C-ENTRY

C-ENTRY: CIRCULAR ECONOMY ENTREPRENEURSHIP COMPETENCIES FOR YOUTH

R1: CE Sectorial Assessment Methodology

R1 – T:1.2 & T:1.5:

Reporting on collected questionnaires & Circular Economy indicator analysis

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INTRODUCTION

C-ENTRY (Circular Economy Entrepreneurship Competences for youth) project aims to promote employment and entrepreneurship in EU rural areas by equipping young people with the skills to establish co-working and start-up incubators that take advantage of the Circular Economy's opportunities, with concrete examples in three economic sectors: furniture, agro-business, and building/housing, as these are strategic fields for Europe's smart economic and social development. The initiative is based on one of the primary pillars of the European Union's new Circular Economy Action Plan.

RESULT 1

The first result of the project (R1) shall result in the self-assessment tool that will evaluate the adoption degree of CE policies in the organizations to provide a clear illustration of the type of investments for young people that may be supported in the context of the CE.

In the framework of this Result of the project (CE Sectorial Assessment Methodology), questionnaires are distributed to 10 organizations/ businesses (furniture, housing/building, agro-business, etc.) per partner's country (Greece, Cyprus, Ireland, Italy, Lithuania, and Romania) engaged with CE activities to assess the current state of each sector against specific circularity aspects, as well as to discuss existing barriers and potential policy interventions towards a successful transition.

The research questionnaire includes closed-ended questions with quantitative and qualitative characteristics, grouped into 3 different groups and a total of 19 questions.

A. The first group includes 5 questions related to the company/ organization profile to see how they are connected with the other questions.
B. The second group consists of 6 questions related to the knowledge and evaluation of the circular economy in the business sector.
C. The third and last group consists of 8 questions related to the practical applications of the company/organization in the model of the circular economy.

The questionnaire was created online on Google Forms and can be found on the link below: https://forms.gle/j8nSknGqEXSEGmP88

In the following pages, the first part (Part I) of the report is presented. Each partner presents part of the R1 and a specific analysis of the results of the survey responses. This analysis is divided into three parts, based on the three parts of the questionnaire.

Then, a list of best practices mentioned from organizations throughout the questionnaire is created and among them, are chosen the most frequently mentioned indicated by the number of responses. This facilitates the comparison between the best practices used in the six partner countries around the EU.

In part II, the analysis goes a step further and categorizes these best practices of each sector (agro-business, housing/building, furniture, etc.) according to four objectives which are reduced resource consumption, intensified product use, the extended life of products/ components and the giving resources new life. Each one of them includes some strategies. Then, the best practices are identified and classified based on the Circular Economy Indicator Analysis. The responses to the questionnaire and further research make the classification more efficient.

CE indicators are divided into 5 major categories: Resources, Waste, Energy, Emissions, and Innovation.

The report ends up with the conclusions. The conclusion reinforces the main messages of the analysis, which are related to the objectives of the project.

PART I: ANALYSIS OF QUESTIONNAIRE DATA FROM EACH PARTNER COUNTRY

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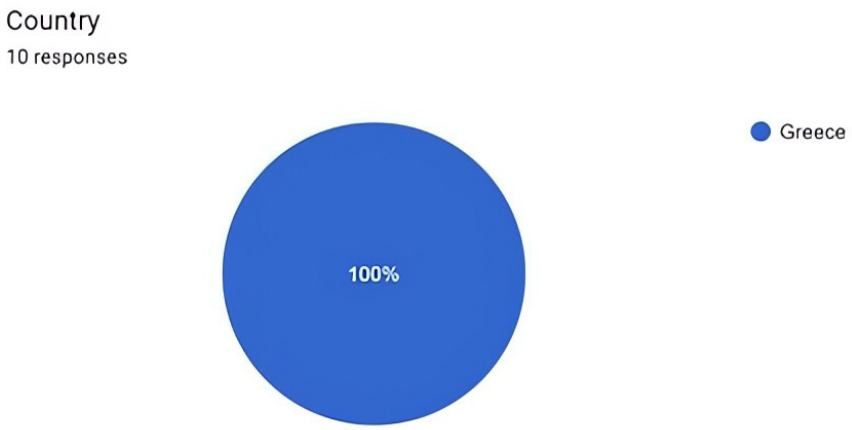
A. General information on respondent companies (Company/ Organization Profile) – (Questions 1-5)

Country: Greece



Question 1:

The questionnaire was filled in by organizations and businesses operating in several areas- urban and rural- of Greece

Question 2:

In the second question, the participants were asked about the position they hold in their organization. The received responses are summarized below:

1 Supervisor
1 Project manager
1 Manager
2 General Managers
1 Senior Manager
1 Innovation Manager
1 Development Manager
1 Product Manager
1 Operations Manager

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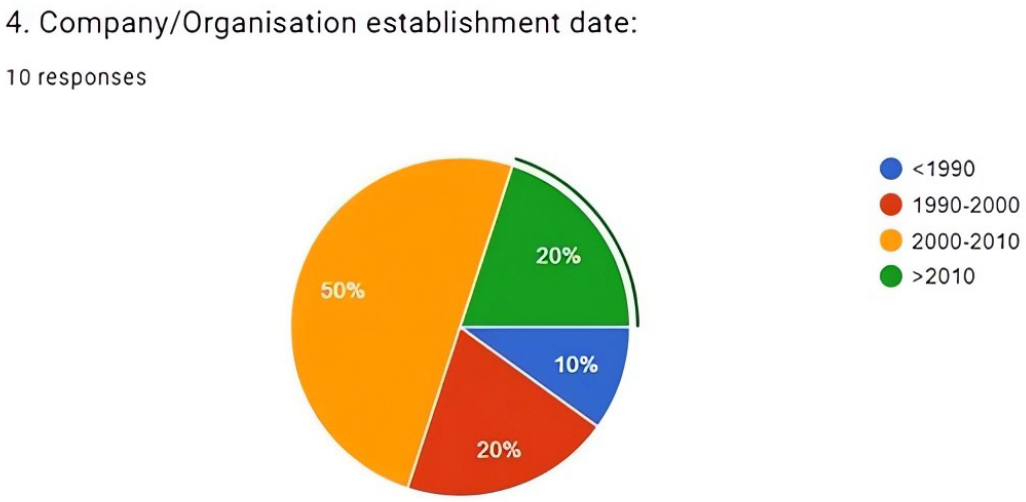
Question 3:

In the third question, the participants were asked to refer to the areas of their organization's activities. 40% of the responses came from the Building and Housing Sector, 20% from the Agri-Food sector as well as 30% from the Furniture sector.

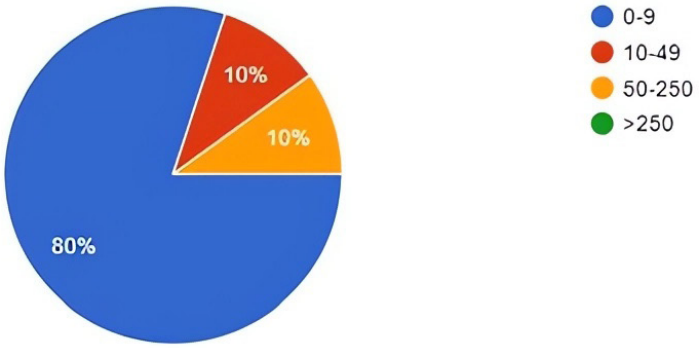


Question 4:

The above question required answers on the year that the participating organizations began to operate. 50% were established in 2000-2010 and only 10% before 1990

5. Number of employees:

10 responses



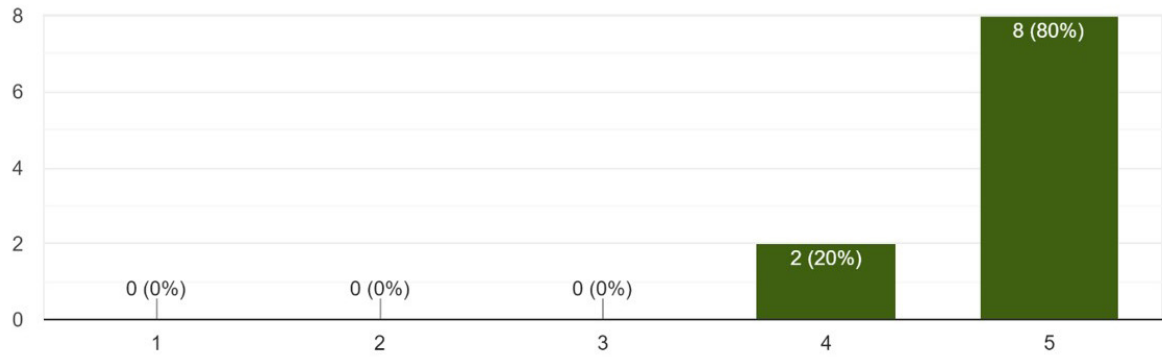
Question 5:

In the above question, the vast majority (80%) of the participating organizations reported employing less than (10) employees, whereas none of them had more than 250 employees.

B. Knowledge/Evaluation of Circular Economy – (Questions 6-11)

6. On a scale of 1 to 5, how would you rate your knowledge of the Circular Economy?

10 responses



Question 6:

The question above asked the participants to rate their knowledge of the concept of Circular Economy. 80% considered themselves to be very well informed.

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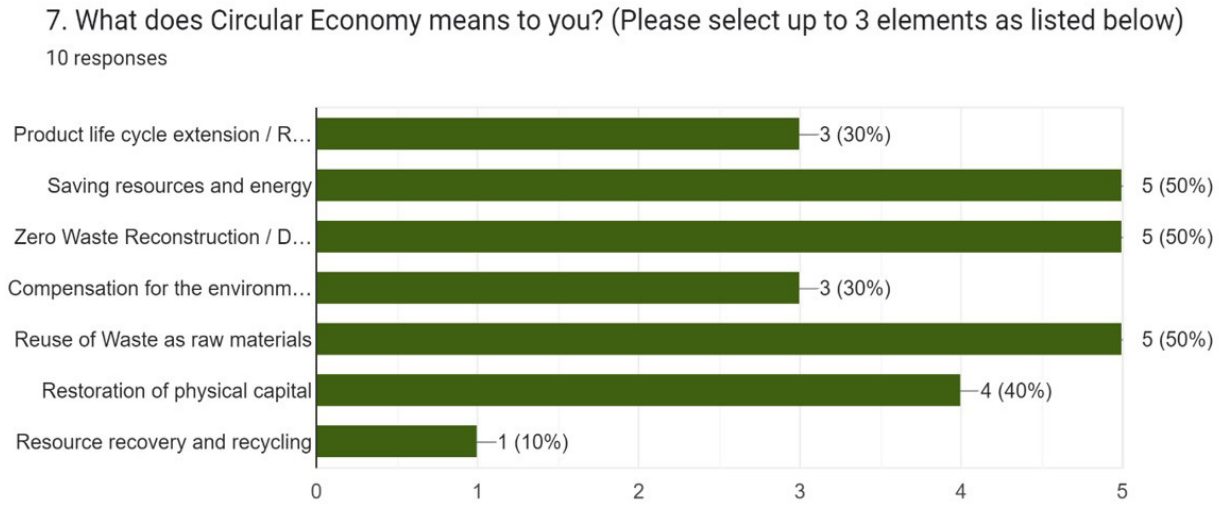
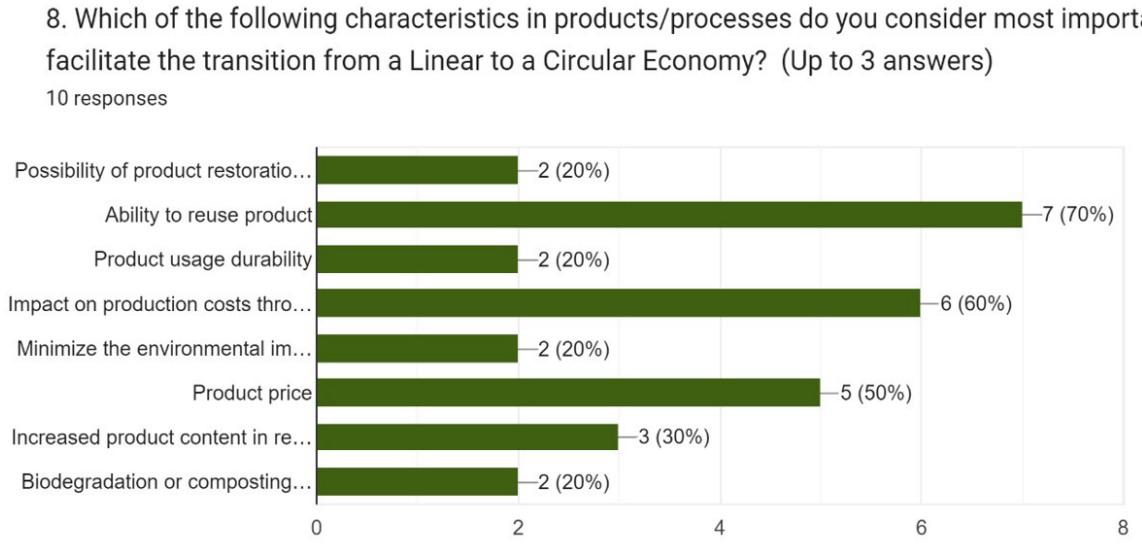


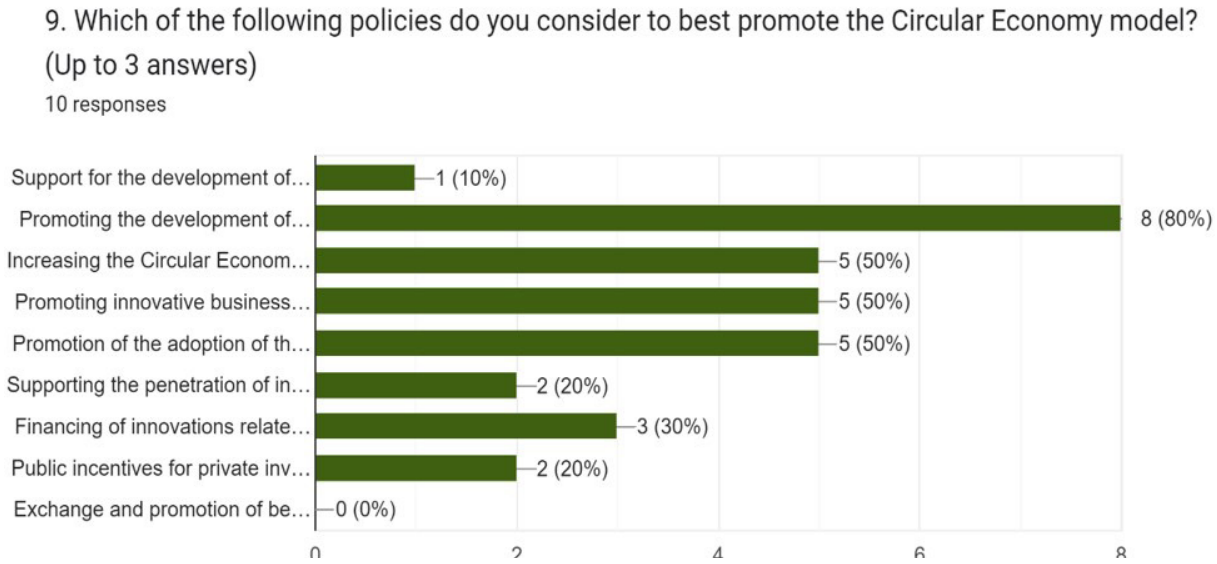
Question 7:

In the above question "Saving resources and Energy", "Zero waste reconstruction", and "Reuse of waste as raw materials" turned out to be the most popular answers selected by 50% of the respondents.



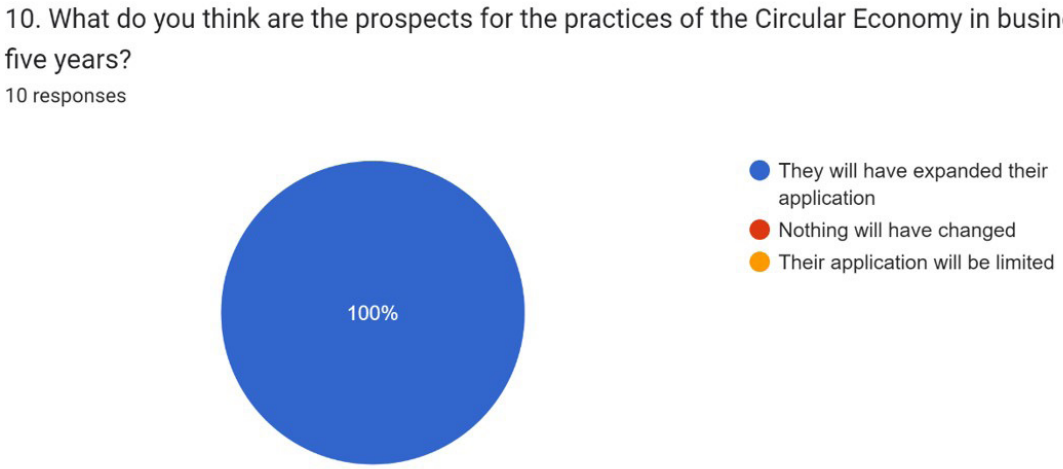
Question 8:

The ability to reuse products was considered by 70% of the respondents as the most important to facilitate the transition from a Linear to a Circular Economy. The "Possibility of product restoration", "Product usage durability", as well as "Bio-Integration or composting", were the less popular among the participants.



Question 9:

The vast majority of the respondents considered the promotion of the development of skills and qualifications in the circular economy as the policy that can better promote the Circular Economy model whereas, surprisingly none of the participants consider the exchange and promotion of best practices.



Question 10:

The participants unanimously agreed that Circular economy practices in business will have expanded their application.

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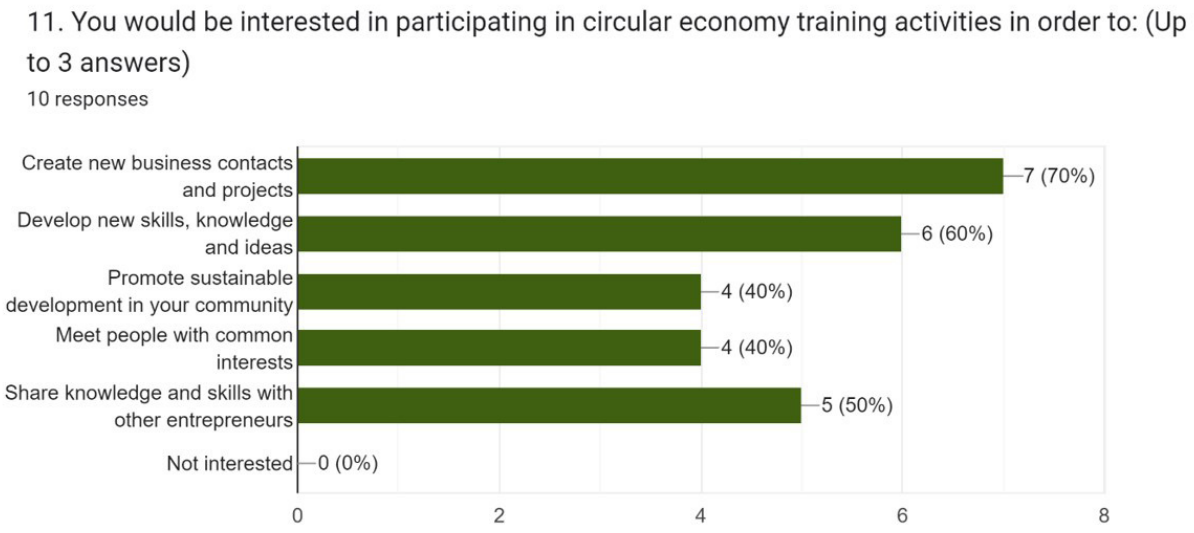
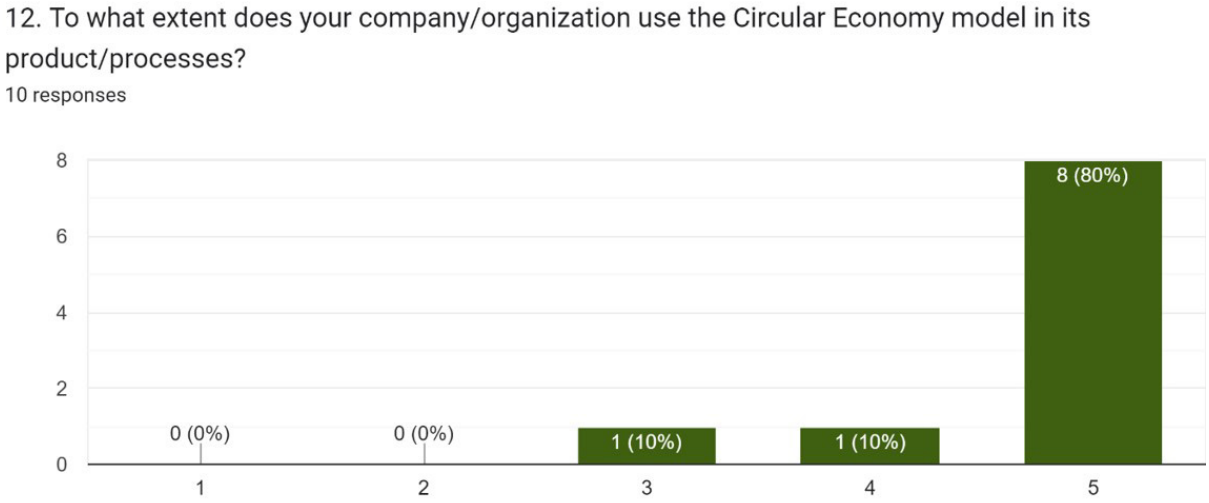


Question 11:

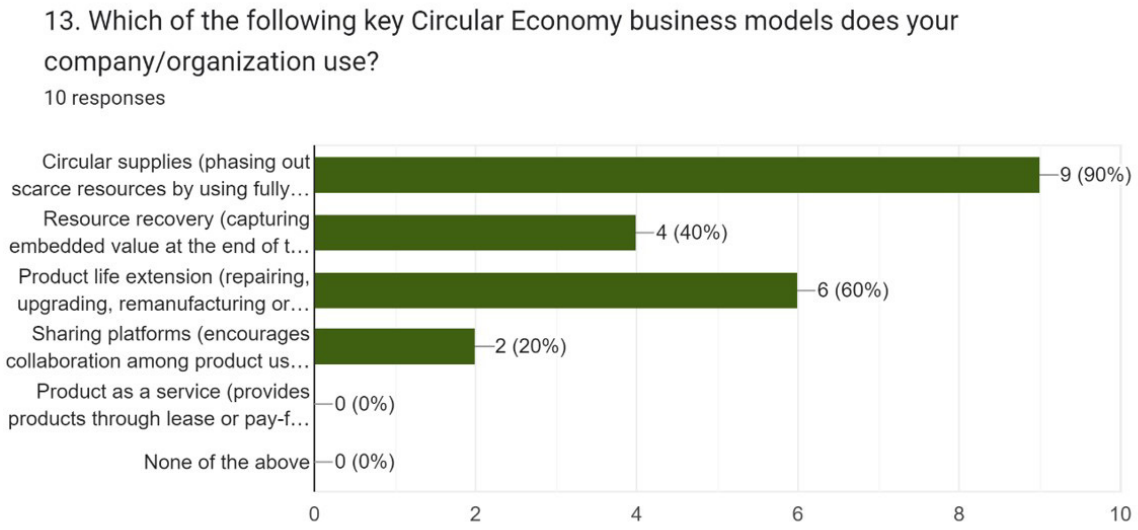
The need for participants to make new business contacts and services has immerged from the 70% of them as well as the need to develop new skills, knowledge, and ideas. (60%)

C. Practical applications of the company/organization in the model of the Circular Economy - (Questions 12-19)



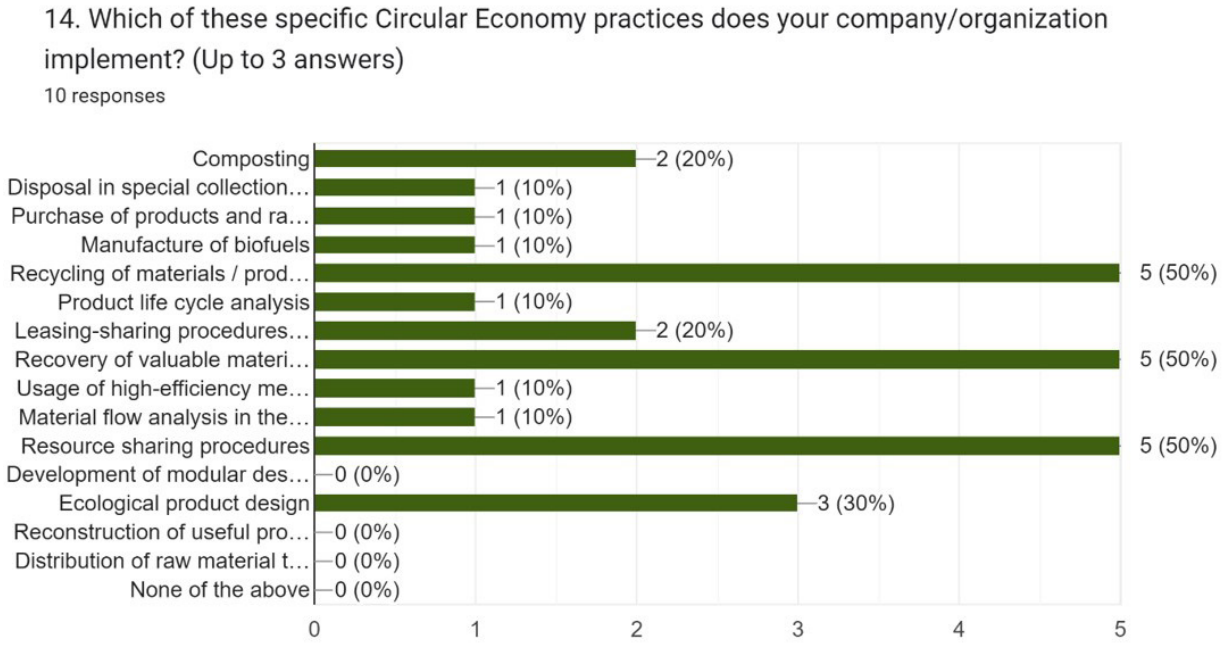
Question 12

80% of the company representatives that took part in the survey agreed that their companies use the Circular Economy model in their provided services while very few do not.



Question 13

90% of the survey participants admitted that Circular supplies (phasing out scarce resources by using fully renewable, recyclable, or biodegradable resources) are the key Circular Economy business model that their company uses.



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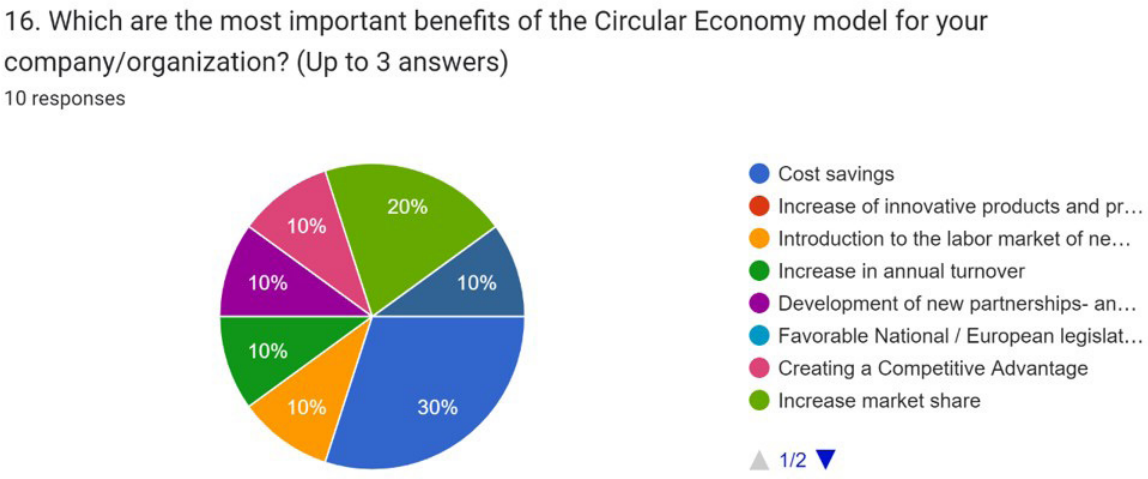
Question 14

Recycling of materials/products/energy, Recovery of valuable materials and reuse, and Ecological product design where the Circular Economy practices that are implemented by 50% of the participants' companies.

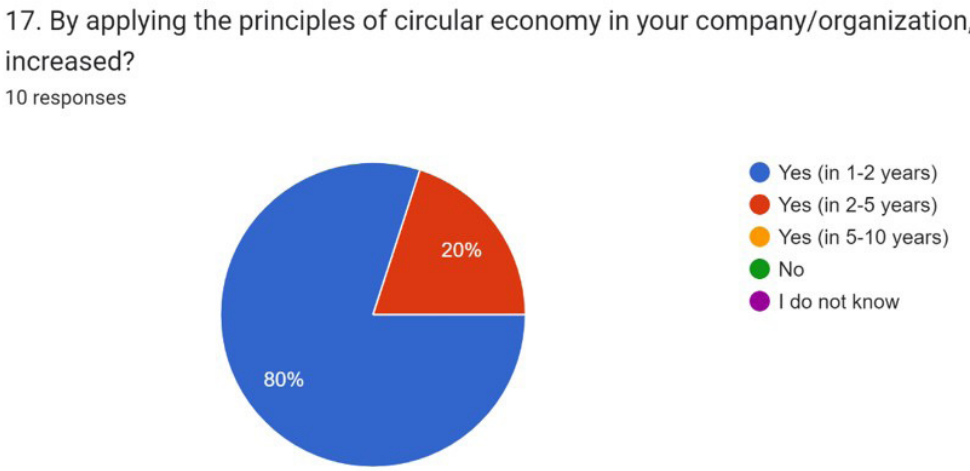
Question 15

Economic growth, without degradation of the environment, is the main driver for a company to implement circular economy practices.



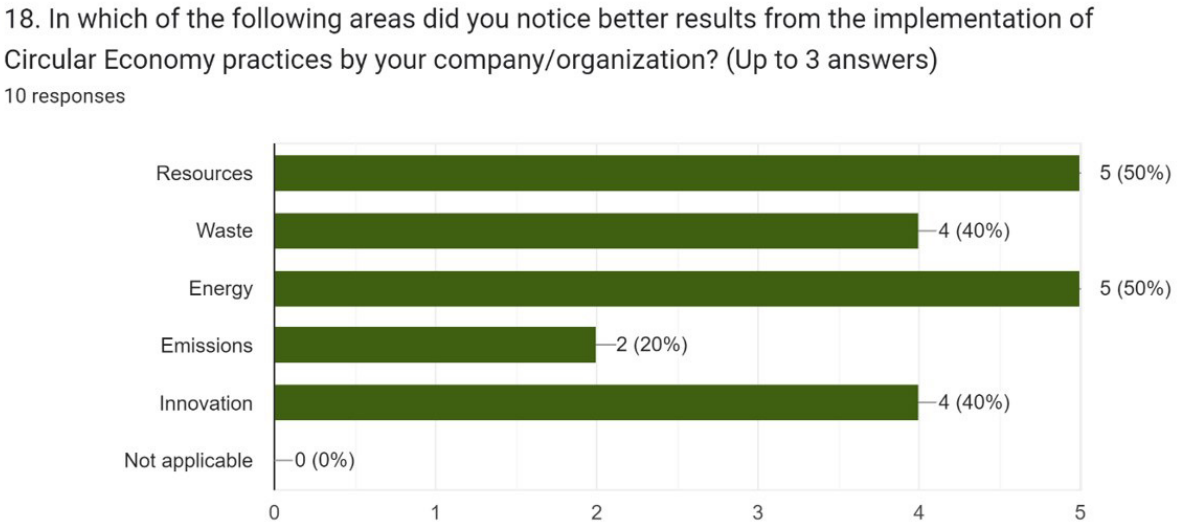
Question 16

Favorable national and European legislation is the most important benefit that a company gains from the Circular Economy model while the increase in the annual turnover was an answer provided by 20% of the survey participants.



Question 17

The large majority of the sample agreed that by applying the principal economy principles in their company the revenue increased.



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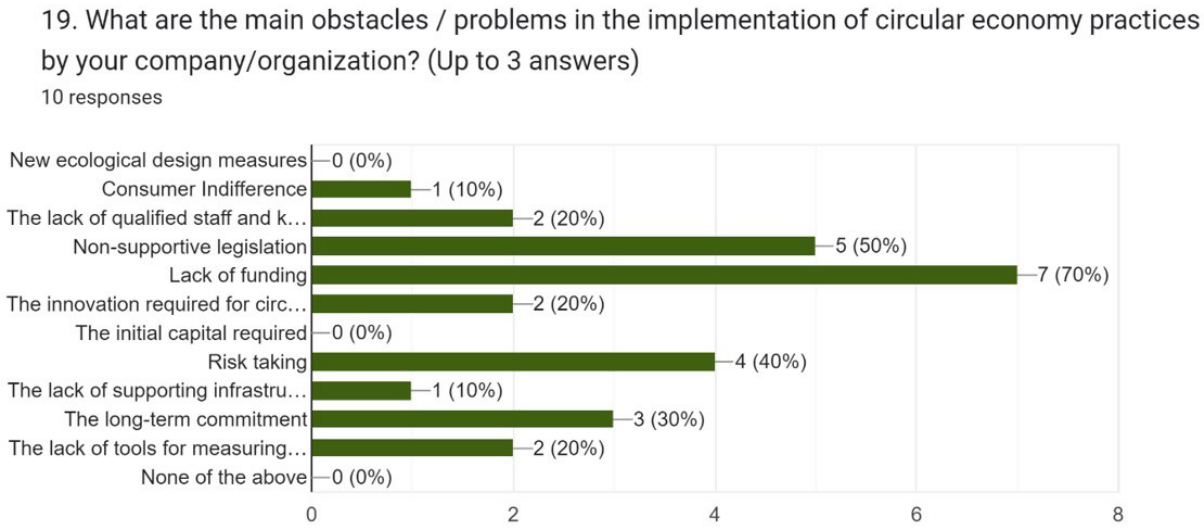
Question 18

Resources and energy are the areas that witnessed significant improvements in the surveyed companies' areas.



Question 19

Lack of funding is the main obstacle that 70% mentioned. the non-supporting legislation was the second most popular one and considered by 50% of the sample.

List of best CE practices mentioned through the questionnaire
Among the best practices cited by respondents:

Name of good practice	Number of responses
Compensation for the environmental impact	3
Design	5
Saving resources and energy,	5
Reuse of Waste as raw materials	5
Zero Waste	4
Product life cycle extension	5
Recycling	4
Restoration of physical capital	5
Composting	6
Resource recovery	5

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PART II: IDENTIFICATION OF CIRCULAR ECONOMY BEST SECTOR PRACTICES

Construction Sector		
Objectives	**Strategies**	**Practices**
Reduced resource consumption	Eco-design	Design for disassembly (DfD)
		Designing using Building Information Modeling (BIM)
		Sustainable resource sourcing
		Energy efficiency
		Renewable energy
	Process optimization	Prefabricating and modular construction (panelization and CLT)
		Just-in-time construction
	Responsible consumption and procurement	Reducing transportation and footprint

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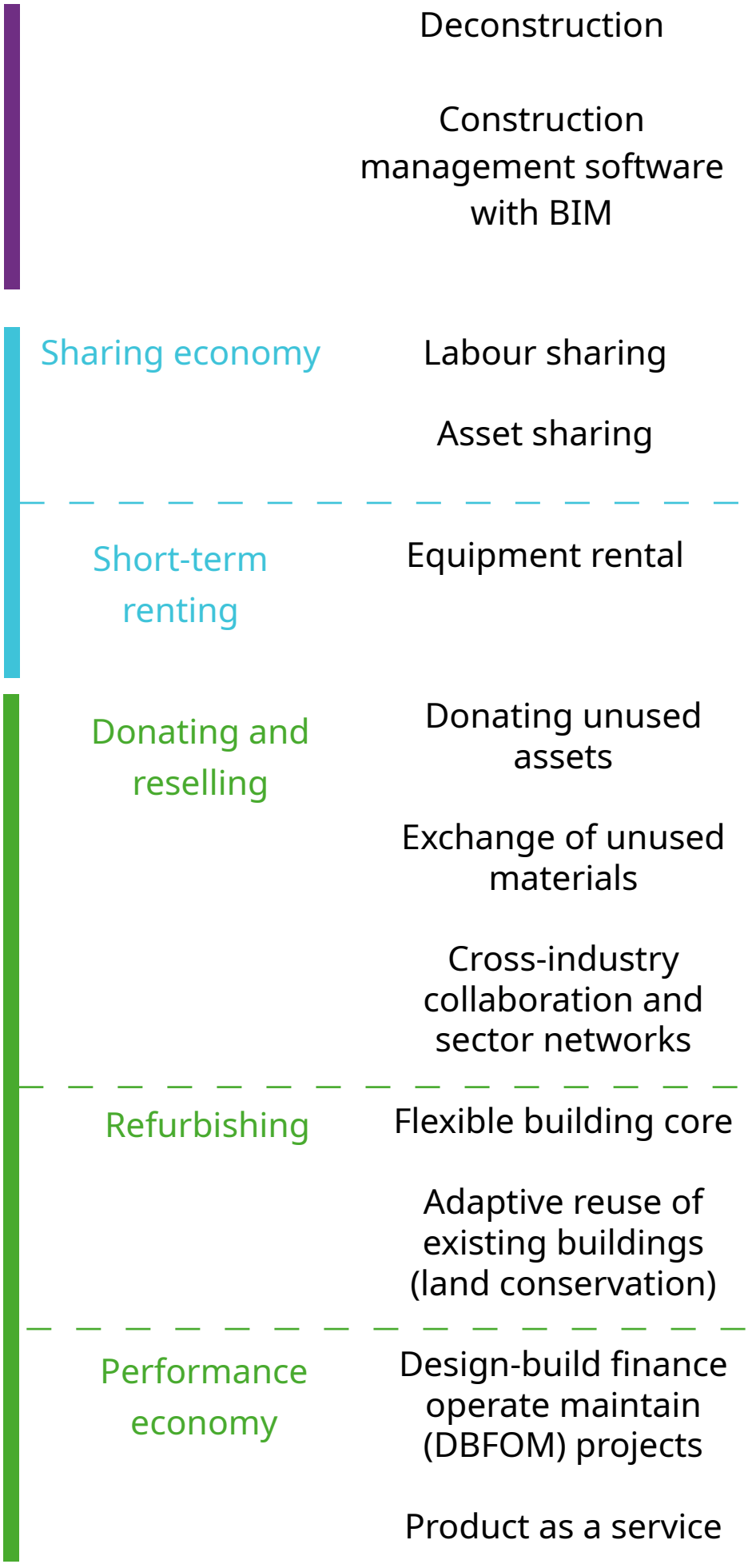

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Giving resources new life

Industrial ecology	Materials made from materials recycled from other industries
	Designing of waste
Recycling and composting	Construction waste management
	Use of biodegradable materials
	Energy efficient deconstruction and recycling
Energy recovery	Construction waste as fuel

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Furniture Sector		
Objectives	**Strategies**	**Practices**
Reduced resource consumption	Eco-design	Use of natural materials and textiles
		Disposal in special collection areas for transport to landfills / landfills
		Easier disassembly
		Recycling of materials/ products /energy
		End-of-life of products Management
		Tackling premature obsolescence
		Single-material polyethylene products
	Process optimization	Inventory planning and management
		Production planning and management

Circular supplies

Strategic network management

Stock and supply chain planning

Systematization of tools and optimization of costs

Integrated business planning of sales and production

Responsible consumption and procurement

Recycling waste

Raw material flow management

Inventory and surplus reduction

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Intensified product use	Sharing economy	Leasing-sharing procedures for final products by consumers Distribution of raw material to other companies and industries Sharing platforms accessible to all
	Short-term renting	All types of furniture rental
Extending life of products / components	Donating and reselling	Re-use and exchange of resources Donating unused assets
	Refurbishing	Collection and reuse of bulky waste Product life cycle analysis and extension when possible
	Performance economy	Synergic business models Purchase of products and raw materials with ecological certifications

Giving resources new life

Industrial ecology	Resource recovery
	Raw materials from waste
	Manufactured products from 100% recycled plastic
Recycling and composting	Green energy production and waste reduction
	Composting
Energy recovery	Energy from waste
	Production from briquettes

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Agri-food Sector		
Objectives	**Strategies**	**Practices**
Reduced resource consumption	Eco-design	Recyclability
		Eco-material tools and products
		Impact free agriculture
		Recovery of valuable materials and reuse
		Usage of high-efficiency mechanical equipment in the utilization of materials
		Recycling of materials/ products /energy
		Disposal in special collection areas for transport to landfills / landfills
	Process optimization	Inventory planning and management
		Production planning and management

	Circular supplies
	Stock and supply chain planning
	Systematization of tools and optimization of costs
	Integrated business planning of sales and production
	Increased use of manures (green and animal)
	Use of crop rotations rather than inorganic fertilisers
	Solar drying of crops
	Appropriate use of pesticides
Responsible consumption and procurement	Decrease consumption highly processed foods

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Intensified product use	Sharing economy	Leasing-sharing procedures for final products by consumers Distribution of raw material to other companies and industries Sharing platforms accessible to all
	Short-term renting	All types of furniture rental
Extending life of products / components	Donating and reselling	Re-use and exchange of resources and tools Healthy food donation
	Refurbishing	Collection and reuse of bulky waste
	Performance economy	Purchase of products and raw materials with ecological certifications

Giving resources new life

Industrial ecology	Water reuse
	Biomethane from sewage sludge
	Animal-housing systems
	Full usage of raw agriculture products
Recycling and composting	Composting organic waste
Energy recovery	Green energy production (solar and wind energy mostly)
	Biofuels from used vegetable oils

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CONCLUSIONS

According to the participants' views expressed through this survey, there is a significant number of companies that have started including circular economy practices in their activities and realized to a significant extent the gradual transition to renewable resources, and recovery of the materials and products.

The economic model of the Circular economy as a regenerative ecosystem has definitely started gaining ground. What became evident from the results of this survey is that companies believe that high levels of sustainability can be achieved without diminishing their profitability.

Finally, through the collected best practices it became evident that some circular business models have gained significant market share, but typically only in restricted economic niches, namely: Sustainable resource sourcing, Energy efficiency, and Waste management.

The transition to a low-carbon, resource-efficient, and circular economy is of paramount importance for Greece to ensure environmental protection but also to boost green growth, create new jobs, fight unemployment and support 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.

The long-term (2030) goals of the National Action Plan on Circular Economy can be summarised as follows:

- moving up the waste hierarchy by focusing on preventing waste and improving recycling
- supporting circular entrepreneurship by promoting “industrial symbiosis” and business clusters
- supporting circular consumption patterns of re-using, re-storing and re-pairing rather than buying new products, especially for electrical and electronic devices
- enhancing multi-stakeholder partnerships across industry, academia, and civil society
- monitoring progress towards a circular economic model through SMART (specific, measurable, achievable, relevant and time-bound) indicators.

Like the digital and energy transition towards a climate-neutral Europe, the circular transition will take some time, since it requires - apart from the progressive implementation of its binding targets, such as increased recycling targets in waste management and the progressive reduction of the landfill by 2035 - the creation of new production and consumption patterns, but also a new “circular economy culture”, both at the level of local government, entrepreneurship and civil society.

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