

VANNIER-AMANCE
WIND FARM

**2020
PRESS KIT**



The Vannier-Amance wind farm

The Vannier-Amance wind farm is located in the southeastern part of the department of the Haute-Marne (52). It will be composed of 17 wind turbines spread over 3 communes. The total capacity of the farm is 42.5 MW.

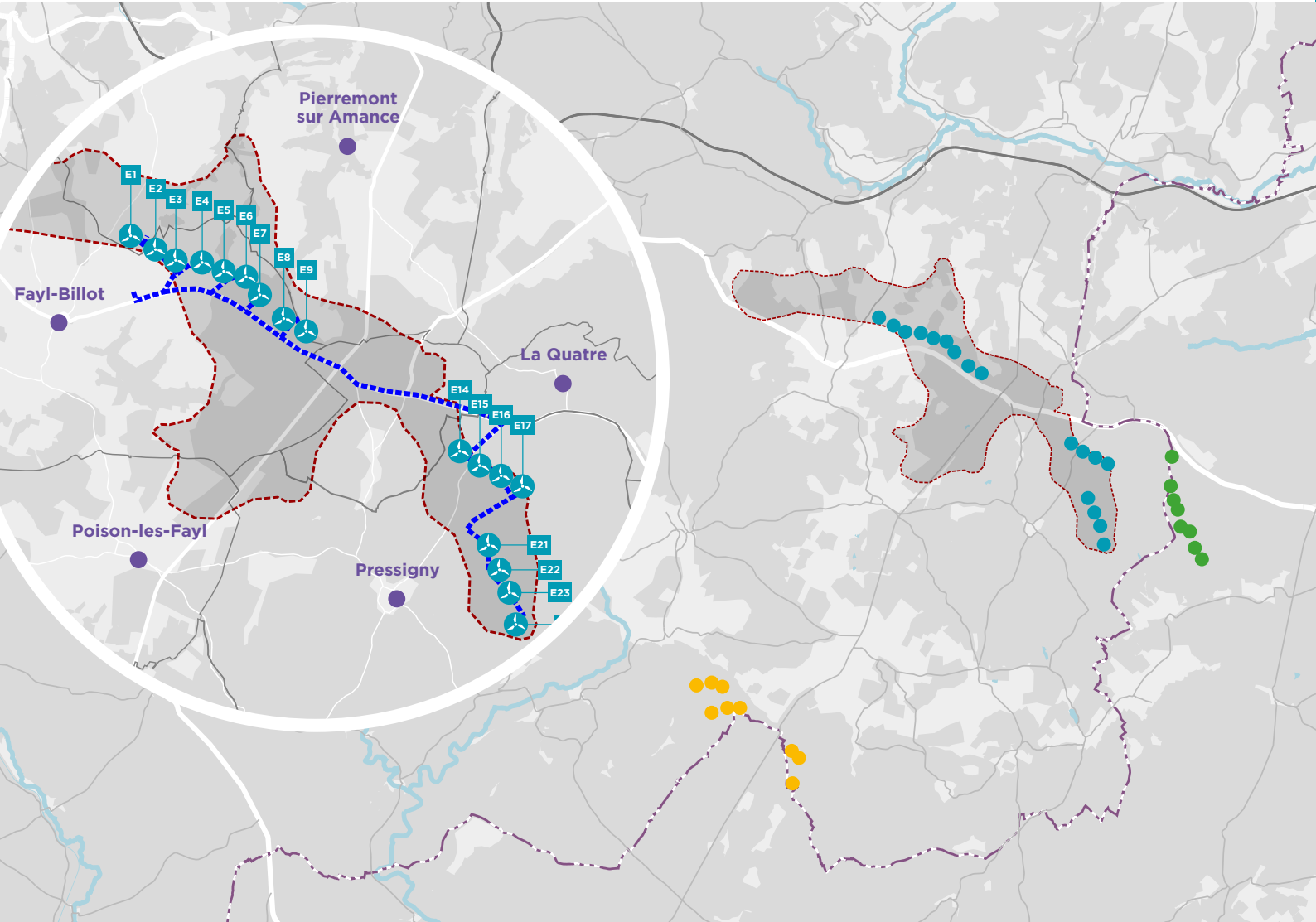
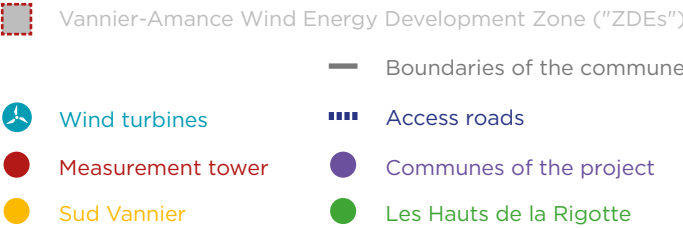
This farm is being built by Velocita Energies, and is the second French wind farm equipped with Envision Energy turbines. The construction started in February 2020, and is expected to be commissioned in early 2022.

The Vannier-Amance wind farm will produce 111 GWh per year, or the equivalent of the annual electricity output of 52,000 people.

The Vannier-Amance wind farm is part of a project to create a set of 3 wind farms that will ultimately be composed of 34 wind turbines with 85 MW of output. The construction of the two complementary wind farms named “Sud-Vannier” (South Vannier, with 9 turbines) and “Les Hauts de la Rigotte” (8 turbines) is expected from 2021.

Together, the three wind farms should produce over 220 Gwh, or the equivalent of the household consumption of 100,000 people, or 15.7% of the electricity consumption of all the sectors in the department.

Features of the wind farm



ID CARD



- 17** Envision wind turbines
2,5 MW each
- **42,5 MW** of installed capacity
 - Annual output of **111,6 GWh**
 - Electricity consumption of **52 200 personnes***



1 Grid connection station

* household electricity consumption, including hot supply water and heating (source: RTE 2012 and Insee 2013)

LOCATION



The wind turbines are spread over 3 communes:

- **Fayl-Billot** (8 wind turbines)
- **Pierremont-sur-Amance** (1 wind turbine)
- **Pressigny** (8 wind turbines)

In the territory of the Community of Communes of Savoir Faire

Envision Energy Wind turbines

The 17 Envision wind turbines that equip the wind farm are designed in China and meet all the European standards.

They are assembled with components designed by leading companies in the sector.



FEATURES OF ENVISION ENERGY TURBINES

- Unit capacity: **2,5 MW**
- Rotor diameter: **131 m**
- Tower height: **110 m**
- Blades: **65 m**
- Total height: **180 m** to the end of the blade tip

Power generation

The annual electricity output of the Vannier-Amance wind farm will reach 111.6 GWh, the equivalent of the domestic electricity consumption of 52,000 people. **The Vannier-Amance wind farm alone will thus produce the equivalent of the electricity consumption of the residents of Châlons and Langres.**

Operation and maintenance

Velocita Energies will operate the wind farm and conduct maintenance all throughout the entire life of the wind farm, for 25 years.

A dedicated electrical substation

Velocita Energies is currently building an electrical substation to connect the wind farm to the electric transmission grid. Located in the commune of La Rochelle in Haute-Saône, this infrastructure has a capacity of 120 MW. It will collect and increase the voltage generated by the wind farm to connect it to the electric transmission grid.



Project Schedule

2008

- Elected representatives of the communes launched wind farm feasibility studies, and thus continued to supervise the project

2009

- Installed two meteorological masts in the communes of Fayl-Billot and Pressigny

2010

- Launched acoustic and environmental studies

2012

- The prefecture of Haute-Marne validated the boundaries of the wind energy development zone

2013

- Submitted the construction permit application file

2014

- Public inquiry and examination

2015

- Decrees of the prefect authorizing the construction of the wind farm containing 17 turbines

2019

- The Court of Appeal of Nancy confirmed the authorizations

2020

- **February:** Construction work for the wind farm started

2022

- Full commissioning of the wind farm

2022-2046

- Wind farm in operation: production of renewable energy

A project initiated and backed by local governments



From the very beginning, the Vannier-Amance wind farm project has been backed by the Community of Communes of Savoir Faire, and its location was determined with local governments.

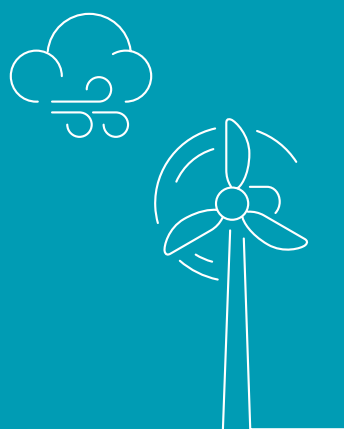
A project location determined based on the land use planning

As early as November 2008, elected officials decided to launch feasibility studies for a wind energy project in their territory.

They wanted to continue to supervise wind energy development by specifying the boundaries of the Wind Energy Development Zone ("ZDE") themselves. This zone, designed as part of the land use planning, was validated in 2012.

The 9 communes unanimously decided to validate the final boundaries.





The Grand-Est region, a dynamic player in the energy transition

The objective of the Regional Wind Energy Plan ("Schéma Régional Eolien") of the Grand Est region aims to install 4,470 MW of wind energy by 2020.

At the end of 2019, the region had 3,443 MW of installed wind capacity and was the leading region in France in terms of wind energy production, ahead of Hauts-de France and Occitanie.

With 42.5 MW of installed capacity, the Vannier-Amance wind farm will contribute to over 20% of the objective of the Haute-Marne department.

Wind energy, a renewable energy that is mature, competitive, and reversible

Wind energy now covers 7% of electricity consumption in France. With over 16 GW installed and an objective of 33 GW by 2028, the wind energy industry has benefited from enhanced performance and the steady decline in wind turbine production costs.

Wind energy is among the sources of electricity production that emit the least greenhouse gases.

As the wind turbines benefit from a high load factor, especially during winter months, they generate electricity 90% of the time in France.

With the meteorological data, their future electricity production can be accurately estimated.

A wind turbine has a life span of over 20 years. At the end of the operation of a wind farm, new machines may be installed, or the wind turbines may be dismantled so that the site returns to its original use.

90% of a wind turbine can be recycled, and a wind turbine compensates for the energy in its construction in less than 12 months.

A project developed via dialog and consultation

Velocita Energies has developed the project as part of its will to dialog and consult with local elected representatives, economic actors, and residents.

This discussion work lasted 11 years, during which the project was discussed and adjusted with local actors so that it best meets the needs of the territory and its inhabitants.

A steering committee, information meetings, and public meetings were set up during the follow-up of the "ZDE" and during the project development phase.



Harmonious and concerted integration in the landscape

Rigorous and independent studies

The impact study conducted by the Ingerop design office helped to enrich knowledge of the species present on the site, and to prove the absence of protected species in the wind farm.

To minimize the impact of the project on the species that live in the forest habitat, the monitoring of the avifauna was particularly rigorous, throughout an entire biological cycle.

- Several species were counted near the wind farm site. Most of these are commonly found species in the region (the fieldfare, starling, wood pigeon, and sky lark, for example).
- Based on their observations, the expert determined that the project zone is of moderate ecological interest for migratory birds, and of little ecological interest for nesting species.
- The studies conducted on Chiroptera revealed overall moderate activity in the project zone. The sectors comprising an attractive habitat for Chiroptera (edges of forests and wet valleys) have been completely excluded from the facilities. No roosts were found in the project zone.

An environmentally friendly project

The Vannier-Amance wind farm was designed with environmental conservation in mind.

The majority of the 17 turbines in the wind farm are located on agricultural crop and pastureland, and a small proportion of them are in hay fields, afforestation areas, and horticultural plantations.

Independent and experienced service providers conducted the environmental surveys. The environmental impact survey was steered by the Ingerop design office, with support from specialized design offices:

- The design offices CAEI Dijon, Bernard Frochot, and AXECO were solicited to conduct surveys on the flora and fauna
- The landscape survey was led by the Bocage design office
- The noise survey was the responsibility of the Venathec design office
- The hazard survey was conducted by ATER Environnement

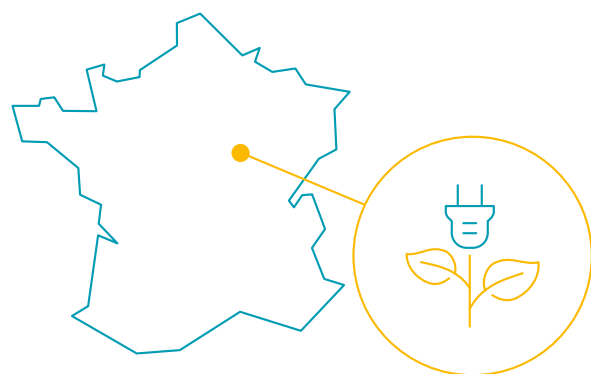
A project location determined based on the land use planning

The wind turbines will be installed around the existing transport infrastructure (the "RN19" highway) and the existing electricity infrastructure (the Pusy - Rolampont 225 kV line that runs across the Fayl-Billot plateau). The northern part of the territory is more rural and will not host any wind turbines.

The number of wind turbines and their location were determined with local actors.



A wind farm that creates value for the territory



Local support measures

During the 25 years of its operation, the 17 turbines of this wind farm will generate about **€530,000 annually in tax impact for local governments (communes, communities of communes, the department and the region), particularly via the flat-rate tax on network companies ("IFER")**.

By renting plots belonging to the communes on which 3 of the 17 turbines of the wind farm project are installed, these communes will also earn approximately **€18,000 of annual rental income**.

Significant local economic impacts

Approximately 15% of the investment (or close to €9M) will go to local companies for their subcontracted civil engineering, road, and electrical connection works. The construction and operation of the wind farm also boosts local businesses, particularly in the catering and accommodation industries.

Velocita Energies has given preference to **local companies** for the construction of this wind farm. When the expertise is there, **the majority of the companies selected for the implementation are from the Grand-Est region**.

Between 40 and 70 local jobs have been mobilized for the civil engineering portion (access roads, platforms, foundations, and connection). After the construction is completed, 4 technicians will be responsible for its maintenance and operation.

Residents benefit from the economic impacts of the wind farm

Velocita Energies wanted to involve residents and citizens as actors of the energy transition of their territory, and allow them to take advantage of some of the economic impacts of the wind farm at the same time.

In 2019 and 2020, Velocita Energies launched 3 participatory funding campaigns for the electrical substation, the construction of the Vannier-Amance wind farm, and the pre-construction surveys of the Sud Vannier and "Les Hauts de la Rigotte" wind farms.

The campaigns, totalling 5 million euros, allowed

residents of the Community of Communes of Savoir Faire and the communes affected by the project to have favorable loan terms.



Local support measures

Velocita Energies wanted to contribute to several local projects for the heritage, the landscape, and living conditions, which are led by the local authorities that are involved.

For example, Velocita Energies contributed to the renovation of 4 watering places in the Fayl Billot plateau to conserve the streams that white-clawed crayfish live in, and to the development of a wooded park composed of local tree species.

Ecological arrangements are planned, including planting several rows of hedges. This will be combined with monitoring by naturalists.

With the Community of Communes of Savoir Faire, Velocita Energies will also take part in the Rose des Vents industry area, to develop and encourage the development of a new economic hub where companies may establish themselves.

TESTIMONIAL

"Our rural territory has the energies of tomorrow: the sun and the wind. To fight climate change, we need an energy transition. The Community of Communes of Savoir Faire is committed to this.

All residents will also benefit from the economic impacts of the wind farm, because they will allow us to invest in development projects in our area, and to maintain and expand public services."

Alexandre Multon,
Vice President of the Community of Communes of Savoir Faire

Project leadership

● Artelia (Dijon-21)

DRC batches

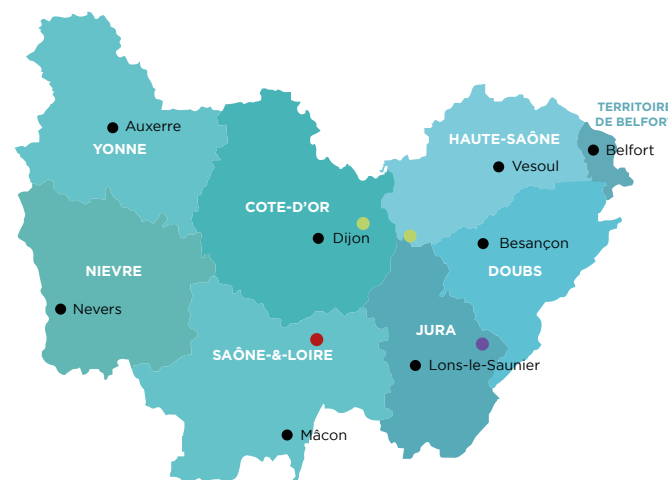
● Groupement Bongarzone TP & SAS (Poinson les Fayl et Saint Geosmes -52)

Civil engineering batch

● Eiffage Construction (Ecole-Valentin-25)

Ground improvement

Keller (Duttlenheim-67)



Projects that accelerate the energy transition

The Vannier-Amance wind farm is part of a set of three wind farms

that have 34 turbines in all
in the Community of Communes of
Savoir Faire in Haute-Marne.

- **THE VANNIER-AMANCE WIND FARM**
(17 wind turbines)
- **THE SUD-VANNIER WIND FARM**
(9 wind turbines)
- **“LES HAUTS DE LA RIGOTTE” WIND FARM**
(8 wind turbines)

The SUD VANNIER wind farm

The Sud Vannier wind farm is composed
of 9 2.5 MW wind turbines spread
over 2 Communes in Haute Marne : Tornay
and Belmont.

Power generation

The annual electricity output of the Sud
Vannier wind farm will reach 58.9 GWh,
the equivalent of the domestic electricity
consumption of 27,900 people.

“LES HAUTS DE LA RIGOTTE” WIND FARM

“Les Hauts de la Rigotte” wind farm is
composed of 8 2.5 MW wind turbines spread
over 4 communes in Haute-Saône: La Rochelle,
La Quarte, Molay, and Charmes Saint Valbert.

Power generation

The annual electricity output of “Les Hauts
de la Rigotte” wind farm will reach 47.8 GWh,
the equivalent of the domestic electricity
consumption of 22,300 people.



LA RIGOTTE SOURCE SUBSTATION

A transformer station is required for the set of
3 wind farms totaling 34 wind turbines.

This station directly injects the electricity
produced into the electric transmission grid.

The transformer station has a total capacity of
120 MW, and can inject the electricity from the
Vannier-Amance wind farm, and then from the
“Sud Vannier” and “Les Hauts de la Rigotte”
wind farms, into the electric transmission grid.



Velocita Energies was created in 2011 and
develops, builds, funds, and operates wind
farms in France. The company has 30 staff
members who combine all the skills to
complete a project, and to manage a wind
farm. Since 2016, Velocita Energies has been
part of the Envision Energy group, the world's
5th leading wind turbine manufacturer.

COMPANY HISTORY

2011

Took over the wind farm project
portfolio (700 MW)
from the energy supplier E.ON.

2015

In Franche-Comté, construction
began on one of the largest French
wind farms, with 54 turbines and 153
MW installed.

Velocita Energies in numbers

 **30** employees

 **193** MW of installed capacity

40 MW under construction

350 MW in development

 **300** millions euros invested

2016

Joined the Envision Energy group

2018 – 2019

Built two wind farms

- “Les Monts du Lomont” (Doubs)
- “Entre Tille et Venelle” (Côtes d’Or)


2020

Construction of the Vannier-Amance
wind farm



Envision Energy is a Chinese group that is
involved in all aspects of the energy transition.
The company was founded in 2007 and
offers solutions for wind and solar energy
production, for electric vehicle storage and
recharging, and for energy management
software.
With locations in Asia, on the American
continent, and in Europe, Envision has research
and development centers in Singapore,
Denmark, Germany, and the United States. In
2018, Envision was ranked as the 5th leading
turbine company, with a market share of 8% and
10,000 wind turbines installed worldwide.

Envision Energy in numbers

 **24** GW of installed wind power
capacity onshore and offshore

 **10000** machines installed
throughout the world

 **2000** employees
20% of them abroad

An in-house player in the **wind energy industry**

Velocita Energies combines the skills of a developer and the expertise of Envision Energy, a global leader in the design and construction of wind turbines.

This combination of developer and turbine company is completely in tune with the evolution of the electricity generation market, which is turning to bids more often. This allows Velocita Energies to integrate and manage all phases of the life cycle of a wind farm.

Project development

Velocita Energies supervises all of the stages of project development:

- Identification of sites
- Analysis of the natural energy
- Execution of environmental impact studies
- Requests for administrative authorizations and construction permits

Velocita Energies has 350 MW of projects in its portfolio now.

Velocita Energies thus offers all the skills to complete a project, and then to manage a wind farm once it is built. The company calls on the expertise of its staff (project managers, cartographer, operations manager, on-site technicians, and so on), and solicits the expertise of well-known design offices.

This presence throughout the entire chain of expertise enables the company to master the quality of its wind farms, and ensure a long-term commitment to its partners.



Technical and financial engineering

Velocita Energies handles the financial packaging of its projects by funding them with equity capital, bank loans, and crowdfunding.

Construction

In consultation with the actors of the territory and with priority given to local companies, Velocita Energies manages the construction of its projects. The company teams steer the construction projects up through their commissioning.

Between 2019 and 2021, Velocita Energies will build 3 wind farm for a total installed capacity of 100 MW.

Operation and maintenance

Velocita Energies operates and conducts maintenance for its wind farms, and offers this service on behalf of third parties.

Velocita Energies intends to increase its wind energy portfolio from 350 to 1,500 MW in 2023.

The levers that Velocita Energies uses to reach this objective are:

- Local development partners
- The acquisition of projects at any development stage
- The renewal of wind farms at the end of their operational period (repowering)
- The development of its own projects



Envision



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