



ENTRANCES

ENergy TRAnSitions from Coal and carbon: Effects on Societies

POLICY BRIEF

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ENTRANCES PROJECT

ENTRANCES (ENergy TRANSitions from Coal and Carbon: Effects on Societies) is a three-year project funded by the European Union's Horizon 2020 research and innovation program. The project addresses the Social Sciences and Humanities (SSH) aspects of the Clean Energy Transition (CET) through the development of a theoretically based and empirically grounded understanding of cross-cutting issues related to social aspects of the transition in European coal and carbon-intensive regions and the formulation of a set of recommendations able to tackle these issues. To that end, 13 coal and carbon-intensive transition regions in Europe were studied using the same Multidimensional Analytical Framework (MAF), resulting in 13 case studies and an equal set of recommendations that reveal the complexity of the transition process and the impact in the daily life of local communities in its various dimensions.

EXECUTIVE SUMMARY

The establishment of the two coal power plants and the chemical plants was dictated by the central government over 30 years ago to support the development of the Southern Italian area. Thanks to the many national interventions, the territory experiences a period of economic growth than ended in the 90s. However, these projects have pushed the industrial and economic development of the area in specific directions, away from an agriculture and tourism and towards an industrial development without taking into consideration the local plans and desired outputs. This has created strong tensions that are still present due to lack of involvement of the local territory in the decision process. The closure of Brindisi East power plant, at the end of 2012, and the phase-out of Brindisi South coal plant, planned by 2025, has and will have a strong ripple effect on the workers of the plant and the activities linked to it as well as on all port activities. The coal energetic sector and all activities linked are important sources of income and employment in the region. Its closure will create a vacuum in the economy of the region, which will be difficult to fill with alternative projects. The loss of jobs and income in the region has started to affect people's standard of living. Harbor activities and ancillary businesses are closing due to falling demand. The lack of new job opportunities has accelerated the emigration of young people and the brain drain from the region, which in turn has accelerated the ageing process, affecting the socio-economic fabric of Brindisi and the surrounding municipalities. Various strategies are being developed and implemented in the region to cope with these challenges, with some of them looking more promising than others towards achieving the desired results. This Policy Brief reviews these challenges and proposes recommendations to address these gaps.



INTRODUCTION TO THE CASE STUDY

For over forty years the Brindisi CCT economy was based on two main pillars, the energetic and chemical industry. All other industrial activities including the development of harbor activities heavily relied on them. Several factors, including the decrease of coal plant activities due to the planned phase-out of coal, the delocalization processes, the progressive decrease of the price of tenders in the energy sector, the impoverishment of harbor activities, led to a significant loss of direct and indirect jobs. The employment crisis and a lack of attractive work opportunities for young people pushed those who don't believe in the current development model to leave the area. This has resulted in a lack of generational change with progressive aging of the population and impoverishment of the territory (in Brindisi and in Apulia, the GDP has grown less than the national and EU28 averages).

The energy transition is seen, mainly by young people, as an opportunity for the redemption of the territory and for the revaluation of its resources. However, the current transition plans are causing in people a feeling of uncertainty regarding their own future. The centralization of the energy transition process and the lack of synergies across scales have not helped to align the energy transition with the territorial efforts to diversify the local economy.

With this case study, the ENTRANCES project explores the challenges faced by coal and carbon-intensive regions in transition, focusing on various socio-economic, sociotechnical, socio-ecological, socio-cultural, socio-political, socio-psychological, and gender-related factors. It also examines the coping strategies that have emerged in recent years to address these challenges and investigates the variables that have influenced the emergence of deterritorialization and the strategies that determine its success using multidimensional analytical framework (MAF).

This policy brief aims at identifying policies or policy combinations that would effectively restore territorial and community ties in coal and carbon-intensive regions while promoting their transition to clean energy.

Key questions

Key Question 1. What are the challenges faced by coal and carbon transition regions in different dimensions of change?

Key Question 2. What are the emerging coping strategies and what policies could be more effective to address the identified challenges?



METHODOLOGY:

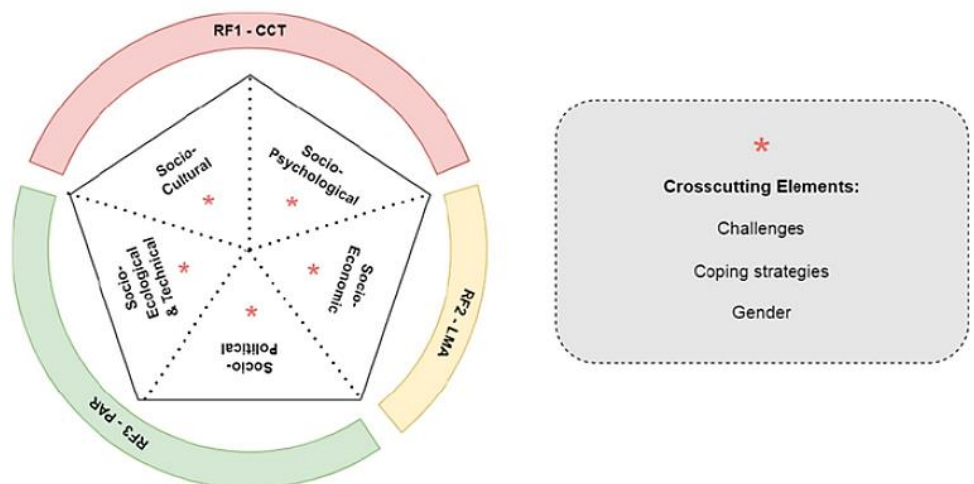


The ENTRANCES case studies were structured into multiple foci (Territorial Change, Structural Change and Clean Energy Transition) and respective units of analysis (Coal and Carbon Territory, Labour-Market Area and Political Administrative Region) to better address the scope of research. Additionally, a comprehensive Multidimensional Analytical Framework (MAF) consisting of five components: socio-cultural, sociopsychological, socio-economic, socio-ecological, and technical component, was adopted to study the complex and multidimensional dynamics in place.

Each component of analysis is supported by specific concepts and methodologies, as well as three cross-cutting elements: challenges, coping strategies, and gender dimension. The resulting challenges, as well as the gender dimension analysis, provide a very clear picture of the real situation in the region of analysis, accurately highlighting the problems related to the demographic, economic, social, cultural and political configuration. The initial results obtained from the different coping strategies generate new avenues for the discussion and recommendations presented in this policy brief.



Overview of the Multidimensional Analysis Framework: Research foci, components and crosscutting elements





CHALLENGES AND COPING STRATEGIES

CHALLENGE 1



Diversifying local economy

1

Multifunctional development of the harbour

The multifunctional development of Brindisi's harbour requires a comprehensive approach from an industrial, commercial, logistic, and touristic perspective. Upgrading infrastructure and digitalisation will bolster international trade, tourism and integrated logistics, thereby facilitating efficient cargo and people handling. At the same time, the harbour will continue to accommodate commercial and industrial ventures, generating employment and economic growth. This integrated developmental approach will contribute significantly to the city's overall prosperity and appeal.

2

Promoting tourism and nautical sector

The territory is full of attractions that should be better exploited, including built and natural environment, cultural heritage, food, fisheries, etc. The development based on tourism and the natural environment, together with establishing a modern cruise pole and a pleasure boating tourism, represents a promising strategic approach aimed at harmonizing economic growth with environmental preservation.

3

Diversifying territorial assets

The fostering of local vocations and strengthening of the local industries through technological innovation and the development of production chains of new products, technologies and materials, in strategic sectors such as energy and civil aeronautics, contribute to diversifying and economic growth

RECOMMENDATIONS

- Support companies and industries to organize themselves into networks and associations in order to strengthen the entire production chains of material and technologies in strategic sectors such as energy and civil aeronautics
- Continue funding to R&I activities
- Incentives to the local industries for technological innovation
- Supporting the cooperation between research and local industries to develop new materials and technologies supply chains
- Make Zes (Special Economic Zones) areas operational to attract external investments and facilitate the development of small and medium-scale industries
- Clear and definitive choices to allow the multifunctional development of the harbour through a confrontation between the actors
- Linking investments to the various territorial specificities

DISCUSSION

The "mono-culture" Brindisi economy has made the territory more exposed to the markets and national and supranational decision-making. The decrease of coal plant activities due to the planned phase-out of the coal, the delocalization processes, the progressive decrease of the price of tenders in the energy sector, the impoverishment of harbour activities led to a significant employment crisis. Moreover, a lack of work attractive opportunities for young people results in a loss of young people who don't believe in the current development model. This led to a lack of generational change with the progressive ageing of the population and impoverishment of the territory



CHALLENGES AND COPING STRATEGIES

CHALLENGE 2



Saving the energetic sector

1

Installation of green energy projects

The relaunch of Brindisi energetic sector is based on the development of the renewable energetic sources facilitating the reconversion of the Brindisi industrial fabric with a technological innovation. The expansion of renewable energies in disused industrial areas, which have partially retained their infrastructures developing and connecting the demand and supply in the territory, combines the decarbonization objectives with job creation goals. This would result in the establishment of a national energetic hub for the use of renewable energy and hydrogen.

2

Strengthen R&I activities

Foster collaboration between the scientific research community, university faculties, and local industries to conduct research and development focused on clean energy and decarbonization. This can involve joint projects, knowledge sharing and technology transfer, leading to innovative solutions and advancements in renewable energy technologies and materials. Encouraging the establishment of startups and incubation programs within the scientific park could facilitate the development and commercialization of new products and technologies specialised on renewable energies and hydrogen, attracting investment and fostering local innovation.

3

De-deburocratization

The definition of guidelines and a clear framework to simplify and accelerate the permit-granting process to develop new project is a priority action to accelerate the transition process.

RECOMMENDATIONS

- Focus on investments to sustain the expansion of renewable energies and H2
- Facilitating the expansion of renewable energies and H2 in disused industrial areas
- Creating an energetic hub of renewable energy and hydrogen connecting demand and supply
- Supporting the cooperation between research and local industries to develop new hydrogen and renewable energy supply chains
- Efforts to provide information and more dissemination activities on the hydrogen production and use
- Strengthen training in the field of sustainable energy and H2
- Simplify administration processes
- Investment in energy infrastructure

DISCUSSION

Brindisi has a four-decade long history of coal-based energy industries which have made this region highly dependent on a few basic industrial units. The closure of the Brindisi East coal plant, at the end of 2012, and the planned phase-out of the Federico II Brindisi South coal-fired power plant has caused the loss of direct and indirect jobs with a chain effect on workers of all activities linked to the coal plants. This has created a vacuum in the Brindisi industrial complex that must be filled through the development of the renewable energetic sectors to maintain economic development and mainly the social fabric of the region.



CHALLENGES AND COPING STRATEGIES

CHALLENGE 3



Land remediation and use

1

Land remediation

The remediation of the polluted natural areas allows the revitalization of polluted and degraded SIN areas, which would then be available for other industrial and public uses. Environmental remediation is also a key to the diversification of the local economy, as some development opportunities are undermined by the persistent state of degradation in some areas as the harbour. Collaboration between different actors and dedicated funds are necessary steps to accelerate the remediation process. The clean energy transition should be exploited for this purpose

2

De- delimitation of SIN suitable areas

The regional and local government and stakeholders are waiting for the legislative measure for the deperimeterization of suitable locations included in the SIN areas (486 hectares of SIN areas are also in the ZES). This would allow to overcome obstacles related to the complicated regulatory rules in these, as well as the impasses in land remediation and use of SIN and bureaucratic hurdles that discourage investors from investing in new projects.

RECOMMENDATIONS

- De-delimitation of the suitable areas included in the SIN areas
- Funds for the environmental remediation of SIN areas
- Attracting external investments by providing incentives in the remediated SIN areas
- Collaboration between different actors to accelerate the remediation process.

DISCUSSION

One of the main concerns of Brindisi is the environmental damage caused of its the coal and industrial history. Many of the harbour and marine areas of the SIN (site of national interest of Brindisi which covers a surface of 11,000 hectares, including the industrial area as well as the whole port and a strip of 5,500 hectares of marine areas) need remediation interventions. The main issue in this regard is that any intervention in these areas would require in depth analysis and remediation with big investments and long timelines and this discourages investments from external companies. Although 95% of the areas has already been characterised, only 10% has undergone some remediation activity so far. The intervention of environmental reclamation is among those that have stalled for decades, despite the site being decreed by law as a site of national interest.





CHALLENGES AND COPING STRATEGIES

CHALLENGE 4



Bridging the infrastructural divide and human capital formation

1

Infrastructural intervention

Governments must invest significantly to improve the infrastructures in the territory and fill the gaps identified here compared to the rest of the country. This includes the expansion of rail connections of the harbor to the main national infrastructures and investments to build high speed and high capacity in Southern Italy. Moreover, the implementation of digital infrastructures in the Brindisi port and the realization of a maritime station are needed for the poly-functional development of the harbor.

2

Transition to new job profiles

Investments should be made in the education sector and training to build new skilled professional figures and competencies on energy transition the future workforce. Public institutions and stakeholders have to implement strategies to support relocated and redundant workers through retraining programs, by providing training courses and providing them with new skills to be able to adapt in the new labor market.

3

Youth migration and brain drain

Equipping young people with new skills and competencies to increase job opportunities and future prospects in the territory and discourage youth outmigration, especially people with university degrees, depopulation and social decline.

RECOMMENDATIONS

- Improving adequate connection infrastructures in the region
- Provision of broadband connection and digitalization
- Realizing railway connection between the harbor and national railway to develop the port integrated logistic
- Implementation of digital infrastructures in the Brindisi port
- Realization of a maritime station for touristic development of harbour
- Continue funding to strengthen education and training to build new skilled professional figures and competencies
- Focus the training sectors on the industrial vocation favoring joint activities
- Infrastructure projects should develop in parallel with an increase of the required scientific, technological and professional skills
- Training courses to enhance specific skills and competencies of regional workers involved in activities such as planning, assessment and control of the PNRR projects
- Investments in re-skilling of laid off workers

DISCUSSION

In the territory there is a lack of adequate communication infrastructures and services. This causes a condition of fragility, creates inequalities and results in lower attention to peripheral areas. Moreover, there is a gap between the job profiles needed and those available in the region. With the energy transition, all industrial and energy sectors require a modernization of work profiles and new skills due to many existing professional profiles becoming inadequate for the needs of the innovation and automation. These changes in the labor market have left a lot of workers who were employed in carbon-intensive industries unemployed and/or with the need to be relocated.



CHALLENGES AND COPING STRATEGIES

CHALLENGE 5



Building a territory

1

Activate an inclusive participatory process

Efforts have been made to involve various stakeholders through a public participation process. Government, cultural sectors, universities, social and technological partners and the business community have been invited to propose and participate in the transition process. The development of an inclusive participatory process is key to achieving consensus toward the plans and actions envisaged for the territorial transition.

2

Cooperative models

Activities are needed to support the synergies and the cooperative business models for the development of the territory as a whole. It is necessary to promote participation in regional, national and international networks involving actors at different scales linking different sectors (education, scientific research, technology, training and the economic-productive environment) to enhance a harmonic development of the territory.

3

Promoting a positive image

The dominant image of Brindisi is that of a polluted and disorganized territory. To fight this stigma, a more realistic and positive image of the territory should be promoted, building on their pride of being the gateway to the East. This can be done in different ways, e.g. interventions aimed at promoting and enhancing the image of the area and its potential.

RECOMMENDATIONS

- Supporting synergies and the cooperative business models for development of the territory as a whole
- Improve cooperation towards common goals
- Creating networks involving actors at different scales to develop the ability to work towards common goals
- Encouraging the public participation and coordination of actors to represent the views of the territory at large
- Provide dissemination and discussion activities in the schools to include young people
- Creating a shared space to discuss and address the ambivalences of territory and reach a shared vision of territory development
- Creating an inclusive participatory process to achieve consensus toward the plans and actions envisaged for the territorial transition
- Activities aimed at promoting and enhancing the image of the area and its potential

DISCUSSION

One of the key obstacles to Brindisi development is that the territory is fragmented among several actors with different interests, which in the current situation, are perceived as in competition or even sometimes in opposition with each other. Moreover, the traditional governance practices, based on the dialogue between a few actors expected to represent the whole territory and on implementing top-down plans while disregarding the opinion or needs of a part of the local population, are not sufficient in ensuring the level of consensus needed for the transition process.



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