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SWEDISH ENTERPRISE

European Preference and Competitiveness under the Industrial Accelerator Act

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Executive Summary

The EU Industrial Accelerator Act (IAA) raises an important policy question: how can Europe strengthen industrial resilience without weakening the competitiveness of the companies that must deliver it? This report assesses the implications of introducing Union origin requirements — or "European preference" — in public procurement and public support schemes. The objective of reducing harmful dependencies is legitimate. However, the design of any such measure must be judged against its impact on costs, competition, supply-chain flexibility and long-term value creation.

The analysis indicates that European preference would create clear economic trade-offs. Restricting sourcing choices can increase production costs, reduce companies' ability to use established global value chains and limit access to the most competitive technologies and inputs. It may also weaken competition in procurement markets by reducing the number of eligible suppliers. These risks are particularly relevant in sectors where supply chains are international, technologically specialised and difficult to reorganise quickly, including solar PV, batteries, wind turbine components and electric buses.

The estimated cost impacts are significant. Moving production from current non-Union suppliers to the EU27 could increase costs by 10–20 per cent for solar PV modules and components, 20–30 per cent for wind turbine components, 30–40 per cent for battery components and cells, and 30–40 per cent for electric buses. In absolute annual terms, the largest effects are expected in batteries and solar PV, where the combination of high import exposure and sizeable production-cost gaps creates the greatest risk of additional costs for companies, public buyers and taxpayers.

The wider implications go beyond direct production costs. Higher input prices may be passed on through European value chains and reduce the purchasing power of public budgets. If procurement and support schemes become more expensive, the same level of public funding may deliver fewer projects or less installed net-zero capacity. A narrower pool of eligible suppliers may also reduce competitive pressure, strengthen incumbents and redirect investment towards compliance-driven production stages rather than activities that generate the highest long-term value, such as innovation, advanced engineering, software and R&D.

The policy conclusion is therefore clear: European preference should not be introduced as part of the IAA or other future legislative initiatives. If such measures remain on the table, they should be narrowly targeted, evidence-based and used only where a strategic high-risk dependency has been clearly demonstrated. Any framework must preserve openness towards trusted partners, avoid regulatory overlap, minimise administrative burdens and provide predictable conditions for business.

Policy recommendations

1. **Apply European preference only where there is clear evidence of a strategic high-risk dependency and where it is demonstrated to be the most appropriate policy tool.** It should be used only as a last resort, after less distortive alternatives have been assessed and key concepts such as strategic dependency, resilience and economic security have been clearly defined.

2. **Limit European preference to clearly identifiable products and avoid unnecessary complexity.** Any requirements should be narrowly targeted to specific products or key components and rely on simple, standardised and reusable compliance mechanisms.

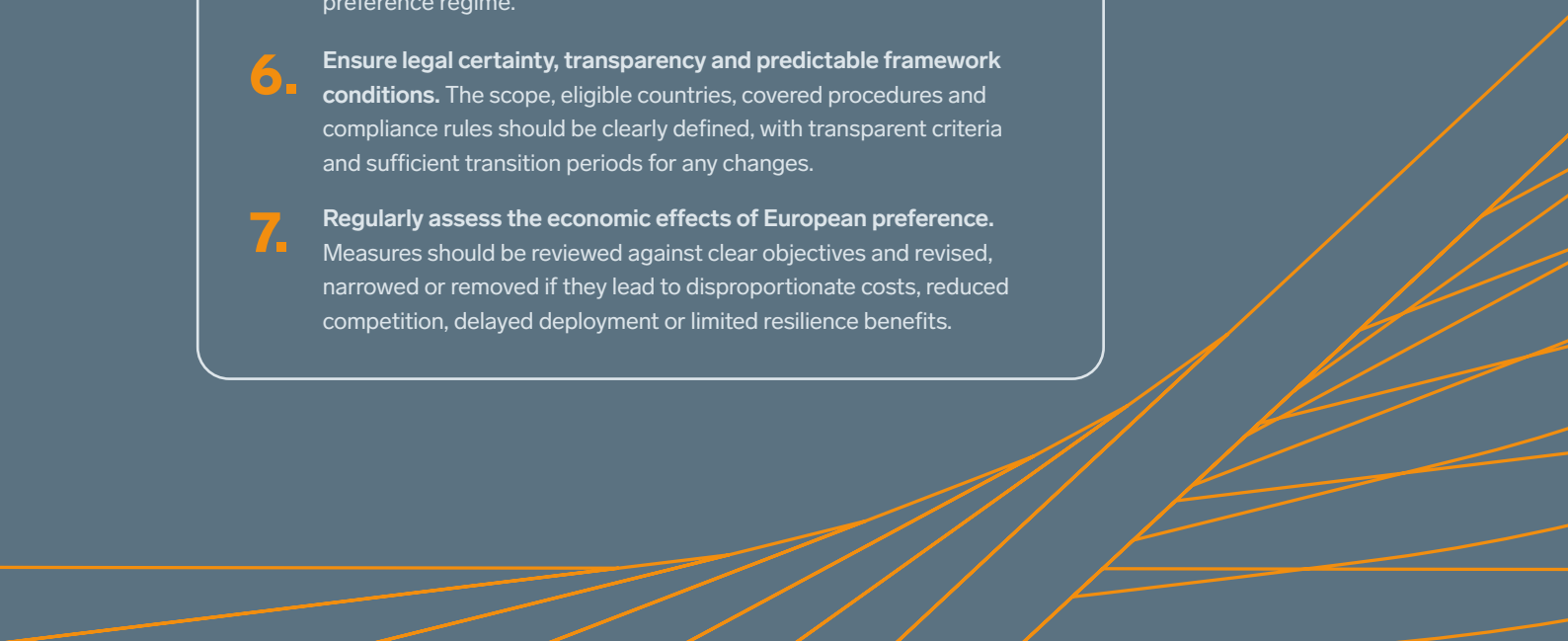
3. **Avoid duplication and overlap with existing regulatory frameworks.** New origin requirements should only be introduced where existing EU instruments cannot achieve the same objective and where they add clear value without creating fragmented or overlapping obligations.

4. **Maintain broad partner-country coverage and safeguard openness towards trusted partners.** A broad approach to eligible partner countries supports diversification, reduces concentration risks and preserves the EU's credibility as an open and reliable trading partner.

5. A**pproach reciprocity requirements with caution and in their broader trade-policy context.** Reciprocity concerns should be treated separately from resilience objectives and, if used, be applied gradually, proportionately and only to the sectors covered by the preference regime.

6. **Ensure legal certainty, transparency and predictable framework conditions.** The scope, eligible countries, covered procedures and compliance rules should be clearly defined, with transparent criteria and sufficient transition periods for any changes.

7. **Regularly assess the economic effects of European preference.** Measures should be reviewed against clear objectives and revised, narrowed or removed if they lead to disproportionate costs, reduced competition, delayed deployment or limited resilience benefits.



1. Introduction

1.1 Background and policy context

The proposed EU Industrial Accelerator Act seeks to strengthen European industrial capacity, resilience and strategic autonomy. In this report, we examine the proposed use of Union origin requirements, which may require goods, components or value-chain inputs to originate in the EU or certain partner countries in order to qualify in public procurement or public support contexts.

One of the key drivers behind this proposal is the increasingly intense competition from state-backed producers in third countries. In this context, Union origin requirements are presented as a tool to help level the playing field for European industry and reduce excessive dependencies on external suppliers of strategically important products and components. The question, however, is at what cost these objectives are pursued, and whether the proposed measures may simultaneously undermine the very competitiveness they are intended to strengthen.

The introduction of origin-based preferences represents a significant policy shift that may have far-reaching consequences for companies operating in integrated global value chains. While greater resilience and supply security are legitimate objectives, measures that restrict access to competitive suppliers can also increase costs, reduce flexibility and weaken productivity. The challenge is therefore not to choose between resilience and competitiveness, but to pursue resilience in ways that preserve the openness, competition and market dynamism that underpin long-term economic growth.

The European Union already possesses a broad toolbox to address many of the concerns that Union origin requirements are intended to tackle. Trade defence instruments, foreign subsidies rules, investment screening mechanisms, targeted procurement measures and public support schemes can all be used to address unfair competition, harmful dependencies and strategic vulnerabilities. The key challenge for policymakers is therefore to select the most effective and proportionate measures, based on whether the objective is to address unfair competition or a harmful dependency, and to strike the right balance between resilience objectives and maintaining the competitiveness and innovative capacity of European businesses as well as overall productivity levels.

1.2 Purpose and scope of the report

The Confederation of Swedish Enterprise has commissioned Copenhagen Economics to analyse the potential economic impact on selected industries covered by the IAA: electric vehicles, concrete and mortar, aluminium, solar PV, wind turbines and battery energy storage systems. This report focuses on the estimated impacts of the proposed Union origin requirements on costs and competitiveness and translates them into policy recommendations. The analysis is based on the European Commission's proposal for the Industrial Accelerator Act, published on 4 March 2026. The Copenhagen Economics analysis is included in the appendix to this report.

2. The Industrial Accelerator Act and Union Origin Requirements

The Union origin requirements are intended to support European industrial resilience by favouring goods, components and value-chain inputs that meet specified origin conditions in relevant public procurement procedures and public support schemes. The requirements apply across a number of strategically important sectors, including vehicles, batteries, solar photovoltaic products, wind turbines, battery energy storage systems, aluminium, steel, cement, concrete and other industrial value chains covered by the proposal. Under the current proposal, products may only benefit from certain procurement preferences or public support measures if they satisfy detailed Union origin criteria.

The exact design of the requirements varies between sectors. For industrial materials such as steel, aluminium and cement, compliance is primarily determined by the share of material originating in the European Union or eligible partner countries. For many clean technology products, including batteries, solar panels and wind turbines, the requirements focus on whether a specified number of key components originate within the EU or qualifying partner countries. For vehicles, the proposal combines several criteria, including the origin of key components, the share of the vehicle's value created within the EU or partner countries, and the location of the final assembly process.

As a general principle, origin is determined in accordance with the Union Customs Code. This means that origin is typically conferred in the country where the last substantial transformation of a product takes place. While this approach is well-established in EU customs legislation, its application in the Industrial Accelerator Act effectively limits the range of suppliers that manufacturers may use if they wish to benefit from procurement preferences or public support measures. Because compliance often depends on the origin of key components and inputs, firms may be required to replace established suppliers with alternatives that satisfy the relevant origin criteria.

The final geographical scope of "Union origin" is not yet clearly defined. Under the European Commission's proposal, EU, EEA, FTA, GPA, and customs union partners ("EU partner countries") are treated as Union origin, unless excluded by the Commission due to non-reciprocity or strategic dependency. This means that in the current proposal, the "Union origin" requirements cover many EU partner countries beyond EU27.

3. Sectoral Exposure and Dependency Analysis

Dependency varies sharply by industry.

- Concrete and mortar show low non-Union dependency,[1] while aluminium has moderate import dependency but relatively low non-Union dependency.
- Electric vehicles show relatively low overall non-Union dependency, with vulnerabilities in buses and battery-related components.
- Wind turbines have low final-product dependency, but reliance on Chinese components has grown.
- Solar PV and BESS are the most exposed, with all EU Member States relying heavily on Chinese imports for solar modules, batteries and key components.

The degree of dependency also varies across Member States. As highlighted in the Copenhagen Economics analysis, some countries have greater access to alternative suppliers, domestic production capacity or more diversified sourcing patterns than others.

While dependency on non-Union suppliers appears relatively limited in several of the sectors examined, the picture is markedly different for certain green technologies, particularly solar PV and battery-related value chains. In these sectors, reliance on Chinese suppliers is extensive and deeply embedded in existing supply chains. Consequently, any requirements that restrict access to such suppliers are likely to have the most significant effects. The resulting adjustments may increase the cost of sourcing key components, while in some cases also creating challenges in securing sufficient supply volumes. As a result, firms may face higher procurement costs, reduced supplier choice and less flexibility in designing efficient and competitive value chains.

1 Non-Union dependency: Share of imported goods and services from countries that do not meet the IAA union origin requirement for EU27 and EU partner countries.

4. Business impact in terms of cost and competitiveness

The introduction of European preference under the IAA is expected to affect companies in different ways. The main channels through which the proposal may influence companies' cost structures and competitiveness are likely to include direct cost increases resulting from restrictions on sourcing and supplier choice, higher administrative and compliance costs associated with meeting and demonstrating compliance with Union origin requirements, as well as broader effects on supply-chain flexibility, access to technology and inputs, and the ability of firms to optimise their operations and value chains. Together, these factors may have implications for productivity, innovation, investment decisions and the overall competitiveness of companies operating in sectors covered by the IAA.

4.1 Impact on quality and flexibility

While much of the discussion surrounding the IAA has focused on increased production costs and the additional administrative burden associated with compliance, European preference requirements may also affect competitiveness through several broader mechanisms. Modern industrial value chains have evolved over decades to optimise costs, quality, innovation and resilience through access to a wide range of suppliers, technologies and sourcing locations. By constraining sourcing decisions and limiting the pool of eligible suppliers, Union origin requirements may affect companies' operational flexibility, access to technology and their ability to adapt to changing market conditions. These effects are likely to vary across sectors depending on the structure of value chains and the degree of reliance on global sourcing.

1. Reduced supply-chain flexibility

Union origin requirements may reduce firms' ability to optimise their supply chains by limiting the range of eligible suppliers and locations from which inputs and components can be sourced.

2. Reduced access to best-in-class technologies and inputs

Origin requirements may reduce access to the best available technologies, inputs and suppliers globally, potentially affecting product performance, efficiency and

innovation over time. The concern is not that European suppliers necessarily provide lower-quality products. Rather, origin requirements may reduce companies' ability to select the most competitive, innovative and technologically advanced solutions available globally. Over time, this may affect productivity, innovation and competitiveness.

3. Reduced adaptability and resilience at company level

A narrower pool of eligible suppliers may also reduce firms' ability to respond to market developments, technological change and supply disruptions, thereby reducing operational flexibility and resilience at company level.

While the objective of the IAA is to strengthen European resilience and strategic autonomy, reduced flexibility at company level may in some circumstances have the opposite effect by making firms less able to adapt to disruptions, shifts in demand or technological change.

4.2 Administrative and compliance burden

Although the IAA relies on existing rules of origin under the Union Customs Code, applying those rules as a condition for access to public procurement and public funding is likely to create additional administrative burdens. Companies may need to obtain, retain and verify documentation demonstrating that the relevant products or components satisfy the applicable Union origin requirements. They may also need to update supporting documentation when suppliers, production locations or manufacturing processes change. These compliance costs arise regardless of whether a product ultimately qualifies as Union origin and may be particularly relevant in industries characterised by complex and globally integrated value chains.

Copenhagen Economics has not been able to quantify these costs. However, based on the interviews with companies, administrative costs will increase with product and supply-chain complexity. The burden has the potential to be greatest for firms with complex, multi-tier supply chains, including truck manufacturers and wind turbine producers.

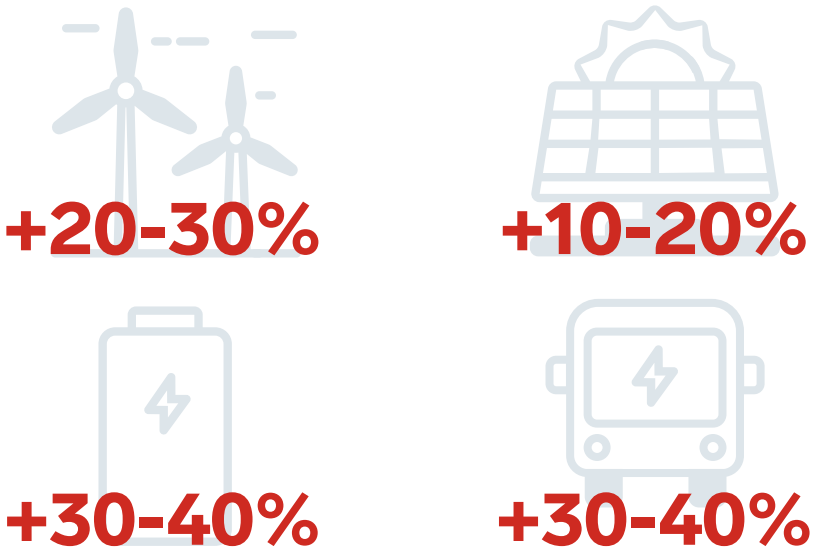
The administrative burden will however heavily depend on how the requirements are ultimately designed. Demonstrating the origin of a limited number of key components generally requires documentation and verification of those components. By contrast, value-based origin thresholds require companies to collect and maintain origin information across a much larger share of their inputs. The most burdensome approach is likely to be traceability requirements extending beyond traditional rules of origin and requiring firms to document production stages or material flows further upstream in the supply chain.

4.3 Direct cost impacts

Copenhagen Economics has calculated the additional costs for EU companies from adhering to the IAA when moving current non-Union production to the EU27. We present these combined costs for the final products that are procured or supported by public funding. These estimates assume that relocation to EU partner countries is not an option, which could otherwise potentially mitigate the cost increase. They suggest it would be more expensive to produce net-zero technologies in the EU27 instead of China, depending on the product:

- 10–20% higher costs for solar PV modules and components
- 20–30% higher costs for wind turbine components
- 30–40% higher costs for battery components and cells
- 30–40% higher costs for electric buses

The IAA risks raising costs materially in key net-zero sectors



The total cost increases measured in EUR also depend on EU27's import exposure as well as on the extent to which the market is covered by public funding.

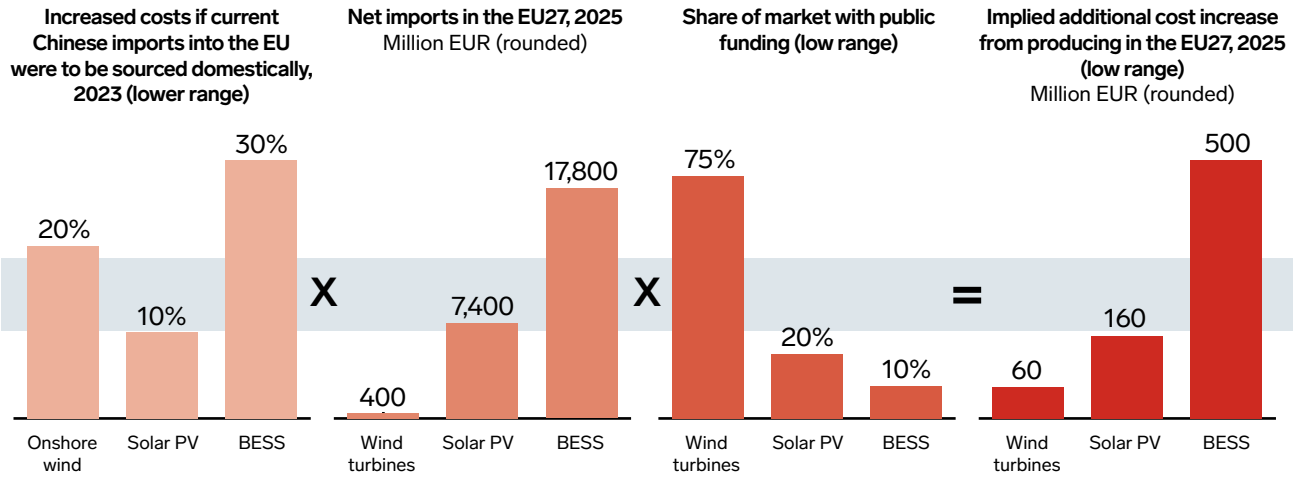
EU27 net imports in 2025 were around EUR 400 million for wind turbines, EUR 7.4 billion for solar PV, and EUR 17.8 billion for batteries (primarily BESS). At the same time, the low-range share of the market linked to public procurement or finance is shown as 75 per cent for wind turbines, 20 per cent for solar PV, and 10 per cent for batteries.

Adding these parts together, even though batteries have the lowest public-market share, their large import base and high implied cost increase still produce the largest impact measured in EUR. Wind turbines, on the other hand, have a high public-market share, but the net import base is much smaller, which keeps the absolute cost increase lower.

Estimated long-term[2] annual cost impacts include EUR 180–300 million for electric buses, EUR 160–1,100 million for solar PV and components, EUR 60–100 million for wind turbines and components, and EUR 500–2,100 million for BESS, rising to EUR 600–2,800 million if other lithium batteries are included. These are significant cost increases, concentrated in technologies and components where EU27 depends heavily on third country supply and where EU production remains more expensive.

An EU partner country may offer lower production costs, more established supply chains, and stronger capabilities in specific components than EU27 can provide today. However, building up these capabilities can take time in any location and there is a risk that such production will take time to come online. Reshoring to EU27 is likely the costliest adjustment path for solar PV and batteries, while diversification towards FTA partners could lower the additional cost burden on companies and public funding, but would in turn not increase the manufacturing base in EU27.

Producing net-zero technologies in EU27 is more expensive than in China



2 "Long-term" refers to a scenario in which all input materials covered by the IAA are produced within the EU rather than in the third countries where they are currently sourced. For further details, see Appendix B of the Copenhagen Economics report.

4.4 Impacts are unevenly spread

Based solely on the estimated direct cost effects of the Union origin requirements, the IAA is likely to create both beneficiaries and adversely affected companies. This assessment reflects only the estimated impact of higher sourcing costs resulting from the replacement of non-Union inputs with Union-origin alternatives, as well as the reduced competitive pressure arising from the exclusion of certain suppliers. It does not take into account other potential effects discussed elsewhere in this report, including impacts on supply-chain flexibility, access to technology and inputs, innovation, administrative burdens, investment decisions or long-term competitiveness. The overall economic impact on individual firms may therefore differ from the picture presented below.

(+) Potential winners

- Companies with supply chains that already satisfy Union origin requirements, are both located and invested in the EU, and operate largely European (or partner-country) supply chains, may benefit from increased demand, improved access to public support schemes and reduced competitive pressure from suppliers outside the Union or qualifying partner countries.

(-) Potential losers

- Conversely, companies that rely on globally integrated supply chains may face higher sourcing costs, reduced supplier choice and lower participation in procurement and support schemes.
- In some cases, reduced participation in publicly supported markets could also diminish production volumes and economies of scale, potentially affecting firms' competitiveness in export markets.

5. Wider effects on the EU economy and competitiveness

While the previous sections considered the direct effects of the IAA on companies subject to Union origin requirements, the regulation may also have broader implications for the functioning of the European economy and the competitiveness of European businesses more generally.

These effects extend beyond the sectors and firms directly covered by European preference provisions and may influence **investment incentives, resource allocation, market dynamics, public finances and long-term productivity growth across the economy.** In particular, the IAA may affect how capital, labour and innovation are distributed between sectors, the degree of competition in European markets, and the ability of firms to adapt to technological change and evolving global value chains. Many of these effects are difficult to quantify, but they may ultimately be as important for long-term competitiveness as the direct cost impacts discussed above.

5.1 Spill-over effects beyond directly covered sectors

While the Union origin requirements apply only to specific products, sectors and support schemes, their economic effects may extend well beyond the activities directly covered by the IAA. The Copenhagen Economics analysis highlights that many of the sectors concerned are deeply integrated into wider European value chains and supply networks. As a result, higher costs arising from changes in sourcing patterns, production locations or eligible suppliers may not remain confined to the companies directly subject to the requirements.

Increased costs for inputs, components and equipment may be **passed on to down-stream industries, public authorities and ultimately final customers.** In terms of public procurement, where the requirements apply directly, the ability of the public sector to absorb such cost increases is limited by strained public finances. But cost increases potentially apply also to private transactions. Even where European preference is not mandatory, suppliers facing higher production costs may seek to recover those costs across their broader customer base. The extent of this spill-over is likely to depend on factors such as market structure, competitive intensity, import competition, spare production capacity and the ability of firms to absorb cost increases within existing margins.

The effects may be particularly relevant in sectors where products covered by the IAA are widely used as inputs by other industries. Higher costs for batteries, renewable energy technologies, vehicles, aluminium or other covered products may therefore affect companies that are not themselves subject to Union origin requirements. More broadly, shifts in investment patterns, sourcing decisions and supplier relationships may influence competitiveness throughout the wider economy, potentially contributing to a higher overall cost base for European businesses. Higher procurement and support costs may also reduce the number of projects that can be financed within a given public budget, increasing the overall cost of industrial transformation and decarbonisation.

These effects may be particularly important for the deployment of net-zero technologies. If European preference requirements significantly increase the cost of solar PV, batteries or other clean technologies, the same level of public funding may support fewer projects or less installed capacity. As highlighted by the Copenhagen Economics analysis, European production capacity remains limited in several of these sectors and scaling up domestic value chains will take time. This suggests that resilience objectives may need to be balanced against affordability, speed of deployment and the overall pace of the green transition.

5.2 Competitive dynamics and market structure

The Copenhagen Economics analysis highlights that global value chains and international competition have contributed to lower costs, greater flexibility and stronger competitiveness across the sectors covered by the IAA. To build on the potential that comes with increased trade, the EU must broaden and deepen cooperation with partner countries, not turn away from it. By limiting access to certain suppliers and increasing reliance on a narrower pool of eligible producers, European preference may **reduce competitive pressure** in parts of the market. While this may strengthen the position of some European manufacturers in the short term, weaker competitive pressure may also reduce incentives to improve efficiency, lower costs and continuously upgrade products and processes over time.

The IAA may also affect **market structure** by reducing the number of suppliers able to compete for public procurement contracts and publicly supported projects. If some international suppliers are excluded and companies facing higher compliance costs choose not to participate in tenders, markets may become more concentrated, and customers may face fewer alternatives. This could strengthen the market position of remaining suppliers and contribute to higher prices, reduced customer choice and weaker competitive discipline in affected markets.

Beyond its immediate effects on individual sectors, the IAA may have implications for **long-term productivity growth.** A large body of economic research suggests that competition is an important driver of innovation, productivity improvements and the efficient allocation of capital and labour. To the extent that European preference shields certain activities from international competition, there is a risk that resources remain in less productive activities for longer than they otherwise would, potentially slowing productivity growth and reducing the economy's ability to adapt

to technological and market developments. This risk should be weighed against the potential outcomes that the regulation seeks to achieve in terms of resilience and strategic autonomy.

5.3 Incentives for investment, innovation and value creation

The Copenhagen Economics analysis suggests that the application of union origin requirements under the IAA may influence not only where companies invest, but also what they invest in. By rewarding the location of specific manufacturing activities and production stages, the regulation may encourage investment in activities that contribute to compliance with Union origin requirements, even where these represent a relatively limited share of total value creation. At the same time, long-term competitiveness increasingly depends on capabilities such as R&D, software, AI, advanced engineering and high-value innovation. As a result, there is a risk that **capital and investment are directed towards lower-value-added manufacturing** activities rather than those that generate the greatest productivity gains, innovation and long-term competitive advantages.

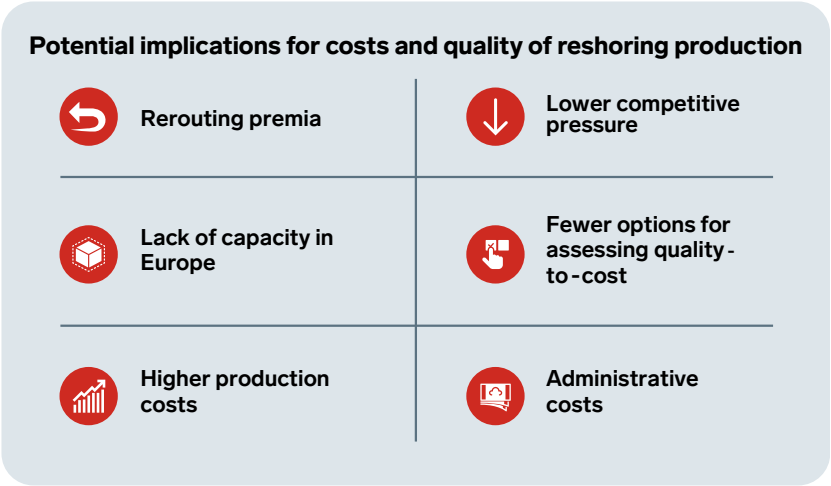
5.4 Risk of policy expansion and path dependency

The introduction of sector-specific preferences may create incentives for similar measures to be **extended to additional sectors over time.** The IAA already covers a broad range of industries and products, and experience from other areas of industrial policy suggests that once preferential treatment has been introduced, there are often political and commercial pressures both to expand its scope and to maintain it beyond its original purpose. This may increase the risk of a gradual expansion of interventionist measures across a larger share of the economy.

6. Policy Conclusions and Recommendations

The analysis presented in this report suggests that the introduction of European preference under the IAA is likely to involve significant economic trade-offs. The Copenhagen Economics analysis finds that Union origin requirements may lead to substantial increases in production costs across several of the sectors covered by the proposal, particularly where current value chains rely on suppliers located outside the Union and qualifying partner countries. These direct cost impacts vary across sectors but are in some cases considerable, especially for batteries, solar PV and certain wind turbine components.

The analysis also indicates that the economic implications extend beyond these direct cost increases. Companies may face additional compliance and administrative costs associated with demonstrating and maintaining compliance with origin requirements. Restrictions on supplier choice may reduce supply-chain flexibility and limit access to the most competitive technologies, inputs and production solutions available globally. Together, these effects may influence productivity, investment decisions and competitiveness at company level.



Beyond the companies directly affected, the report identifies a number of broader economic implications. These include potential spill-over effects throughout European value chains, impacts on innovation and investment incentives, changes in competitive dynamics and market structures, and possible implications for the pace and cost of industrial transformation and the green transition. While some companies and sectors may benefit from increased protection from external competition and

stronger demand for Union-origin products, other firms may face higher costs, reduced flexibility and weaker competitive conditions.

Against this background, the findings of this report lead the Confederation of Swedish Enterprise to conclude that European preference should not be introduced as part of the IAA or other future legislative initiatives. The analysis suggests that such measures are likely to increase costs, reduce flexibility, distort investment incentives and risk weakening competitiveness while delivering uncertain benefits in terms of resilience and strategic autonomy.

Nevertheless, as European preference remains part of the ongoing negotiations on the IAA, the Confederation of Swedish Enterprise considers it important to identify a number of policy recommendations that could help make the proposal more proportionate, predictable and business-friendly, while reducing unnecessary costs and negative impacts on competitiveness. Many of these considerations may also be relevant in future discussions on European preference measures in other areas of EU legislation.

1. Apply European preference only where there is clear evidence of a strategic high-risk dependency and where it is demonstrated to be the most appropriate policy tool

European preference should not be considered a driver of market competitiveness and should only be considered in cases where there is clear and evidence-based justification for intervention. The existence of **a strategic dependency should not be assumed merely because production takes place outside the Union** or because imports originate from third countries. Rather, there should be clear evidence of an existing or reasonably foreseeable high-risk dependency that could create significant vulnerabilities for the Union's security, resilience or ability to achieve critical policy objectives.

Given its potentially significant impact on costs, competition, supply-chain flexibility and administrative burdens, **European preference should be regarded as a measure of last resort.** Before introducing origin requirements or other forms of preferential treatment, policymakers should carefully assess whether alternative and less distortive instruments could achieve the same objective more effectively. Such alternatives may include measures aimed at improving framework conditions, facilitating investment, supporting innovation, promoting diversification of supply chains, strengthening trade partnerships or addressing specific market failures directly.

Concepts such as "strategic dependency", "resilience" and "economic security" should be clearly defined and operationalised in order to avoid broad or open-ended interventions that extend beyond the specific risks they are intended to address.

2. Limit European preference to clearly identifiable products and avoid unnecessary complexity

Where European preference is introduced, its scope should be narrowly defined and limited to clearly identifiable products for which there is a well-documented justification for intervention. Broad categories such as generic materials, metals or intermediate inputs are poorly suited to origin-based preferences, as they create significant uncertainty regarding which products are covered and how the rules should be applied in practice.

Requirements should be designed in a way that provides legal certainty for both contracting authorities and businesses. The wider and more generic the scope, the greater the risk of complex product classifications, frequent updates to product lists and inconsistent implementation across Member States.

Where origin requirements are applied, they should preferably be based on a limited number of clearly specified products or key components. Such an approach reduces complexity, facilitates verification and limits administrative burdens compared to far-reaching value-based thresholds or more extensive traceability requirements.

Compliance mechanisms should also be designed to minimise repetitive assessments and avoid unnecessary administrative burdens, particularly for SMEs and companies operating in complex multi-tier supply chains. Where possible, compliance should rely on standardised certificates, supplier declarations, harmonised verification procedures and other forms of ex ante validation that can be reused across procurement procedures and support schemes. Once compliance has been established for a product, component or production process, companies should be able to rely on that determination for a reasonable period of time rather than repeating the assessment in each individual tender or application.

3. Avoid duplication and overlap with existing regulatory frameworks

European preference requirements should not be introduced where similar policy objectives are already addressed through existing EU legislation. Overlapping frameworks risk creating unnecessary complexity, increasing compliance costs and generating legal uncertainty for both businesses and public authorities.

In the case of net-zero technologies, the Net-Zero Industry Act already contains resilience-based procurement and auction criteria intended to address dependency concerns and strengthen European industrial capacity. Introducing additional and partly overlapping European preference requirements under the IAA risks creating a fragmented regulatory landscape and multiple layers of compliance obligations.

Any new origin requirements should therefore be assessed against existing legislation and applied only where they provide clear added value that cannot be achieved through instruments already in force.

4. Maintain broad partner-country coverage and safeguard openness towards trusted partners

European preference measures should be designed in a manner that remains consistent with the Union's international commitments and long-standing trade policy objectives. The EU should continue to honour its obligations under free trade agreements, customs unions, the WTO Government Procurement Agreement and other relevant international frameworks. Failure to do so risks undermining the credibility of EU trade policy and may weaken the Union's ability to negotiate future trade and market-access agreements.

Where European preference is introduced, the starting point should therefore be a broad definition of eligible partner countries. Countries that maintain close economic integration with the Union or provide meaningful market access to European companies should generally be treated as qualifying partners rather than being excluded by default.

A broad partner-country approach is not only consistent with the EU's international commitments but also supports achievement of a core objective often referenced to justify intervention in the first place: reducing strategic dependencies and supply-chain vulnerabilities. Greater access to markets of trusted partner countries increases opportunities for diversification, reduces concentration risks and may help strengthen resilience without imposing the costs associated with a more restrictive and EU-only approach.

Conversely, a narrow approach to partner-country eligibility may increase costs, reduce supplier choice, create unnecessary uncertainty for businesses and inadvertently increase dependence on a smaller number of production locations.

5. Approach reciprocity requirements with caution and in their broader trade-policy context

Current negotiations on the IAA increasingly link partner-country eligibility to assessments of reciprocity in public procurement markets. While improving market access for European companies is a legitimate trade-policy objective, the introduction of European preference should not automatically become a vehicle for imposing additional reciprocity requirements. The primary rationale advanced for European preference under the IAA relates to resilience, strategic autonomy and the reduction of high-risk dependencies, whereas reciprocity concerns market access and the broader balance of rights and obligations between trading partners. These are distinct policy objectives and should not be conflated.

The assessment of reciprocity should in any case take into account the broader trade-policy relationship between the Union and its partners. International trade agreements are rarely based on identical market opening in every sector. Instead, market access is typically negotiated as part of a wider package of concessions and benefits covering multiple sectors and policy areas. A lack of full symmetry in a particular procurement market should therefore not automatically justify the exclusion of an otherwise closely integrated trading partner.

If reciprocity requirements are used as part of a partner-country mechanism, they should be applied in a gradual, proportionate and predictable manner. The principle of opt-in should not be the default, and countries should be given a reasonable opportunity to engage with the Union and address identified concerns before losing partner-country status. Reciprocity assessments should also focus on the sectors and products actually covered by the relevant European preference measures rather than requiring equivalent market access across a much broader range of economic activities.

Such an approach would better preserve legal certainty, support long-term business planning and remain more consistent with the principles of openness, predictability and progressive market liberalisation that have traditionally underpinned the international trading system.

6. Ensure legal certainty, transparency and predictable framework conditions

European preference measures should be designed in a way that provides a high degree of legal certainty and predictability for businesses, public authorities and trading partners. The scope of any preference regime should therefore be clearly defined, including both the products covered and the countries whose content qualifies under the framework. There must also be a clear delineation of the procurement procedures, support schemes and financing instruments covered by the framework, as well as clear rules for demonstrating compliance. This could otherwise increase compliance costs, create legal uncertainty and complicate long-term investment and sourcing decisions.

Any mechanism for adding, removing or modifying covered countries or products should be transparent, predictable and based on clearly defined criteria. Changes should take place within a structured review process rather than through frequent or ad hoc revisions. Sufficient transition periods should also be provided between the adoption of any changes and their entry into force, allowing companies, suppliers and public authorities adequate time to adapt.

The ongoing discussions under the IAA illustrate the importance of these principles. Where supply chains, procurement strategies and investment decisions have been built over many years around existing trade agreements and market-access commitments, sudden changes to partner-country eligibility or product coverage can create unnecessary disruption and undermine business confidence. A predictable and stable framework is therefore essential both for competitiveness and for the effective implementation of any European preference regime.

7. Regularly assess the economic effects of European preference

Because European preference may affect costs, competition, supplier participation and investment incentives, such measures should not be considered permanent or self-justifying once introduced. Their effects should be assessed regularly against clearly defined objectives relating to resilience, strategic autonomy and security of supply.

Where evidence shows that origin requirements significantly increase costs, reduce competition, delay deployment of strategic technologies in a way that is out of proportion to verifiable benefits or where requirements fail to deliver the expected resilience benefits, there should be mechanisms to revise, narrow or remove the measures. European preference should remain an evidence-based policy instrument rather than becoming a permanent feature of industrial policy.

Annex: European Preference in the EU Industrial Accelerator Act (IAA) by Copenhagen Economics

Preface

On 4 March 2026, the Commission proposed the Industrial Accelerator Act ('**IAA**'), a new framework introducing, among other things, **Union origin requirements (European preference) in public funding**,[1] see key terms to the right.

The IAA is designed to create stable demand for EU-made and low-carbon products in the covered industries, favouring producers already located in the EU27 or in EU partner countries.

A concern for companies operating in the covered industries is that the IAA's requirements increase costs due to re-routing and establishment of new supply chains, increased administrative burdens, and weakened EU competitiveness.

Against this backdrop, the Confederation of Swedish Enterprise has asked Copenhagen Economics to analyse the potential economic impact on selected industries covered by the IAA. The Confederation want to understand the implications for the industries' costs, product sourcing quality, and overall competitiveness.

Our methodology and scope

In our analysis, we begin by assessing the extent to which recipients of EU public funding rely on non-Union imports, distinguishing between EU partner countries and non-partner countries (chapter 1, see figure below).

We then test two core hypotheses: *first*, that Union origin requirements under the IAA increase production costs and affect quality and flexibility for EU companies (chapter 2) and *second*, that the IAA may affect competitiveness of EU companies (chapter 3).

We focus on six industries: **electric vehicles ('EVs'), concrete & mortar, aluminium, solar photovoltaic ('PV'), wind turbines,** and **battery energy storage systems ('BESS').**[2]

Although the IAA also specifies low-carbon requirements and FDI ownership requirements, we focus on **Union origin requirements** in this analysis.[3]

We analyse these using desk research, data analysis, and a small economic input-output model to capture global interdependencies in public procurement at the macro level. In addition, we have conducted 10 interviews with companies in the value chains of the covered industries to better understand the implications at company level.[4]

Key terms in this report

- **Union origin requirement (European preference)**: Minimum share of goods and services that must originate from EU27 or EU partner countries, measured as the value or volume of inputs.
- **EU27**: Covering the 27 Member States in the EU (to distinguish from Union origin that also covers EU partner countries).
- **EU partner countries**: Countries in the European Economic Area, (EEA), the Customs Union, has a free trade agreement (FTA) with the EU, or is part of the Agreement on Government Procurement (GPA).
- **Non-Union dependency:** Share of imported goods and services from countries that do not meet the IAA union origin requirement for EU27 and EU partner countries.
- **Low-carbon requirement:** Greenhouse gas performance standard under the IAA that eligible projects, products, or processes must meet.
- **Public funding**: Activities funded directly or indirectly by the public sector, including public procurement, public finance, support schemes, and product-specific tax breaks.
- **Reshoring:** Moving manufacturing that was previously located abroad back to a domestic market.
- **Value added:** The value generated (wages and profits) throughout the supply chain to produce final products.

Chapter 1: The EU's non-Union dependency from the IAA

Finding: Dependency on non-Union content to receive public funding results in a need for companies to scale up or reshore manufacturing capacity to EU27 or EU partner countries to serve public demand.

Chapter 2: Potential cost and quality impacts from the IAA

Finding: Increased reshoring of manufacturing to EU locations increase production costs. The IAA may also impact quality and flexibility in companies' supply chain.

Chapter 3: Potential implications for EU competitiveness

Finding: EU companies will be impacted by the IAA. Implications on competitiveness from the IAA vary depending on the position for EU companies in the value chain, the dependency level, and reliance on public funding.

1) The public sector is a significant source of EU demand. EU public procurement amounts to about EUR 2.5 trillion annually, equivalent to 14 per cent of EU GDP, see European Commission: Public Procurement, link. / 2) Referenced in the IAA proposal articles 7-16 in chapter 3, annex II, and annex III. We present results differently across industries reflecting varying data availability. / 3) For products with combined requirements, we consider both in terms of dependence but only Union origin in terms of costs. / 4) The interviews cover companies operating in one or more EU Member States which produces or uses products covered by the IAA. The interviews are confidential, and the Confederation of Swedish Enterprise is aware of which companies we have interviewed.

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Executive summary (1/3)

The implications of the IAA, as proposed by the European Commission ultimately depend on the **non-Union dependency for components and final products in public funding, the need for reshoring manufacturing to EU27,** as well as the **cost- and quality-level differences** between EU27 and current production locations. In the IAA, Union origin requirements differ by industry, see table to the right:

- For EVs, two of the requirements are that assembly must take place in the Union and at least 70 per cent of the total ex-works price of vehicle components[1] must be of Union origin.
- For wind turbines, one primary component must be of Union origin one year after implementation, rising to two components after three years.[2]
- For concrete & mortar and aluminium, requirements cover both Union origin *and* low-carbon requirements (5 and 25 per cent, respectively).[3]

The final geographical scope of the IAA is not yet clearly defined. In the current proposal, EU, EEA, FTA, GPA, and customs union partners ('EU partner countries') are **treated as Union origin**, **unless excluded by the Commission due to non-reciprocity or strategic dependency**.[4] This means that in the current proposal, the "Union origin" requirements cover many EU partner countries beyond EU27.[5]

The EU27 relies on non-Union input to a varying degree[6]

For most **EVs**, overall non-Union dependencies are low. Depending on the Member State, 64–82 per cent of value added inherent in vehicles for public procurement is produced in EU27 or in EU partner countries.[7] Imports from non-partner countries account for 18-36 per cent of value added.[8]

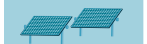
On a product level, EU27 is, however, a net importer of buses from Turkey and China, i.e. EU27 imports more buses than it exports from those countries.[9] Non-Union dependencies also exist for some **EV components**, especially battery-related components.

For **concrete & mortar**, non-Union dependency is low. While some Eastern and Southern European Member States import cement[10] from EU partner countries, the 5 per cent Union origin threshold is too low to pose a significant dependency risk. The primary bottleneck is the availability of low-carbon cement.

The situation is broadly similar for **aluminium**, though import dependencies and the requirement threshold are higher than for concrete & mortar.[11]

For **wind turbines,** non-Union dependencies are not large for the final products, but dependencies for specific components have increased in recent years, as the Chinese wind industry has grown.[12]

Dependencies on China are much higher for **solar PV** and **BESS**. All EU Member States rely on Chinese imports for solar PV and both small- and large-scale batteries, such as BESS. While some solar PV and battery productions exist in Europe, capacity remains too small to serve EU27 demand, and interviews with OEMs and developers suggest that it will take time to build up a European value chain (including EU partner countries). There is also a risk that such production will not be successful any time soon.[13]

Industry	IAA requirement	Non-Union dependencies
EVs	Final assembly in the Union with at least 70 per cent of the ex-works value of vehicle components from the Union. Shares of the traction-battery and the main electronic/e-powertrain systems must be Union origin.	Overall dependency for vehicles is low, but dependency for buses and battery components is moderate, giving a **medium** dependency overall.
Concrete & mortar	At least 5 per cent of total volume must be Union origin and meet low-carbon performance requirements.	Dependency on non-Union supply is **low**.
Aluminium	At least 25 per cent of total volume must come from the Union and meet low-carbon performance requirements.	Import dependency is moderate, but non-Union dependency is **low**.
Wind turbines	From year 1, at least one primary component must come from the Union; from year 3, at least two primary components must be Union origin.	Final turbine dependency is low, but reliance on components from China has increased, resulting in **medium** dependency
 Solar PV	From year 3, both the PV inverter and the PV cells (or equivalent) must be Union origin.	Dependency is **high**: all EU Member States rely on Chinese imports for solar modules and key components.
Battery energy storage systems (BESS)	Within 1-3 years, systems over 1 MWh and their battery management systems must be Union origin. After three years, systems must also include Union origin battery cells, a battery management system, plus one other main component.	Dependency is **high**: all EU Member States rely on Chinese supply for batteries.

1) Excluding the battery. / 2) The IAA requirements for net-zero technologies (wind, solar, batteries, etc.) set binding targets and are linked to the Net Zero Industry Act (NZIA). / 3) For cement and aluminium, the carbon border adjustment mechanism (CBAM) is a relevant EU policy that includes an import tax on embedded emissions in the EU. / 4) See IAA proposal article 8, link. / 5) See a list of agreements in European Commission: Negotiations and Agreements, link. / 6) In this report, we focus on dependencies for public funding, but for some statistics, we cannot distinguish between public and private flows. Therefore, some numbers are presented for the full market, whereas others are presented specifically for the public sector. / 7) For details see Appendix C. / 8) Based on our input-output modelling, see chapter 1 and Appendix A. / 9) Based on Eurostat (2025), link. / 10) Cement comprises up to 80 per cent of emissions from concrete. / 11) Industrial Innovation Initiative (2022), link. / 12) European Council on Foreign Relations (2025), link. / 13) Previous attempts to produce batteries on a large scale in Europe have been unsuccessful, se, for example, Northvolt (2025), link and BatteryNews.com (2026), link.

Executive summary (2/3)

The IAA Union origin requirements are expected to increase costs for EU companies

Global value chains have been optimised over decades to lower costs for both companies and end users and to enhance company competitiveness through international competition and diversified sourcing. Shifting global value chains to the EU27 can be both costly and affect the quality of products acquired through EU public funding, especially if the definition of Union origin equivalent excludes EU partner countries.

We calculate additional costs for EU companies from adhering to the IAA when moving current non-Union production to the EU27. We present these combined costs for the final products that are procured or supported by public funding. These estimates assume that relocation to EU partner countries is not an option.

For example, we find that it would be more expensive to produce net-zero technologies in the EU27 instead of China, depending on the product:

- For wind turbines, the additional costs of components amount to 20-30 per cent
- For components and finished modules in solar PV, the *total* additional costs amount to 10-20 per cent, but for some components, the costs are much higher[1]
- For battery components and cells, the additional costs amount to 30-40 per cent

For the share of the European BESS market that we estimate is funded directly or indirectly by the public sector, this corresponds to a potential annual cost increase of EUR 500-2,100 million in the **long term**, see table. The expected cost impacts vary among EU Member States, reflecting differences in import dependency, public support coverage, and cost levels.

In the **short-term**, effects are expected to be larger than long-term, as EU27 capacities to produce solar PV and batteries (both components and final products) are too low to serve the EU market. Over time, increased domestic investment may close some of this gap, but the transition period will involve higher costs, less flexibility, and potentially lower quality for procurers.

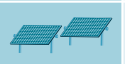
The IAA is also expected to increase administrative costs for companies participating in public tenders or receiving public support.[2] The impact will be particularly high for companies with complex, multi-tier supply chains and many components, for example truck- or wind turbine manufacturers, while companies already tracking origin data may face only limited additional costs from the IAA.

We expect that the higher production costs and increased administrative burden will discourage some companies from bidding in public tenders and participating in publicly financed activities, which would lower competition for public contracts which could raise prices further.

A mitigating factor is the waiver for the IAA requirements if additional costs exceed 25 per cent, which seem to be relevant for several of the industries covered.[3]

Estimated annual cost impact from reshoring production to EU27 to serve the public funded share of the market, long-term effect

Million EUR per year

Industry	Low estimate	High estimate	Size of market affected, including fully private market	Notes
Electric buses	180	300	2,800 (net extra-EU27 imports in 2025)	Component cost increases are not included. Battery production in the EU could raise the cost of batteries and their components by 30–40 per cent.
Concrete & mortar	*Low*	*Low*	*Not identified*	Added costs for concrete & mortar would come primarily from the low-carbon requirements.[4]
Aluminium	*Low*	*Low*	*Not identified*	Added costs for aluminium would come primarily from the low-carbon requirements.
Wind turbines and components[5]	60	100	400 (net extra-EU27 imports from select Member States)	
Solar PV and components 	160	1,100	2,800 (net extra-EU27 imports in 2025)	
BESS	500	2,100	17,800 (market size in *Europe* in 2025)	When also including other lithium batteries not used for BESS, the range is EUR 600-2,800 million.

Note: The sizes of the markets are based on 2025 data. We do not include costs related to low-carbon requirements.

Source: Copenhagen Economics calculations, see appendix.

1) For wafers and polysilicon, we find that the EU27 is 60-90 per cent more expensive. / 2) We have not been able to quantify additional administrative costs. / 3) The proposal states, "Estimated cost differences exceeding 25%, based on objective and transparent data, may be presumed by contracting authorities and contracting entities to be disproportionate.", see European Commission (2026), page 4) In other work, we have found a shadow price of EUR 10-100 per tonne CO2 for smaller-scale solutions to lower emissions (process efficiency, recycling, input substitution) and more than EUR 100 per tonne for carbon capture and storage, based on Copenhagen Economics, link. / 5) We have not been able to trace detailed trade in components for wind turbines, so the numbers are crude estimates.

Executive summary (3/3)

EU competitiveness impacted by costs and quality impacts from the IAA

Over time, the IAA will likely strengthen the EU27's strategic autonomy in the covered industries, but the extent of this effect remains uncertain. However, requirements that narrow supplier choice can risk eroding competitiveness to the extent that they raise input costs or reduce companies' ability to optimise supply chains.

We find that some industries and companies will gain from the IAA, while others may lose, see table to the right. Companies that already have IAA-compliant production and supply chains will face less competition in public tenders, while companies relying more on global supply chains will face higher sourcing and transition costs.

IAA impacts will extend beyond the directly targeted sectors, as value chain linkages, price effects, and shifts in investment patterns can generate economy-wide impacts for companies.

Increased public spending will increase the need for additional public revenue (taxes) or loans, lower public ambition levels for supporting net-zero technologies, or require trade-offs with other public spending priorities, which could affect industries that are not part of the IAA.

The IAA increases costs for companies in the EU

Companies that cannot meet IAA requirements risk losing access to public procurement markets, eroding their competitiveness through reduced scale and weaker market representation. This is particularly important in markets where public funding covers a large part of the market.[1] The lack of scale could also affect companies' ability to export from the EU27.

Since procurement in the private sector is not subject to the same origin requirements, one adverse effect may be that some EU-based companies would only serve the public sector to a limited degree. Hence, there is a risk that companies would focus only on the private sector in situations where the public sector account for a smaller part of the market. This effect may be particularly pronounced for smaller companies, which can be expected to have less ability to manage several suppliers from different countries. Overall, serving a smaller market could reduce scale and drive-up cost per unit in the remaining markets.

Projects without public funding may also rely increasingly on non-Union imports, offsetting parts of the intended reshoring of manufacturing.

Low versus high value-added production

A further consideration is the distinction between standardised and complex, high-value activities in each supply chain. The IAA's broad, sector-wide focus on manufacturing in energy intensive industries, automotive, and net-zero technologies does not clearly target growth-defining technologies or build on EU27's comparative advantages. Its origin requirements, defined around physical assembly and component sourcing, give greater weight to traditional manufacturing processes than to knowledge-intensive or innovation-driven activities.

As a result, there is a risk that the proposed requirements mainly incentivise lower value-added manufacturing in EU27 without sufficiently reinforcing the development of high-value R&D, software, AI and innovations that can drive long-term competitiveness and growth in the EU27.

Expected impact on EU27 companies from the IAA proposal

Industry	Gaining and losing		Costs, product quality, and timing
EVs	++	EU27 and EU partner country suppliers	• Cost increases are expected for buses (+30-40 per cent compared to China). • Scaling component production in the EU will take time. Components may increase in cost, and EU batteries are unlikely to match the quality of imports anytime soon.
	-	EU27 producers face lower bargaining power towards EU suppliers	
Concrete & mortar	-	Low impact on competitiveness from the Union origin requirement. Increased costs for low-carbon products	• Main additional costs are for low-carbon requirements. There is no quality difference for CCS cement, but possible quality differences exist for change of input in cement production. • Scaling CCS cement can take several years.
Aluminium	-	Low impact on competitiveness from the Union origin requirement. Increased costs for low-carbon products	• Main costs are for low-carbon requirements. Scaling low-carbon aluminium can take time, as plants not currently running on renewable electricity must be transformed or built. • No expected change in product quality.
Wind Turbines	+/-	EU producers can expect less competition but may have higher sourcing costs	• Component costs are expected to be 20-30 per cent higher when produced in the EU instead of China, except for final turbines. Potential short-run quality and partnership issues may arise from increased production of specific products in the EU, such as permanent magnets. A longer time horizon is needed for complex products, as testing and supplier relationships are necessary.
	-	Energy companies will have increased costs	
Solar PV	+	The few EU producers can expect less competition	• Costs are expected to be 10-20 per cent higher when produced in the EU instead of China. The EU lags behind China in developing high-efficiency solar PV production and is unlikely to catch up soon. Scaling up production takes time, and the EU lacks the capabilities to do so.
	-	Energy companies will have increased costs	
BESS	+	The few EU producers can expect less competition	• Costs are expected to be 30-40 per cent higher when produced in the EU instead of China. • Attempts to produce batteries at scale have not been successful in Europe.
	--	Energy companies will have increased costs	

Note: Impact is evaluated from low positive impact (+) to high positive impact (+++), and negative impact (-) to high negative impact (---)

Source: Copenhagen Economics based on research and interviews.

1) E.g., tax benefits for EVs and public offshore wind auctions.

The final scope of the IAA is not yet defined

Introduction

The scope of the IAA is potentially broad

The IAA proposal aims to strengthen EU27 industrial capacity in select industries, reduce strategic dependencies, and create markets for low-carbon, Union origin products through public funding.[1]

The IAA defines when and how the EU27 may limit or adjust access for non-Union suppliers to EU public funding, based on required scope and value thresholds, see next page.

The framework is implemented through delegated acts, which specify the industries and products covered, the measures to be implemented, and the thresholds to uphold over time, see tentative timeline below. In principle, the delegated acts can both broaden and narrow the scope relative to the current IAA proposal.

The Commission's impact assessment for the IAA was made before the most recent IAA proposal from March 4, 2026, and it is therefore not examining the most recent suggestions in the proposed policy.

The proposal is unclear about what in principle constitutes 'Union origin'

Content from third countries that are parties to the GPA or have a trade agreement or a customs union with EU27 (EU partner countries), shall be treated as of Union origin where relevant obligations exist.[2] Under the current proposal, companies in these countries have the same market access to public funding as companies operating within EU27.

However, the Commission can exclude an EU partner country where there is insufficient reciprocity, where strategic dependency or security-of-supply risks arise, or where another agreement-based exception applies. This means that EU partner countries can be excluded even if they are GPA or FTA partners with the EU.[3]

We focus on select industries, products, and impacts

In this analysis, we examine selected industries/products as illustrated to the right, and we focus solely on the IAA's provisions on Union origin.[4]

For each industry, we analyse potential combined costs for EU companies and public funding, including supply-chain rerouting and higher production costs in the EU27.

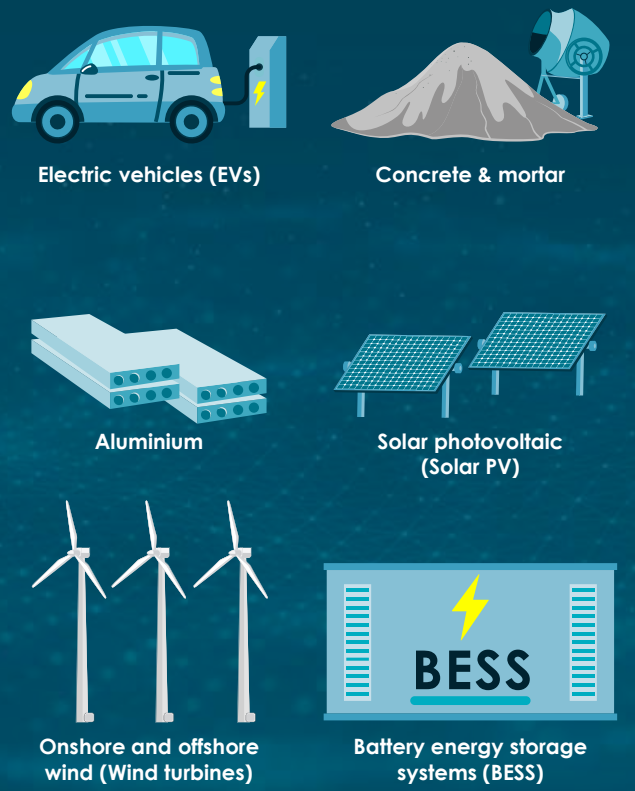
We also analyse the speed of adjustment in the short- and long-term in terms of time needed to re-route or reshore value chains and build domestic capacity.

Tentative timeline for the implementation of the IAA

Note: The timelines in the figure reflect expected timelines and are subject to uncertainty.
Sources: Ashurst (2026), link. / European Commission (2026), link. .

1) See European Commission (2026), link, / 2) See IAA proposal article 8, link. / 3) See European Commission: Industrial Accelerator Act, link or Holland & Knight (2026), link. / 4) For the net-zero technologies Solar PV, wind turbines, and BESS, there are overlaps with the regulation in the Net-Zero Industry Act (NZIA). We will not go in depth with these NZIA requirements, except where it overlaps with the IAA.

Industries analysed



The current IAA requirements combine clear Union origin percentages with sector-specific rules

Introduction

The IAA does not apply one common EU-content threshold across industries. Instead, it combines clear thresholds in some industries with component-based requirements in others.

For **EVs**, the proposal is relatively detailed, see table. The vehicle must be assembled in the Union, at least 70 per cent of the ex-works price[1] of the vehicle components (excluding the battery) must come from the Union, and key e-powertrain and electronic-system shares must each reach at least 50 per cent. The traction battery must also contain at least five key battery parts originating in the Union.

For **concrete & mortar**, the threshold is simpler but narrower. 5 per cent of the volume must come from the Union, but this must also meet low-carbon requirements. For aluminium, the corresponding threshold is 25 per cent of the volume, again combined with low-carbon requirements.

For net-zero technologies, the IAA proposal relies more on components and timing than on broad value shares:

- For **wind turbines**, one primary specific component[2] must come from the Union one year after the implementation of the IAA, and two primary specific components must come from the Union after three years.
- For **solar PV**, the PV inverter and PV cells *or equivalent* must come from the Union after three years.
- For **BESS**, the battery management system must come from the Union within one year after implementation of the IAA, and after three years the system must also include battery cells, a battery management system, and one other main component from the Union.

We rely on different sources to assess potential impacts

- Data to map exposure by EU Member State, industry, and to link public funding patterns with dependency on non-Union imports
- Desk research on the IAA provisions, related EU policy documents, and existing evidence on compliance and procurement impacts
- Interviews with selected stakeholders to test assumptions, validate quantitative results, and capture practical implementation challenges

Given the uncertainty as to which partner countries may (not) be covered and that the requirements may be changed, **we calculate cost impacts of manufacturing moving to the EU27 in this analysis**. Thus, we are **not calculating the effects of relocating manufacturing to EU partner countries**. We highlight data limitations that constrain the precision and granularity of the results, but the available data still allow us to identify robust ranges and directional effects.

Union origin requirements in public funding in the IAA proposal as of 4 March 2026

Industry	Requirements
EVs	• The vehicle is assembled in the Union. • At least 70 per cent of the total ex-works price of vehicle components (excluding the battery) comes from the Union. • The traction battery contains at least five key battery parts (battery cells, cathode active material, and battery management system included), all originating in the Union. • The ratio between the total ex-works price of e-powertrain components originating in the Union and the total ex-works price of all e-powertrain components is at least 50 per cent. • The ratio between the total ex-works price of main electronic systems originating in the Union and the total ex-works price of all main electronic systems is equal to or greater than 50 per cent.
Concrete & mortar	• 5 per cent of the volume shall come from the Union and uphold low carbon requirements
Aluminium	• 25 per cent of the volume shall come from the Union and uphold low carbon requirements
Onshore and offshore wind	• One year after the IAA takes effect, one primary specific component must come from the Union. • After three years, two primary specific components must come from the Union.
Solar PV[8]	• Three years after the IAA takes effect, the PV inverter and the PV cells or equivalent must come from the Union
Battery energy storage systems[9]	• One to three years after the IAA takes effect, battery energy storage systems and, for those over 1 Megawatt-hour, their battery management systems must come from the Union. • After three years, these systems must also include battery cells, a battery management system, and one other main component from the Union.

EVs: Annex III, Part I, a-f. Concrete & mortar: Annex II, Part I, b, Aluminium Annex II, Part I, c, Onshore and offshore wind: Article 28h, 8, 'Annex II Part I, 1, b, Solar PV: Article 28h, 8, 'Annex II Part I, 1, d, BESS: Article 28h, 8, 'Annex II Part I, 1, a.

Source: European Commission: Industrial Accelerator Act, link

1) An ex-works price is the base cost of goods at the seller's factory or warehouse, i.e., excludes transport costs, insurance, and other trade costs. / 2) See chapter 1 for these components. / 3) Data availability varies across the industries analysed, and the findings are therefore also presented slightly differently across industries.

CHAPTER 1: THE EU'S NON-UNION DEPENDENCY FROM THE IAA

Public sectors across EU Member States differ in their dependence on non-Union supply

EU public-sector buyers vary in their exposure to non-Union imports. Import dependence tends to be concentrated in product categories where EU production capacity is low or unevenly spread across Member States, see figure. Examples of this include solar PV and BESS.

China plays a dominant role in both **solar PV and BESS** on the EU market. China accounts for almost all extra-EU solar panel imports, and there is hardly any EU production.[1] Battery supply chains are also heavily tied to China, particularly in upstream processing and cells, with some pack assembly taking place in Europe.

EU dependence on non-Union imports for **EV** is more mixed across Member States, but overall, the EU is currently self-sufficient in producing EVs.[2] Automotives are also listed as an industrial ecosystem with high levels of R&D in the EU.[3]

Most of the value added in vehicles purchased in the EU is also produced in the EU or in EU partner countries. Even so, China was the single largest extra-EU source of EV imports in 2025, followed by the FTA partner countries South Korea and Japan.

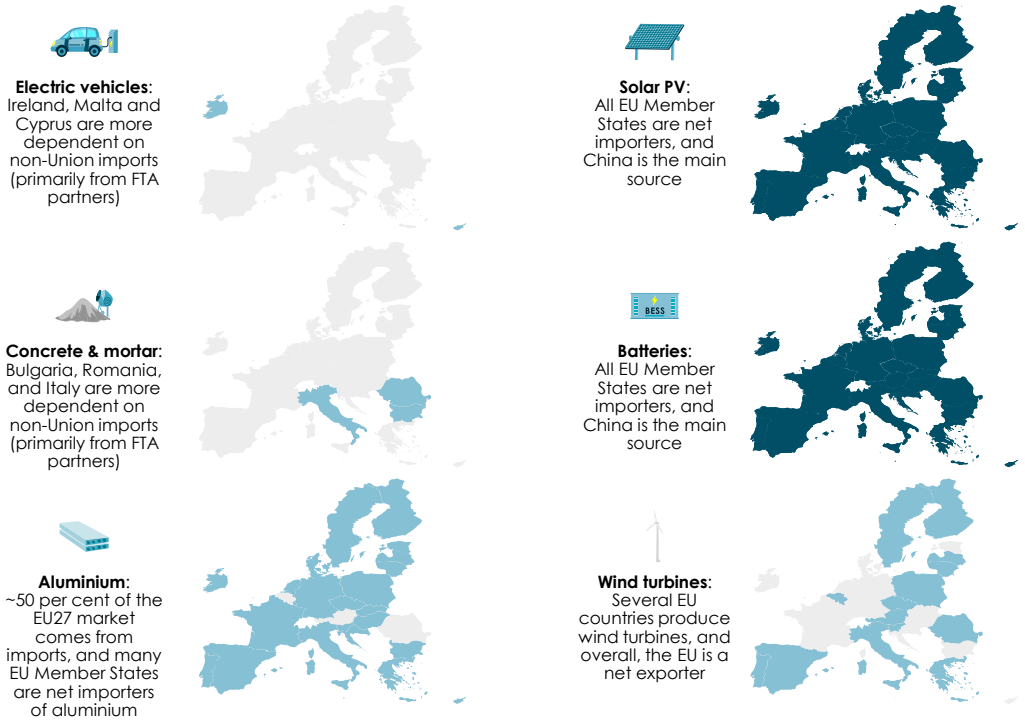
For **concrete & mortar**, import reliance exists in some Member States. Some countries in Eastern and Southern Europe import these products from nearby EU partner country suppliers such as Turkey and countries in North Africa, but non-Union dependencies appear limited because transport costs constrain long-distance trade and local production remains important.

In **aluminium**, most Member States are dependent on imported primary aluminium, and imports (primarily from EU partner countries) account for approximately half of the EU consumption. The EU has an internal production base though it is unevenly distributed. Greece is a primary aluminium producer, and recycling also gives the EU a substantial secondary aluminium industry that strengthens its internal supply.

The EU has a strong manufacturing industry in **wind turbines.** Germany, Spain, and Denmark are among the main European production locations for both wind turbines and components, but the industry is experiencing increased competition from China. EU imports from China are prominent in parts of the value chain, particularly permanent magnets, nacelles, and blades[4], and China was the largest source of EU wind turbine imports in 2025, followed by India.

On the following pages, we dive deeper into each industry.

Illustration of dependence of inputs across EU Member States



Note: Light blue colour means that the country is a net importer of extra-EU27 goods (including both EU partner countries and non-partner countries). Dark blue colour means high non-Union dependence (primarily from China).
Source: Copenhagen evaluation based on OECD ICIO data (for EVs) and Eurostat trade data (for concrete & mortar, aluminium, solar PV, batteries, and wind turbines)

1) Based on trade statistics from Eurostat, see also page 17. / 2) On the macro level, the EU exports more vehicles than it imports. / (3) See Cluster Collaboration, link and JRC (2024), link. / 4) European Council on Foreign Relations (2025), link and appendix B.

Electric vehicle requirements under the IAA cover multiple parts

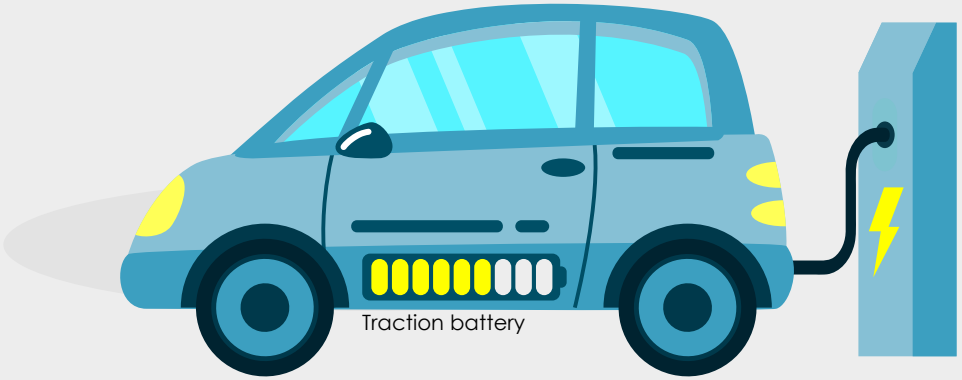
Deep dive: EVs

IAA requirements

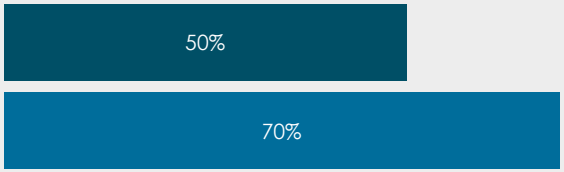
The vehicle must be assembled within the Union

Three main components of the traction battery[1] must originate in the EU after six months (including battery cells)

Five main components of the traction battery must originate in the EU after three years (including battery cells, cathode active material, and battery management system)[2]



50% of total ex-works price of *both* e-powertrain components *and* main electronic systems of Union origin (after three years)



70% of total ex-works price of all components of Union origin (excluding the battery) (after six months)

1) Traction battery refers to the electric vehicle battery specifically designed to provide electric power for traction as defined in Article 3(14) of Regulation (EU) 2023/1542. /
2) Cathode active material is the electrochemically active compound in a battery that stores and releases lithium ions during charging and discharging.

Europe is self-sufficient in most vehicle types – except buses

Deep dive: EVs

EU27 is a net exporter of vehicles

In 2025, passenger car production reached 11.5 million units in EU27, which is higher than the 10.8 million new car registrations in the same year.[1]

EU27-based manufacturers supplied 73 per cent of all cars sold in the EU, led by Germany, Spain, Czechia, France, and Slovakia. This manufacturing base also supports exports, with the UK, Turkey, and the US among the main destinations for EU27-produced cars, reaching a total net export of electric cars of EUR 13.8 billion in 2025, see upper figure.

There are still significant imports of EVs into the EU, which would be affected by the IAA requirements. For electric cars, imports reached EUR 14.9 billion in 2025, see figure.

The EU only has a trade deficit for electric buses, amounting to EUR 1 billion in 2025. About 28,000 buses were produced in EU27 in 2025, while about 38,000 were registered.[1]

Direct public procurement is a small part of overall vehicle purchases except for buses

Public procurement has limited influence on the market for cars, vans, and trucks because the public sector accounts for small shares of these markets, see lower table to the right. Direct government purchases amounted to EUR 2.2 billion in 2022, whereas the private consumption amounted to EUR 255 billion.[2]

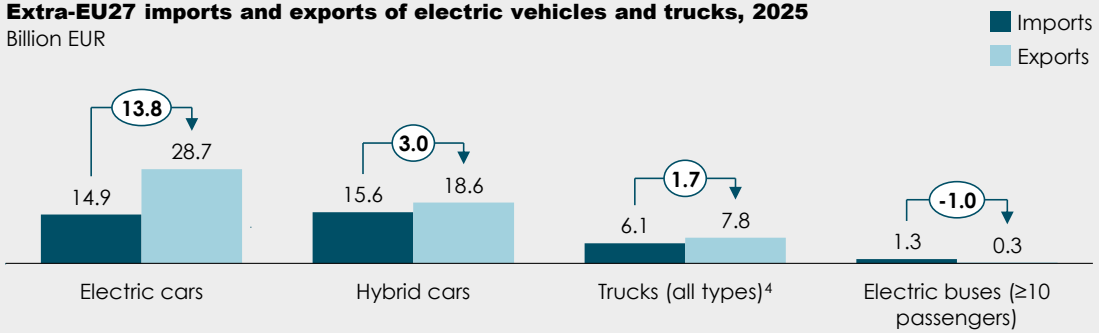
Electric buses are, however, different because public authorities account for a much larger share of direct or indirect purchases and fleet renewal, but this is a small share of the overall market, as also evident in the registration and trade statistics.

However, EV subsidies and similar support measures must also follow Union origin requirements, not only public procurement. These include public funding for purchase support, ownership support or tax breaks for EVs.

All EU Member States, except Latvia, have one or more types of tax breaks for EVs,[3] whereas most EU Member States have one or more publicly financed incentives in place for EVs, except Bulgaria, Denmark, Estonia, and Slovakia, see appendix D.

Extra-EU27 imports and exports of electric vehicles and trucks, 2025

Billion EUR



Note: HS codes: 8703.80 (Electric cars, <10 passengers), 8703.40 (Hybrid cars), 8704.21, 8704.31, and 8704.90 (Trucks), and 8702.40 (Electric buses, ≥10 passengers).
Source: Copenhagen Economics based on Eurostat.

Different elements under public funding

Public funding	Direct public procurement	When the public sector purchases vehicles. Across EU Member States, the public sector account for 0-5 per cent of the purchases made in automotives.[2]
	Indirect public procurement	When the public sector indirectly purchase vehicles, for example, through public contracting of bus services from private companies.
	Public support, state aid, tax breaks	Support schemes for incentivising private companies' and households' purchasing EVs, including for example public grants, tax deductions, and state aid.

1) The same pattern holds for vans and trucks, with 2.6 million vans produced against 1.5 million registrations and 480,000 trucks produced against 307,000 registrations. ACEA (2024), link and ACEA (2026, a), link / 2) Based on numbers from OECD, see appendix C. We use an average USD-EUR exchange rate from ECB for 2022. / 3) These countries cover also tax benefits for EVs. Based on the European Automobile Manufacturers Association (ACEA) (2026, b), link. / 4) Trucks are not as far in the development of the electric motor for propulsion. Therefore, we include all trucks in this statistic.

Lack of low-carbon cement is the main bottleneck in meeting the IAA requirements for concrete & mortar

Deep dive: Concrete & mortar

While the IAA proposed requirements for Union origin and low-carbon content (5 per cent) are specified for **concrete & mortar**, up to 80 per cent of emissions in concrete & mortar stem from the production of **cement**.[1] Thus, when it comes to the low-carbon requirement, cement is the key component for concrete & mortar.

The Union origin requirement is not problematic when including both EU27 and EU partner countries. If we exclude EU partner countries, some Member States have dependency on for example Turkey and Algeria.

EU27 produces more cement than it uses

The cement market consists of regional market as transport costs are relatively high compared to price and margins.

Even so, EU27 is a net exporter of cement. Overall, EU27 produced around 161 million tonnes of cement while consuming about 151 million tonnes in 2023.[2]

EU27 remains a net importer in **certain** cement-related categories, such as *cement and clinker*, see figure. Together, Croatia, France, Ireland, Italy, the Netherlands, Poland, Romania, Bulgaria, and Spain represent 80 per cent of EU27 cement imports.

The EU imports primarily from partner countries close to the EU, i.e., Turkey, Ukraine, Algeria, and the UK, which also show the importance of shorter distances in this market.

Public funding is an important driver of demand

The main uses of cement, concrete, and mortar are in building and construction, including residential and non-residential buildings, roads, bridges, tunnels, and other civil engineering projects.

Public procurement is a major indirect driver of cement demand because large-scale infrastructure projects, public transport systems, and public buildings rely heavily on cement, concrete, and mortar.

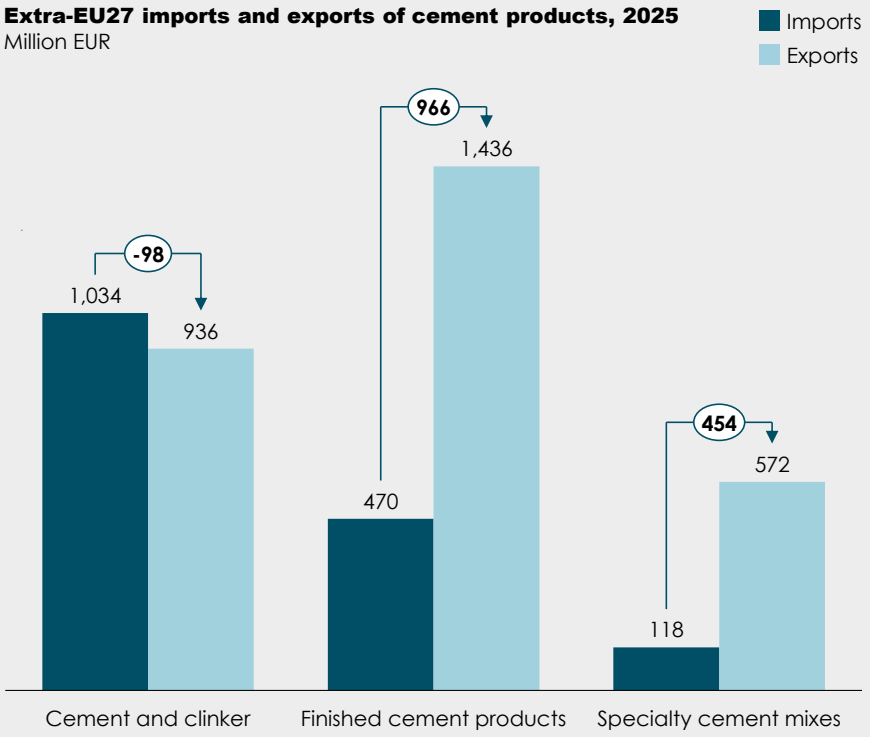
Low-carbon cement, concrete, and mortar are in their early phases

There is currently limited demand for low-carbon cement, concrete & mortar in the EU as these products tend to have significantly higher prices.

The main current drivers for low-carbon cement are currently CO_2 taxes such as the EU ETS and CBAM, but these are not large enough currently to drive large increases in demand.

Public funding requirements and building criteria would thus boost the demand for low-carbon cement in the EU.

Extra-EU27 imports and exports of cement products, 2025
Million EUR



Note: "Cement and Clinkers" includes HS codes 2523.10, 2523.21, 2523.29, and 2523.90; "Finished Cement Products" includes HS codes 6810.11, 6810.19, 6810.91, and 6810.99; "Specialty Cement Compositions" includes HS code 3816.00.
Source: Copenhagen Economics based on Eurostat.

1) See World Economic Forum (2024), link. / 2) Cement Europe, link.

For aluminium, CO_2 content requirements are more difficult to meet than the Union origin requirements

Deep dive: Aluminium

In the IAA proposal, at least 25 per cent of the total volume of aluminium must fulfil both low-carbon and Union origin requirements when purchased through public funding.[1]

The Union origin requirement is not problematic when including both EU27 and EU partner countries. If we exclude EU partner countries, we see some EU27 dependencies on Norway, Iceland and Turkey.

EU27 is not self-sufficient in aluminium products

Primary production of aluminium only accounts for 7 per cent of EU27 demand with Greece being the main producer. Net imports account for 54 per cent of EU27 demand, and recycled aluminium for the remaining 39 per cent.[2]

This means that imports remain necessary even with high recycling rates, particularly for unwrought and semi-finished aluminium products, for which the EU has a large trade deficit, see figure.

On the macro level, EU27 production (46 per cent of demand) is still much higher than the Union origin threshold of 25 per cent in the IAA. Therefore, the low-carbon content requirement in the IAA is the main binding element for sourcing aluminium. On a product level, non-Union dependencies may still be present.

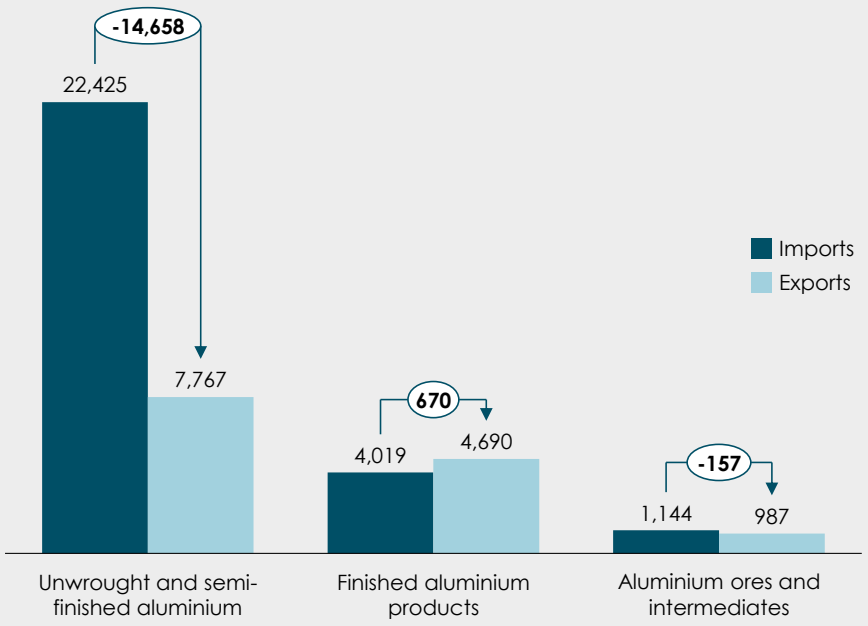
Aluminium is used for a variety of public sector purposes

Construction, net-zero technologies, and vehicles are some of the main uses of aluminium.[3]

Public buyers rarely procure aluminium directly, but rather aluminium embedded in downstream products. This means that public funding affects the sector mainly indirectly through purchases of buildings, infrastructure, transport equipment, and support for net-zero technologies.

Public funding can therefore help reduce the carbon intensity of aluminium products in the EU.

Extra-EU27 imports and exports of aluminium products, 2025
Million EUR



Note: HS codes: 2606.00 and 2818.20 (Aluminium Ores and Intermediates), 7601.10, 7601.20, 7604.10, 7604.21, 7604.29, 7606.11, 7606.12, and 7607.20 (Unwrought and Semi-Finished Aluminium), and 7610.10, 7610.90, and 7616.99 (Finished Aluminium Products).
Source: Copenhagen Economics based on Eurostat.

1) See European Commission (2026), link. / 2) Joint Research Centre (2026), link. / 3) European Aluminium, link.

Europe has a strong position in wind turbines, but China is becoming more important in the market

Deep dive: Wind turbines

The IAA requires certain components of the wind turbine to be produced in the EU. One year after the IAA implementation, one primary component must be of Union origin, increasing to two primary components after three years, see upper figure.

There is no big difference in non-Union dependencies when considering EU partner countries included in the Union origin or not, as China[1] is the main source of imports of wind turbine components.

EU27 is a net exporter of wind turbines

15.1 GW of new wind capacity was installed in the EU in 2025, most in the form of onshore wind farms.[2]

On the macro level, EU27 is self-sufficient in wind turbine production. In 2025, the EU's net exports of wind turbines amounted to about EUR 2.3 billion, see lower figure.

Much of the value in wind turbines comes from large, heavy components that are typically produced near installation sites. Towers, nacelle, and blade components are bulky, costly to ship, and primarily manufactured in EU27, with Germany, Spain, and Denmark among the main EU production hubs.[3]

However, in recent years, Europe has experienced increased competitive pressure from China.[4]

China dominates *global* manufacturing capacity for nacelles and blades

China accounts for almost 80 per cent of global manufacturing capacity for both nacelles and blades, against just 9 and 7 per cent respectively for EU27.[5] For onshore wind, a quarter of total Chinese exports of these components go to select EU countries.[6]

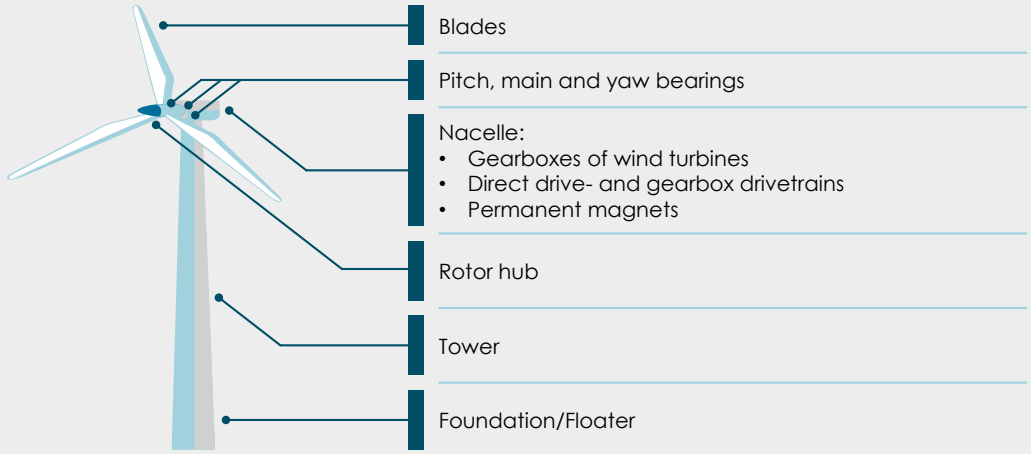
For towers and foundations, the EU27 has a stronger global position with 17 and 24 per cent of manufacturing capacity, respectively.[6]

Public funding is a partial driver of demand

In many cases, new wind capacity is partly financed via public tenders, auctions, and state-backed financing. These projects are therefore key channels through which IAA requirements can influence demand for Union origin of components.

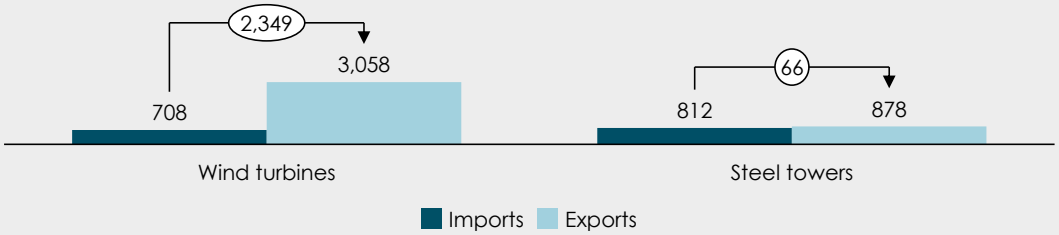
Under the current IAA proposal, eligible public funding for renewables must ensure that a defined share of key wind components is of Union origin, linking turbine deployment more closely to EU-based manufacturing of components.

Components in wind turbines (simplified)



Extra-EU27 imports and exports of wind turbines and steel towers, 2025

Million EUR



Note: HS codes: 8502.31 (Wind turbines), 7308.20 (Iron and steel towers and masts). Steel towers cover a broader category than towers for wind turbines.
Source: Copenhagen Economics based on Eurostat.

1) China is not an EU partner country. / 2) Wind Europe (2026), link / 3) Rystad Energy and Wind Europe (2023), link. / 4) European Council on Foreign Relations (2025), link. / 5) European Commission (2025, b), link. / 6) See appendix B.

For solar PV, EU27 is heavily dependent on imports from China

Deep dive: Solar PV

The IAA sets minimum requirements for Union origin content for solar PV.[1] Three years after the IAA takes effect, the PV inverter and the PV cells "*or equivalent*" must come from the Union, see figure.[2]

There is no big difference in non-Union dependencies when considering EU partner countries included in the Union origin or not, as China is the main source of imports.

EU27 is not self-sufficient in solar PV modules and cells

EU27 installed 65 GW of new solar PV capacity in 2025,[3] but current EU manufacturing capacity covers only a small fraction of this.[4]

Most modules and cells for EU27 deployments are imported, with a net import of almost EUR 7.5 billion in 2025. Although the import value has decreased in recent years, see figure, China provides the bulk of the solar PV deployed in the EU, accounting for 98 per cent of EU27 imports of PV cells in 2025.[5] Part of the decrease stems from lower price of the products imported.

China dominates global manufacturing capacity for specific solar PV components

China accounts for most of global manufacturing capacity for wafers and more than 80 per cent of solar cells. EU27 produces less than 1 per cent of each, respectively.[6]

For finished modules, China holds 75 per cent of capacity, against just 3 per cent in EU27. For polysilicon, China stands at 80 per cent, against 8 per cent for EU27, with Germany as the sole manufacturer.

40 per cent of total Chinese exports of finished modules went to EU27 in 2023.[6]

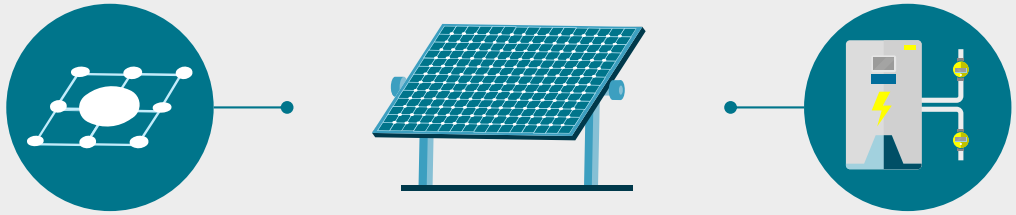
Public funding drives some of the demand for solar PV

While most of the investments in solar PV in Europe are conducted by private actors, the public sector covers part of the demand through public funding of solar PV for public buildings and support schemes for solar parks or rooftop solar.[7]

Public buyers rarely procure modules directly. Instead, they tender complete PV systems for schools, hospitals, public offices and ground-mounted plants, which embed modules, inverters, mounting structures and grid connections.[8]

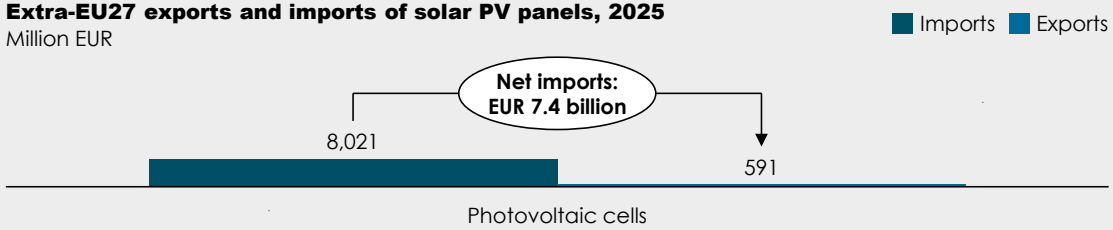
Through these tenders and other funding schemes, Union origin requirements can steer part of EU solar demand towards increased EU27 or EU partner country production.

Components in solar PV panels (simplified)



Extra-EU27 exports and imports of solar PV panels, 2025

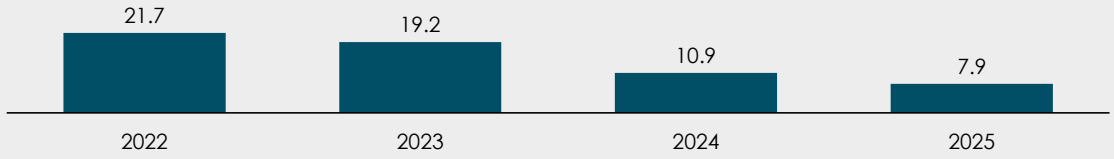
Million EUR



Note: HS codes: 8541.42 (Unassembled photovoltaic cells), 8541.43 (Assembled photovoltaic cells).
Source: Copenhagen Economics based on Eurostat.

EU27 imports of photovoltaic cells from China, 2022-2025

Billion EUR



Note: HS codes: 8541.42 (Unassembled photovoltaic cells), 8541.43 (Assembled photovoltaic cells).
Source: Copenhagen Economics based on Eurostat.

1) These relate to the Net-Zero Industry Act. Solar Power Europe (2025, a), link. / 2) The term 'equivalent' refers to similar steps or key enabling technologies needed for thin-film, organic, tandem or other PV technologies, European Commission (2025, c), link. / 3) Solar Power Europe (2025, b), link / 4) Joint Research Centre (2023), link / 5) Eurostat (2025), link. / 6) See appendix B. / 7) Solar Power Europe (2026, a), link. / 8) European Commission (2024), link.

EU27 has little battery production, and BESS materials are mainly imported

Deep dive: BESS

The IAA introduces Union origin requirements for battery technologies, including battery energy storage systems (BESS), in relation to public funding.

BESS is a system that stores electricity, typically from wind and solar, in batteries and releases when needed. BESS can be used to balance supply and demand in the energy grid or simply for arbitrage (i.e., storing energy surplus (cheap) to release when scarce (expensive)).

Specifically, one to three years after the IAA takes effect, BESS' battery management systems must be Union origin.[1]

After three years, these systems must include battery cells, a battery management system, and one other main component of Union origin.

Other main components include anode active materials, battery modules, battery packs, battery thermal management systems, cathode active materials, current collectors, electrolytes, and separators.

There is no big difference in non-Union dependencies when considering EU partner countries included in the Union origin or not, as China is the main source of imports.

EU27 relies on imports for deployment of BESS

EU27 installed 27 GWh of new battery storage capacity in 2025, of which 55 per cent was BESS.[2]

BESS are mainly used to integrate variable renewables, provide grid flexibility, and support behind-the-meter applications for producers and consumers of electricity.[3]

Most of the batteries deployed in Europe are imported, and net imports of lithium batteries and accumulators were EUR 23.7 billion in 2025, see upper figure.

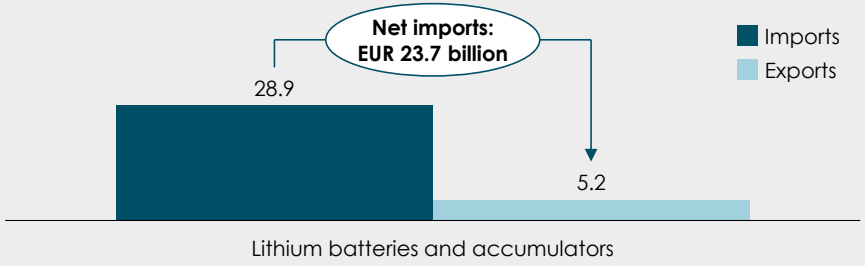
Total imports reached EUR 28.9 billion in 2025, of which China accounts for EUR 25.8 billion (89 per cent), an increase from just EUR 6.6 billion in 2021, see lower figure.

China dominates global manufacturing of several BESS components. China held around 80 per cent of global cell manufacturing capacity in 2023 (versus Poland's 6 per cent), 90 per cent for anodes, and 70 per cent for cathodes.[4]

Public funding drives some of the demand for BESS

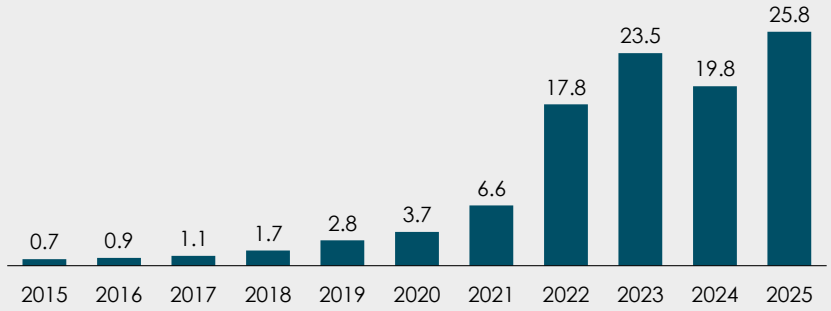
Public funding can help drive the sector through capacity markets, tenders, and direct and indirect support schemes for renewable projects.

Extra-EU27 exports and imports of BESS and components, 2025
Billion EUR



Note: HS codes: 8506.50 and 8507.60 (Lithium batteries and accumulators)
Source: Copenhagen Economics based on Eurostat.

EU27 imports of BESS and components from China, 2015-2025
Billion EUR



Note: HS codes: 8506.50 and 8507.60 (Lithium batteries and accumulators)
Source: Copenhagen Economics based on Eurostat.

(1) For BESS above 1 Megawatt-hour. / 2) Solar Power Europe (2026, b), link. / 3) Copenhagen Economics (2025), link / 4) See appendix B.

CHAPTER 2: POTENTIAL COST AND QUALITY IMPLICATIONS FROM THE IAA

Global value chains have been optimised over decades – reshoring to more domestic production could increase costs

Globalisation has secured lower production costs and increased competition but poses other complications

Global value chains reduce costs for end users, including in public funding, and give access to a wider range of goods and quality levels. International competition pushes domestic and foreign producers to cut costs and improve quality, while global sourcing increases companies' flexibility by diversifying input suppliers, which also benefits EU companies' competitiveness.

At the same time, greater reliance on imports and complex cross-border production networks makes economies more exposed to supply chain disruptions.

For some raw materials and products, EU27 cannot fulfil its own demand and thus requires imports from non-Union countries. As an example, the main producers of materials and products in the value chain for batteries are primarily non-Union, see figure below.

Shifting global value chains to the EU can be both costly and affect quality

The IAA's push to shift global value chains into the EU risks raising costs and reducing flexibility for companies, see box to the right.

This rerouting premium reflects both limited current production capacity in EU27 and structurally higher costs of production, especially for energy- and labour-intensive processes. With fewer competing suppliers, competitive pressure weakens and companies face a smaller set of options to fine-tune the quality-to-cost mix they need.

In addition, companies incur extra administrative costs for certifying, documenting, accounting and securing approvals to demonstrate compliance with the new requirements.[1]

Potential implications for costs and quality of reshoring production

- Rerouting premia
- Lower competitive pressure
- Lack of capacity in Europe
- Fewer options for assessing quality-to-cost
- Higher production costs
- Administrative costs

Illustration of a global value chain from mining of metals to final batteries and products, including large production countries in brackets

Mined raw materials
- Cobalt (DRC)
- Lithium (Chile, Australia, Argentina)
- Nickel (Indonesia, Philippines)
- Graphite (China)

Battery chemicals
- Cobalt sulphate (China, **Finland**)
- Lithium carbonate (China)
- Nickel sulphate (China)
- Graphite concentrate (China)

Battery component materials
- Cathode materials, anode materials, electrolyte materials, separator materials (China, South Korea, Japan)

Manufactured battery units
- Battery cells and battery auxiliary systems (China, **the EU**, South Korea, Japan, the US)

Products
- EVs (China, **the EU,** the US)
- Consumer electronics (China, South Korea, Japan)
- BESS (China, the US, South Korea)

Sources: Copenhagen Economics based on Joint Research Centre (2020), link, Faraday Institution (2023), link, Faunhofer ISI (2023), link, IEA (2022), link, Bruegel (2025) link.

1) We have not been able to identify the size of administrative costs. In the interviews, we noted that there likely will be administrative costs, but they will not necessarily be large, as much of the necessary information is already gathered. However, these costs increase as the industry's value chains become more complex and global, for example in automotives.

Cost impacts vary depending on public funding levels and the EU's relative cost level to other regions

IAA origin requirements will drive cost increases

Based on our analysis of manufacturing cost differences, assumed EU public funding share of the markets, and net imports of final products and components, we find a low and a high estimate for the additional cost for EU companies from adhering to the IAA when moving current non-Union production to the EU27.[1]

Electric buses show an annual cost increase of EUR 180 million in the low estimate and EUR 300 million in the high estimate as a long-term effect, see table.

At current thresholds, we find that cost increases from IAA Union origin requirements may not be large for **concrete & mortar and aluminium**. Additional cost effects from low-carbon requirements for concrete and aluminium come on top of these origin requirements.[2]

The main cost impact from Union origin requirements is found for net-zero technologies. **Wind turbines** show an annual cost impact of EUR 60–100 million, and **solar PV** shows EUR 160–1,100 million per year. **BESS** is the most affected category, with an expected annual cost effect of EUR 500-2,100 million in the high estimate. Including also other batteries, such as car batteries for EVs, the cost increase is EUR 600-2,800 million per year, relative to a market size in Europe of EUR 17.8 billion in 2025.

For solar PV and batteries, the annual cost effects are relatively large because of a large net import and that a larger portion of the market is supported directly or indirectly by public support and therefore covered by the IAA.

Additional administrative costs for companies are expected from the IAA

Union origin requirements will increase the administrative burden for companies when engaging with public tenders or receiving public support. We have not been able to quantify these costs. Based on the interviews, we conclude the following

- The requirements would increase administrative costs for companies that do not systematically gather this information. For some companies, additional administrative costs may be small, as these companies already gather origin information
- Administrative costs increases with supply chain complexities. Companies that produce advanced products with many components (e.g., truck manufacturers, wind turbines) have a vast network of suppliers, spanning several tiers. For these companies, additional administrative costs from the IAA are expected to be higher.

We expect that the higher production costs and increased administrative burden will discourage some companies from bidding in public tenders and participating in publicly financed activities, which would lower competition for public contracts.

Several elements can lower company costs

The IAA implementation design matters greatly for the final cost outcome. A long lead time would give companies more time to adapt production planning, sourcing, contracts, and compliance systems, reducing adjustment costs in the short term. Predictability is also important, because stable timelines and clear expectations make it easier for companies to plan investments, procurement strategies, and form relationships with suppliers that are compliant with the Union origin requirements.[3]

In addition, clear definitions and common standards across EU Member States would also help lower costs. Without common definitions, companies could face fragmented compliance requirements and higher verification costs across national markets.

Estimated annual cost impact from reshoring production to EU27 to serve the public funded share of the market, long-term effect

Million EUR per year

Industry	Low estimate	High estimate	Size of market affected, including fully private market
Electric buses[4]	180	300	2,800 (net extra-EU27 imports in 2025)
Concrete & mortar[2]	*Low*	*Low*	*Not identified*
Aluminium	*Low*	*Low*	*Not identified*
Wind turbines & components	60	100	400 (net extra-EU27 imports from select Member States)
Solar PV & components	160	1,100	2,800 (net extra-EU27 imports in 2025)
BESS[5]	500	2,100	17,800 (market size in *Europe* in 2025)[6]

Note: Numbers are rounded to the nearest 10 million for numbers below 1,000 million, and to the nearest 100 for numbers above 1,000 million. The sizes of the markets are based on 2025 data.
We do not include costs related to CO_2 requirements.
Source: Copenhagen Economics calculations, see appendix..

1) We present these costs for the final products that are acquired or supported by public funding. See Appendices A and B. / 2) In other work, we have found a shadow price of EUR 10-100 per tonne CO_2 for smaller-scale solutions to lower emissions (process efficiency, recycling, input substitution) and more than EUR 100 per tonne for carbon capture and storage, based on Copenhagen Economics, link. / 3) As an example, early company implementation of new legislation may be a disadvantage for companies if there is a risk that the rules will be amended or withdrawn. This is, for example, the case with the EU Omnibus. Companies that incorporated rules that were later amended or withdrawn in the EU Omnibus 'lost' ground in their competitive position against companies that did nothing. / 4) For electric buses, we include all buses (including buses with internal combustion engines) today, as we expect buses to be mainly electric in the long-term. Battery cost increases are not included. Battery production in the EU could raise the cost of batteries and their components by 30–40 per cent. / 5) When also including other lithium batteries not used for BESS, the range is EUR 600-2,800 million. Market / 6) Mordor Intelligence, link.

Illustrative example: Producing net-zero technologies in EU27 is more expensive than in China

EU production of net-zero technologies entails structurally higher costs than Chinese supply

We find higher costs for producing components and final products of net-zero technologies in EU27 than in China. This is also supported by recent public auctions for solar panels in Italy. In Italy's FER-X auction scheme in 2025, 1.1 GW was added following the NZIA requirements, under which components could not have Chinese origin.[1] The average clearing price was ~EUR 66 per MWh. A similar FER-X auction was also conducted in 2025, but without these requirements. It had an average clearing price of ~EUR 56 per MWh, resulting in much lower public support in the auction without the extra requirements.[2]

Thus, producing net-zero technologies in EU27 instead of relying on current Chinese imports would likely raise costs materially. In the low range, we find that the cost increases would be 20 per cent for **onshore wind**, 10 per cent for **solar PV**, and 30 per cent for BESS (batteries) if current Chinese imports were to be produced in EU27 instead. These imply additional annual cost in the low-range scenario around EUR 60 million for wind turbines, EUR 160 million for solar PV, and EUR 500 million for batteries for parts covered by EU public funding, see figures below. There are several different components embedded in these figures, see appendix B.

Cost impacts are driven by import dependence and public market exposure

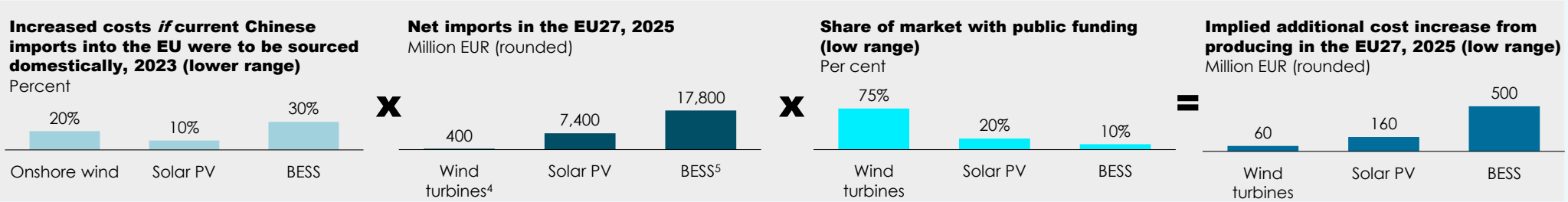
The cost impact depends on both EU27's import exposure and on how much of the market is covered by public funding. EU27 net imports in 2025 were around EUR 400 million for wind turbines[4], EUR 7.4 billion for solar PV, and EUR 17.8 billion for batteries (primarily BESS).

At the same time, the low-range share of the market linked to public procurement or finance is shown as 75 per cent for wind turbines, 20 per cent for solar PV, and 10 per cent for batteries. Even though batteries have the lowest public-market share, their large import base and high implied cost increase still produce the largest impact. Wind turbines are different, as the public-market share is high, but the net import base is much smaller, which keeps the absolute cost increase lower.

The cost increases are concentrated in technologies and components where EU27 depends heavily on Chinese supply and where domestic production remains more expensive.

The increased company costs would likely not increase if production shifted from China to an EU partner rather than to EU27. In the IAA proposal, an EU partner country is suitable for establishing production to serve public funding in EU27. An EU partner country may offer lower production costs, more established supply chains, and stronger capabilities in specific components than EU27 can provide today.[3] However, building up these capabilities can take time in *any* location and there is risk that such production will only come online after a while.

Reshoring to EU27 is likely the costliest adjustment path for solar PV and batteries, while diversification towards FTA partners could lower the additional cost burden on companies and public funding, but would in turn not increase the manufacturing base in EU27 as intended in the IAA.



Note: Numbers are rounded to nearest 10 million for numbers below 1,000 million, and to the nearest 100 for numbers above 1,000 million. The size of the markets are based on 2025 data. We do not include costs related to CO_2 requirements. The extra costs if domestically produced are computed with the relative cost difference in USD/kW in China and in the EU. The increase in costs is based on a selection of EU countries: Solar: Germany, France, Finland, Denmark, Italy, Poland, Belgium, Spain, and the Netherlands. Wind: Germany, France, Finland, Denmark, Italy, Poland, Belgium, Spain, and the Netherlands. Batteries: Germany, the Netherlands, Spain, Italy, Belgium, Poland, and Slovakia.
Source: Copenhagen Economics calculations based on data from IEA, BNEF, NREL, IRENA, TSE, Lazard, and Eurostat, see Appendix B.

1) PV Tech (2025, a), link, and PV Tech (2025, b), link. / 2) The IAA allows exemptions from the requirements when complying would raise costs by around 25 per cent or more compared to non-EU alternatives, with the exact threshold varying slightly by sector. The cost difference and public support difference are difficult to compare fully, as other elements, such as electricity price expectations, location, and other costs (grid costs etc.), may influence cost prices. However, in each auction, many locations throughout Italy were auctioned and awarded, which suggests that such differences, if any, may not be large. / 3) This is, for example, the case for batteries, where FTA partners South Korea and Japan are the second- and third-largest manufacturers of batteries after China. / 4) While the EU overall is a net exporter of wind turbines, we have included member states that are currently net importers based on extra-EU trade. / 5) Batteries' net imports are adjusted for the size of the *European* BESS market.

CHAPTER 3: POTENTIAL IMPLICATIONS FOR EU COMPETITIVENESS FROM THE IAA

We expect that some EU companies will enhance their competitive position from the IAA, others will not (1/2)

The IAA objectives is to create stable demand for EU-made and low-carbon products in strategic sectors, thereby strengthening EU industrial competitiveness and resilience, and increasing manufacturing capacity in EU27.

Based on our research and interviews, we find that competitiveness effects are likely to be unevenly distributed: some EU-based companies will gain, while others will face higher costs with limited upside.

The IAA favours manufacturers that are both located and invested in the EU and with a fully European supply chain (or from EU partners). For these companies, Union origin and low-carbon requirements in public procurement, auctions, and support schemes would strengthen domestic market access and reduce exposure to potentially under-priced imports from competitors.

However, manufacturers that rely on global supply chains (or cannot prove Union origin) will likely see higher supplier and compliance costs without gaining much additional protected demand within in the EU. Research suggests that local-content style requirements can raise costs, hinder innovation, and risk retaliation from trade partners.[1] Even for manufacturers who *can* shift their supply chain to EU or EU partners, the optionality loss from no longer being able to source from a wider pool of vendors can have an impact on competitiveness, as discussed in chapter 2. With fewer options, the bargaining position vis a vis EU and EU partner countries is decreased, all else being equal.

We discuss potential implications for each of the analysed industries:

EVs cover a diverse group of products, and implications from the IAA on competitiveness will likely be diverse as well.

For final assembly, the largest impact will be for buses, for which EU27 is a net importer, and for imported assembled cars, vans and trucks, that must be assembled in the EU if used for public funding under the IAA. This will ultimately hurt non-Union producers, and EU companies with production abroad. At the same time, the IAA will likely increase manufacturing capacities in EU27 of buses and potentially also other vehicles.

For components, the competitive implications differ across the value chain. Original equipment manufacturers (OEMs) face a different set of legal and compliance requirements than their suppliers, even when only minimal manufacturing needs to take place within the Union to meet value-added thresholds.[2] In this context, Union origin suppliers may gain leverage with the IAA to set higher prices, as OEMs must secure compliant inputs to satisfy Union origin requirements.[3]

OEMs that depend on non-Union components, also risk becoming less competitive in segments *not or only partly* covered by public support schemes. If an OEM cannot uphold the IAA requirements and therefore loses the publicly funded markets, it may influence its overall competitiveness, also in private markets, due to lack of scale and lack of market representation.

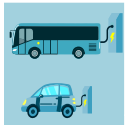
Concrete & mortar are less reliant on non-Union content, and with the requirement of 5 per cent Union origin content, we expect this requirement to have limited implications for competitiveness.

However, the low-carbon requirement may increase costs, particularly in the regions in Southern and Eastern Europe where local cement production is not as far in the low-carbon transition as in Northern Europe.[4] Therefore, cement may have to be sourced from further away, which increases costs in public funding due to increased transportation costs, in addition to the additional cost of low-carbon cement.

Aluminium is, like concrete & mortar, less reliant on non-Union (or non-partner) content. The requirement of 25 per cent Union origin content is generally filled by current EU and custom union production.

As with concrete & mortar, the main driver for increased costs is the low-carbon requirements. As of now, the low-carbon producers are in Northern Europe.[5]

Expected impact on EU companies from the IAA proposal

Industry	Gaining and losing		Costs, product quality, and timing
 **Electric Vehicles**	++	EU27 and EU partner country suppliers	• Cost increases are expected for buses (+30-40 per cent compared to China). • Scaling component production in the EU will take time. Components may increase in cost, which may further increase cost/quality gap of EU batteries and imported alternatives.
	--	EU27 producers face lower bargaining power towards EU suppliers	
Concrete & mortar	-	Low impact on competitiveness from the Union origin requirement. Increased costs for low-carbon products	• Main additional costs are for low-carbon requirements. There is no quality difference for CCS cement, but possible quality differences exist for change of input in cement production. • Scaling CCS cement can take several years.
Aluminium	-	Low impact on competitiveness from the Union origin requirement. Increased costs for low-carbon products	• Main costs are for low-carbon requirements. Scaling low-carbon aluminium can take time, as plants running on renewable electricity must be transformed or built. • No expected change in product quality.

Note: Impact is evaluated from low positive impact (+) to high positive impact (+++), and negative impact (-) to high negative impact (---).
Source: Copenhagen Economics based on research and interviews.

1) See, for example, OECD (2015), link, National Board of Trade Sweden (2023), link, and Peterson Institute for International Economics (2021), link. / 2) Based on interviews / 3) The complexities in the automotive value chain may also result in a relatively higher reporting burden from the IAA, although we have not found evidence for that additional administrative costs are particularly large overall. / 4) Nature Sustainability (2024), link. / 5) Aluminium China, The geography of 'green' aluminium: Why location trumps technology, link.

We expect that some EU companies will enhance their competitive position from the IAA, others will not (2/2)

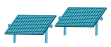
Increased input costs will result in higher bidding prices for net-zero technologies in public auctions, as seen for the Italian FER-X auction.[1] This increases costs for the public sector and may, at least in the short run, discourage some energy companies from bidding in public auctions, as they cannot be sure they can deliver under the IAA requirements.

Wind turbines are critical elements for achieving EU27's renewable energy and industrial objectives, but their deployment depends on timely investments and stable regulatory frameworks.

A reshoring of component production to EU27 is complicated by the need for manufacturers and energy companies to qualify alternative suppliers, run technical tests, and potentially co-develop components manufactured in EU27.

Wind turbines consist of many parts including complex components such as permanent magnets. Supplier relationships are therefore strategically important because permanent magnets cannot be substituted on a simple one-to-one basis without extensive testing, validation, and time.

The implementation period for the IAA is ambitious in terms of scaling EU27 production. Incremental changes in existing facilities in EU27 could be implemented relatively quickly (~1.5 years) if permitting is smooth, whereas building new factories or significantly expanding manufacturing capacity is more likely to require much longer, depending on the component type, permitting processes, and site development.[2]



Solar PV is similarly important for EU27's renewable energy objectives, but future deployment under the IAA depends on timely expansion of EU27 manufacturing capacity and predictable policy signals.

Solar PV value chains rely on components such as wafers, cells, glass, and inverters, which require know-how and a skilled workforce, both of which are currently limited in Europe.[3]

To scale up enough production in EU27, large scale greenfield factories are needed, which would require several years once permitting, grid connection, and site development are considered.

BESS are equally critical for integrating variable renewables, yet EU27 remains reliant on external technology leadership and insufficient domestic capacity.

While there is battery production in the EU27, the sector remains under development. Utility-scale production remains limited and there are also examples of large-scale battery manufacturing in Europe that have struggled to produce sufficient volumes at a competitive prices and quality.[4]

The lack of Chinese ownership and technology participation under the FDI provisions of the IAA (not covered in this analysis) further lowers the potential to scale battery production in the EU quickly, as it limits access to leading designs to enter EU27 production market directly. The IAA proposal specify specific criteria for "*foreign investors of a third country which holds over 40 per cent of the global manufacturing capacity*", which is the case for China for solar PV and BESS manufacturing.[5]

Overall, the increased costs and potentially poorer quality for EU companies in deploying net-zero technologies will eventually be passed on to the public sector, which would, all else equal, result in either less net zero technology deployment with public backing or increased public costs/debt.

Expected impact on EU companies from the IAA proposal

Industry	Gaining and losing		Costs, product quality, and timing
Wind Turbines	+/-	EU producers can expect less competition but may have higher sourcing costs[7]	• Component costs are expected to be 20-30 per cent higher when produced in the EU instead of China, except for final turbines.[6] • Potential short-run quality and partnership issues may arise from increased production of specific products in the EU, such as permanent magnets. A longer time horizon is needed for complex products, as testing and supplier relationships are necessary.
	-	Energy companies will have increased costs	
Solar PV	+	The few EU producers can expect less competition	• Costs are expected to be 10-20 per cent higher when produced in the EU instead of China. The EU lags behind China in developing high-efficiency solar PV production and is unlikely to catch up soon. Scaling up production takes time, and the EU lacks the capabilities to do so.
	--	Energy companies will have increased costs	
BESS	+	The few EU producers can expect less competition	• Costs are expected to be 30-40 per cent higher when produced in the EU instead of China. • Attempts to produce batteries at scale have not been successful in Europe.
	--	Energy companies will have increased costs	

Note: Impact is evaluated from low positive impact (+) to high positive impact (+++), and negative impact (-) to high negative impact (---)
Source: Copenhagen Economics based on research and interviews.

1) PV Tech (2025, a), and PV Tech (2025, b). / 2) Based on interviews. / 3) Climate Energy Finance (2025), link., InnoEnergy (2026), link. / 4) See for example, Northolt (2025), link and BatteryNews.com (2026), link. / 5) FDI requirements are suggested for investments of EUR 100 million or more. European Commission (2026), page 24 and 26. / 6) Except for final turbines, see appendix B. / 7) For example for permanent magnets.

IAA requirements have implications beyond direct cost increases

Local content rules in the IAA are used as a catch-all tool for resilience, climate, and competitiveness, but they risk raising input costs, adding complex compliance burdens, and undermining EU competitiveness. Based on the research and input from the interviews, we find that IAA requirements may have the following adverse implications beyond direct cost increases:

Uncertain definitions and circumvention

- **Planning uncertainty**: Key operational details are still left to delegated acts, including third-country treatment and parts of the scope, which reduces predictability for investment and sourcing decisions for companies.[1]
- **Defining gaps:** Key aspects of the proposal remain unclear, including the definition of low-carbon materials, the method for calculating Union origin content. Without this clarity, manufacturers cannot reliably assess options or provide targeted input to legislators, creating uncertainty for investment planning and long-term partnerships.[1]
- **Moving target and short lead times:** Uncertainty about future coverage makes it difficult for companies to design value chains with confidence, especially where product strategies and supplier contracts are agreed years in advance, as well as for the timing of component testing and establishing relationships.[2]
- **Compliance without clarity**: Loopholes or circumvention, as identified with the customs code, risks could weaken the IAA outcome while companies still bear high compliance costs, much as the EU has had to refine CBAM rules.[3]
- **Threshold waivers:** As identified in chapter 2, some Chinese products have 25 per cent lower costs than EU manufacturing, meaning that IAA waivers may be triggered in practice for public funding.[4]

Innovation, bargaining, and quality risks

- **Trade retaliation**: Origin-based requirements can also slow decarbonisation and expose the EU to WTO challenges and retaliation. Reciprocal responses from trading partners could reduce market access for EU companies and raise the broader economic cost.[5]
- **Innovation risk**: Fewer sourcing options may reduce quality and innovation if companies are pushed away from the best global suppliers, especially where EU capability is behind other regions.[6]
- **OEM-supplier misalignment**: A particular challenge for the automotive sector is that OEMs are expected to meet the IAA thresholds at vehicle level, while upstream suppliers are not subject to the same legal obligations in the Union Customs Code, as specified in chapter 1. Automotive supply chains are organised in tiers, with Tier-1 and Tier-2 suppliers selling components to OEMs under contractual obligations. This means that OEMs face direct IAA compliance obligations at vehicle level. Suppliers do not face the same regulatory duties, which strengthens their negotiation position.[1]

Increased complexities

- **Value-chain complexity**: Many-tiered supply chains make origin tracing difficult in practice, particularly when suppliers span several jurisdictions and processing stages. Higher complexity increases administrative costs.[1]
- **Administrative overload**: OEMs tracing the origin of thousands of components from a wide supplier base could create a large reporting burden if compliance systems are not kept lean and auditable.[7]
- **Tender friction**: More complex award criteria may increase the risk of challenges and appeals, slowing procurement processes and delaying projects.[1]

Public sector as a driver

- **Public sector role:** The public sector is not a major direct driver of new EU27 production across all covered industries. Its main influence is through support schemes and indirect financing, especially for net-zero technologies and to some extent electric vehicles.[8]
- **Risk of production divergence:** Because EU-origin content applies to public funding but not to private demand, companies may shift capacity towards public contracts, leading to private markets to be increasingly served by imports with limited effect on overall manufacturing.

1) Based on interviews conducted by Copenhagen Economics. / 2) The IAA requirements have changed across the different versions of the draft, European Parliament (2026), link. / 3) See for example Hydro (2026), link / 4) The proposal states, "*Estimated cost differences exceeding 25%, based on objective and transparent data, may be presumed by contracting authorities and contracting entities to be disproportionate*.", see European Commission (2026), page 43. / 5) See Euronews (2026), link. / 6) See Financial Times (2025), link. / 7) See ACEA (2026), link. / 8) See Appendix C.

The IAA may have adverse effects on the EU's competitiveness

The IAA's stated objective of strengthening European competitiveness and economic resilience is closely linked to broader concerns about productivity growth and the functioning of the EU economy. A central question is how policy interventions of this type affect not only targeted industries but also the wider economic system.

The IAA has a clear sovereignty logic: reducing reliance on external suppliers in industries the Commission sees as important for decarbonisation, resilience, and security of supply.[1] However, the IAA involves trade-offs between resilience and underlying determinants of long-term competitiveness.

Competitiveness is closely linked to productivity. Productivity growth is driven by several interrelated factors, including openness to trade, competitive market conditions, innovation, and efficient allocation of resources. Measures that limit access to international suppliers or reduce competitive pressure risk weakening these drivers.

These effects are not confined to the industries directly covered by the IAA. Through value chain linkages, price effects, and changes in investment patterns, the IAA can generate economy-wide impacts for EU companies and the public sector. As such, the dynamic implications of the IAA extend beyond strategic industries and need to be assessed in the context of overall economic performance and growth.

In addition, the public sector would need increased tax revenue or to redirect public funds to cover the increased cost of public funding, which could harm other industries in EU27.

Uncertainty about Union origin and access to global markets may lead to fragmented value chains

Costs are a proxy for competitiveness. If some companies experience higher costs, while other do not, these companies are in a worse competitive position.

If companies operating in EU27 face tighter origin constraints and more complex compliance obligations than today, they may become less able to source the best available inputs at the best available price, even where the case for diversified sourcing remains strong. This can affect these companies on the domestic EU27 market as well as in export markets.

Supplier optionality within EU27 remains limited, with insufficient capacity and capability to replace global partners across several of the covered industries. Constraints vary across the value chain, where alternative suppliers are often unavailable or not competitive at scale. OEMs' reliance on high-quality inputs further restricts viable sourcing options. As a result, limited optionality reduces bargaining power, a dynamic potentially reinforced by the IAA.[2,3]

In addition, for some components, establishing new supplier relationships typically requires long lead times before performance matches that of incumbent suppliers. During this transition, product quality can deteriorate and delivery reliability weaken. As a result, companies risk losing market share, which may prove difficult to regain later.

The IAA increases sourcing frictions and may redirect trade rather than fully relocate production into EU27. The Union origin coverage of also EU partner countries means that some companies may respond by switching sourcing toward preferred EU partner countries instead of producing more inside EU27.

Should EU partner countries be excluded, it will be problematic for EU companies, as this would undermine industries where long-term partnership-based approaches are used and be in opposition to what is intended in, for example, EU free trade agreements. Clear and predictable rules are needed to support long-term supply-chain partnerships and investment decisions in partner countries.

The focus on manufacturing risks diverting the EU economy to lower-value production

The broad, sector-wide definition of **strategic sectors**, including energy-intensive industries, automotive, and net-zero technologies, does not explicitly reflect defining growth technologies, including advanced semiconductors, artificial intelligence, quantum technologies, biotechnology, and advanced materials.[2]

Thus, the current focus in the IAA does not clearly build on where EU27 holds comparative advantages or faces specific security risks and places strong emphasis on manufacturing activities rather than on the innovation, R&D, and technological developments that underpin future growth in the EU.

While innovation is sometimes linked to manufacturing, this is not a given, creating a risk that the proposed IAA requirements incentivise lower value-added manufacturing in EU27, such as traditional assembly, without sufficiently strengthening foundations for long-term competitiveness and growth.

In conclusion, the IAA will likely strengthen the EU's sovereignty in the covered industries because it makes strategic import dependence less acceptable in public funding. However, the extent to which it will do so is difficult to say given the unclear scope of the origin requirements and geographical scope of Union origin.

As identified in this report, the impacts will vary depending on the requirement, the industry, and each EU Member State's dependency level on non-Union input.

The result is more resilience and increased bargaining power for some EU companies. For other companies, the result is a combination of higher sourcing costs, reduced supplier optionality and potential poorer quality, as well as a shift towards lower-value production.

1) See White & Case (2026), link, Kiel Institut (2026), link / 2) Identified in interviews, Kiel Institute (2026), link, and Bruegel (2026), link. / 3) In addition, there are also uncertainties around the definition of "high-risk suppliers", particularly in relation to cybersecurity. Companies risk costly retrofits if a supplier is later designated "high risk". See European Commission (2026), page 60, link.

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Appendix A: Dependencies are based on calculations and literature estimates

We use OECD data to estimate the dependencies

OECD 2022 Input–Output tables provide a detailed snapshot of industry-to-industry transactions and final demand, including public consumption, across 50 industries per country.

Public consumption captures the final demand of the public sector in each industry. The analysis therefore estimates how public consumption in each sector generates production and value added across domestic and foreign supply chains.

We calculate value chain effects from public consumption

To estimate the full supply-chain impact of public demand, we derive the Leontief inverse from the OECD input-output tables. The Leontief inverse captures the total amount of output required across all industries and countries to satisfy one unit of final demand in each sector.

Public consumption in one industry does not only affect that industry directly. For example, if the public sector purchases motor vehicles, this directly increases demand in the automotive industry. However, automotive production also requires inputs from other sectors, such as metals, chemicals, machinery, and IT services. These suppliers in turn require inputs from other sectors. The Leontief inverse captures this full chain of direct and indirect production effects.

We then use a public consumption vector, which we define for a given country and sector. We multiply this with the Leontief inverse to estimate the total **output effect** across all countries and industries.

To estimate the contribution to GDP (using value added), the output effect is converted into a **value added effect**. This is done using country- and industry-specific value-added-to-output ratios from the OECD data. I.e., for each country-industry, value added is divided by gross output to obtain a value-added share.

For each country-industry where value added is generated, the origin country is classified into one of four groups:

- EU: EU Member States
- FTA partners: Countries with a free trade agreement with the EU.
- GPA partners: Government procurement agreement partners
- Rest of the world: All remaining countries and regions

This methodology is applied differently depending on the industry (see results in Appendix C):

Vehicles: For vehicles, the analysis relies on input-output modelling. The automotive sector is proxied using industry code **C29**, covering the manufacture of motor vehicles, trailers and semi-trailers.

Cement: For cement, the input-output analysis is based on industry code **C23**, covering the manufacture of other non-metallic mineral products. This includes cement and related mineral products. The input-output results are used as the main quantitative estimate of public procurement dependencies.

Given that C23 is broader than cement alone, the input-output results is supplemented with trade data, production data and other sector-specific information to validate and interpret the findings.

Aluminium: For aluminium, the analysis uses industry codes **C24B** and **C25**. C24B captures basic precious and other non-ferrous metals, while C25 captures fabricated metal products. Together, these sectors provide a proxy for aluminium and aluminium-related manufacturing in the input-output framework.

Because these sectors are much broader than aluminium alone, the input-output results should be triangulated with trade data, production data and other sector-specific evidence. This helps distinguish aluminium-specific dependencies from broader metals and fabricated products dependencies.

Wind turbines: For wind turbines, the input-output proxy is industry code **C28**, covering machinery and equipment not elsewhere classified. This sector is much broader than wind turbines alone. The input-output analysis therefore provides an estimate of the wider machinery supply-chain dependency associated with public demand.

We assess different types of demand

We distinguish between direct demand and supply-chain value-added effects.

Direct public demand refers to the immediate public consumption recorded in the OECD data. The value-added footprint, captures the full supply-chain effect of that demand. It includes value-added generated directly in the target sector and indirectly in upstream industries. Therefore, the value-added footprint differ from the direct public demand.

Public consumption is measured as "*general government final consumption expenditure*". Private consumption is measured as "*household final consumption expenditure*" plus "*final consumption expenditure by non-profit institutions serving households*".

Appendix B: Cost impacts are based on a combination of different sources (1/2)

We estimate cost impacts for components, where possible

We use component-level cost data for selected net-zero technologies. Our collected dataset includes technology cost estimates, production cost benchmarks, and value-chain decomposition data from international energy databases, industry reports, and technology studies. The main sources include:

- International Energy Agency
- Eurostat trade database
- National Renewable Energy Laboratory
- International Renewable Energy Agency
- BloombergNEF
- Technology-specific industry studies and market analyses[1]

The **cost data** is structured around the main production stages and intermediate inputs in each value chain. Depending on the sector, this includes upstream raw materials, intermediate processing stages, component manufacturing, and assembly.

The **component-level decomposition** makes it possible to identify which stages of the value chain contribute most to total technology costs and how cost exposure changes under alternative sourcing scenarios.

The **trade analysis** is based on bilateral trade flows between producing countries and importing countries. The dataset combines international trade statistics with industry evidence on manufacturing locations and supply-chain structures.

The trade data is used to estimate:

- direct import exposure to producing countries,
- differences in import dependency across EU Member States,
- and indirect exposure through intermediate inputs embedded in imported products.

We focus particularly on geographically concentrated supply chains where upstream production is concentrated in a limited number of countries. We distinguish between direct imports from a producing country and imports from third countries that rely on upstream intermediate inputs from that producing country. This distinction is important because final assembly and upstream production stages are often located in different countries.

The final step combines the component-level cost data with bilateral trade flows to estimate supply-chain exposure and potential cost increases under alternative sourcing scenarios. Concretely, we link:

- component cost shares,
- trade exposure by country and product category,
- and information on the geographic concentration of upstream production.

For each component or production stage, we map import dependency on producing regions using observed trade flows and industry information on supply-chain structures. We consider both direct and indirect dependence on foreign suppliers.

Cost increases from moving production to the EU are then estimated by comparing a baseline sourcing structure with alternative scenarios involving changes in trade costs, sourcing patterns, or reduced access to specific suppliers.

The resulting estimates should be interpreted as measures of supply-chain exposure and cost sensitivity rather than exact measures of country-specific value creation.

The methodology is applied differently depending on the sector and the availability of data. The analysis relies on the relevant combination of trade data, production data, industry studies, and technology-specific cost structures to estimate supply-chain dependencies and exposure to concentrated production networks.

Calculated increase in cost of component from moving manufacturing in China to the EU, 2023

Wind turbines	
Towers	26%
Blades	26%
Nacelles	26%
Turbines	0%
Total	20-30%

Batteries	
Cathodes	37%
Anodes	37%
Cells	37%
Total	30-40%

Solar PV	
Polysilicon	88%
Wafers	67%
Cells	50%
Modules[3]	15%
Total	10-20%

Note: For buses, we use an analysis that finds the cost in Europe to be 30-40 per cent higher than in China.[2]

(1) Including TSE and Lazard. / 2) EY (2025), link. / 3) Modules account for most imported goods, which lowers the total weighted average cost increase.

Appendix B: Cost impacts are based on a combination of different sources (2/2)

Public funding share of the market

We base the public funding share on several different sources. As there are large uncertainties, and changes over time, we use ranges under the following assumptions, see table below. We consider the following elements:

- Offshore wind is primarily subsidised by public funds[1]
- A large share of onshore wind is supported (directly or directly) with public funding[1]
- For solar power, the support is more uncertain, and we therefore apply a large range[2]
- There is support for BESS in some Member States, but most Member States do not have public support for BESS[3]
- For buses, we apply an *assumed* 70 per cent share that is publicly funded, either through direct purchases by the government or from subsidised buses

Assumed public funding's share of markets

	Buses	Wind turbines	Solar PV	BESS
Low	70%	75%	20%	10%
High	70%	85%	75%	30%

Calculation of cost effects

Based on the net import share, the market size, the public funding share, and the expected cost increase, we calculate the increase in cost from applying a full IAA requirement to move production to the EU as

Percentage cost increase **x** *Net import* **x** *Public share of market*

For wind turbines, we make adjustments based on the individual Member States' net imports, as we do not have all the information on trade in components.

For BESS, we correct with the estimated market size of BESS, as the trade category covers more battery types than just BESS (including also batteries for EVs).

The method has certain limitations

This is a top-down, long-run macro effect. Short-run effects cannot be calculated credibly, but we expect larger short-run costs due to capacity limitations in the EU, ramp-up times, and limited competition.

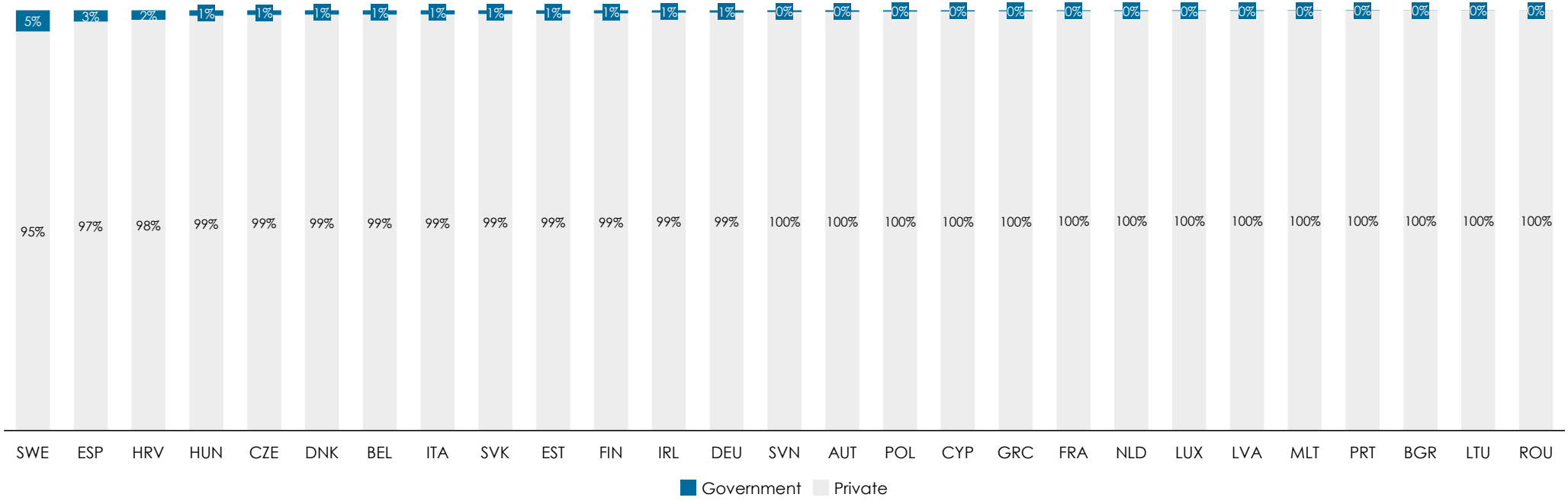
This calculation assumes that the manufacturing moves to the EU, which may not be the case, as manufacturing may move to (or stay in) EU partner countries, which are also covered in the Union origin requirement in the current IAA proposal.

1) GWEC (2025), link. / 2) Solar Power Europe (2025, c), link / 3) Solar Power Europe (2025, d), link

Appendix C: Private demand dominates the total demand for vehicles in the EU

Share of demand in automotives in EU Member States, 2022

Percent

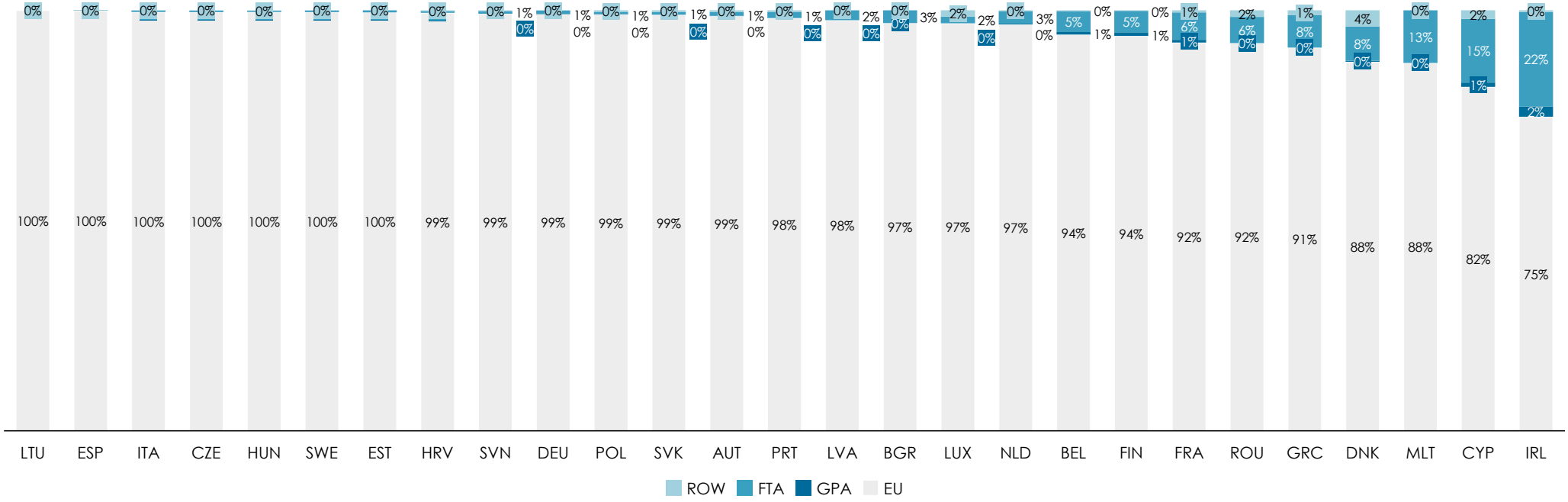


Note: The data is based on public consumption in the sector C29.
Source: Copenhagen Economics calculations based on data from the OECD ICIO.

Appendix C: Among the EU Member States, 75-100 per cent of direct public procurement for all vehicles originate in the EU

Origin of public procurement in automotives in EU Member States, 2022

Percent



Lower non-Union dependency

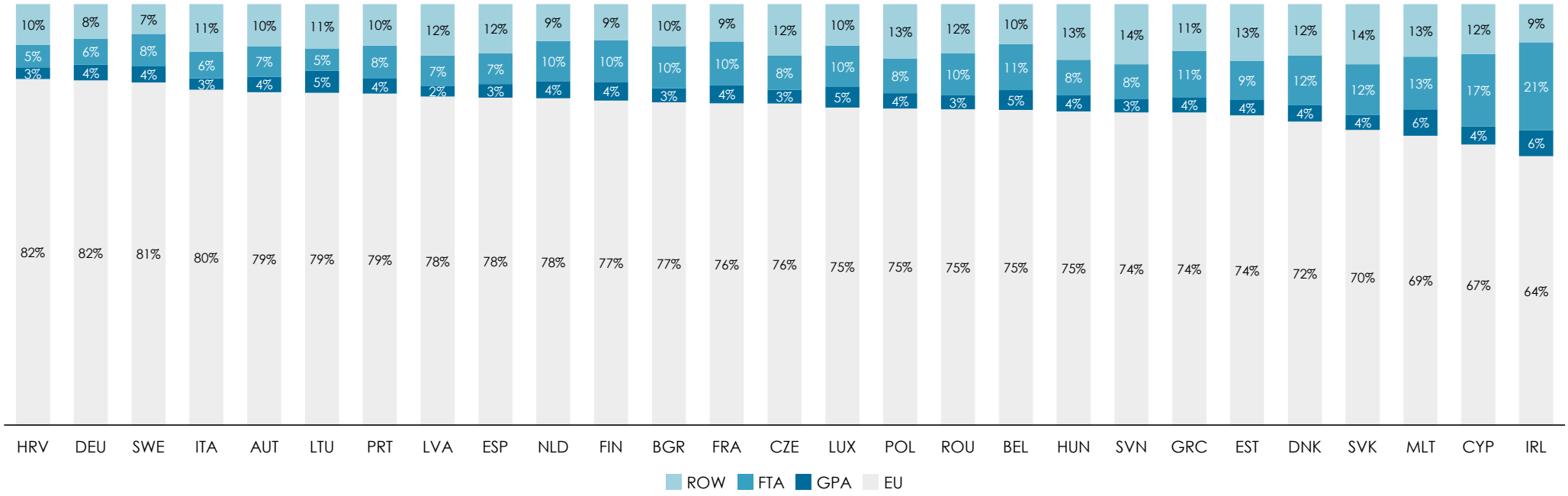
Higher non-Union dependency

Note: The data is based on public consumption in the sector C29.
Source: Copenhagen Economics calculations based on data from the OECD ICIO.

Appendix C: Among the EU Member States, 64-82 per cent of value added in public procurement for vehicles originate in the EU

Origin of value added from public procurement in automotives in EU Member States, 2022

Percent



Lower non-Union dependency

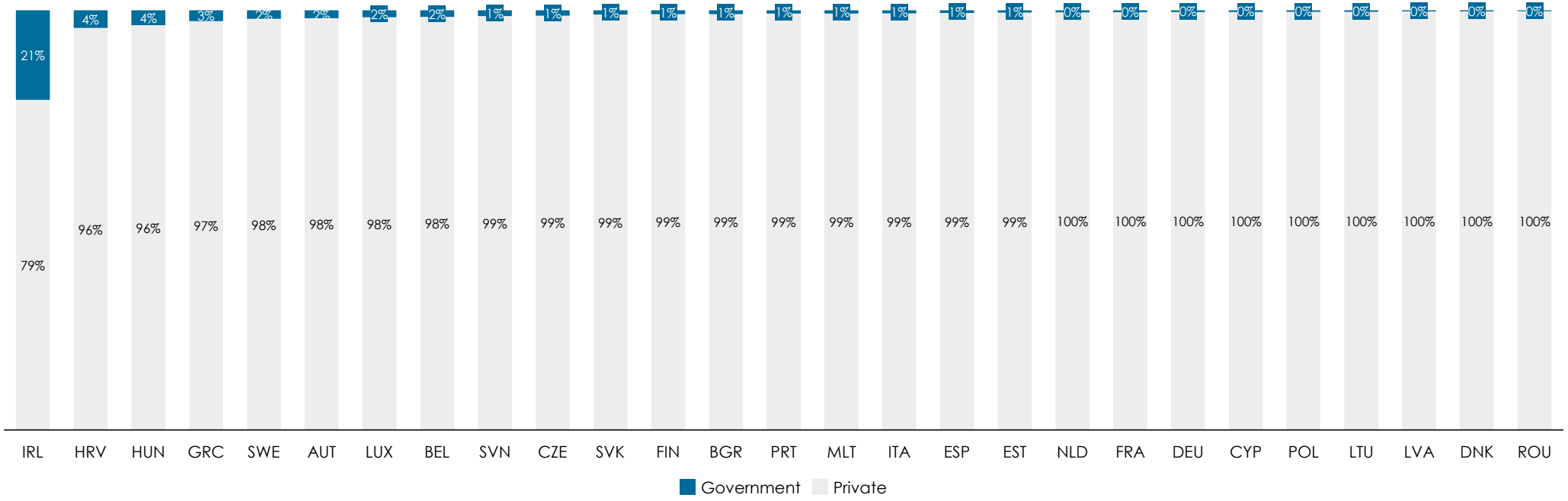
Higher non-Union dependency

Note: The data is based on public consumption in the sector C29.
Source: Copenhagen Economics calculations based on data from the OECD ICIO.

Appendix C: Private demand dominates the total demand for non-metallic mineral products in the EU

Share of demand for non-ferrous metals in EU Member States, 2022

Percent



More dependent on the public sector

More dependent on the private sector

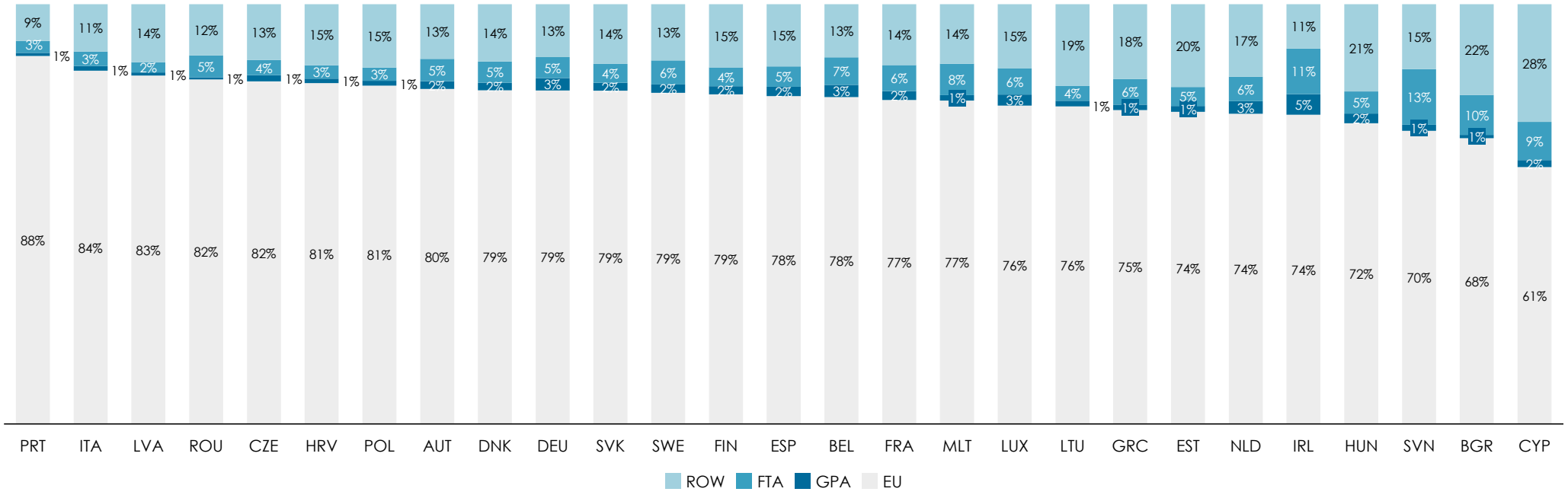
Note: The data is based on public consumption in the sector C23.
Source: Copenhagen Economics calculations based on data from the OECD ICIO.

1) Due to lack of specific data on aluminium and cement we use the broader industry categories of manufacture of other non-metallic mineral products

Appendix C: 61-88 per cent of value added in public procurement for non-metallic mineral products originates in the EU[1]

Origin of value added from public procurement in non-ferrous metals in EU Member States, 2022

Percent



Lower non-Union dependency

Higher non-Union dependency

Note: The data is based on public consumption in the sector C23.
Source: Copenhagen Economics calculations based on data from the OECD ICIO.

1) Due to lack of specific data on cement we use the broader industry categories of manufacture of other non-metallic mineral products

Appendix D: Tax benefits and incentives for EVs in EU27 (1/2)

	Tax benefits			Incentives	
Country	**Acquisition**	**Ownership**	**Company Cars**	**Purchase**	**Infrastructure**
Austria	Yes	Yes	Yes	Yes	Yes
Belgium	Yes	Yes	Yes	No	Yes
Bulgaria	Yes	Yes	No	No	No
Croatia	Yes	Yes	No	Yes	Yes
Cyprus	Yes	Yes	No	Yes	No
Czechia	No	Yes	Yes	No	Yes
Denmark	Yes	Yes	Yes	No	No
Estonia	Yes	Yes	No	No	No
Finland	Yes	No	Yes	Yes	No
France	Yes	No	Yes	Yes	Yes
Germany	Yes	Yes	Yes	Yes	Yes
Greece	Yes	Yes	Yes	Yes	Yes
Hungary	Yes	Yes	Yes	Yes	Yes
Ireland	Yes	Yes	Yes	Yes	Yes

Source: ACEA (2026, b), link

Appendix D: Tax benefits and incentives for EVs in EU27 (2/2)

	Tax benefits			Incentives	
Country	**Acquisition**	**Ownership**	**Company Cars**	**Purchase**	**Infrastructure**
Italy	No	Yes	No	Yes	No
Latvia	No	No	No	Yes	No
Lithuania	Yes	No	No	Yes	No
Luxembourg	No	Yes	Yes	Yes	Yes
Malta	Yes	Yes	No	Yes	No
Netherlands	Yes	Yes	Yes	Yes	Yes
Poland	Yes	Yes	Yes	Yes	No
Portugal	Yes	Yes	Yes	Yes	Yes
Romania	No	Yes	No	Yes	No
Slovakia	Yes	Yes	Yes	No	No
Slovenia	Yes	Yes	Yes	Yes	No
Spain	Yes	Yes	Yes	Yes	Yes
Sweden	No	Yes	Yes	Yes	Yes

Source: ACEA (2026, b), link

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