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08 October 2026

Rebuilding the European solar value chain from quartz to cells

EU Solar PV is ready to scale

Dear Madam, dear Sir,

In 2024, Europe set itself the ambitious target of manufacturing 40 % of its annual solar demand at home by 2030 – roughly 30 GW per year – across the whole value chain. The target was meant to create resilience, jobs, tax income and technological ownership of the most affordable energy generation technology that exists.

Europe faces a strategic paradox: solar is the cheapest source of electricity available to European consumers, yet the technologies and components that create most of the value, know-how and strategic importance of the solar supply chain are almost entirely sourced from outside Europe.

This requires addressing structural supply-side gaps along the value chain and preserving critical industrial capabilities that may not be sustained by market conditions alone.

Chinese production is increasingly being relocated to third countries, while a growing number of countries are replicating the same model: generous industrial subsidies, protective measures, lower labour and environmental standards, and state-backed support throughout the value chain.

Rebuilding domestic manufacturing is not about protectionism; it is about reducing strategic dependencies and ensuring that the benefits of Europe's energy transition remain in Europe. Public support should therefore be targeted at addressing identified market and supply-chain failures, with a view to enabling competitive European manufacturing capacity rather than providing permanent protection from competition.

The undersigned companies are ready to close this gap. This paper sets out why it matters, what it costs, what it buys, and what we ask of the EU institutions and the Member States. You will read a summary in the first part of the paper; detailed information is given in the second part.

1. The benefits are large and stay in Europe. At 30 GW/a, a European value chain creates around 80 000 direct and indirect jobs, adds about 4 bn € per year to EU GDP and returns about

2 bn € per year in tax and social contributions – against a net support cost of about 3.2 bn € per year. It also brings the innovation of Europe's leading PV research labs back into European factories. More importantly, the discussion should not focus only on the cost of supporting European manufacturing. The real question is the cost of doing nothing: continued dependence on a single external supplier, loss of industrial know-how, and exposure to future geopolitical disruptions.

At 30 GW/a of EU module manufacturing

What a European PV value chain creates, and what the support costs net



Sources: Fraunhofer ISE / SolarPower Europe, PV NZIA Impact Study 2025 (jobs, tax revenue, support cost); J. Ind. Ecol. (2026) for GDP (30 GW/a scenario, 40 % of EU module demand); SolarPower Europe, Solar Production Equipment report (2025) for equipment makers (at least 38 companies).

2. Solar is Europe's cheapest domestic energy, and its supply is a security question. The 2022 gas shock stretched the band of EU day-ahead power prices to almost 27 ct/kWh; the closure of the Strait of Hormuz reminds us that this can happen again at any time. Deploying tens of gigawatts of solar every year is the fastest way out of this exposure – provided the hardware does not itself create a new single-source dependency. Europe cannot afford to replace one strategic dependency with another. The green transition will only strengthen Europe's energy security if the technologies underpinning it are supported by a resilient, diversified and competitive industrial base.

3. The cost is small and predictable. The higher cost associated with European-made components is offset by broader macroeconomic and employment benefits for the system as a whole. This additional cost is estimated to remain within the cost tolerance that the NZIA allows for resilience in auctions.

4. But Europe is missing integral parts of the value chain. Europe has more than 75 PV module assemblers, but only a handful of companies producing cells or gearing up to produce them at gigawatt scale (3SUN, Holosolis, MCPV) – plus one company producing tandem cells and modules at MW scale (Oxford PV) – one company building ingot and wafer capacity (Sunwafe), and one polysilicon supplier at scale (Wacker) with a second in build-up (RESILICON). The ingot step alone represents about 80 % of the value of a wafer, and the wafer 20–40 % of the value of a cell. Module assembly alone does not create resilience. The real industrial value, technological know-how and innovation capacity are captured upstream in polysilicon, ingots, wafers and cells. If Europe wants technological sovereignty, it needs the entire value chain, not only its final assembly stage. Supporting upstream capacity is therefore not about protecting individual producers, but about addressing a structural supply-side gap and preserving critical industrial capabilities that the market alone may not maintain. Europe is also at the forefront of next-

generation solar: the first perovskite-silicon tandem cells and modules were pioneered here. As such technologies enter large-scale commercial deployment by 2030, maintaining this lead will require a European value chain capable of manufacturing, scaling and market adoption.

Integral parts of the PV value chain are missing

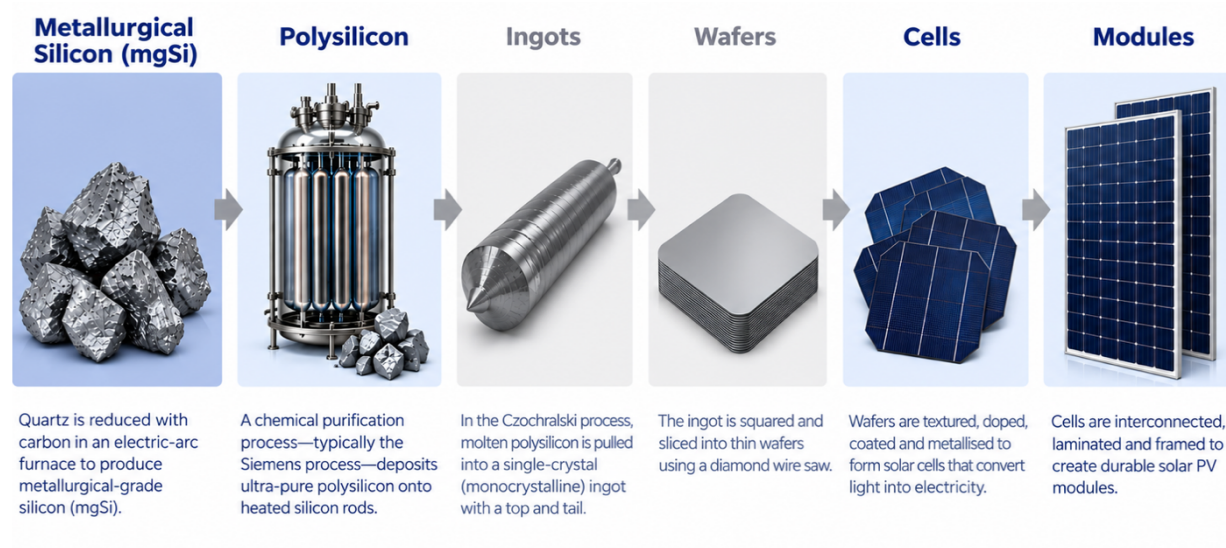


Figure 1 | Europe has production capacities mainly at the start and end of the supply chain. However, the crucial ingot and wafer stage is missing.

5. The industrial base is ready. Companies from Spain, France, the Netherlands, Italy, Germany, Sweden and the UK have concrete, dated investment plans for every step from quartz to module, backed by Europe's own equipment makers. Europe does not lack industrial projects. Investors are ready, technologies are ready and factories are ready. What is missing is a predictable market framework that values resilience, diversification, innovation and European production. Without clear demand signals, even the strongest industrial plans will remain on paper.

What you can do

We ask for three things.

1. A strong and swift Industrial Accelerator Act (IAA) with a strict definition of Made in Europe, earlier application, coverage of the full solar value chain within 5 years after the IAA has entered into force and the inclusion of European-made production equipment. To that end, we welcome the joint ITRE/IMCO/INTA rapporteurs' report.

2. Adequate market protection against systemic overcapacity, foreign subsidies and dumping, in line with the new overcapacity and diversification instrument. Adequate trade and market protection measures are essential not to shield European industry from competition, but to ensure a level playing field in the face of systemic overcapacity, state-backed subsidies and persistent dumping practices.

3. Financial investment and operating support to scale the full value chain, including next-generation solar, and to attract private capital, notably through the European Competitiveness Fund. This includes, where justified by the specific economic and market conditions of the industry, targeted and time-limited support for operating costs. Such support should address identified supply-side gaps and enable the development and retention of strategic European manufacturing capacity that would not otherwise be sustainable under current market conditions.

Only this will encourage private investors to back this critical value chain. The Industrial Accelerator Act is therefore more than an industrial policy initiative. It is a test of Europe's ability to transform its energy transition into industrial leadership, technological sovereignty and long-term economic security. The window of opportunity is closing fast – we need to act now.

Kind regards,



Christoph Podewils
ESMC Secretary General

on behalf of the signatory companies

Austria

AIT – research & innovation
DOMICO – PV façades
ecoplus Green Building Cluster – business agency
Lenzing Plastics – films & laminates
TPPV – technology platform
Welser Profile – racking

Belgium

Becquerel Institute – market intelligence
Belga Solar – modules

France

CEA – research
Holosolis – cells & modules
Voltec Solar – modules

Italy

Ecoprogetti – production equipment
FuturaSun – modules
Sunerg Solar – modules

Netherlands

RESILICON – polysilicon
Solarge – modules

Spain

CENER – research
Ingeteam – power electronics
MCPV – cells & modules
Mondragon Assembly – production equipment
Sunwafe – ingots & wafers

Spain / France

Ferroglobe – quartz & metallurgical-grade silicon

Germany

CS Wismar Sonnenstromfabrik – modules
FENECON – storage & EMS
Lapmaster Wolters – production equipment
M10 Solar Equipment – production equipment
Oxford PV – perovskite-silicon tandem cells and modules
PVA TePla – production equipment
RCT Solutions – engineering consulting
RENA – production equipment
SINGULUS TECHNOLOGIES – production equipment
Swift Solar – cells, modules, production equipment
Wacker – polysilicon

Sweden

Ferroamp – inverters & EMS
Midsummer – cells & modules, production equipment

Switzerland

3S Swiss Solar Solutions – BIPV systems

United Kingdom

GR2L – argon recycling systems
Oxford PV – perovskite-silicon tandem cells and modules

From quartz to cells and modules

Why Europe must rebuild the full PV value chain – and what it takes to get there

Overview of the European production value chain

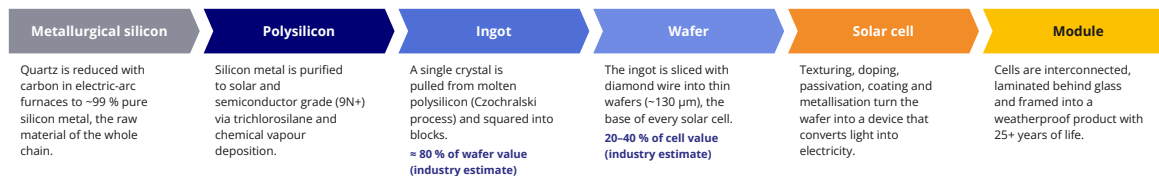
The signatory companies of this paper have joined forces in the ESMC Working Group Supply Chain – From silicon to cells (including equivalents such as perovskite PV and CIGS) – with the aim of delivering the NZIA target of manufacturing 40 % of solar

demand within the whole European solar value chain.ⁱ The group is not exclusive and other European companies may join. Figure 2 explains what each step of the chain represents and where Europe stands today; the map in Figure 3 gives the outlook on European production capacity, current and expected.

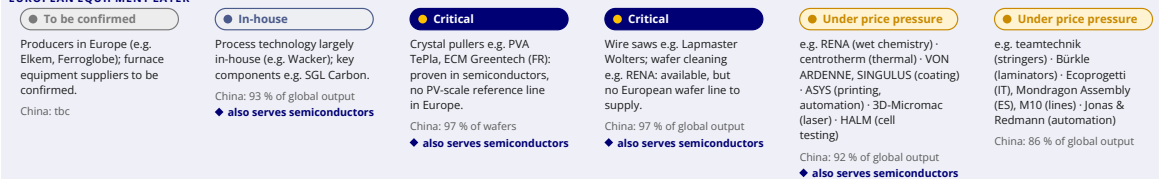
The PV value chain, the European equipment behind it, and the support it needs

From quartz to module: what each step does, where Europe's machine-building base stands, and which policy support is needed and why

VALUE-CHAIN STEP



EUROPEAN EQUIPMENT LAYER

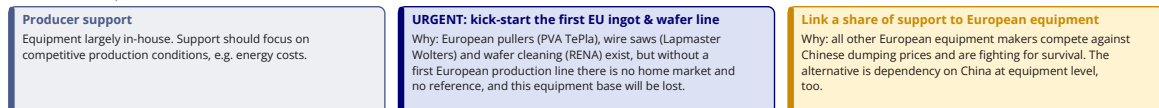


Across all steps: metrology, laser processing and automation

e.g. Wavelabs (DE), Pasan (CH) (testing) · Semilab (HU) (characterisation) · LPKF (laser) · Jonas & Redmann (automation)

Under price pressure ♦

SUPPORT NEEDED, AND WHY



Critical: no EU production line Competitive, under price pressure Largely in-house To be confirmed ♦ also serves semiconductors

Sources: CPIA via CSIS (2026) for China's 2024 production shares; SolarPower Europe, Solar Production Equipment (2025); VDMA / Fraunhofer ISE / ISC Konstanz PV equipment study (2026); company information. Company names are examples, not an exhaustive list (at least 38 European PV equipment makers). Value shares: industry estimates.

Figure 2 | The solar value chain step by step – what each stage is, its share of value, and Europe's position.

Source: ESMC Working Group Supply Chain, company announcements (Sept. 2026).

Figure 3 puts these plans on the map. Two things stand out: module assembly is spread across the whole continent, from Portugal to Finland –while the upstream steps that carry most of the value rest on a handful of sites: two polysilicon plants operating today and one announced, a single ingot-and-wafer project, and only a few cell projects at

gigawatt scale (3SUN operating, Holosolis and MCPV in build-up) – ca. 3 GW of cell capacity plus one tandem cell and module factory at MW scale operating today against 14 GW potential. These few sites are the backbone of the European chain; if the projects are not built, the 40 % target cannot be met.

Solar PV manufacturing in Europe

Potential annual production capacity in the next 5 years, by value-chain step (GWp/a)

Capacity by step, GWp/a

solid = operating today - hatched = announced / planned

Metallurgical-grade silicon

108 operating 108

Polysilicon

43

30 operating - 13 announced

Ingot & wafer

20.3

0 operating - 20.3 announced

Solar cells

13.8

3.3 operating - 10.5 announced

Modules

28.1

12.5 operating - 15.6 announced

Site capacity, GWp/a

Circle area scales with capacity (damped above 5 GW)

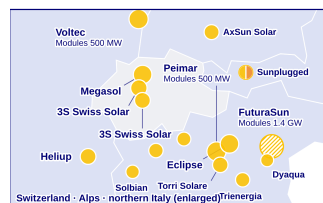
0.1 1 10 30

Split circles: several steps at one site.

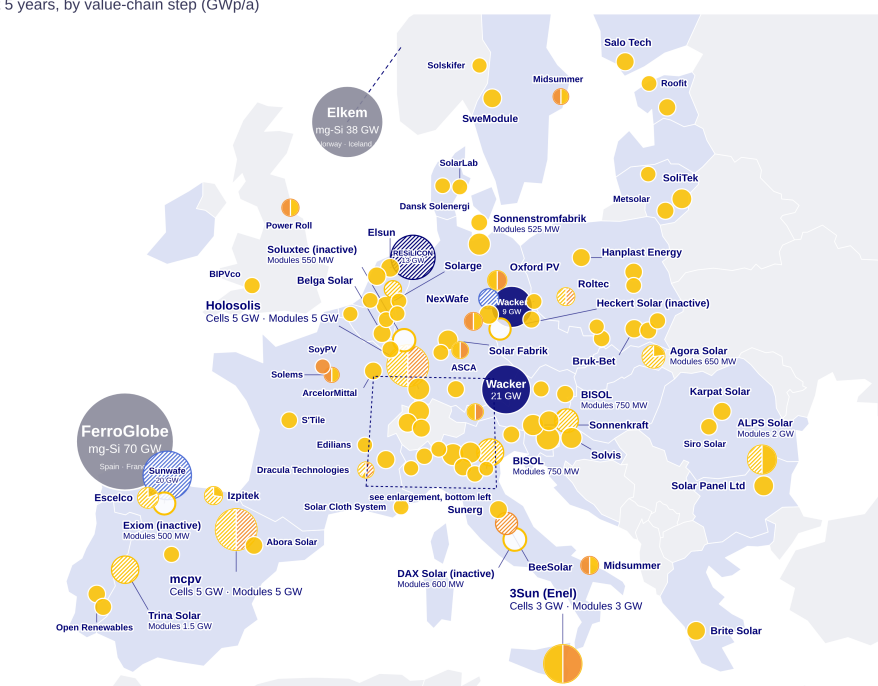
Capacities noted for upstream sites and module plants ≥ 500 MW.

○ Hatched: announced / planned capacity (map and bars).

○ Hollow: currently inactive.



esmc



Data: Becquerel Institute, ESMC/BI PV Industry Database, Sept. 2026 (factory-level capacities 2026 and announced / under-construction projects, MW); FerroGlobe mg-Si and RESILICON polysilicon added by ESMC. Marker area scales with capacity (operating plus announced at a site).

BEQUEREL INSTITUTE

Figure 3 | Solar PV manufacturing in Europe – potential annual production capacity in the next five years, by value-chain step and site. Source: Becquerel Institute (2026); ESMC survey of European module producers (2025); Fraunhofer ISE / SolarPower Europe (Sept. 2025), updated by ESMC (Sept. 2026).

Delivering on the Green Deal – energy security first

The transition away from fossil fuels is no longer a long-term ambition: it is an immediate economic and geopolitical

necessity. Dependence on imported gas and oil costs European governments and taxpayers hundreds of billions of euros every year in subsidies, price shocks and balance-of-payments deficits. We faced this

situation in 2022, with the beginning of Russia's invasion of Ukraine. We feel it every day now with the closures of the Strait of Hormuz and Bab-el-Mandeb, and attacks on the East-West pipeline. Unfortunately, we are going to feel the impact of these events more regularly in the years to come.

Energy bills for households and businesses remain structurally high and erratic, eroding competitiveness and purchasing power.

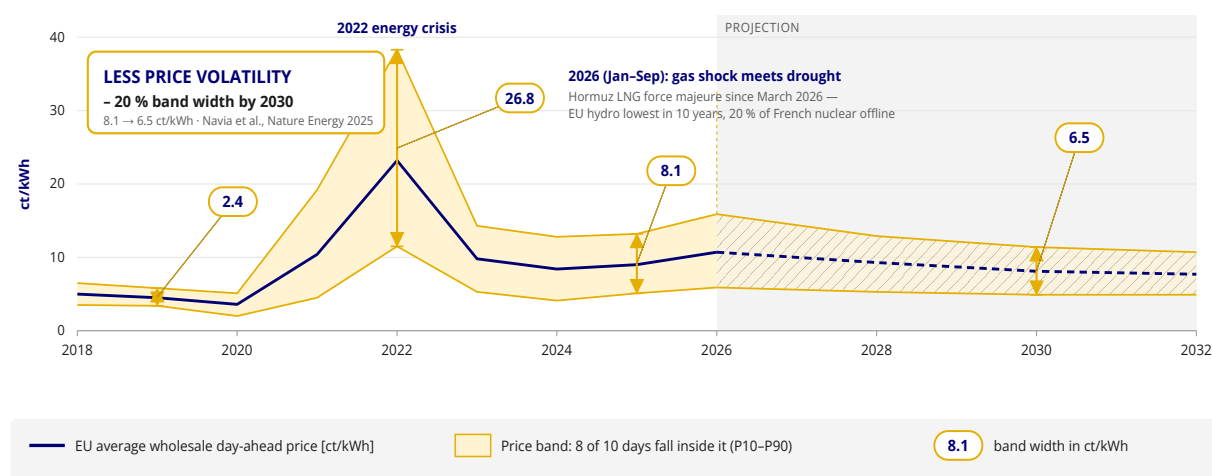
Beyond economics, this dependence leaves

Europe exposed to geopolitical coercion.

Figure 4 shows what this exposure looks like in the power price: in 2022 the band of daily EU wholesale prices widened to almost 27 ct/kWh; it has narrowed again with more solar and wind in the system, and the outlook is a band of about 6.5 ct/kWh by 2030 – but only if the build-out continues, and only if the hardware behind it is not itself a single-source dependency.

EU Power Price

Average wholesale day-ahead price across 25 EU bidding zones — measured 2018–2026, projected to 2032



Source: Ember / ENTSO-E day-ahead prices, unweighted mean of 25 EU bidding zones; band = P10–P90 of daily prices. Volatility outlook: Navia et al., Nature Energy 10, 329 (2025).
2026 = Jan–Sep and still inside the supply shock (Hormuz LNG force majeure since March, record heat and drought) — the projection assumes it unwinds.

Figure 4 | EU wholesale power price and volatility, 2018–2032 – the 2022 shock, and the narrowing band that solar delivers. Source: Ember / ENTSO-E day-ahead prices; volatility outlook Navia et al., Nature Energy 10, 329 (2025).

Electrification = Resilience

We urgently need to electrify our economy, as set out in the electrification plan

proposed by the Commission. In addition, we need to develop our electricity production to provide cheap electricity. Solar

PV is central to any credible answer, and achieving REPowerEU and Green Deal targets requires deploying tens of gigawatts every year – making a secure supply chain a matter of strategic necessity. Resilience is no longer a secondary consideration – it is the primary investment thesis. For Europe, this is both an urgent necessity and a rare structural opportunity: to build a competitive, technologically sovereign and sustainable solar industry before the window of opportunity closes. Europe risks structural underinvestment – and strategic marginalisation – if it fails to declare PV manufacturing an essential pillar of its economic security architecture.

European companies are ready to contribute towards achieving this goal and the 40 % NZIA target, which is roughly equivalent to 25–30 GW of annual manufacturing capacity, as soon as possible, covering the full value chain – including metallurgical silicon, polysilicon, ingots, wafers, cells, modules and equipment suppliers, as well as equivalent technologies such as perovskite PV and CIGS. In short, this strategy must be backed up by the unwavering commitment of European institutions and Member States.

Solar PV has one critical weakness: total import dependence

PV solar energy is cost-competitive, modular and fast to deploy – yet Europe relies almost entirely on imports for every link in the value chain: ingots, wafers, cells and modules. In the case of polysilicon, Europe holds 30 GW of capacity – but without a level playing field this European capacity is at risk of being lost. The EU remains vulnerable if only parts of the solar supply chain are reshored. Energy resilience is crucial for all other sectors of the economy.

China, India and the US have each deployed deliberate industrial policy tools to build and protect their own PV industries. We are not calling for protectionism – only for a level playing field and a Europe that remains strategically relevant, with a localised manufacturing capability of at least 40 % across the entire supply chain.

The scale of the task is clear: about 12 GW/a of module capacity operates in the EU today; the NZIA resilience goal corresponds to roughly 30 GW/a by 2030. Reaching it is a five-year industrial ramp – feasible with the plans listed above, but only under a reliable policy framework.

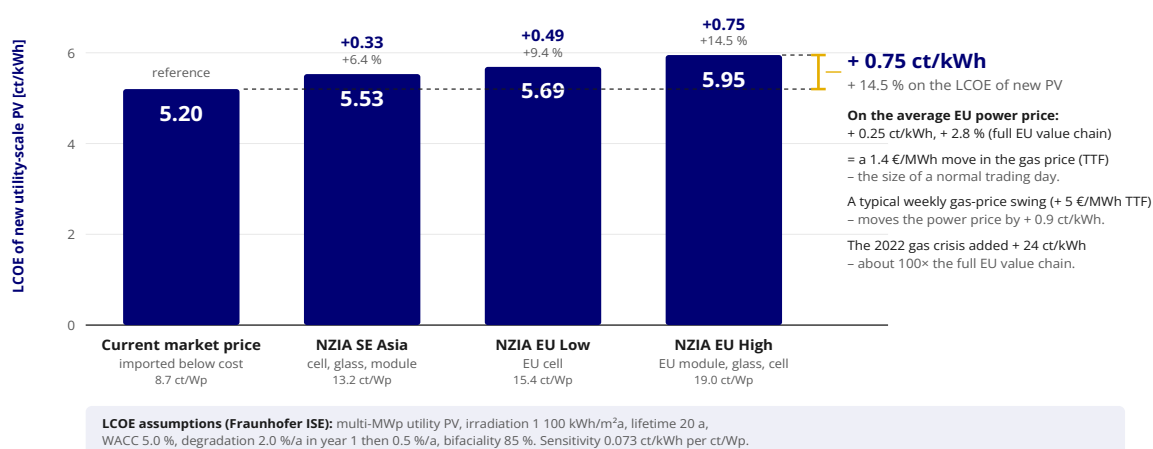
Reshoring PV manufacturing is necessary – and achievable

Prices of PV modules have seen a dramatic decline in the last few years. While the

decline was initially driven by innovation, it is now driven by Chinese overcapacity. As

What European PV manufacturing costs

Effect on the LCOE of new utility-scale PV — all four points published by Fraunhofer ISE / SolarPower Europe



Source: S. Nold et al. (Fraunhofer ISE) / SolarPower Europe, PV NZIA Impact Study, 42nd EU PVSEC Bilbao, 23 Sep 2025 — slide 48 for all four points.
Power-price effect: Ember / ENTSO-E (price level 2025), Fraunhofer ISE / SolarPower Europe (module cost steps), own calculation.

Figure 5 | Effect of a full EU value chain on the average EU wholesale power price: +0.25 ct/kWh, or +2.8 %. Compared to the effect of the 2022 gas crisis, this is almost nothing. Source: Ember / ENTSO-E (2025 price level); Fraunhofer ISE / SolarPower Europe (module cost steps).

recently stated by Fraunhofer ISE, Chinese PV modules are now sold below their production cost, at around 9 ct/Wp compared with a true manufacturing cost of 16–17 ct/Wp.¹

These low prices are therefore unsustainable and fragile. The Chinese government has taken new measures to reduce overcapacity (end of export VAT compensation in April 2026, higher minimum module efficiency, a 2 %

¹Fraunhofer ISE, "Reshoring solar module manufacturing to Europe: a cost gap analysis and policy

impact simulation" – Fraunhofer ISE, SolarPower Europe (2025).

consumption tax on PV, caps on power consumption, and more).

Low-cost Asian modules have made Europe's green transition cheaper than expected – a benefit Europe should continue to capture by keeping a share of low-cost imports. In parallel, however, the European value chain must be built now, so that it is in place when prices rise again.

The impact on the price of electricity per kWh is limited – less than 1 ct per kWh according to the Fraunhofer study, and about 0.25 ct/kWh (+2.8 %) on the average EU power price for a full European chain including European equipment (Figure 5).

The largest single item is not European manufacturing at all, but the end of below-cost pricing – the 7.2 ct/Wp by which Chinese modules are currently sold under their real cost, and which will disappear whether or not Europe acts. The genuinely European steps – cell-to-module, wafer-to-cell, polysilicon-to-wafer and polysilicon itself – add about 3.5 ct/Wp together, partly offset by saved transport and lower running costs.

Diversified and trusted supply chains inherently reduce exposure to geopolitical disruption, trade restrictions and unilateral

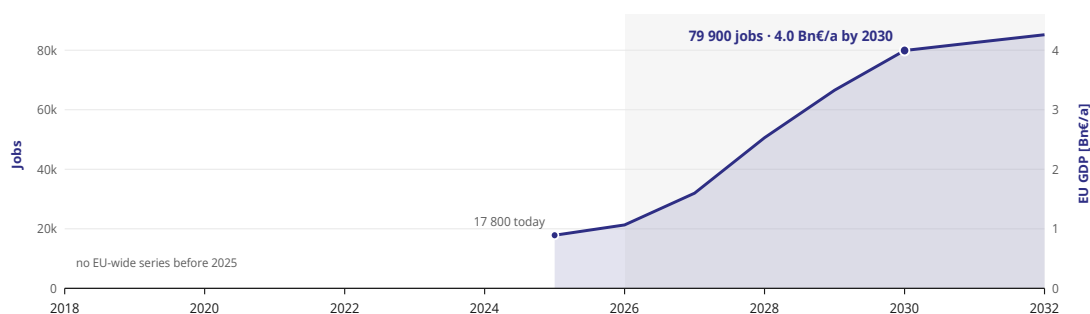
export controls. The cost premium associated with European manufacturing should be understood for what it is: an insurance premium. Measured against the systemic costs of supply chain failure – as experienced during the COVID crisis of 2020–2022, which generated hundreds of billions of euros in economic damage across Europe – this insurance premium is not expensive. It is simply rational risk management at continental scale.

Current market mechanisms systematically externalise the costs of supply chain concentration, geopolitical dependency and the hollowing out of industrial employment. These are quantifiable liabilities that the market currently ignores. Integrating resilience criteria into auctions and procurement processes – covering cybersecurity standards, supply chain transparency and origin diversification – would internalise those risks and allow European manufacturers to compete on genuinely holistic terms.

A market that prices only today's unit cost is not fit for an insecure world.

EU Solar Manufacturing Jobs

Direct and indirect jobs, and the EU gross domestic product they carry



Source: jobs from Fraunhofer ISE / SolarPower Europe, slide 52 (1 065 direct + 1 598 indirect per GW/a). GDP from J. Ind. Ecol. (2026), doi 10.1007/s44498-026-00175-0, for the 40 %-domestic scenario.

Figure 6 | EU solar manufacturing jobs and GDP contribution on the path to 30 GW/a. Source: Fraunhofer ISE / SolarPower Europe, PV NZIA Impact Study 2025; J. Ind. Ecol. (2026).

Economic benefits outweigh the costs

The initiative would create tens of thousands of jobs, generate significant fiscal revenues and have only a limited impact on electricity costs – solar energy remains fundamentally competitive.

A full supply chain producing 30 GW per year will carry around 80 000 direct and indirect jobs in the EU – about 2 660 per GW of annual capacity – and add roughly 4 bn € per year to EU gross domestic product. Total government revenues in tax and social contributions will be around 2 bn € every year, against a net cost of NZIA support of about 3.2 bn € per year (Figure 6).²

Reshoring the PV industry also brings

innovation back to Europe. We have strong R&D labs and leading innovative companies in Europe, but without industry we are unable to take full advantage of these capabilities. Let us bring back this industry to build the very things that we innovate.

The cost premium is therefore a cost on paper only: it is returned in equivalent measure through employment, additional GDP, the growth of know-how and internal synergies with the semiconductor, battery, space and defence industries.

²Fraunhofer ISE / SolarPower Europe, PV NZIA Impact Study, EU PVSEC 2025; GDP effect: J. Ind. Ecol. (2026),

doi 10.1007/s44498-026-00175-0. Figures scaled to the 30 GW/a scenario (40 % of EU demand).

Reshoring paves the way for innovation

Building domestic capacity does not mean decoupling from the rest of the world. It means building through international partnerships and structured technology transfers. We must create a complete ecosystem with short feedback loops that generate and support European innovations. Europe is at the forefront of solar innovation and can lead the solar industry once again.

The existing EU equipment industry is a key part of the ecosystem

Genuine technological sovereignty means Europe can not only supply, but also build and maintain the machines that make wafers, cells and modules. Although they

compete against Chinese dumping prices, at least 38 specialised European equipment manufacturers still cover almost every process step – and for several steps, European or Chinese suppliers are the only options worldwide.

Many also serve the semiconductor industry, so supporting them strengthens both the EU's solar ambitions and the Chips Act. If this competence is lost, so is Europe's ability to rebuild its own PV production. Urgently kick-starting a first EU ingot and wafer line – in parallel with the cell capacity that will absorb its output – and linking a defined share of manufacturing support to European equipment, with goals tailored to the maturity of European solutions at each step, would turn every new fab investment into a stimulus for Europe's own industrial base.

PV Production Equipment Producers in Europe

Selected European makers of PV manufacturing equipment, by value-chain step (headquarters or main site)

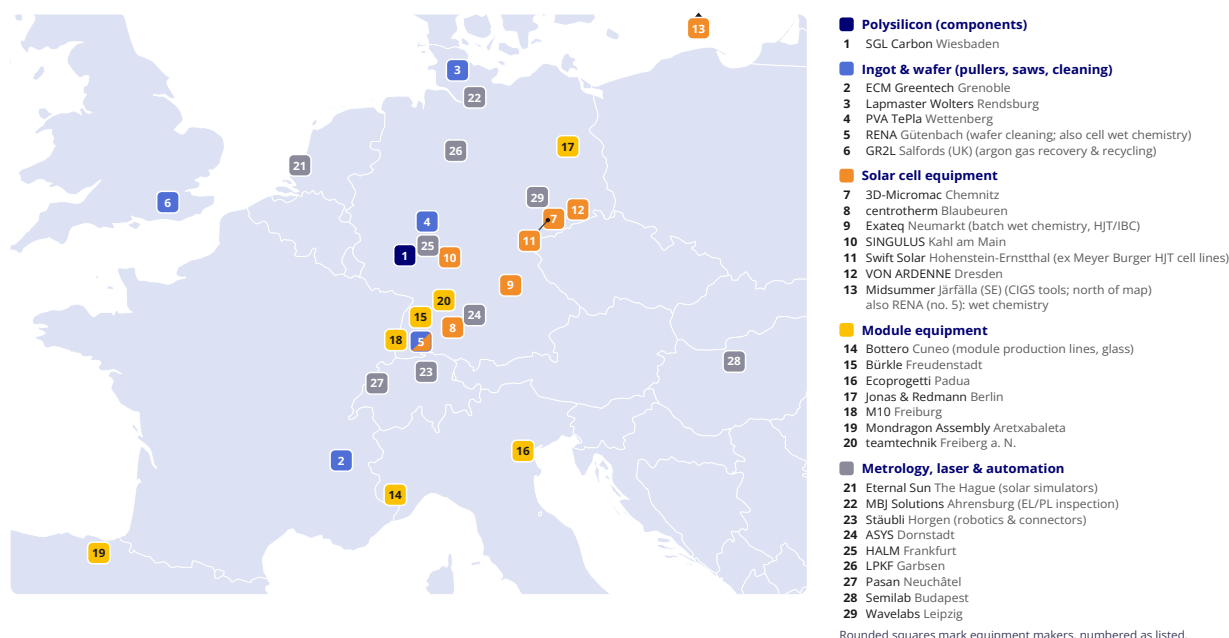


Figure 7 | Europe still has the machine builders for every step of the chain – selected PV equipment makers by value-chain step, headquarters or main site; not exhaustive. Source: ESMC, own data (2026).

Technological resilience requires not only resilient supply chains, but also the ability to produce, operate and maintain critical manufacturing equipment in Europe. While solar equipment production is currently largely concentrated in China, Europe retains significant capabilities, with the signatory companies and many others having contributed to the success of the European solar industry in the early 2000s. Reshoring 40 % of solar manufacturing to Europe would also strengthen the equipment industry, drive innovation and

improve efficiency. The specific targets and timelines for the different stages of the solar value chain, including manufacturing equipment, should take into account the varying levels of technological maturity and the availability of commercially viable European solutions.

Nor is European equipment a cost burden in the long run. Even at twice the Chinese purchase price, the higher capital cost is more than offset by 30–40 % lower running costs on labour and utilities: the net effect on the module is a saving of 0.2–0.5 ct/Wp.

It is time the EU uses the tools to make this happen

The EU has, in principle, a strong regulatory framework with the NZIA, CBAM and the Forced Labour Regulation, but these instruments are often watered down, rendering them ineffective. The Industrial Accelerator Act (IAA) offers the opportunity for Member States to support the PV industry; however, weak local-content rules and delayed implementation risk undermining Europe's goal of rebuilding a full photovoltaic value chain and strengthening energy security.

A weak *Made in Europe* definition would discourage Member States from supporting the domestic PV industry. It is vital for the European Union to fight for a level playing field, rather than slowing down Member States' willingness to contribute. We therefore welcome the proposed amendments by the rapporteurs of the three European Parliament committees. Furthermore, the full value chain should finally be covered, with all main components being Made in Europe from 5 years after entry into force. This is important to provide long-term visibility for the industry to make the necessary investments, as the elements of the value chain depend on each other.

Solar manufacturing is an OPEX-driven industry: the decisive cost factors are energy, materials and labour, not the initial investment. CAPEX support alone may therefore not always be sufficient to address the economic conditions affecting the competitiveness and scaling-up of European manufacturing capacity. New support schemes such as the European Competitiveness Fund must be designed so that operating support becomes usable.

Call for action

This paper is intended to draw the attention of European stakeholders to the following points:

- 1. Strengthen and swiftly implement the regulatory framework, notably the IAA**, with the purpose of creating a market for the companies in the EU solar value chain. Regarding the IAA, this means (i) a stricter definition of *Made in Europe* – *Made in Europe* must mean made in *Europe*, and not be broadened to include the many non-European countries that have signed a Free Trade Agreement; (ii) entry into effect as soon as possible, and not only after three years; and (iii) coverage of the full solar value chain – not only two elements – within a defined timeline. Support the proposed amendments by

the MEPs, but add a final stage covering the full value chain within 5 years after entry into force.

2. **Provide adequate market protection measures** to protect against vast systemic overcapacity, massive foreign subsidies and dumping policies. Market protection and safeguard instruments should be considered and employed, in line with the new overcapacity and diversification instrument.

3. **Provide financial and operating support** to facilitate the industrial

scaling of the full value chain and to attract private investors, e.g. through the forthcoming European Competitiveness Fund.

The stakes are clear. The industrial base is ready to scale.

What is required now is political will. The cost of inaction – measured in lost sovereignty, strategic dependency and foregone industrial capacity – is orders of magnitude higher than the cost of acting today.

The window of opportunity is closing fast – we need to act now!



BIPV systems



Research & innovation



Market intelligence



Modules



Research



Research



Modules



PV façades



Business agency



Production equipment



Storage & EMS



Inverters & EMS



Quartz & metallurgical silicon



Modules



Argon recycling systems



Cells & modules



Power electronics



Production equipment



Films & laminates



Production equipment



Cells & modules



Cells, modules, equipment



Production equipment



Tandem cells & modules



Production equipment



Engineering consulting



Production equipment



Polysilicon



Production equipment



Modules



Modules



Ingots & wafers



Cells, modules, equipment



Technology platform



Modules



Polysilicon



Racking

ⁱThe working group "Supply Chain Si-Cells (manufacturing of mg-Si to Si-cells)" – in short "From silicon to cells" – was created under the umbrella of the European Solar Manufacturing Council (ESMC) after the founding companies decided at Intersolar Europe, Munich (June 2026), to collaborate with the aim of delivering the NZIA target across the whole European solar value chain. The working group is not exclusive; other European companies in the solar value chain are welcome to join. Contact: European Solar Manufacturing Council (ESMC) AISBL, Brussels · podewils@esmc.solar