



## **RE-EURECA-PRO**

### **The Research and Innovation Dimension of the European University on Responsible Consumption and Production**

Participants:	Montanuniversität Leoben, Mittweida University of Applied Sciences, Technische Universität Bergakademie Freiberg, University of León, University of Petroșani, Silesian University of Technology, Technical University of Crete
WP3:	New European Research Area – European Research and Open Science Collaboration
D3.4:	Report extension 2 including (a) a mapping of the regional economic set-up in relation to SDG12 targets and an identification and description of the common ground of all alliance members regions and (b) a generic model mirroring the process developed for SDG12 as a supporting document (art/sci exhibition)
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## Contents

1. Introduction.....	3
2. Economic mapping - methodology.....	4
3. European regions (NUTS) .....	4
4. Economic set-up in regions per partner university.....	5
4.1. GDP.....	6
4.2. Leoben.....	8
4.3. Mittweida and Freiberg.....	8
4.4. León.....	8
4.5. Petroşani.....	8
4.6. Gliwice .....	8
4.7. Chania.....	8
5. SDG12 targets.....	9
6. SDG12 targets in economic set-up per partner region .....	10
6.1. Leoben.....	11
6.2. Mittweida and Freiberg.....	12
6.4. León.....	13
6.5. Petroşani.....	14
6.6. Gliwice .....	15
6.7. Chania.....	16
7. Common Ground.....	16
8. SDG12 interdisciplinary case study and milestone: art/sci exhibition .....	20
9. References.....	26
Appendix 1.....	27
Appendix 2.....	31
Appendix 3.....	32

## 1. Introduction

The aim of work package 3 is to eliminate barriers and uncertainties in spheres of cognitive and practical models of interdisciplinary cooperation. Appropriate models of interdisciplinary collaboration, their challenges and opportunities were identified and discussed in previous deliverables for this work package. Additionally, attention has been paid to the harmonization and development of joint interdisciplinary research approaches and their integration with already developed research priorities (in the main programme of EURECA-PRO) to achieve a level playing field for smooth cooperation. In all research-based and managerial endeavours of EURECA-PRO the key objective has been to address the aims of Sustainable Development Goal (SDG) 12 regarding responsible consumption and production. Awareness of the specific objectives of SDG12 and its sub-targets is essential for our partners' ability to work collaboratively on joint research projects.

The purpose of deliverable D3.4 is to map the regional economic set-ups of our partner universities in relation to SDG12 and to find out which targets match the regional contexts most often. The aim is to determine the common ground of all alliance members' regions so that SDG12-related collaborations can be developed.

The first objective (mapping of regional economic set-ups) is important because only through such an exercise can the project partners become aware of the distributions of sustainable development goal activities in the different regional contexts. Furthermore, this mapping will highlight existing and emerging opportunities for research engagements across the partner institutions and it will facilitate the planning and realisation of mobilities (for researchers, staff and students wishing to engage with SDG12-aware economic stakeholders in regional contexts). The second objective (generic model mirroring a collaboration process) has already partly been addressed in previous deliverables and milestones of RE-EURECA-PRO where generic collaboration models were identified (D3.1, D3.2, MS6). What still needs to be achieved is to conceive of a model of collaboration with a specific focus on the results of the SDG12 mapping in the regional contexts across the alliance partners of RE-EURECA-PRO. This present deliverable contributes to this task by presenting a methodological approach to **mapping SDG12 targets in specific regional economic contexts**. Thus, the present deliverable contains information regarding the functions of economic mappings and the identification of European regions (following the NUTS qualifications at EU level). It has to be pointed out that this process of mapping is not complete as a result of the work of WP3 because the research landscape of EURECA-PRO (phase two) is currently also being re-mapped. This also means that additional future research opportunities focussing specifically on SDG12 are yet to be identified and this will be a process reaching into the future of EURECA-PRO not only as a stand-alone funded project but eventually also as an institutionalised body of educational and research programmes. What can, however, be presented as achieved work in the context of WP3 in RE-EURECA-PRO is a case study on interdisciplinarity with a focus on SDG12. This case study is an art/sci exhibition which was staged at the Montanuniversität Leoben (with input from all partner universities) from 24.05. until 05.07.2024. As one of the main results of the

work in WP3 it represents a model of **interdisciplinary collaboration on SDG12** and it is presented in this deliverable as a supporting document for other universities or alliances who wish to carry out interdisciplinary work in the fields of science and art.

## 2. Economic mapping - methodology

Economic maps are used to represent economic activities in a particular geographical area. They are tools for the visual illustration of economic data and developments and they are often used to provide information about the distribution of income, the levels of industrial activity and the density of population in a particular region. In the European Union, regular efforts are made to map economic systems and activities in the individual regions so that appropriate strategies for the implementation of European-wide socio-economic actions can be facilitated. An example is the mapping of circular economic (CE) activities in the European Union (Kath-Gerro and Sintas, 2019), or the mapping of sustainable business modelling (Bocken et.al, 2013). Generally, a useful database for regional economic (and other) statistics can be found on the websites of Eurostat – the statistical office of the European Union (<https://ec.europa.eu/eurostat/>).

The following pages offer a useful methodology on how to map regions economically with regards to SDG12. The aim has been to find a way of analysing and presenting the complexity of economic activities in the regions. For this purpose, information about the major economic activities in each region were provided by the partner universities based on their own local research and collection of data. The data (list of company names and identification of their specific fields of work) about the economic density in the regions of the alliance was then cross-matched with the main targets of SDG12. The results have been visualised in the graphs shown in section 7 below. The result of the mapping exercise can be utilised in order to support SDG12-related research initiatives and collaborative actions in inter- and transdisciplinary contexts.

## 3. European regions (NUTS)

The European Commission defines the regions in the European Union according to the “Nomenclature of territorial units for statistics” (NUTS, 2018). Each member state is divided into 3 levels of territorial units: NUTS 1, NUTS 2, and NUTS 3. This division facilitates the collection of regional statistics and is especially useful for socio-economic analyses. Territorial units are based on existing administrative units in the Member States.

Examples of administrative and non-administrative units being designated as NUTS regions are:

NUTS level	Germany	Spain	Czech Republic	Italy
NUTS 1	Bundesländer	<i>non-administrative aggregations</i>	Území	<i>non-administrative aggregations</i>
NUTS 2	Regierungsbezirke/ <i>non-administrative aggregations</i>	Comunidades autónomas	<i>Regiony soudržnosti (cohesion regions)</i>	Regioni
NUTS 3	Kreise und Kreisfreie Städte	Provincias	Kraje	Province

(c) *The NUTS Regulation lays down minimum and maximum thresholds for the population size of the regions*

The average size of the regions in the respective level shall lie within the following thresholds:

Level	Minimum	Maximum
NUTS 1	3 million	7 million
NUTS 2	800 000	3 million
NUTS 3	150 000	800 000

For non-administrative units, deviations exist for particular geographical, socio-economic, historical, cultural or environmental circumstances, especially for islands and outermost regions.

(Source: NUTS, 2018)

For the purpose of the economic mapping of the regions of our partner universities within RE-EURECA-PRO, NUTS level 3 regions have been analysed. The relevant **NUTS-3 regions** are as follows:

RE-EURECA-PRO partner:	NUTS-3 region
Montanuniversität Leoben (MUL)	Eastern Upper Styria, Austria
Mittweida University of Applied Sciences (HSMW) and Technische Universität Bergakademie Freiberg (TUBAF)	Central Saxony, Germany
University of León (ULE)	León, Spain
University of Petroșani (UP)	Hunedoara, Romania
Silesian University of Technology (SUT)	Gliwice, Upper Silesia, Poland
Technical University of Crete (TUC)	Chania, Crete, Greece

#### 4. Economic set-up in regions per partner university

Each NUTS-3 region in the RE-EURECA-PRO alliance has a specific economic focus, as will be illustrated in the following section. Some of the main economic and industrial activities in the identified regions are:

- Information Technology (IT)
- Iron and Steel Industry
- Mechanical Engineering
- Electrical Industry

- Timber Processing
- Recycling and Waste Management
- Food and Agriculture
- Tourism

#### 4.1. GDP

The image below shows the GDP per inhabitant in purchasing power standards in the regions of Europe. The EU average is 100 and the regions of our partner universities show the following levels of GDP:

Leoben: 100 - < 125

Mittweida and Freiberg: 75 - < 100

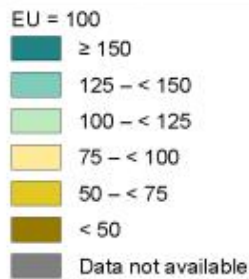
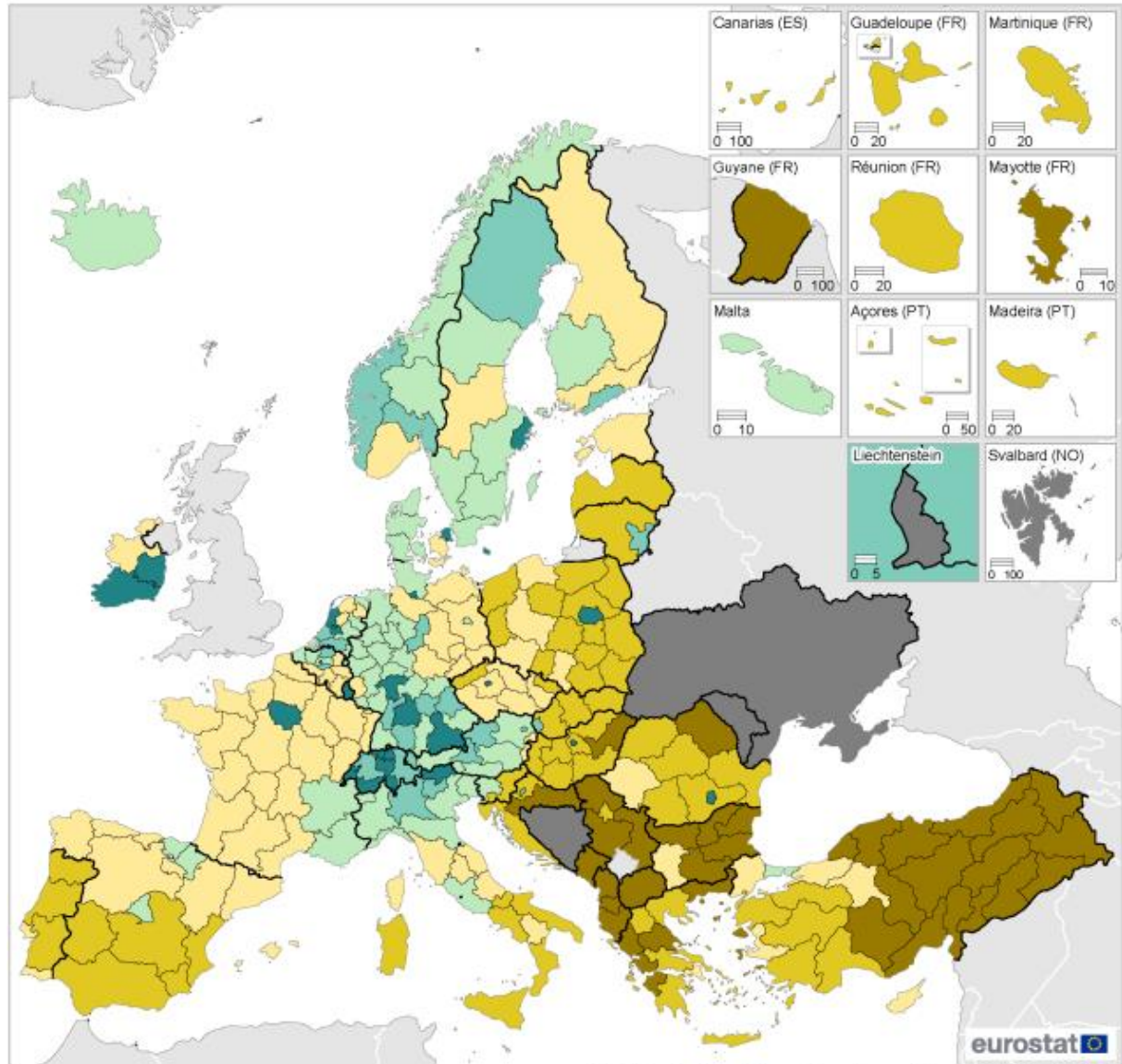
León: 75 - < 100

Petroşani: 75 - < 100

Gliwice: 75 - < 100

Chania: 50 - < 75

**GDP per inhabitant in purchasing power standards (PPS), 2021**  
(index in relation to the EU average = 100, by NUTS 2 regions)



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat  
Cartography: Eurostat — GISCO, 07/2023

Note: Norway, North Macedonia and Albania, 2020. Switzerland: 2018.  
Source: Eurostat (online data codes: nama\_10r\_2gdp and nama\_10\_pc)



#### 4.2. Leoben

The region around the city of Leoben (Eastern Upper Styria in Austria) is dominated by heavy industry such as steel and iron production but also timber processing as well as food and empties logistics. In addition, tourism, sports, adventure and the leisure industry play an increasingly important role in the area.

#### 4.3. Mittweida and Freiberg

The German cities of Mittweida and Freiberg are located in the economic region of Central Saxony. The dominant industries in this region are: metal production and processing, waste disposal and recycling, engineering consulting, paper technology, Bio-energy, and agriculture (breweries, milk production).

#### 4.4. León

In the region of León there is a dominance of economic activity in the fields of agriculture and food production (e.g. cold meats, dairy, pulses, potatoes, corn), cable production and distribution, plant protection, renewable wind energy, pharmaceutical distribution, and veterinary pharmacy medicines.

#### 4.5. Petroșani

Economic activity in the region of Hunedoara in Romania is strong in the fields of electronics, automation, lighting technology, electrical installation, waste sorting and recycling. Tourism services are also important for the region.

#### 4.6. Gliwice

The economy in the region of Gliwice in Upper Silesia, Poland, is dominated by Information Technology, Industry 4.0, automation (including robotics), water management, waste management, solar energy, steel and concrete structures, as well as architecture services.

#### 4.7. Chania

As one of the most popular holiday destinations in Greece, the region of Chania in Crete is obviously dependent on the tourist industry. Agriculture also plays a major role in the regional economy, such as the cultivation, production and export of wine, olive oil, tomatoes, potatoes, honey, cheese and citrus fruits.



## 5. SDG12 targets

SDG12 of the United Nations focusses on the goal of achieving **sustainable consumption and production patterns** on a global scale by 2030. Changing our consumption habits and transitioning to renewable ('green') energy supplies is a priority to combat climate change and protect the livelihoods of our current and future generations (see: <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>).

SDG12 has a number of sub-targets which focus on specific areas of action:



Facts and figures	Goal 12 targets	Links
	<p><b>12.1</b> Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries</p>	
	<p><b>12.2</b> By 2030, achieve the sustainable management and efficient use of natural resources</p>	
	<p><b>12.3</b> By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses</p>	
	<p><b>12.4</b> By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment</p>	
	<p><b>12.5</b> By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</p>	
	<p><b>12.6</b> Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle</p>	
	<p><b>12.7</b> Promote public procurement practices that are sustainable, in accordance with national policies and priorities</p>	
	<p><b>12.8</b> By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature</p>	
	<p><b>12.A</b> Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production</p>	
	<p><b>12.B</b> Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products</p>	
	<p><b>12.C</b> Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities</p>	

(Source: <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>)

SDG12 encourages companies and industries to adopt business practices that are sustainable and have a low impact on the environment. Furthermore, businesses are encouraged to align

with SDG12 by integrating information about their sustainability practices into their reporting cycles.

## 6. SDG12 targets in economic set-up per partner region

The following list of the United Nations SDG12 targets has been identified as relevant to the economic activities in the above mentioned regions where our partner universities are located. By 'relevance' we mean that the major economic players in the regions address the aims and objectives of SDG12 and its sub-targets in substantial ways. This implies that the companies and industries in the identified areas help to achieve the goals of SDG12, or that their business models can be aligned with SDG12 in meaningful ways.

<b>SDG12 Targets defined</b> (see: <a href="https://www.globalgoals.org/goals/12-responsible-consumption-and-production/">https://www.globalgoals.org/goals/12-responsible-consumption-and-production/</a> )	
SDG12.2	SUSTAINABLE MANAGEMENT AND USE OF NATURAL RESOURCES
SDG12.3	HALVE GLOBAL PER CAPITA FOOD WASTE
SDG12.4	RESPONSIBLE MANAGEMENT OF CHEMICALS AND WASTE
SDG12.5	SUBSTANTIALLY REDUCE WASTE GENERATION (reduce, recycle, reuse)
SDG12.6	ENCOURAGE COMPANIES TO ADOPT SUSTAINABLE PRACTICES AND SUSTAINABILITY REPORTING
SDG12.8	PROMOTE UNDERSTANDING OF SUSTAINABLE LIFESTYLES
SDG12.A	DEVELOP AND IMPLEMENT TOOLS TO MONITOR SUSTAINABLE TOURISM

## 6.1. Leoben

MUL (NUTS-3 region: Eastern Upper Styria, Austria)

<b>SDG12 target</b>	<b>Company name<sup>1</sup></b>	<b>Industry</b>
12.2	Voestalpine, Mayr-Melnhof Holz	Iron and steel industry, Timber processing
12.3	Knapp Leoben	Food and empties logistics
12.4	-	-
12.5	Voestalpine, Mayr-Melnhof Holz, Knapp Leoben	Iron and steel industry, Timber processing, Food and empties logistics
12.6	Voestalpine, AT&S	Iron and steel industry, Technology and digitalisation
12.8	Tourismus Erzberg Leoben	Tourism (adventure, sports, leisure)
12.A	Tourismus Erzberg Leoben	Tourism (adventure, sports, leisure)

<sup>1</sup> Please note that the individual company websites are included in the Excel document in the Annex.

## 6.2. Mittweida and Freiberg

HSMW and TUBAF (NUTS-3 region: Central Saxony, Germany)

<b>SDG12 target</b>	<b>Company name</b>	<b>Industry</b>
12.2	Aquasaxonia GmbH, Befesa Zinc Freiberg GmbH, ECOBAT Resources Freiberg GmbH, Freiberger Brauhaus GmbH, PAMA paper machinery GmbH, Sächsisches Metallwerk, Sächsisches Netzwerk Biomasse e.V.	Engineering consulting, Waste disposal, Recycling, Brewery, Paper technology, Metal production, Bio-energy
12.3	-	-
12.4	Befesa Zinc Freiberg GmbH, Belchem GmbH Belcotex, ECOBAT Resources Freiberg GmbH, PAMA paper machinery GmbH, PreZeroPyral GmbH, SAXONIA Edelmetalle, Sächsisches Metallwerk	Waste disposal, Resistant fibre materials, Recycling, Paper technology, Aluminium processing, Metal processing, Metal casting production
12.5	Befesa Zinc Freiberg GmbH, Belchem GmbH Belcotex, ECOBAT Resources Freiberg GmbH, Freiberger Brauhaus GmbH, Molkerei Hainichen-Freiberg GmbH, PAMA paper machinery GmbH, PreZeroPyral GmbH, SAXONIA Edelmetalle, Sächsisches Metallwerk, Sächsisches Netzwerk Biomasse e.V.	Waste disposal, Resistant fibre materials, Recycling, Brewery, Milk production, Paper technology, Aluminium processing, Metal processing, Metal casting production, Bio-energy
12.6	Siltronic AG Werk Freiberg	Silicon producer
12.8	Sächsisches Netzwerk Biomasse e.V.	Bio-energy
12.A	-	-

## 6.4. León

ULE (NUTS-3 region: León, Spain)

SDG12 target	Company name	Industry
12.2	Migueluez SL, Agroalimentación Mendoza Perez SL, LM Wind Power Spain SL, Leonesa Astur de Piensos LESA SA, Embutidos Rodriguez SL, Lactiber Leon SA, Legumbres Luengo SA, Patatas Hijolusa SA, Maíz del Páramo SL, León Coated Solutions SL, Hispano Japonesa de Maquinaria SL, Comercial Oblanca SA,	Cable production and distribution, Plant protection, Renewable wind energy, Agricultural products and services, Cold meat production and distribution, Dairy production, Food manufacturer (pulses), Food manufacturer (potatoes), Food manufacturer (corn), Steel coil producer, Construction, Food distribution,
12.3	Leonesa Astur de Piensos LESA SA, Embutidos Rodriguez SL, Lactiber Leon SA, Legumbres Luengo SA, Patatas Hijolusa SA, Maíz del Páramo SL, Comercial Oblanca SA,	Agricultural products and services, Cold meat production and distribution, Dairy production, Food manufacturer (pulses), Food manufacturer (potatoes), Food manufacturer (corn), Food distribution,
12.4	Valcarce Tarjeta, Migueluez SL, Agroalimentación Mendoza Perez SL, Laboratorios Leon Farma SA, Cooperativa Farmacéutica Leonesa Coop, Gestilan Estaciones de Servicio SL, León Coated Solutions SL, Syva	Financial and insurance, Cable production and distribution, Plant protection, Pharmaceutical research, Dairy production, Pharmaceutical distributor, Service stations, Steel coil producer, Veterinary pharmacy medicines
12.5	Migueluez SL, Valcarce Tarjeta, LM Wind Power Spain SL, Leonesa Astur de Piensos LESA SA, Embutidos Rodriguez SL, Lactiber Leon SA, Legumbres Luengo SA, Patatas Hijolusa SA, León Coated Solutions SL, Hispano Japonesa de Maquinaria SL, Comercial Oblanca SA,	Cable production and distribution, Financial and insurance, Renewable wind energy, Agricultural products and services, Cold meat production and distribution, Dairy production, Food manufacturer (pulses), Food manufacturer (potatoes), Steel coil producer, Construction, Food distribution,
12.6	Migueluez SL, Valcarce Tarjeta, Agroalimentación Mendoza Perez SL, LM Wind Power Spain	Cable production and distribution, Financial and insurance, Plant protection, Renewable wind energy, Agricultural products and services, Cold meat

	SL, Leonesa Astur de Piensos LESA SA, Embutidos Rodriguez SL, Laboratorios Leon Farma SA, Lactiber Leon SA, Cooperativa Farmacéutica Leonesa Coop, Legumbres Luengo SA, Patatas Hijolusa SA, Maíz del Páramo SL, Gestilan Estaciones de Servicio SL, León Coated Solutions SL, Hispano Japonesa de Maquinaria SL, Comercial Oblanca SA, Syva	production and distribution, Pharmaceutical research, Dairy production, Pharmaceutical distributor, Food manufacturer (pulses), Food manufacturer (potatoes), Food manufacturer (corn), Service stations, Steel coil producer, Construction, Food distribution, Veterinary pharmacy medicines
12.8	-	-
12.A	-	-

## 6.5. Petroșani

UP (NUTS-3 region: Hunedoara, Romania)

SDG12 target	Company name	Industry
12.2	EBS Electronic Group SRL, EUROELECTRIC SRL, ELECTRO MAX SRL, Diacom Prest SRL, Adarco Invest SRL	Electronics, Electrical installation and automation, Lighting technology, Electrical installation, Waste sorting and recycling
12.3	EDY URSU COMIMPEX SRL	Meat production,
12.4	EBS Electronic Group SRL, EUROELECTRIC SRL, EDY URSU COMIMPEX SRL, Diacom Prest SRL, Adarco Invest SRL	Electronics, Electrical installation and automation, Meat production, Electrical installation, Waste sorting and recycling
12.5	EBS Electronic Group SRL, EUROELECTRIC SRL, ELECTRO MAX SRL, Adarco Invest SRL	Electronics, Electrical installation and automation, Lighting technology, Waste sorting and recycling
12.6	EBS Electronic Group SRL, Adarco Invest SRL	Electronics, Waste sorting and recycling
12.8	ELECTRO MAX SRL, SC Comexim R SRL Lupeni	Lighting technology, Tourism services
12.A	SC Comexim R SRL Lupeni, SC HOTEL RUSU SRL	Tourism services, Hotel industry and tourism

## 6.6. Gliwice

SUT (NUTS-3 region: Gliwice, Upper Silesia, Poland)

<b>SDG12 target</b>	<b>Company name</b>	<b>Industry</b>
12.2	PWiK Gliwice, Pre Zero, PEC Gliwice, EKO grupa, Give Steel, Gesto, APA Group, EUVIC Poland	Water and wastewater network, Waste management and processing of secondary raw materials, Solar energy, Steel structures, Concrete structures, Industry 4.0/automation/robotics, IT
12.3	-	-
12.4	PWiK Gliwice, Pre Zero, PEC Gliwice, Gesto, APA Group, EUVIC Poland	Water and wastewater network, Waste management and processing of secondary raw materials, Concrete structures, Industry 4.0/automation/robotics, IT
12.5	EKO grupa, Give Steel, Gesto, Zalewski AG, Medusa Group	Solar energy, Steel structures, Concrete structures, Architecture
12.6	Give Steel, Gesto, APA Group	Steel structures, Concrete structures, Industry 4.0/automation/robotics,
12.8	PWiK Gliwice, Pre Zero, PEC Gliwice, EKO grupa, EUVIC Poland, Zalewski AG, Medusa Group	Water and wastewater network, Waste management and processing of secondary raw materials, Solar energy, IT, Architecture
12.A	PWiK Gliwice, Pre Zero, PEC Gliwice, EUVIC Poland, Zalewski AG, Medusa Group	Water and wastewater network, Waste management and processing of secondary raw materials, IT, Architecture



## 6.7. Chania

TUC (NUTS-3 region: Chania, Crete, Greece)

<b>SDG12 target</b>	<b>Company name</b>	<b>Industry</b>
12.2	ABEA, Roumpedakis oil, Kretafood, Pallada company, Cretan taste, Manousakis winery, Dourakis winery	Agriculture (olive oil cultivation and production, vineyards and wine production)
12.3	-	-
12.4	ABEA, Roumpedakis oil, Kretafood, Pallada company, Cretan taste, Manousakis winery, Dourakis winery	Agriculture (olive oil cultivation and production, vineyards and wine production)
12.5	-	-
12.6	-	-
12.8	-	-
12.A	ABEA, Roumpedakis oil, Kretafood, Pallada company, Cretan taste, Manousakis winery, Dourakis winery	Agriculture (olive oil cultivation and production, vineyards and wine production)

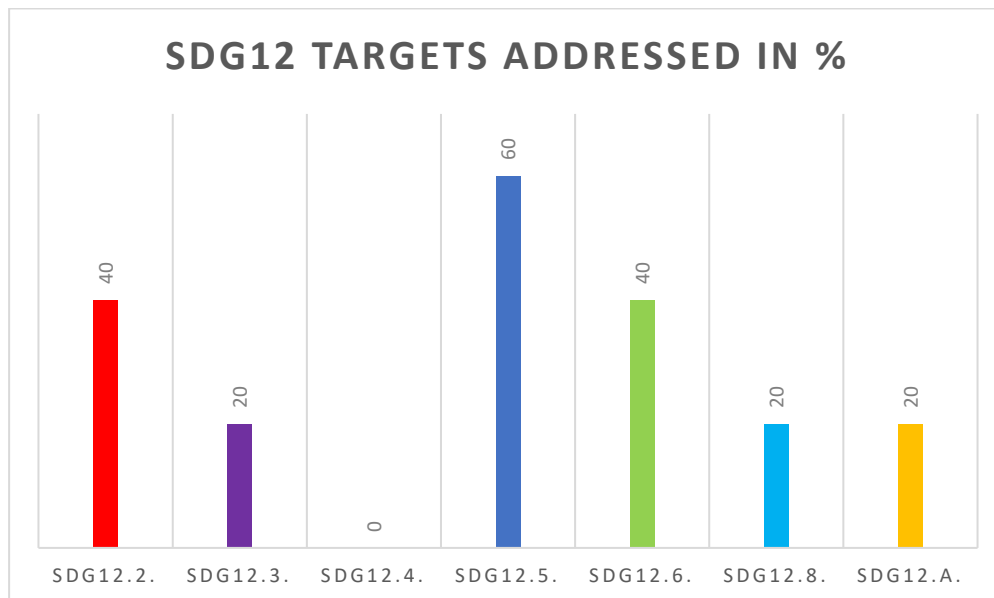
## 7. Common Ground

Despite the diversity of economic activities in the above mentioned regions of the alliance, overall the identified companies and industries support most of the SDG12 targets. Mapping the economic activities of the regions and cross-matching them with the specific targets of SDG12 offers a clearer picture of the common ground of the alliance and its potential to carry out research work on the topic of responsible consumption and production (RCP). This focus on SDG12 in the economic regions of our partner universities can be beneficial for the alliance in the following ways. The economic mapping in relation to SDG12

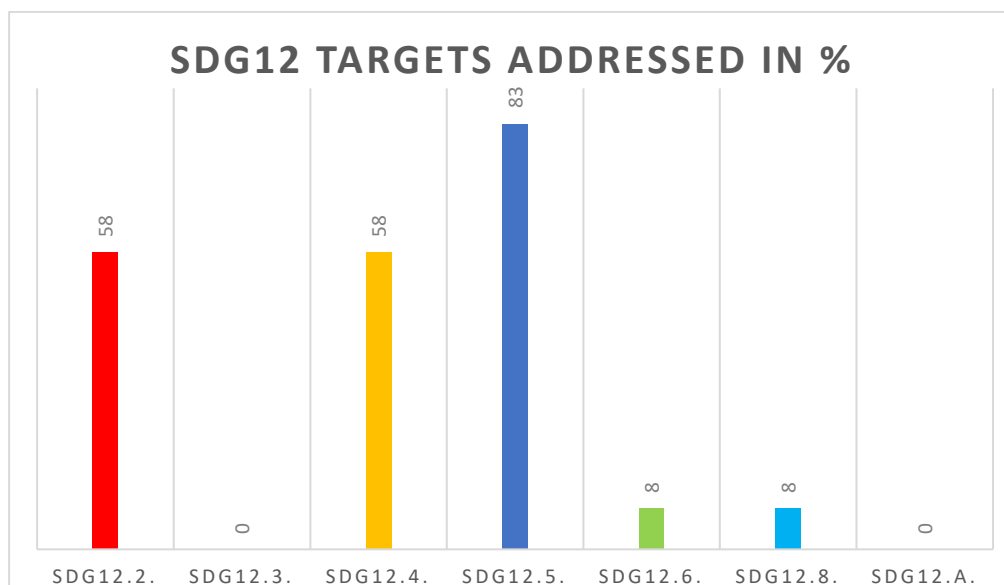
1. brings into focus the distribution of SDG12 target areas in the regions of the alliance
2. identifies the major economic stake-holders in the regions
3. can aid researchers and students in their searches for appropriate locations and stakeholder contacts for case studies (e.g. research projects, internships) on SDG12

The graphs below show the distributions of economic emphasis on the specific SDG12 targets (in %) in the regions of our alliance. Overall, **SDG12.2 (sustainable management and use of natural resources)** is the strongest shared focus of the economic activities in the regional areas. Consequently, SDG12.2 represents the **common ground** of the work of the alliance (as is also discussed in the document “Road map for a concrete SDG12 target challenge”, which represents Milestone 6 of the RE-EURECA-PRO project).

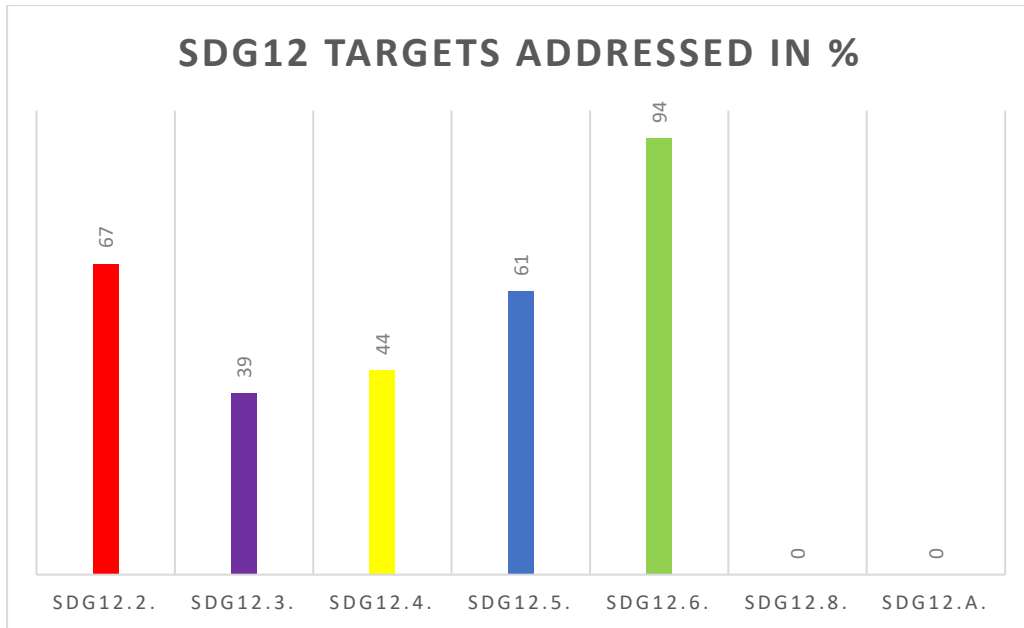
Leoben:



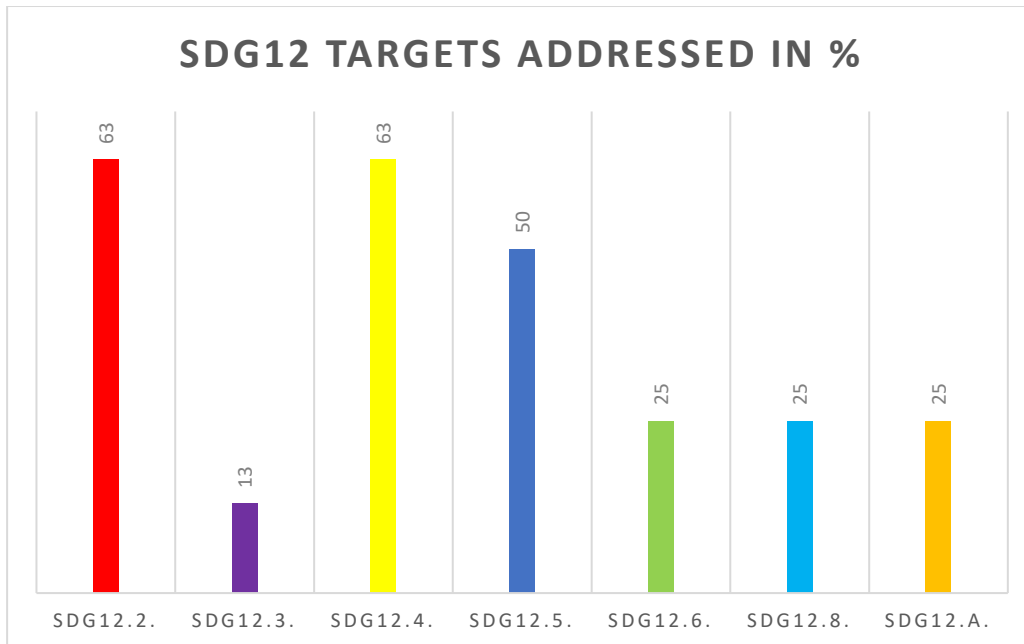
HSMW and TUBAF:



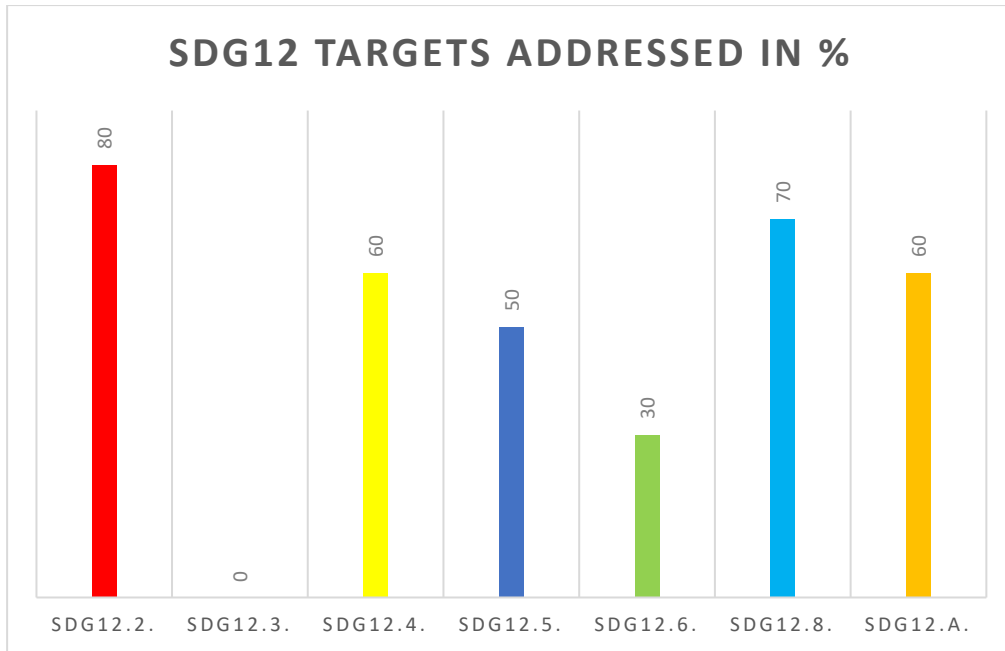
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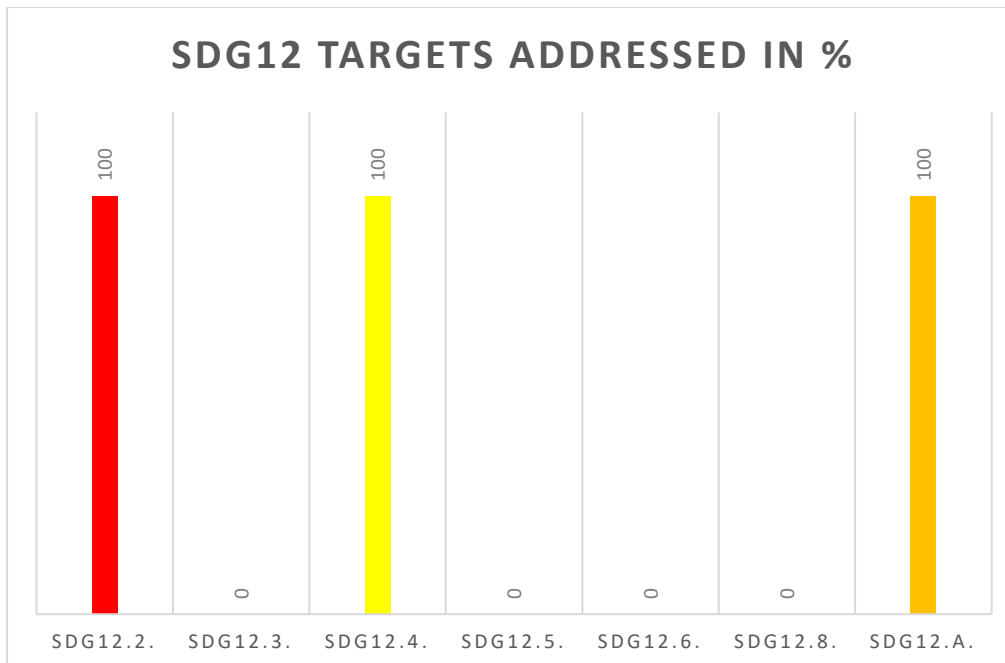
Petroşani:



Gliwice:



Chania:



## 8. SDG12 interdisciplinary case study and milestone: art/sci exhibition

Keisuke Okamura (2019) has argued that “cross-disciplinary communication and collaboration are necessary to not only pursue a curiosity-driven quest for fundamental knowledge but also address complex socioeconomic issues” and that consequently “interdisciplinary research (IDR) has become increasingly central to both academic interest and government science policies”. IDR is of course central to the SDG12-related research efforts of EURECA-PRO. This can take many shapes and fulfil many purposes, as has been demonstrated by the research actions and collaborative projects that have emerged within the EURECA-PRO alliance (see the work of WP3 in EURECA-PRO 1.0 on the Scientific Framework Charter and the Research Task Force). Most international collaborations within EURECA-PRO have been interdisciplinary in a ‘narrow’ sense, i.e. with a focus on the STEM disciplines (Science, Technology, Engineering and Mathematics) working together. Additionally, social science disciplines (focussing on sociological research in the field of consumer studies) have been addressed, and more recently a new research focus on human health has been identified (led by Hasselt University in EURECA-PRO 2.0).

The final case study of WP3 in RE-EURECA-PRO investigates modes of interdisciplinarity in a broader sense, meaning the collaboration of the natural/technical sciences with the humanities, specifically the arts. In the field of education, this cross-disciplinary approach that combines science, technology, engineering, arts and mathematics is known as STEAM. It is recognised as an effective means of breaking down traditional academic silos and promoting an integrative, holistic approach to improving critical knowledge and creative thinking skills (see Perales and Aróstegui, 2024). STEAM was introduced as an educational framework in the early 21<sup>st</sup> century<sup>2</sup> and has since then also been recognised as a collaborative, cross-disciplinary approach in research and innovation. As a form of cross-disciplinarity (see Heitzmann et.al, 2021), interdisciplinary research presents an important approach and framework for tackling the challenges of environmental and social sustainability. Chan et.al (2018), for example, have discussed the need for “whole-system perspectives” (14) to understand how production and consumption interlink in the context of global trade and that it is therefore necessary to “move towards more interdisciplinary and transdisciplinary (i.e. involving both academic and non-academic stakeholders) research in the field of SCP [Sustainable Consumption and Production]” (15). EURECA-PRO, too, takes a holistic, integrative, cross-disciplinary (i.e. inter- and transdisciplinary) approach to addressing SDG12. In this context, the recent effort to integrate the arts into research-based projects and events represents a first step to significantly broaden the possibilities of collaboration between experts from different disciplines.

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<sup>2</sup> See: <https://www.steamtruck.org/blog/steam-education-history-importance>

The generic title of RE-EURECA-PRO’s Milestone 7 is “SDG12 Higher Education R&I Awareness Exhibition”, which was modified to make the focus of the exhibition event clearer to the audience and to represent a more succinct reflection of the thematic focus of the project. Milestone 7 is a case study that sought to “visualize and make multiple stakeholder groups comprehend the barriers, challenges and potential of interdisciplinary collaboration and multi-dimensional thinking” (Grant Agreement). The artistic curator of the exhibition, Dominika Glogowski (Vienna), gave it the title *Transversal Responses: Filling the Gaps* (Fig. 1).

## TRANSVERSAL RESPONSES FILLING THE GAPS

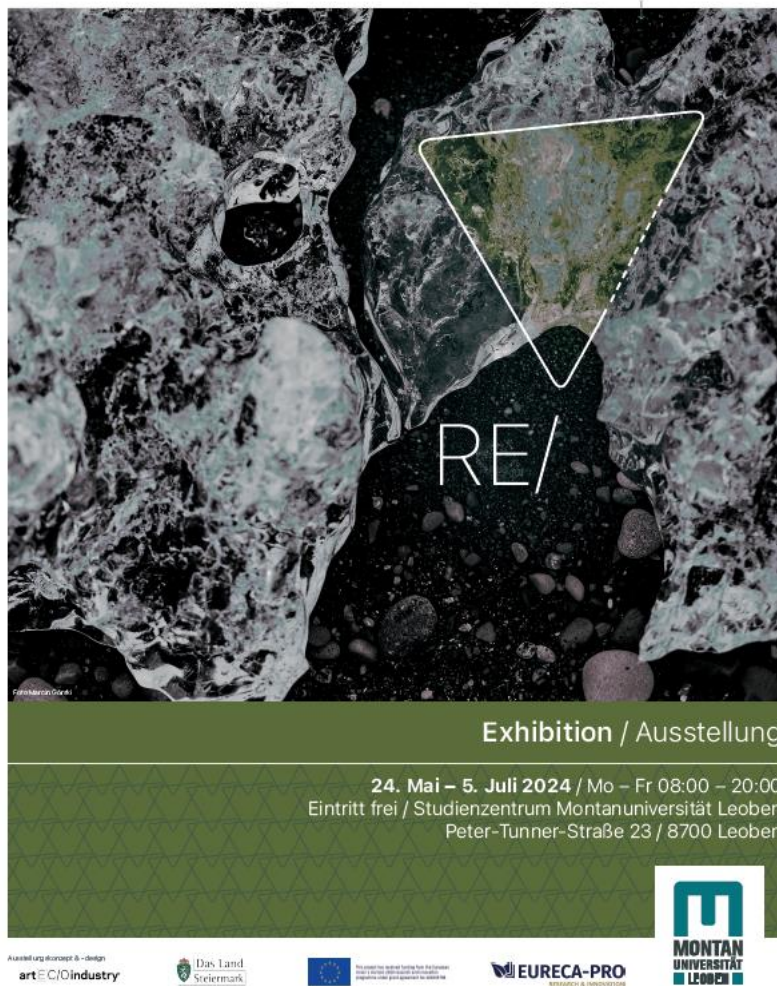


Fig. 1: Exhibition poster. The exhibition was designed by Dominika Glogowski (artEC/Oindustry) and organised by MUL. It was generously supported by the state of Styria, Austria (cultural funding, Land Steiermark “Abteilung 9 Kultur, Europa, Sport”).

The concept of transversality was chosen to reflect the aims of inter- and transdisciplinary collaboration as a mode of interaction and intersection. From a sociological and philosophical perspective, transversal models support the building of inclusive identities and they encourage social transformation based on participation, co-creation, and de-compartmentalization. Already in the 1990s, Félix Guattari (1992/2015) was concerned with the question of how to establish bridges between different eco-systems and he critically argued that “[u]nder the protection of a scientific or, rather, scientific paradigm, the human sciences have endeavoured systematically to remove the subjective factors of responsibility and commitment” (131). The Enlightenment focus on the universal rationality and objectivity of science is historically understandable but it ought to be counter-balanced by “a pole for the singularization, the particularization of research” (132), which brings into the picture the social realm, art and ethics. In this spirit of a *transversal integration of different disciplinary positions* and a focus on subjective aesthetic experience, the exhibition followed two aims:

1. To convey research findings in a creative/artistic and interactive way by presenting the inter- and transdisciplinary actions and outcomes that were developed within the project of RE-EURECA-PRO: through audio-visual content including poster displays, a large-scale sculpture construction (created by Francesca Aldegani), and an immersive sound experience. Additionally, on the day of opening a live performance (“Mining Landscapes – Shaping Infrastructures”) by the choreographer and performance artist Sara Lanner (Fig. 2) was presented in the exhibition space, adding a strong performative (theatrical) element to the exhibition format.
2. To engage the public (multiple stakeholder groups) and offer the audience-participants an interactive debating (imaginary co-creation) space in which they could engage in dialogues about SDG12-related topics (see Fig. 3). The exhibition enabled visitors to take part in debates that stimulate emotions and critical reflections on the topic of sustainability.





Fig. 2: Sara Lanner (@sara\_lanner), “Mining Landscapes – Shaping Infrastructures”.



Fig. 3: The debating space. (Transversal Responses - art/science exhibition at MUL, 2024). Sculptures designed by Francesca Aldegani.

The contents of the exhibition were informed, on the one hand, by the official project outcomes of RE-EURECA-PRO (visualised on posters displayed on Big Bags, Fig. 4), and on the other hand, by additional input from researchers of our alliance.



Fig. 4: Posters on Big Bags (sponsored by Puhm Plastics & Recycling, <https://puhm.eu/>)

The research results were incorporated into a game of debates which audiences could engage with in the circular centre of the installation space. The acoustic container offered visitors the opportunity to listen to a sound-piece (composed by Dominika Glogowski and Pit Frantzen, Fig. 5) representing the voices of RE-EURECA-PRO team members (researchers, project managers, students). The audio play contains the team's thoughts on EURECA-PRO's commitment to realising SDG12, reflections on the alliance's contributions to the transformation of the higher education sector, as well as critical and emotional responses to the challenges and opportunities of the European Universities initiative.





Fig. 5: Visitors in the acoustic container (*Transversal Responses* - art/science exhibition at MUL, 2024)

The exhibition is a case study on how to *make connections between art and science* in the research and innovation context of a European University alliance. More than simply being a dissemination of the research findings of a funded project (in our case: RE-EURECA-PRO), the artistic exhibition format offers visitors (social stakeholders, e.g. academic and industry experts as well as the general public) a chance to explore the work of RE-EURECA-PRO in interactive ways, offering haptic, immaterial and intangible aesthetic experiences. The exhibition thus represents a model for promoting interdisciplinary research on SDG12 to a wide community of stakeholders. We hope that this interactive exhibition format can be perceived as a creative and engaging model for building awareness about urgent socio-ecological challenges (addressed by the UN's sustainable development goals) and that it will be developed further in the context of future work on how to bring the arts and sciences together within EURECA-PRO and beyond.

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## Appendix 1

Data about economic activity per region in relation to SDG12:

Region - NUTS 3	Main economic activities in region	Relevance for SDG12 (12.2, 12.3, 12.4, 12.5, 12.6, 12.8, 12.A)
<b>Leoben - Eastern Upper Styria - Austria</b>	<p><b>Industry:</b></p> <ol style="list-style-type: none"> <li><b>Voestalpine</b> (Iron and Steel Industry): <a href="http://www.voestalpine.com/stahldonawitz">www.voestalpine.com/stahldonawitz</a></li> <li><b>AT&amp;S</b> (technology and digitalisation, supplier of high-end PCBs and IC substrates): <a href="http://www.ats.net">www.ats.net</a></li> <li><b>Mayr-Melnhof Holz</b> (timber-processing company): <a href="http://www.mm-holz.com">www.mm-holz.com</a></li> <li><b>Knapp Leoben</b> (Systemintegration: warehouse and empties logistics, Reusables Management Solution): <a href="http://www.knapp.com">www.knapp.com</a></li> </ol> <p><b>Tourism:</b></p> <ol style="list-style-type: none"> <li><b>Tourismus Erzberg Leoben</b> (adventure and sports region): <a href="http://www.steiermark.com/de/Erzberg-Leoben">www.steiermark.com/de/Erzberg-Leoben</a></li> </ol>	<ol style="list-style-type: none"> <li>Voestalpine (12.2, 12.5, 12.6)</li> <li>AT&amp;S (12.6)</li> <li>Mayr-Melnhof Holz (12.2, 12.5, 12.6)</li> <li>Knapp Leoben (12.3, 12.5, 12.6)</li> <li>Tourismus Erzberg Leoben (12.8, 12.A)</li> </ol>
<b>Chania - Crete - Greece</b>	<ol style="list-style-type: none"> <li><b>Agriculture ABEA</b> (olive oil cultivation and production, vineyards and wine production): <a href="http://www.abea.gr">www.abea.gr</a></li> <li><b>Roumpedakis oil</b>: <a href="http://www.roumpedakisoil.gr">www.roumpedakisoil.gr</a></li> <li><b>Kretafood</b>: <a href="http://www.kretafood.com/el/h-kreta-food">www.kretafood.com/el/h-kreta-food</a></li> <li><b>Pallada company</b>: <a href="http://www.pallada.gr">www.pallada.gr</a></li> <li><b>Cretan taste</b>: <a href="http://www.cretantaste.gr">www.cretantaste.gr</a></li> <li><b>Manousakis winery</b>: <a href="http://www.manousakiswinery.com">www.manousakiswinery.com</a></li> <li><b>Dourakis winery</b>: <a href="http://www.dourakiswinery.gr">www.dourakiswinery.gr</a></li> </ol>	All: SDG 12.2, SDG 12.4, SDG 12.A

<p><b>Leon - Spain</b></p>	<ol style="list-style-type: none"> <li>1. <b>Valcarce Tarjeta Transporte</b> (Financial and insurance activities related to service stations): <a href="http://www.grupovalcarce.com">www.grupovalcarce.com</a></li> <li>2. <b>Migueluez SL</b> (Cable production and distribution): <a href="http://www.migueluez.com">www.migueluez.com</a></li> <li>3. <b>Agroalimentación Mendoza Perez SL</b> (Distribution of phytosanitary products for horticulture, gardening, and vineyards): no website</li> <li>4. <b>LM Wind Power Spain SL</b> (Production and distribution of renewable wind energy infrastructure): <a href="http://www.lmwindpower.com">www.lmwindpower.com</a></li> <li>5. <b>Leonesa Astur de Piensos LESA SA</b> (Agricultural products &amp; services): <a href="http://www.lesa.es">www.lesa.es</a></li> <li>6. <b>Embutidos Rodriguez SL</b> (Distribution and production of cold meat): <a href="http://www.embutidosrodriguez.es">www.embutidosrodriguez.es</a></li> <li>7. <b>Laboratorios Leon Farma SA</b> (Laboratory and R&amp;D plant for pharmaceutical research and development): <a href="http://www.chemopharmaceuticals.com/leon-farma">www.chemopharmaceuticals.com/leon-farma</a></li> <li>8. <b>Lactiber Leon SA</b> (Dairy production and distribution): <a href="http://www.lactiber.es">www.lactiber.es</a></li> <li>9. <b>Cooperativa Farmacéutica Leonesa Coop</b> (Pharmaceutical distributor of medicines, medical devices and parapharmacy products): <a href="http://www.cofarle.com">www.cofarle.com</a></li> <li>10. <b>Legumbres Luengo SA</b> (Distribution of pulses): <a href="http://legumbresluengo.com">legumbresluengo.com</a></li> <li>11. <b>Patatas Hijolusa SA</b> (Potato and sweet potato distribution): <a href="http://www.hijolusa.es">www.hijolusa.es</a></li> <li>12. <b>Maíz del Páramo SL</b> (Corn production): <a href="http://www.grupobarrio.es">www.grupobarrio.es</a></li> <li>13. <b>Selección de Productos Leoneses SA</b> (Distribution of pulses): <a href="http://www.laasturiana.es">www.laasturiana.es</a></li> <li>14. <b>Gestilan Estaciones de Servicio SL</b> (Service stations): <a href="http://www.easygasgroup.com">www.easygasgroup.com</a></li> <li>15. <b>León Coated Solutions SL</b> (Pre-painted steel coil producer): <a href="http://www.coatedsolutions.com">www.coatedsolutions.com</a></li> <li>16. <b>Hispano Japonesa de Maquinaria SL</b> (Distribution of construction machinery): <a href="http://www.hjm.eu">www.hjm.eu</a></li> <li>17. <b>Comercial Oblanca SA</b> (Food distribution): <a href="http://www.oblanca.es">www.oblanca.es</a></li> <li>18. <b>Syva</b> (Production and distribution of veterinary pharmacy medicines): <a href="http://www.syva.es">www.syva.es</a></li> </ol>	<ol style="list-style-type: none"> <li>1. Valcarce Tarjeta Transporte (12.4, 12.5, 12.6)</li> <li>2. Migueluez SL (12.2, 12.4, 12.5, 12.6)</li> <li>3. Agroalimentación Mendoza Perez SL (12.2, 12.4, 12.6)</li> <li>4. LM Wind Power Spain SL (12.2, 12.5, 12.6)</li> <li>5. Leonesa Astur de Piensos LESA SA (12.2, 12.3, 12.5, 12.6)</li> <li>6. Embutidos Rodriguez SL (12.2, 12.3, 12.5, 12.6)</li> <li>7. Laboratorios Leon Farma SA (12.4, 12.6)</li> <li>8. Lactiber Leon SA (12.2, 12.3, 12.5, 12.6)</li> <li>9. Cooperativa Farmacéutica Leonesa Coop (12.4, 12.6)</li> <li>10. Legumbres Luengo SA (12.2, 12.3, 12.5, 12.6)</li> <li>11. Patatas Hijolusa SA (12.2, 12.3, 12.5, 12.6)</li> <li>12. Maíz del Páramo SL (12.2, 12.3, 12.6)</li> <li>13. Selección de Productos Leoneses SA (12.2, 12.3, 12.5, 12.6)</li> <li>14. Gestilan Estaciones de Servicio SL (12.4, 12.6)</li> <li>15. León Coated Solutions SL (12.2, 12.4, 12.5, 12.6)</li> <li>16. Hispano Japonesa de Maquinaria SL (12.2, 12.5, 12.6)</li> <li>17. Comercial Oblanca SA (12.2, 12.3, 12.5, 12.6)</li> <li>18. Syva (12.4, 12.6)</li> </ol>
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<p><b>Petrosani - Hunedoara - Romania</b></p>	<p><b>Industry:</b></p> <ol style="list-style-type: none"> <li><b>EBS Electronic Group SRL</b> (prototyping, electronic product design, electronic production and functional testing): <a href="http://www.ebs-electric.eu">www.ebs-electric.eu</a></li> <li><b>EUROELECTRIC SRL</b> (electrical instalations and automation in industrial process and civil construction): <a href="http://www.euroelectric.ro">www.euroelectric.ro</a></li> <li><b>EDY URSU COMIMPEX SRL</b> (production and preservation of meat, retail sale of meat and meat products in specialised stores): no website</li> <li><b>ELECTRO MAX SRL</b> (production and marketing of lighting sources with led technology): <a href="http://www.electromax.ro">www.electromax.ro</a></li> <li><b>Diacom Prest SRL</b> (installation, maintenance, repairs, electrical installation checks, electrical installation design): <a href="http://www.diacom.ro">www.diacom.ro</a></li> <li><b>Adarco Invest SRL</b> (produces facilities and equipment specific to household waste sorting and recycling activities): <a href="http://www.adarco.ro">www.adarco.ro</a></li> </ol> <p><b>Tourism:</b></p> <ol style="list-style-type: none"> <li><b>SC Comexim R SRL Lupeni</b> (a wide range of tourism services): <a href="http://www.comexim-r.ro">www.comexim-r.ro</a></li> <li><b>SC HOTEL RUSU SRL</b> (tourism services): <a href="http://www.hotelrusu.ro">www.hotelrusu.ro</a></li> </ol>	<ol style="list-style-type: none"> <li>EBS Electronic Group SRL (12.2, 12.4, 12.5, 12.6)</li> <li>EUROELECTRIC SRL (12.2, 12.4, 12.5)</li> <li>EDY URSU COMIMPEX SRL (12.3, 12.4)</li> <li>ELECTRO MAX SRL (12.2, 12.5, 12.8)</li> <li>Diacom Prest SRL (12.2, 12.4)</li> <li>Adarco Invest SRL (12.2, 12.4, 12.5, 12.6)</li> <li>SC Comexim R SRL Lupeni (12.8, 12.A)</li> <li>SC HOTEL RUSU SRL (12.A)</li> </ol>
<p><b>Freiberg &amp; Mittweida - Landkreis Mittelsachsen - Germany</b></p>	<ol style="list-style-type: none"> <li><b>Aquasaxonia GmbH:</b> <a href="http://www.aqua-saxonia.de">www.aqua-saxonia.de</a></li> <li><b>Befesa Zinc Freiberg GmbH:</b> <a href="http://www.befesa.com">www.befesa.com</a></li> <li><b>Belchem GmbH Belcotex:</b> <a href="http://www.belchem.de">www.belchem.de</a></li> <li><b>ECOBAT Resources Freiberg GmbH:</b> <a href="http://www.ecobat.com">www.ecobat.com</a></li> <li><b>Freiberger Brauhaus GmbH:</b> <a href="http://www.freiberger-pils.de">www.freiberger-pils.de</a></li> <li><b>Molkerei Hainichen-Freiberg GmbH:</b> <a href="http://www.molkerei-freiberg.de">www.molkerei-freiberg.de</a></li> <li><b>PAMA paper machinery GmbH:</b> <a href="http://www.pama-papermachinery.com">www.pama-papermachinery.com</a></li> <li><b>PreZeroPyral GmbH:</b> <a href="http://www.prezero-pyral.com">www.prezero-pyral.com</a></li> <li><b>SAXONIA Edelmetalle:</b> <a href="http://www.saxonia.de">www.saxonia.de</a></li> <li><b>Sächsisches Metallwerk:</b> <a href="http://www.kupferguss-bestform.de">www.kupferguss-bestform.de</a></li> <li><b>Sächsisches Netzwerk Biomasse e.V.:</b> <a href="http://www.biomasse-freiberg.de">www.biomasse-freiberg.de</a></li> <li><b>Siltronic AG Werk Freiberg:</b> <a href="http://www.siltronic.com">www.siltronic.com</a></li> </ol>	<ol style="list-style-type: none"> <li>12.2</li> <li>12.2, 12.4, 12.5</li> <li>12.4, 12.5</li> <li>12.2, 12.4, 12.5</li> <li>12.2, 12.5</li> <li>12.2, 12.5</li> <li>12.4, 12.5</li> <li>12.2, 12.4, 12.5</li> <li>12.4, 12.5</li> <li>12.2, 12.4, 12.5</li> <li>12.2, 12.5, 12.8</li> <li>12.6, 12.7</li> </ol>



<p><b>Gliwice - Upper Silesia - Poland</b></p>	<p><b>Industry:</b></p> <ol style="list-style-type: none"> <li>1. <b>PWiK Gliwice</b> (water supply, wastewater collection and disposal, water and wastewater network infrastructure management). www.pwik.gliwice.pl</li> <li>2. <b>Pre Zero</b> (management of municipal, industrial and hazardous waste, processing of secondary raw materials): www.prezero.pl</li> <li>3. <b>PEC Gliwice</b> (production, distribution and transmission of district heating and hot water): www.pec.gliwice.pl</li> <li>4. <b>EKO grupa</b> (solar energy): www.ekosolargliwice.pl</li> <li>5. <b>Give Steel</b> (steel structures): www.givesteel.com</li> <li>6. <b>Gesto</b> (concrete structures, prefabrication): www.gesto.pl</li> <li>7. <b>APA Group</b> (industry 4.0, automation, robotics): www.apagroup.pl</li> <li>8. <b>EUVIC Poland</b> (IT, Industry 4.0): www.euvic.com</li> </ol> <p><b>Architecture:</b></p> <ol style="list-style-type: none"> <li>9. <b>Zalewski AG</b> (architecture): www.zalewskiag.com</li> <li>10. <b>Medusa Group</b> (architecture): www.medusagroup.eu</li> </ol>	<ol style="list-style-type: none"> <li>1. PWiK Gliwice (12.2, 12.4, 12.7, 12.8, 12.A, 12.B)</li> <li>2. Pre Zero (12.2, 12.4, 12.7, 12.8, 12.A, 12.B)</li> <li>3. PEC Gliwice (12.2, 12.4, 12.7, 12.8, 12.A, 12.B)</li> <li>4. EKO grupa (12.2, 12.5, 12.8)</li> <li>5. GiveSteel (12.2, 12.5, 12.6)</li> <li>6. Gesto (12.2, 12.4, 12.5, 12.6)</li> <li>7. APA Group (12.2, 12.4, 12.6)</li> <li>8. EUVIC Poland (12.2, 12.4, 12.7, 12.8, 12.A)</li> <li>9. Zalewski AG (12.5, 12.8, 12.A)</li> <li>10. Medusa Group (12.5, 12.8, 12.A)</li> </ol>
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## Appendix 2

### Transversal Responses: Filling the Gaps exhibition booklet:

**DIE IMMERSIVE KUNST-/WISSENSCHAFTSAUSSTELLUNG  
TRANSVERSAL RESPONSES: FILLING THE GAPS**

Vom Füllen der Lücken bildet den Abschluss von RE-EURECA-PRO, einem EURECA-PRO-Projekt zum Thema Nachhaltigkeit unter der Leitung der Montanuniversität Leoben (Österreich). Die European University EURECA-PRO verfolgt eine ehrgeizige Vision: **nachhaltige Nutzung natürlicher Ressourcen und verantwortungsvoller Konsum** (Sustainable Development Goal 12), **Klimaschutz, Geschlechtergerechtigkeit, grenzenlose europäische Hochschulbildung, Möglichkeiten für lebenslanges Lernen, Wissenstransfer, Soziales Engagement und uneingeschränkte Mobilität.**

Die Universitätsallianz fördert nachdrücklich transversale Kompetenzen, um ganzheitliche Ziele umzusetzen. Die Ausstellung greift diese Methodik auf und **lädt Besucher:innen ein, das Projekt RE-EURECA-PRO interaktiv zu erkunden.**

Die Ausstellung ermöglicht den Besucher:innen an Debatten teilzunehmen,

RE/

**TRANSVERSAL RESPONSES  
FILLING THE GAPS**

RE/

Ausstellung / Exhibition

24. May – 5. July 2024 / Mo – Fr 08:00 – 20:00  
Free entry / Studienzentrum Montanuniversität Leoben  
Peter-Turner-Straße 23 / 8700 Leoben

artEcoIndustry | Uni Land Steiermark | European University EURECA-PRO | MONTAN UNIVERSITÄT LEOBEN

**AUSSTELLUNGSTEAM / EXHIBITION TEAM:** ▼ Concept and Design: **Dominika Glogowski** (artEcoIndustry) ▼ Graphic Design: **Jörg Schorn** ▼ Transversal Responses: **Dominika Glogowski** und **Pit Frantzen** ▼ Textile Sculptures: **Francesca Aldegani** - The Space Around Me ▼ Transversal Sound-ness: **Dominika Glogowski** und **Isabella Forciniti** ▼ Event Coordination: **Karoline Gritzner** and **Aga Kosciuszko**

**EIN HERZLICHES DANKESCHÖN AN / A WARM THANK YOU TO:**  
 ▼ The whole RE-EURECA-PRO Team ▼ Our international Partner Universities ▼ Land Steiermark (Abteilung 9 Kultur, Europa, Sport) ▼ Das Rektorat der Montanuniversität Leoben (Abteilungen: Gebäude, Technik und Beschaffung (GTB), International Relations and European University, Marketing and Communication, Resources Innovation Center (RIC) Leoben ▼ Christian Slamenik ▼ Marcellus Schreilochner ▼ Elisabeth Felsner ▼ MIRO and EURECA-PRO MUL Team ▼ Anna Meyer ▼ Marinella Passarella ▼ Sarah Kollnig ▼ Puhm Plastics & Recycling

REDUCE, REUSE, REPAIR OR RECYCLE ▼  
 CIRCULAR ECONOMY ▼  
 GROWTH ▼  
 INNOVATION ▼  
 PROGRESS AND THE ARMS RACE ▼  
 SUSTAINABILITY ▼  
 EFFICIENCY ▼  
 LEGACIES ▼  
 WASTE ▼  
 CONSUMPTION ▼  
 HOPE ▼  
 SLOWING DOWN PRODUCTION ▼  
 SUFFICIENCY ▼  
 CORPORATE SUSTAINABILITY REPORTING ▼  
 DECISION MAKING ▼  
 RESPONSIBILITY ▼  
 AUTOMATION ▼  
 DIGITALIZATION ▼

INDUSTRY 4.0 ▼  
 STATE INTERVENTION IN UNIVERSITIES ▼  
 INTERDISCIPLINARY COMMUNICATION ▼  
 JUST SUSTAINABLE RESOURCE EXTRACTION ▼

RE/

**THE IMMERSIVE ART/SCIENCE EXHIBITION  
TRANSVERSAL RESPONSES: FILLING THE GAPS**

The immersive art/science exhibition Transversal Responses: Filling the Gaps concludes RE-EURECA-PRO, a EURECA-PRO project on sustainability led by the Montanuniversität Leoben (Austria). The European University EURECA-PRO pursues an ambitious vision for the future: **the sustainable use of natural resources and responsible consumption** (Sustainable Development Goal 12), climate protection, gender equality, borderless European higher education, opportunities for lifelong learning, knowledge transfer, social commitment and unrestricted mobility.

The university alliance strongly supports transversal skills to put holistic goals into action. The exhibition picks up on this methodology and invites visitors to explore the RE-EURECA-PRO project interactively.

The exhibition enables visitors to take part in debates that stimulate emotions

and reflections on the topic of sustainability. Through interactive elements such as an acoustic container, a deconstructed debate tent, and a processual performance of the syllable RE/, the exhibition opens a dialogue with the RE-EURECA-PRO team's voices, thoughts, and perspectives. Textile sculptures, sound and an argumentation game invite critical thinking on the complexity and interdependencies of the topic through haptic, immaterial, and intangible experiences.

The exhibition was designed by artist and researcher **Dominika Glogowski**, who devises and supervises cross-sectoral art-sci projects on embodied experiencing of socio-environmental relations. Artists **Francesca Aldegani**, **Pit Frantzen**, **Isabella Forciniti** and **Jörg Schorn** engaged in a collaborative process to bring forth the embodiment of the incorporated in scientific reasoning and action.

## Appendix 3

### Flyer for Sara Lanner's performance "Mining Landscapes – Shaping Infrastructures":



Sara Lanner  
Mining Landscapes - Shaping Infrastructures

Das Rollen von Steinen und das teils gewaltvolle Aufbrechen von Landschaften, sich verändernde Umgebungen und das neu Erschaffen von Infrastrukturen sind der Ausgangspunkt für Sara Lanners Performance „Mining Landscapes - Shaping Infrastructures“. Dabei geht die Choreografin ihrer Beschäftigung mit „mining“ (von Bergbau, graben/abbauen) nach und thematisiert die daraus entstehenden Lebensräume, Landschaften und körperlichen Realitäten - auch solche, die unsere Identitäten mit-formen. „Mining Landscapes - Shaping Infrastructures“ taucht als bewegte Skulptur im Raum auf, die das Knistern und Knacken von Oberflächen wie Risse in unseren Gedanken spürbar macht.

The rolling of stones, the sometimes violent breaking up of landscapes, changing environments and the creation of new infrastructures are the starting points for Sara Lanner's performance "Mining Landscapes - Shaping Infrastructures". The choreographer pursues her preoccupation with "mining" (digging/extracting) and addresses the resulting living spaces, landscapes and physical realities - including those that help shape our identities. "Mining Landscapes - Shaping Infrastructures" appears as a moving sculpture in space that makes the cracking of surfaces feel like cracks in our minds.

Sara Lanner ist Choreografin und performative Künstlerin in den Bereichen Tanz und bildende Kunst. Ihr künstlerisches Interesse gilt dem Körper und dessen Sein als soziale Choreografie und Skulptur. Das Ergründen von Räumen zwischen Vertrauen und Abhängigkeit in zwischenmenschlichen Beziehungen ist außerdem ein wiederkehrendes Motiv ihrer Arbeiten. Zuletzt wurde sie mit dem H13 Niederösterreich Preis für Performance sowie dem Ö1 Pulikumspreis im Rahmen der Ö1 Talentbörse im Leopold Museum Wien ausgezeichnet.

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