Case 1

Farmer's Protests and Nitrogen Crisis in Genovia

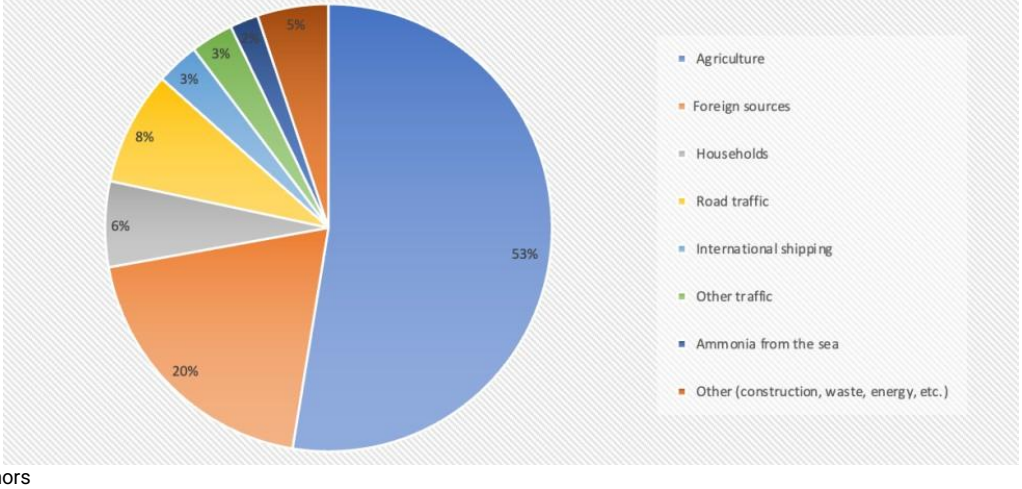
Der Bio-Bauer bei der Ernte, © Heiko Janowski on Unsplash

Case: *The kingdom of Genovia is a prosperous country, largely due to its agri-food industry. It is the largest agricultural exporter in the common market (and the second globally behind the US) and has the highest livestock concentration in the EU. Protests by farmers in Genovia began with an initial surge of demonstrations in 2019, in response to newly introduced legislation aimed at reducing nitrogen emissions. The basis of this controversial decision was a ruling issued by the supreme court stating that the government failed to fulfil its environmental obligations imposed by the EU.*

Environmental challenge

The Supreme Court ordered Genovia to do much more to cut emissions and to protect natural areas against emissions from nearby agricultural lands. This ruling increased pressure to the government to take action, firstly imposing a speed limit of 100 km/h on highways and cancelling several construction programmes aimed at mitigating the housing offer shortage situation in the country.

These measures were clearly insufficient: While transport and construction only had a marginal impact on nitrogen emissions, agriculture is responsible for 53% of nitrogen emissions (primarily from intensive farming). When active forms of nitrogen (such as in fertilizers) come into contact with soil, microbial reactions release nitrous oxide (300 times more potent at warming the atmosphere than carbon dioxide.



Source: the authors

Economic interests

Historically, there has been a lack of political will to adopt measures that might counter the interests of the agricultural industry. This reluctance is attributed to the sector's economic significance and the influence of agri-food multinationals based in Genovia. Environmental activists and the Green Party have accused the government of prioritizing economic interests over urgent climate issues.

The agri-food industry contributes to more than 25% of Genovia's exports and accounts for 18% of its GDP. However, despite the commonly used argument regarding employment and the social function of the sector, the agricultural industry only employs 2% of the population according to Genovia's Central Statistics Office. And the majority of this sector is concentrated in large-scale and highly mechanized farms.

Social and Political upheaval

In 2019, the government announced its package of mesures to reduce nitrogen emissions by 50% by 2030. The intervention to effectively reduce emissions required a limit in agricultural pollution and a reduction in livestock numbers (with estimates suggesting a 30% reduction of livestock). Suddenly, what was considered a radical proposal coming from an anti-system political party—to reduce by the Genovian livestock number through the expropriation of 500 to 600 major emitters—came into consideration.

The announcement sparked widespread protests, especially in traditional agricultural regions where the large farms are located. Over 1,000 tractors headed to the capital, Ibamsdarm, and staged a protest outside the government headquarters. Popular claims put forward by farmers resisting the reforms pointed to the loss of livelihoods, and dependency on farming for food provision ("*no farmers, no food*"). Forms of protest include blockades and arson. Various environmentalists and green politicians have received death threats.

No Farmers. No Food. No Future., © Photo by Gayatri Malhotra on Unsplash

Polarization and potential environmental setbacks

In the wake of these protests, the Farmer's Defense Union (FDU) movement gained significant media attention and political influence. By 2020, the movement transformed into a populist party characterized by climate change denial. Their portrayal as a grassroots movement attracted electoral support, securing over 20% of votes in recent elections. Despite this "social" facade, the FDU is actually primarily supported and financed by major agri-food industry leaders rather than local farmers. Environmental groups and a significant mass of the Genovian public express grave concerns about the implications of FDU's growth and increased polarization on climate issues, especially regarding potential setbacks in environmental policies.

Case 2

The Lithium Mine Dilemma in Florivenza

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Case: *Florivenza, in the west of Iberia, has become the epicenter of a fierce controversy opposing lithium mining to environmental protection and public health. While the green and digital transition presents promising opportunities for the region's economy (affected by high unemployment rates and lack of economic dynamism), the plan to establish a lithium mine sparked a conflict that has been ongoing for 8 years, between the civil society movement "Save the Mountain" and the foreign company Lithium Forever. Lithium, essential for electric batteries, has become a critical material for the EU's strategic autonomy agenda and the green and digital transition.*

Regional challenges

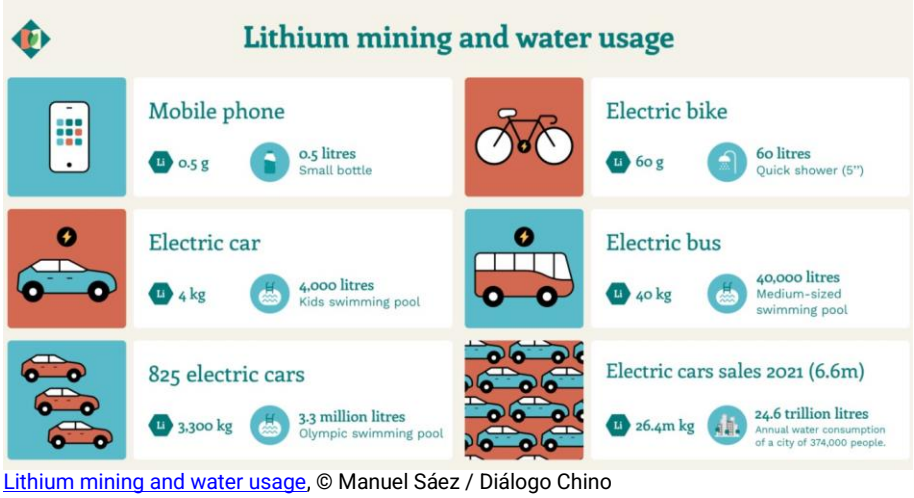
Florivenza has a very poor industry, primarily rural and agricultural in nature. It grapples with socio-economic stagnation and a severe unemployment problem, affecting nearly 20% of its active population (above the national average of 14%). The region's GDP per capita stands at 19,000 Euros per person, making it the second lowest in all of Iberia.

Moreover, the region of Florivenza is also among the EU regions most impacted by climate change, with phenomena like desertification threatening over 50% of its land area. Drought and water scarcity have already strongly impacted the population and the environment. The local government has had to restrict water consumption to 190 liters per person per day. In the past two years, the region has experienced a 40% reduction in water availability compared to the decade's average.

The Lithium Dilemma

The proposal to establish a lithium mine in Florivenza was firstly introduced in 2015 by the foreign company Lithium Forever and rapidly encountered significant public opposition due to its potential impacts in terms of biodiversity, land use and water scarcity. Even though the methods of lithium extraction differ from place to place, in most regions, lithium extraction has led to soil degradation and desertification. Given that lithium extraction requires vast amounts of water (2 million liters of water per ton of lithium), for instance, building an electric car requires 8 kg of lithium, 16,000 liters of water are needed, this raised important concerns among the local population and environmental activists.

Lithium Forever proposed extracting lithium from the Florivenza mountain, a unique ecosystem integrated into the Iberian national network of protected areas. Located just 3 km from the city and 2km away from a public hospital, the initial open pit mine proposal announced a minimal environmental impact (supported by private studies). The plan was withdrawn by local authorities due to the severe inconsistencies in the evidence provided and the environmental impact assessments provided by environmental researchers. In 2021, the project shifted to an underground mine, claiming again minimal impact, but the company has not retracted the information presented in their initial reports.



Lithium mining and water usage, © Manuel Sáez / Diálogo Chino

According to environmental experts opinions, Il Calimizzo (integrating the area where the mining operation is intended), one of the most unique archaeological sites in Europe and one of the largest karstic aquifers in Europe, would be subjected to massive infiltrations. The company's projections inaccurately portrayed the area as impermeable. Given its proximity to the town, infiltrations could also pose severe public health risks.

Opposing interests and conflicting evidence

The community-based platform "Save the Mountain" has rallied support, amassing over 90,000 signatures against the mine. Local and regional authorities have repeatedly rejected the project. However, lobbying efforts in the region have garnered crucial backing for the company, and a new project is on the verge of approval. Recently, a survey commissioned by the company reportedly indicates that 80% of the population supports the project. Opponents argue that this not only contradicts the city's general sentiment but also lacks clarity on the survey's population sample.

Supporters of the lithium mine emphasize the potential economic advantages for the region. The mine's construction and operation could create job opportunities, with projections of 500 new positions, and stimulate the local economy. They argue that, given the high unemployment rates and lithium's strategic importance in the digital transition, the mine can positively impact the regional economy.

Strategic Autonomy in the EU

Strategic autonomy in the EU: Lithium, essential for electric batteries, has become a critical raw material for the EU's strategic autonomy agenda in the green an digital transition.

To achieve its climate objectives, the EU has announced a significant increase in raw material usage, with a projected 3,500% increase in lithium demand. However, this surge is creating recurring contradictions and trade-offs due to the environmental impact of lithium extraction and the waste it generates. Currently, only 25% of lithium is recyclable from a circular economy perspective, and it remains a finite resource. Environmental activists argue that the region is being "sacrificed" for an extractive approach that misaligns with the green transition.

Case 3

Sustainable Mobility in Thermopolis

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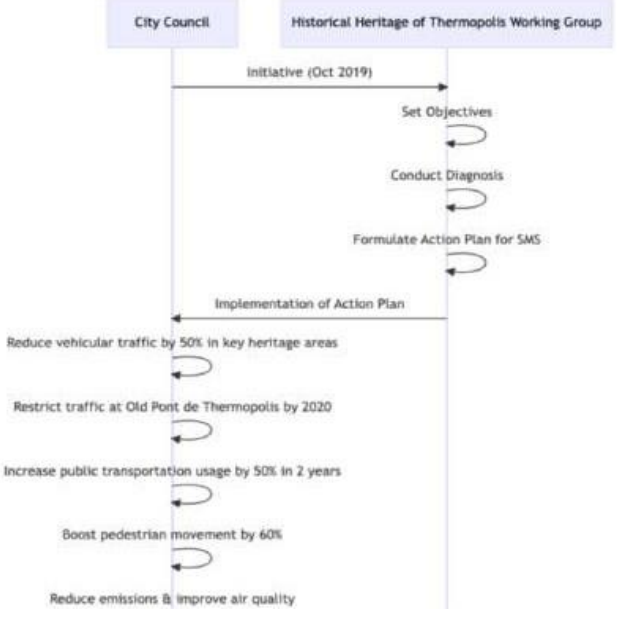
Case: *Thermopolis, a small historical city with a population of 100,000 and a UNESCO World Heritage site, embarked on a journey to implement a Sustainable Mobility Strategy (SMS). The main goal was to align sustainable mobility with heritage preservation. Its planning methodology served as a pioneering reference in terms of participatory design and evidence- informed policy. Despite this initial success, the implementation of the SMS over time turned Thermopolis into an example of how political polarization and lack of social cohesion can threaten the continuity of effective policymaking for the green transition at the local level. After the change of administration in the latest municipal elections of 2022, the new mayor announced the derogation of the SMS (something that, on the other hand, was a major proposal for their electoral program)*

The Sustainable Mobility Strategy

The Sustainable Mobility Strategy (SMS) for the city of Thermopolis is a set of actions aimed at implementing sustainable mobility alternatives (walking, cycling, public transport) while enabling the preservation of the city's historical heritage and a better quality of life for citizens. The SMS process began in October 2019 at the initiative of the city council, following the creation of the Historical Heritage of Thermopolis (HHT) Working Group. The HHT was mandated to design an Action Plan that would later be implemented by the city council. Goals included: 1) Reduce traffic by 50% in key heritage areas by 2020; 2) Absolute restriction of traffic at the emblematic Old Pont de Thermopolis by 2020; 3) Increase public transportation use by 50% in 2 years; 3) Increase pedestrian spaces by 60% in the historical center in 2 years.



Source: the authors

The SMS strategy was designed through participatory design and consultation with experts and affected sectors. The HHT's composition ensured representation from citizens, companies and experts, with citizens comprising at least 30% of the group's composition. Using a randomized selection process, 20 citizens were chosen to represent diverse socio-economic profiles from different areas of the city. In 6 months, the HHT engaged with 150 stakeholders, and the SMS process was continuously improved and adjusted based on their contributions. According to the council, the final action plan obtained a large consensus among stakeholders: 93% of the proposed measures by HHT were accepted without amends. The council issued a call for evidence to further refine and validate the SMS, to which a group of researchers from the Faculty of Geography and History of the University of Thermopolis responded with a positive assessment.

Political Landscape

The political context surrounding the SMS is important: In the 2018 local elections, power was granted to the conservative Aile Droite party (AD) in the city council, securing 45% of the votes. However, in March 2019, the socialist Michael Moscovitz (PS party) became the new mayor after a successful vote of no confidence, forming a coalition government by partnering with two alternative left-wing parties (Union Progressistè and Alternativa-l). The formation of the HHT and the SMS proposal swiftly became emblematic of the new local government's political vision.

The opposition party, AD, criticized the SMS, alleging that it was a plan to politicize and polarize the city. They took the matter to the regional jurisdiction, asserting an alleged overreach and abuse of competencies. This was dismissed by the competent court, which ruled that the SMS fell within the municipality's mandate concerning mobility competencies: like in all municipalities in Genovia, the council has the authority to regulate mobility and accessibility in urban areas.

A referendum organized by the City Council, proposed by the HHT, took place in March 2020, resulting in 80% of the votes in favor of adopting the SMS. However, only 58% of the population voted. In 2022, following the latest local elections, the AD party came to power. The new local government announced a halt to the SMS (already in its implementation phase) and a retroactive reversal of some of the measures, including the closure of traffic on the Pont de Thermopolis.

Trade-offs and Public Reaction

One contentious aspect of the SMS was the restriction of traffic on Pont de Thermopolis, the city's iconic historic bridge, built in the 18th century and once the world's tallest. While surveys found that 70% of citizens favored the traffic ban to preserve the bridge, strong resistance emerged from the Ponte neighborhood, home to around 2,000. It is also one of the city's most economically disadvantaged areas (with the lowest per capita income). This measure faced criticism for its segregating effect, disproportionately affecting this neighborhood. Over 60% of the neighborhood's working population depended on the bridge for commutes, whether by car or public transport. Commuting times for some residents tripled, hitting vulnerable groups particularly hard (with their options reduced to travel). As a result, the "Open The Pont" platform was established, actively criticizing the SMS and the city council, gaining significant support from AD.

Another topic fueling opposition was the presumed economic consequences of limiting traffic in the old town. An economic consulting firm contracted by the opposition projected that local businesses would face a 20% profit reduction, potentially causing small business to collectively lose €3 million. However, these businesses reported a 25% surge in sales in 2022, contradicting these predictions.

Case 4

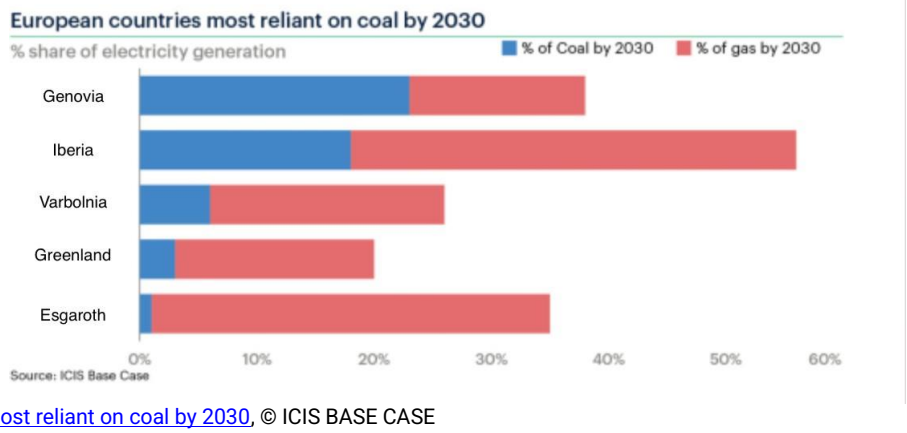
Phasing out challenges in Eastern Buonville

© Photo by Billy Joachim on Unsplash

Case: *The Kingdom of Genovia heavily relies on coal for 80% of its power needs, and approximately 80,000 coal miners depend on this industry for their livelihoods. The phasing out of coal in Genovia is not just an environmental and economic decision but also carries profound cultural and social implications. Due to this complex situation, the central government has not made decisions to comply at the national level with the goals set by the EU. In 2020, the central government reached an agreement with the Union of Camaraderie, representing coal miners, that commits Genovia to the 2049 phase-out. Genovia's goal to phase out by 2049 received strong criticism from both environmental actors and Member States. In parallel, different regions in Genovia have set varying dates. For example, Eastern Buonville has committed to achieving this goal by 2030.*

National Context

In 2021, the Varbolnian government reached an agreement with the Unity Union, representing coal miners, that commits the country and all the regional circumscriptions to the 2049 phase-out goal. Genovia's goal to phasing out coal by 2049 has received strong criticism for being considered "unserious" and delayed by environmental groups. Other Member States have also publicly criticized this decision, as it creates a strong imbalance for the EU's green and energy transition and it results in a significant misalignment with the energy common market standards, considering also that other EU countries are highly dependent on coal.



European countries most reliant on coal by 2030, © ICIS BASE CASE

Different regions in Genovia have set varying dates for the phase-out of coal. Within Genovia, the diversity in phase-out commitments across regions becomes evident. Eastern Buonville has set the ambitious target of 2030 for coal phase-out, despite its economic dependency on the sector (40% of its GDP).

This is in stark contrast to regions like Western Biencittà, where coal accounts for a dominant 55% of its GDP. They have targeted 2049 for their phase-out, which might be a consequence of their economic ties to the coal industry. On the other hand, Pndapetzim, with coal contributing to 45% of its economic foundation, has set the phase-out date of 2044 (fifteen more years of continued coal utilization compared to Eastern Buonville).

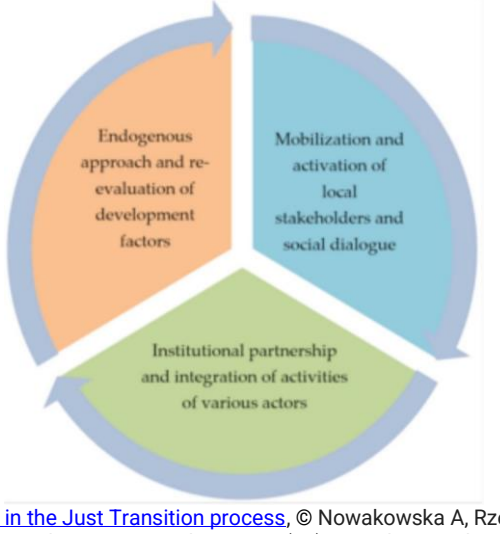
Varying phase-out dates and the case of Eastern Buonville

The case of the just transition process with a more ambitious and environmentally committed target (2030) in Eastern Buonville underscores the region's early initiative, effective stakeholder involvement, and utilization of formal networks. These factors contribute to the region's progress in addressing the challenges associated with the phasing out of coal. Eastern Buonville faces several challenges related to the just transition process that could have served to delay the phasing out date, similar to the other mining regions, such as:

- Low profitability of continued lignite mining (decreased by 35% in the last decade) and retrofitting coal-fired power stations;
- Elevated unemployment rate (18% of the active population) compared to other regions;
- Heavy reliance of the local job market on mines and power stations (approximately 40% of the region's workforce is employed directly or indirectly in the mining industry);
- Depopulation trends, with young individuals departing from the region and an aging population;
- Environmental degradation and losses suffered by local communities due to increased drainage caused by expanding mines (expanding mines in the last decades led to a 30% increase in drainage, which resulted in 2,000 loss of agricultural lands);
- Social and legal conflicts stemming from the lack of dialogue between mine management entities and local communities, especially concerning expansion plans (70% of the population feels that mining expansion were not transparent and democratic).

A successful Just Transition approach:

The benefit of starting the just transition process early is nowhere more tangible than in Eastern Buonville. Already in 2017, a group of city activists, mostly from the non-governmental organisation sector of civil society, began raising the issue of a just transition in Eastern Buonville.



Components of place-based policy approach in the Just Transition process, © Nowakowska A, Rzeńca A, Sobol A. Place-Based Policy in the "Just Transition" Process: The Case of Polish Coal Regions. *Land*. 2021; 10(10):1072. https://doi.org/10.3390/land10101072

The just transition process in Eastern Buonville serves as an example due to the following factors:

- Starting Early: The region's just transition process began when town activists highlighted the issue. This led to the appointment of the regional authority for Eastern Buonville's restructuring and the Regional Development Agency (RDA);
- Effective Stakeholder Engagement: In 2020, an agreement on Eastern Buonville's just energy transition was signed, involving representatives from local and regional governments, NGOs and the RDA. The agreement stressed collaboration, energy transformation initiatives, mutual backing, participation in the Platform for Coal Regions in Transition, fundraising, and employment creation;
- Leveraging Formal Networks: The agreement in Northern Velkoria resembles a formalized contract, showcasing a robust commitment to achieving a just energy transformation. This level of formalization indicates that the just transition endeavors were initiated before external support became accessible.