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

CONTENT

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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 with the aim 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 specifically analysis for the results of the survey responses. This analysis is divided in 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 between them, are chosen the most frequent mentioned indicated with the number of responses. This facilitates the comparison between the best practices used in the six partner countries around EU.

At the part II, the analysis goes a step further and categorizes these best practices of each sector (agro-business, housing/building, furniture, etc.) According to answers to four objectives which are the reduced resource consumption, the intensified product use, the extending 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 of the questionnaire and further research makes 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 with the objectives of the project.

PART I: ANALYSIS OF QUESTIONNAIRE DATA FROM EACH PARTNER COUNTRY

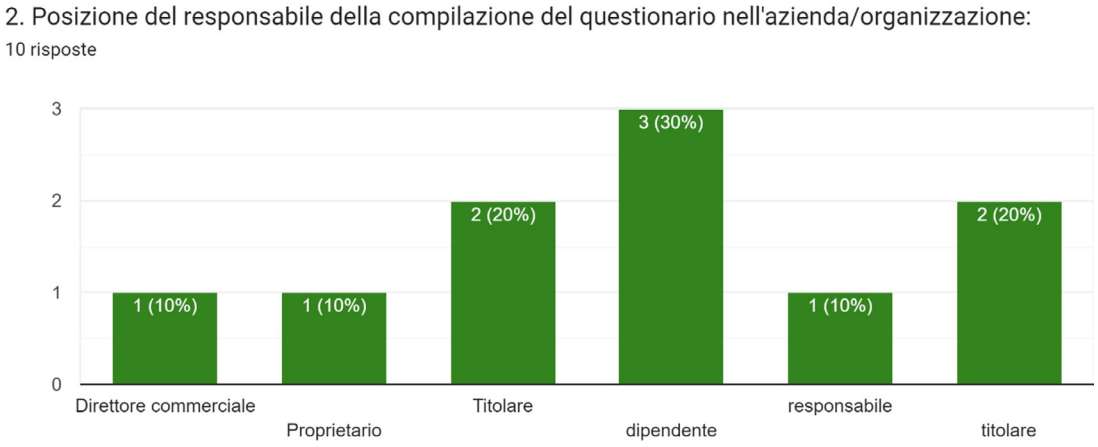
PART I: ANALYSIS OF QUESTIONNAIRE DATA FROM EACH PARTNER COUNTRY

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

Country: ITALY

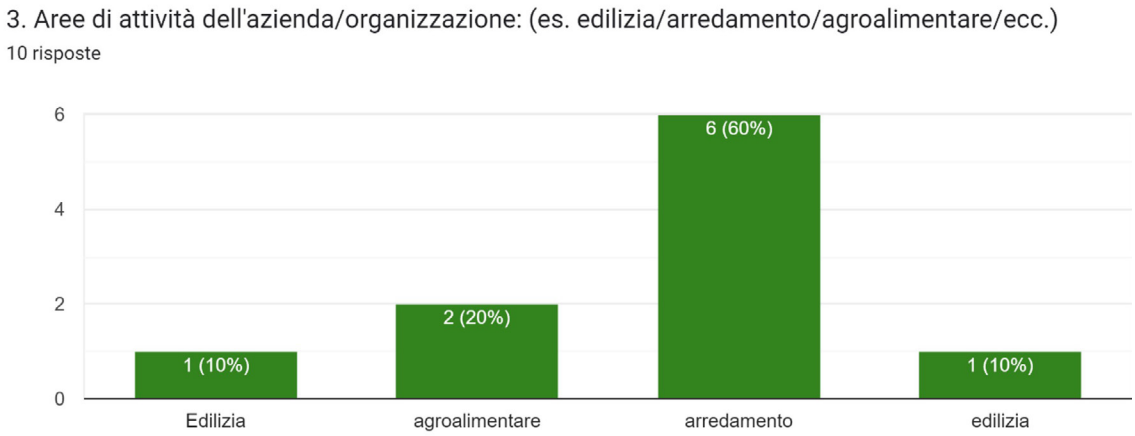
Questions 1-5:

All the 10 respondents involved in this survey are from Companies and Organisations located in Italy.



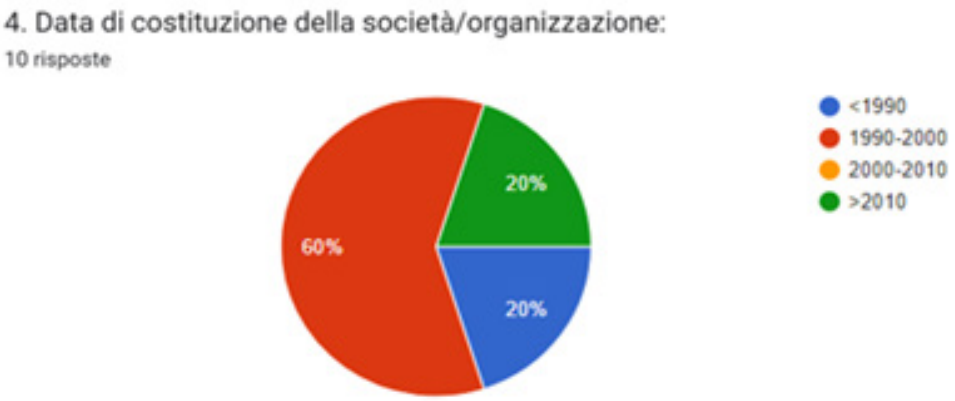
The answers collected for question n.2, regarding the role of the respondents within their companies/organisations can be schematised as the following:

- Owners/ responsibles: 7 (70%)
- Employees: 3 (30%)



According to answers to question n.3, the area of activity of the Organisations involved in the survey are:

- Furniture: 6 (60%)
- Housing/Building: 2 (20%)
- Agri-food: 2 (20%)



According to answers to question n.4:

- 60% of the organisations involved have been established between 1990 and 2000
- 20% before 1990
- 20% between 2000 and 2010

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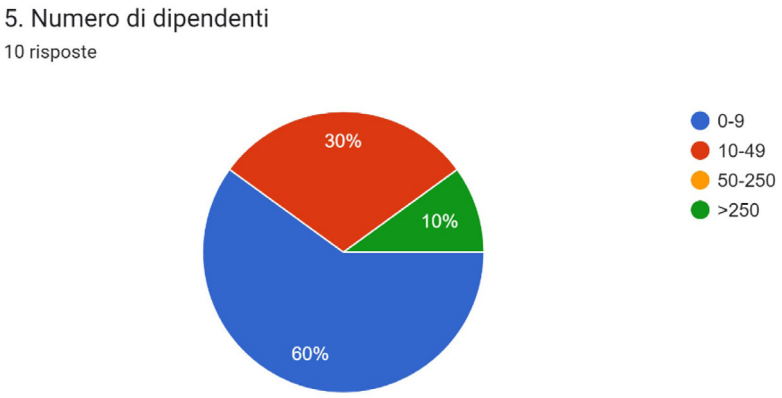
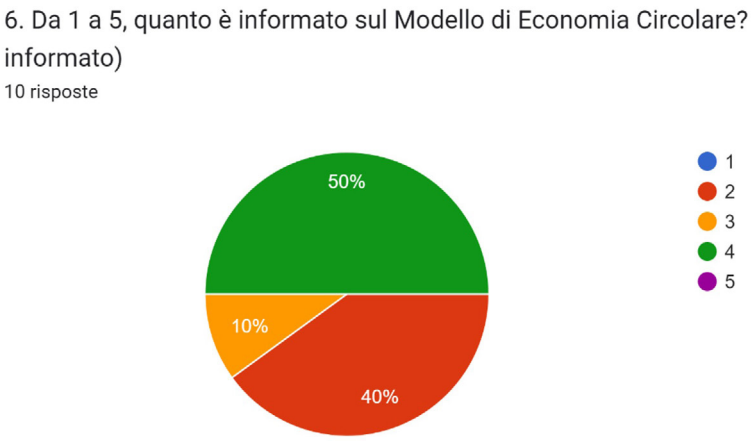


According to answers to question n.5 :

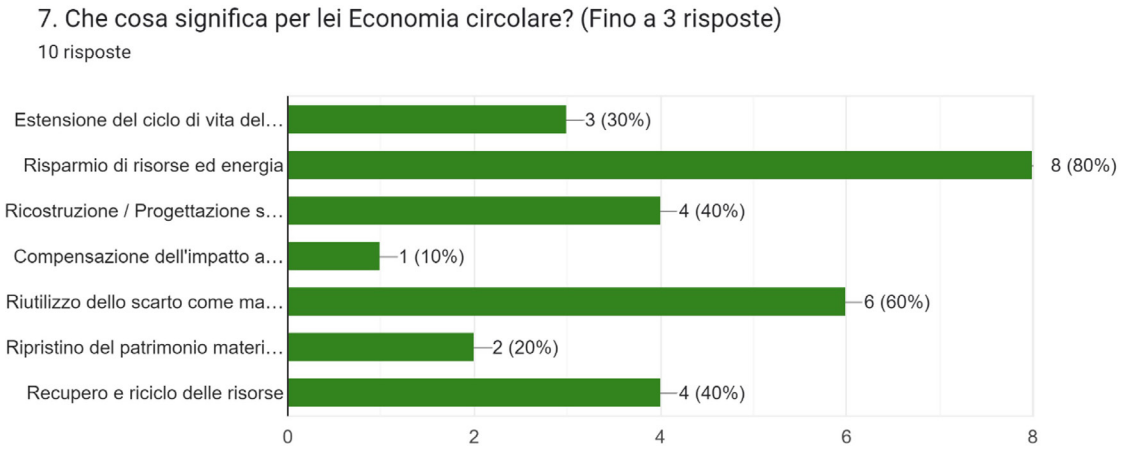
- 60% of the organisations involved in the survey have from 0 to 9 employees
- 30% from 10 to 49 employees
- 10% more than 250 employees

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



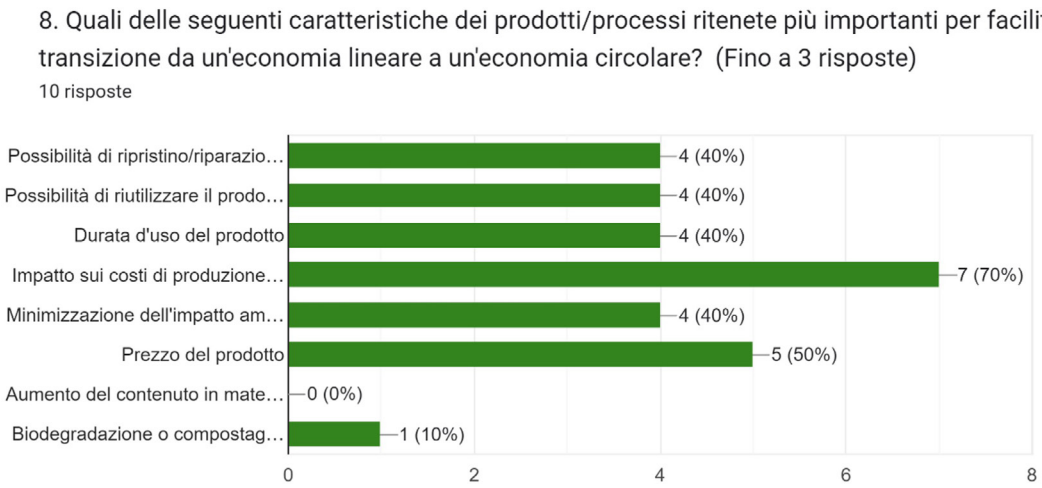
According to answers to question n.6, about the knowledge of the respondents about Circular Economy Model (1-5)

- 50% rated 4
- 40% rated 2



According to answers to question n.7, about the meaning given to Circular Economy respondents answered as following:

- Saving resources and energy (8)
- Reuse of Waste as raw material (6)
- Zero Waste Reconstruction / Design (4)
- Resource recovery and recycling (4)
- Product life cycle extension / Reuse (3)
- Restoration of physical capital (2)
- Compensation for the environmental impact (1)



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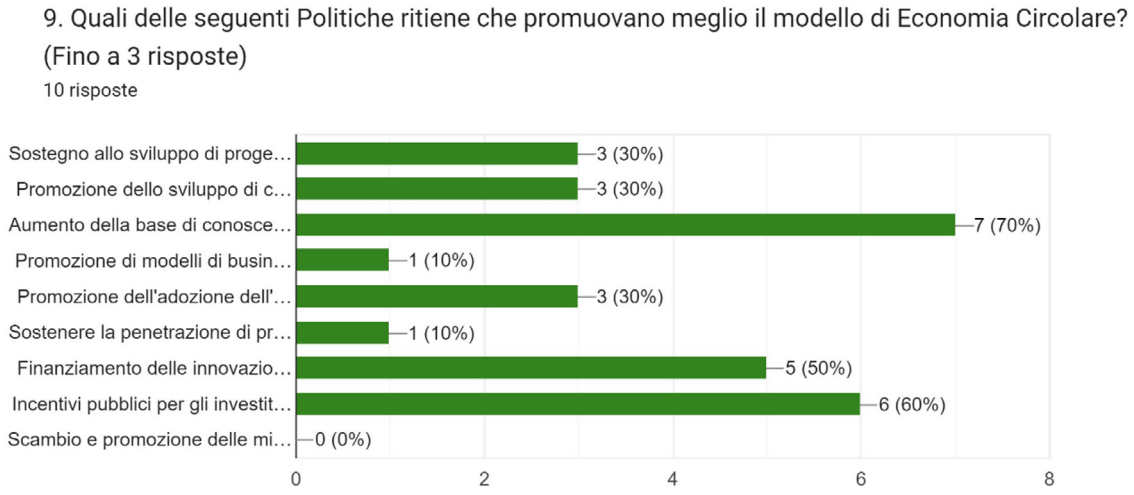
According to answers to question n.8, the most important characteristics in products/process to facilitate the transition from a Linear to a Circular Economy are:

- Impact on production costs through efficient use of resources (7)
- Product price (5)
- Possibility of product restoration / repair (4)
- Ability to reuse product (4)
- Product usage durability (4)
- Minimize the environmental impact of the product life cycle (4)
- Biodegradation or composting of the product (1)



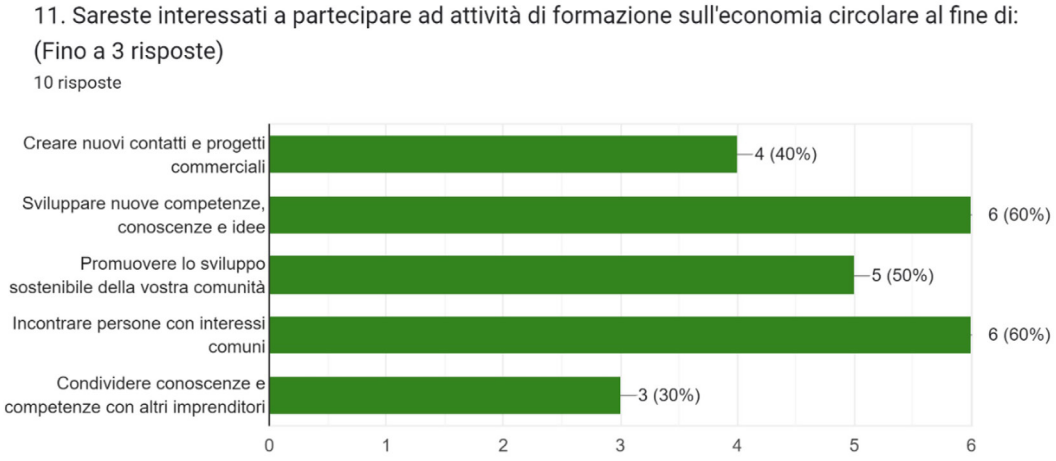
According to answers to question n.9, to best policies to promote the Circular Economy model are:

- Increasing the Circular Economy knowledge base by collecting and providing information and data (7)
- Public incentives for private investors to finance projects that favor the Circular Economy (6)
- Financing of innovations related to the Circular Economy (eg co-financed projects, banks, etc.) (5)
- Support for the development of Circular Economy projects (3)

- Promoting the development of skills / qualifications on the circular economy (3)
- Promotion of the adoption of the circular economy by the media (3)
- Supporting the penetration of innovative projects in the market through labeling, certification and standards (1)
- Promoting innovative business models for the circular economy (e.g leasing and distribution) (1)

According to answers to question n.10:

- 70% of respondents believe that the practices of the Circular Economy in business after five years will have expanded their application
- 30% of respondents believe that their application will be limited



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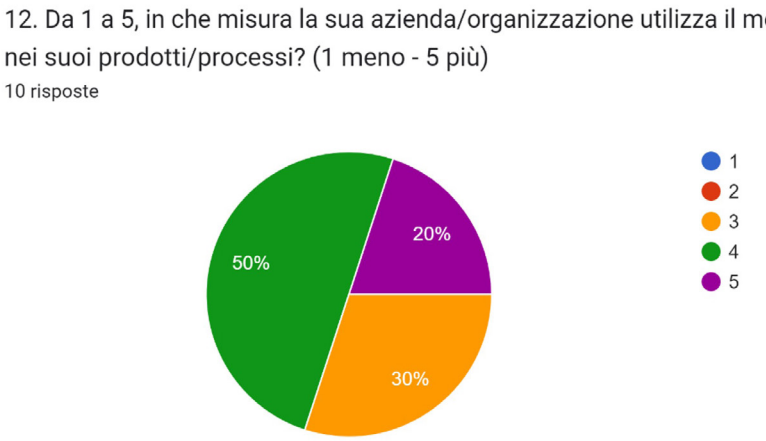
According to answers to question n.11, respondents will be interested in participating to Circular Economy training activities in order to:

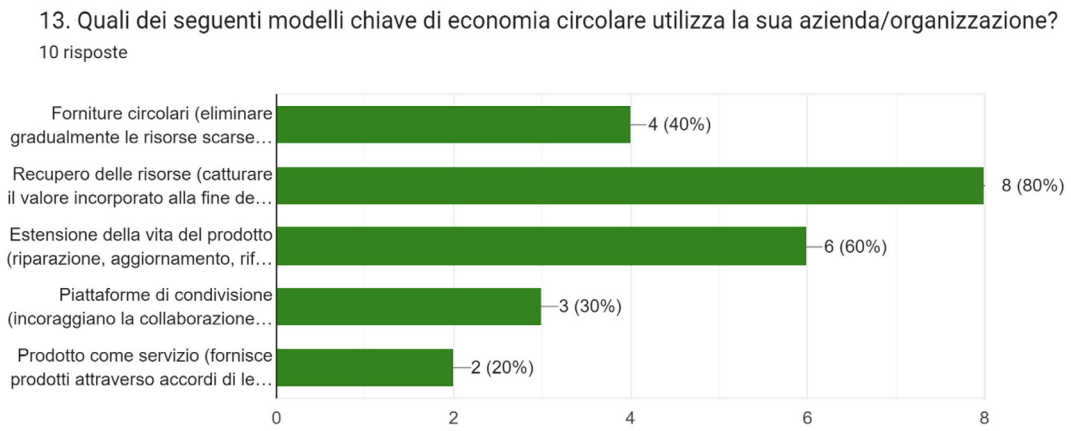
- Develop new skills, knowledge and ideas (6)
- Meet people with common interests (6)
- Promote sustainable development in your community (5)
- Create new business contacts and projects (4)
- Share knowledge and skills with other entrepreneurs (3)

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



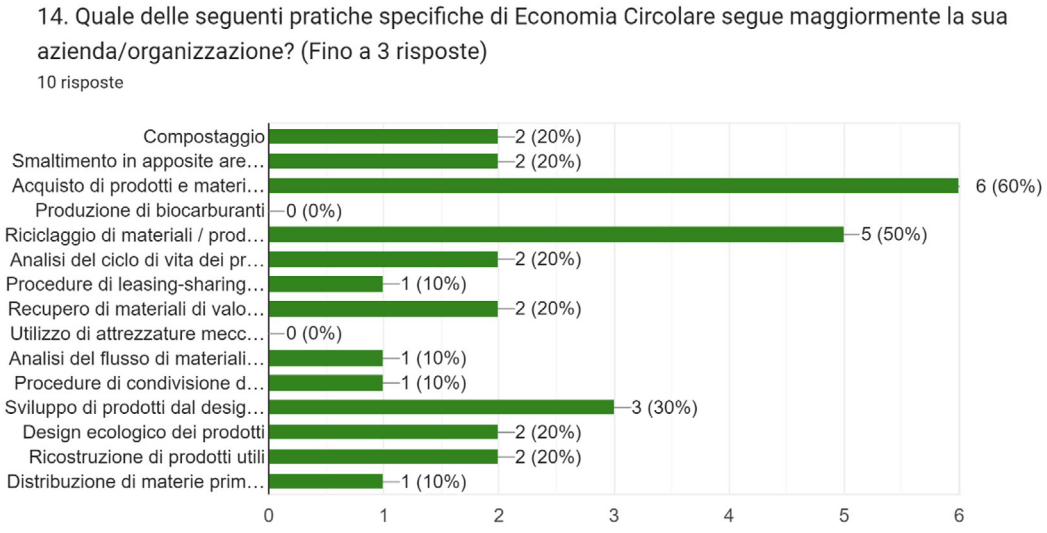
According to answers to question n.12, about the level of application of the Circular Economy Model in the products/processes of the organisations involved(1-5):

- 50% of respondents rated 4
- 30% of respondents rated 3
- 20% of respondents rated 5



According to answers to question n.13 the following key Circular Economy business models are the mostly used in the organisations involved:

- Resource recovery (capturing embedded value at the end of the product lifecycle to feed into another via innovative recycling and upcycling services) (8)
- Product life extension (repairing, upgrading, remanufacturing or remarketing products) (6)
- Circular supplies (phasing out scarce resources by using fully renewable, recyclable or biodegradable resources) (4)
- Sharing platforms (encourages collaboration among product users, whether individuals or organizations) (3)
- Product as a service (provides products through lease or pay-for-use arrangements (2)



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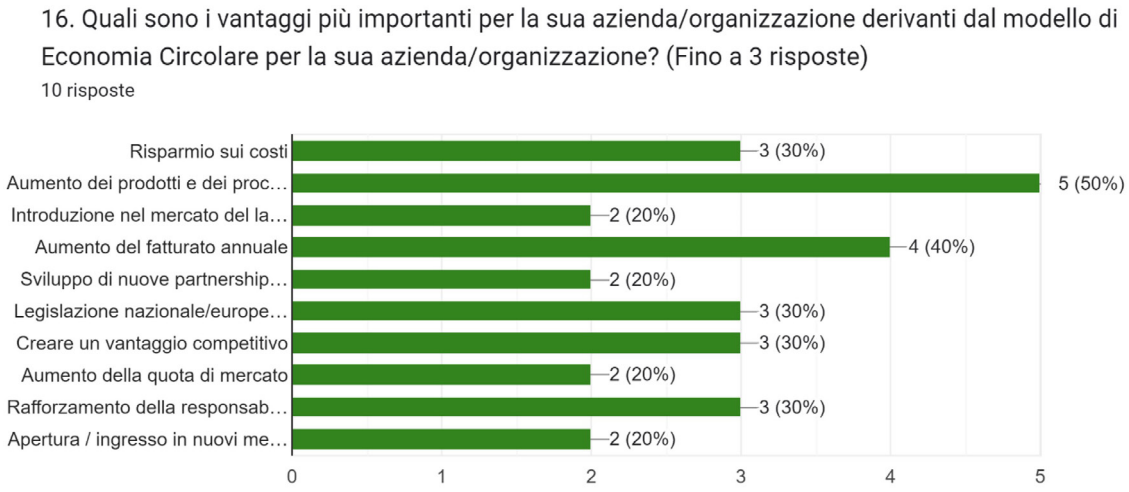
According to answers to question n.14, the following specific Circular Economy practices are the mostly followed by the respondents Organisations:

- Purchase of products and raw materials with ecological certification (6)
- Recycling of materials / products / energy (5)
- Development of modular design products
- Composting (3)
- Disposal in special collection areas for transport to landfills / landfills (2)
- Product life cycle analysis(2)
- Recovery of valuable materials and reuse(2)
- Resource sharing procedures(2)
- Reconstruction of useful products(2)
- Leasing-sharing procedures for final products by consumers (1)
- Material flow analysis in the production process (1)
- Ecological product design (1)
- Distribution of raw material to other companies and industries (1)

According to answers to question n.15, the following incentives have led respondents company/organization to implement circular economy practices:

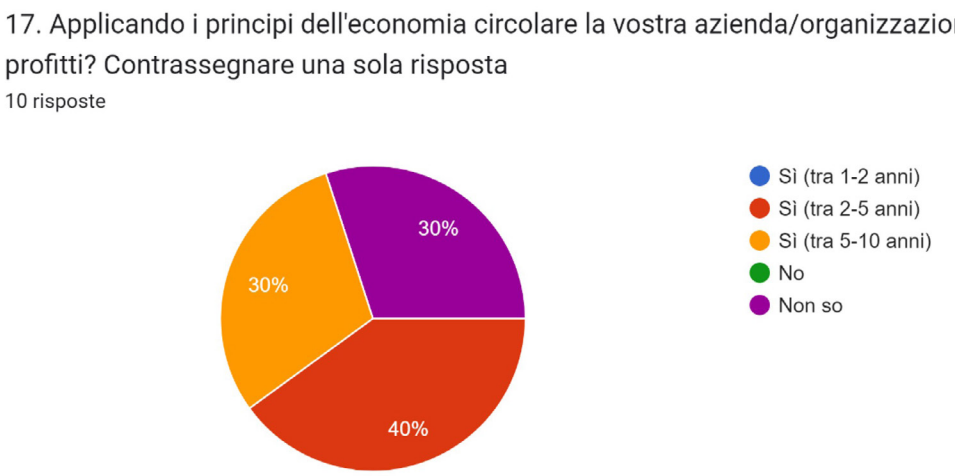
- Evolution according to the new trends of the time (6)
- Investment for future profits (5)
- Expansion into new markets and partnerships (4)
- Saving / using resources more efficiently (4)
- Economic growth, without degradation of the environment (3)
- Creating a Competitive Advantage (3)
- Strategic Sustainability (2)
- Cyclical criteria in public procurement (2)
- Creating a Communicative Advantage (1)



According to answers to question n.16, the most important benefits of the Circular Economy model noticed by respondents are:

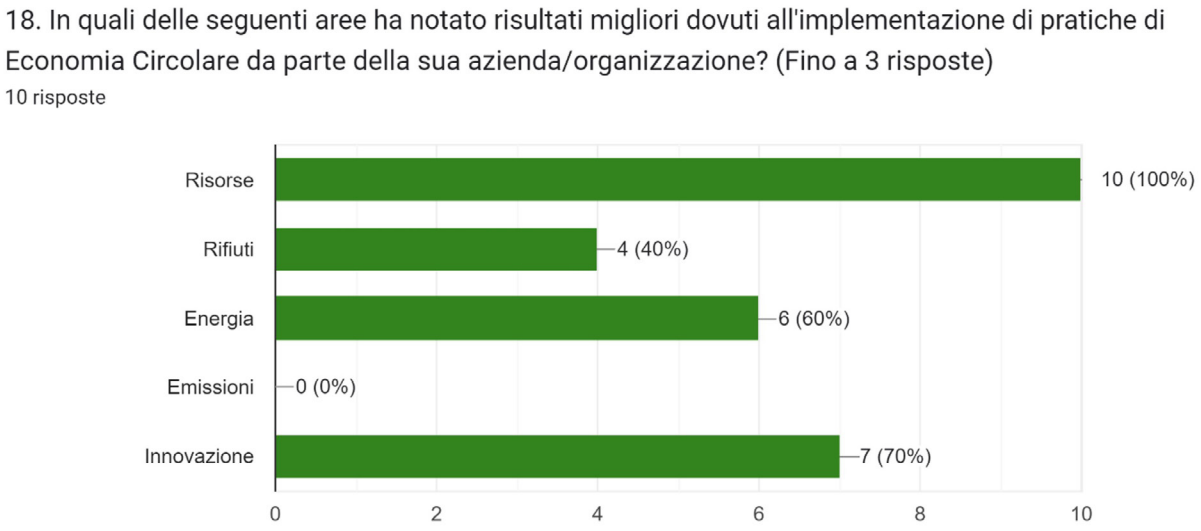
- Increase of innovative products and production processes (5)
- Increase in annual turnover (4)
- Cost savings (3)
- Favorable National / European legislation (3)
- Creating a Competitive Advantage (3)
- Enhancing Corporate Social Responsibility - Improving the image (3)

- Introduction to the labor market of new skills and knowledge (2)
- Development of new partnerships- and collaborations (2)
- Increase market share (2)
- Opening / Penetration into new target markets (2)



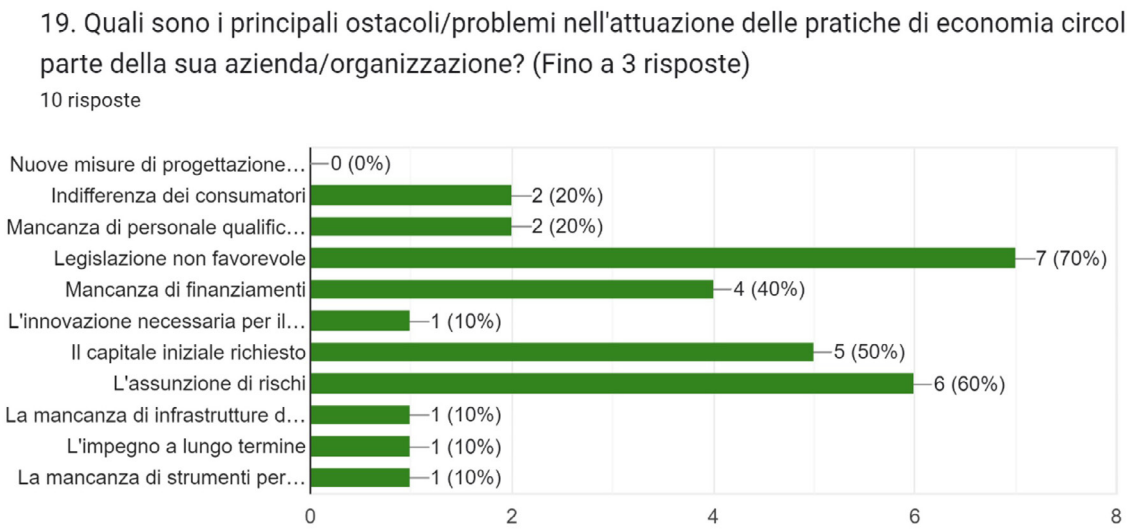
According to answers to question n.17

- 40% of the respondents believe their organisations will increase profits coming from Circular Economy Model principles application in 2-5 years
- 30% of the respondents believe their organisations will increase profits coming from Circular Economy Model principles application in 5-10 years
- 30% doesn't know



According to answers to question n.18, respondents noticed better results from the implementation of Circular Economy practices in the following areas:

- Resource (10)
- Innovation (7)
- Energy (6)
- Waster (4)



According to answers to question n.19, main obstacles / problems in the implementation of circular economy practices are related to:

- Non-supportive legislation (7)
- Risk taking (6)
- The initial capital required (5)
- Lack of funding (4)
- Consumer Indifference (2)
- The lack of qualified staff and know-how (2)
- The innovation required for circular design (1)
- The lack of supporting infrastructure / partners (1)
- The long-term commitment (1)
- The lack of tools for measuring cyclical economy progress (1)

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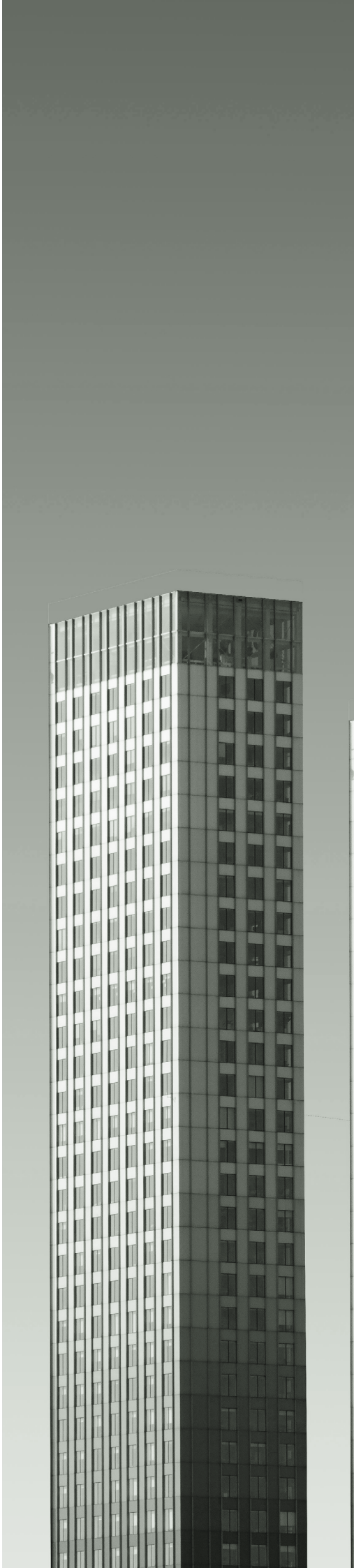
List of best CE practices mentioned through the questionnaire:

- Composting
- Disposal in special collection areas for transport to landfills / landfills
- Purchase of products and raw materials with ecological certifications...
- Recycling of materials / products / energy
- Product life cycle analysis
- Leasing-sharing procedures for final products by consumers
- Recovery of valuable materials and reuse
- Material flow analysis in the production process
- Resource sharing procedures
- Development of modular design products
- Ecological product design
- Reconstruction of useful products
- Distribution of raw material to other companies and industries



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Among the best practices cited by respondents:

Name of good practice	Number of responses
Purchase of products and raw materials with ecological certifications...	6
Recycling of materials / products / energy	5
Development of modular design products	3
Composting	2
Disposal in special collection areas for transport to landfills / landfills	2
Product life cycle analysis	2
Recovery of valuable materials and reuse	2
Resource sharing procedures	2
Reconstruction of useful products	2
Leasing-sharing procedures for final products by consumers	1
Material flow analysis in the production process	1
Ecological product design	1
Distribution of raw material to other companies and industries	1

PART II: IDENTIFICATION OF CIRCULAR ECONOMY BEST SECTOR PRACTICES

Construction Sector		
Objectives	**Strategies**	**Practices**
Reduced resource consumption	Eco-design	Recyclability
		Easier disassembly
		More effective use
		End-of-life of products Management
		Eco-friendly architecture
	Process optimization	Event Planning
		life cycle management
		Spare parts management
		Production planning and scheduling
		Distribution planning
		Strategic network management

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Responsible consumption and procurement

Stock and supply planning and optimisation

Supply chain planning

Availability and capacity for commitment

Integrated business planning of sales and production

Co-ordinated and collaborative planning, including sales and supply forecasts

Demand planning

Inventory planning and management

Production planning and management

Use of data and advanced mathematical models

	Responsible consumption and procurement	Paper recycling
		Sustainable packaging
		Logistics optimisation
		Artificial intelligence algorithms
		Raw material flow management
		Inventory and surplus reduction
		Short supply chain
Intensified product use	Sharing economy	Access rather than ownership
		Collaborative projects
	Short-term renting	Equipment rental

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Extending life of products / components	Donating and reselling	Re-use and exchange of resources
	Refurbishing	Collection, refurbishing and reuse of bulky waste
	Performance economy	Synergic business models
Giving resources new life	Industrial ecology	Water reuse Textile materials from recycled plastic Manufactured products from 100% recycled plastic From shoe soles to rubber for flooring Bricks from demolition waste Optimal maintenance plans 3D-printed eco materials

Recycling and composting	Designing of waste
	Recycling of household waste
	Green energy production and waste reduction
	Conversion of organic Waste into compost
Energy recovery	Centralized heating systems
	Building thermic isolation

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Furniture Sector		
Objectives	**Strategies**	**Practices**
Reduced resource consumption	Eco-design	Recyclability
		Easier disassembly
		More effective use
		End-of-life of products Management
		Pay-per-use model
		Tackling premature obsolescence
		Single-material polyethylene products
	Process optimization	Event Planning
		life cycle management
		spare parts management
		Production planning and scheduling
		Distribution planning

Strategic network management

Stock and supply planning and optimisation
Availability and capacity for commitment

Integrated business planning of sales and production

Co-ordinated and collaborative planning, including sales and supply forecasts

Demand planning

Inventory planning and management

Production planning and management

Use of data and advanced mathematical models

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	Responsible consumption and procurement	Paper recycling
		Sustainable packaging
		Logistics optimisation
		Artificial intelligence algorithms
		Raw material flow management
		Inventory and surplus reduction
		Supply chain planning
		Short supply chain
Intensified product use	Sharing economy	Access rather than ownership
	Short-term renting	Equipment rental

Extending life of products / components	Donating and reselling	Re-use and exchange of resources
	Refurbishing	Collection, refurbishing and reuse of bulky waste
	Performance economy	Product as a service Synergic business models
Giving resources new life	Industrial ecology	Water reuse Textile materials from recycled plastic Manufactured products from 100% recycled plastic Biomethane from sewage sludge From shoe soles to rubber for flooring Raw materials from waste

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	Optimal maintenance plans
Recycling and composting	Designing of waste
	Recycling of household waste
	Green energy production and waste reduction
Energy recovery	Electricity from waste (pellets)

Furniture Sector		
Objectives	**Strategies**	**Practices**
Reduced resource consumption	Eco-design	Recyclability
		More effective use
		Eco-material tools and products
		Impact free agriculture
	Process optimization	Event Planning
		Spare parts management
		Production planning and scheduling
		Distribution planning
		Strategic network management
		stock and supply planning and optimisation
		Supply chain planning

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	Availability and capacity for commitment
	Integrated business planning of sales and production
	Co-ordinated and collaborative planning, including sales and supply forecasts
	Demand planning
	Inventory planning and management
	Production planning and management
Responsible consumption and procurement	Paper recycling
	Sustainable packaging
	Logistics optimisation
	Artificial intelligence algorithms
	Raw material flow management
	Inventory and surplus reduction
	Short supply chain

Intensified product use	Sharing economy	Access to lands rather than ownership
	Short-term renting	Equipment rental
Extending life of products / components	Donating and reselling	Re-use and exchange of resources
	Refurbishing	Collection and reuse of bulky waste
	Performance economy	Synergic business models
Giving resources new life	Industrial ecology	Water reuse Biomethane from sewage sludge Full usage of raw agriculture products

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Recycling and composting	Designing of waste
	Recycling of household waste
	Green energy production and waste reduction
	Conversion of organic waste into compost
	Biofuels from used vegetable oils
Energy recovery	Biomethane from waste
	Electricity from the recovery of olive tree prunings

CONCLUSIONS

The European Commission, in its recent Second Action Plan for the Circular Economy, emphasises that with a linear model of economy, based on high resource and energy consumption, climate neutrality cannot be achieved.

In order to turn to a Circular Economy Model, it is necessary to close existing circularity gaps, related to: reduction of resource utilisation, by decreasing the amount of material used in making a product or providing a service through circular design, focusing on sharing models and the development of digitisation;

- lengthening the use of resources, optimising the use of resources and increasing product life through durable design, the use of materials and services that extend the life of goods, reuse, repair and remanufacturing;
- use of regenerative raw materials, replacing fossil fuels and non-renewable materials with renewable energies and materials, maintaining natural capital and ecosystem services;
- re-use of resources, with recycling of waste and re-use of secondary raw materials.

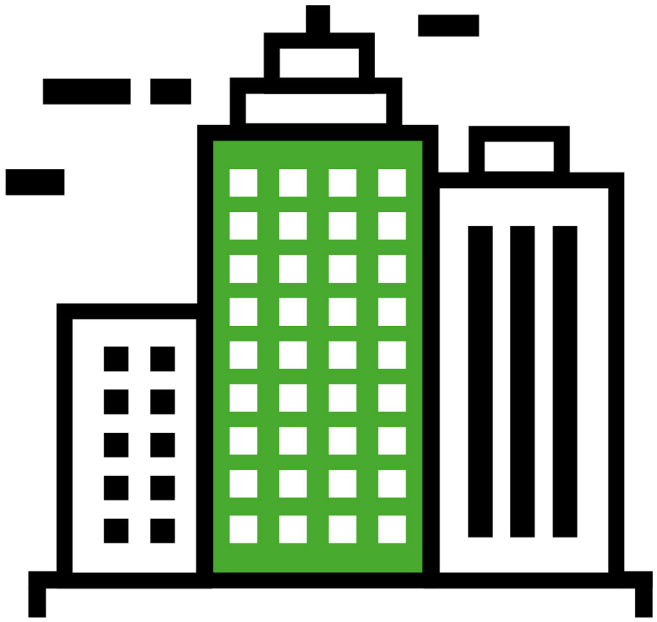
Organizations wait that the principles of the CE models will increase their profits after 1-10 years. Waste and energy are the indicators that they notice better results. Although organizations try to implement CE practices in their production processes, the lack of funding; non-supportive legislation, and consumer indifference, seems to be the main obstacles/problems in the implementation.

Promoting the sustainable products, empowering organizations to the transition into a new business economic model which is green;

rearranging the production process and creating new strategic tools will fill each gap between linear and circular economy model and will lead to a successful transition in Cyprus, based on the circular economy action plan, introduced by European Commission.

For each of these four pillars of the transition to a circular economy, in Italy there are specific gaps that can be filled in the short to medium term with technologies and, moreover, operational and management methods; others are longer term and require research and development of innovation and new measures by the Italian National Authorities, which should supports Organisations interested in the transition to a more sustainable entrepreneurial model.

Recovering these gaps, for instance by reducing the use of a certain amount of material to provide a certain service, or by extending the useful life of a certain product by a certain number of years, or by increasing the share of renewable material or energy for a certain product, or by increasing the share of recycled material used to replace virgin materials in a certain product, also leads to energy savings, reductions in the use of fossil energy and thus also reductions in greenhouse gas emissions in the short term period while increasing benefits for the Organisations and the whole National and European Economy.



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