

Learning Sustainable Smart Specialization in Practice - The case of Two Regions in Europe and Latin America applying the Partnership for Regional Innovation Playbook

Jerker Johnson – Giovanna Pinilla-De La Cruz

1. Background

The transition to sustainability involves a shift to sustainable production technologies but also a wider socio-economic change. The nature of this change differs between the regions and forms a challenge for the public planning. Here, we are considering the challenges to public policy in a case where the technological development has caused a foreign direct investment driven energy transition, setting two peripheral regions in the center of the phenomenon. Moreover, we are in this preliminary study presenting our discoveries and a how cross-border cooperation may result in transnational learning.

In 2020 the European Union introduced the Green Deal as a comprehensive response to address the challenges posed by climate change. At the core, the Green Deal lies the recognition of the imperative to forge international alliances in order to tackle present-day challenges, recognizing that the causes of climate change extend beyond national boundaries (European Commission, 2019).

Likewise, in July 2022 the European Commission released the new Agenda for European Innovations (European Commission, 2022). The regional dimension of the agenda stresses on the large and growing innovation gap between and within European regions. It is suggested to increase the directionality of the policies both in a multi-level perspective and a horizontal perspective (Geels, Turnheim, Asquith, Kern, & Kivimaa, 2019), applying the 'Partnership for Regional Innovation' (PRI). The PRI is an attempt to bridge the gap between the regions but also to widen the innovation discussion from growth and competitiveness in 'Smart Specialization' to view the green transition as a socio-technological change (Pontikakis et al. 2022; Schwaag et al 2023). Drawing on the on-going European process on how to build value proposition in international cooperation may also serve in the cooperation with regions outside Europe.

Precisely, in order to capitalize on European policy findings and the Green Deal in the dialogue on the on-going global transition, the Regional Council of Ostrobothnia in Finland started working within the Inter-Urban Regional Cooperation (IURC) program (European Union, 2020). The IURC program is part of the external dimension of the Europe 2020 strategy and a European 'soft diplomacy', in relation to the Americas, Asia and Australia. In this program, the Ostrobothnia region has in the current round of talks been paired with the region of Magallanes and the Chilean Antarctica, the southern-most region of Chile (Gandolfo, 2023).

The rationale between the pairing lies in the similar challenges faced by both regions. Currently, there is a rapid on-going green transition driven by large multi-national companies in Magallanes and Ostrobothnia. Foreign Direct Investment (FDI)-led development is focused on the field of wind energy in combination with the production of e-fuels, and at the same time also puts pressure on the functioning of regional innovation systems in search of solutions to prevent the emerging sector will quickly form an enclave in the economy. The on-going transition provides both great opportunities for the regions in the form of an ever-larger global demand but also a threat of an increasingly divisible development.

This article on the Ostrobothnia-Magallanes twinning, responds to the call to build transnational cooperation and learning to advance the goals of the green transition using the framework of PRI.

Here, we described on how the twinning may help the regions when responding to the green transition challenges.

2. Case Study Context

Although more than 15.000 kilometers apart on different sides of the world, the region of Magallanes and the Chilean Antarctica, and Ostrobothnia share the challenge of being small and peripheral regions being in the center of the development (Raderschall & Sanabria, 2022). The regions are in the vanguard of their economies, as Finland and Chile and both regions are outward oriented in the sense that regional export are key for the regional economy. Both regions have excellent conditions for wind-power and the technological development has made cost efficient production of synthetic fuels viable. This has drawn the attention of multinationals companies and large scale FDI, in the field, will cause a profound socio-economic change in the regions that constitutes a challenge for an inclusive and balanced regional development. Furthermore, regions higher education institutions are represented and involved in research and teaching in the fields corresponding to the regional ambitions.

3. Building of the dialogue and supporting factors

To explain the development of dialogues within this case study, we draw upon the recent insights gained from the European territories' experiences in the PRI pilot (European Union, 2023, p. 5; Woolford, Amanatidou, Gerussi, & Boden, 2021). Accordingly, we have tailored these phases to align with the dynamics observed in our initial case study process as follows: i) twinning and encounter, ii) identification of common challenges, and iii) identification of possible areas of intervention. Additionally, we identified three key factors that support the bilateral dialogue process with Latin America as i) multi-level governance approach, ii) multi-stakeholder collaboration and iii) cultural dimension. Both the three steppingstones reached in the preliminary stage of the process of establishing a dialogue, as well as the factors that support this process together configure a model for building a dialogue between two regions, which could be used in future efforts to establish interregional cooperation (Figure 1).

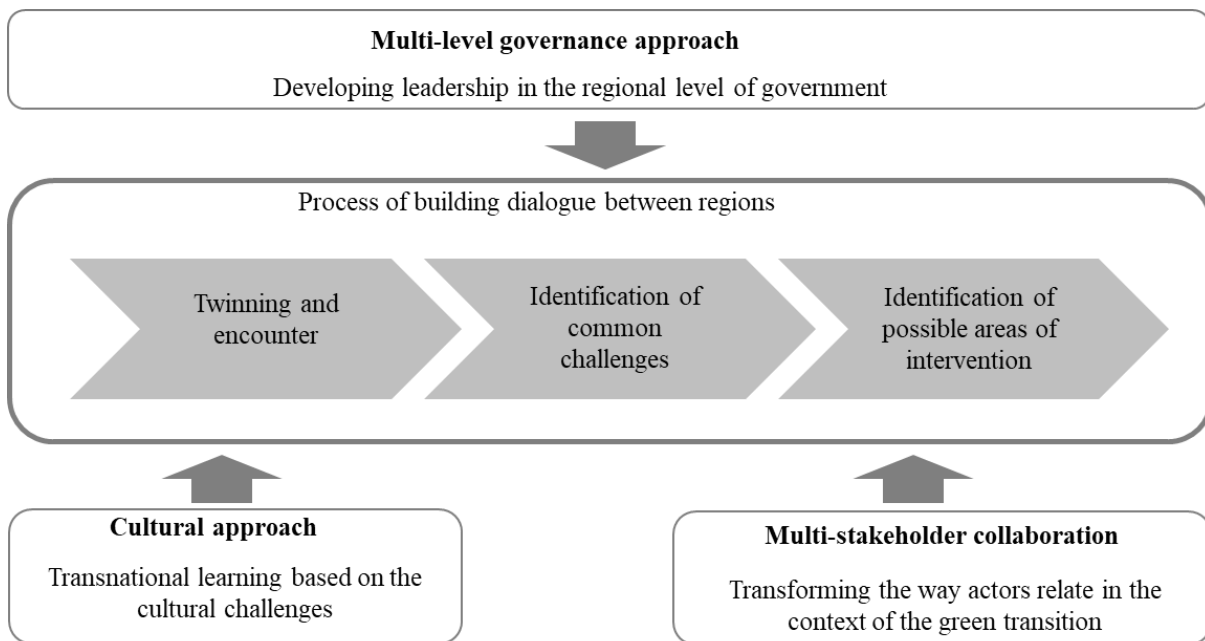


Figure 1. Model of building dialogue between two regions. Based on European Union (2023)

3.1 Twinning and encounter

The dialogue started when the IURC-program approves applications and pairs regions based on the degree of similarities of challenges facing by different regions. The IURC-program is financed by the EU and aims to discuss with outside partners on the European policies and aspirations. Thus, the twinned regions hold bilateral discussions in preliminary online meetings.

In Ostrobothnia, based on the findings of the GRETA-project (Mariussen et.al. 2021), also following the Geels et al., (2019) framework it was considered that in realigning the “regime”, the university sector would have a central role. Accordingly, the intervention team was made up by representatives of the Regional Council and of the Higher Education Institutions (HEI). The GRETA-project had applied the Mitchell et.al (1997) stakeholder classification that also served as a base when selecting the members of the intervention team.

The IURC program included physical encounters with reciprocal study visits between the regions took place in November 2022 and March 2023. In addition to the intervention team, the planning also involved contacts with the embassies and related institutions in Chile, where those represented the national-level governance, and the IURC-program represented a supra-national level.

3.2 Identification of common challenges and areas of intervention

The substantial influx of the FDI is expected to create a skilled-labor demand, increased costs and restructure the regional economy setting strains on other industrial production. In addressing this challenge, a strategic course of action involves the formulation of a policy aimed at mitigating the risk for an enclave within the regional economy. Concurrently, efforts should be directed towards enhancing competitiveness across other industries drawing on the technological inflow and new skills acquired.

Accommodating an inflow of labor constitutes a cultural challenge in the region also a considerable fast-moving structural change with winners and losers sets strains on the societies. Alternatively, the scarcity of labour force within the region risk to hinder industrial expansion and could even cause contractions in different fields. The FDI-driven development risks to cause an ‘enclave economy’ or a scenario akin to the ‘Dutch disease’.

Although not an intended part of the dialogue there were also an additional exchange between the regions. The COVID-19 pandemic revealed the vulnerability in the supply chain of vegetables and the Magallanes region is considering launching of a greenhouse sector. The knowledge in arctic condition on high-tech growing of vegetables in Chile is limited but in Ostrobothnia may draw on a tradition of over 100 years in the field.

Following the discussions held in November 2022 and March 2023, the cooperation fields were formulated as:

- Energy transition
- Climate change
- Agricultural production technologies
- Circular economy

These thematic areas are poised for inclusion within the framework of a formal Memorandum of Understanding (MoU) that was jointly signed by the Regional Council of Ostrobothnia and the Government of Magallanes in 2023. The MoU articulates a commitment to cooperation, encompassing the exchange of insights in the areas of intervention. Furthermore, the MoU serves the additional function of broadening communication channels to engage stakeholders in the ongoing deliberations.

4. Key supporting factors

4.1 Multi-level governance approach

Countries and regions within EU operate according to a multi-level governance framework, and similarly, in Chile, there exists a determined aspiration to enhance the influence and significance of the regional level. The European policies operates on a programmatic basis, while regional policies are crafted through a collaborative discourse involving diverse administrative tiers. The multi-level governance in regional policy in Europe is tied to the ‘Multi-Annual Financial Framework’. This has increased the role of the regions and the raised the level on difficulty, when different signals need to be identified, provide feed-back on policy intervention and as orchestrators of change.

The large investments linked to the green transition in both regions is driven by business ‘sense-making’ on the economic potential of the technologies, in this case wind-power in combination with e-fuels. This potential is also seen by the different tiers of government and public support is undertaken ranging from infrastructural solutions to building of capacities.

The on-going discussion on the future Cohesion Policy sets forward a mission-based framework when addressing challenges linked to the Green Deal. A multi-level policy learning on this includes various components. First a common challenge-based perspective, in the case the cooperation between Ostrobothnia and Magallanes, these regions are facing a common foreseen development pattern and a challenge of accommodating an FDI-driven development. Second the challenge would involve a capacity building in the quest for transformative solutions. The transformation is technological but when involving the public sector, it is rather a socio-technological transformation. The socio-technological transformation materializes on the regional level, the development will cause a scarcity and increase costs that put strains on other industries. Formulating policy interventions need to consider regional industrial linkages and measures to increase the competitiveness in non-related industries, all this to avoid an “enclave economy”.

Policy interventions takes place on a high-level of granularity which puts the regions in a key position when developing policies. A failure in detecting and communicating the challenges and their roots may in the worst case create a situation where the financing responds to bygone of less important challenges. In addition to the capacity the identification of new challenges also demands an institutional courage when stepping into a new role. A dialogue with other regions including outside Europe is central in the work as it provides a way to validate intervention ideas. Moreover, it does also provide a leverage in the multi-level dialogue wherever it is possible to refer to corresponding experiences in other regions confronting similar challenges.

4.2 Multi-stakeholder collaboration: transforming the way actors relate in the context of the green transition.

Multi-stakeholder collaboration plays a central role in facilitating the process of joining stakeholders from different sectors and fields to tackle the societal challenges and find a multidisciplinary solution. Furthermore, multi-stakeholder collaboration is critical for technological innovation and its seamless integration into energy systems (Ndzibah, Pinilla-de La Cruz, & Shamsuzzoha, 2022; Pinilla-De La Cruz, Rabetino, & Kantola, 2022). Strong multi-stakeholder collaboration hinges upon the alignment of research centers, universities engaged in research and development, technology manufacturers, and public authorities (Ndzibah, Pinilla-de La Cruz, & Shamsuzzoha, 2021; Pinilla-De La Cruz, Rabetino, & Kantola, 2020, 2021; Pontikakis et al., 2022, p. 147). This collective synergy enables the amplification of novel advancements while concurrently addressing barriers to market entry. Certainly, the mitigation of entry barriers is attainable through collaborative initiatives with governmental entities, encompassing aspects such as regulatory frameworks, incentive policies, procedural efficiency, and streamlined licensing processes. As a result, enterprises can derive significant advantages from the internationalization of their products and services, along with accruing enhanced credibility and legitimacy through active participation in public initiatives.

The bedrock of innovation and its widespread acceptance is forged through effective collaboration and a bedrock of trust. Trust and equitable treatment become particularly critical within the realm of nascent technologies, where performance and integration within systems may remain uncertain.

Notably, in the context of the Open Discovery Process (ODP) and transnational learning process between Ostrobothnia and Magallanes, establishing effective communication channels with key

stakeholders from both the public and private sectors is of paramount importance. Certainly, a deep understanding of the respective capacities and experience of public and private actors from both countries becomes crucial as have been stated in the PRI Playbook (Pontikakis et al., 2022, p. 147). This implies delving into various aspects, including regional development policies, where public entities play a fundamental role in promoting energy transition initiatives (Kivimaa, 2023). In addition, strategies to engage with key players such as academia, research centers, and regional companies are essential to forge collaborative alliances that align with government objectives and strengthen the transformation of innovation ecosystems.

4.3. Source of learning based on cultural challenges.

Human actions and decisions do not occur in isolation, in fact, they occur framed in contexts. However, the contextual nature of actors in processes such as multi-stakeholder collaboration for innovation is rarely considered. Thus, understanding the influence of context is essential to engage in dialogue processes aimed at potential opportunities for collaboration among heterogeneous actors. Hence, the recognition of contextual differences can significantly help to find the appropriate mechanisms to foster innovation-oriented interactions for the green transition. Notably, in ODP, the engagement with different stakeholders requires to open agendas and recognize the possible differences and commonalities of the cultural frameworks.

Although scholars have as diverse types of contexts in the literature different as institutional, organizational, spatial, etc., the cultural context allows for a holistic approach that reflects the political and social frameworks that link the group of actors. Indeed, the cultural context encompasses the 'informal institutions' affecting the actions of community members (Fellows & Liu, 2016). Therefore, it is crucial to understand the characteristics of the cultural contexts where the actors are embedded, and their unique sensemaking about the public-private relations for innovation. By employing this approach, it becomes feasible to comprehend the interplay among actors and the role of trust or control in fostering synergistic collaborations (Klijn, Koppenjan, & Warsen, 2021).

In this regard, as underscored by Ekroos & Lima-Toivanen (2018), opportunities for collaboration between Finland and Latin American countries exist in the domains of education, research, and regional innovation policies. However, successful international cooperation needs a thoughtful consideration of potential cultural differences to cultivate robust multi-stakeholder collaboration and mitigate any barriers to mutual trust. Moreover, the report by Ekroos & Lima-Toivanen (2018), also underscores the significance of acknowledging potential differences in organizational hierarchy, decision-making processes, and approaches to multi-stakeholder collaboration. The variation in work methodologies or governance forms a source of knowledge when designing policies. The transnational learning initiative serves as a platform for acquiring insights into various approaches to addressing challenges and identifying prospective opportunities. Additionally, it enables the ODP, particularly the discovery of inherent strengths that may have been previously overlooked or underestimated.

5 Conclusions

In this study we analyzed how the twinning and application of the PRI may help the regions when responding to the green transition challenges. First, with the introduction of Smart Specialization in the programming period 2014-2020, regions within countries were encouraged to prepare evidence-

based innovation strategies and supported to engage in multi-stakeholder collaboration in the quest for solutions to increase regional competitiveness. Moreover, the introduction of the PRI takes this development further by considering the wider societal implications of the change and encouraging regional cooperation in forming of European innovation valleys. The international cooperation in the field builds on an open mindset of sharing discoveries.

In a multi-level context, different tiers of government have different functions when executing policies. Hence the exchange of experiences does not necessarily meet between different levels of government, thus horizontal cooperation between same level regional authorities facing similar challenges and resources will strengthen the regions in the policy implementation. This may be both with respect of exchanging best practices in policy implementation and encouraging regions in discovering and addressing systemic shortcomings. The cooperation is in the first place a bi-regional cooperation but can also be seen in a larger context. It will constitute a learning curve for the participating regions but also provide a leverage when addressing a systematic approach to sustainability.

The organizations need to tap into its full capacity potential, build a cultural competence and engage in multi-stakeholder collaboration with new actors. Building of the organizational capacity is a key for a PRI multi-level policy formulation (Kivimaa, 2023). The regional funds available empowers the regions to experiment with innovative projects, bridging innovation gaps. The feed-back concluding on the context and regional intervention is the vehicle into different national and international knowledge networks and political networks involved in the policy development and execution.

Notably, as stated by Johnson et al., (2019), the interconnectedness among regional companies, academia and public actors is relevant in driving internationalization endeavors. This collaboration enables small and medium size enterprises to enhance their globalization strategies. Additionally, it has the potential to create opportunities for the internationalization of the local research community and the enhancement of leadership capabilities within the public sector. However, a particular common concern in the cooperation is the spatial planning.

In summary, the cooperation strengthens the ODP being a precondition for strategy formulation by: 1) providing a challenge based setting common for both regions as a base for policy learning; 2) provides a leverage for the regions as a part of a wider multi-stakeholder collaboration between Europe and Latin-America; 3) opens up for a mindset of assuming broader position on development helping in unlocking traps; 4) provides and access to international knowledge networks; 5) the cooperation is expected to set the ground for positive external effects. The policy formulation to encounter the challenges imply improving the regional quadruple helix coordination but also developing a capacity to work in a multi-level setting. The dialogue with Magallanes builds a capacity.

Overall, the collaboration between Ostrobothnia and Magallanes exemplifies a proactive approach to addressing the challenges of the green transition. This collaboration not only leads to innovative solutions but also promotes regional development and international synergies.

References

Ekroos, K., & Lima-Toivanen, M. (2018). *Finnish Research, Higher Education and Innovation Cooperation with Latin America and the Caribbean: Roadblocks and Recommendations for Future Action*. Retrieved from <http://hdl.handle.net/10138/262141>

- European Commission. (2019). The European Green Deal. *European Commission*, 53(9), 24. <https://doi.org/10.1017/CBO9781107415324.004>
- European Commission. (2022). Partnerships for Regional Innovation: 63 regions, seven cities and four Member States selected for Pilot Action. Retrieved August 1, 2023, from https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3008
- European Union. (2020). International Urban and Regional Cooperation (IURC): Sustainable and innovative cities and regions. Retrieved June 21, 2023, from <https://www.iurc.eu/>
- European Union. (2023). *Partnerships for Regional Innovation: What 74 European territories have learnt from the PRI Pilot about transformative innovation and why these lessons can help them connect their innovation ecosystems towards Green Deal.*
- Fellows, R., & Liu, A. (2016). Sensemaking in the cross-cultural contexts of projects. *Int. J. Proj. Manag.*, 34(2), 246–257. <https://doi.org/10.1016/j.ijproman.2015.03.010>
- Gandolfo, M. (2023). *CASE STUDY OSTROBOTHNIA (FI) – MAGALLANES (CL). IURC-LA* (Vol. June 2023). Retrieved from <https://skyfold.com/document/371a5b50-3596-11ec-abe7-993375836146?download=true>
- Geels, F. W., Turnheim, B., Asquith, M., Kern, F., & Kivimaa, P. (2019). *Sustainability transitions: policy and practice*. Copenhagen.
- Johnson, J., Dahl, J., & Mariussen, Å. (2019). La especialización inteligente impulsa la globalización de pequeñas y medianas empresas en la región finlandesa de Ostrobotnia. *EKONOMIAZ. Revista Vasca de Economía*, 95(01), 177–201.
- Kivimaa, P. (2023). Capabilities for regions to support net- zero-carbon transitions and implications for Cohesion Policy, (2022).
- Klijn, E. H., Koppenjan, J., & Warsen, R. (2021). Hybridity and the search for the right mix in governing PPP collaboration. In *Handbook of Collaborative Public Management* (pp. 113–128). Edward Elgar Publishing. <https://doi.org/10.4337/9781789901917.00019>
- Mariussen, Å., A, M., S, V., & J, J. (2021). *Smart Multi-Level Coordination Towards Green Transformation: GRETA WP2 report. LARS project*. Retrieved from lars-project.eu
- Mitchell, R.K., Agle, B.R. & Wood D.J. 1997: Toward a theory of stakeholder identification and salience: defining the principle that really counts. *The Academy of Management Review* 22:4 , 853-886
- Ndzibah, E., Pinilla-de La Cruz, G. A., & Shamsuzzoha, A. (2021). End of life analysis of solar photovoltaic panel : roadmap for developing economies. *International Journal of Energy Sector Management*. <https://doi.org/10.1108/IJESM-11-2020-0005>
- Ndzibah, E., Pinilla-de La Cruz, G. A., & Shamsuzzoha, A. (2022). Collaboration towards value creation for end-of-life solar photovoltaic panel in Ghana. *J. Clean. Prod.*, 333(November 2021), 129969. <https://doi.org/10.1016/j.jclepro.2021.129969>
- Pinilla-De La Cruz, G. A., Rabetino, R., & Kantola, J. (2020). Public-Private Partnerships (PPPs) in Energy: Identifying the Key Dimensions from Two Different Bibliometric Analyzes. In S. V. (eds) In: Kantola J., Nazir S. (Ed.), *Advances in Human Factors, Business Management and Leadership. AHFE 2020. Adv. Intell. Syst.* (vol 1209, pp. 65–71). Switzerland: Springer, Cham.
- Pinilla-De La Cruz, G. A., Rabetino, R., & Kantola, J. (2021). Public-Private Partnerships (PPPs) in

Energy: Co-citation Analysis Using Network and Cluster Visualization. In T. R. : Russo D., Ahram T., Karwowski W., Di Bucchianico G. (Ed.), *Intelligent Human System Integration 2021, IHSI 2021, AISC 1322, Adv. Intell. Syst.* (Vol. 1322, pp. 460–465). Springer International Publishing. <https://doi.org/10.1007/978-3-030-68017-6>

Pinilla-De La Cruz, G. A., Rabetino, R., & Kantola, J. (2022). Unveiling the shades of partnerships for the energy transition and sustainable development: Connecting public–private partnerships and emerging hybrid schemes. *Sustain. Dev.*

Pontikakis, D., González Vázquez, I., Bianchi, G., Ranga, M., Marques Santos, A., Reimeris, R., ... Stierna, J. (2022). *Partnerships for Regional Innovation Playbook*. <https://doi.org/10.2760/775610>

Raderschall, L., & Sanabria, A. (2022). Rural areas to the rescue: how rural renewables are driving the green transition. Retrieved August 15, 2023, from <https://oecdcoigito.blog/2022/07/08/rural-areas-to-the-rescue-how-rural-renewables-are-driving-the-green-transition/>

Virkkala, S., Mäenpää, A., & Mariussen, Å. (2014). *The Ostrobothnian model of smart specialisation*. Vaasa, Finland. Retrieved from <https://osuva.uwasa.fi/handle/10024/7615>

Woolford, J., Amanatidou, E., Gerussi, E., & Boden, J. M. (2021). *Interregional Cooperation and Smart Specialisation: a Lagging Regions Perspective*. Luxembourg. <https://doi.org/10.2760/25586>