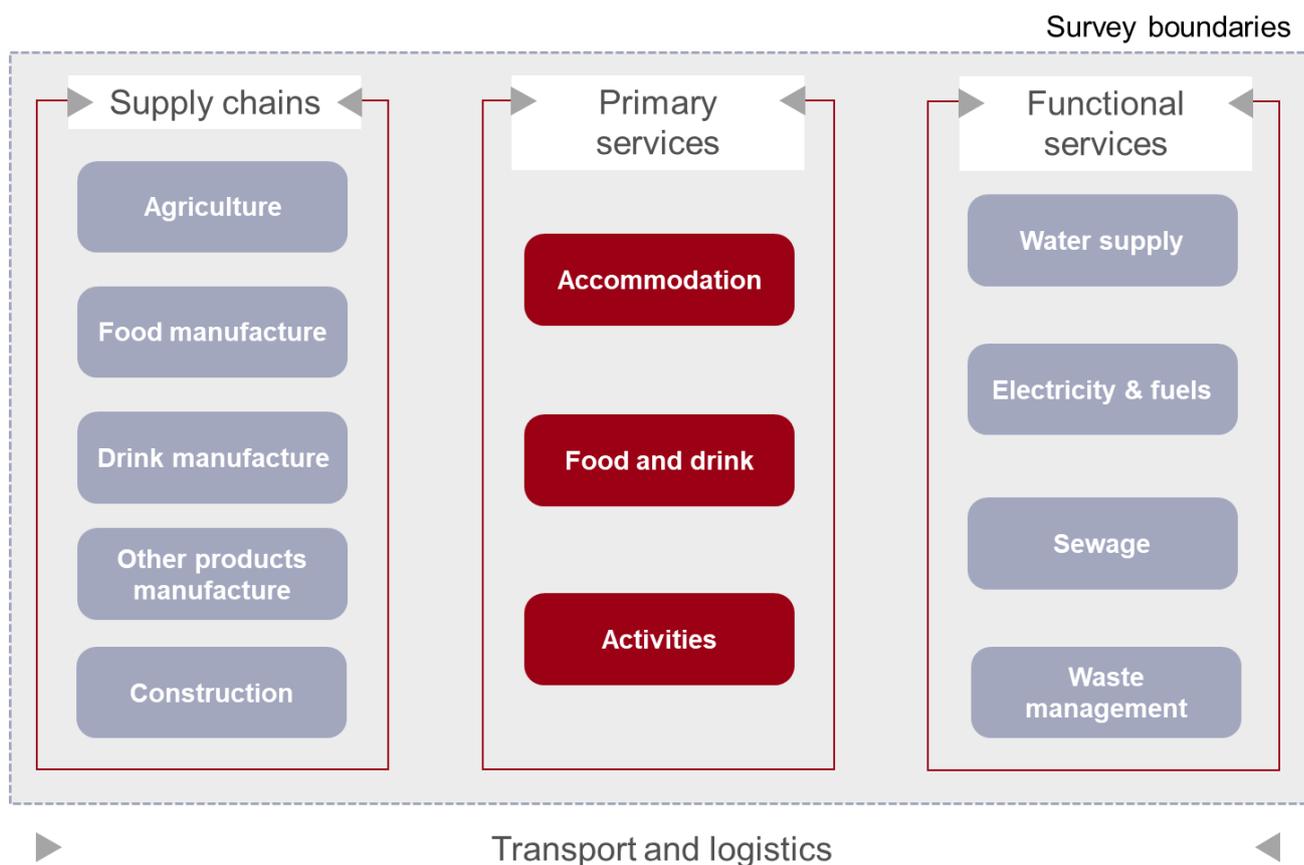


Figure 19: The value chain of a hotel⁷⁵

⁷⁵ European Commission (2016): EMAS Sectoral Reference Document on Best Environmental Management Practice in the Tourism Sector, Luxembourg: Publications Office of the European Union [Accessed and adapted on 21.09.2020].

4 Findings on the level of understanding and viewpoints of hoteliers in Greece and Cyprus towards a circular economy

4.1. Profile of respondents

The first objective of the survey was to define the profile of hotel businesses responding to the survey, representing the hotel industry in Cyprus and Greece. Therefore, the first part of the survey consisted of demographic questions that would provide an understanding of the respondents, the size of the businesses they are working for, their location, and their experience in the field. A presentation of the profile of respondents in Cyprus and Greece of the survey is presented below in Figure 20 and Figure 21.

In total, 27 responses were received, 14 from Cypriot and 13 from Greek respondents within a period of a month. Overall, the majority were employees of small and medium hotels (CY: 93%, GR: 77%) and had more than 10 years of experience in the hotel industry (CY: 86%, GR: 62%) from various positions and hotel related background. This information gives additional value to the responses provided as they have a good understanding of the industry, its challenges, the current practices and potential opportunities.

The geographic coverage of the survey was broad because in Cyprus, the businesses were located in different areas across the island, giving a more holistic picture of the current status of circular economy and supply chains. Even though the survey was targeting hotel businesses, OEB received one response from a tour operator operating in Cyprus.

Respondents in Cyprus

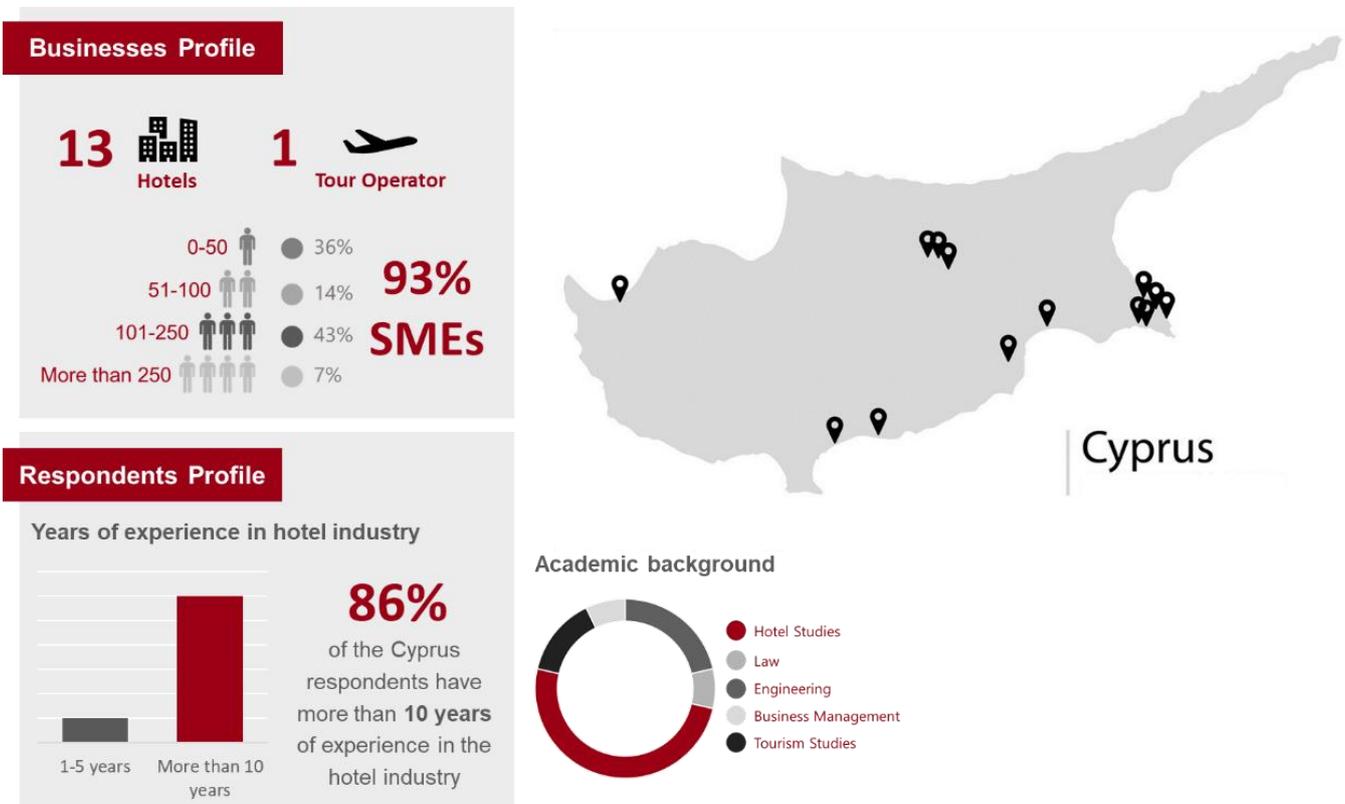


Figure 20: Profile of respondents from the hotel industry in Cyprus

Respondents in Greece

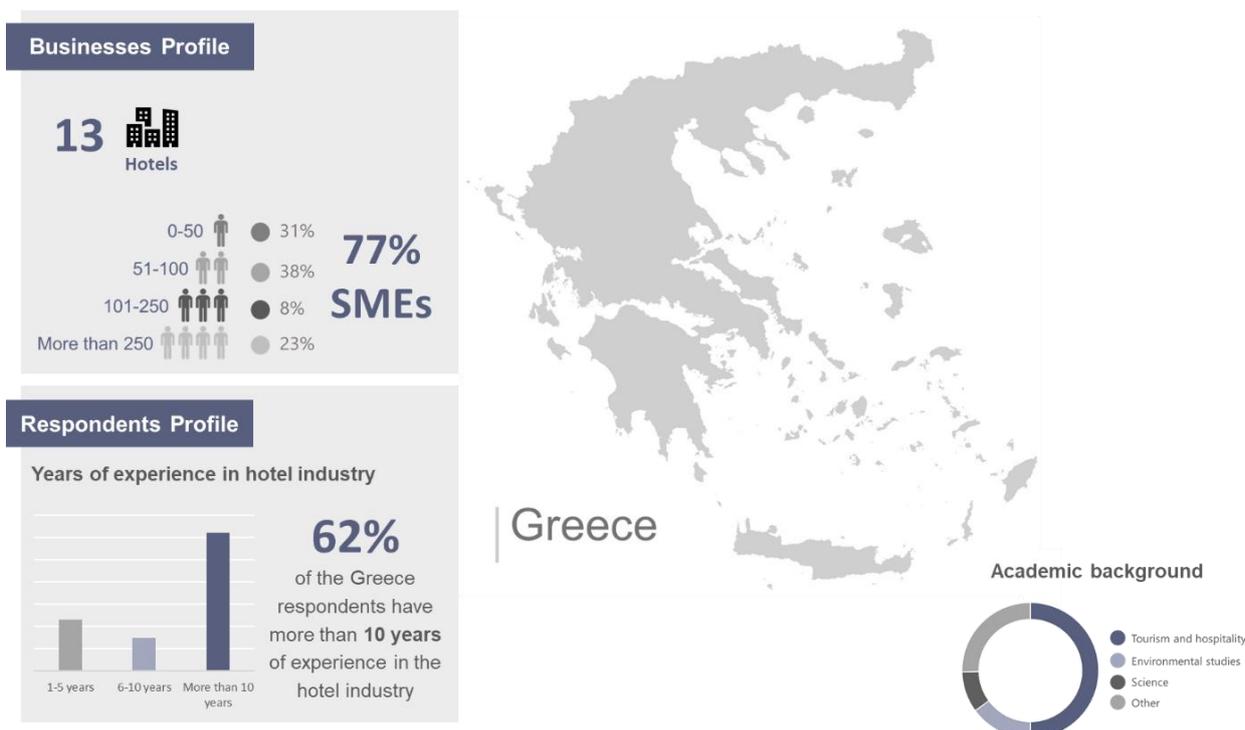


Figure 21: Profile of respondents from the hotel industry in Greece

4.2. Current knowledge and understanding of circular economy

The next part of the survey consisted of questions aimed to encapsulate the current state of awareness and level of understanding on circular economy of the businesses in the hotel industry in Cyprus and Greece. Specifically, respondents were asked a series of questions regarding their knowledge on various circular economy terms, if they are aware of the key circular principles and whether they are up to date with the European and national legislation on circular economy.

Overall, all respondents in Cyprus and Greece believe that they understand and have some knowledge around circular economy, with only an average 30% of the respondents stated that their knowledge and understanding around circular economy is at a good level with the rest to state that their knowledge is not sufficient (see Figure 22). Approximately 60% of the total respondents in Cyprus and Greece were able to correlate all 4 key principles to circular economy (see Figure 23). However, when asked to specifically answer what circular economy is, via True/False statements, insightful information was collected (see Figure 24). In the statement whether circular economy is only related with products and not services, the majority of respondents in Cyprus seem to agree with the False statement, in contrast with respondents in Greece who stated that circular economy can be applied not only to products but in services too. Since the hotel industry is a service-based industry, this finding was very important, because it might indicate that businesses in Greece might potentially be able to link circular economy to their industry.

A closer look to the data collected to determine the current knowledge and understanding of Circular Economy in Cyprus and Greece hotel industry is presented below.

Level of understanding of Circular Economy and its principles

The survey results indicated that all the respondents in Cyprus and Greece are aware of the circular economy term, however, only a small percentage of hoteliers stated that their knowledge and understanding is at a good level (CY: 21%, GR: 38%).

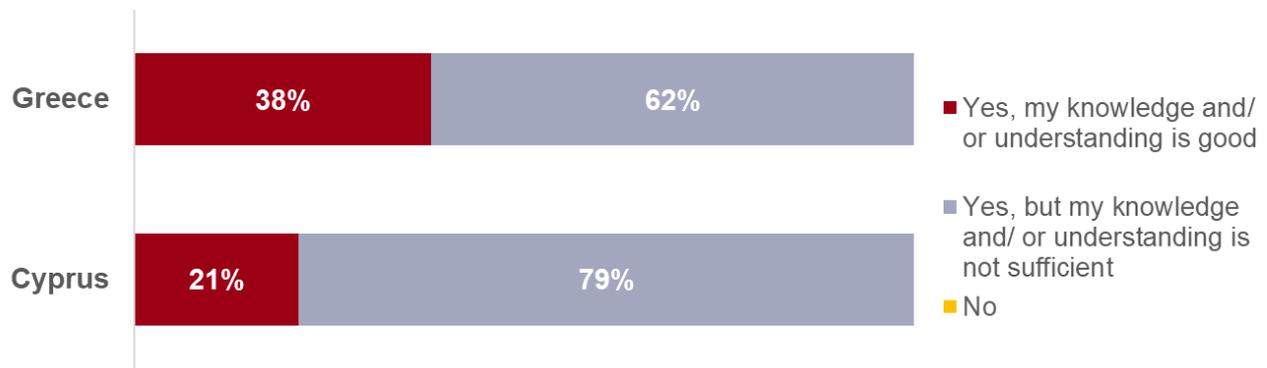


Figure 22: Level of knowledge and understanding of the circular economy term

When evaluating their understanding on key principles of the circular economy and what this term actual means, four principles were presented, and respondents were asked to identify which of them are key principles of circular economy. 69% respondents in Greece were able to recognise that all the key principles presented in the survey were in fact associated with the circular economy. In contrast, only half of the respondents in Cyprus were able to identify all of them. This is illustrated in Figure 23 where four key principles of circular economy are presented.

CIRCULAR ECONOMY KEY PRINCIPLES

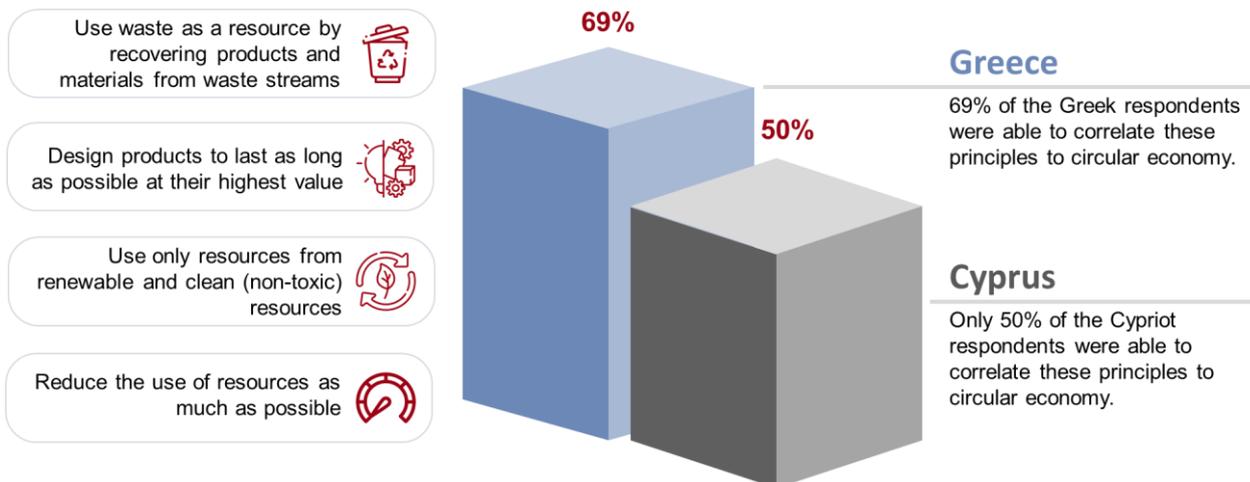


Figure 23: Level of understanding of key circular economy principles

Then, hoteliers were asked to specifically answer, what circular economy is, via True/False statements to further assess the level of understanding on circular economy (see Figure 24). The majority of the respondents in both countries were able to identify what the circular economy is about, presenting a good level of understanding. However, in the statement whether circular economy is only related with products and not services, the majority of respondents in Cyprus seem to agree with the False statement (CY: 93%, GR: 15%), in contrast with respondents in Greece, who stated that circular economy can be applied not only to products but in services too. Since the hotel industry is a service-based industry, this finding was very important, because it might indicate that businesses in Greece might potentially be able to link circular economy to their industry.

Another statement worth analysing is the statement about circular economy and recycling a product at the end of its life, with the majority of respondents to believe it is false (True responses CY: 29%, GR: 8%). This potentially indicates they understand that in a circular economy, prevention and reusability are prioritised over recycling.

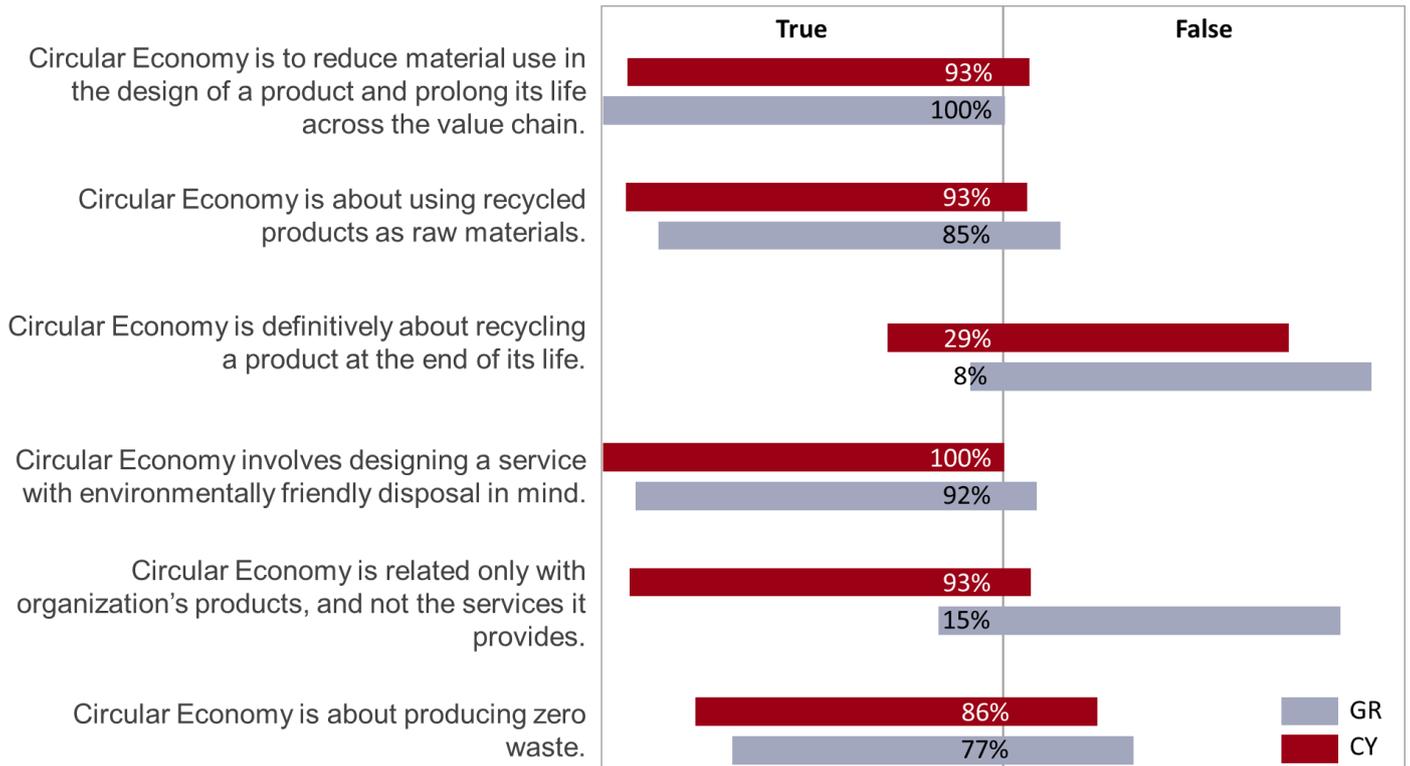


Figure 24: What the circular economy is about – True/False Statements

Level of awareness of circular economy legislation, policies and strategies

Respondents were asked whether they are aware of any national or European legislation or policies on circular economy. As seen in Figure 25, around 70% of the respondents in Greece stated that they are aware, in contrast to Cyprus, where only 50% of the respondents answered ‘Yes’ answer. This potentially indicates a lack of knowledge and awareness about the existing and forthcoming legal framework and their potential compliance obligations; and any potential opportunities that might arise (e.g., forthcoming funding opportunities).

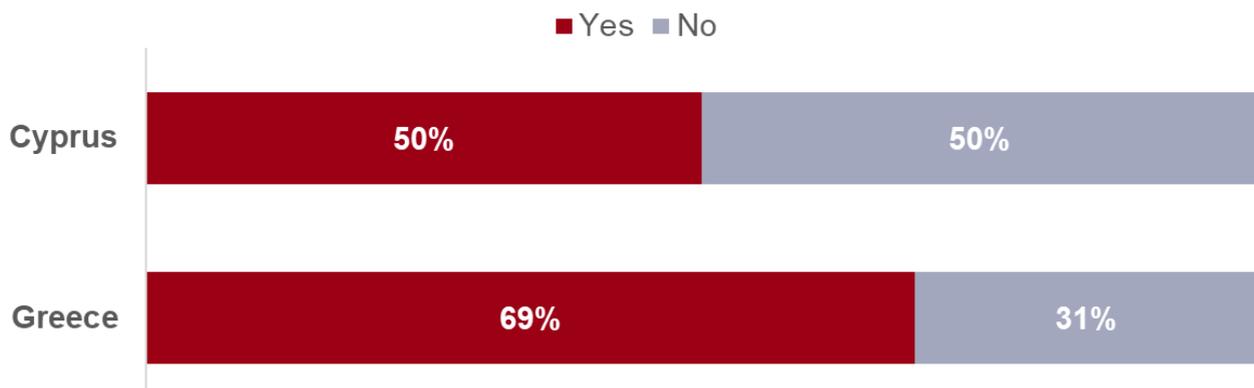


Figure 25: Awareness of any national or European legislation, policies or strategies on circular economy

Respondents in Cyprus stated that they are generally aware of the EU’s frameworks on recycling, biofuel, renewable energy, material economics, and waste fines, without providing further information on their legal framework. They mentioned EU’s Environment Action Programme to 2020, which mentions circular economy in EU’s vision for 2050. The EU’s package for circular economy cities, under EU regional and urban development, where circular economy is one of the priority themes that were

also mentioned by responders. At the national level, they mentioned Cyprus legal framework on Production, Consumption, Waste Management and their conversion into raw material and the Priority areas.

Respondents in Greece stated that they are familiar with regional directives and national frameworks on the circular economy such as the Waste Directive, the Packaging Directive and packaging waste, and acknowledged the EU common goals on recycling to be achieved by 2030 (recycling 65% of municipal waste, 75% of packaging waste, reduce landfill to 10% by a maximum of all waste). They also mention the strategy towards a sustainable Europe by 2030, published by the EC in January 2019. However, this strategy does not mention or cover the circular economy in its contents, which supports that a gap remains in their understanding of circular economy. However, none of the respondents mentioned the EU's circular economy action plans or the EGD, which indicated a gap in awareness of the legal and policy frameworks, not only at a European level, but at a national level in both countries.

4.3. General viewpoint of hotels on circular economy

Regarding the general viewpoint of hotels on circular economy, around 70% of respondents stated that their business has incorporated various circular economy principles in their operations (see Figure 26), such as recycling various waste streams, optimising resource use, implementing green procurement principles, switching to renewable energy, raising staff and guests' awareness and investing in sustainability certifications. Nevertheless, great emphasis is still given on waste management, instead of waste prevention.

Regarding the potential benefits of transitioning to circular economy, the majority of respondents believe that all the circular economy benefits listed in the questionnaire were important for their businesses. However, the benefits of achieving reduced waste production and improving the environmental image of the organisation were the most vital benefits for the hoteliers in Cyprus and Greece. In contrast, the benefit of strengthening the relationships with existing suppliers was the least important (see Figure 27). Respondents believe that by becoming circular, circular economy will enable them to better utilize local products, skills and businesses, enhance staff engagement and awareness, and reduce their environmental and social footprint.

A closer look to the data collected to determine the general viewpoint of hotels in Cyprus and Greece hotel industry regarding circular economy is presented below.

Businesses practicing circular economy

When asked whether their hotel businesses are practicing circular economy, 71% of the respondents in Cyprus and 69% in Greece stated that their business is actually practicing circular economy, whereas around 20% of the businesses in both countries answered negatively. Only a small percentage around 8% stated they are not aware whether their businesses are implementing any circular principles.

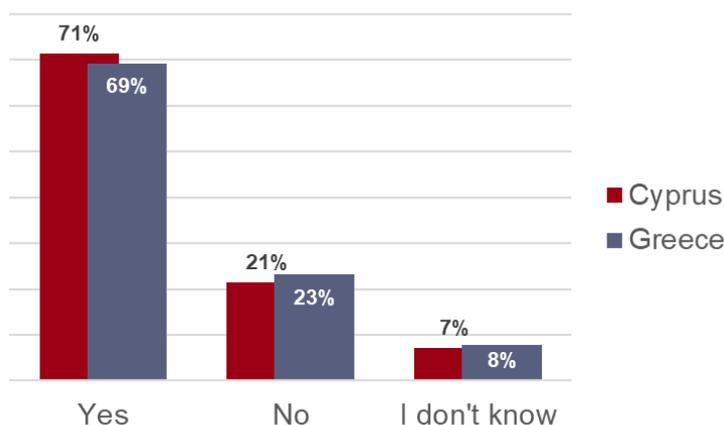


Figure 26: Hotel businesses incorporating the circular economy principles in their operations

Respondents stating that their businesses are practicing circular economy, described some of the practices implemented and there are presented in the Table 3 below. Overall, this is an excellent starting point for the businesses within the hotel industry to transition to circular economy as the circular practices described below are already implemented.

Table 3: Circular business practices of Cypriot and Greek hotels

Cyprus	Greece
<ul style="list-style-type: none"> ● Recycling, e.g., paper, glass, PMD, lamps, WEEE, plastics, food, batteries, cooking oil ● Choose the right materials ● Use renewable energy, e.g., solar photovoltaics ● Reduce waste production and energy consumption ● Upcycle ● Use waste as energy source ● Inform and raise awareness of staff and guests ● Maintain and repair equipment before their disposal as well as reuse materials and parts from old equipment ● Certify the hotel units with Travelife and ISO14001 Environmental Management System 	<ul style="list-style-type: none"> ● Recycling, including furniture, packaging and various materials ● Purchase as much as possible of recyclable consumables ● Selected use of chemicals ● Optimize resource use, ensure proper electricity and water management ● Reuse of materials, such as in events ● Composting ● Donation of technical equipment kitchens (when required) ● Projects to reduce food waste

One of the Greek hoteliers expressed that the implementation of circular economy practices is limited in their business due to the poor local recycling infrastructure, which is consequently limiting the use and recycling of certain materials in various departments. This is true especially in smaller islands. The new waste management governmental strategy in Greece aims to change this situation.

Importance of circular economy benefits

The respondents were then asked to rate from a scale of 1 to 5 (1 = 'not important at all', 5 = 'very important'), how important the different benefits of the circular economy are for their hotel businesses. As illustrated in Figure 27, all the benefits listed were scored above 3,8, which indicates that the respondents value the importance these have on their hotel businesses. Furthermore, most of the benefits received similar scores in both counties, which also suggests their similar importance to all the hotel businesses in Cyprus and Greece. Two of the benefits presented, achieving reduced waste production and improving the environmental image of the organisation, received the highest score in both counties, and strengthening the relationship with existing suppliers was the benefit with the lowest score, around 3,8 out of 5.

Respondents also suggested additional benefits, for example, circular economy will enable them to better utilise local products, skills and businesses, enhance staff engagement and awareness, and reduce their environmental and social footprint. One of the respondents in Greece added that by transitioning to circular economy, it help the business mitigate risks from the price volatility of raw materials and make them more opportunities to be more competitive. Overall, respondents argue that circular economy will support the competitiveness and viability of businesses, as long as it provides cheap raw materials. They also raise the issue of growing consumer demands around environmentally friendly products. Lastly, one of the hotel businesses in Cyprus suggested that by transitioning to circular economy, it will enable businesses to better select products when purchasing and choosing products

for longer lasting use. All the additional benefits suggested by the respondents in Cyprus and Greece are listed in the Table 4 below.

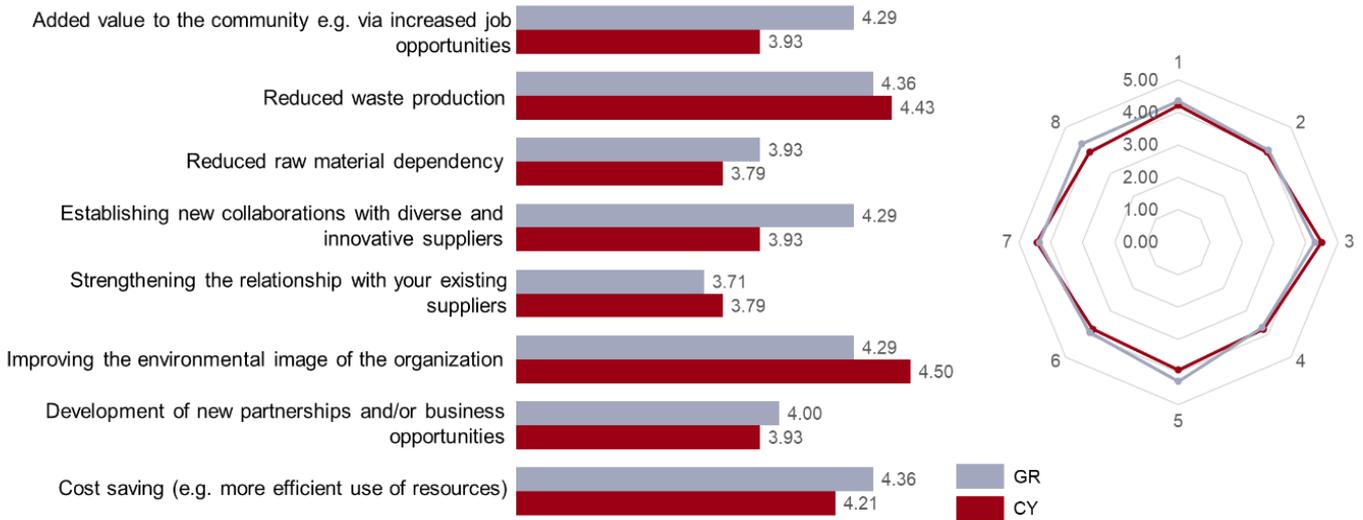


Figure 27: Hoteliers score the benefits of circular economy from a scale of 1 to 5 (1 = ‘not at all important’ 5 = ‘very important’)

Table 4: Additional benefits as identified by the survey respondents

Cyprus	Greece
<ul style="list-style-type: none"> • New opportunities. • Better utilisation of local products, local businesses, and knowledge. • Benefits essential to tourism resulting from the environmental protection. • Better selection of products when purchasing and choosing products for longer last use. 	<ul style="list-style-type: none"> • Better and more efficient communication with the interested parties of the company, regardless of whether they are interested or not, initially for the circular economy. • Improving the workforce morale in terms of business philosophy. • Reduction of energy footprint, strengthening of the model of sharing economy, reduction of the feeling of social inequality, opportunity for reintegration of people in society, strengthening of values of equality, freedom, justice, better quality of life on a psychological level. Reduction of racism. Ideal working relationships. • Decentralisation of processing created by reuse and recycling. It is compatible and friendly to the Greek productive network characterized by small business size. It supports the competitiveness and viability of businesses, as long as it provides cheap raw materials. It faces the forthcoming increase in the prices of limited raw materials. Creates new professional and business material. Adopts consumer trends towards environmentally friendly products.

Relevant policies or strategies in place

Respondents were then asked whether their businesses have any policies or strategies in place that promote the principles of circular economy within their operations. As illustrated in Figure 28 below, all of the respondents from Cyprus and Greece stated that they have at least one relevant policy or strategy in place, with the area of environment being unanimously the most popular in both countries with a similar percentage (CY: 86%, GR: 85%), whereas other areas of policies vary significantly.

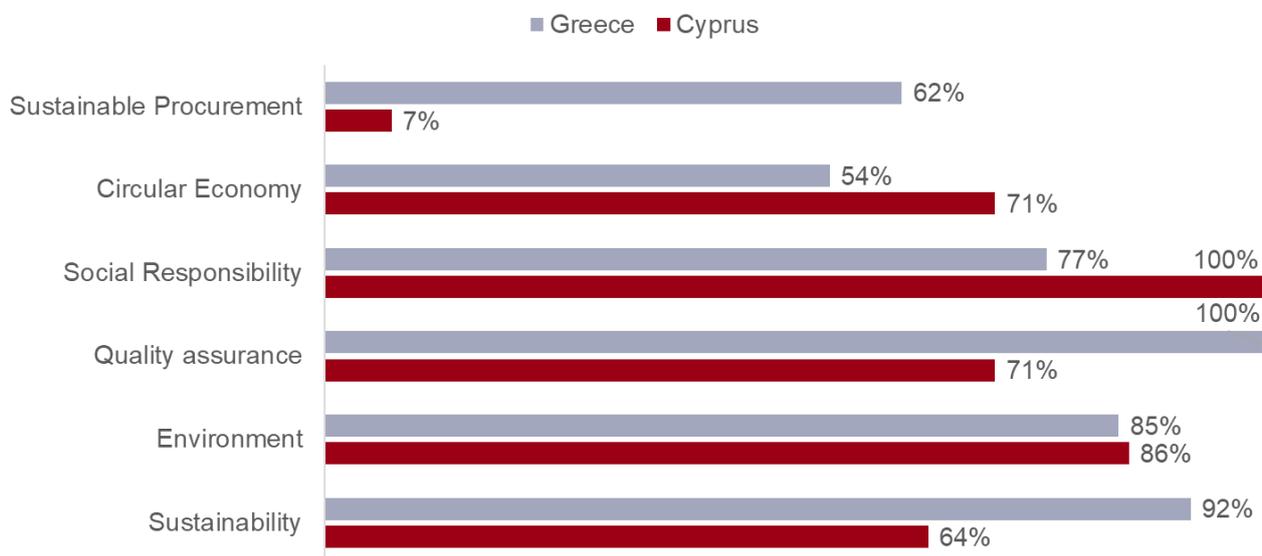


Figure 28: Areas of policies or strategies implemented in hotel businesses

Sustainable procurement is the area with the most significant difference (difference of 54%), where only 7% of respondents in Cyprus implement a sustainable procurement policy, in contrast with Greece, where 62% of the respondents have a policy in place. This might explain why reducing raw material dependency (3,8 out of 5), establishing new collaborations with diverse and innovative suppliers (3,8 out of 5) and strengthening the relationship with existing suppliers (3,8 out of 5) were scored as the least significant benefits of the circular economy by the respondents in Cyprus (see Figure 27). Social responsibility has the highest score for Cyprus, whereas, in Greece it is quality assurance. In the area of circular economy, 71% of respondents in Greece claimed that they have a circular economy policy in place, in contrast with the 54% of the respondents in Cyprus. This is aligned with the percentage of respondents of implementing circular practices in their businesses in both countries (CY: 71%, GR: 69%, see Figure 26).

Certifications in the hotel industry in Cyprus and Greece

Since certifications were mentioned to be one of the circular practices implemented in the industry (see Table 3), a desk-based research was conducted to identify the percentage of hotels certified with green credentials, focusing only on the 4* (4-star) and 5* (5-star) hotels in Cyprus and Greece. The results of this research are presented in the Table 5 below.^{76,77}

A significant number of hotels in Cyprus have turned their attention to reducing greenhouse gas emissions and the viability of their business through green measures, by investing in certification systems. Table 5 presents the total number of accommodations, while Table 6 presents the current situation of the green certified 4* and 5* hotels in Cyprus. Out of a total of ninety-four (94) 4* and 5* hotels, approximately more than one third of them have been certified with green certification systems, such as the EMAS, ISO 14001 and Travelife.

⁷⁶ European Commission (EC) (2020): EMAS Register. Retrieved from <https://webgate.ec.europa.eu/emas2/public/registration/list>

⁷⁷ Travelife (2020): Find a Travelife hotel now. Retrieved from: <http://www.travelifecollection.com/>

Table 5: Green certified 4* (4-star) and 5* (5-star) hotels in Cyprus and Greece

	Eco-Management and Audit Scheme (EMAS)	6 hotels (out of 94)
	ISO14001 Environmental Management System	19 hotels ** (out of 94)
	Travelife	24 hotels (out of 94)
	Green Key	5 hotels *** (out of 94)

*Note: some of the hotels might be certified with all three certificates, therefore, the total figure is unclear.

** Based on OEB phone communication with all 5* and 4* hotels in Cyprus in August 2020.

*** Based on web search⁷⁸

⁷⁸ Green Key (2018): A taste of Cyprus. Retrieved from: <https://www.greenkey.global/stories-news-1/2018/10/16/a-taste-of-cyprus>

5 Current status of circularity in hotel supply chain

As presented in the sections above, the survey questionnaire aimed to initially determine the current state of awareness, the level of understanding of Circular Economy and the general viewpoint of the businesses in the hotel industry in Cyprus and Greece. In the next part of the survey, the respondents were asked to provide their opinion and appetite for transitioning to circular economy, their customers appetite for circularity, and the status quo of circularity in the hotel industry and its supply chain in Cyprus and Greece, which is one of the key objectives of this study. The results are presented in the sections below.

5.1. Business appetite for circular economy

The majority of respondents in both Cyprus and Greece stated that they are planning to implement circular economy measures and practices within their business. Respondents in both countries have identified similar possible targeted areas where hotels can implement circular economy practices, such as waste management, resource efficiency, when purchasing raw materials and supplies, Food & Beverage and House Keeping. A possible explanation is that they are targeting these areas due to their high economic and environmental potential and impacts for the businesses.

In terms of promoting resource efficiency in their facilities, the majority of respondents in both countries stated that they are focusing mainly on recycling and waste management, with the majority to recycle consumables, reuse and repair where possible to ensure waste and energy reduction, which appears to be the most popular practice (see Figure 30).

The drivers for motivating the hotels to implement circular economy measures and practices varied between the two countries significantly (see Figure 31), except for improving their resource efficiency and being compliant with legislation on waste management. The strongest driver for the respondents in Cyprus to implement circular practices is the identification of opportunities for cost savings, whereas for the respondents in Greece is the resource efficiency.

A closer look at the collected data to determine the business appetite for circular economy in the hotel industry in Cyprus and Greece is presented below.

Implementing circular economy measures and practices

With regards to the question whether the businesses are thinking to implement circular economy measures and practices, the majority gave a positive answer as seen in Figure 29 below (CY: 86%, GR: 92%) and shared the areas of their hotels which they are targeting.

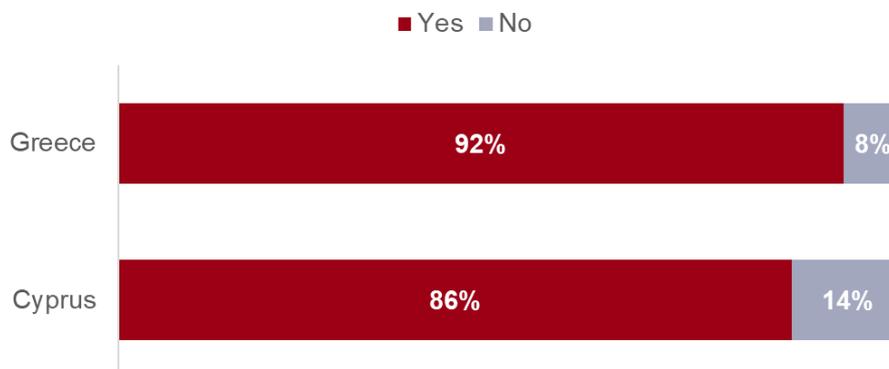


Figure 29: Are businesses in the hotel industry considering implementing circular economy measures and practices?

Respondents in both countries believe that circular measures and practices should be implemented in as many areas as possible in a hotel, indicating the plethora of opportunities. Subsequently, they indicated a number of potential areas, and as illustrated in Table 6, were identified by both countries, such as waste management, resource efficiency, procurement of raw materials and supplies, food and beverage, and housekeeping. Additional areas for opportunities indicated by the respondents in Cyprus were the use of renewable energy sources, and the reduction of single-used plastic. Moreover, respondents in Greece also highlighted the areas of hospitality and accommodation, the maintenance departments and the transportation. A possible explanation why these areas were selected is their high economic and environmental potential and impacts for the businesses. It was also observed that the areas the respondents indicated are either related to **a service provided by the hotels** (e.g., food & beverage, hospitality/accommodation) or **an activity performed** (e.g., waste management, resource management and efficiency, procurement) or **a product used** (e.g., single-used plastics) horizontally across the business.

Table 6: Possible targeted areas where hotels can implement circular economy practices

Cyprus	Greece
<ul style="list-style-type: none"> ● In all possible areas ● Waste management ● Renewable energy sources, e.g., solar ● Resource efficiency e.g., energy, water ● Raw materials and supplies ● Reduction of single-use plastic ● Food & Beverage ● Housekeeping 	<ul style="list-style-type: none"> ● In as many areas as possible ● Raw materials and supplies ● Waste management ● Resource efficiency e.g., energy, water ● Hospitality/ accommodation ● Food & Beverage ● Housekeeping ● Maintenance departments ● Transportation

Promoting resource management and efficiency

Since resource efficiency was identified by respondents in Cyprus and Greece as one of the areas where hotels can implement circular economy practices, respondents were asked to state how their hotel business is promoting this field. As presented in Figure 30 below, the majority of respondents in both countries stated that they are focusing mainly on recycling and waste management, as the majority recycle consumables, reuse and repair where possible to ensure waste and energy reduction, which appears to be the most popular practice (CY: 100%, GR: 85%).

However, this is contradictory, as around 70% of all respondents stated that they are currently developing a recycling programme in their facilities (CY: 71%, GR: 69%) and approximately 60% of all respondents claimed to have an organization wide recycling scheme (CY: 50%, GR: 69%). If we look back to Table 3, where hotels in Cyprus and Greece stated that they are recycling a wide range of materials, we could provide a possible explanation to these contradictory results, as they recycle specific materials and products, but they might want to expand the recycling system in place by adding additional waste streams. Local recycling infrastructure limitations mentioned earlier can play a role here as well.

Respondents in Cyprus and Greece listed a number of other resource efficiency measures implemented in hotels. However, their implementation rate differs significantly between the two countries. Utilising an energy management system seems to be more popular in Cyprus compared to Greece (CY: 71%, GR: 54%), with the percentage indicating that it is the least implemented measure in the hotel industry in Greece. In contrast, environmental and waste audits were more important for the respondents in Greece (CY: 21%, GR: 62%), which might link to the fact that the majority of them already have an organization-wide recycling scheme (GR: 69%).

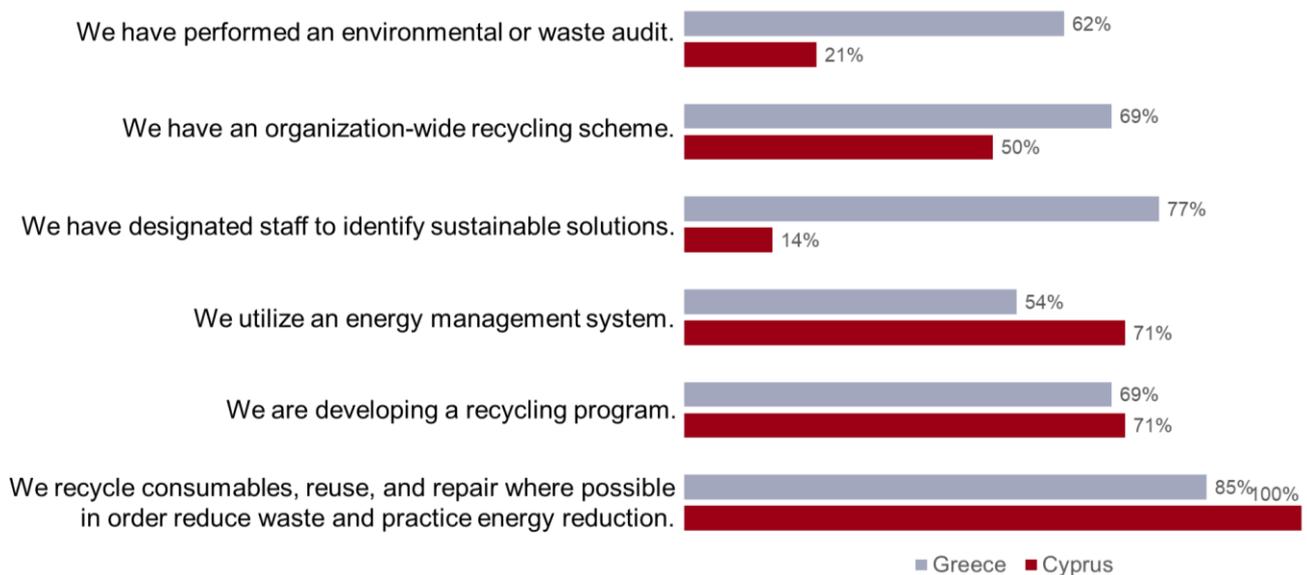


Figure 30: Measure to promote resource efficiency in their businesses

Furthermore, the majority of the respondents in Greece stated that their business have designated staff responsible in identifying sustainable solutions, in contrast with Cyprus, where only a small percentage responded positively (*CY: 14%, GR:77%*). This can be linked to the lack of implementation of a sustainable procurement policy in the majority of the Cyprus hotel businesses, in contrast with Greece (see Figure 28, *CY: 7%, GR: 62%*). This could suggest that when a sustainable procurement policy is implemented, the hotels either form a procurement department, or designate staff responsible for managing procurement and finding sustainable solutions for the business' operations. We should also note here that, despite not having a sustainable policy in place and not designating staff for finding sustainable solutions, when asked to list the circular practices the hotels are already implementing, respondents in Cyprus mentioned procurement practices such as choosing the right materials (see Table 3). This could potentially indicate that each department is responsible for purchasing their own supplies and services.

Motivation for implementing circular economy measures and practices

Respondents were then asked what could motivate their business in order to implement measures and practices promoting the principles of circular economy. As we can see in Figure 31, the drivers motivating the hotels vary significantly between the two countries, except for improving their resource efficiency (*CY: 93%, GR: 85%*) and being compliant with legislation on waste management (*CY: 64%, GR: 69%*).

The strongest driver for the respondents in Cyprus to implement circular practices is the identification of opportunities for cost savings (*CY: 100%, GR: 77%*), whereas for the respondents in Greece is the resource efficiency (*CY: 85%, GR: 93%*). The least popular driver in both countries is top management being on board on implementing innovative and circular practices in their business (*CY: 43%, GR: 62%*). It is worth commenting that only 57% of the respondents in Cyprus think that more environmentally aware customers would drive the implementation of circular economy in their business, compared to the 77% of the respondents in Greece.

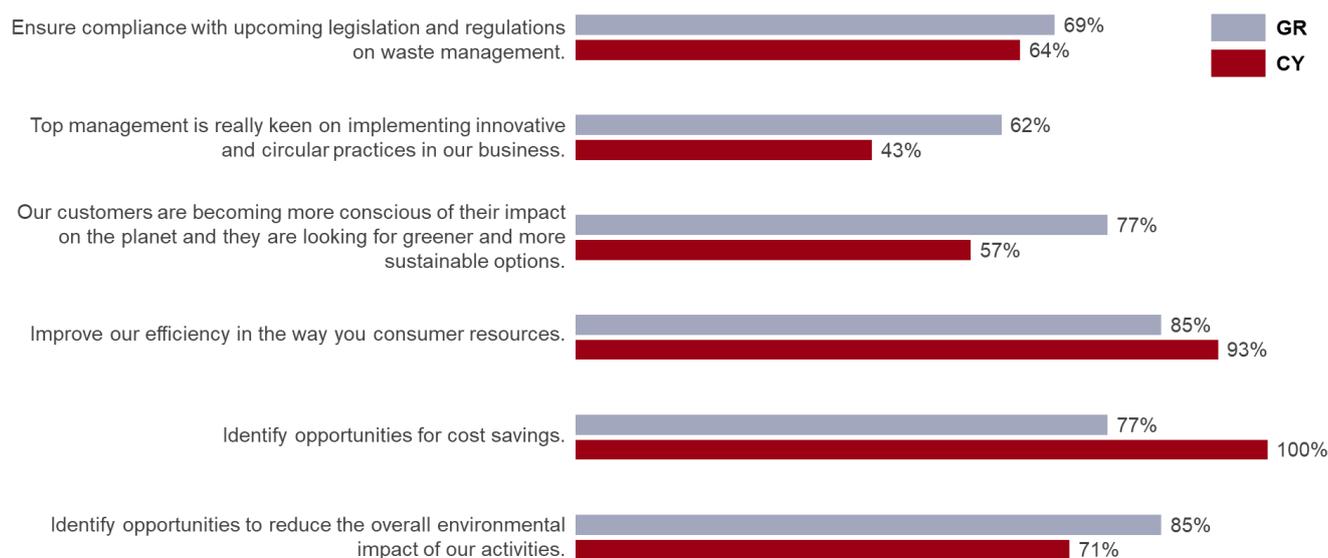


Figure 31: Drivers of motivation for implementing circular economy measures and practices

5.2. Customers appetite for circular economy

After determining the business appetite for circular economy, the customers appetite for circular economy was determined from the hoteliers' perspective. The majority of respondents from both countries believe that a hotel will attract more customers if it becomes a circular business (see Figure 32). When asked why, they stated that environmental awareness is growing over the years, and more and more customers are now sensitive to environmental issues, are interested in reducing pollution in the environment and request this transition. A point raised from Cyprus was that tourist agents place more emphasis on sustainable development.

Moreover, when asked whether they have ever received any feedback on their environmental performance, positive or negative, around 18% of the respondents from both countries gave a positive answer, that they have received feedback. However, an insight to the feedback received was provided only from Cyprus, as one of the respondents shared that their customers suggested the hotel should recycle more, for example, provide additional bins in the common areas.

A closer look to the collected data to determine the customers' appetite for circular economy in the hotel industry in Cyprus and Greece is presented below.

Customers reaction to a circular hotel

The hotel businesses were asked to express their opinion on whether their hotels would attract more customers if they became circular. As illustrated in Figure 32, the majority of the respondents in both countries gave a positive answer (CY: 71%, GR: 84,6%), and around 7% stated that a circular hotel would not attract more customers. If we look back at Figure 31, we observe that the results of this question verify the fact that 57% of the respondents in Cyprus and 77% of the respondents in Greece think that more environmentally aware customers would drive the implementation of circular economy in their business.

It was also observed that a segment of the respondents expressed that they do not know if a hotel would attract more customers by becoming circular (CY: 21%, GR: 7,7%). This might be due to their position in the business, for example, they might not be in a customer facing position, e.g., engineers, quality and service managers, etc.

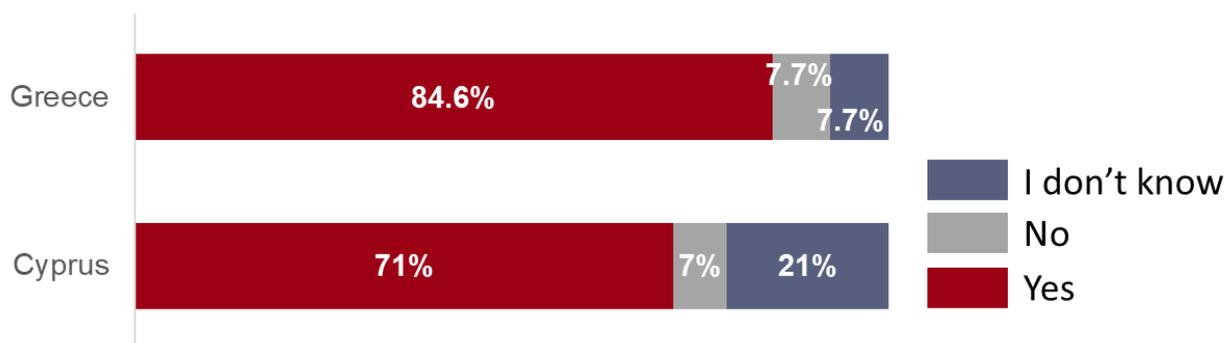


Figure 32: Do hotels in Cyprus and Greece believe that by becoming a circular hotel will attract more customers?

When asked to explain their theory behind their response, respondents in Cyprus believe that the environmental awareness is growing worldwide. More and more customers are now sensitive to environmental issues and are interested in reducing pollution in the environment. Therefore, they call for this transition. The respondents believe that there is a positive trend on how everyone's lifestyle is changing towards their wellbeing and will keep changing, therefore the demand towards sustainability will keep increasing. They have even identified possible markets that are more sensitive in these matters, markets such as the Central Europe and Scandinavia. A last point raised was that tourist agents place more and more emphasis on sustainable development.

A similar picture was described by the respondents in Greece as they believe that there are now more environmentally conscious customers and that the transition to a circular business model would be a pole of attraction for aware customers. They believe that the transition is more than a need and a demand from customers, but also an opportunity for their business for development. They indicated that the World Tourism Organization has already started and supports sustainable tourism, and they think that this is where the tourism model is headed. However, there is also a comment that it is not widely known to consumers what circular economy is.

Customer feedback on environmental performance

When asked whether they have ever received any feedback on their environmental performance, positive or negative, only 14% of the respondents in Cyprus and 23% of the respondents in Greece said they have. However, an insight to the feedback received was provided only from Cyprus, as one of the respondents shared that their customers suggested the hotel should recycle more, for example, provide additional bins in the common areas.

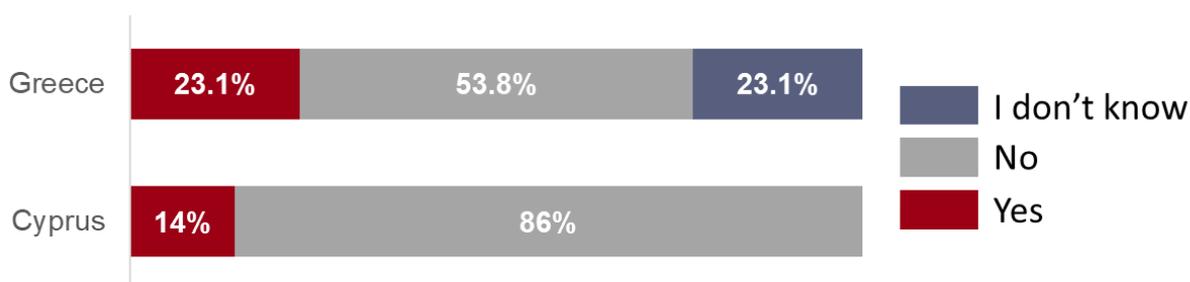


Figure 33: Feedback received regarding the hotels' environmental performance

5.3. Status quo of circularity in the hotel industry supply chain in Cyprus and Greece

After determining the business and customer appetite towards the transition of hotels to circular economy, and before attempting to identify the possible opportunities, needs, expectations, and challenges in the uptake of circular economy, the objective was to define the current status quo of circularity in the hotel industry and its supply chain in Cyprus and Greece. Respondents were asked whether they believe that working with their suppliers could help their business to find circular solutions and adopt circular business models.

Working with the supply chain for circular transition

The respondents were asked to share their opinion regarding the role of the hotels' supply chain and whether working with their suppliers could help their business find solutions to adopt circular business models. The responses received were interesting and as it is illustrated in Figure 34, the majority of respondents in both countries (CY: 93%, GR: 85%) believe that working with their suppliers will help them transition to circular economy and only a small percentage believe that either will not result in any change or they do not know the answer.

However, if we look back to Figure 28, only 7% of the respondents in Cyprus claimed to have a sustainable procurement policy in their business, which contradicts with the results here. A possible explanation is that the businesses realise the significance of working with your supply chain, however, they have not implemented a procurement policy in their business yet. For Greece, the percentage is higher, as 62% of the respondents stated that they have already implemented a sustainable procurement policy in their business, as they value the impact of the supply chain in the business' sustainability performance.

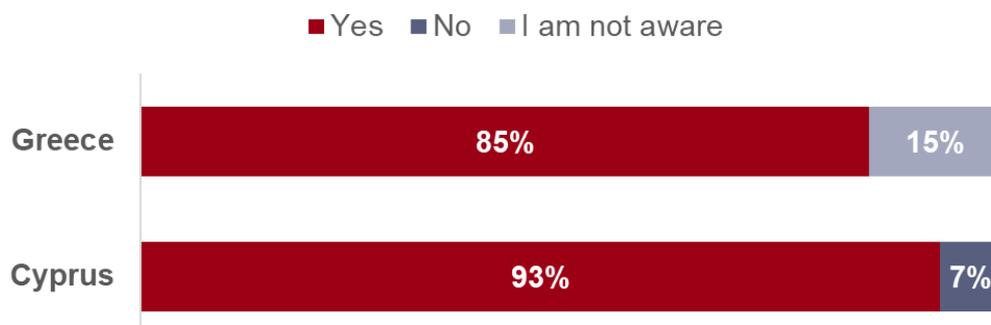


Figure 34: Do hotel businesses in Cyprus and Greece think that working with their suppliers could help them find solutions to adopt circular business models?

When asked to provide a reasoning behind their response, various reasons were collected from the respondents in both countries. In Cyprus, as the majority of the respondents were optimistic, they generally believe that they have common goals with their suppliers and if they grant their support, it will be easier to adopt circular practices and business models and it would definitely be more economically viable. Suppliers can advise them in various matters, such as suggest ways of utilising renewable energy, provide new agreements on waste management, advice on reuse and recycling opportunities in reduced prices, advice on purchasing fewer disposable and more environmentally friendly materials. They generally believe that the hotels are constantly seeking for new, ecological packaging and new biodegradable products. Moreover, one of the hotels has identified the discarded furniture as an opportunity for reuse and material extraction and recycling. However, a more reserved opinion was expressed by one of the respondents who stated that their hotel has a large number of suppliers and does not depend heavily on one supplier and none of their suppliers has taken the first steps to a circular business model.

Respondents in Greece have a similar approach to this as they believe that through cooperation and joint efforts and research, hotels and suppliers can start implementing circular practices and projects. The respondents believe that working with their supply chain, can help them find new markets and shift to more service-based solutions, such as hiring, sharing, repairing, upgrading and recycling products and individual components, or offering new competitive products that have a longer lifetime. In addition, they can find new ways of reducing packaging waste, switch to reusable raw materials and products (e.g., vehicles). In this way, the circular economy contributes to the growth and improvement of employment, by creating new jobs.

They also highlighted the value of procurement as all those involved in the provision of service and/or the production of the final products of the company are potential links in the circular economy with additional benefit. This opinion is also reflected in previous responses from the respondents in Greece, for example, in Figure 28, where more than 60% of the respondents have already implemented a sustainable procurement policy in their business, and in Figure 30, where 77% of the respondents stated that they have already designated staff responsible for identifying sustainable solutions.

Next, the respondents were asked to say whether they have ever engaged with their suppliers to find a more sustainable and circular solution, product or packaging. As presented in Figure 35, it was interesting to observe that only the majority of the respondents in Greece gave a positive answer with 85%, in comparison with Cyprus, where only 29% of the respondents said yes, with the majority (CY: 43%) to state that they are unaware of any relevant activities. This can also be linked to the low implementation rate of sustainable procurement policy in the Cyprus hotels (see Figure 28), as well as the lack of designated staff for identifying sustainable solutions (Figure 30).

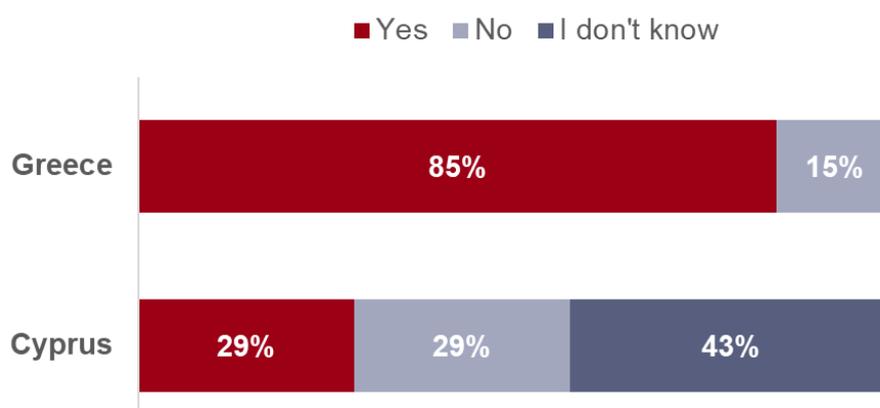


Figure 35: Have the hotels ever engaged with their suppliers to find a more sustainable and circular solution, product or packaging

Respondents were asked to provide examples for the solutions and products they have engaged with their suppliers in order to find alternative solutions. In Cyprus, hotels have engaged with their suppliers in order to find alternative and more circular solutions for example, replacing the single-use plastics such as cups and straws and source larger packaging that can be refilled and reduce packaging, replace with more ecological cleaners, return of plastics to the manufacturer to reuse them, such as the package of the pool's chemicals. In Greece, respondents have engaged with their suppliers in order to find alternative and more circular solutions for example, the consumables used in catering, source recyclable packaging materials and reusable packaging for product delivery, including a guarantee system for packaging materials in their tenders. They are also interested in finding other ways of delivering services to their customers, therefore, they have engaged with their suppliers for the installation of water stations in different locations within the hotel to avoid plastic bottles in the rooms for our customers. The last point raised was that hotels in Greece have a corporate purchasing policy in place, something that we saw in Figure 28.

Current circular practices implemented in hotels' supply chains

As illustrated in Figure 36, hotels in both countries implement various practices in different areas, with a clear pattern for three areas where Cyprus and Greece hotels implement specific three practices in a comparable implementation rate.

In the first circular practice, the businesses purchase of consumables that are recyclable and/or produced from recycled material is a fairly common practices in both countries with an average of 78% of all the respondents (CY: 79%, GR: 77%) stated that they already implement this circular practices. This practice was the most common with the highest implementation rate in both Cyprus and Greece. In the second circular practice, an average of 63% of all the respondents (CY: 64%, GR: 62%) are trying to find alternative solutions to phase out all hazardous chemicals from their operations. And in the third circular practice which is actually a circular business model, leasing and renting as an alternative option of buying various products, was the least implementing in both countries, as an average of 30% (CY: 29%, GR: 31%) of all the respondents answered yes.

However, the remaining areas of practices were scored with different implementations rates, indicating the different approaches taken from the businesses in the two countries. The circular practice of promoting product eco-design and design for recyclability, extended producer responsibility, waste prevention, sustainable packaging, and refurbishment in all relevant tenders, has the biggest difference in implementation rate (41% difference) as only 21% of the respondents in Cyprus report its application, in contrast with the 62% of the respondents in Greece.

Another circular practice with a significant difference in implementation rate (26% difference) is the inclusion of long-term maintenance of equipment clauses in the contracts with suppliers, with only 43% of the respondents in Cyprus report its application, in contrast with the 69% of the respondents in Greece. It seems that the hotels in Cyprus prefer forming take-back schemes over maintenance, as 73% of the respondents in Cyprus have formed take-back schemes with their suppliers for various products and materials, in comparison with only a 54% of the respondents in Greece. Last, using selection criteria such as the environmental credentials of potential suppliers, and environmental award criteria for products and services is a circular practice mostly implemented in Greece, with 77% of the respondents in Greece implementing it, in contrast to 64% in Cyprus.

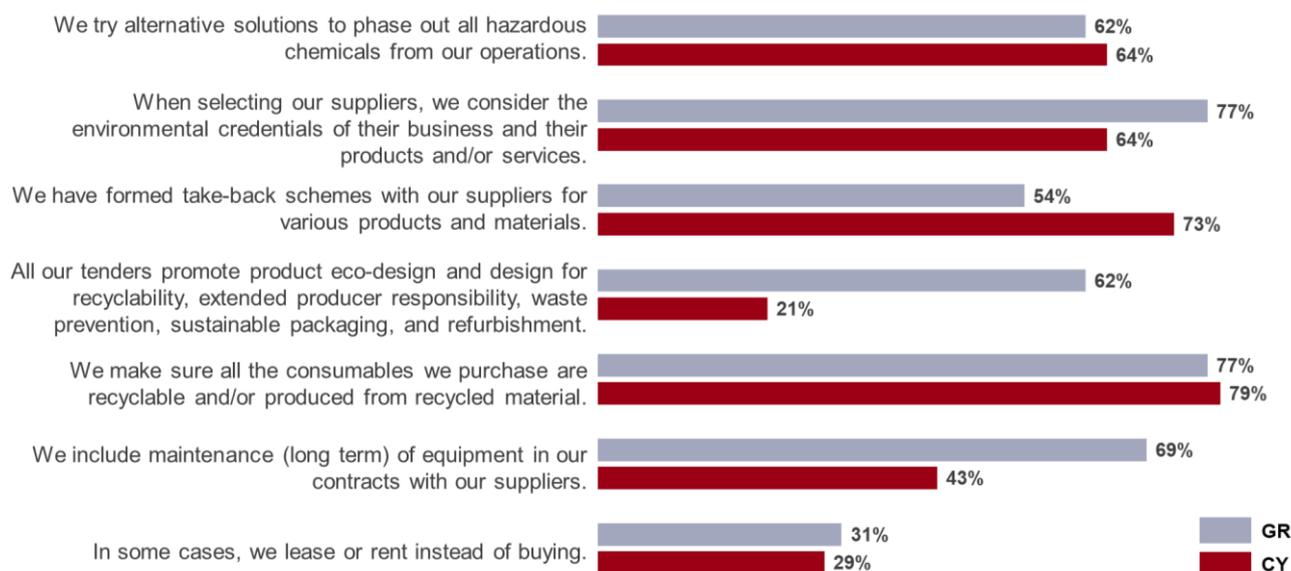


Figure 36: The circular practices the hotels apply within their supply chains in Cyprus and Greece

If we take a look back to Figure 28, we observe that even if sustainable procurement is the area where only 7% of the respondents in Cyprus implement a sustainable procurement policy, the results from this question indicate that they are actually implementing some circular procurement practices to an extent, in contrast to Greece, where the majority of businesses have a sustainable policy in place with a 62%.

Availability of circular suppliers and products in Cyprus and Greece

It is interesting to highlight that even though the majority of the respondents in both countries have engaged their suppliers as an attempt in finding more circular solutions and replace some of the products they use and source with more sustainable ones (see Figure 35) and have already implement a number of different procurement practices (see Figure 36). However, when asked whether they think that circular

suppliers are widely available in their country, only Greece had the majority of its respondents (69%) to respond positively, in contrast with Cyprus, where only 36% of the respondents said yes. Another point to highlight is the significantly high percentage of respondents stating being unaware of whether there are circular suppliers in their country (CY: 50%, GR: 23%).

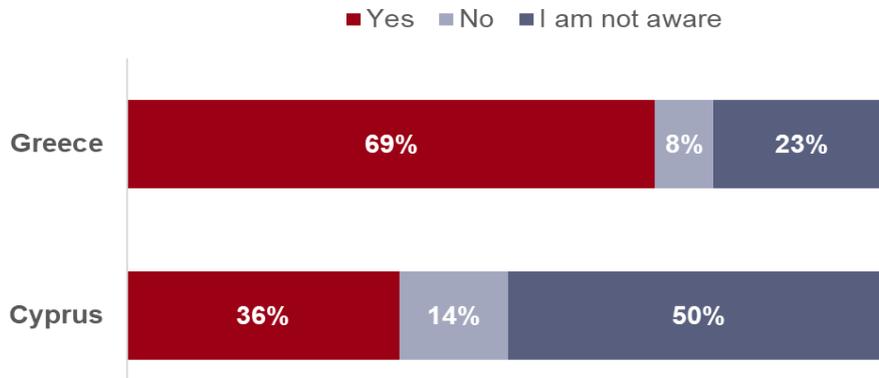


Figure 37: Do hotels think that circular suppliers are widely available in their country

When asked to share their opinion on whether circular and sustainable products and services are widely available in their country, a similar picture was formed, with only Greece to have the majority of its respondents (54%) to respond positively, in contrast with Cyprus, where only 36% of the respondents said yes. Another point to highlight is the significantly high percentage of respondents stating being unaware of whether there are circular suppliers in their country (CY: 50%, GR: 31%).

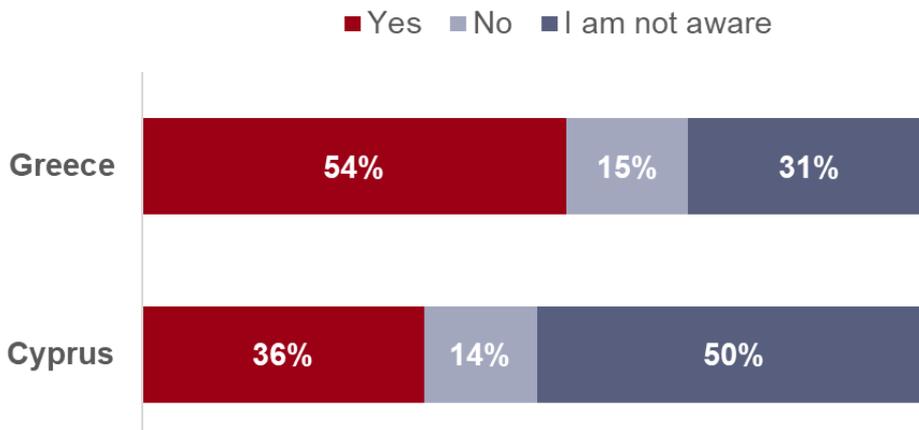


Figure 38: Do hotel businesses think that circular and sustainable products and services are widely available in their country

When asked to provide more insight in this matter, responses received from Cyprus listed a number of products they consider as circular and widely available in their country, such as solar panels, products from recycled materials, cleaning materials, product packaging, new more economical water showers, more economical appliances, double glazing, etc. If we look back at their responses when asked if they have ever engaged with any of their suppliers, the areas of focus were similar, e.g., packaging, energy and water efficiency, cleaning chemicals.

6 Opportunities, needs, expectations, and challenges in the uptake of a circular economy

In the last step, we explore the opportunities, challenges, and needs and expectations of actions to enhance circularity in various resources areas and priority sectors. Therefore, we first had to identify which priority value chains, material flows, and sectors/products are important for the hotels in Cyprus and Greece, then move on to the opportunities for circularity, either within these priorities, or in non-prioritised areas, and finally to the barriers for transition to circular economy. Such an analysis will guide us to define any needs and expectations raised by the respondents from both countries, either from the businesses or from their customers.

6.1. The priority sectors in the hotel industry and the opportunities, needs and expectations for circularity in Cyprus and Greece

One of the main objectives of this survey was to identify **the priorities where accelerating the circular economy would be most beneficial and capacity building would have a particular role to play in the transition of hotel industry to circular economy**. What we see from the responses is that **opportunities for increased circularity can be categorised according to the different business activities, sectors, products and value chains**.

The most important priority sector for the hotel industry in Cyprus and Greece is packaging and plastics as the priority material, whereas the least important sectors are construction and furniture with their priority materials, renovation materials and textiles. However, all seven identified priority sectors received a score above 3 out of 5, indicating their significance as a priority to the hotel industry in both countries.

To explore the potential opportunities within the priority sectors, respondents were asked to identify the biggest opportunities they see for their business for promoting the transition of hotels to circular economy. **Unfortunately, responses were only received from hotels in Cyprus**, who indicated a range of opportunities, which some of them are already utilised by hotels, and additional opportunities were identified throughout the survey.

A closer look to the collected data to determine priority sectors in the hotel industry and the opportunities, needs and expectations for circularity in Cyprus and Greece is presented below.

Priority sectors in the hotel industry

Throughout the survey, the responses were analysed to identify the priorities for the hotel industry in Cyprus and Greece, from the businesses' perspective. Respondents were asked to indicate which sectors and materials they believe are priority for their business by rating them from a scale of 1 to 5 (1 = 'not important at all', 5 = 'very important').

As illustrated in Figure 40 below, all sectors and materials were scored above 3 out of 5, which indicates their importance to the hotels in Cyprus and Greece. The priority sector with the highest score for both countries (around 4,5 out of 5) is **packaging and plastics** (CY: 4,43, GR:4,69), following closely by **food waste** (CY: 4,21, GR: 4,46) and **chemicals** (CY: 4,07, GR: 4,54) with a score of around 4,3 out of 5.

Next is **electricals and electronics** (CY: 3,71, GR: 4,31) and **wastewater** (CY: 3,93, GR: 4,15) with a score of approximately 4 out of 5. The two priority sectors with the lowest score (below 4 out of 5) were the **construction and renovation materials** (CY: 3,50, GR: 3,92) and **furniture and textiles** (CY: 3,14, GR: 3,62).

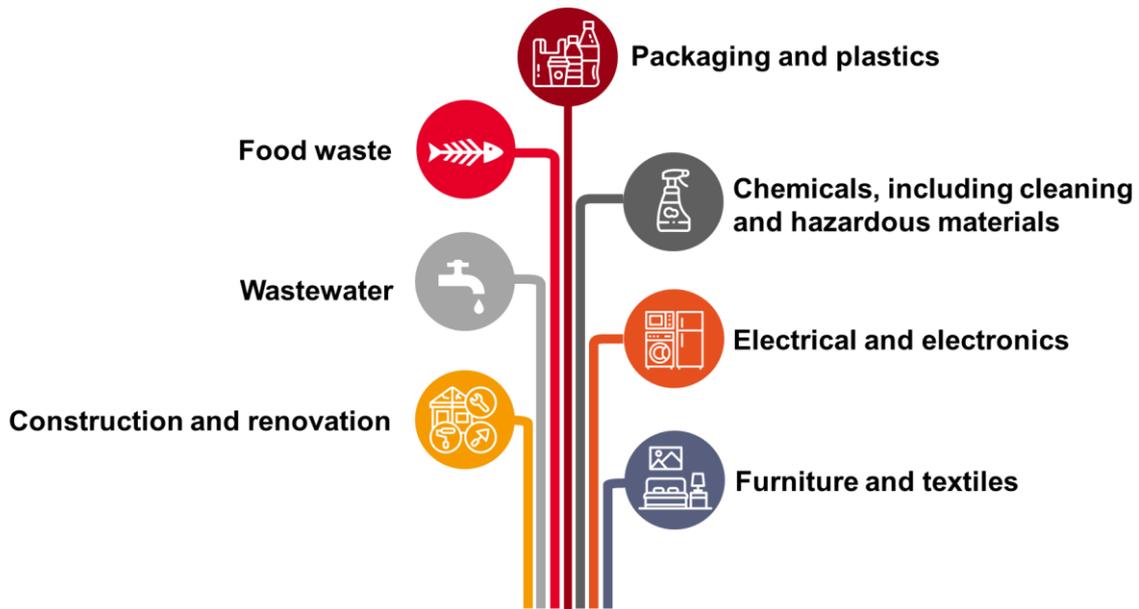


Figure 39: Priority sectors of the hotel industry in Cyprus and Greece

Respondents in Cyprus indicated a number of additional priorities for their business, such as energy usage, refrigerants and office supplies. However, they did not indicate their importance to business. We want to highlight here that **energy usage is not generally recognised as a priority sector, but more as an opportunity for circularity and resource efficiency.**

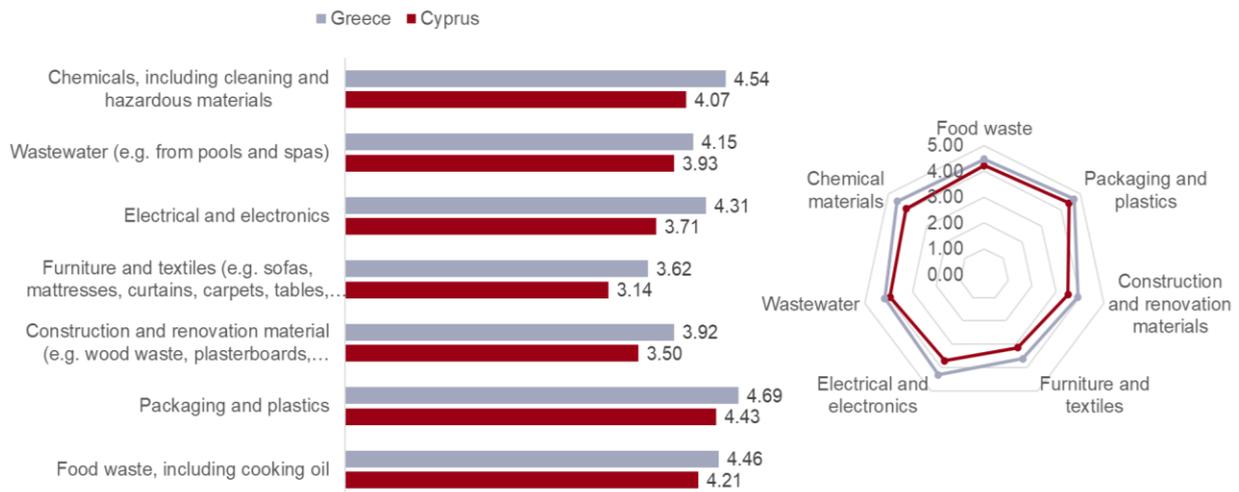


Figure 40: Hoteliers score the priority sectors from a scale of 1 to 5 (1 = ‘not at all important’ 5 = ‘very important’)

Opportunities within the priority sectors

Another objective was to explore the potential opportunities within the priority sectors and in prioritised areas that would promote the transition of hotels to circular economy. Therefore, respondents were asked to say where they see the biggest opportunities. Unfortunately, responses were only received from hotels in Cyprus, and included:

- Procurement of equipment and the availability of alternative materials, such as recyclable materials
- Electricity efficiency and energy saving
- Renewable energy sources
- Development of the appropriate culture by everyone

- **Strengthening the environmental awareness of staff and customers.**
- **Waste management, including recycling, upcycling, and reuse.**

The listed opportunities were interventions that hotels consider they would support them in the transition to circular economy, however, they were not sector or material specific. Some of the opportunities listed are already utilised by hotels in Cyprus and Greece, for example:

- The **sustainable procurement practices**, such as purchasing more circular materials, which the majority of respondents in Greece stated that they already implement a number of sustainable practices in their procurement, as illustrated in Figure 35 and Figure 36. The implementation of sustainable procurement practices was highlighted as an important opportunity by both countries, as hotels think that working with their supply chain would help them find solutions to adopt circular business models (see Figure 34).
- **Waste management**, including recycling, upcycling, and reuse, was one of the identified opportunities, and if we look back at Figure 30, we see that the majority of respondents in both countries state that they already utilise waste management to promote resource efficiency in their business. As well, one of the respondents in Cyprus shared that their customers advised them to recycle more and provide additional bins in the common areas of the hotel (see paragraph 15.2).
- Cost savings due to the more efficient use of resources (including savings from **Energy Efficiency measures**) was indicated as one of the most important benefits a business would gain in a circular transition (see Figure 27).
- Reducing the overall environmental impact of our activities (see Figure 31) and improving the **environmental image of the business** (see paragraph 14.3) as customers are becoming more and more environmentally conscious (see Figure 31).
- **Adding value to the community**, e.g., by increasing job opportunities, sourcing products, skills and suppliers locally (see paragraph 14.3 and Figure 27).
- Establishing **new collaborations with diverse and innovative suppliers** (see Figure 27).

Needs and expectations for circularity

The analysis of the collected data from all the survey parts has guided us to define any needs and expectations raised by the respondents from both countries.

The **business needs** identified in the survey are listed below:

- Even though the awareness around circular economy has been growing over the years, data indicated that **the level of knowledge and understanding of the circular economy is at a basic level** (see paragraph 14.2, Figure 22, Figure 23 and Figure 24 - the point on circular products and services).
- **The level of awareness of any national and European legislation, policies and strategies around circular economy is significantly weak**, even though more than 50% of the respondents in Cyprus and Greece state to be aware of the compliance framework around circularity (see paragraph 14.2 and Figure 25).
- Even though the majority of respondents in both countries stated that working with their suppliers could help them find circular solutions, there is **a lack of implementation of sustainable procurement policy in the hotel industry in Cyprus and only a small percentage of the respondents have engaged with their supply chain to find more circular solutions**, in contrast with the hotels in Greece, where the majority has already implemented a sustainable procurement policy and have already engaged with their suppliers (see Figure 34 and Figure 35).
- There is **a general need for both countries to explore the opportunities within their supply chain and promote the implementation of circular business models and practices**, such as the leasing/renting business model; include maintenance in the contracts; and promote eco-design, extended producer responsibility, waste prevention practices (see Figure 36).

- There is a **need for circular suppliers and circular products and services in Cyprus, as the respondents from Cyprus believe these are not widely available or they are not aware of their availability** (see Figure 37 and Figure 38).
- However, this indicates that there is also a **need for designating staff responsible for identifying sustainable and circular solutions and implementing a sustainable procurement policy** in hotels in Cyprus (see Figure 28 and Figure 30).

The **business expectations** identified in the survey are listed below:

- Despite the lack of having a sustainable procurement policy in place, **the respondents in Cyprus expect it will be easier to adopt circular practices and business models and it would definitely be more economically viable, if they engage with their suppliers**. They also expect from their suppliers **to advise them in various matters**, such as suggest ways of utilising renewable energy, provide new agreements on waste management, advice on reuse and recycling opportunities in reduced prices, advice on purchasing fewer disposable and more environmentally friendly materials (see paragraph 15.3).
- The respondents in Greece have a similar approach to this as they believe that **through cooperation and joint efforts and research, hotels and suppliers can start implementing circular practices and projects**. They expect that when they start working with their supply chain, **there will be opportunities for new markets and would be able to shift to more service-based solutions**. In addition, they anticipate finding new ways of reducing packaging waste, switch to reusable raw materials and products (e.g., vehicles), also contributing to the growth and improvement of employment, by creating new jobs (see paragraph 15.3).

The growing **expectations from customers** were identified by the respondents in both countries, as the majority believe that by becoming a **circular hotel would attract more customers** (see paragraph 15.2 and Figure 32). When asked to explain why, respondents in Cyprus believe that the environmental awareness is growing worldwide, and more and more customers are now sensitive to environmental concerns. The respondents believe that there is a positive trend on how everyone's lifestyle is changing towards their wellbeing and will keep changing, therefore the demand towards sustainability will keep increasing and that tourist agents place more and more emphasis on sustainable development. A similar picture was described by the respondents in Greece as they believe that the transition to a circular business model would be a pole of attraction for more aware customers.

6.2. Remaining barriers for the widespread implementation of a circular economy

While the benefits from transitioning to circular economy are increasingly recognised (see paragraph 4.2 and Figure 27), there remains a range of barriers to the transition. Respondents were asked to share the barriers their business would have to overcome to transition to circular economy and are listed below:

	Raised by respondents in:	
	Cyprus	Greece
• The economic crisis , however, respondents did not provide additional information.		✓
• The resistance in organisational culture change and the development of relevant culture within the business.	✓	✓
• Finding suppliers that apply principles of circular economy , finding alternative solutions in affordable and competitive prices, e.g., for equipment and consumables.	✓	✓
• Synergies with other companies and market coordination .		✓
• Lack of local government support regarding the common line of application of the principles of the circular economy and coordinating	✓	✓

the collaboration between government departments and the private sector.		
• The lack of training in the principles of the circular economy, the know-how.	✓	✓
• The lack of understanding in circular economy from the society despite the raising awareness of customers.	✓	✓
• Difficulties in the actual implementation of circular economy , due to complex planning and management required in parallel with being focused on providing high quality customer service, and also being consistency in the implementation. Also, the implementation costs and engaging with staff long-term.	✓	✓
• Waste management due to poor local recycling infrastructure which is making collecting recyclables in the hotel difficult because of handling the separate streams and accumulation of waste in the hotel areas and is also limiting the use and recycling of certain materials in various departments.	✓	✓

Some of the barriers mentioned are specific to particular resources. For example, a small number of respondents in Cyprus mentioned food and food waste and the reduction of energy used. Also, there was a response from Cyprus stating that they are not aware of what barriers could potentially hinder their transition to circular economy.

7 Conclusions

This report has been developed within the scope of the [Hotels4Climate project](#), which aims to reduce GHG emissions generated by the hotel industry in Cyprus and Greece by transitioning to more circular business models and operations across the value chain, as the way forward in a more resilient and carbon neutral economy, especially after the outbreak of the COVID-19 pandemic in 2020. The project aims to build capacities and raise awareness around the concept of the circular economy and its impact on climate change and GHG emission reductions via workshops and business coaching.

This preliminary report aims to assess and define the current status of the circular economy in the hotel industry in Cyprus and Greece, identify the priority sectors within the main services hotels offer (accommodation, food and other activities such as wellness) and define the business needs and opportunities for the hotel industry to transition to circular economy and establish circular business models. It presents the results of the preliminary assessment collected via interviews with hoteliers in Cyprus and Greece. An online questionnaire was prepared and distributed to the target group in August-September 2020. The target group of the survey was hoteliers within the Cyprus and Greece hotel industries. Overall, 27 hotels in Cyprus and Greece responded to the survey, with the majority of them to be SMEs. The majority of respondents have more than 10 years of experience in the hotel industry; an insight which was taken into consideration respondents' experiences or biases when analysing the survey results.

In general, respondents presented a basic level of understanding of the circular economy and its principles and what is required from their business for a successful transition. For them, a circular economy is another way of presenting waste management, recycling, or “going zero waste”. The hoteliers mainly confuse the circular economy and resource efficiency with a better form of waste management. Unfortunately, this interpretation is incomplete as it does not capture all the significant aspects of circular economy, resulting in the inability of hoteliers to understand the potential benefits and opportunities circular economy can offer to the hotel industry and to businesses in general. With their current understanding of circular economy, hoteliers believe that by going circular, they would mainly benefit from the reduction of their waste streams and the improvement of their image on their environmental performance. Therefore, having the waste management in mind when discussing about circular economy, it is easier to imagine its application in the production and use of products, but not necessarily in the production and offering of services. Hoteliers, especially in Cyprus, do not believe the circular economy can be applied to services, including the services hotels offer to their customers.

Furthermore, their lack of awareness on existing and forthcoming national and European legal framework and policies indicates the possibility of facing risks when they are unaware of their compliance obligations, as well the potential funding opportunities that might arise. This also reduces their ability to identify potential risks and increase their business resilience in the future business challenges (e.g., price volatilities). Interestingly, even though their gaps on the relevant legal and policy framework (e.g., waste management framework), meeting their compliance obligations is one of the key drivers for the hotel businesses.

Surprisingly, respondents from both countries do not consider having the top management on board as a key driver to a successful transition to circular economy. Transitioning to circular economy requires the transformation of business across different business units. Top management should drive the movement, be on board and be ready to deploy the necessary financial and non-financial (e.g., personnel) resources. This should be highlighted in the training materials and the provided business coaching.

There is an overall appetite for transition to circular economy, from both businesses and customers. Hoteliers generally believe that a circular hotel would attract more customers and this opinion is based on the growing environmental awareness of their customers witnessed in the past years. Therefore, their efforts are mainly focused on waste management and increasing recycling rates, optimisation of resource use, implementing green procurement practices, utilising renewable energy sources, raising

staff and guests' awareness on these matters, having relevant policies in place (e.g., sustainability, social responsibility, environment, etc.) and investing in sustainability certifications.

Hoteliers stated that they will continue to invest in these actions, targeting the business units of food & beverage and housekeeping, two units with high resource intensive hotspots and economic and environmental potential opportunities for their business. Despite that, hoteliers believe the implementation of circular economy interventions should extend to other activities and business units as well. This indicates that they believe there is a plethora of opportunities to transition to circular economy in the services they provide, even though their initial response indicated their uncertainty on whether the circular economy can be applied to services, especially in the hotel industry.

The least important benefit for hoteliers was the strengthening of relationships with their suppliers, which verifies their lack of understanding regarding the circular economy, as forming collaborations and partnerships, especially with your suppliers is vital for a successful circular transition. At the same time, the majority of respondents believe that working with their suppliers could help them find economic viable circular solutions (e.g., renewable energy sources, new arrangements on waste management, environmentally friendlier and long-lasting product, service-based solutions, etc.) and play a key part on their transition to circular economy.

The survey showed that the Greek hoteliers value the implementation of green procurement practices, in contrast with Cyprus, as the majority of them already have a sustainable procurement policy/strategy in place. They have designated staff responsible in identifying sustainable solutions and engaged with their suppliers to find a more sustainable and circular solution, product, or packaging. Greek respondents argue that both circular suppliers and circular solutions are widely available in Greece, in comparison with Cyprus, where the majority of respondents are not aware whether circular solutions are available in their country. This might be potentially linked to two reasons: a. the lack of a procurement policy in place; b. lack of understanding of what a circular supplier and a circular solution is. Having a procurement policy in place gives a clear guidance on how staff can make better choices when procuring products and services and enabling the prioritisation of circular solutions. Some of the circular procurement efforts implemented in both countries were:

- a. Move away from single used items, such as straws, cups, plastic packaging, etc.
- b. Ensure that consumables bought are recyclable and from recycled content.
- c. Phase out hazardous chemicals in the hotel operations.
- d. Use environmental criteria when selecting suppliers.
- e. Form take-back schemes with suppliers for various products.

Certain practices appeared to be implemented more often by the Greek hoteliers, such as promoting eco-design, extended producer responsibility, sustainable packaging, as well as including the maintenance of equipment in the long-term contracts.

In addition, the opinion regarding the availability of circular suppliers and circular solutions is different in the two countries. The majority of Greek respondents argue that both circular suppliers and circular products and services are widely available in Greece, in contrast with Cyprus, with the majority of respondents stating they are not aware whether circular solutions are available in their country.

Seven product value chains were identified by the survey as the key priority sectors for the hotel industry in Cyprus and Greece, where accelerating to a circular economy would be most beneficial and capacity building would have a particular role to play in the successful transition of the hotels. The priority sectors are the following, listed in a descending order according to the priority given by the hoteliers in both countries: **Plastic and Packaging, Food Waste, Wastewater, Chemical materials, Construction and Renovation, Electricals and Electronics, Furniture and Textiles** (see Figure 41).

A number of internal and external barriers that raise obstacles to the transition of the hotel industry to circular economy have been identified. Internally, hoteliers believe that there is a general resistance in cultural change and a lack in skills, know-how and understanding, which hinder the actual implementation of circular economy. In addition, hoteliers highlighted the fact that they find it difficult to identify specific opportunities under the 7 priority sectors. External barriers are the economic crisis, especially now in a post-COVID era; the availability of circular suppliers and solutions in affordable and

competitive prices; poor market co-ordination and collaboration; and the poor local recycling infrastructure.

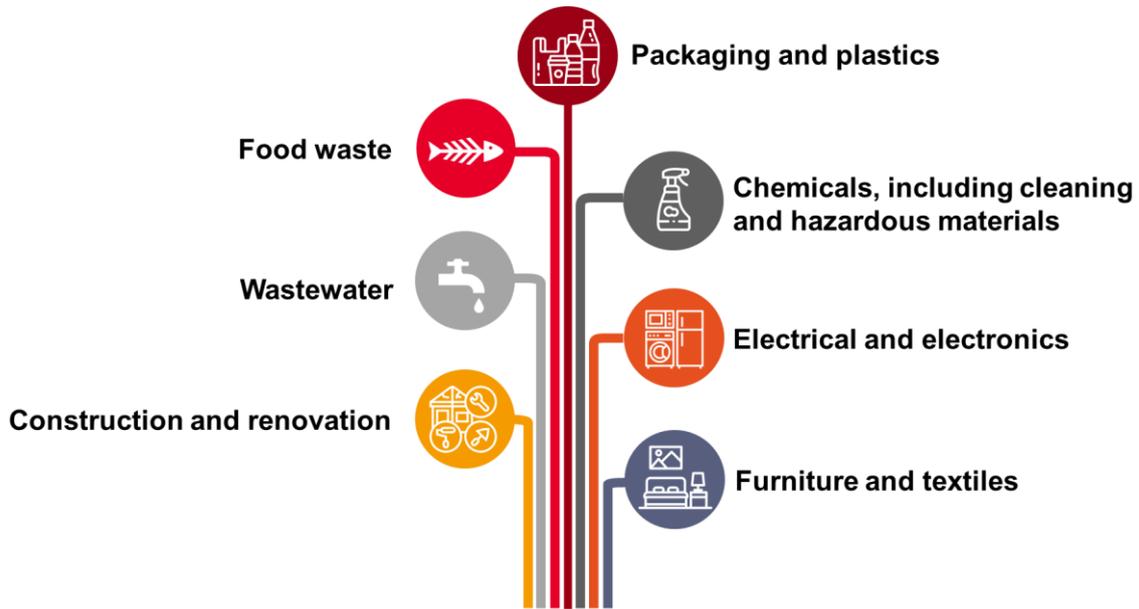


Figure 41: Priority sectors of the hotel industry in Cyprus and Greece

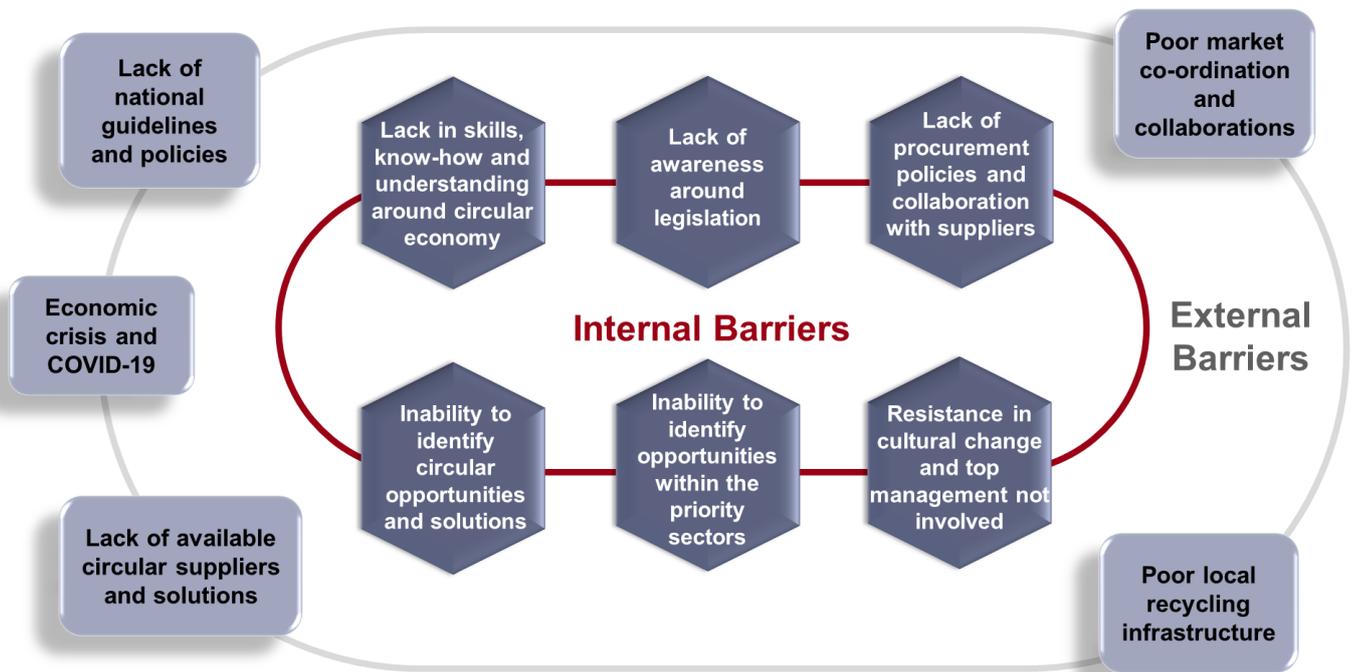


Figure 42: Internal and external barriers to the transition of the hotel industry to circular economy

A number of business opportunities were identified when analysing the responses from the hotel industry in Cyprus and Greece. These opportunities are general business opportunities, not segregated by priority sectors or value chains, but segregated by business areas and activities. This is explained by the fact that, hotel representatives, due to their lack of knowledge and understanding on circular economy and its implementation, stated that they are not able to identify specific opportunities for each

of the priority sectors. The business opportunities for the hotel industry in Cyprus and Greece, as identified by the hotel representatives, are listed below:

- Circular procurement, diverse and innovative suppliers and new collaborations.
- Competitiveness and business advantage, adding value to community.
- Culture, knowledge and understanding of circular economy, and environmental awareness.
- Renewable energy and energy efficiency.
- Waste management.

Waste management is included in the listed opportunities, however, its role in the transition of the hotel industry in a circular model of operation is misunderstood and overrated, due to hoteliers' lack of knowledge and understanding on circular economy.

The business needs that were identified by the hotel representatives follow the same pattern as the business opportunities. The identified needs and opportunities are listed below:

- Increase the level of knowledge and understanding of the circular economy and the benefits to their businesses.
- Promoting the implementation of sustainable procurement policy in the hotel industry in Cyprus and Greece.
- Promoting and strengthening the cooperation of companies with their suppliers to find more circular solutions.
- Exploring opportunities and promoting the application of circular business models and practices in the supply chain as well as in priority areas.
- Need for circular suppliers and circular products and services, especially in Cyprus, as respondents believe that they are not widely available or do not know their availability.
- Great need for training and improvement of skills of business executives for the implementation and benefits of the circular economy.

These results are intended to feed into the development of circular economy training materials, which will be used for building capacities and raise awareness around the concept of circular economy and its impact on climate change via workshops and business coaching. Capacity building and business coaching will assist the hoteliers in developing a strong understanding of the circular economy, and its principles; what circular economy means for the hotel industry in terms of the provided services; the potential benefits, compliance obligations and funding opportunities; deep dive in the priority sectors and identify potential opportunities and incentives for circular interventions as well as understand the important role of the supply chain in the successful transition to a circular economy.

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