

Summary

The interest in green industrial policy has grown significantly in recent years, both in Sweden and internationally. Climate targets require rapid and extensive investment in new fossil-free technologies, while world politics and the global economy are increasingly shaped by geopolitical tensions, partly linked to the climate transition. Against this backdrop, targeted government support for specific technologies and sectors has taken on a more prominent role. This report examines the rationales for green industrial policy, how such policy can be designed and implemented in practice, and how its impacts can be evaluated.

Carbon pricing is the central policy instrument for internalising the social cost of greenhouse gas emissions and ensuring that fossil-based production is phased out. Green industrial policy serves a different function: to facilitate and accelerate the development, learning and diffusion of new technologies that are not yet commercially available. These two types of policies thus play different but complementary roles.

The report identifies three main rationales for green industrial policy. First, positive externalities in the form of knowledge and learning spillovers could cause market actors to underinvest in novel technologies. Second, many green technologies face substantial financial barriers, such as large capital needs, long development times and technological uncertainty. Third, coordination problems between various actors and sectors may impede investments even when the technology itself is promising. If well designed, green industrial policy can help address these market failures.

Beyond correcting for various types of market failures, green industrial policy can strengthen the credibility of climate policy and thereby shape market actors' expectations and willingness to invest in new and fossil-free technologies. This is a central aspect of green

industrial policy and can, in a broader sense, be understood as a complementary rationale for its role in the transition to a low-carbon economy.

At the same time, green industrial policy is associated with significant challenges. Targeted support entails a cost for taxpayers, invites political bargaining, and carries risks of inefficient resource use, technological lock-in, and crowding out of private capital. A central conclusion of the report is therefore that green industrial policy needs to be designed with clear objectives, transparency, and involve strong mechanisms for monitoring and evaluation. As a general rule, government support should be time-limited and gradually phased out as technology matures.

To illustrate what green industrial policy looks like in practice, the report analyses Swedish policy initiatives based on the Swedish Government's 2026 Budget Bill. Eight main categories of green industrial policies are identified: investment support, research and innovation, credit guarantees, support for nuclear power, tax reductions, coordination initiatives, regional support, and supporting infrastructure. Some key Swedish policies include Klimatklivet, Industriklivet, support for bio-CCS, and various forms of state credit guarantees. A rough estimate based on the bill indicates that in 2026, the quantifiable parts of Swedish green industrial policy amount to expenditures of around 0.3 percent of GDP. This estimate is, however, subject to several important caveats. For instance, it refers to planned expenditures for a single year and does not include supporting infrastructure, and the state credit guarantees and loans are expected to be self-financing over time. It should therefore be viewed as an indication of the order of magnitude rather than as a precise assessment.

From an international perspective, Swedish green industrial policy appears relatively restrained. Available international comparisons suggest that Sweden's stake in green industrial policy initiatives, in relation to GDP, is below the levels of several other OECD countries. At the same time, exact cross-country comparisons are difficult, since there are no harmonised methods for measuring the scope of green industrial policy.

A central part of the report concerns how green industrial policy, not least government support for technological development projects, should be designed and implemented in order to be

effective. The analysis points to five overarching components that are particularly important to consider in the design and implementation of green industrial policy (see also table below):

- Market failures and directionality
- Collaboration and knowledge exchange between the government and industry
- Competition between different actors and technologies
- Other policy objectives and conditional policy
- Patience and discipline

Implementing Green Industrial Policy: A Checklist

Checklist	Implications and examples of initiatives and measures
Market failures and directionality	<p>Identify the sector-specific market failures and barriers that may justify public intervention. Formulate a clear direction (directionality) for technological and industrial development, e.g. fossil-free production.</p> <p>Examples: collaboration platforms and structured dialogue with industries and investors; analyses of the social returns to R&D investments; long-term targets (e.g. net-zero emissions); differentiated requirements for knowledge sharing; staged financing in which knowledge-sharing requirements increase as risks are reduced.</p>
Collaboration and knowledge exchange between the state and industry	<p>Manage information asymmetries between the state and the private sector without creating dependency relationships or allowing private interests to capture the decision-making process. Ensure that public support is complemented by private incentives and risk-sharing.</p> <p>Examples: requirements for significant private co-financing (skin-in-the-game); strengthened technical and analytical capacity within relevant authorities; independent evaluations and impact assessments; clear rules on conflicts of interest and cooling-off periods; breadth in advisory expert groups.</p>
Competition between actors and technologies	<p>Maintain competition and avoid lock-in to individual companies and/or technology pathways at an early stage. Promote learning about costs, performance and system impacts.</p>

Checklist	Implications and examples of initiatives and measures
	<p>Examples: open and transparent calls for applications; objective selection criteria; incentives for small and new firms to participate; a portfolio approach with multiple parallel projects and technology pathways; willingness to support high-risk but high-potential projects.</p>
<p>Other policy objectives and conditionality</p>	<p>Manage trade-offs between climate and industrial policy ambitions and other policy objectives (e.g. regional policy, supply security) without undermining the effectiveness of public support programmes.</p> <p>Examples: separate programmes and budgets for regional policy objectives; transparency regarding the additional costs of conditioned support (e.g. local procurement requirements); clear separation between climate objectives and other societal goals.</p>
<p>Patience and discipline</p>	<p>Combine long-term commitment to goals with institutional discipline in implementation. Ensure that support is terminated if projects fail to meet established criteria.</p> <p>Examples: independent expert groups with a mandate to conduct evidence-based evaluations; clear milestones for continued funding; mechanisms for terminating projects (sunset clauses); agencies with clear mandates to review and discontinue support.</p>

If these components are considered, including the trade-offs they entail, green industrial policy can play an important role in the transition to a fossil-free society. Experience from both research and practice points, among other things, to the importance of requirements for (substantial) private funding, a portfolio approach to project selection, a clear strategy for the diffusion of generated knowledge, well-defined exit strategies for projects that fail to meet (interim) targets, and clear and transparent guidelines for evaluations. Moreover, the risk of the government “picking winners” can be reduced by focusing on broad technology areas rather than individual firms, and by establishing institutional arrangements that promote learning and transparency.

Evaluating green industrial policy can be challenging. The impacts may be long-term, uncertain and difficult to disentangle from other contributing factors. The report discusses two types of complementary methodological approaches: qualitative, process-oriented evaluations, and quantitative impact evaluations. An

important lesson is that systematic data collection and clear objectives are required already at the design stage of various government support schemes in order to enable meaningful evaluations and learning ahead of new or revised initiatives.

Green industrial policy is increasingly shaped by international developments. Geopolitical tensions, trade policy and strategic considerations regarding supply chains influence how countries design their instruments. Initiatives such as the US *Inflation Reduction Act* (IRA) and the EU *Net Zero Industry Act*, as well as corresponding initiatives in China, have contributed to a more active green industrial policy globally. The report discusses the relationship between geopolitical and climate policy objectives, that is, how geopolitics affects the implementation of green industrial policy and vice versa. We identify a few difficult trade-offs that influence decisions about the design and implementation of policy.

The overarching conclusion of the report is that green industrial policy can play an important role in accelerating the climate transition, but its effectiveness depends largely on how it is designed and implemented. If properly designed, it can contribute to technological development, cost reductions, and emission reductions. If poorly designed, it risks becoming costly without delivering corresponding societal benefits. It is essential that green industrial policy is not viewed as a one-way, top-down process in which the state unilaterally identifies and selects technologies or firms that are then expected to deliver the transition. Rather, it is an iterative process characterised by joint learning between the government and industry.