



Central Termica Soto Ribera, one of the many coke-fired energy plants in Asturias. Source: author



7 – Reflection

This thesis set out to uncover the opportunities that stem from shrinkage for regional spatial development. The aim was to understand what these opportunities were and how they could be used to support sustainable development in shrinking regions. For this reflection five aspects of the thesis are discussed; the relationship between research and design in the thesis; the relationship between the research studio and the thesis topic; An elaboration on the research method and approach in relation to the graduation studio; the societal relevance; and finally the ethical considerations.

7.1 – Research and design

In this thesis, the design draws heavily upon the research. In this thesis design played two pivotal roles, first as a tool to illustrate the opportunities for regional development that stem from shrinkage. Secondly, as a tool to integrate these opportunities into the regional planning system and the local institutional framework.

The thesis draws on theoretical knowledge from shrinkage, spatial planning and regional design literature. Subsequently, this theoretical knowledge is applied to diagnose the case of Asturias. The theoretical background was used to diagnose the region with respect to the spatial manifestations of shrinkage and the state of the regional planning system. Based on extensive literature research, the thesis identified planning and design principles and strategies that could exploit the spatial manifestations of shrinkage and enhance the regional planning system. Then, these principles were integrated into a regional design proposal, which advocates for the implementation of several policies, projects and organisational transformations to address the various challenges and opportunities, as identified in the diagnosis.

7.2 – The thesis topic and the research studio

This thesis was conducted under the research group ‘complex cities’. The Complex cities research group is focused on the studying spatial change by drawing on knowledge from a wide variety of disciplines, such as planning, design, political science, geography and history. The group is concerned with the study of different regions and cities from around the globe. The relationship between institutional and spatial change is of particular importance to the group. Students of the research group are not only expected to imagine spatial transformations but also to understand how such transformations should be managed by the relevant institutions. Finally, the engagement of stakeholders and the mediation between their interests and powers are a crucial subject for this research group.

This research and design project fits well within the scope of the research group. The diagnosis chapter of the thesis draws on various disciplines such as geography, planning,

and political science. The regional design proposal of chapter five is not only concerned with the physical transformation of the territory but also the design is supported by an elaborate implementation strategy that proposes new government institutions and legal amendments to the land use system. What is more, the implementation strategy features an extensive list of engagement strategies with which the various stakeholders should be involved in the project.

7.3 – Research methods and approach in relation to the graduation studio

The Complex Cities studio distinguished its self from other studio through its emphasis on the use of research methods from the social sciences, such as semi-structured interviews.

The approach of this thesis was guided by this emphasis. The methodology of this thesis combined theoretical knowledge with extensive spatial analysis of the case study. The methodology included the study of the regional planning system. The thesis drew on several sources of data including: semi-structured interviews, primary and secondary literature, and observation. By triangulating between the sources, the thesis was able to ensure the validity of the results.

Special attention should be paid to the role of regional design in this thesis. As was explained in the second chapter, there is a certain variety in the interpretations of regional design (Balz & Zonneveld, 2015; Kempenaar, 2017; Neuman & Zonneveld, 2018; Nijhuis, 2017). It is important to be clear as to where this thesis should be placed with regards to those interpretations. The presented regional design, as presented in chapter five, bares more resemblance to the discourse displayed by Neuman and Zonneveld (2018) and Kempenaar (2017) than to the interpretation of Nijhuis (2017). In the process of this thesis arguably a larger amount of attention has been paid to the understanding and addressing of the institutional context than to the physical and environmental context. This is not accidental. Based on the semi-structured interviews conducted during the fieldwork, it became clear that the institutional context of Asturias was the biggest challenge for the sustainable development of the region. Therefore, the research has become less embedded into the physical conditions of the region more into the planning and governance conditions of the region.

7.4 – Scientific relevance

The thesis was able to identify several scientifically relevant issues, such as; the environmental risks that are involved when the spatial implications of shrinkage remain unaddressed; the complex dynamic between the impacts of shrinkage and the attitudes held by the actors in the regional planning system; the potential to address regional environmental threats through the opportunities within shrinkage. Aside from these findings the thesis has provided novel empirical material, by which shrinkage can be understood in the regional context of one of Europe's most shrinking regions. This empirical material might help future researchers to better understand the intricate dynamics of the shrinkage problem. It has also demonstrated how a wide array of possible interventions and policies might be integrated into a single comprehensive planning



FIG. 7.1 The relevant SDG's. Source: medium.com

and design proposal. Finally, the thesis outlined a cooperative planning framework as a possible solution to address the limited capacity for planning on the regional level.

7.5 – Societal relevance

Though a substantial amount of research has been done into the topic of shrinkage. Surprisingly little has been written regarding the opportunities for sustainable development in shrinking regions. As this thesis has shown, shrinkage generates various opportunities to enhance natural systems, improve the built environment and provide new valuable resources. The significance of these opportunities is illustrated by the way they map on to the agenda of the United Nations (2015). Thus, the thesis and the regional design proposed in it correspond to the following Sustainable Development Goals:

- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

The regional design demonstrates at least three lines of action through which renewable energy sources can be integrated into the regional energy system, for instance by identifying the abandoned mining infrastructure of Asturias a potential for thermal energy storage.

- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

The regional design demonstrates multiple lines of actions that can help regions and cities to safeguard a safer and more liveable environment. For instance, by showing how the transformation of brownfield land can help to mitigate flood risks in urban areas and simultaneously provide a more liveable urban environment.

- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

The regional design demonstrates how shrinkage can be used as opportunity to enhance regional ecosystems. For instance, by showing how abandoned farmland can be exploited to enhance natural forests.

Transferability

The regional design that is proposed by the thesis is developed specifically for the case region of Asturias, thus the transferability of the results to other shrinking regions is highly dependent on the geographic characteristics and planning culture.

Still, Asturias is not unique as a shrinking. Many regions in and outside Europe are dealing with very similar issues. Figure x provides an overview of the European NUT 2 regions which are most resembling the characteristics of Asturias. There are a handful of regions in Europe which are influenced by industrial decline, farmland abandonment and ageing, such as the Italian island of Sardinia, several Romanian regions, a few northern regions of Scandinavia. Many more regions share at least two of the three characteristics of Asturias, such as the German Ruhr-regions which have been hit just as hard by the decline of the coal industry, and the south Italian regions where population decline is accompanied by farmland abandonment. In the regional spatial agenda many interventions are outlined

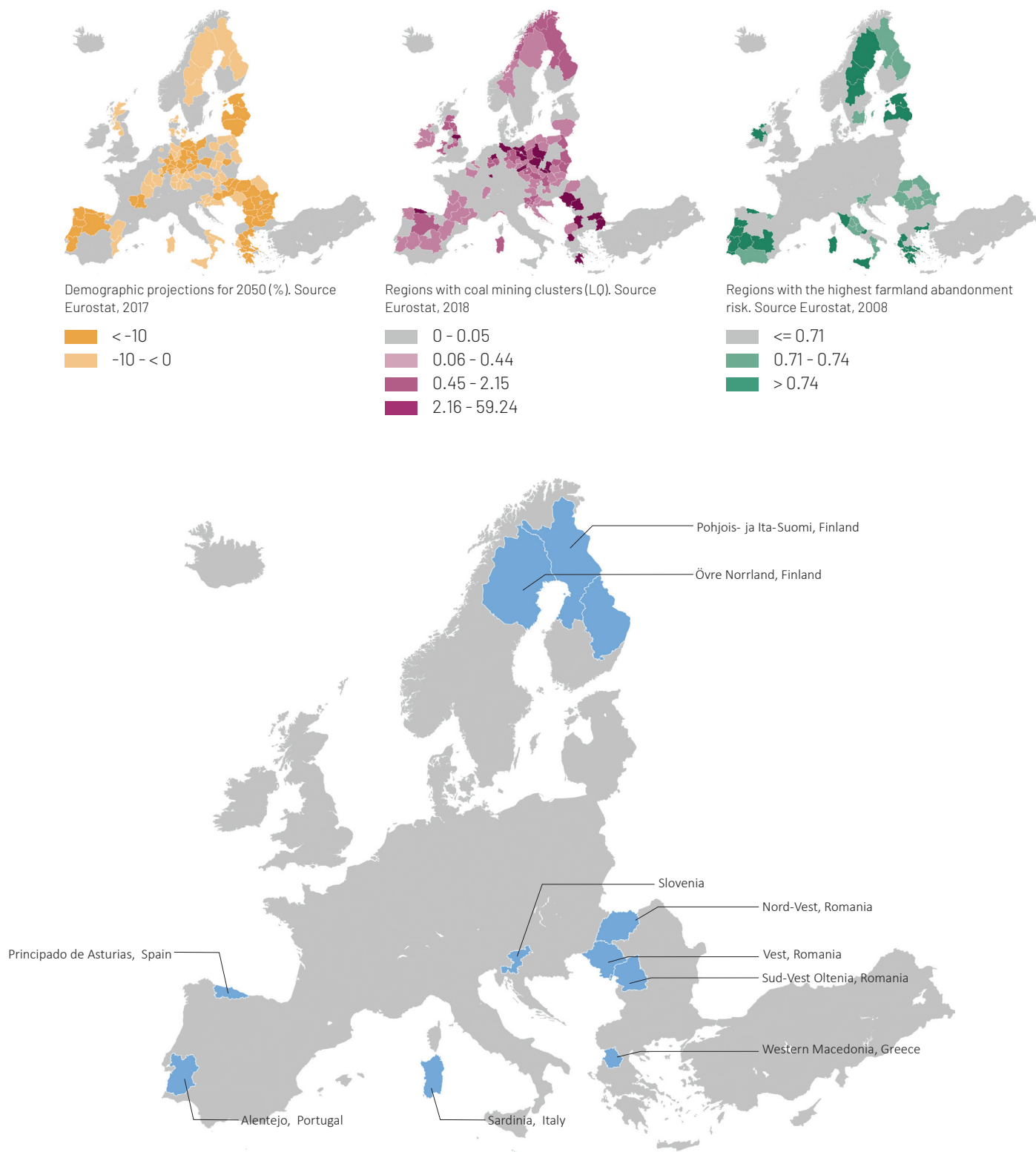


FIG. 7.2 The European NUTS 2 regions which most resemble Asturias. Source: author

that are based on relatively straightforward principles such as the reuse of vacant land for solar energy or the ecological restoration of former mining to support recreational activities. The transfer of these interventions to other regions can be done relatively easily providing that shrinkage has produced similar impacts.

The implementation strategy that accompanies the regional design is more specific to the context of the case study. The possibility to transfer the engagement strategies is therefore limited. However, the need for stronger regional institutions has been called for by multiple authors (Bernt et al., 2012; A. Haase, Athanasopoulou, & Rink, 2013; Schlappa & Neil, 2013). Although the institutional design is specifically formulated based on the particularities of the Asturian planning system, the framework is flexible enough to at least fuel the debate on regional cooperation in other regions.

7.6 – Ethical considerations

Though the regional design poses significant benefits to the region of Asturias, the application of the design would produce certain ethical dilemmas and issues. Here the most important ethical issues are briefly highlighted.

The first ethical issue regards point 3a in the regional spatial agenda, which concerns the consolidation of the rural population in the most central villages and cities. The benefit of this policy would be that the service provision would become less costly and the authorities would have more resources to invest in other developments. However, this action could further isolate those inhabitants and businesses that have chosen to establish themselves in the less accessible parts of the region.

The second issue regards point 4a in the regional spatial agenda, which concerns the out phasing of all industrial activity outside the three industrial clusters of Oviedo, Gijón and Avilés. The result of this action would be remove industrial land from precarious and in accessible zones and to free up more space for alternative land uses. However, this action could speed up the decline in employment in those areas where industry is phased out.

Addressing these two issues, and others like them, before they have occurred is difficult. Probably the easiest way to address them is through integrating the local communities in the planning and design process. By doing that the regional planners and decision-makers can create understanding among the local population and potentially they could find tailor made solutions in case where local people are indeed disadvantaged.