

Status report of Centro Region, Portugal



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1. BASIC FACTS OF CENTRO REGION

Portugal, the westernmost country of mainland Europe, is located on the Iberian Peninsula. The Centro Region of Portugal is situated between the two major national urban areas: Lisbon and Oporto cities, is spread over 28.199 km² and has an international land border with Spain of 270 km and a coastline perimeter of 281 km (EC, 2018a).

The Centro Region of Portugal has about 2.3 million inhabitants in 2016, which accounts for approximately 31% of Portugal's total area and 22% of the population living in the country (EC, 2018a).

Considering the population dynamics, the Region is characterised by presenting a low population density resulting from the existence of an asymmetry within the Region characterised by a desertification of the "inland" areas (except the urban centres located there) in contrast with the coast lands, which are most populated and urbanised areas (EC, 2018a).

1.1. Socio-economic profile

According to the Eurostat (2017), in 2016 the Region's gross domestic product (GDP), which has been increasing since 2012, was at EUR 35.3 billion, corresponding to 19.0% of the national GDP (EC, 2018a). Taking into account the GDP per capita expressed in purchasing power standards (PPS), the Centro Region, with 19.700 (2016), is below the national average (22,500) and the EU-28 average (29,200) (EC, 2018a).

According to the Eurostat (2017), in 2016, the unemployment rate was 8.6%, in line with the EU-28 average (8.6%) and well below the national average (11.2%), which makes Centro the Portuguese Region with the lowest unemployment rate (EC, 2018a). This value has been decreasing since 2012, when it was at 12.1% (EC, 2018a).

The Regional economy is rather diversified encompassing both low technology level industrial sectors, and some medium and high-tech sectors such as health services, biotechnology, telecommunications, new materials (particularly the moulds industry), Information and Communication Technology and renewable energies. It is worth mentioning the strong Regional potential of indigenous resources for the production of renewable energy using water, wind, solar, geothermal, biomass, biogas and bio fuels.

The tertiary sector is the most important contributor to the Regional gross value added (GVA) with a relative weight of 67.8% (2016) but the secondary sector still plays a very relevant role in the Regional economy with 28.8% of Regional GVA. The primary sector accounts for 3.3% of Regional GVA (EC, 2018a).

1.2. Research, development & innovation

The Regional Gross Expenditure in Research and Development (GERD as percentage of the Regional GDP) in Centro Region has been increasing over the last years and now ranks third among all the Portuguese Regions. According to Eurostat (2018), in 2015 the R&D expenditures

were at EUR 415.9 million, corresponding to 1.2% of the Regional GDP, which stands above the national average of 1.2% and below the EU-28 average of 2.04% (EC, 2018a).

The Higher Education Institutions are the major players regarding Research and Technological Development (RTD) activities in the Region: in 2015, 49.2% of the expenditure in R&D is made by activities implemented by higher education institutions; 47.6% by business activities; 2.5% by the national government; and 0.7% by private non-profit institutions (EC, 2018a). Concerning patent registration, in 2012 Centro Region reached 11.7 patent applications to the European Patent Office per million inhabitants, which is the highest value for the country (EC, 2018a).

1.3. Mining activities

At a national level, Portugal is presently one of the main EU producers of copper, tin and tungsten concentrates (ranking fifth in the world after China, Russia, Bolivia, and Australia) and an important world producer of ornamental stones (limestone, granite and marble). Moreover, Portugal minerals potential is far from being fully known (LNEG, 2018).

Concerning the Centro Region, the great variety of geological formations (igneous, sedimentary, metamorphic) and their relation, make it one of the most important Regions of the country and of Iberia peninsula for mining industry.

The Centro Region has tungsten and tin deposits (associated with the contact between granites and metasedimentary rocks), precious metals, uranium and lithium (LNEG, 2018). Tungsten, niobium, tantalum, antimony, barium and beryllium are some of the Critical Raw Materials occurring in the Centro Region.

Currently, there is only one large mine exploiting metallic minerals in the Centro Region and three at the national level. The only active mine in the Centro Portugal Region is one of the oldest and major mines of Europe for Tungsten-Tin, the Panasqueira mine, operated by Almonty Industries. There are several areas within the Centro Region with known resources and reserves in lithium, mainly from aplite-pegmatite structures, the economic potential of this raw material is great and with the transition to green energies associated with electronic vehicles (moved by lithium batteries) this metal can play a key role for the country.

Portugal defined strategies to respond to the EU and national demands for mineral resources and to promote a sustainable, economic, social and environmental friendly mining industry: i) In 2012 the Portuguese government defined a National Strategy for Geological Resources; ii) In 2016 the non-metallic and metallic sector joined strengths and created the Cluster Portugal Mineral Resources, and iii) In 2016 it was created the Lithium work group (Presidency of the Council of Ministers, 2012).

A diagnosis performed in the mining sector showed that: i) Portugal currently has a deficit in the geological knowledge of its territory (related to the lack of geological mapping in some areas) ii) potential areas identified are already object of applications for contract rights of exploration and research iii) there is room to reconsider the state's presence across the value chain, iv) it is needed to disclose the sector matter in a more structured manner, v) there is potential for improving the legislative and contractual framework, and finally vi) the royalty system can be further developed (Presidency of the Council of Ministers, 2012).

1.4. Mining projects currently active in Centro Region

As previously mentioned, the Panasqueira mine, owned by Almonty, is the major mining company operating in the Centro Region, and produces tungsten, tin and copper concentrates. The majority of the current mining projects are related to non-metallic resources with many mining concessions located in the western part of the Centro Region. Quartz, feldspar and kaolin are the main exploited

non-metallic minerals, and are used for glass and ceramic industries. On the other hand, the majority, of the existing and requested, exploration and research areas are related to metallic minerals (tungsten, tin, lithium, gold, base metals, and associated metals), in the past few years there was an increase in these contract requests mainly due to lithium high demand in the global market.

1.5. Mining industry support

Mining industry is considered one of the areas with more investment potential in Portugal, and the government (notably the Ministry of Economy and the Secretary of State of Energy) has been dedicating very significant attention and support to the development of mining projects by private investors (Santos and Cortez, 2017).

Portugal is guided by the rule of law, which in turn guarantees political and legal stability and the independence of the courts.

New base legislation has been approved with significant amendments to the previous legal framework, with the aim of obtaining an increasing level of initiative from investors.

1.6. Governance

Mining activity in Portugal is essentially governed by two laws that establish the legal framework governing the both within and outside the public domain (Santos and Cortez, 2017):

- (1) Law No. 54/2015, of 22 June (Mining Law), which revoked Decree-Law No. 90/90, establishes the new base legislation regarding the 'General Legal Framework for the Discovery and Use of Geological Resources', along with all administrative regulations that were in under the revoked Decree-Law;
- (2) Decree-Law No. 88/90, of 16 March (Mineral Deposits Regulation), still in force, complements the previous regulation.

According to Decree-Law No. 90/2018 of 9th November 2018, the Ministry of Environment and Energetic Transition (recent transaction from the Ministry of Economics) is the main government body that drives, executes, formulates and evaluates, among others, climate change, climate, energy and geology in a sustainable developing perspective and social and territorial cohesion. This ministry has power over the Directorate General for Energy and Geology (DGEG) which is responsible for the definition, implementation and evaluation of the geological and energy policies, is also the main administrative entity on the licensing, granting and claiming of mining concessions.

Both the operation and closure of geological resources are subject to technical rules, environmental protection, sustainability and landscape recovery measures (Santos and Cortez, 2017):

- Decree-Law No. 151-B/2013 of 31 October, as amended by Decree-Law No. 179/2015 of 27 August, provides that mining projects are subject to an environmental impact assessment (EIA), which includes an Environmental Impact Statement, in order to determine the direct and indirect effects and consequences of the project on the environment, and to recommend sustainable remedies to compensate for or minimise those effects.
- An environmental license is also required. This license is an administrative instrument that ensures that the best industrial techniques available are used, including remedies to minimise waste production, and air, noise, water and soil pollution.

However, an EIA may not be required for mining exploitation projects involving mining works affecting fewer than five hectares or with production below 150,000 ton per year (Santos and Cortez, 2017).

1.7. Problems and visions

There is a lack of all effective geological potentialities for this Region that should be addressed by a complementary Regional action plan, aligned with the objectives of National Strategy for Geologic Resources. In this context, the inventory and geochemical characterization of mineral resources present in waste-dumps and tailings, and the optimization of extraction processes that should identify and map the possibilities of re-use of waste-dumps and tailings is of particular importance. These issues will contribute to increase economic potential of the Centro Region triggering future mineral extractions, and thus contributing to circular economy. This approach at Regional level will be important also at National Level as a demonstration-study to fine tune complementary regulation of the National Strategy for Geologic Resources and thus contributing for its improvement.

2. ADDRESSED POLICY INSTRUMENT

CENTRO 2020 Operational Programme (OP) and RIS3 Centro are in accordance with European Critical Raw Materials (CRM) policies, identifying several CRM important to safeguard EU interest. Some of these CRM, such as tungsten, occurs in important mineral deposits in Centro Region, in areas with strong necessities regarding re-evaluation of potential reserves and base resources. EU level strategies are needed to be taken regarding Regional policies so that they include EU expectations.

There is a need to incorporate REMIX findings on the future implementation of Centro2020 OP (particularly Thematic Objective 1 – Reinforcement of Research, Technologic Development and Innovation – Investment priority 1.2 particularly to reinforce the transfer of knowledge to business sector) and enhancement of a S3 for Centro Region in PT, where a number of mining industries operate but, also, where innovative actions and knew potentialities for geological economic resources needs to be promoted, as identified in the RIS3 Centro2020.

Articulation with Centro Regional administration and improvement of Regional implementation strategies in line and complementing the National Strategy for Geological Resources (NSGR) are highly relevant. The NSGR focuses on: adequacy of the bases of the sector (section a); Development of knowledge and appreciation for the National Geologic Potential (section b); publicity of the National Mining Potential (section c), and promotion of the economic, social and environmental sustainability.

2.1. Centro 2020 Operational Programme

The Centro 2020 OP is the main funding instrument available to the Region for the implementation of its development strategy in the period 2014-2020. The organisation responsible for managing and auditing the OP is the Centro Regional Coordination and Development Commission (CCDR Centro).

Main objectives

The OP will contribute to promote the competitiveness of the Centro Region economy and its sustainable development and internal cohesion. It will also boost the Region's ability to contribute to the achievement of the key EU and national development priorities (EC, 2018b):

- Approx. 38% of the OP resources are allocated to support competitiveness and innovation in SMEs.
- Approx. 8% will boost RTD and innovation - helping the country to reach its national Europe 2020 target to increase the proportion of GDP spent on RTD from 2.7% to 3.3% (it was at 1.5% in 2011). In particular, the OP investment is expected to foster research and innovation knowledge transfer to SMEs.

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- Around 8% of the resources will be dedicated to creating sustainable and quality jobs and supporting labour mobility thus contributing to the attainment of the national Europe 2020 target of 72.8% of 20-64 year-olds in employment (68.7% in 2012).
- More than 13% will be dedicated to promoting education and qualification, helping the country to reach its national Europe 2020 target of bringing early school leaving down to 10% (from 23.2% in 2011).
- Almost 10% will be used to promote sustainable urban development.
- Almost 5% of the OP funding aims to support the shift towards a low-carbon economy (investments in energy efficiency and sustainable mobility); these funds will contribute to Portugal's national Europe 2020 target of having 31% of energy from renewable sources (27.3% in 2011). To ensure the sustainable development of the energy sector, the support will aim, in particular, to improve energy efficiency and sustainable mobility.

Funds

Regional Development Fund (ERDF): EUR 1.751.513.979,00

European Social Fund (ESF): EUR 403.517.052,00

Funding priorities

The use of European funds under the OP Centro 2020 are directed to strengthening the competitiveness of the companies based in the Region and job creation and to empower the efficient use of resources and the social inclusion of disadvantaged people.

Ten strategic priorities have been established within the programme (in brackets the amount of EU funding) (EC, 2018c):

1. R&D and innovation (EUR 169 million).
2. Competitiveness and internationalisation of Regional economy (EUR 818 million).
3. Human potential development (EUR 288 million).
4. Employability (EUR 177 million).
5. Social and territorial cohesion (EUR 155 million).
6. Resources sustainability (EUR 102 million).
7. Sustainability of the Regional territories (EUR 126 million).
8. Institutional capacity building of Regional entities (EUR 54 million).
9. Urban network (EUR 212 million).
10. Technical assistance (EUR 54 million).

Expected impacts

The strategy used allowed to set a list of the expected impacts (EC, 2018b):

- Increase the value of exports in percentage of small enterprises business volume to 16%;
- Supporting some 3.280 SMEs, with grants or other repayable forms of support;
- 70 more enterprises cooperating with research institutions;
- Increase the percentage of SMEs with 10 and more employees engaging in innovation activities to 85%;
- Enrolment/Participation of around 36.400 people to socially necessary work activities (or socially necessary jobs);
- Contributing to the decrease of greenhouse gases by some 7.522 CO₂ ton;
- Contributing to creating some 3.800 direct jobs;
- Households with improved energy classification: 940;
- Creating/restoring 66.000 m² of public or commercial buildings in urban areas;

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- Around 70% of primary and secondary schools upgraded;
- Around 8.400 public employees benefitting from innovation training;
- 50 Public services supported;
- A total 1.120.000 m² open space created or renovated in urban areas;
- A total 615.000 m² of public or commercial buildings built or renovated in urban areas.

Thematic priorities

- TA - Technical assistance
- TO1 - Research and innovation
- TO10 - Education and training
- TO11 - Better public administration
- TO2 - Information and communication technologies
- TO3 - SMEs competitiveness
- TO4 - Low-carbon economy
- TO6 - Environment and resource efficiency
- TO8 - Employment and labour market
- TO9 - Social inclusion

Financial information

Total OP budget: EUR 2.642.875.695,00

Total EU contribution: EUR 2.155.031.031,00

2.2. Research and Innovation Strategy for Smart Specialisation defined in the Centro Region

The Centro OP is also a decisive instrument for the implementation of the Research and Innovation Strategy for Smart Specialisation defined in the Centro Region (RIS3) which helps to rationalize the investments to be supported.

The development of the RIS3 for the Centro Region of Portugal began in the context of a broad strategic reflection exercise on the future of the Region, with a view to establishing a Regional development strategy up to 2020. The organisation responsible for managing and auditing the RIS3 for the Centro Portugal Region is the CCDR Centro.

Main objectives

In the Centro, the various Regional actors confirmed a number of thematic differentiating domains in which the Region is distinctive. These domains correspond to areas in which there is an installed productive capacity and/or capacity to produce scientific and technological knowledge, whether in a consolidated way, or as an emerging reality or even a more proactive approach (CCDR, 2017).

In the framework of the she smart specialisation strategy for the Centro Portugal Region, the following strategic priorities have been selected (CCDR, 2017):

- Agribusiness;
- Forestry;
- Sea-related economic activities;
- Information and Communication Technologies;
- Materials;
- Health and Well-being;
- Biotechnology;
- Tourism.

Thematic priorities

The process of listening to regional actors has led to the identification of four more cross-cutting priorities, of a distinct nature (CCDRC, 2016):

- Resource sustainability (including energy efficiency)
- Qualification of human resources
- Territorial cohesion;
- Internationalization.

These four dimensions are cross-cutting and match the priorities of the Central Region that should be regarded as at the heart of smart specialization.

Taking into consideration all the above-mentioned areas and their interconnection, four priority Innovation Platforms and Lines of Action for RIS3 of the Centro Region of Portugal have been established (CCDRC, 2016):

1. Sustainable industrial solutions
2. Valorization of natural endogenous resources
3. Technologies for the quality of life
4. Territorial innovation

The differentiating domains provided the basis that underpins four priority areas that interconnect them and which function as platforms for the approach that runs through the domains and provide the framework of the RIS3 commitments of the Centro Region of Portugal (CCDRC, 2016).

Expected impacts

These are not vertical/sectoral, but horizontal areas in which it is intended to generate new activities that will arise from what exists, exploring new opportunities and new combinations of resources (natural, productive, human, etc.). These are priority areas for boosting research and innovation projects in the context of the Cohesion Policy, and Regional actors can mobilize a range of competences to handle this (within and outside the Region). At issue is the promotion of activities that contribute in a clear and distinctive way to the Regional economy and/or the Regional innovation ecosystem, activities that are able to produce spill-over effects in the value chains and dissemination effects within the Region (CCDRC, 2016).

RIS3 should also support rural and less developed Regions, so this strategy should not be based solely on scientific and technological excellence. It is also intended to support 'nontechnological' innovation and include the adoption and dissemination of knowledge and innovation (e.g. social and in services, actions to address societal challenges, new business models and demand-side measures such as public contracts) (CCDRC, 2016).

3. CURRENT STATUS ON IMPLEMENTATION OF THE POLICY INSTRUMENT

CCDR Centro is the managing authority of the OP and is actively executing projects funded from ERDF in Centro Region.

Several projects funded under the Centro 2020 OP concerns the upscaling of mining projects, such as:

- +VALOR – Increasing the sustainable productive capacity of Felmica to produce mineral components with higher value. Total project budget: EUR 1.299 million. The project ended in 30/06/2017.

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- LITIO: Geology as the basis of quality of life – maximize the potential of the C-57 Mine located in Gonçalo-Guarda and increase knowledge about lithium deposits and associated minerals. Total project budget: EUR 148.309,94. The project ended in: 30/10/2018.

Other national and international level programmes are/were also funding several projects in Centro Region, collaborating with SME, R&D institutions and universities:

- *Programa Operacional para a Valorização do Território* (POVT), national level
- *Programa Operacional Sustentabilidade e Eficiência no Uso de Recursos* (POSEUR), national level
- *MAIS CENTRO*, national level
- *COMPETE2020*, national level
- H2020, international level
- Sixth Framework Program (FP6) and Seventh Framework Program (FP7), international level

4. STAKEHOLDER GROUP AND STAKEHOLDER GROUP ACTIVITIES DURING THE PROJECT

- a) Partner responsible for the policy instrument: Centro Regional Coordination and Development Commission (CCDR Centro).

CCDR Centro as the managing authority of Operational Program (OP) is actively executing projects funded from ERDF in Centro Region. Competences and experiences concerning the issues addressed by this policy are:

- Contribute to define Regional development policies, fostering and participating in strategic planning processes of territorial base.
- Encourage partnerships between Regional actors.
- Establish integrated programmes aimed at territorial cohesion and competitiveness.
- Implement, monitor and evaluate, at Regional level, policies related to environment, conservation of nature and territorial planning.
- Ensure the monitoring and evaluation of the instruments for territorial management and guarantee its articulation with the National Programme of Territorial Development.
- Promote inter-Regional and trans-Regional cooperation and ensure coordination among institutions under direct administration of the state and local authorities, contributing to the integration of the Regional territory and the strengthening of its competitiveness, based on sustainable development strategies of Regional and local levels.
- Provide technical support to local authorities, municipalities and their associations.

- b) Stakeholder group

Involved municipalities:

- Fundão
- Guarda
- Mangualde
- Nelas

Companies:

- Beralt Tin and Wolfram (Portugal), S.A. (Almonty Group)
- Empresa de Desenvolvimento Mineiro, S.A. (EDM)
- Felmica – Minerais Industriais, S.A.
- Pegmatítica – Sociedade Mineira de pegmatites, Lda.

Research institutes and universities:

- Instituto Pedro Nunes | Pedro Nunes Institute (IPN)
- Laboratório Nacional da Energia e Geologia | National Laboratory of Energy and Geology (LNEG)
- Instituto Politécnico da Guarda | Polytechnic Institute of Guarda (IPG)
- Instituto Politécnico de Castelo Branco | Polytechnic Institute of Castelo Branco (IPCB)
- Instituto Politécnico de Tomar | Polytechnic Institute of Tomar (IPT)
- Instituto Politécnico de Viseu | Polytechnic Institute of Viseu (IPV)
- Universidade de Coimbra | University of Coimbra (UC)
- Universidade da Beira Interior | University of Beira Interior (UBI)

Other organizations:

- Cluster Portugal Mineral Resources
- Colégio de Engenharia Geológica e de Minas da Ordem dos Engenheiros | Geological and Mining Engineering College of the Order of Engineers (Professional organization)

Joining expertises from companies, universities and other mining related institutions promotes a faster and effective knowledge transfer process, which can be empowered by the Regional involvement endorsed by the municipal executive body.

c) Activities: Stakeholder group meetings

- **First Stakeholder group meeting, Coimbra, 27.07.2017 (8 participants)**

Purpose/activities: Inform about INTERREG Europe REMIX; Talk about: Spin-offs, knowledge transfer: Collaboration between Enterprises – Universities – Polytechnic Institutes – Technological Centre's and expand stakeholder engagement, promote Research & Innovation in the mining sector (more specifically Research and prospection), social-economic benefits and extractive industry.

Outcome: Schedule a meeting inviting R&I experts and SMEs.

- **Second Stakeholder group meeting, Guarda, 19.12.2017 (27 participants)**

Purpose/activities: To better disseminate REMIX and other projects in the Centro Region, to leverage their results, by trying synergies between them. Also, the preparation of the peer review (PR) to be carried out in Portugal at the end of the 4th semester started to be formulated.

Presentation of the REMIX Project - *Alexandra Ribeiro, FCT UNL*. Presentation of cases from the Centro Region: Geology as the basis of quality of life - The sustainability of lithium in the village of Gonçalo (Guarda) - *Ana Maria Antão and Pedro Melo Rodrigues, IPG*; REMINE H2020-MSCA-RISE - Reuse of mining waste into innovative geopolymeric-based structural panels, precast, ready mixes and *in situ* applications - *João Castro Gomes, UBI*. Discussion of development opportunities in the Central Region; Schedule of upcoming activities and visit to Mina C-57 guided by the Geologist of the company Pegmatítica – Mineral Society of Pegmatite Lda., *Alexandra Carolino*.

Outcome: Schedule of upcoming activities including the local action group meeting; means to bring together a larger group of stakeholders.

- **Third Stakeholder group meeting, Nelas, 9.05.2018 (38 participants)**

Purpose/activities: To better disseminate REMIX and other projects in the Centro Region, to leverage their results, by trying synergies between them. Preparation of the PR to be take place on the December 2018, in Portugal, continued to be formulated. Brainstorm session with stakeholders,

inviting them to formulate projects they would like to be integrated in the Action Plan for Centro Region.

Presentation of the REMIX Project - *Alexandra Ribeiro, FCT UNL*. Presentation of cases from the Centro Region: The mineral potential of the Centro Region of Portugal: mineral deposits and mining projects - *Frederico Martins, José Kullberg, José Almeida, FCT UNL*; projects BioCriticalMetals and PTW: bio(micro)technologies to support a circular economy of raw materials - *Paula V. Moraes, CEMMPRE, Department Sciences of Life, FCT, UC*; Microorganisms in bioremediation: the case study of Urgeiriça – *Romeu Francisco, CEMMPRE, Department Sciences of Life, FCT, UC*; Environmental remediation of abandoned mines in Portugal – *Edgar Carvalho, Mining Development Company*; Quantification of the radiological risk associated to the exploration of radioactive minerals, before and after the rehabilitation: the case of the old mining area of Urgeiriça – *Alcides Pereira, Department Sciences of Life, UC*; *The national and Regional activity of the Colégio de Engenharia Geológica e de Minas da Ordem dos Engenheiros*; Cluster Portugal Mineral Resources – *Luís Martins, LNEG*; Skills and capacities of the Department of Environment of the School of Management and Technology, IPV, in the area of interest of the REMIX project, including the presentation of the “basic idea” of a Regional development project - *Luis Simões, Sérgio Lopes and Pedro Baila, IPV*; ESMIMET project - Development of interRegional capacities: strategies in metallic mining - *Ana Manaia and Cecília Lavrador, IPN*. Discussion and contributions in the scope of the Action Plan for the Central Region. Visit to Quartz museum – *Galopim de Carvalho Interpretation Center*.

Outcome: Schedule the upcoming local action group meeting, share of knowledge about the Centro Region and current projects involving the smart specialisation and green mining, discussion/overview of the problematic areas of the Centro Region, brainstorm about how to overcome these problems, acquisition of new project ideas in the line of the OP actions that the REMIX project aim to influence, gathering of contributes to the action plan.

- **Fourth Stakeholder group meeting, Fundão, 7.11.2018 (15 participants)**

Purpose/activities: Logistic aspects related to the international meeting (8PRV) to be held on 11th and 12th December, Fundão, Portugal. Workshop preparation: important subjects and questions to be discussed in each parallel session by all the peers.

Outcome: Establishment of four subjects and questions to be addressed by the peers in each four workshop sessions. Assignment of stakeholders to moderate or rapporteur of the round tables.

5. OBJECTIVES SET FOR POLICY INSTRUMENT AND ACTIVITIES RELATED TO THE POLICY INSTRUMENT

The Centro Region has the goal of reinforcing the transfer of knowledge to the business sector. With this objective in mind, it is expected to support mining industry to use more innovative processes and uptake recent research findings and environmental constraints. The CENTRO OP has financed a project of one of the members of the stakeholder community to improve environmental performance of productive processes, where uptake and application of research findings were used.

6. PLANNED IMPROVEMENT OF THE POLICY INSTRUMENT DURING THE PROJECT

The improvement of the policy instrument is foreseen through the support of new projects that are developed in co-promotion between the business sector and research institutes.

REMIX envisages the improvement of the governance on the way how mining projects will be selected, listing the issues that should be considered when mining investments in Centro 2020 OP are evaluated, so that circular economy and better environmental standards are promoted; it is also foreseen the development of new protocols for the evaluation of geological resources and their economic potential, oriented to recover secondary materials (re-mine waste-dumps and tailings).

7. SME ENGAGEMENT TO REMIX STAKEHOLDER GROUP ACTIVITIES DURING THE PROJECT

The most prominent mining companies operating in Centro Region were contacted to be REMIX stakeholders, as Pegmatítica, Lda., Beralt Tin and Wolfram (Portugal), S.A. (Almonty Group) and Empresa de Desenvolvimento Mineiro, S.A.. The initial difficulties on engagement were overcome. SME limited community became very active and keen to learn about REMIX project, which was shown by their involvement in meetings, comments and cooperation on project activities (informing on the limitations to have access to funds for the improvement of sustainable productive capacity; needs of all sectors – e.g. geological mapping of mineral resources that used to be provided by the government).

8. CLUSTERS, INSTITUTIONS AND REGIONS LINKED TO REMIX PARTNER

A group of related mining and quarry companies and governmental institutions join in a Cluster Portugal Mineral Resources. It involves 35 members, 23 SMEs, 2 large companies, 6 research organisations/universities/technology centres, and 4 other ecosystem actors.

Mission

Deepening knowledge of the economic potential of resources, promoting R&D + I, improving productive investment conditions and access to markets, as well as increasing skills (technical, technological, management) and stimulate inter-company and inter-institutional cooperation.

Objectives

- Produce knowledge and induce innovation;
- Promote value creation and internationalization;
- Promote efficiency in the use of resources;
- Enable Cluster actors;
- Strengthen synergies between sectors.

Projects with possible interest to REMIX

- Circular economy in the natural stone sector (ornamental and industrial rocks);
- New approaches in mineral exploration and research;
- Radiometric certification of granitoids;
- Assessment of litiniferous resources;
- Cartography, mapping and modelling of flooded open quarries;
- New technologies for recovering secondary raw materials (mine wastes).

9. REFERENCES

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