

POLICY PAPER - December 2025

Europe-China: A New Joint Venture Strategy for Cleantech



At a time when the energy transition has become an instrument of global geo-economic competition, Europe faces a strategic paradox: demand for cleantech has never been higher, yet its ability to control the associated value chains has never been more fragile. In solar, batteries, wind, and electrolyzers, Europe's dependence on China is truly structural: Beijing not only dominates global supply chains, it is now directly establishing industrial capacity across the world with the same asymmetry that characterizes its trade strategy.

While the United States embraces an unapologetically aggressive industrial reconstruction agenda, Europe continues to approach market access and industrial partnerships through frameworks designed for a world where competition was neither so coordinated nor so concentrated. In an environment marked by massive subsidies, chronic overcapacity, and systemic distortions, insisting that “the market should decide” is increasingly equivalent to allowing others to decide for us.

Industrial strength and independence cannot simply be proclaimed—they must be deliberately built. This paper argues that Europe does in fact have powerful levers at its disposal, if it chooses to activate them swiftly and coherently. Requiring EU-majority joint ventures in critical sectors; structuring their governance; aligning public funding, competition rules, public procurement, and investment screening; strengthening local content requirements in strategic projects: these proposals are neither protectionism nor isolationism, but economic realism in the face of the shifting rules of international trade.

In continuity with our work on economic security and industrial decarbonization, this study defends a simple idea: there is no inevitability in allowing the technologies of the transition—the technologies that will define industrial power in the decades ahead—to be designed, built, and governed elsewhere. We have become what China once was in our eyes: a land of economic conquest. It is time to aim for what China has become today: a power capable of shaping economic outcomes. Industry is the instrument. Clarity of purpose is the prerequisite.

Marie-Pierre de Bailliencourt,
Institut Montaigne's Managing Director

In order to secure its clean energy future, Europe is pursuing a new industrial strategy aimed at balancing openness to Chinese investment with safeguarding European technological sovereignty. Faced with China's dominance in batteries, solar photovoltaic (PV), electric vehicles, and other cleantech, EU policymakers are exploring tools to ensure that foreign investments benefit Europe's economy, technology, and security.

A key measure under discussion is conditioning foreign investment in strategic sectors on **joint ventures (JVs) with EU-majority ownership**, local management, technology sharing, and supply-chain localization. This approach echoes a recommendation from Institut Montaigne that *access to the European market in China-dominated sectors should be made contingent on 50 percent local content requirements and European-majority-owned JVs to localize value chains*.¹ This would mark a significant shift from Europe's historically open investment regime.

The rationale behind this recommendation is three-fold:

- 1. Industrial sovereignty**—Europe risks being reduced to an “assembly-only” role while China dominates upstream production, particularly in solar wafers, lithium-ion batteries, and rare earth processing.
- 2. Competitiveness**—Chinese cleantech benefits from state support and lower production costs, making EU-produced technologies more expensive (20–50 percent higher for solar PV, 30–40 percent for wind turbines, ~40 percent for batteries). JVs could allow Europe to capture know-how and reduce cost gaps over time.
- 3. Data and security**—China's regulatory environment raises the risk of sensitive data exposure if critical infrastructure is reliant on Chinese technology.

The EU needs to **complement the Net-Zero Industry Act (NZIA) and Critical Raw Materials Act (CRMA)**, which set local production targets and limit overreliance on single foreign sources, with **a JV strategy that should be at the heart of Clean Industrial Deal implementation**.

CHINA'S JV STRATEGY AND ITS IMPACT ON CLEANTECH

China has historically used joint ventures (JVs) as a tool of industrial policy. Since the era of Deng Xiaoping's Reform and Opening-Up, foreign investors have only been allowed market access via JVs with Chinese partners, typically capped at 50 percent foreign ownership and often paired with state-owned enterprises. This strategy ensured technology transfer, skills development, and domestic capacity building, turning foreign firms into “schools” for Chinese innovation. Over time, as domestic capabilities matured, China lifted JV restrictions in sectors such as the automotive industry, highlighting the strategic, temporary nature of the JV requirement.

In practice, most high-tech Sino-European JVs in China exhibit a pronounced asymmetry: European companies hold minority stakes in about **80 percent of cases**, state influence is present in roughly a quarter, and technology transfer is often an explicit objective. This asymmetric openness ensures that foreign firms provide technology and know-how, while Chinese partners localize production and build domestic capacity.

This has tangible consequences for Europe. While European firms face restrictions when entering China, Chinese firms such as CATL and BYD are establishing factories in Europe—sometimes wholly owned—while retaining control over critical technology and operations. In batteries, solar PV, and wind, Europe risks becoming dependent on Chinese technology and supply chains. Without strategic conditions, European investment can unintentionally support China's industrial objectives, providing jobs locally but leaving decision-making, intellectual property (IP), and key manufacturing abroad.

¹ Joseph Dellatte, *Cleantech: Reducing Europe's Strategic Dependence on China*, Institut Montaigne, July 2025, <https://institutmontaigne.org/en/publications/cleantech-reducing-europes-strategic-dependence-china>.

Europe faces a strategic choice: continue doing business as usual, accepting Chinese trade conditions and Chinese investment with minimal conditions, or adopt a strategic approach that mirrors China’s playbook—requiring **EU-majority ownership, local content, and governance safeguards in critical cleantech sectors**. This approach underpins the emerging EU strategy to correct structural imbalances, secure supply chains, and strengthen technological sovereignty.

EXISTING SINO-EU CLEANTECH JOINT VENTURES

Sino-European JVs in cleantech on European soil are growing but remain **ad hoc and heavily skewed toward Chinese control**. Across batteries, solar PV, wind (magnets), hydrogen electrolyzers, and electric vehicles, most partnerships feature **Chinese-majority ownership, technology dominance, or assembly-only operations**, with few safeguards to benefit Europe.

Out of roughly forty Sino-EU cleantech JVs in Europe, **only seven have EU-majority ownership**, about twenty-five are Chinese-majority-owned, and most others are 50/50 or unclear. The lack of JV requirements has meant that Europe is subsidizing assembly capacity without securing **technology transfer, R&D influence, or localized supply chains**, thus risking being consigned to an “assembly hub” role while China captures most of the value.

Structure of Sino-European Joint Ventures on European soil

Type of Joint Venture	Number of Cases
EU-majority	7
Chinese-majority	Around 25
50%-50%	3
Predicted to be 50%-50%	4

THE LEGAL GAP IN EUROPE’S FRAMEWORK

The EU currently **lacks a clear legal mechanism** to require majority European ownership in JVs with Chinese investors. The existing frameworks—**Foreign Direct Investment (FDI) screening, merger control, subsidy rules, and public procurement**—are primarily reactive and designed for national security, competition, or anti-subsidy purposes, not proactive industrial policy.

- **FDI screening** covers acquisitions and some greenfield investments but cannot mandate JVs; it mainly addresses security risks and is applied on a case-by-case basis.
- The **Foreign Subsidies Regulation (FSR)** can scrutinize large, subsidized JVs, but the thresholds are high, and it focuses on subsidy mitigation, not ownership or technology control.
- The **EU Merger Regulation** reviews full-function JVs for competition concerns, not strategic control or supply-chain dependencies.
- **Public procurement** allows some leverage through local content clauses (e.g., NZIA’s >50 percent dependency triggers), but cannot explicitly require EU-majority JVs without risking internal market or World Trade Organization (WTO) violations.
- **EU internal market freedoms and WTO** rules limit outright nationality-based restrictions; exceptions exist for national security or proportional industrial policy measures, but they must be justified, targeted, and proportionate. WTO compliance is especially challenging under GATT, TRIMs, and SCM rules; GATT Article XX (environment/health) or XXI (security) could offer limited justification.

Without an EU-wide harmonized approach, individual Member States could undermine stricter policies, creating a **“Trojan horse” risk** whereby non-EU investors could exploit the most permissive jurisdictions. **A coordinated EU-level framework** is thus essential to enforce any JV strategy, ensure industrial autonomy, and prevent unilateral loopholes.

To address the current legal gap, the EU could establish a dedicated mechanism—through the **Industrial Accelerator Act (IAA)**, updated **FDI screening**, and **public procurement rules**—to require or incentivize EU-majority ownership in JVs with non-EU investors in selected critical cleantech sectors or sub-sectors. The rule would apply to significant projects in areas such as batteries, solar, wind, electrolyzers, and critical materials processing, ensuring proportionality by targeting large-scale investments rather than every small start-up. “EU-controlled” would be defined based on ultimate ownership and influence, closing potential circumvention via EU subsidiaries.

Approval for such investments would be conditional on forming a joint venture with EU-majority ownership. Beyond equity, governance structures would ensure that strategic decisions remain under European control, with veto rights on sensitive matters and European-led oversight committees monitoring key operations. Critical functions such as R&D, manufacturing, and management would be localized in Europe, ensuring operational sovereignty and accountability under EU law.

The IAA framework would integrate with existing industrial policies, notably the Net-Zero Industry Act (NZIA) and Critical Raw Materials Act (CRMA), aligning the JV requirement with domestic production targets and supply-chain resilience goals. The **FDI screening authorities would enforce compliance, supported by procurement rules that favor projects meeting these conditions**. As mentioned above, uniform application across Member States is essential to prevent loopholes and avoid a “Trojan horse” scenario in which a permissive state undermines EU-wide strategic control.

In practice, this system allows Chinese and other non-EU investors to participate in EU cleantech markets—but only on terms that secure EU-majority ownership, governance control, and localization of key functions—ensuring that Europe captures technological, industrial, and strategic value while reducing dependency risks.

SECTOR-SPECIFIC STRATEGY (2026–2035)

A one-size-fits-all approach may not suit every clean technology sector, given the differences in market maturity, Europe’s standing, and Chinese involvement. Therefore, the joint venture and localization strategy should be tailored sector by sector, with phased milestones from 2026 to 2035.

Each sector plan fits into a broader timeline of 2026–2035, in which the early years set up frameworks and modest requirements, and the later years escalate toward strategic autonomy goals. By 2035, if all goes well, Europe will have achieved the following:

- A **solar manufacturing revival** in partnership with (but not controlled by) Chinese tech—meeting at least 10 percent of its own module needs and otherwise diversified.
- A **battery industry** that is largely localized with significant European control and no longer massively dependent on Chinese imports, covering EV demand with domestic or friend-shored supply by the EV transition’s completion.
- A **wind supply chain** fortified by domestic magnet production and allied sources, ensuring that wind expansion is not hostage to Chinese rare earth policies.
- A **hydrogen electrolyzer sector** thriving on European innovation, with foreign contributions but under frameworks that keep the core tech (membranes, catalysts, etc.) anchored in Europe.

- **Heat pump and other cleantech** sectors with any foreign participation happening through cooperative structures rather than through wipe-out competition.

Given the observed patterns, asymmetries, and sector-specific challenges, a coordinated set of EU- and Member State-level measures is essential to secure Europe’s cleantech sovereignty.

Recommendations

Implementing a joint venture strategy for critical cleantech in Europe will require concerted action at multiple governance levels—the EU institutions, member state governments, and industry stakeholders. This part of the paper concentrates on comprehensive recommendations, structured by **EU-level initiatives**, **Member State actions**, overarching **industrial strategy measures**, and a proposed **roadmap for 2026–2035**. These recommendations aim to operationalize the analysis above, ensuring that the policy is effective, balanced, and adaptable over time.

EU-LEVEL RECOMMENDATIONS

Recommendation 1 **Enact the Industrial Accelerator Act with JV provisions.**

The EU should adopt the IAA by 2026, explicitly requiring EU-majority ownership in JVs for strategic sectors such as batteries, solar PV, wind components, and electrolyzers above defined size thresholds. The act should

justify this on public interest grounds—supply security, climate goals, and reciprocity—and should include legal safeguards under Article 45 TFEU and WTO exceptions. It must integrate with the revised FDI Screening Regulation, making authorization contingent on compliance and effectively embedding the JV requirement into the EU single market framework for future industries.

Recommendation 2 **Issue guidance on JV governance standards.**

DG GROW should publish guidance for “Strategic Joint Ventures,” detailing best practices such as European veto rights, local management, EU-based Head Quarters (HQ), qualified majority votes for strategic decisions, and local content requirements. This would help companies structure JVs to satisfy regulators and ensure consistency across deals. Compliance with this guidance could be tied to positive incentives such as faster regulatory clearance, even if non-binding.

Recommendation 3 **Align funding and incentives with the JV strategy.**

The EU should direct financial support toward European-led cleantech JVs. Programs like the European Sovereignty Fund, Horizon Europe, Innovation Fund, and Important Projects of Common European Interest (IPCEI) should condition participation or funding on EU-majority ownership or substantial EU IP control. State aid rules should allow higher support for EU-majority-owned JVs, encouraging foreign investors to partner with European firms to access subsidies.

Recommendation 4
Trade policy and WTO stance.

The EU should prepare to defend the JV measures under WTO exceptions and link them to climate and security objectives. It should negotiate with allies (India, Japan, South Korea, US) to frame the rules as shared resilience against non-market economies, potentially allowing mutual exemptions or JV waivers for trusted partners. EU notifications to the WTO should be transparent about this approach. Simultaneously, the Foreign Subsidies Regulation should be enforced to scrutinize fully foreign-backed investments, making non-JV acquisitions less attractive and encouraging the JV route.

Recommendation 5
Monitor and adjust mechanisms (“adaptive governance”).

The Commission should implement a monitoring framework to track policy impacts on investments, costs, and cleantech deployment. Annual or biannual Strategic Cleantech Investment Reviews should be conducted to evaluate JV formation, capacity built, and EU vs. foreign market share. Cost trends (e.g., €/W for solar, €/kWh for batteries) should be tracked and measures adjusted if local content rules slow deployment or raise costs. Industry and stakeholder input should be included via a dedicated forum to ensure that policies remain proportionate, effective, and legally justified.

Recommendation 6
Strengthen protective clauses in public procurement and EU projects.

Before the strategy is fully in place, the Commission should encourage Member States to use existing flexibilities. NZIA procurement clauses (e.g., >50 percent

single-country supply triggers) should be implemented across relevant tenders and guidance should be issued to the contracting authorities. The International Procurement Instrument should be applied where needed to address nonreciprocal market access. For EU-funded projects, grant recipients should be required to prioritize EU-produced equipment whenever legally permissible.

Recommendation 7
Enhance cooperation with like-minded partners.

Industrial partnerships outside the EU should be developed to complement the JV strategy. Implement a “Made in Europe +” approach, allowing trusted countries (Canada, India, Japan, South Korea, the US) to count components toward EU local content quotas or gain preferential treatment, thus diversifying supply chains and mitigating cost impacts. CRMA partnerships should be used to secure critical raw materials from reliable sources, and MoUs should be signed to earmark supplies for EU use. Joint R&D initiatives with these partners should be launched, ensuring that EU entities share IP ownership and benefit equally, thus maintaining collaboration while protecting EU interests.

**MEMBER STATE-LEVEL
RECOMMENDATIONS**

Recommendation 1
Implement and enforce ex ante screening diligently.

Member States must fully apply updated FDI rules to JV and greenfield investments, even before EU-wide mandates. Chinese or other non-EU investors proposing new plants should be treated as if they were making acquisitions. Projects aligned with the EU JV

strategy (with a strong EU partner and safeguards in place) should get faster approval, while stand-alone foreign ventures may be delayed or rejected. The authorities should share information across states to prevent “forum shopping.”

Recommendation 2
Use golden shares and national controls where needed.

For strategically sensitive JVs, governments can take golden shares or observer roles to secure EU control, veto critical moves, and monitor compliance (e.g., tech offshoring or workforce commitments). Exit clauses should trigger rescreening if the EU partner plans to sell, ensuring long-term control.

Recommendation 3
Align state aid and subsidies with EU objectives.

Subsidies, grants, and tax incentives should condition on local R&D, supplier development, and clawbacks if production moves abroad or foreign partners gain majority ownership. National funding programs should prioritize European-led projects and those with high EU value add, explicitly scoring European ownership and content.

Recommendation 4
National investment in JV projects.

Member States can take direct stakes or enable local consortia to secure EU-majority ownership in JVs using public funds or state-backed investment vehicles. Where private EU partners are too small, public equity (via state or EIB) can bridge the gap, as seen in

Northvolt or European chip fabs. Governments can also facilitate European consortia of companies to collectively hold majority stakes, coordinating them around strategic objectives.

Recommendation 5
Avoid internal undercutting—the solidarity principle.

Member States must not undercut each other by offering foreign investors full ownership or relaxed JV conditions. A political commitment or informal pact can reinforce adherence. Harmonized regulation plus political discipline should prevent “Trojan horse” scenarios that would undermine the EU strategy.

Recommendation 6
Enhance national champions and SMEs.

Support EU firms in participating effectively in JVs through financing, guarantees, and skills development. Invest in workforce training to staff JVs with EU personnel, reducing reliance on foreign imports. Encourage clustering and integration with local research and supply chains, ensuring that technology remains rooted in the EU. National procurement can strategically favor local JV products to reinforce market demand.