

# Annex C. Non-governmental stakeholders involved in circular economy initiatives in North Macedonia

**Table C.1. Non-governmental organisations relevant to the circular economy transition in North Macedonia**

Friends of the Earth Macedonia	<ul style="list-style-type: none"> <li>• Co-ordinates the work of existing local groups working on environmental issues, e.g. Friends of the Earth International, Youth and Environment Europe, and the International Union for Conservation of Nature.</li> <li>• Raises public awareness about environmental protection, sustainable development and nature preservation with the lowest level of impact, e.g. giving Green or Rotten apple award.</li> </ul>
In Vivo	<ul style="list-style-type: none"> <li>• In Vivo's mission is to create and support initiatives for further improving living, learning and working conditions in North Macedonia.</li> <li>• One of its projects, YODA, which is funded by Civica Mobilitas, educates homeless people from the Skopje region in bio-humus production.</li> </ul>
Let's do it Macedonia	<ul style="list-style-type: none"> <li>• Association for a clean environment conducting studies on food waste, raising awareness on the issue of waste and conducting clean-up programmes.</li> <li>• Created a platform connecting businesses with non-governmental organisations to redistribute surplus food.</li> <li>• Supported the government in the development of the first Law on Donating Surplus Food.</li> </ul>
Macedonian Center for Energy Efficiency (MACEF)	<ul style="list-style-type: none"> <li>• MACEF has implemented more than 10 programmes for energy efficiency and more than 150 energy audits of various types of buildings (residential, educational, industrial facilities, hospitals, administrative premises, etc.). Recent initiatives target the circular economy.</li> </ul>
National Centre for Development of Innovation and Entrepreneurial Learning	<ul style="list-style-type: none"> <li>• Focuses on building relationships; promoting new, innovative ideas; and the development of entrepreneurial competences in students, teachers and the public/private sector. Supported by the government, economic chambers and academia.</li> <li>• Part of the Greenovet project that promotes green innovation and skills across Europe. Co-funded by the European Union.</li> <li>• Organises annual national competitions in secondary schools for the best business concept. The past four years the focus of the competition has been on green innovation.</li> </ul>
O-Krug	<ul style="list-style-type: none"> <li>• Initiative that upcycles orange peel waste and converts it into a line of products, including essential oil and natural air freshener, while also striving to reduce the youth unemployment rate.</li> <li>• Final waste is transported to the composting site of another circular social business.</li> </ul>
Organisation for Social Innovation ARNO	<ul style="list-style-type: none"> <li>• Works in the field of green and social entrepreneurship. Supports small and medium-sized enterprises in their education, access to market and funding.</li> <li>• Organises the annual "Green Ideas" competition, in which more than 300 companies have participated. Most companies are still active and some are conducting circular business activities (some examples include organic fertilisers, ice cream produced from leftover wine, furniture refurbishment).</li> </ul>
Pakomak*	<ul style="list-style-type: none"> <li>• Pakomak's main activity is managing packaging waste. Its clients get a free Green Dot symbol that signifies that a fee has been paid for handling end-of-life packaging. Companies are thus designated to comply with environmental standards defined by the law and EU directives. A company can become a member of Pakomak if, for one year, it places on the domestic market more than: 800 kilogrammes (kg) of glass bottles, 300 kg of paper or paperboard, and 100 kg of another type of packaging material.</li> </ul>
REDI Recycling	<ul style="list-style-type: none"> <li>• Social start-up employing individual Roma collectors while building a system for primary waste separation in households and businesses. Through this, the organisation turns secondary waste collectors into socially insured workers and creates a system for primary waste separation under safe working conditions.</li> <li>• The organisation is among the 15 selected organisations on the top list of the Center for Social</li> </ul>

	Enterprises.
Youth Environmental Network – Go Green Skopje	<ul style="list-style-type: none"> <li>Youth environmental organisation whose activities are mainly in the areas of youth training and activism, education for climate change and sustainable development, the circular economy, green employment and eco-entrepreneurship, and social inclusion.</li> <li>Its main target group is young people aged 15-29, mainly pupils from primary schools, including marginalised groups.</li> </ul>
Zero Waste Skopje	<ul style="list-style-type: none"> <li>Educating people on what it takes to embrace a zero-waste lifestyle – and providing the means to make the transition. The social enterprise commercialises products with no or minimum packaging sourced from small domestic manufacturers.</li> <li>In March 2021, the concept was one of the winners of the Organization for Social Innovation ARNO's RISE programme. The Skopje Goes Zero Waste team received EUR 2 500, as well as mentoring and expert support.</li> </ul>

\* Pakomak is a non-profit company founded by 11 manufacturing companies in North Macedonia. It is licensed by the Ministry of Environment and Physical Planning for the selection and processing of packaging waste.

Note: The list is non-exhaustive.

**Table C.2. Academia relevant to the circular economy in North Macedonia**

Faculty of Mechanical Engineering, Ss. Cyril and Methodius University in Skopje	<ul style="list-style-type: none"> <li>Includes a master programme for Product Lifecycle Management which provides knowledge and skills for students and professionals on all phases of new product development, starting from eco-design and eco-innovation to end-of-life. It also includes classes on engineering and the production of products based on sustainability, the efficient use of resources in line with environmental protection, cleaner production, and energy efficiency processes.</li> <li>Published research papers on circular economy indicators related to opportunities for sustainable development, the green economy and reversible logistics in North Macedonia.</li> <li>Preparation of a scientific report with the support of the United Nations Development Programme for detecting the main waste streams in North Macedonia and their potential for the circular economy.</li> <li>Established the Centre for VET Excellence in Green Innovation (2021) with the non-governmental organisation Greenovet.</li> </ul>
Faculty of Mechanical Engineering, Department for Industrial Engineering and Management, Ss. Cyril and Methodius University in Skopje	<ul style="list-style-type: none"> <li>Supports the PROMETHEUS project funded by the European Institute of Innovation &amp; Technology, which aims to boost innovation and entrepreneurship in the domains of the circular economy, digital transformation and sustainable development.</li> <li>Part of the European university network PROMETHEUS HEI, which supports capacity building for innovation, sustainability and circularity, and promotes circular and sustainable entrepreneurship.</li> </ul>
Faculty of Agricultural Sciences and Food, Ss. Cyril and Methodius University Skopje	<ul style="list-style-type: none"> <li>Teaches the knowledge and skills necessary for profitable agricultural production while using natural resources in line with environmental protection.</li> <li>Provides new specialised profiles of staff who will be technically trained to provide quick technological solutions for keeping products competitive and which are necessary to engage in present and future farm production, processors and scientific research work.</li> </ul>
Faculty of Technology and Metallurgy, Ss. Cyril and Methodius University in Skopje	<ul style="list-style-type: none"> <li>Published a research paper on the valorisation of fly ash as a secondary raw material towards the implementation of a circular economy.</li> <li>Conducts circular economy projects related to the use of waste as secondary raw materials and solutions that support the circular economy with renowned partner organisations and universities.</li> <li>Examples include the development of valorisation processes for biomass and natural waste materials, funded by Ss. Cyril and Methodius University in Skopje, or the conversion of industrial waste powders into new functional materials, a bilateral project with Ningbo University of Technology, People's Republic of China.</li> </ul>
Finance Think – Economic Research and Policy Institute	<ul style="list-style-type: none"> <li>Supports and encourages civic awareness and active societal participation.</li> <li>One of the institute's programmes is focused on the green economy and captures topics such as green growth and employment, infrastructure and assets that allow reducing carbon emissions and pollution, enhancing energy, and resource efficiency.</li> </ul>
Institute for Research in Environment, Civil Engineering and Energy, Institute for Research in Environment, Civil Engineering and Energy Skopje	<ul style="list-style-type: none"> <li>Conducts several activities and courses relevant to the circular economy, including: <ul style="list-style-type: none"> <li>CATALYST, which aims at strengthening the sustainable competitiveness of professionals, students, and small and medium-sized enterprises through mentorship, guidance, and vocational education and training courses.</li> <li>Eco Skills for a Green Economy project, which provides in-depth knowledge on sustainability, cleaner production, waste management and energy management.</li> <li>A report mapping the skills necessary for the green transition and their related</li> </ul> </li> </ul>

	challenges (developed after six national roundtables) was published in February 2023.
Institute of Economics, Ss. Cyril and Methodius University Skopje	<ul style="list-style-type: none"> <li>Published a research paper on the circular economy, resource efficiency, challenges and opportunities for the green economy in North Macedonia.</li> </ul>
Sustainability Institute EKOS Skopje	<ul style="list-style-type: none"> <li>Research and project implementation on topics closely related to environmental protection: sustainable transport, renewable energy sources and energy efficiency, sustainable waste management, protection against chemicals and heavy metals, and protection against genetically modified organisms.</li> </ul>

Note: The list is non-exhaustive.

**Table C.3. Private sector organisations relevant to the circular economy in North Macedonia**

Chamber of Organic Producers	<ul style="list-style-type: none"> <li>Determines rules for organic production, communication systems, networking and support with companies and individuals; continuous education; and upgrading.</li> </ul>
Economic Chamber of North Macedonia	<ul style="list-style-type: none"> <li>Conducts the project: "Private Sector Regional Integration Support Activity", which promotes activities to support the export capacity and competitiveness of Macedonian companies, with direct assistance to companies developing a circular economy.</li> </ul>
Economic Chamber of North West Macedonia	<ul style="list-style-type: none"> <li>Organises, advances, protects interests and promotes businesses in the country and abroad, supporting the challenges of global competition.</li> </ul>
Macedonian Chambers of Commerce	<ul style="list-style-type: none"> <li>Largest independent business association in North Macedonia.</li> <li>Promotes and represents the business interests of thousands of member companies and connects them with more than 1 000 national, regional and international institutions and organisations.</li> </ul>
Western Balkans 6 Chamber Investment Forum	<ul style="list-style-type: none"> <li>Joint project of the Western Balkans 6 chambers of commerce and industry established in 2017 that represents the region's business community, facilitates inter-corporate exchanges and promotes the region as an attractive investment location.</li> <li>In 2021, organised a conference and business-to-business event on the construction industry in the Western Balkans which included topics on the green and circular economy.</li> <li>Created a market access database that contains relevant data about potential suppliers in four sectors with the circular economy as a horizontal topic.</li> </ul>

Note: The list is non-exhaustive.

**Table C.4. Companies with circular economy business models in North Macedonia**

Akron	<ul style="list-style-type: none"> <li>Recycles waste glass for repro-material to produce composite materials used for interior solutions.</li> </ul>
Bastet Noir	<ul style="list-style-type: none"> <li>Sustainable, zero-waste clothing label whose designs are custom-made to the client's measurements. Every piece is made out of discarded materials and produced locally by a community of single parents in North Macedonia. Profits are reinvested to fund the growth of these women-owned businesses.</li> </ul>
Bionovel	<ul style="list-style-type: none"> <li>Produces calcium as a dietary supplement from eggshells.</li> </ul>
Civil Engineering Institute Macedonia	<ul style="list-style-type: none"> <li>Actively engaged in European research and education projects in the field of sustainability and circular economy business models.</li> <li>Offers services to companies to manage industrial waste and circularity in construction. One of their circular products based on the "zero waste" principle has been certified for use in the construction industry.</li> <li>Awarded environmental protection champion in North Macedonia by the Regional Competition for Companies from the Western Balkans in 2023.</li> </ul>
Drivedrivecar	<ul style="list-style-type: none"> <li>Peer-to-peer platform that represents a modern business model through which users can rent cars directly from their owners.</li> </ul>
ECONELEKTRON	<ul style="list-style-type: none"> <li>Company with a license for the treatment of electrical and electronic waste.</li> </ul>
Eko-cirkon	<ul style="list-style-type: none"> <li>Buys raw materials from all industrial and technological facilities in North Macedonia, as well as from private individuals. After the purchase, materials are subjected to selection and separation, followed by their pressing, packaging and delivery to industrial facilities in North Macedonia and abroad, accompanied by all activities and documentation for transport and export.</li> </ul>
Ekomozaik	<ul style="list-style-type: none"> <li>Consultancy offering integrated solutions for the efficient use of resources (raw materials, water, energy) and the use of renewable energy sources; introduction and implementation of</li> </ul>

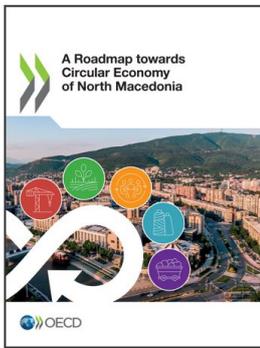
	cleaner production; and analysis of the products' life cycle and eco-design, among others.
Greenstar	<ul style="list-style-type: none"> <li>• Paper and carton production from paper waste. Conversion of recycled paper to new products and new forms. A large range of packaging products are designed to provide an optimal level of strength and protection to meet any challenges in the supply chain.</li> <li>• All products are environmentally friendly, made from eco-friendly materials, highly biodegradable and compostable, sustainable for earth, with created maximum value for customers.</li> </ul>
Johnson-Matthey	<ul style="list-style-type: none"> <li>• Global company developing sustainable technologies for the automotive industry.</li> <li>• The world's largest recycler of platinum group metals (PGM) by volume. Its high-standard PGM extraction and separation processes recycle platinum, for example, to a minimum purity of 99.95%.</li> </ul>
Kostal	<ul style="list-style-type: none"> <li>• Engaged in mechatronics and manufacturing of spare car parts of globally operating automotive companies.</li> <li>• Offers the perspective of an internationally operating enterprise integrated into global value chains on the opportunities of the circular economy transition.</li> </ul>
Modular Design Architects	<ul style="list-style-type: none"> <li>• Promotes modern design of high-performance buildings, in line with nature's boundaries. Homes are built according to the ISO 9001: 2015 standard, optimising the use of insulation materials and heating.</li> </ul>
Netam	<ul style="list-style-type: none"> <li>• Makes insulation materials from textile waste: the company manufactures mattresses, quilts, pillows and bed linens. The collected textile waste from their production, but also from other sources, is recycled and processed into products such as insulating panels, rolls, geotextiles and other insulating materials that are then used in construction.</li> </ul>
Nutrivet	<ul style="list-style-type: none"> <li>• Connects supply and demand in the wastepaper business based on a large network. Access to wastepaper of all classes included in the EN 643 list of wastepaper classes and provides all types of paper.</li> <li>• Collects paper and sells it to manufacturing industry for paper and cardboard, where wastepaper is used as a raw material for processing to create new products based on a circular economy.</li> </ul>
Sunilens	<ul style="list-style-type: none"> <li>• From waste oil to energy: an innovative waste management system – collection, transportation, storage and treatment of used cooking oils and fats of vegetable origin. Oil is then used as feedstock for the production of renewable energy (biofuels).</li> </ul>
VAJS Additives	<ul style="list-style-type: none"> <li>• 2020 winner of the “Green Ideas” competition.</li> <li>• Processing pomace (a mixture of grape skin and seed) – one of the most abundant residues in the grape processing and wine production industry – into a multifunctional food additive.</li> </ul>

Note: The list is non-exhaustive.

Sources: Stakeholders' mapping undertaken by the Regional Cooperation Council in the framework of its regional circular economy project; Env.net (2020<sup>[1]</sup>; 2020<sup>[2]</sup>).

## References

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