

# SMecoMP

## WP2 Project dissemination and communication

### Del.2.6.3 Informative material/Technical article 2

#### Agency for promotion of entrepreneurship of the Republic of Macedonia (FYROM)

<i>Deliverable Number</i>	2.6.3
<i>Project Title</i>	<i>A knowledge Alliance in Eco-Innovation Entrepreneurship to Boost SMEs Competitiveness</i>
<i>Project Acronym</i>	SMecoMP
<i>Project Duration</i>	01.12.2017 – 28.02.2021
<i>Project Partners</i>	<b>LB (PB1)</b> University of Macedonia – Department of Economics (GR) <b>PB2</b> Federation of Industries of Greece (GR) <b>PB3</b> Bulgarian Industrial Association – Union of the Bulgarian Business (BG) <b>PB4</b> Trakia University (BG) <b>PB5</b> "St. Kliment Ohridski University" Bitola, Faculty of Economics-Prilep (FYROM) <b>PB6</b> Agency for promotion of entrepreneurship of the Republic of Macedonia (FYROM) <b>PB7</b> Cyprus University of Technology (CY) <b>PB8</b> Cypriot Enterprise Link (CY) <b>PB9</b> Youth Entrepreneurship – NE (GR) <b>PB10</b> Chamber of Commerce and Industry of Ioannina (GR)

## **“GREEN” ECONOMY IN REPUBLIC OF NORTH MACEDONIA CHALLENGES AND OPPORTUNITIES**

### **Introduction**

Increased demand for products and services, caused by economic growth and improved living standards without changes in the pattern of consumer habits, generates increased use of natural resources and large quantities of waste. The demand for transport and infrastructure for transport and the disposal of materials and waste endangers the environment. The high energy intensity contributes to the emission of harmful substances in the air. Only the use of recycled materials, reasonable use and increased efficiency of resources will ensure a high level of protection and improvement of environmental quality.

The aim of the article is waste as an opportunity for resource efficiency and “green” economy in Republic of North Macedonia. The surveys shows that by increasing resource efficiency provides circular economic solutions that can generate economic growth and “green” jobs, and business entities increase their productivity and competitiveness.

### **Sustainable development**

Sustainable development is a framework for shaping policies and strategies for continuous economic and social development without harmful impacts on the environment and natural resources important for the future of humankind. Sustainable development is a concept that allows meeting the needs of present generations without jeopardizing the possibility of meeting the needs of future generations. By changing the structure of energy sources, through more intensive integration of renewable sources, efficiency in resource consumption as well as energy efficiency can reduce environmental pollution and adverse impacts on climate change.

Republic of North Macedonia has ratified international conventions in the field of environment protection and climate change in order to harmonize policies and strategies also targeted, among other things, towards sustainable development. Republic of North Macedonia, as a party to the United Nations Climate Change Convention, is committed to contributing to achieve the global goal of stabilizing greenhouse gas concentrations in the atmosphere at a level that would prevent a rise in global warming by more than 2°C.

The economic growth accompanied by increased consumption and the irrational use of natural resources and energy negatively affect the environment and climate change. This type of production is accompanied by large quantities of waste. According to the State Statistical Office, the total amount of generated waste per sectors of economic activity in 2016 is 694 kg/per capita.

## **From linear production to circular economy**

Linear production model is based on the transformation of resources into finished products and after usage their disposal as waste, that is, “take-make/use-waste”. This model is not sustainable because of the growing negative impact on climate change and the limitation of natural resources. Its application is time-limited from an environmental and economic point of view. Reducing the available natural resources, population growth, the level of environmental pollution, operational problems especially in large cities in waste disposal are problems that the society has been facing for decades.

In our country, the linear model was applied during the expansive growth of the economy, when the use of resources was uncontrolled, the consumption of energy per product was high, while the environmental impact was not measured. So, large quantities of waste are generated which is inadequately treated and delayed. Environmental investment decisions were left for some other time, while environmental pressure increased with large amounts of garbage that remained at the local level and within the ranks of companies that went bankrupt. As a result of the long-running economy based on linear economy, Republic of North Macedonia now has about 1,000 municipal “dumps”, especially in rural areas, which are not recorded and 43 active landfills with a total area of about 2,433 (1000 m<sup>2</sup>). From total generated waste (694 kg/per capita), in 2016, treated waste is only 4 (kg/per capita), or 0.6%, is treated waste.

In the near future, growth in resource prices, growth in energy costs, and growth of population migration to cities is expected, and especially the deterioration of the climate conditions in the region and Republic of North Macedonia.

The economy of developed European countries is increasingly drifting away from the model of linear economy and transits to a circular economy, which is based on the product-waste-product model. The concept of circular economy implies the use of resources in production in a way that prolongs the value of products and services, reduces the level of waste material that has never been reused, has increased resource utilization, and at the end of the usage of products and services they are returned to the production process to create a new value.

Circular economy is a measure for the realization of the goals of sustainable development and it entails long-term investment in resource and energy efficiency, by reducing harmful emissions, replacing fossil fuels with renewable sources and producing and trading with sustainable “green” products, thus closing the “product-waste-product” circle. The main source of economic growth is the increased reuse of material from products that have completed their

“life cycle” and the less use of new resources. This model promotes not thinking about waste but about the product, i.e., how they are designed, how recyclable they are, how they are produced, and how friendly they are to the environment. The products should be so designed that they can be easily reused, disassembled, repaired, or recycled. In this production, renewable energy sources are used.

Republic of North Macedonia with the model of circular economy could get a chance for sustainable development, a “green economy”, environmental protection, a new quality of life. The circular economy offers the opportunity for a more sustainable and more competitive economy, which brings benefits such as: more innovative and more efficient ways of production and consumption; protecting businesses from lack of resources and unstable prices; opportunities for local jobs and social integration; optimization of waste management, which increases recycling and reduces landfill disposal; energy savings, because fewer production processes require less energy; environmental benefits in terms of climate and biodiversity, air pollution, soil and water.

### **Resource efficiency**

Resource supply is limited, and reserves of natural resources are constantly decreasing. Increased global demand increases the pressure on the environment, and competition for many resources also increases. Many natural resources are fundamental to our health, well-being and quality of life, so it is necessary to respect the natural limitations of the planet.

The effectiveness of resources involves the use of limited resources on Earth in a sustainable way. We depend on natural resources - metals, minerals, fuels, water, soil, trees, fertile soil, clean air and biodiversity - for our survival. They all represent vital inputs that maintain the economy.

Increased resource efficiency is key to securing growth and jobs. It brings great economic opportunities, reduces costs and increases competitiveness. Therefore, new ways should be found in all the steps on the chain of value: to improve resource management, reduce investment, optimize production processes, management and business methods, improve logistics, change consumerism models and minimize waste. New products and services need to be developed.

Efficiency of resources will help stimulate technological innovation, increase employment in the green technology sector with rapid development, open up new export markets and use consumption through more sustainable products.

In the EU, resource efficiency research has been done covering small and medium sized enterprises in the EU28 and other countries, including Republic of North Macedonia. Small and medium sized enterprises in the EU28 count more than 20 million and account for 99% of business entities in European business and absorb more than two-thirds of their employment. Such a structure of business entities is characteristic of Republic of North Macedonia, that is, in 2017 small and medium enterprises are represented by 99.7% of the business structure.

In the Survey, at the level of the EU28, the most common actions for the efficient use of resources taken by small and medium sized enterprises is by minimizing waste (65%), energy saving (63%), saving materials (57%), saving water (47%) and recycling by reuse of material or waste in their company (42%).

In Republic of North Macedonia, the most common actions for efficient use of resources are activities that are carried out by minimizing waste (20%), energy saving (22%), saving materials (26%), saving water (14%) and recycling with reuse of material or waste in their company (13%). And in the next two years, in Republic of North Macedonia, activities are planned for resource efficiency by minimizing waste (19%), energy saving (29%), saving materials (25%), saving water (16%), recycling by reusing material or waste in their company (16%), designing products that are easier to maintain, repair or reuse (6%), selling their own waste to another company (12%), mostly using renewable energy (for example, own production through solar panels, etc.) (4%).

For the complexity of the administrative or legal procedures, as the difficulties encountered by companies when trying to establish actions for efficient use of resources, in the EU28, 33% of the companies consider it, and in Republic of North Macedonia 32% of the companies.

In terms of environmental action costs, 24% in the EU28 were reported as difficulties in resource efficiency, and 15% in Republic of North Macedonia. As difficulties in resource efficiency, 22% of EU companies see an adjustment to environmental legislation, and in Republic of North Macedonia, this is 30% of companies. Regarding the updated technical requirements of the legislation, 20% of the companies declared themselves as difficulties in resource efficiency, and in Republic of North Macedonia 11% of the companies. Regarding the lack of specific ecological expertise, as the difficulties encountered by companies when trying to establish actions for

efficient use of resources, at the level of the EU28, 20% of companies declared themselves, while in Republic of North Macedonia, 14% from companies. Regarding the difficulties in choosing the appropriate actions for resource efficiency in the company, at the level of the EU28, 20% of the companies declared themselves, and 18% of the companies stated in Republic of North Macedonia. As a lack of demand for efficient products and services in the EU28, 17% of the companies declared themselves, and 18% of the companies said that in Republic of North Macedonia about it. As a result of the lack of procurement of the necessary materials, parts, products or services at the level of the EU28, 14% of the companies stated, and 22% of the companies stated in Republic of North Macedonia.

In North Macedonia, most of the companies (53%) believe that the actions taken for efficient use of resources have slightly reduced the production costs over the past two years, and the same opinion is shared by most of the companies in the EU28 (37%). In the EU28, the largest percentage (55%) of companies reported that over the past two years, for more efficient resources, they invested 1% or less on average annually, and in North Macedonia, the largest percentage (36%) of the companies reported that they invested from 1 to 5% or less on average per year.

In the EU28, most companies (60%) in their efforts for a more efficient resource rely on their own funds, and in North Macedonia, even 86% of the companies share the same opinion.

Grants and subsidies are considered as the best form of assistance to improve the efficiency of the resources of the largest percentage of companies in the EU28 (36%), and in North Macedonia, this opinion is shared by also most of the companies (41%).

Green products and services are those with a dominant function of reducing environmental risk and minimizing pollution and resources. The majority of European small and medium-sized enterprises (63%) do not currently offer green products or services and do not have a plan to do so, and in North Macedonia this percentage is even higher, accounting for 76% of small and medium sized enterprises.

## **Conclusion**

For North Macedonia circular economy represents an opportunity for contributing to sustainable development. Transition from linear to circular economy will enable the reduction of pollution of the environment and responsible management of resources that gives a better quality of life and a secure future. It achieves greater competitiveness of the economy and

creation of new jobs. The circular economy requires the application of new technologies and modernization of society, increased participation of all, changing the awareness and habits, but also the business model.

Recycling and waste treatment are the first major step in changing the way of thinking of businessmen and the overall cultural orientation of society. The perceptions of the situation regarding the resource efficiency in North Macedonia only confirm the need to adopt a strategy for the implementation of the circular economy or at least special programs or transitional projects for transition to a circular economy. These documents should include measures and activities that take into account the expressed attitudes and needs of small and medium sized enterprises as a pillar of economic activities in North Macedonia.

In particular, good European practice regarding waste minimization activities, energy saving, material saving, water saving, recycling with reusing of material or waste in the company itself, designing products that are easier to maintain, repair or reuse, the sale of one's own waste to another company, mostly the use of renewable energy (for example, own production through solar panels, and the like). Take the consider the fact that even 86% of companies, in their efforts for a more efficient resource, rely on their own financial resources and, with this effect, the cost of production is slightly reduced, it is necessary to support resource efficiency activities through the grants allocation system and subsidies.

Regarding the complexity of administrative or legal procedures, such as the difficulties encountered by companies when trying to establish actions for the efficient use of resources, they need to be revised in order to facilitate and adapt to the actual conditions and needs. In terms of difficulties in implementing legal solutions, lack of specific environmental expertise, difficulties in selecting appropriate actions for the efficiency of the company's resources, lack of demand for efficient products, provide consulting opportunities through appropriate state support and assistance.

**Bibliography:**

1. Article for ratification of the United Nations Framework Convention on Climate Change (“Official Gazette of the Republic of Macedonia” No. 6/97).
2. [http://www.moep.gov.mk/?Page\\_id=4200](http://www.moep.gov.mk/?Page_id=4200) (Approached on 23.01.2019).
3. European Commission: Flash Eurobarometer 456-SMEs, resource efficiency and green markets, European Union, January 2018.

4. State Statistical Office, “Environmental Statistics, 2017”, Skopje, State Statistical Office,2017, p.57.
5. State Statistical Office: Number of active business entities, 2017, Announcement-number/ No: 6.1.18.14 from 23.03.2018.
6. European Commission: Flash Eurobarometer 456-SMEs, op.cit., pp.97-156.