

# Regional profile

Nord-Pas-de-Calais, France



## Overview

	Nord-Pas-de-Calais	France
Size (km <sup>2</sup> )	12,414	549,086
Population	4,041,766	67,063,703
Population density	326.7 people/km <sup>2</sup>	
GDP per capita	€27,900	€35,000
Unemployment rate	12.1%	8.2%

Data on population and population density as of January 2020 from Insee (2020), on GDP per capita as of 2018 from Eurostat (2020), and on unemployment as of 2018 from Eurostat (2020).



## Electricity generation mix



**Nuclear**  
72.9%



**Fossil fuels**  
11.3%



**Renewables**  
24.9%

Data on electricity generation by source in France as of 2017 from U.S. Energy Information Administration.

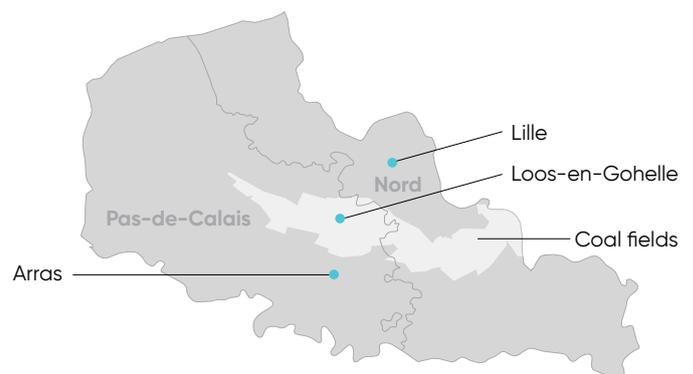
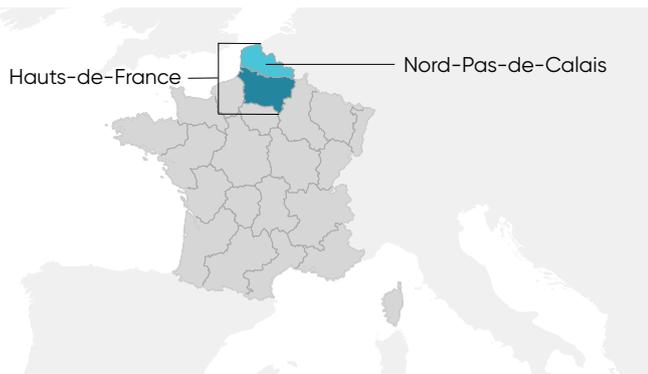


## Regional coal industry

At its peak in 1930, the **coal industry** of Nord-Pas-de-Calais employed **220,000** people

and produced **35** million tonnes of coal

Data for coal industry employment and production from Lopez, Pellegrino and Coutard (2019).



## Region highlights

Nord-Pas-de-Calais recently released an innovative master plan for a **carbon-free economy**.

Over the past 50 years, the region has taken ambitious measures to cultivate **new local industries**.

Loos-en-Gohelle provides a blueprint for successful **community-led energy transitions**.



## Interesting fact

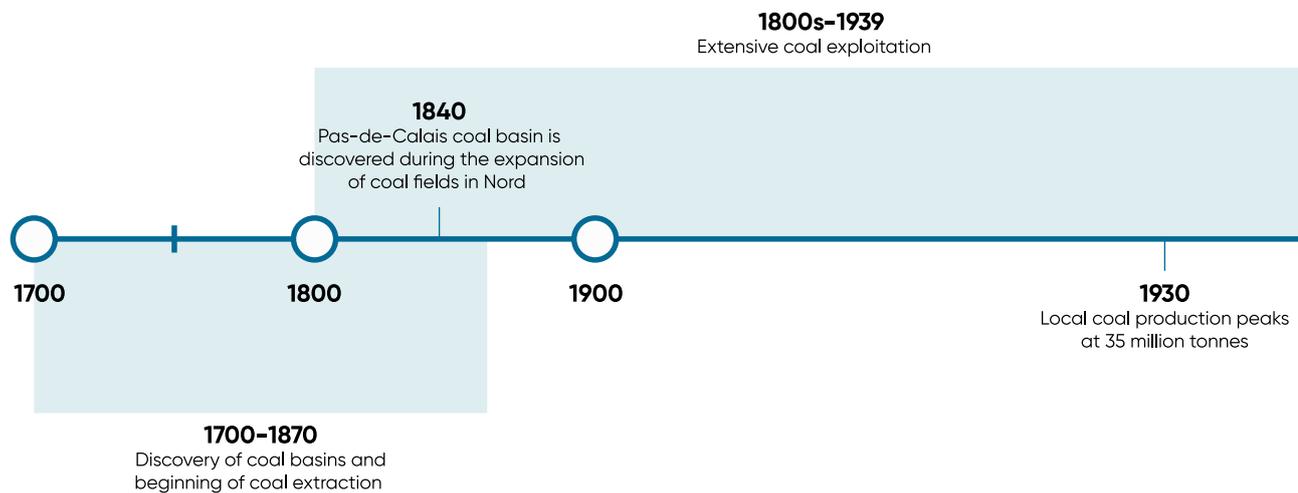


Today, there are **no active coal mines or coal power plants in Nord-Pas-de-Calais**.

*Keywords:*

*Third industrial revolution, regional master plan, innovative funding, community energy, UNESCO World Heritage Site, participatory governance, local energy planning*

## Nord-Pas-de-Calais in transition: key events in the coal phase-out



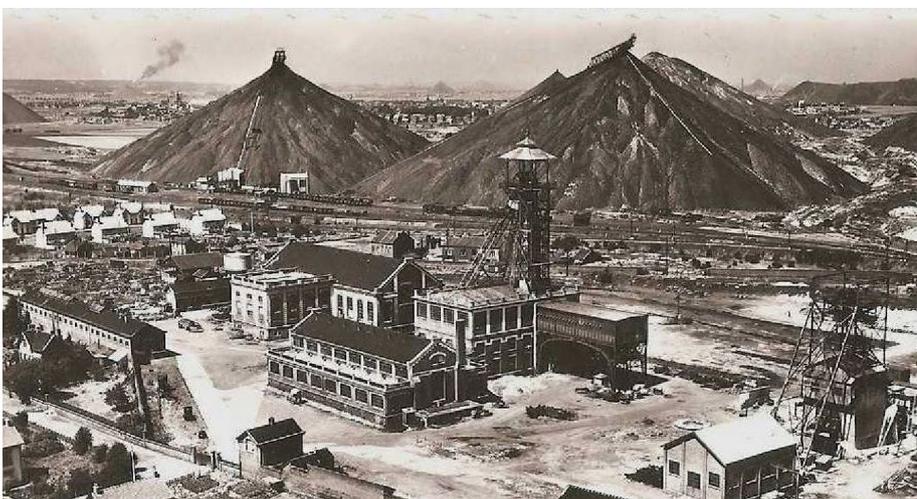
Nord-Pas-de-Calais is a former administrative region in northern France that consists of two sub-regions, Nord and Pas-de-Calais. In 2016, the French parliament restructured France’s administrative units, adopting a map that merged Nord-Pas-de-Calais with Picardy to form Hauts-de-France.<sup>1</sup>

Nord-Pas-de-Calais is the northernmost region of France and borders the English Channel, the North Sea, Belgium, and the French region of Picardy. It is the most densely pop-

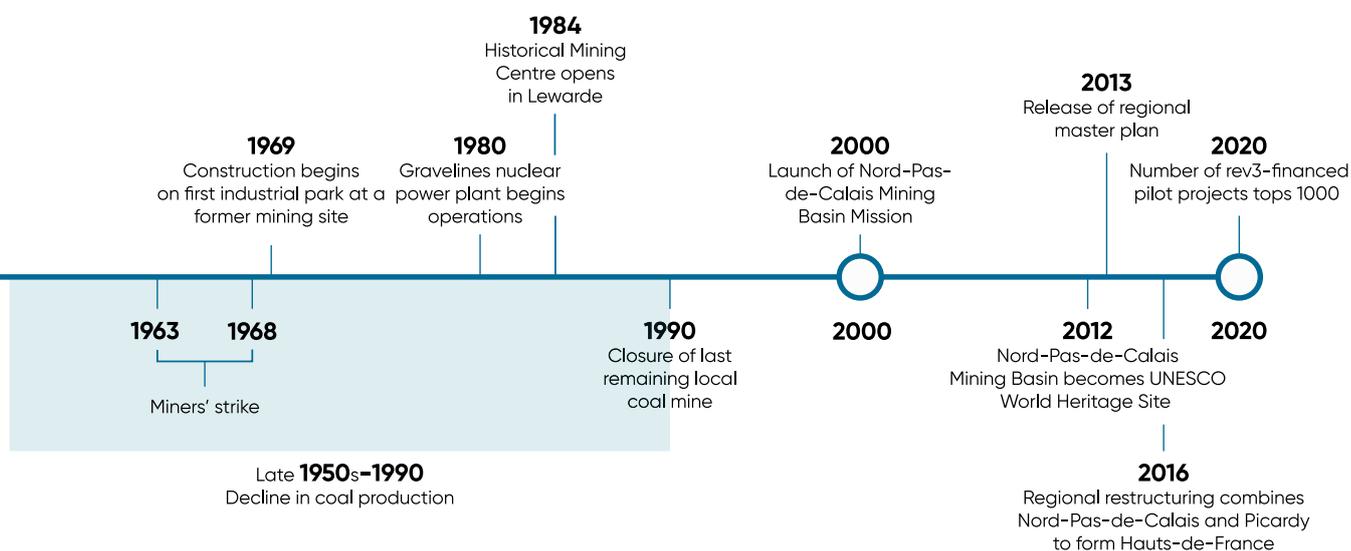
ulated region in the country.<sup>2</sup> Urban centres are home to 62% of the population in Hauts-de-France, and Nord-Pas-de-Calais is characterised by densely populated urban areas.<sup>3</sup> As in other areas of France, in recent years, residents of urban centres in Nord-Pas-de-Calais have relocated to lower-density suburbs outside the city limits.<sup>4</sup> The population of Nord-Pas-de-Calais has grown slightly over the past several years, compensating for the area’s negative net migration.<sup>5</sup> Although many young people are leaving

the region, the remaining population is relatively young: 39% of residents in Pas-de-Calais and 41% in Nord are under age 30.<sup>6</sup>

In the 19th century, Nord-Pas-de-Calais became an important industrial region for coal mining, steel production, and textile manufacturing.<sup>7</sup> Since the 1950s, the decline of these industrial sectors has had a significant impact on the region. However, through economic restructuring, Nord-Pas-de-Calais has cultivated new local sectors, from cultural and creative enterprises to waste management, transport, digital, and ICT industries.<sup>8</sup> Today, its industrial sector is dominated by railroad and automobile equipment manufacturing, metallurgy, agro-food, and non-mineral material extraction.<sup>9</sup> Employment statistics reflect this structural change, including the increasing relevance of the area’s tertiary sector: in 2016, regional employment in the service sector was 77.3%, but only 20.9% in the industrial sector and 1.5% in agriculture.<sup>10</sup> Despite the creation of new service jobs, the decline in the industrial sector has led to persistent unemployment, especially among younger age groups.<sup>11</sup> Partly due to this trend, regional GDP is below the national average.<sup>12</sup>



Coal pit in Loos-en-Gohelle, Pas-de-Calais, ca. 1930–1938.  
Source: Compagnie des mines de Lens.



## Coal production in Nord-Pas-de-Calais

Bituminous coal has been extracted in underground mines in the Nord-Pas-de-Calais area since the early 1700s. Beginning in the 19th century, production grew in lockstep with the needs of the industrial revolution, and the region was of major strategic importance during the two world wars. In 1930, Nord-Pas-de-Calais Basin reached its peak output with 35 million tonnes. At the end of World War II, the coal fields were nationalised, and a major modernisation and expansion project was undertaken.<sup>13</sup>

Coal production began to decline in the late 1950s due to the growing importance of oil and gas, the exhaustion of surface coal seams in the Nord-Pas-de-Calais area, and the opening of borders to cheaper coal from abroad. This led to massive strikes in 1963. In 1966, the basin still employed 65,000 workers. Two years later, however, the government declared that the production of coal would be reduced by half by 1975. Employment was frozen, and less profitable mines were shuttered one by one.<sup>14</sup>

Closures gradually continued after 1975. The government tried to counter swelling unemployment by converting many of the former coal fields into industrial parks. As mines closed, employment in rail and automobile industries was promoted as an alternative to coal<sup>15</sup> but failed to offset job losses.<sup>16</sup>

By 1980, only eight mining centres remained, and the entire industrial infrastructure surrounding the coal fields – coke plants, power plants, and wash plants – had begun to dissolve. Although Nord-Pas-de-Calais remains an important centre for industry, the area's last industrial activities related to coal ceased in 1993.<sup>17</sup>

Today, Nord-Pas-de-Calais is a major centre for energy production and has the third-highest per-capita energy consumption in France.<sup>18</sup> However, the region's energy mix has changed drastically since the 1950s: nuclear energy has gradually eclipsed coal-fired power generation.<sup>19</sup> The area's electricity is now provided mainly by the largest nuclear power plant in Europe.<sup>20</sup> In 2012, nuclear energy accounted for over 75% of regional electricity production.<sup>21</sup>

Local consumption of renewable energy in Nord-Pas-de-Calais remains below the national average. While France has increased the use of wood and hydropower since the 1970s, these energy sources are scarce in Nord-Pas-de-Calais.<sup>22</sup> Nevertheless, past energy experiments and demonstrations have taken place in the area: in 1991, France's first large wind turbines were installed in the community of Dunkirk, which also hosted the first Energy Transition Conference in 1999.<sup>23</sup>



Hauts-de-France is the first region with wind energy capacity in France, accounting for 27% of all national wind energy capacity.

Source: RTE (2019)

Nord-Pas-de-Calais produces renewable energy from its four hydroelectric turbines, 30 biogas production units, installed wind power capacity of 1,140 GWh/year, and installed solar capacity of 70 GWh/year.<sup>24</sup>

Regional carbon dioxide emissions in Nord-Pas-de-Calais are high due to road traffic, factories, and poor building conditions. The area consumes 58% more energy than the national average to produce one euro of GDP. This decreases regional competitiveness at a time when energy costs are rising. As a result, the area stands to reap significant benefits from a low-carbon energy transition that builds on existing local advantages, like the many innovative small and medium enterprises and research and development laboratories in the region.<sup>25</sup>

## Energy-transition opportunities and challenges

Early measures to counter unemployment and economic decline focused on developing industrial parks and attracting substitute industries

to the region. The Historical Mining Centre at Lewarde opened in 1984, becoming the country's largest mining museum and demonstrating the economic potential of the region's industrial heritage.<sup>26</sup>

In 2000, the Nord-Pas-de-Calais Mining Basin Mission was created as an overarching public organisation for managing and conserving the property. The Mission introduced multiple initiatives, including urban restructuring programmes and a management plan,<sup>27</sup> and played a crucial role obtaining UNESCO World Heritage status for the area in 2012. The basin serves as a monument to European industrialisation, with 353 elements (including mining pits, pit frames, spoil tips, railways, towns, schools, clinics, offices, and churches) distributed over an area of almost 40 km<sup>2</sup>.<sup>28</sup>

### Loos-en-Gohelle

In contrast to most of Nord-Pas-de-Calais, the coal community of Loos-en-Gohelle took early action to implement a sustainable transition process following the closure of the local mine.

Until 1986, Loos-en-Gohelle was one of the main coal-mining towns

in Nord-Pas-de-Calais. It is now considered a best-practice example of an energy transition that has successfully fostered sustainable development, renewable energy, and broad citizen participation.<sup>29</sup> Thanks to a systemic and participatory approach, the community has achieved positive economic, social, and environmental outcomes. Today, the city is a tourist destination and a centre for green research and development on topics including recycling management.

In 2012, the area was designated a UNESCO World Heritage Site. Since 2015, the area has been a member of a network of energy communities that aim to use renewable resources to supply 100% of their electricity by 2020 and 100% of their entire energy supply by 2050.<sup>30</sup>

### Third industrial revolution

Faced with the dual challenge of tackling climate change and promoting regional development, Nord-Pas-de-Calais drew inspiration from the concept of the 'third industrial revolution', which was developed by US economist Jeremy Rifkin.<sup>31</sup> In late 2012, the Nord-Pas-de-Calais region and the Chamber



Loos-en-Gohelle, a UNESCO World Heritage Site. [Source: Jérémie-Günther-Heinz Jähnck, CC BY 2.0.](#)

of Commerce and Industry of northern France commissioned Rifkin to develop a master plan for sustainable regional economic development.<sup>32</sup> The master plan, published in 2013, was the result of a nonpartisan process that integrated input from both the public and private sector.<sup>33</sup>

This process culminated in the creation of rev3, an initiative to accelerate the transition in Hauts-de-France in accordance with the principles of the third industrial revolution. Rev3 aims to generate job opportunities, facilitate regional economic development, and create a carbon-free society by 2050.<sup>34</sup> Its objective is to construct a smart, sustainable, and connected region that incorporates digitalisation, renewable energies, new economic models, and social innovation.<sup>35</sup> The initiative promotes cooperation between many actors and provides various network platforms, consulting services, and innovative financing models.

Rev3 projects are facilitated by a range of supporting programmes. These include Planning and Energy Program-

ming Studies (EPE), launched in 2015 to assist local authorities in defining an energy strategy consistent with rev3 goals.<sup>36</sup> The Smart Specialisation Strategy, created by Hauts-de-France through a public consultation process, focuses on stimulating development in seven key areas: materials, energy, ubiquity, transportation, health, farming and agro-industries, and images and creative industries.<sup>37</sup> The European Commission's Structural Support Action for Coal and Carbon Intensive Regions provides region-specific support and has selected Hauts-de-France as a pilot region for industrial transitions.<sup>38</sup>

Rev3 currently maintains an investment fund of €40 million, as well as a savings account of €17 million that enables citizens to support regional transformation projects. It has promoted 10 major structural projects and over 1000 pilot projects that integrate renewable energies, digitalisation, and new economic models.<sup>39</sup> Hauts-de-France has built on these efforts to become a showcase region for the energy transition.<sup>40</sup>



The rev3 investment fund provides up to **€40 million** for energy-transition projects.

*Source: Rev3.*

# Best practices for a just transition

The Institute for Climate Protection, Energy and Mobility (IKEM) is currently researching transition processes in coal-intensive regions around the world to develop a roadmap for the energy transition in eastern Germany and a toolbox with best practices to promote a just transition in coal-intensive regions. Insights from a broad range of stakeholders are crucial to our research in case study regions, which include Nord-Pas de-Calais, France; Western Macedonia, Greece; Southwestern Pennsylvania and Colorado, USA; and Lusatia, Germany. This ‘Just Transition Study’ is part of the broader WindNODE project and is sponsored by the German Ministry for Economic Affairs and Energy (BMWi) through the programme ‘SINTEG – Smart Energy Showcases’.

Last updated in July 2020



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