European Commission

Just Transition Platform

Case study: rev3:

Third Industrial Revolution in Hauts-de-France region

Key information

Member State:
France

Region(s):
Hauts-de-France

Sector(s):
rev3 is directed at the whole economy

Duration:
Since 2013

Sources of funding:
ERDF (2014-2020) / ERDF (2021-2027): EUR 200 million for REV3 GRANTS from 2021-2027 OP

The term 'rev3' stands for the regional adaptation of the Third Industrial Revolution concept and is part of the Hauts-de-France regional strategy. It aims to integrate the energy transition, the digital revolution and new economic models in order to decarbonise the regional economy by 2050, create jobs and boost local innovation. In involving local governments, companies, academia, institutions and the civil society organisations, the goal is to make rev3 a part of the region's identity and a factor of attractiveness.

Background

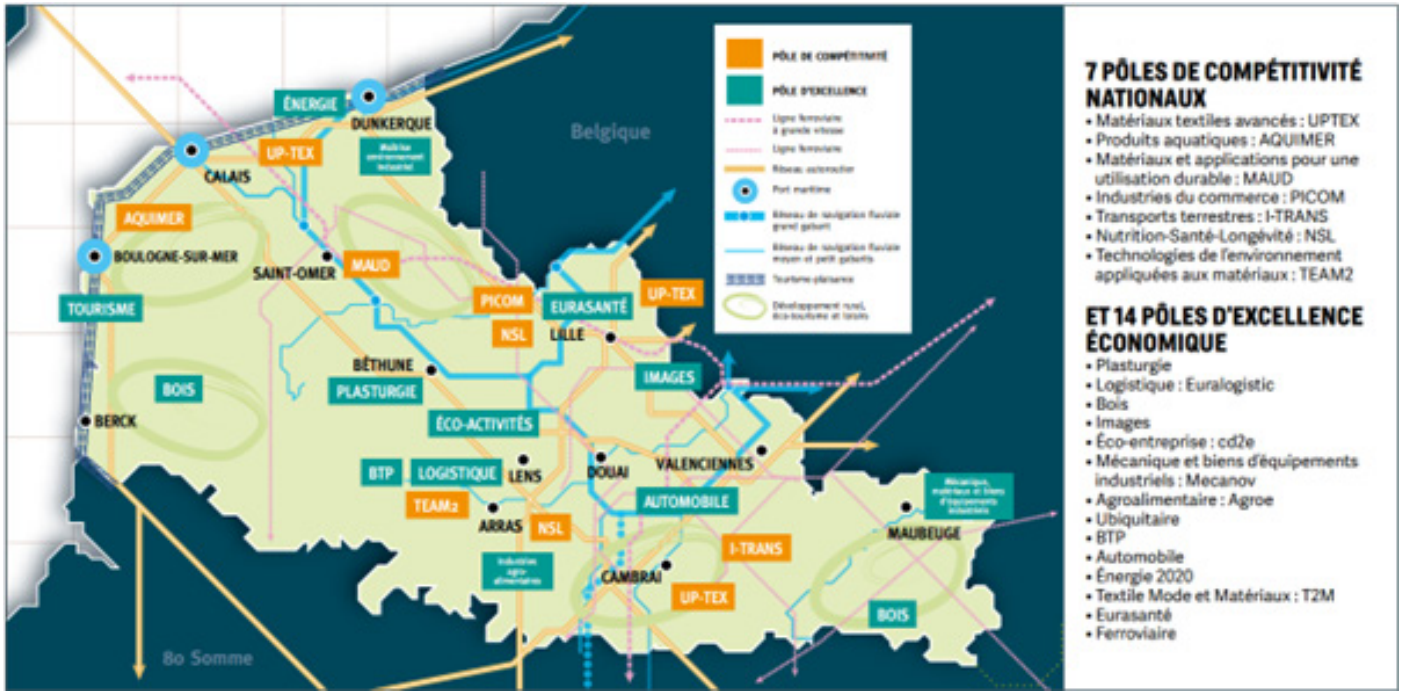
The region of Hauts-de-France is the northernmost region of France, at the border of Belgium, and was created by the territorial reform of French regions in 2014 from a merger of Nord-Pas-de-Calais and Picardy. With six million inhabitants, it is the third most populated region in France.

The Nord-Pas-de-Calais is the former coal mining territory, where mining activities ended more than 30 years ago. Today, what underpins the transition in the region are emissions from carbon-intensive industries. The region is marked by a strong industrial presence and is the first emitting region of France, with about 32 million tonnes of CO2 per year. The region counts 168 000 direct industrial jobs, of which 29 000 are directly linked to highly emitting industrial activities and thus strongly impacted by the transition.

Besides the automotive and textile industries, which represent a significant share of the employment in the region, the strategic industrial sectors which are significantly impacted by the transition are:

- **Metallurgy and steel:** the sector represent around 100 companies directly linked to the production of steel and metals, and which provide 10 000 direct jobs. An example is France's leading steel production site located in the Dunkirk, which emits approximatively seven million tonnes of CO2 per year and operates on a coal basis.
- **Non-metallic minerals (cement, building materials and glass):** this sector represents about 10 000 direct jobs, among which 4 000 are linked to construction products (including cement) and 6 000 are linked to the glass industry.
- **Chemical and petrochemical industry (polymers, composite materials):** this sector is located in the Dunkirk zone in the former mining areas. It represents about 9 000 direct jobs.

Figure 1: Hubs of competitiveness and excellence in Hauts-de-France region



Source: Third Industrial revolution in action: https://www.calameo.com/cci-hauts-de-france/read/00282096041bbcee430b3

The particularity of the region, compared to other EU regions in transition which have declining industries (e.g. coal), lies in the need to decarbonise the existing industries. There are no radically declining employment areas in the region, rather the region is composed of industrial areas which are already transitioning, and which are undergoing new transition toward decarbonised models with a transformation and an evolution of the processes, of the value chains, and of employment. It is estimated that, by 2030, the ongoing transition of these industries will create about 3 000 direct jobs in the region, and about 10 000 jobs counting the induced and indirect jobs.

The decarbonation of the industry and its value chains, and more generally of the whole economy, is not a new topic in the region. This **decarbonisation objective was clearly identified a long time ago** and streamlined into regional policies and strategies notably through rev3 since 2013. The topic that is emerging now, and which underpins the transition as described in the region's Territorial Just Transition Plan (TJTP), relates to industrial sovereignty and the resilience of the industry: the transformation of the value chains and activities towards a territorialised and proximity model. The challenge for the region is to redirect the production of the industries present on its territory towards a low-carbon model and turn them into providers of solutions for the energy transition of the territory.

In a nutshell, **the objective of the just transition in the region is to continue the transformation started in the previous years and supported by the rev3 dynamic**, i.e. the territorialisation of the industry, the production of materials and the use of these materials to ensure the resilience of the territor TJTP plans for instance to support research and development (R&D) for the transition of the three priority industrial sectors, to invest in SMEs, micro-enterprises and start-ups to diversify the economy towards the more circular economic activities, or to support the regional economic fabric through the establishment of incubators, advisory services and collective actions. All these activities are promoted and embedded in the rev3 dynamic.

Description of rev3

General project details

Elaborated in collaboration with Jeremy Rifkin, author of The Third Industrial Revolution (2011), the Master Plan for the third industrial revolution in the region Hauts-de-France was officially launched in 2013.

In 2012, the region asked Jeremy Rifkin to elaborate a Master Plan for the region (Nord-Pas-de-Calais region, at the time). At the initiative of the region and the Chamber of Commerce and Industry of Hauts-de-France (CCI), a shared governance approach was imposed: working together with working groups made up of public and private experts on each theme. The groups were composed of representatives from enterprises, universities, trade unions, civil society organisations and local and regional elected representatives. In total, 120 people were grouped together to work on eight themes: renewable energy, buildings, mobility, storage, smart grids, energy efficiency, circular economy, functional economy. The aim was to transpose Rifkin's third industrial revolution model to the specificities of the region, following a bottom-up approach. Their work lasted nine months. The draft Master Plan was also presented to citizens assemblies in the region. The final Master Plan, called at the time 'Third Industrial Revolution',

was presented at the World Forum Lille in October 2013. As outlined in the paragraphs below, this shared governance approach - engaging different categories of stakeholders - was applied and nurtured throughout the implementation of rev3.

At its core, the rev3 relies on a narrow focus of the energy transition and the development of energy technologies (e.g. renewable energies, smart grids) to decarbonise the regional economy. Rev3 also emphasises innovation aspects, not only technological (e.g. energy storage), but also financial and social innovation (e.g. by setting up new financing tools, by establishing new governance models). Moreover, rev3 established itself in the region as a decentralised dynamic made up of an aggregation of diverse and varied initiatives, relying on the partnership between public (local and regional authorities), private (economic actors) and academic (education actors) worlds. Today, rev3 defines itself as a shared movement backed by public authorities, business, academia, research, and citizens; dedicated to making Hauts-de-France a European leader in the energy transition and digital technologies.

Goals and approach

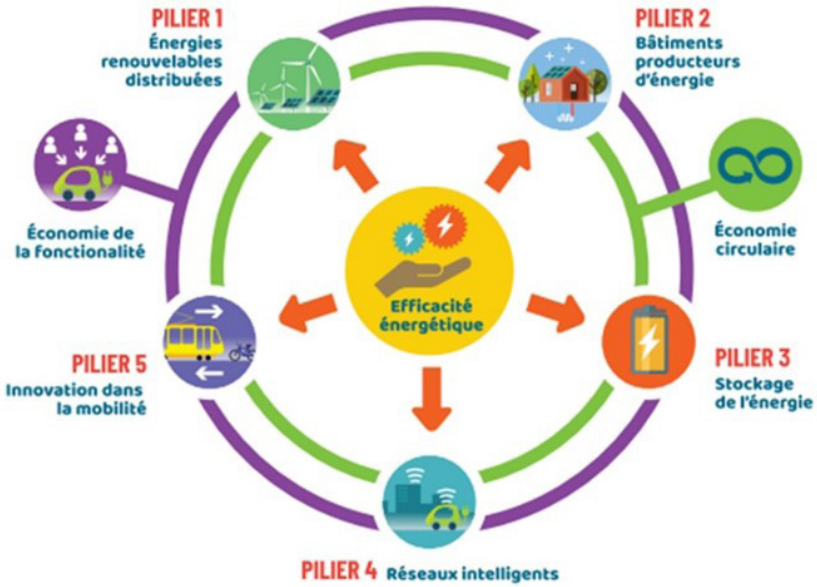
Rev3 aims to establish a new and co-constructed economic model in the region. It is essentially the growth strategy for the region of Hauts-de-France, in the same manner that the European Green Deal is the growth strategy for the EU. rev3 is based on a bottom-up and shared governance approach, both in its elaboration and in its implementation.

The implementation of rev3 is based on five interrelated pillars (directly inspired by Jeremy Rifkin's model) and three transversal axes (added during the development of the Master Plan for the region). They are as follow:

- Pillar 1: developing distributed renewable energies;
- Pillar 2: rethinking buildings as energy-producing sites;
- Pillar 3: developing energy storage capacities in a context of decentralised production;
- Pillar 4: deploying smart grids;
- Pillar 5: reinventing the mobility of people and goods;
- Cross-cutting axis 1: energy efficiency;
- Cross-cutting axis 2: circular economy;
- Cross-cutting axis 3: functional economy.

The five pillars and three cross-cutting axes form the core of the rev3 model and the basis for many potential innovations. They need to be addressed in an integrated way and with a systemic approach, as illustrated in the figure below. For instance, developing renewable energy (Pillar 1), requires storage solutions (Pillar 3) due to its intermittency, and the deployment of smart grids (Pillar 4) to optimise its distribution.

Figure 2: Pillars and cross-cutting axes of rev3



Source: rev3 referential

Partners and contacts

The implementation of rev3 is coordinated by the Regional Council of Hauts-de-France and the Chamber of Commerce and Industry (CCI) of the region. Besides the involvement of the region and the CCI in the setting up and steering of this regional initiative, other actors were significantly involved, such as the French Agency for Ecological Transition (ADEME).

The ADEME notably supported rev3 through the elaboration of foresights and scenarios, as well as through the provision of investment support. The rev3 dynamic mobilises a broad range of initiatives and actors, such as research-oriented and competitiveness clusters, informal collective of actors, academia, etc.

Type of activities

Rev3 promotes and supports projects that 'fit into' its dynamic and objectives. As of 2023, about 1 500 **projects have been supported by rev3**. Mechanisms and tools are put in place, notably by the CCI, to support such projects.[1] These include supporting organisations and enterprises to perform a feasibility or opportunity study for their project, support in the implementation of new business models (based on circular economy for instance); but also financing and investment support, notably through innovative financing solution (e.g. crowdfunding). A rev3 incubator[2] was also established to support the creation of enterprises and start-ups.

Tools for supporting economic diversification and reskilling/upskilling

The implementation of rev3 in the region also implies a transformation of jobs and therefore the implementation of lifelong training, as outlined in the rev3 referential for higher education and research.[3] Higher education institutions involved in rev3 are called upon to contribute to the development of skills among professionals involved in rev3 projects. Their involvement can take several forms, such as organisation of conferences, provision of expertise, dissemination of knowledge materials, co-design of innovative teaching methods, etc.

The region has competencies for employment support and training provision. It initiated a 'rev3 network of future professions' to mobilise the employment and training ecosystem around the anticipation of jobs and new skills required in the sectors in transition. This work requires influencing the training offer to adapt it to the qualitative and quantitative needs of companies, to facilitate the employability, to reinforce the attractiveness of the professions, to encourage guidance towards these high-stakes professions and to make skills a factor of economic and territorial attractiveness. For example, the region is financially supporting a new battery assembly site, which is expected to create 132 new jobs. This financial support will be directed towards the training the upskilling of employees.[4]

The rev3 dynamic is fostering job creation. A study from ADEME [5] estimated that jobs linked to the development of renewable energies in the region would be multiplied by four between 2015 and 2050, reaching about 31 000 jobs in this sector by 2050. Moreover, by 2035, from 2 000 to 9 000 jobs are estimated to be created in the traction battery recycling sector in France. The outlook for job creation in the biomethane sector in Hauts-de-France is 3 000 to 5 000 jobs over 10 years. In the solar sector in Hauts-de-France, 4 000 new jobs are estimated to be created by 2030.

1 https://rev3-entreprises.fr/ac ompagnements/
2 https://rev3-entreprises.fr/cr ateurs-de-projets/adn-accelerateurs/
3 https://rev3-entreprises.fr/wp content/uploads/sites/7/2019/05/ESR.pdf
4 https://rev3.hautsdefrance.fr uction_realisee/des-batteries-et-des-emplois-chez-psa-hordain/
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Key success factors and lessons learnt

Key success factors

The main success factor of rev3 is certainly the **shared governance approach** and the **strong partnership between public, private and academia**[6] that was established right from the beginning. This aspect was mentioned by all interviewees as a strength of rev3, and it surely contributed to the sustainability of the initiative over the years. Rev3 adopted a systemic approach that brought together previously 'closed worlds'. It encouraged the interaction of different types of stakeholders and cross-fertilisation. This dynamic combines citizens initiatives with local authorities' projects, business development with the structuring of future sectors and industries, the emergence of new skills and new professions within schools and universities with innovations from R&I centres.

This collective, bottom approach can be illustrated by the emergence and structuration of collectives of actors[7] at the regional scale, supported by rev3. Gathered around a common theme, these groups of stakeholders aim to identify new markets, opportunities and potential obstacles, to represent their common interest to public authorities, to take initiative for joint projects and create collective infrastructures, and to mobilise funding. Several collectives were formed in the region, such as CORBI, the regional operational collective for injected biomethane, which brings together players and structures involved in the development and support of biomethane production projects in Hauts-de-France. CORESOL can also be mentioned, the regional collective for solar energy, which aims to deploy this renewable energy in the rev3 dynamic.

The **systemic and integrated approach** embedded in rev3 is another factor of its success. This approach is reflected in the goals of rev3 themselves: each pillar of rev3 is interrelated to the others, and each pillar answers to the needs of the others, as highlighted in the sections above. This approach is also promoted more widely, as the growth strategy of the region: the objectives of rev3 aim to be mainstreamed in all regional policies and strategies (see the Outlook section below).

Moreover, the **territorial approach** taken by rev3 is another aspect that can be highlighted. The territorial anchoring of rev3 is based on the strong involvement of the regional and local authorities in the dynamic and in the various projects and initiatives implemented for the transition. Challenges such as sustainable mobility and circular economy need to be locally tackled, and this is where the territorial scale of rev3 is particularly relevant. This territorial approach is notably illustrated by the 20 demonstrator territories in the region. These are local territories that are mobilised in a collaborative and innovative way and joined the rev3 network of partners to benefit from exchanges on good practices, accelerating conditions for their projects and valorisation of their territories.

A successful example of rev3 demonstrator territory is the small city of Fourmies,[8] which initiated several projects in collaboration and co-construction with its population, such as the deployment of solar panels throughout the city or the creation of a repair-café.

Figure 3: Map of the rev3 demonstrator territories

Source: rev3 website

Other success factors of rev3 include the fact that it established a **model for transition based on innovation**, fostering technological transfer resulting in the creation of new activities and new jobs. For this matter, the inclusion of academic actors, such as universities, in the rev3 dynamic is a significant strength. The innovation fostered by rev3 is not only technological, but also societal and financial, with the promotion of new governance models or innovative investment and financing solutions.

Finally, **the narrative** promoted by rev3 can be seen as a success factor. Inspiring stories and successful examples are widely shared among the rev3 community and the rev3 approach is implemented by the project owners, demonstrator territories, local authorities, universities, who become ambassadors of rev3.

To conclude, the key strength of rev3 in the context of the just transition in the region of Hauts-de-France is that it laid the foundations for a new and operational economic development model. Rev3 is a marker of political leadership for the transition and industrial transformation in the region, and the dynamic established by rev3 over the past 10 years is an asset and a leverage for the just transition in the region.

6 The academic world is notably involved through the 'unirev3' network which gathers schools, university and research stakeholders around the challenge of sustainable development in the sectors of higher education and research.

7 https://rev3-entreprises.fr/collectifs-rev3/rejoindre-un-collectif-rev3/

8 https://rev3-entreprises.fr/wp-content/uploads/sites/7/2022/01/La-rev3-de-Fourmies_Des-transitions-qui-eclairent-lavenir.pdf

Scalability and transferability

Rifkin's third industrial revolution model was implemented in other parts of the world and in Europe, notably in the region of Rotterdam-The Hague and in Luxembourg, however without the same level of integration into regional policies. The third industrial revolution model is adaptable and should be seen as a tool to be appropriated on a specific territory and be adapted to its specificities, assets and constraints. Every territory can benefit from the experience of the other and vice-versa. It is an ongoing improvement process and regions can learn from every experience, even if it is developed on another territory.

Some aspects or components of rev3's dynamic which can be transferred and replicated into other European regions to support their transition include:

- the public/private partnership principle and the collective and bottom-up approach (described above as one of the main key successes);
- the development of informal and local collectives (or clusters) of actors around a specific theme or sector, to encourage synergies between different type of stakeholders around shared roadmaps for specific sectors (e.g. solar energy, biomethane, textile).

Key challenges

One of the weaknesses of rev3 is **lack of awareness and involvement of the general population in the rev3 dynamic**, despite great communication efforts made. Since its launch 10 years ago, the general public / civil society did not take ownership of the rev3 objectives and ambitions. Rev3 is little or even not known to the general public and it has spread much less in the southern part of the region than in the north, as all the maps of the location of projects or actions show. Reflections are carried out to improve this aspect.

Another weakness of rev3 is its **lack of indicators,** which makes it very difficult to measure the results and impacts of rev3 in the region. A dashboard to measure the progress is missing. The regional authorities are working on overcoming this barrier, as outlined below in the Outlook section.

Outlook

In its **roadmap for 2022-2027**, the region of Hauts-de-France outlines its commitment to make rev3 the backbone of regional action. The main objective for the region will be to integrate rev3 and its criteria into all regional policies and measures, as well as in the various regional plans and strategies to come. The roadmap addresses the key challenges and weaknesses identified and outlined above. For the years to come, rev3 aims to promote strategic and innovative sectors that create wealth and jobs, to reinforce its territorial anchoring, to promote and support training and R&I, and to improve citizens' engagement (in particular youth engagement). This undertaking will materialise, at the level of the regional administration, by the integration of rev3 into the internal organisation and functioning of the regional authorities themselves (by raising awareness among civil servants for instance). Moreover, a toolbox with monitoring tools and indicators is currently being developed by the region to ensure the mainstreaming of rev3's objectives into regional policies and to measure the progress and the contribution of the region's action to rev3's ambition.

A **foresight exercise** was performed by the rev3 community[9] for the period 2022-2032. After 10 years of continuous development of rev3, the foresight study initiates a discussion on the need to reconsider the overall approach and objectives. It highlights the necessity to integrate broader considerations into the relatively technology-centred model of rev3, such as social and justice aspects of the transition, and the preservation of nature and biodiversity.

Sources

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rev3 roadmap 2022-2027, communicated by a representative of the region Hauts-de-France.

Territorial Just Transition Plan of Hauts-de-France region (2021)

9 The 'rev3 community' was launched in 2021. The mandate of the association is to ensure the complementarity of rev3 with existing mechanisms by developing a triple role of reflection, proposal and initiative taking.