



# Curcular Economy and Climate Change

POLICY BRIEF

Republic of North Macedonia

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The **“Rapid Assessment Report on the Benefits of Circular Economy on Mitigation of GHGs emission in the Waste Sector”** and this policy brief have been prepared within the UNDP **Climate Promise** initiative, to support the Macedonian Ministry of Environment and Physical Planning in revising the Macedonian **Nationally Determined Contributions** (NDCs) under the Paris Agreement.

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## ACRONYMS

<b>CE</b>	Circular Economy
<b>CO<sub>2</sub>-eq</b>	Carbon Dioxide equivalents
<b>C&amp;D</b>	Construction and demolition
<b>EC</b>	European Commission
<b>ELVs</b>	End of Life Vehicles
<b>EPR</b>	Extended producer responsibility
<b>EU</b>	European Union
<b>GHG</b>	Greenhouse gas
<b>SRF</b>	Solid Recovered Fuel
<b>UNDP</b>	United Nations Development Programme

# EXECUTIVE SUMMARY

The project “Rapid Assessment Report on the Benefits of Circular Economy on Mitigation of GHGs emission in the Waste Sector” aims to identify opportunities and challenges for the mitigation of GHGs emissions through advancing circular practices in the waste management sector, in line with the European Green Deal and the EU Action Plan on Circular Economy. After considering the relevant policies of North Macedonia, six case studies were selected, in accordance the priorities of the National Waste Management plan, to demonstrate the benefits from the shift to CE and a relevant methodological approach was developed. Overall, it was assessed that applying circular practices to six selected waste streams can deliver, by 2030:

- 951 Gg CO<sub>2</sub>eq/year GHGs savings comparing to 2016
- 2,740 new jobs
- 47.17 million EUR of economic benefits

That means that the shift to circular practices, even if it is restricted to those six case studies, is enough to counterbalance the emissions from solid waste disposal (almost double savings), and the emissions from the Waste and Industrial Processes and Product Use sectors. To achieve these benefits, a shift in governance practices is also required and several policy recommendations are made, starting with the proposal to create a governmental cross-cutting agenda on circular economy.

## SCOPE OF WORK

The project “Rapid Assessment Report on the Benefits of Circular Economy on Mitigation of GHGs emission in the Waste Sector” aims to identify opportunities and challenges for the mitigation of GHGs emissions through advancing circular practices in the waste management sector, in line with the European Green Deal and the EU Action Plan on Circular Economy.

It includes the following tasks:

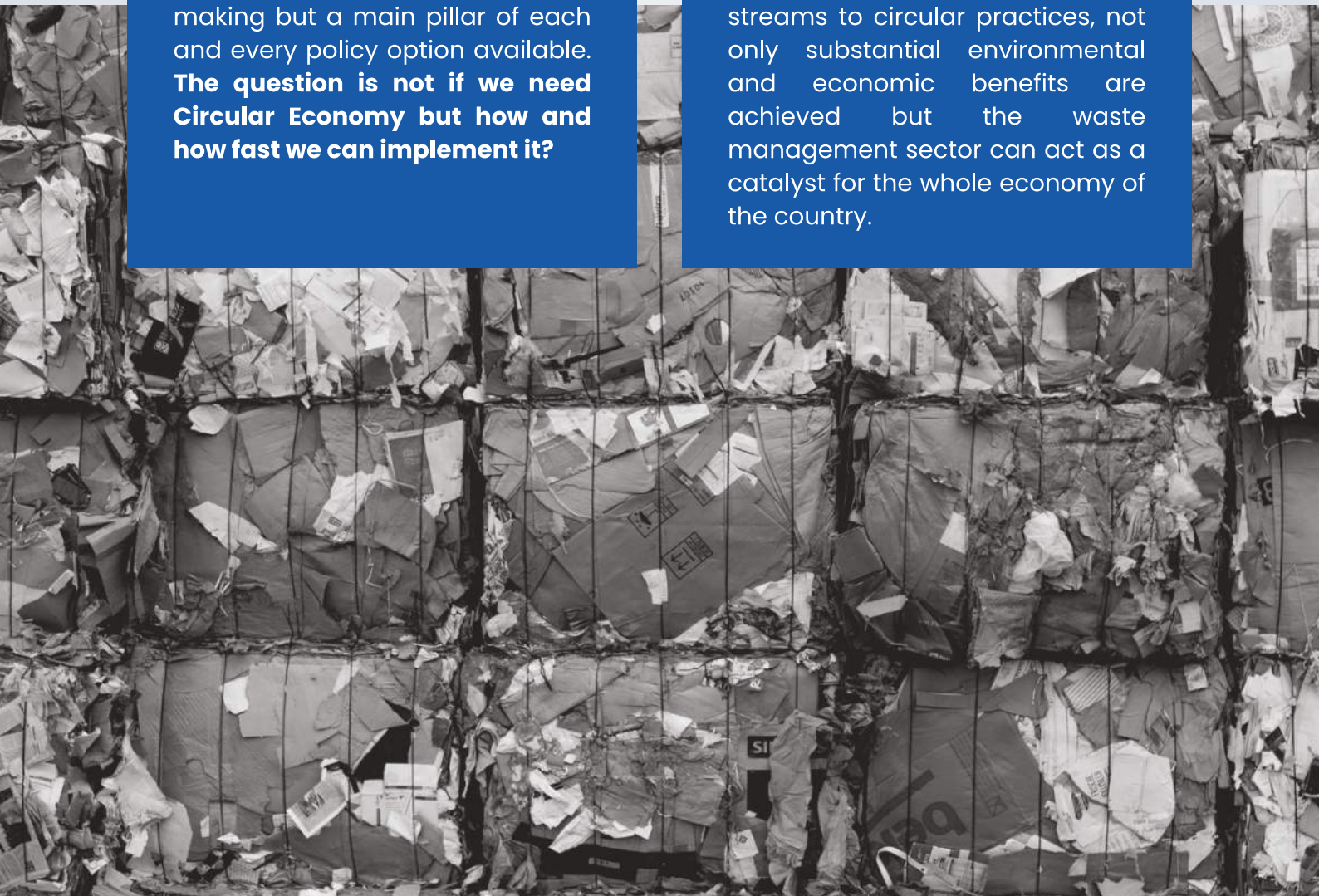
- A desk review of current policies and laws related to the waste sector;
- An assessment of the potential benefits of employing circular systems;
- The identification of both Opportunities and Challenges for the introduction of Circular Economy focused on mitigation of GHG emission in the Waste Sector on policy and implementation level.
- Propose ways to make circularity work for people, regions and cities;
- Prepare and present to stakeholders a rapid assessment report of the benefits of Circular Economy and provide recommendations for the way forward;
- Prepare a Policy Brief on the main findings and recommendations for the policymakers.

# WHY CIRCULAR ECONOMY IS IMPORTANT FOR **GHGs** MITIGATION?

Circular Economy becomes a condition to achieve the targets of Paris Agreement and to mitigate GHGs. This is because the substitution of primary materials by secondary ones, coming from circular practices and closed loops, creates a domino effect that reduces carbon emissions from raw materials extraction, transport, manufacturing, retailing and waste management. Thus, Circular Economy should not be considered an option for policy making but a main pillar of each and every policy option available. **The question is not if we need Circular Economy but how and how fast we can implement it?**

## **The role of waste management**

Although circular practices concern the major industrial and manufacturing supply chains in rich countries, in countries like North Macedonia where the rate of industrialization is currently rather low and imports of manufactured materials are the main way to acquire them, the starting point for a shift to circular practices should be the waste management sector. By shifting the management of specific waste streams to circular practices, not only substantial environmental and economic benefits are achieved but the waste management sector can act as a catalyst for the whole economy of the country.





# METHODOLOGY

An innovative methodology was developed to assess the benefits from shifting to circular economy practices. The use of three core indicators, as a proxy of the expected benefits, was essential for an outcome suitable for policy making. The GHGs emissions of 2016 were used as a baseline to calculate savings achieved by circular practices by 2030 in six selected case studies.

The three core indicators:



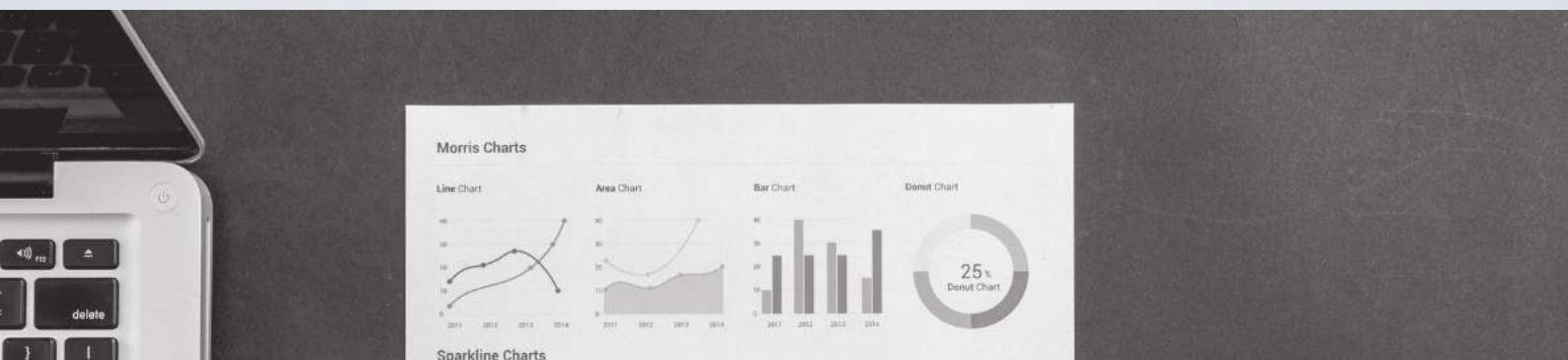
**Savings in GHGs emissions**, including landfill avoidance, substitution of raw materials, and carbon sequestration



**Employment benefits** expressed in new jobs created by the shift to circular practices



**Economic benefits** expressed in million EUR per year, including direct and indirect benefits and carbon credit



The six case studies:



**Construction & Demolition Waste (C&D)**



**E-Waste**



**Biowaste**



**End of Life Vehicles (ELV)**



**Secondary Residual Fuels (SRF)**



**Plastics**

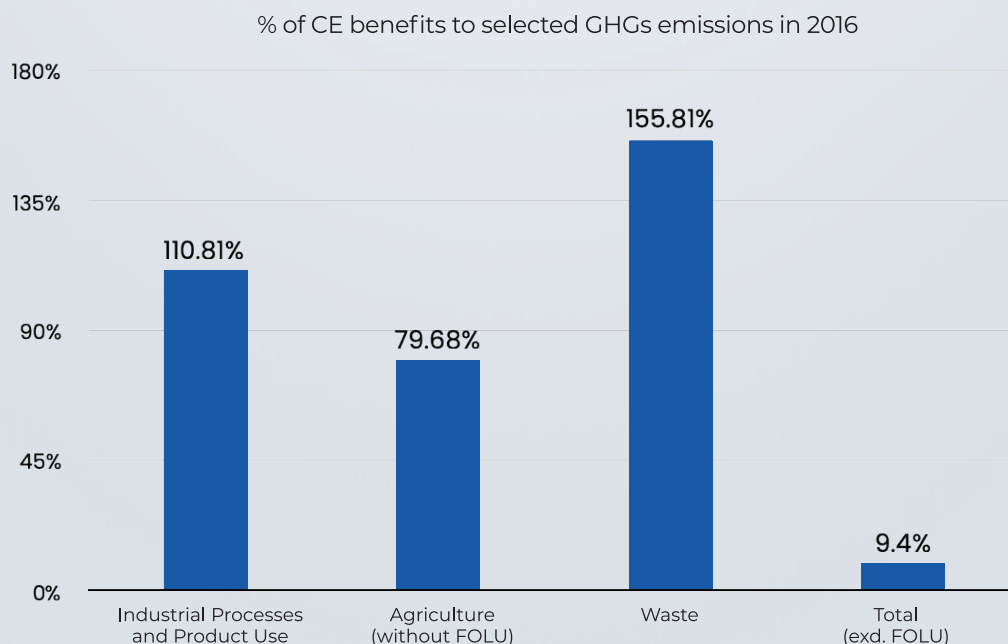
# MAIN FINDINGS

Overall, it was assessed that applying circular practices to the selected case studies and waste streams can deliver, by 2030:

- 951 Gg CO<sub>2</sub>eq/year GHGs savings comparing to 2016
- 2,740 new jobs
- 47.17 million EUR of economic benefits

The total emission savings is equivalent to 201% of the solid waste disposal emissions and reached up to 156% and 111% of the emissions from the Waste and Industrial Processes and Product Use sectors, respectively. That means that the shift to circular practices, even if it is restricted to those six case studies, is enough to counterbalance the emissions from solid waste disposal (almost double savings), and the emissions from the Waste and Industrial Processes and Product Use sectors.

	EMISSION SAVINGS (Gg CO <sub>2</sub> eq/Year)	NEW JOBS	ECONOMIC BENEFITS (million EUR/Year)
C&D	387.11	168	8.13
BIOWASTE	303.74	463	12.49
SRF	186.88	80	6.56
PLASTICS	40.69	900	4.03
ELVs	19.49	488	1.10
E-WASTE	12.86	640	14.86
<b>Total</b>	<b>951.78</b>	<b>2,740</b>	<b>47.17</b>



# POLICY RECOMMENDATIONS

The government has to upgrade Circular Economy in its agenda through the following steps:

- Make the transition to a circular economy one of the essential pillars of government policy and develop a joint, government-wide agenda 'circular economy' to this end.
- Develop a joint vision and incorporate this in the annual national budget.
- Formulate overarching objectives based on the joint vision.
- Using the overarching goals as a starting point, develop an approach for each ministry based on the inherent strengths of that ministry and the strengths of the country.

## Three goals for an agenda towards Circular Economy:

1

### REDUCE DEPENDENCE ON THE IMPORT OF RAW MATERIALS

To develop a stronger economy, the control on essential resources must be maintained and increased. This can be achieved by reducing the dependence on imported raw materials.

2

### ACHIEVE ECONOMIC PROSPERITY

North Macedonia has a lot of distance to cover in order to approach the EU average standards in resource consumption and economic prosperity – thus by incorporating the Circular Economy as a way of the forthcoming economic growth, it can deliver prosperity in different ways like encouraging companies to aim for increasing the economic profits in business processes by setting targets for eco-efficiency, improving the investment climate, facilitating and stimulating new economic activities through innovative revenue models and stimulating the creation of new jobs related to the circular economy.

3

### REDUCE ENVIRONMENTAL IMPACT AND INCREASE ADDED VALUE OF RAW MATERIALS

The environmental impact in supply chains can be reduced by using fewer resources and reducing the generation of waste. Thus, the supplied economic value is increased, for example by encouraging companies to create more functionality per unit of raw material and become more eco-effective, encouraging the consumer to adopt sustainable behavior and making use of the same resources multiple times.



# NINE STEPS TO **START NOW**

The report concluded that the first steps for North Macedonia should be as follows:

