CARBON

PHOTOVOLTAICS MADE IN FRANCE

BUILDING EUROPE'S SOLAR INDUSTRY LEADER

PRESS KIT

Two years after its official launch, **our project – Europe's biggest gigafactory for the manufacturing of photovoltaic wafers, cells and modules –** continues to successfully complete its development and set-up at the Grand Port de Marseille-Fos, in the Sud – Provence Alpes Côte d'Azur region.

BUILDING EUROPE'S SOLAR INDUSTRY LEADER!

CARBON is currently making great progress, with the aim of launching production in Fos-sur-Mer by the end of 2026. To fulfill this mission, CARBON can pride itself on being a collective adventure, with a strengthened team due to the arrival of experienced profiles from the industry and an ever-expanding industrial ecosystem.

The future looks bright for solar energy worldwide. The International Energy Agency predicts that solar power will be the world's leading energy source by 2050. As the 2nd largest market for solar energy and the birthplace of photovoltaics, Europe is well positioned to produce competitive, reliable, long-lasting, high-performance and low-carbon PV panels on its soil.

Meanwhile, Europe is challenged. The current context is marked by the damaging effects of global warming, geopolitical tensions that are upsetting world balances, and unfair trade practices that call into question Europe's strategic dependencies, as is the case for photovoltaic panels.

But Europe has also taken action, by supporting the green technology industry, banning all use of products made from forced labor on its soil, by tightening the eco-design regulations of its products... At last, these initiatives should help create the conditions of a fair, sustainable and responsible market, favorable to the European domestic industry.

Both the European Solar Charter and the French Solar Pact illustrate this new impulse for the photovoltaic industry, a major contributor to both our energy transition and our strategic autonomy.

« With carbon, our ambition is clear: **to regain control of our solar destiny**. We have put sovereignty, sustainability, competitiveness and innovation at the heart of our strategy **to build the european leader in the solar industry**. »

Pierre-Emmanuel MARTIN
President and co-founder of CARBON

CARBON'S VOCATION

CARBON's ambition **to build the European leader in the solar industry** is rooted in a **commitment to positive economic, social and ecological impact**, which encompasses three main dimensions:

1. Participating to the **decarbonization of our energy mix** globally

2. Contributing to **the independence and safety** of French and European **energy supplies**

3. Working towards **the green and sustainable reindustrialization** of France and Europe

Our industrial model is aimed at:
- **Sovereignty**, to strengthen our economy's strategic autonomy,
- **Sustainability**, to ensure the longevity of our responsible enterprise,
- **Competitiveness**, to conquer the French and European solar market.

No. 1 in the European solar industry by 2026

5 GWp
Production capacity/year

+ than 10 million
Photovoltaic panels/year

3-in-1 (vertically integrated), **5.0** and **100% electric plant**

45 ha including 290 000m² of industrial facilities, 60 000m² preserved for biodiversity

+4 million
tons eqCO2 avoided/year

3 000
Direct, sustainable jobs by 2027

1,7 billion euros
in investment over 4 years

A FIRST 5GWp GIGAFACTORY IN FOS-SUR-MER IN 2026

CARBON will set up its first vertically integrated gigafactory in Fos-sur-Mer, on a 45-hectare site within the Grand Port Maritime of Marseille-Fos.

AN INTEGRATED, EMPLOYMENT-CREATING GIGAFACTORY

Fully vertically integrated (3 in 1), the gigafactory will produce and **sell competitive, reliable, long-lasting, high-yield, low-carbon photovoltaic cells and modules,** primarily on the national and Euro-Mediterranean markets.

Each year, this gigafactory will produce 5 GWp of photovoltaic cells, equivalent to 10 million photovoltaic panels. With commissioning scheduled for the end of 2026 and ramp-up of production during 2027, the gigafactory's activities will ultimately create around 3,000 direct, sustainable jobs.

A LONG-TERM PROJECT

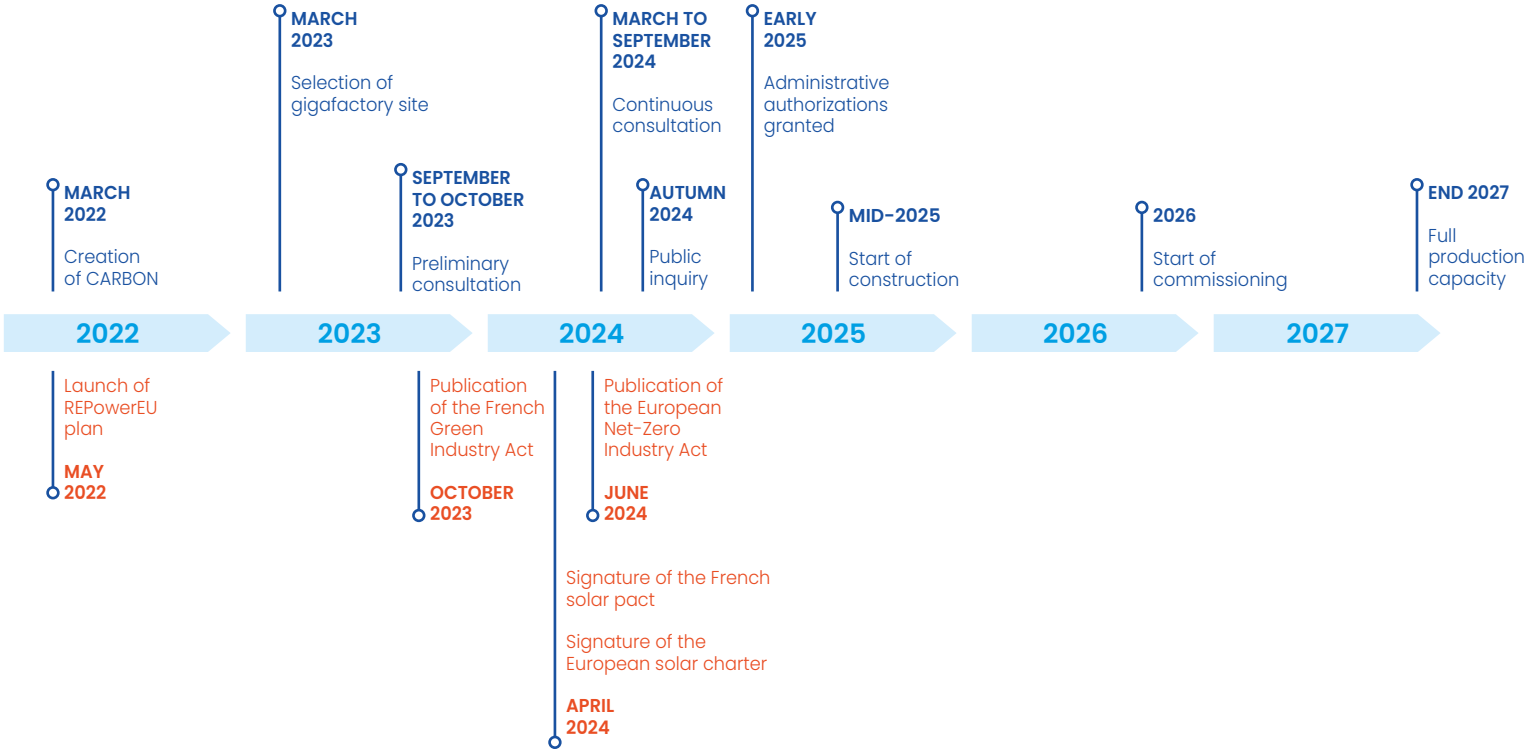
The construction and commissioning of this first gigafactory will be one of the first steps towards the reindustrialization of the French solar industry. Given the forecasts for energy consumption in France and Europe, electricity needs will continue to increase substantially, and the solar market will continue to grow dramatically. This is why CARBON is planning to set up new gigafactories to meet European needs and ambitions.

A STRATEGIC LOCATION IN FRANCE AND EUROPE

CARBON has chosen to base this first gigafactory in France, **in the industrial port zone (ZIP) of Fos-sur-Mer, within the Grand port maritime of Marseille (GPMM), in the Aix-Marseille-Provence metropolitan area, in the Sud - Provence Alpes Côte d'Azur region.**

Created by the French government in 1964 on a 10,000-hectare site, it is one of the largest ZIPs in Europe. It has become a real driving force in the national economy, home to the big names in the steel, energy and petrochemical industries, as well as two wind farms. Several industrial projects are underway in the area, particularly in the decarbonization and energy transition sectors.

PROJECT TIMELINE



PROJECT FINANCING

The total cost of the CARBON project is estimated at over **1,7 billion euros**, including around 1,3 billion euros for capital expenditure on the construction and equipping of industrial facilities alone. CARBON's financing strategy is based on a gradual increase in resources and assets through a mix of financing sources:

1. **Equity and quasi-equity capital raising** with public and private investors,
2. **Debt raising** with government guarantees,
3. **Tax credits and public subsidies** on a territorial, national and European scale, thanks to the support of local authorities, the State and the European Union:

- **Territorial:** The Sud region has already deliberated on an initial subsidy envelope and announces its support to the tune of 15 million euros. A « Fonds de Transition Juste » is also being processed.

- **National:** The French government is co-financing the project through various envelopes as part of the France 2030 program. CARBON is also eligible for the «green industry» tax credit (C3IV) and will benefit from the «research» tax credit (CIR).

- **European:** The European Union has been asked to co-finance the project, given its strategic role in decarbonization and innovation.

THE 4 PILLARS OF OUR SOVEREIGN, SUSTAINABLE AND COMPETITIVE INDUSTRIAL STRATEGY

CARBON's industrial strategy aims at achieving sovereignty, sustainability and competitiveness, relying on 4 fundamental pillars.

CHANGING SCALES

In order to become a competitive player in the solar industry, we need to **increase production volumes**. With this in mind, CARBON's goal is to operate on a gigawatt-peak (GWp) scale. This massification optimizes the production function thanks to significant **scale economies**, as well as the purchasing function thanks to a form of «market power» with suppliers with regard to quantities of raw materials and materials.

A 5.0 GIGAFACTORY

CARBON's first gigafactory will be built and operated according to the **principles of Industry 5.0: training, automation, robotization, digitalization and artificial intelligence**. By analyzing production data in real time, CARBON will be able to anticipate malfunctions and optimize equipment performance, constantly reducing production costs while guaranteeing and improving product quality.

VERTICAL INTEGRATING THE HEART OF THE INDUSTRIAL VALUE CHAIN

CARBON's industrial model is based on the **vertical integration of the entire chain of industrial stages, in order to control**:

- **Costs** (no transportation costs or intermediate margins);
- **Supplies** (no wafer or cell imports);
- **Innovation** (R&D to improve products and processes at every stage).

The **main stages of the production process** within our 1st gigafactory will be as follows:

1. Ingot growth;
2. Silicon brick cutting;
3. Wafer sawing;
4. Cell manufacturing;
5. Module assembly.

INNOVATING TO IMPROVE TECHNOLOGICAL AND ENVIRONMENTAL PERFORMANCE

CARBON plans to invest at least **3% of its total sales in research, development and innovation (R&D&I)**. The company aims at designing high-quality, eco-designed, high-performance, low-carbon, evolutionary products, as well as to constantly improve production processes.

CARBON has opted for **innovative, competitive European technologies tailored** to market requirements. By relying on latest-generation solutions such as monocrystalline ingots, N-type wafers, TOPCon and TOPCon back-contact cells (while already considering the transition to TANDEM), the aim is to achieve an **optimum yield/cost ratio and to further reduce the environmental footprint** (lowered CO2 emission, reduced consumption of raw materials, etc.).

CARBON is already working with **the best R&D centers** in Europe (ISC Konstanz, CEA-Liten, INES...) to unfold its **roadmap of incremental and radical innovation**.

3% of its total sales **in research, development and innovation**

BUILDING A EUROPEAN INDUSTRIAL ECOSYSTEM

CARBON intends to **spearhead a far-reaching reindustrialization of the upstream industry in Europe**, in terms of both raw materials and equipment. CARBON is committed to favoring **European products** whenever possible, and to encouraging **relocation in Europe** in order to build a sustainable industrial ecosystem.

The origin of raw materials is crucial, as they account for 2/3 of photovoltaic module production costs. In the same way, control over equipment is a **key to independence**, particularly in terms of intellectual property and the ability to innovate in terms of processes.

CARBON is working with several suppliers in order to select the most competitive materials, equipment and components, such as solar glass, aluminum and polysilicon, as well as the furnaces, machines and robots used in the manufacturing process.

The products manufactured by CARBON will meet the needs of French and European markets, therefore reinforcing France's position as a sustainable alternative to non-European production.

AN EXPERIENCED AND COMPLEMENTARY TEAM

CARBON brings together an international team of entrepreneurs, industrialists, engineers, researchers, consultants and experts in the solar sector, convinced of the need for energy transition to meet the climate challenge, and determined to create local jobs by helping to rebuild an entire industrial sector.

BOARD OF DIRECTORS

Pierre-Emmanuel MARTIN
Co-founder and President

Laurent PELISSIER
Partner and Vice-Chairman of the Board

MANAGEMENT TEAM

Nicolas CHANDELLIER
Managing Director

Sylvain JONOT
Financial Director

Étienne ROCHE
Commitment and Influence Director

Cécile GRENARD
Purchasing Director

Laurent VERGELY
Industrial Operations Director

Raffaella GIARDINO
Product & Innovation Director

Jérôme MARCHAIS
Construction & Project Coordination Director

Wouter OOGHE
Process & Equipment Director

Émilie CHALAS
Projects Manager

Baptiste COTTE
Sales Development Manager

CARBON'S core team already consists of around twenty employees, and the project team including our partners represents over sixty FTEs.

CARBON, A CATALYST AT THE HEART OF THE EUROPEAN ECOSYSTEM

CARBON relies on **key technology and innovation partnerships**:

- CEA-Liten (Laboratoire d'Innovation pour les Technologies des Énergies Nouvelles et les nanomatériaux du Commissariat à l'Énergie Atomique et aux Énergies Alternatives),
- INES (Institut National de l'Énergie Solaire),
- IPVF (Institut photovoltaïque d'Ile-de-France)
- ISC Konstanz (International Solar Energy Research Center Konstanz).

The company has surrounded itself with **recognized and experienced service providers and consultants** in the fields of legal support and financing for industrial projects, project ownership assistance and project management for industrial engineering, processes, equipment and architecture.

THEY ACCOMPANY US

terre et lac solaire · ECM GROUP · BECQUEREL INSTITUTE · RCT solutions · PULSE CMA CGM ENERGY FUND

cea liten · ISC research for a sunny future · ines INSTITUT NATIONAL DE L'ENERGIE SOLAIRE · IPVF

THEY SUPPORT US

esmc EUROPEAN SOLAR MANUFACTURING COUNCIL · SolarPower Europe · OFATE DFBEW · BSW GERMAN SOLAR ASSOCIATION

UFE Union Française de l'Électricité · ser Syndicat des énergies renouvelables · FRANCE renouvelables système électrique pilotable · Nouveaux Systèmes Énergétiques Comité stratégique de filière · Enerplan Syndicat des professionnels de l'énergie solaire

AuRA Digital Solaire · Capenergies

CARBON

PHOTOVOLTAICS MADE IN FRANCE

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Founding member of

ESIA European Solar PV Industry Alliance

Stakeholder in

La FRENCH FAB

Supported by

GOUVERNEMENT
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FRANCE 2030

RÉGION SUD PROVENCE ALPES CÔTE D'AZUR

LA METROPOLE AIX-MARSEILLE-PROVENCE

Marseille Fos
Le port euroméditerranéen

FOS SUR MER