

Interreg
Baltic Sea Region



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ENERGY TRANSITION

GreenIndustrialAreas

MAINSTREAMING REPORT

Mainstreaming Project Outputs to Advance Planning Documents, support
measures, governance and Policies

GreenIndustrialAreas Project (GIA)

Prepared by:

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Republic of Latvia

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The GreenIndustrialAreas (hereinafter referred to as the GIA project) project aims to support the transition of industrial territories towards climate-neutral and resource-efficient development across the Baltic Sea Region. The project brings together public authorities, business support organisations, and private sector actors to jointly develop policy instruments and practical tools that promote sustainable industrial development and reduce greenhouse gas emissions.

The central outcomes of the project include a Transnational Standard for the Certification of Green Industrial Areas and a Toolbox designed to support stakeholders in planning and implementing energy-efficient investments in industrial territories. These instruments provide a structured framework for assessing industrial areas according to sustainability criteria such as energy efficiency, renewable energy integration, industrial symbiosis, governance quality, and environmental performance.

Pilot activities implemented in several Baltic Sea Region countries during 2024 have demonstrated the practical applicability of the developed approach. The pilot phase enabled testing of the certification framework in real industrial environments and provided valuable insights into how policy instruments and governance models can support the transformation of industrial areas towards low-carbon development.

The results of the project indicate that significant reductions in CO₂ emissions can be achieved through a combination of policy coordination, technological innovation, and cooperation among industrial stakeholders. In particular, the implementation of industrial symbiosis principles, smart energy management systems, and renewable energy solutions has proven to be an effective strategy for improving resource efficiency and reducing environmental impacts.

The Mainstreaming Report analyses how the knowledge and tools developed within the project can contribute to policy planning at local, regional, and national levels. The analysis highlights opportunities for integrating the GIA approach into spatial planning frameworks, climate and energy strategies, and industrial development policies.

Overall, the GIA project contributes to strengthening the policy framework for sustainable industrial development in the Baltic Sea Region. By promoting cooperation among regions and facilitating the transfer of good practices, the project supports the broader European objective of achieving climate neutrality while maintaining the competitiveness of industrial sectors.

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List of Abbreviations

To facilitate the reading and interpretation of the report, the following abbreviations are used throughout the document:

BSR – Baltic Sea Region

CO₂ – Carbon dioxide

DGNB – Deutsche Gesellschaft für Nachhaltiges Bauen

EIP – Eco-Industrial Park

ETS – Emissions Trading System

EU – European Union

GIA – GreenIndustrialAreas Project

RES – Renewable Energy Sources

The use of standardized terminology ensures consistency across the report and allows readers to better understand the analytical framework applied in the assessment of policy impacts and sustainability approaches.

1. Introduction of the Project

1.1. Project Objective, Results and Long-Term and Sustainable Results

The European Union is about to engage in a "Green industrial deal", which emphasizes the support to industrial activities while promoting continuous energy transition to further reduce greenhouse gas emissions and energy dependency. Industrial areas where companies of various backgrounds are located, offer an unique opportunity to share both energetic and material resources and to bring energy efficiency to the highest levels. The partnership of the GIA project has therefore elaborated and tested an approach of certifying *green* industrial areas, aiming to highlight early adopters and to promote further energy transition in Baltic industrial areas. The approach and its criteria are documented in a Transnational standard for the certification of green industrial areas. This document is supported by a Toolbox addressed to stakeholders of Baltic industrial areas to assist different actors in industrial areas in their consideration of further energy-smart investments. Both outputs were subjected to a pilot phase during 2024 at six industrial areas in five Baltic countries, involving a large number of different public and private target groups.

1.2. Project Partners

The GIA project brings together public authorities of different levels, business support organisations and a renewable energy company that are united by the objective to co-elaborate, validate and upscale solutions aiming at the decarbonisation of business activities within industrial areas. Public authorities committed to reduce greenhouse gas emissions of their territories represent the project's main target group. They furthermore aim at strengthening the competitiveness of local industry for which reduced energy needs and climate-neutrality are key factors.

As owners or operators of industrial areas or through setting regulations for industrial areas in spatial and regional planning, public authorities are key actors to accelerate energy transition of business activities. In the project consortium, the Leading partner - Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern (Germany), the Project partners - Kalundborg Municipality (Denmark), Regional Council of Central Finland (Finland), City of Jyväskylä (Finland), Zemgale Planning Region (Latvia) and The Ministry of Smart Administration and Regional Development of the Republic of Latvia (Latvia) provide the spatial and regional planning expertise and ensure through their co-elaboration of solutions the applicability and wider transferability to other Baltic Sea Region territories (hereinafter referred to as BSR).

Business support organisations represented in the partnership - Kalundborg Symbiosis (Denmark), Podlaska Regional Development Foundation (Poland), Lithuanian Innovation Centre (Lithuania), Sustainable Business Hub Scandinavia AB (Sweden); are close to companies and therefore address their needs in the strife for a decarbonisation of business activities. On one hand, they are familiar with obstacles for investing in climate-neutrality. On the other hand, business support organisations provide expertise on how these obstacles may be overcome and how industry is mobilised to curb greenhouse gas emissions. Together, public authorities and business support organisations have the expertise to shape

instruments including funding and spatial planning tools to further accelerate the decarbonisation of industrial production.

The partnership is completed by a renewable energy company - Naturwind schwerin gmbh (Denmark), with rich experience in planning and building wind farms for both municipalities and enterprises. Additional expertise will be provided by associated partners that include a utility company, energy agencies, an umbrella organisation of local public authorities and a network for the promotion of energy transition. Furthermore, regional public authorities join the wider partnership as they are key partners for the dissemination, mainstreaming and hence uptake and upscaling of the project outputs.

Apart from pilot actions, which are implemented in Germany, Latvia, Poland, Finland and Denmark, responsibilities among partners are equally distributed. Partners of the project represent regions on different stages of the processes aiming at achieving energy neutral societies.



1. Map project partners BSR in project GIA, Ministry of Economics, Infrastructure, Tourism and Labour M-V

1.3. Profile of the Project Partners' Territories

This section provides an analytical overview of the territories represented by the project partners, highlighting the geographical, economic and environmental conditions that shape industrial development in each participating region. The section also outlines the role of the partner organizations in the project and the specific perspectives they bring to the development and implementation of GIA project.

The information presented in this section is based on materials and inputs provided by the partner organizations, including territorial descriptions, policy context analyses and assessments of regional development priorities relevant to sustainable industrial transformation. These contributions provide insight into the structural characteristics, policy frameworks and economic specializations of the partner territories.

Subsections 1.3.1–1.3.7 present the partner territories involved in the project. Each subsection includes a territory profile describing the key geographical, economic and environmental characteristics of the respective country or region, together with an overview of its industrial structure and development priorities. Attention is given to factors influencing the green transition of industrial areas, including renewable energy development, industrial symbiosis, resource efficiency and innovation capacity.

In addition, each subsection outlines the role of the respective partner within the project and its contribution to achieving the objectives of the GIA initiative.

Comparative overview also enables the identification of common challenges, complementary strengths and opportunities for transferring good practices among partner territories. In this way, the section supports the broader objective of mainstreaming project results into policy frameworks and planning instruments across the Baltic Sea Region.

1.3.1. Germany, Mecklenburg - Western Pomerania

Territory Profile

Mecklenburg-Western Pomerania (MV) is located in northeastern Germany along the Baltic Sea coast and is characterised by a distinctive natural landscape that shapes both the geographical and socio-economic conditions of the region. The territory forms part of the North German Plain and features gently undulating lowlands, extensive forest areas, and a large number of lakes, including the Mecklenburg Lake District. MV also has the longest coastline among German federal states, extending approximately 2,000 km including lagoons and coastal inlets. The region covers an area of 23,213 km² and has approximately 1.6 million inhabitants, making it the least densely populated federal state in Germany. Around two-thirds of the land area is used for agriculture.

Economic Context

The regional economy has historically been influenced by agriculture, fishing, and maritime industries but has gradually diversified. Tourism represents one of the most important economic sectors due to the attractiveness of the Baltic Sea coastline and the lake districts. Agriculture and food production remain significant, particularly in the cultivation of potatoes and rapeseed. Additional important sectors include healthcare technologies, automotive supply industries, mechanical engineering, information technology, and renewable energy. Although the region's GDP per capita remains below the national average, the economy has shown stable growth supported by investments in green technologies and digitalisation.

Social and Institutional Context

The region faces demographic challenges including population ageing and declining birth rates. At the same time, the high environmental quality and recreational opportunities contribute to a strong quality of life for residents. Higher education institutions in Rostock, Greifswald, Stralsund, Wismar and Neubrandenburg support regional development by acting as innovation hubs and strengthening cooperation between academia and industry.

Contribution to the GIA Project

Within the GIA project, Mecklenburg-Western Pomerania contributes experience related to regional industrial transformation in areas with strong natural capital and a dispersed settlement structure. The region provides insights into integrating sustainable industrial development with tourism, environmental protection, and renewable energy development, thereby supporting the project's broader objective of promoting greener industrial territories

1.3.2. Denmark, Kalundborg Municipality and Kalundborg Symbiosis

Territory Profile

Kalundborg Municipality is located on the western coast of Zealand in Denmark, approximately 100 km from Copenhagen. Covering an area of 604 km² and home to around 49,000 inhabitants, the municipality combines an industrial harbour town with surrounding rural landscapes, agricultural areas, and coastal ecosystems along the Great Belt. Its geographical position provides direct access to major maritime transport routes while maintaining a strong natural environment that supports biodiversity and recreational activities.

Economic and Environmental Context

Kalundborg's economy is strongly connected to energy production, biotechnology, manufacturing industries, and port-related activities. The municipality has become an international example of sustainable industrial development through long-term investments in renewable energy, circular resource management, and green logistics infrastructure. Environmental priorities include reducing carbon emissions, strengthening climate resilience of industrial zones, and promoting circular economy practices.

Industrial Symbiosis Ecosystem

Kalundborg is globally recognised as the birthplace of industrial symbiosis through the Kalundborg Symbiosis, the world's first large-scale example of cross-industry resource exchange. Within this network, companies share energy, water, and materials, transforming industrial by-products into valuable resources for other companies. The symbiosis network currently includes 17 partners, among them major industrial actors such as Novo Nordisk, Novonosis, Kalundborg Refinery, and Ørsted.

Contribution to the GIA Project

Through participation in the GIA project, Kalundborg Municipality provides practical knowledge on sustainable industrial area governance, stakeholder collaboration, and circular infrastructure planning. Kalundborg Symbiosis contributes operational experience in industrial symbiosis models, sustainable production technologies, and inter-company cooperation mechanisms. Together, they provide valuable case-based insights into how industrial territories can transition towards circular and climate-neutral development

1.3.3. Poland, Podlaskie

Territory Profile

Poland is one of the largest EU Member States in Central Europe with a population exceeding 38 million. The Podlaskie Voivodeship, located in north-eastern Poland along the borders with Lithuania and Belarus, represents an important strategic border region of the European Union. The region has approximately 1.14 million inhabitants and its capital city, Białystok, functions as the main administrative, economic and academic centre.

Environmental Context

Podlaskie is known for its exceptional natural environment. Approximately one third of the region is under legal environmental protection, including four national parks and numerous Natura 2000 sites.

The region forms part of the so-called “Green Lungs of Poland”, characterised by extensive forests, wetlands and high biodiversity, which create favourable conditions for sustainable development.

Economic Context

The regional economy is largely based on agriculture and food processing, particularly dairy and meat production. Additional sectors include wood processing, construction, light manufacturing, and machinery industries. Industrial development is supported by investment infrastructure such as the Suwałki Special Economic Zone, which hosts around 200 enterprises and provides favourable investment conditions including tax incentives and prepared industrial sites.

Several innovation clusters contribute to regional competitiveness, including the Evoluma Industrial Cluster, the Polish Construction Cluster, and the InfoTech Technology Cluster. These organisations promote technological innovation, international cooperation, and industry-science collaboration.

Contribution to the GIA Project

Podlaskie contributes to the GIA project by providing insights into sustainable industrial development in regions with strong natural capital and growing industrial potential. The presence of industrial clusters, special economic zones, and emerging hydrogen valley initiatives supports experimentation with green industrial transformation, renewable energy integration, and low-emission industrial processes

1.3.4. Lithuania, Lithuanian Innovation Centre

Territory Profile

Lithuania is a Northern European country located in the Baltic Sea region with a diversified industrial structure. Key sectors include manufacturing, logistics, energy production, and chemical industries. Industrial development is primarily concentrated in Free Economic Zones and major urban centres such as Vilnius, Kaunas, and Klaipėda.

Economic and Environmental Context

Lithuania is actively pursuing green transition policies aimed at reducing greenhouse gas emissions and strengthening energy independence. Strategic priorities include expanding renewable energy production, improving energy efficiency, and promoting circular economy solutions across industrial sectors.

Contribution to the GIA Project

Within the framework of the project, the Lithuanian partner focuses on identifying the specific needs of local industrial zones related to green infrastructure and evaluating the potential for renewable energy integration. The results contribute to the overall implementation of the GIA project by providing practical insights into the transition of industrial territories towards more sustainable operations and by aligning local development needs with internationally recognised best practices.

1.3.5. Finland, Regional Council of Central Finland

Territory Profile

The Region of Central Finland is located in the central part of the country within the lake district area. The region covers approximately 20,000 km² and has a population of around 272,000 inhabitants. It consists of 19 municipalities ranging from the urban centre of Jyväskylä to sparsely populated rural areas. The region is well connected through national road, rail, and air transport networks.

Economic and Environmental Context

Central Finland has adopted an ambitious target of achieving carbon neutrality by 2030. Recent regional planning initiatives include the identification of new wind power areas and investments in renewable energy infrastructure. Industrial development in the region includes forest-based industries, bio-economy sectors, and emerging green logistics solutions.

Industrial symbiosis and resource efficiency play an important role in the regional industrial ecosystem, particularly around large bio-product mills and wood-processing industries. New green industrial area initiatives are also emerging, including logistics hubs and renewable energy-based industrial parks.

Contribution to the GIA Project

Participation in the GIA project supports the region in developing sustainable planning approaches for new and existing industrial areas. The project contributes to strengthening industrial symbiosis, energy-efficient infrastructure, renewable energy integration, and smart energy management solutions in Central Finland.

1.3.6. Latvia, the Ministry of Smart Administration and Regional Development and Zemgale Planning Region

Territory Profile

Latvia is located in Northern Europe on the eastern coast of the Baltic Sea and covers an area of 64,589 km² with a population of approximately 1.9 million inhabitants. The country is characterised by predominantly flat terrain with extensive forests, rivers, lakes and coastal areas. Economic and demographic activity is strongly concentrated in the capital city Riga and its surrounding metropolitan area.

Zemgale Planning Region, situated in the central and southern part of Latvia, is one of the country's most important agricultural and production regions. Fertile agricultural land and well-developed food processing industries form the backbone of the regional economy.

Economic and Environmental Context

Latvia's economy is export-oriented and relies on manufacturing, transport and logistics, agriculture, forestry, and food processing. Industrial areas are mainly located near major urban centres and transport corridors. At the same time, regional development disparities remain a challenge.

Latvia also possesses significant natural capital, with forests covering more than half of the national territory and numerous protected areas including Natura 2000 sites. The country is committed to achieving EU climate and energy targets, including increased renewable energy use, energy efficiency improvements, and reductions in greenhouse gas emissions.

Contribution to the GIA Project

Latvia is represented in the GIA project by the Ministry of Smart Administration and Regional Development and the Zemgale Planning Region. Their participation focuses on linking project outputs with national and regional policy frameworks. The project's certification system for green industrial areas and the accompanying toolbox provide practical instruments for implementing policy objectives related to energy efficiency, renewable energy integration, industrial symbiosis, and circular economy solutions.

Zemgale Planning Region acts as a pilot territory where the applicability of the GIA approach is tested in a real regional context, supporting the development of scalable models for sustainable industrial area management.

1.3.7. Sweden, Sustainable Business Hub Scandinavia AB

Territory Profile

Sweden is located on the Scandinavian Peninsula in Northern Europe and has a population of approximately 10.5 million inhabitants. The country covers an area of about 450,000 km² and is characterised by a low population density and extensive forest resources. Sweden has a highly developed economy and ranks among the leading countries globally in terms of innovation, quality of life, and environmental performance.

The region of Skåne in southern Sweden forms a key economic and logistical gateway to continental Europe through the Öresund Bridge connecting Sweden and Denmark. With approximately 1.4 million inhabitants, Skåne represents one of the country's most dynamic regional economies.

Economic and Environmental Context

Skåne's economy is driven by life sciences, advanced manufacturing, food production, digital industries, and logistics. The region accounts for a significant share of Sweden's GDP and plays an important role in national economic development.

Sweden is internationally recognised for its advanced environmental policies, including efficient waste management systems and high shares of renewable energy. The country aims to achieve net-zero greenhouse gas emissions by 2045 and to generate 100 % renewable electricity by 2040.

Contribution to the GIA Project

Through participation in the GIA project, Sustainable Business Hub Scandinavia contributes expertise in sustainable industrial innovation, clean technologies, and climate-neutral industrial development. The Swedish partner provides insights into policy frameworks, technological innovation systems, and collaborative approaches supporting the transition of industrial areas towards low-carbon and circular economic models.

2. The Purpose and Methodology of the Document

The purpose of the Mainstreaming report is to assess the impact of project learning and results on local and regional policies.

The methodology of the Mainstreaming Report has been developed to systematically assess the impact of the GIA project results and acquired knowledge on local, regional, and national policy planning documents across the partner territories. The methodology is based on a qualitative analytical approach, complemented by structured data collection from project partners using a common analytical framework.

Methodological Approach

The report applies a combined methodological approach, which includes:

- document analysis,
- assessment of qualitative input provided by project partners,
- comparative territorial analysis, and
- policy impact assessment.

This approach enables the identification of both direct and potential impacts of the project outcomes on policy documents and strategic frameworks at different governance levels.

Data and Information Sources

The main sources of information used within the methodology include:

- country- and region-specific contributions prepared by project partners;
- existing local, regional, and national policy planning documents (e.g. climate, energy, regional development, and industrial policy strategies);
- the core outputs of the GIA project – the Transnational Standard for the Certification of Green Industrial Areas and the Toolbox;
- practical experience gained in pilot territories during project implementation.

Project partners analyzed their respective policy environments, taking into account both existing strategies and opportunities for integrating the project results into future policy planning documents.

Structure of the Analysis

The methodology was implemented through several consecutive stages:

1. Territorial context description

Each project partner prepared a concise description of the geographical, economic, and environmental context of their territory, serving as the basis for interpreting the project's potential and actual impacts.

2. Identification of the policy framework

Key policy planning documents at local, regional, and national levels were identified, focusing on those that may be influenced by, or are relevant to, the project outcomes.

3. Analysis of the linkages between project results and policies

The analysis examined how the GIA project tools (the certification standard and the Toolbox) can:

- support the implementation of existing policies,

- contribute to the enhancement of policy documents,
- serve as a foundation for the development of new policy measures or strategic directions.

4. **Impact assessment**

For each identified policy document, the potential impact of the project was qualitatively assessed and categorized, for example, as:

- “no impact”,
- “possible impact”,
- or as providing a basis for further policy development.

Comparative and Transnational Dimension

The methodology also incorporates a comparative analysis across partner territories, allowing the identification of common trends, differences, and good practice examples within the Baltic Sea Region. This transnational perspective is essential for ensuring the transferability and adaptability of the project results across different institutional and territorial contexts.

Significance of the Methodology

The applied methodology ensures a structured and transparent approach to evaluating the integration of project results into policy planning processes. It allows not only for the documentation of existing impacts, but also for the identification of future opportunities for the sustainable use and upscaling of project outcomes at local, regional, and national levels. In this way, the methodology supports the transition towards climate-neutral and competitive industrial areas across the Baltic Sea Region.

While the methodology applied in this report provides a comprehensive qualitative assessment of policy impacts, it is important to acknowledge certain limitations associated with the analytical approach.

First, the analysis is primarily based on qualitative information provided by project partners and on the review of policy planning documents available at the time of the study. As policy environments evolve continuously, future policy developments may influence the relevance and applicability of the project results.

Second, the assessment focuses on identifying potential policy impacts rather than measuring direct quantitative outcomes. In many cases, the integration of project results into policy frameworks represents a long-term process that extends beyond the duration of the project.

Third, differences in institutional structures and governance systems across partner territories may influence how the project results are implemented in practice. Therefore, the transferability of specific policy solutions should always be considered within the context of national and regional administrative frameworks.

Despite these limitations, the applied methodology provides valuable insights into the opportunities for mainstreaming project results into policy planning processes and contributes to a better understanding of the role of transnational cooperation in promoting sustainable industrial development.

3. Overview of Impact on Local and Regional, National Strategies

This section provides an overview of how the GIA project relates to existing policy frameworks at local, regional and national levels across the partner territories. The analysis focuses on identifying policy instruments that are relevant to the development of sustainable industrial areas and assessing how the project’s results can support or strengthen their implementation.

The section reviews selected policy documents, strategies and planning instruments in each partner territory. These include spatial planning frameworks, climate and energy strategies, industrial development policies and regional development programs. For each policy instrument, the responsible authorities, decision-making structures and potential linkages with project activities are identified.

Subsections 3.1–3.7 present country-specific analyses prepared by the project partners. The tables summarize key policies and strategies together with an assessment of their relevance to the project objectives. In particular, the analysis explores how the project’s outputs – including the certification standard for green industrial areas and the accompanying toolbox – could support the implementation of sustainability, energy efficiency and decarbonization objectives within industrial territories.

The section concludes with a comparative reflection on policy frameworks across the partner territories, identifying common trends and differences in governance structures, planning systems and sustainability priorities. This comparative perspective supports the mainstreaming objective of the project by highlighting opportunities for transferring good practices and strengthening policy coherence across the Baltic Sea Region.

3.1. Germany, Mecklenburg-Western Pomerania

The following table presents regional level policy document, its responsible institution - policy authority, the decision-making process.

Name of the policy	Category: local/regional/ national/secto ral	Policy authority	Decision- making	Possible impact
EU Emissions Trading Scheme / EU ETS The EU Emissions Trading System is a policy instrument for cost-effective reduction of greenhouse gas emissions. The Emissions Trading System comprises the EU Emissions Trading System (ETS 1), ETS 2, and CBAM.	EU	Federal Environment Agency and German Emissions Trading Authority Swedish Energy Agency	EU	No impact
Federal Immission Control Act The German Federal Immission Control Act (BImSchG) serves to protect humans, animals, plants, soil, water, the atmosphere, the climate, and property from harmful environmental influences. It also aims to prevent such influences from arising and to avoid and reduce them through	National	Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety, German Bundestag	Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety, German Bundestag	No impact

Name of the policy	Category: local/regional/ national/secto ral	Policy authority	Decision- making	Possible impact
emissions into the air, water, and soil.				
<p>Building Code The German Building Code (BauGB) lays down the most important provisions of building planning law in Germany and thus influences the design, structure, and development of populated areas as well as the "habitability" of towns and villages. It defines the most important urban planning instruments available to municipalities. The following presentation is based on the structure of the Building Code, which is divided into four parts: General, Special, Miscellaneous, and Final and Transitional Provisions, but is limited to a general overview.</p>	National	Building authorities of municipalities and districts	Federal Ministry of Housing, Urban Development, and Construction, German Bundestag	No impact
<p>Regional Planning Act (ROG) Regional planning aims to develop a balanced settlement and open space structure that takes into account the functioning of the natural environment. Urban sprawl should be avoided and an effective infrastructure maintained. Rural areas should be developed and recreational areas promoted. The Regional Planning Act aims to ensure that housing needs are met.</p>	National	Regional planning authorities	Federal Ministry of Housing, Urban Development, and Construction, German Bundestag	N/A
<p>Heat Planning Act (WPG) The Heat Planning Act (WPG) and the Building Energy Act (GEG) are key laws for the heat transition and pave the way for the switch to climate-friendly heating. Depending on their population, municipalities in Germany must draw up heat plans for their heating networks by mid-2026 or 2028.</p>	National	Municipalities	Federal Ministry for Economic Affairs and Energy, German Bundestag	Possible impact
<p>Mecklenburg-Western Pomerania State Spatial Development Program and regional spatial development programs of the planning regions The State Spatial Development Program contains general guidelines for the organization and development of the region with reference to the areas of Mecklenburg-Western Pomerania. It thus serves as a framework for more specific, supporting plans</p>	Regional	Ministry of Economics, Infrastructure, Tourism, and Labor of Mecklenburg-Western Pomerania. Regional planning associations of the four planning regions.		Possible impact <i>The category of "Green Industrial Areas" is anchored in the current drafts of the LEP (Low-Emission Pathway) and is to be</i>

Name of the policy	Category: local/regional/ national/sectoral	Policy authority	Decision-making	Possible impact
for the use of individual regions and areas. The State Spatial Development Program generally consists of specification of the legal basis on which the State Spatial Development Program is based; the definition of spatial planning objectives and principles (with binding effect), and justification and explanations of the objectives and principles of spatial planning.				<i>established as a regulatory target for further development.</i>

3.2. Denmark, Kalundborg Municipality

In Denmark—particularly in Kalundborg and the broader Region Zealand and Greater Copenhagen areas—the policy environment is highly conducive to adopting the project’s outcomes. The transnational certification standard provides a practical tool to drive climate neutrality at the industrial area level, while the toolbox empowers public and private stakeholders to make data-driven, strategic technology choices.

Kalundborg, recognized globally for its leadership in industrial symbiosis, offers a unique opportunity to serve as a demonstration site and reference model. Through the certification Kalundborg can share its established practices in a structured and replicable way. Meanwhile, the toolbox offers pathways for infrastructure upgrades in areas such as smart monitoring, decentralized energy systems, and digital energy management.

More broadly, the project contributes valuable insights that can inform updates to regional and national policies. Its outputs can be embedded within Region Zealand’s climate strategy, Greater Copenhagen’s green transition framework, and upcoming iterations of Denmark’s national climate and circular economy policies. Additionally, both the certification and toolbox align well with public funding mechanisms such as:

- GUDP (Green Development and Demonstration Program) - Danish funding program supporting green technology development, demonstration, and market uptake, particularly in agriculture, food production, and related industrial sectors.
- MUDP (Environmental Technology Development and Demonstration Program) - Danish funding program supporting the development, testing, and demonstration of innovative environmental technologies with high environmental and market potential.

In summary, the project delivers a coherent and scalable framework to support the transition toward climate-neutral industrial areas - offering practical tools that can be embedded in policy, planning, and funding structures both in Denmark and across the wider Baltic Sea Region.

The table summarizes information on opportunities for policy enhancement through the project outputs.

Policy/Strategy	Leverage certification/toolbox for policy advancement
Danish Climate Act.	Apply the certification framework as a means to reinforce climate targets within industrial clusters.
National Circular Economy Strategy.	Institutionalize industrial symbiosis through a stakeholder-driven certification process.
Region Zealand Climate Strategy	Incorporate toolbox solutions into energy and climate planning; incentivize certified industrial areas.
Region Zealand Development Strategy	Align certification outcomes with regional funding and cluster development objectives.
Greater Copenhagen Strategy	Extend certification use across industrial parks and clean-tech zones.
Kalundborg Symbiosis Strategy	Use certification to showcase best practices and measurable progress; support wider adoption of toolbox components for smart, digital upgrades.
Kalundborg Climate Action Plan	Integrate toolbox technologies and certification targets into municipal climate governance frameworks.
Spatial Planning Act (Planloven)	Introduce certification as an optional planning tool or condition for developing industrial zones.
National/Regional Funding Schemes (GUDP, MUDP, ERDF)	Reference the toolbox in funding criteria to guide eligibility, expected impact, and return on investment in industrial projects.

3.3. Poland, Podlaskie

The following table presents regional level policy document, its responsible institution - policy authority, the decision-making process.

Name of the policy	Category: local/regional/national/ sectoral	Policy authority	Decision-making
Fundusze Europejskie dla Podlaskiego 2021-27 / EU Funds for Podlaskie 2021-2027.	Regional	Marshall's Office of Podlaskie Voivodeship.	Regional parliament in consultation with European Commission / Monitoring Committee decides about particular Calls for proposals.

Link to the project activities or results - EU Funds for Podlaskie 2021-2027 is regional operational program for the region. This policy, included in the GIA project has impact on enterprises performance regarding green energy and environmental issues. EU funds awarding process is promoting green industries.

Possible impact thanks to the project - EU Funds for Podlaskie 2021-2027 criteria for calls for proposals are decided by Monitoring Committee which gathers couple of times a year. Particular Calls and criteria are decided on the basis of the current situation, changing EU policies, geopolitical issues so that the process is elastic in some way. Knowledge and experience deriving from the GIA project might directly target particular Calls where enterprises are beneficiaries.

3.4. Lithuania, Lithuanian Innovation Centre

The following table presents national level policy document, its responsible institution - policy authority, the decision-making process.

Name of the policy	Category: local/regional/national/sectoral	Policy authority	Decision-making	Possible impact
Nacionalinė energetinės nepriklausomybės strategija / National Energy Independence Strategy	National	Ministry of Energy of the Republic of Lithuania and the Ministry of Economy and Innovation of the Republic of Lithuania	Adopted by the Parliament of Lithuania upon government proposal	Possible impact <i>The project contributes practical tools, methodologies, and pilot experience that can support the implementation of national policy goals by facilitating greener industrial infrastructure, improved energy sharing solutions, and reduced CO₂ emissions in industrial zones.</i>

The policy supports decarbonisation, renewable energy deployment, and energy efficiency improvements in industry, which are directly aligned with the GreenIndustrialAreas project objectives and the development of a green industrial area certification system.

The National Energy Independence Strategy can be considered the only officially adopted and publicly announced framework document that directly aligns with the project objectives; therefore, it is the only one being referenced. Although other policy guidelines that may be relevant to the project results are also being developed, they are currently at an internal drafting stage and have not been officially published.

3.5. Finland, Regional Council of Central Finland

The following table presents regional level policy document, its responsible institution - policy authority, the decision-making process.

Name of the policy	Category: local/regional/national/sectoral	Policy authority	Decision-making
Maakuntastrategia/ Strategy of Central Finland 2025-2050	Regional	Regional Council of Central Finland	The Regional assembly/K-S maakuntavaltuusto

The strategy of Central Finland has a significant role on regions development, including funding the projects via the regional council. The strategy includes short term regional programme (2022-2025). Here the focus is on:

- 1) sustainability in economy and renewal.
- 2) environmental sustainability, with the focus on climate change mitigation.
- 3) social sustainability.
- 4) accessibility and attractiveness of the region.

The regional public authority is responsible for the mainstreaming of the project results in the central Finland region, including of project outcomes and encouraging an uptake in local authorities' development and climate strategies. RCCF upgrading the policy 2025 to focus green and clean energy transmission in all industrial areas and promote circular approaches for energy independent in business and communities, ensuring energy security in the whole region. Target is also foster the economic promotion activities (advice, networking, etc), public transport (for employees of the industrial area), infrastructures (starting with cycling lanes) and promotional activities (putting the green aspects in the centre)- pitching marketing topics of green industrial areas.

3.6. Latvia, the Ministry of Smart Administration and Regional Development and Zemgale Planning Region

The following table presents regional level policy document, its responsible institution - policy authority, the decision-making process, link to the project activities or results and possible impact thanks to the project which has been evaluated as “None” or “Maybe”.

Name of the policy	Category: local/regional/national/sectoral	Policy authority	Decision-making	Link to the project activities or results	Possible impact
Regional Policy Guidelines 2021-2027	National, cross-sectorial	Ministry of Smart Administration and Regional Development	Cabinet of Ministers	The goal of regional policy is to create preconditions for development of economic potential of all regions and for reduction of socio-economic disparities by increasing internal and external competitiveness, as well as by providing solutions according to specificities of each territory for development of settlement and living environment, thus, in the medium term, achieving a reduction in the regional GDP gap - the average GDP per capita of less developed planning regions against the more advanced	Possible impact

Name of the policy	Category: local/regional/national/sectoral	Policy authority	Decision-making	Link to the project activities or results	Possible impact
				<p>planning region is 55% (base value in 2016 - 47%).</p> <p>Regional economic development is based on active involvement of planning regions and municipalities, including providing support to municipalities for development of business environment, raising productivity and attracting human resources in the regions, as well as building regional innovation and knowledge systems.</p>	
National Industrial Policy Guidelines 2021-2027	National, sectorial	Ministry of Economics	Cabinet of Ministers	Medium-term policy planning document covering all sectors of the economy and setting out objectives and lines of action to promote economic growth.	Possible impact
Environmental Policy Guidelines 2021-2027	National, cross-sectorial	Ministry of Climate and Energy	Cabinet of Ministers	Environmental policy focuses on sustainable and efficient management of land, air and water resources. In monitoring this sector, KEM works with such important areas affecting public welfare as promoting the circular economy and waste management, management of surface, underground and marine water resources, reduction of pollution risks (including chemical substances, radiation, nuclear safety, air pollution), monitoring of environmental quality and monitoring of environmental	Possible impact

Name of the policy	Category: local/regional/national/sectoral	Policy authority	Decision-making	Link to the project activities or results	Possible impact
				impact assessment processes.	
<u>Municipal planning documents:</u> Strategies of sustainable development, Development programmes- Jelgava State city, Jelgava County municipality, Bauska County municipality, Dobele County municipality Aizkraukle County municipality, Jēkabpils County municipality	Local	Ministry of Smart Administration and the Regional development, Municipality	Municipality	As part of the project, a study was conducted on "Potential and Development of Green Industrial Areas in the Zemgale Planning Region". The study included the most promising GIAs from those in the territory of municipalities - 1 to 3 in each municipality. The submitted proposals for development for each of these zones are a basis for all municipalities to make amendments/improvements to planning documents - Territorial Plans and Development Programs.	N/A
<u>Planning Regions:</u> Sustainable Development Strategy, Development programme Zemgale Planning region	Regional	Ministry of Smart Administration and Regional development, Planning Region	Planning Region	The project included a study "Potential and Development of Green Industrial Areas in the Zemgale Planning Region". The recommendations provided in the study on the development potential of green industrial areas are the basis for making amendments/improvements to the existing Regional Development Program, as well as being used in preparing the new Regional Development Program.	Possible impact <i>Multiplication to all planning regions and municipalities</i>

3.7. Sweden, Sustainable Business Hub Scandinavia AB

Sustainable Business Hub Scandinavia AB have identified 13 policies that are relevant to the project outcomes: 1 European level policy, 4 National level policies, 4 Regional level and 4 Local level policies.

- At European level it is the EU's emissions trading system (EU ETS) which is a policy instrument for reducing greenhouse gas emissions in a cost-effective way. The emissions trading system includes the EU ETS (ETS 1), ETS 2 and CBAM. The policy authority is the Swedish Environmental Protection Agency and The Swedish Energy Agency.

The following tables present national, regional, and local level policy documents, their responsible institutions - policy authority, the decision-making process and possible impact thanks to the project which has been evaluated as “None” or “Maybe”.

Policies on national level	Policy authority	Decision-making	Possible impact
The Environmental Code	The Swedish Environmental Protection Agency	The Swedish Parliament; Ministry of Climate and Enterprise. Regulates, among other things, industrial activities, permit review of environmentally hazardous activities and requirements for energy management. The Environmental Code concerns all types of measures, regardless of whether they are part of the daily life of the individual or in some form of business activity. EU directives in the environmental field are incorporated into the Environmental Code.	No impact
Planning and Building Act (2010:900) & Planning and Building Ordinance (2011:338)	Building Committee, Municipalities	The Swedish Parliament; Ministry for Rural Affairs and Infrastructure. Provisions on location principles for buildings and structures, with regard to noise and other disturbances. The Planning and Building Act, PBL, and the Planning and Building Ordinance, PBF, contains provisions on the planning of land and water areas, and on construction. The purpose of the provisions is, with regard to the freedom of the individual, to promote societal progress with equal and proper living conditions and a clean and sustainable habitat, for people in today's society and for future generations. Both the act and ordinance are often updated.	No impact
Act (1977:439) on Municipal Energy Planning	Municipalities	The Swedish Parliament; Ministry of Climate and Enterprise <ul style="list-style-type: none"> • Each municipality must have an up-to-date plan for the supply, distribution and use of energy within its geographical area. • A municipality can control the supply, distribution and use of energy in several ways. The municipality can act based on its roles as a public actor, information 	Possible impact

Policies on national level	Policy authority	Decision-making	Possible impact
		<p>provider, property owner, employer or as owner of an energy company. One way to strategically influence development is to draw up an energy strategy.</p> <ul style="list-style-type: none"> • The plan must promote long-term sustainable energy use and can be coordinated with the master plan. The law requires the municipality to: <ul style="list-style-type: none"> ○ Develop and regularly update an energy plan. ○ Consult with the County Administrative Board, energy companies, industries and other relevant stakeholders. ○ Consider the environment, economy and energy security. <p>The Act (1977:439) on Municipal Energy Planning affects industrial areas indirectly by controlling how energy is planned and supplied locally. e.g. via requirements for or support for district heating, investments in renewable energy, grid expansion and energy efficiency initiatives. It is an important tool for steering industrial areas towards more sustainable and efficient energy use in interaction with the development of the municipality and the region.</p>	
Act (1994:1776) on energy tax	The Swedish Tax Agency	<p>The Swedish Parliament; Ministry of Finance</p> <ul style="list-style-type: none"> • Energy tax affects the cost structure, investments and sometimes localization of industry. The purpose is to manage energy use towards efficiency and more environmentally friendly alternatives, tax climate and environmental impact, be an economic instrument, sometimes in parallel with the EU ETS. • The Energy tax is a Swedish excise tax which is levied on electricity, on fuels used for engine operation and on certain fuels used for heating. The energy tax is primarily a fiscal tax, i.e. the purpose is not only to control energy use, but the tax also constitutes an important revenue item in the state budget. The taxable fuels are petrol, oil, LPG, natural gas, coal, coke and crude pine oil. Household waste used for heating is also taxable. There are tax-free exceptions. Fuel and electricity consumers can, upon application, be approved as tax-free consumers of electricity or be 	No impact

Policies on national level	Policy authority	Decision-making	Possible impact
		allowed to purchase fuel without tax.	

Region Skåne works with a set of comprehensive strategies that together create the conditions for industrial areas. Rather than a specific "industrial area strategy", there is an integrated view where industrial areas are seen as part of the broader regional development and business strategy.

Policies on regional level	Policy authority	Decision-making	Possible impact
Regional Development Strategy for Skåne (RUS)	A parliamentary group from Region Skåne was involved in the 2024 review	Regional Council of Region Skåne <ul style="list-style-type: none"> The Regional Development Strategy for Skåne (RUS) is the overall steering document for Region Skåne's development work. It contains a long-term vision and goals for Skåne's development in a number of areas, including business and growth. Industrial areas are part of the physical planning that is intended to support business development, for example by strengthening accessibility and utilizing Skåne's multi-core city structure. The goal is for Skåne to be a region with a competitive business sector and increased innovation and competitiveness. A review of the RUS is carried out in each mandate period. 	Possible impact
Regional Plan for Skåne 2022-2040	Region Skåne is responsible for developing the Regional Plan, but it is prepared in collaboration with all 33 municipalities, the County Administrative Board and other stakeholders	Regional Council of Region Skåne <ul style="list-style-type: none"> The Regional Plan, adopted in 2022, is a guide for physical planning throughout Skåne. It addresses the basic features of the use of land and water areas and guidelines for the location of buildings and structures that are important to the county. This of course includes strategies for where, among other things, industrial areas can be located and how they should be developed to support regional development. It aims to highlight inter-municipal issues, such as green infrastructure, public transport and water, in a regional context. The Regional Plan is not legally binding but rather a guide for subsequent planning. 	Possible impact

Policies on regional level	Policy authority	Decision-making	Possible impact
Skåne's Innovation Strategy for Sustainable Growth	Research and Innovation Council of Skåne (FIRS). FIRS is comprised of members of the political leadership from municipalities and regions, vice-chancellors of the region's higher education institutions, and the business community through the Chamber of Commerce and the chairs of the board of the cluster organisations	Research and Innovation Council of Skåne (FIRS) <ul style="list-style-type: none"> • Skåne's innovation strategy for sustainable growth focuses on strengthening the innovative power in Skåne and aims for Skåne to be an economy that drives sustainable growth and is globally competitive. It identifies six specialization areas with growth potential, of which "Advanced materials and manufacturing" is one of them. • Although it is not directly about industrial areas per se, the strategy is crucial for the type of industry that should be developed and thus the requirements that are placed on future industrial areas. 	Possible impact
Regional Climate and Energy strategy	Skåne County Administrative Board, Region Skåne and the Skåne Association of Local Authorities within Climate Cooperation Skåne (a platform for strengthening regional cooperation on climate and energy issues) <i>(Region Skåne, the Skåne County Administrative Board and Energikontor Syd are currently working together with other actors to revise the Climate and Energy Strategy. Proposals for an updated version (2025-2030) was sent out for consultation early 2025.)</i>	Skåne County Administrative Board <ul style="list-style-type: none"> • This strategy, based on international and national climate goals, guides the work on climate and energy in Skåne and contains regional objectives and measures to achieve these. For industrial areas, this is relevant as the strategy often drives the development towards more energy-efficient and sustainable industries, which can affect the design of new as well as existing industrial areas. One area of action is "Efficient and fossil-free industry". Climate targets for Skåne by 2030: <ul style="list-style-type: none"> ○ Greenhouse gas emissions in Skåne shall be at least 80% lower than in 1990. ○ Greenhouse gas emissions from consumption in Skåne shall be no more than 5 tons of carbon dioxide equivalents per person per year. ○ Energy use in Skåne shall be at least 20% lower than in 2005 and consist of at least 80% renewable energy. ○ The proportion of trips made by bicycle or walking shall be at least 30% and the proportion of travels made by public transport shall be at 	Possible impact

Policies on regional level	Policy authority	Decision-making	Possible impact
		<p>least 28% of the total number of travels in Skåne.</p> <ul style="list-style-type: none"> Greenhouse gas emissions from transport in Skåne shall be at least 70% lower than in 2010. 	

Policies on local level	Policy authority	Decision-making	Possible impact
Land-use Plan	Every municipality	<p>Municipal council</p> <ul style="list-style-type: none"> Every municipality must have a current Land-use Plan, which covers the entire municipality. It must reflect the opinion of the political majority and be decided by the municipal council. The Land-use Plan is not binding but must provide guidance for decisions on how land and water areas should be used and on how the built environment should be used, developed and preserved. It is therefore an important political target document. Since, for example, in Malmö it is reviewed every term of office, it can be influenced more regularly. 	Possible impact
<p>Energy Strategy</p> <p>Not all municipalities in Sweden have an Energy Strategy. Although there is a strong focus on energy efficiency and climate issues, and many municipalities have strategies, it is not mandatory for everyone to have an official energy and climate strategy.</p>	An example: City of Malmö	<p>Malmö City Council</p> <ul style="list-style-type: none"> The Energy Strategy for Malmö 2022–2030 is the city of Malmö's municipal energy plan and is intended to meet the purpose and requirements of the Municipal Energy Planning Act (SFS 1977:439). The Energy Strategy has a long-term vision for Malmö's energy system that it should be reliable, sustainable and supply Malmö with 100 percent renewable and recycled energy by 2030. 	Possible impact
<p>The Environmental Program</p> <p>A municipality's Environmental Program is a steering document that describes the municipality's goals and strategies for environmental work. It serves as a basis for planning and implementing measures to achieve sustainable development and improve the environment within the municipality. An environmental program usually contains objectives, strategies and</p>	One example: City of Malmö	<p>Malmö City Council</p> <ul style="list-style-type: none"> The Environmental Program is Malmö's local agenda for work on the ecological dimension of Agenda 2030 and sets the direction for the City of Malmö's work on the environment and climate. The Environmental Program governs the city's committees and companies and is also intended to support and inspire Malmö residents and actors in the private and public sectors. The objectives have been prioritized based on the national environmental quality objectives and Malmö's environmental and climate challenges. 	Possible impact

Policies on local level	Policy authority	Decision-making	Possible impact
<p>action plans and responsibility and follow-up.</p> <p>The Environmental Program connects the municipality's overall steering documents and is an important basis for continued environmental work within the municipality. It describes how the municipality will work to achieve the national environmental goals and contribute to sustainable development.</p> <p>A well-designed environmental program should not only be a document but also a living plan that guides the municipality's operations and inspires residents and businesses to get involved in environmental work.</p>			
<p>Sustainability Strategy alt. Masterplan</p> <p>Other examples of local strategies are e.g. the Sustainability Strategy that has been developed by the City of Malmö for the future industrial area, Fortuna. It is not mandatory but provides guidance to both the municipality's administrators in various administrations and to future developers. The agreement is not legally binding. Yet another document, which is also not mandatory, is the Masterplan for the Port of Malmö. The plan clarifies how the city wants the development of the port of Malmö to look over the next 30 years and how to work towards the overall goals based on its role as port owner. This plan is right now under revision.</p>	<p>Property and Streets Department of Malmö City</p>	<p>Technical Committee of Malmö City</p>	<p>Possible impact</p>

The comparative analysis of partner territories demonstrates that the transition towards sustainable industrial areas is supported by a combination of policy instruments operating at different governance levels.

Across the Baltic Sea Region, several common trends can be identified. First, spatial planning instruments increasingly incorporate sustainability principles related to energy efficiency, renewable energy integration, and climate-neutral infrastructure development. Second, regional development strategies often emphasise the role of industrial innovation and green technologies in strengthening economic competitiveness.

Another important trend is the growing recognition of industrial symbiosis as a key mechanism for improving resource efficiency in industrial areas. The experience of Kalundborg in Denmark illustrates how cooperation among companies can significantly reduce energy consumption, waste generation, and greenhouse gas emissions.

At the same time, differences between partner territories reflect variations in institutional frameworks and economic structures. In some countries, policy development is strongly driven by national climate strategies, while in others regional planning authorities play a more prominent role in shaping sustainable industrial development.

The comparative perspective highlights the importance of transnational cooperation in identifying good practices and adapting them to different territorial contexts. Through the exchange of knowledge and experience, regions can accelerate the adoption of innovative policy approaches that support the decarbonisation of industrial activities.

4. Medium- and Long-Term Policy Perspectives and Cross-Territorial Learning for Sustainable Industrial Areas

This analytical section summarizes the experience of the GIA project partner territories and the key policy development directions related to the decarbonization of industrial areas. The analysis is based on policy improvements identified during the project, pilot experiences, and regional strategies. Four main dimensions are examined: (1) future projections regarding CO₂ emission reductions, (2) sustainability of outcomes within the policy system, (3) cross-territory learnings, and (4) the European perspective. This approach allows an assessment of how the results of the GIA project can contribute to the sustainable development of industrial areas and the achievement of climate targets in the Baltic Sea Region.

Future Projections

Policy initiatives implemented in the partner territories indicate that significant reductions in CO₂ emissions in industrial areas are possible in the medium and long term. Policy improvements are mainly related to energy efficiency, integration of renewable energy sources, industrial symbiosis, and spatial planning instruments.

- Germany (Mecklenburg-Vorpommern): Regional spatial development policy increasingly emphasizes the sustainable development of industrial areas. The integration of the green industrial area concept into planning documents and municipal heat planning supports the development of energy-efficient infrastructure and a gradual transition towards low-emission energy systems.
- Denmark (Kalundborg): The Kalundborg industrial symbiosis model demonstrates how the integration of resource flows between companies can generate substantial energy and material savings. This approach is considered one of the most effective instruments for reducing emissions in industrial areas and is increasingly referenced in policy development in other regions.
- Poland (Podlaskie): Regional development policy is increasingly linked with EU investment programmes that prioritise the green transition. Sustainability criteria included in project selection procedures encourage companies to invest in energy efficiency, innovation, and emission-reduction technologies.
- Lithuania: National energy policy foresees a gradual transition to renewable energy sources and energy-efficient infrastructure. In industrial areas this implies greater attention to energy-sharing solutions, modern infrastructure, and innovations that help reduce carbon emissions.
- Finland (Central Finland): The regional development strategy includes the objective of achieving carbon neutrality by 2030. This target stimulates the development of green energy infrastructure and the modernisation of industrial areas, with particular emphasis on circular economy principles and energy efficiency.
- Latvia (Zemgale): The experience of the Zemgale region within the GIA project demonstrates that the green industrial area approach can be integrated into regional development planning. This can encourage cooperation among companies, energy-efficient infrastructure, and the introduction of innovations in industrial areas.

- Sweden (Skåne): The region's climate and energy strategy sets ambitious emission reduction targets for 2030. Industrial areas are considered an important instrument for the development of a fossil-free economy.

The analysis of partner territories reveals several common policy trends. Most regions emphasize energy efficiency improvements, renewable energy integration and industrial symbiosis as key instruments for reducing emissions in industrial areas. At the same time, differences can be observed in the policy instruments used, reflecting national governance structures, regional economic conditions and institutional capacities.

Sustainability of Outcomes

The sustainability of the GIA project results is closely linked to their integration into national and regional development documents, as well as to stable institutional and financial support.

- Germany (Mecklenburg-Vorpommern): The regular updating of spatial planning documents provides opportunities to maintain sustainable industrial development principles in the long term and integrate new climate policy instruments.
- Denmark (Kalundborg): Close cooperation between municipalities, companies, and research institutions provides a stable institutional basis for the development of industrial symbiosis.
- Poland (Podlaskie): EU funding programmes provide significant resources for green transition projects, enabling policy initiatives to continue beyond the duration of the project.
- Lithuania: National energy strategies and climate policy targets create a stable political framework for the sustainable development of industrial areas.
- Finland (Central Finland): Regional development institutions coordinate the implementation of climate policy, ensuring a strategic approach to the transformation of industrial areas.
- Latvia (Zemgale): The integration of the GIA approach into regional planning can ensure that project results are used in future development initiatives.
- Sweden (Skåne): Regular updates of climate strategies and strong institutional cooperation help maintain policy continuity.

Cross-Territory Learnings

The GIA project demonstrates that cooperation among partner territories makes it possible to identify effective policy approaches and transfer good practice examples between regions.

- The Kalundborg industrial symbiosis model is one of the most prominent examples of how cooperation between companies can improve resource efficiency and reduce emissions.
- The experience of Skåne shows that clearly defined climate targets and long-term strategies help create a stable policy framework.
- Examples from Finland and Germany highlight the importance of spatial planning in the sustainable development of industrial areas.
- The experience of Poland demonstrates that flexible funding instruments can stimulate innovation and corporate investment.
- The experiences of Latvia and Lithuania emphasise the need to integrate sustainability criteria into national and regional development policies.

European Perspective

European Union climate policy increasingly emphasizes the importance of industrial decarbonization as a key component of the transition towards climate-neutral economy. In this context, the development of green industrial areas can become an important policy instrument for both reducing greenhouse gas emissions and strengthening regional competitiveness.

The experience gained within the GIA project demonstrates that coordinated planning and governance of industrial territories can significantly support the implementation of EU climate and energy objectives. The GIA approach provides a structured and standardized framework for assessing and improving the sustainability performance of industrial areas.

Regions with well-developed green infrastructure and sustainable industrial ecosystems become increasingly attractive for investors, innovative companies and clean technology projects. Sustainable industrial areas also facilitate the implementation of circular economic solutions, renewable energy integration and energy-efficient production processes.

From the perspective of the next Multiannual Financial Framework (MFF 2027+), the results of the GIA project highlight the importance of strengthening EU financial instruments that support the transformation of industrial territories. Dedicated funding mechanisms within cohesion policy, regional development programs and innovation instruments could further promote the development of green industrial areas, enabling regions to accelerate industrial decarbonization and enhance long-term economic resilience.

Furthermore, enhanced cooperation across the Baltic Sea Region in this field can support the transfer of good practices, strengthen regional innovation ecosystems and contribute to the development of competitive and climate-neutral industrial value chains across the European Union.

4.1. Certification Approaches for Green Industrial Zones and Directions for Policy Development

This section analyses information on sustainability certification approaches for industrial territories and their significance for the development of green industrial zones. The analysis is based on the study “The Potential and Development of Green Industrial Zones in the Zemgale Planning Region” prepared by KPMG Baltics SIA. The report was developed in accordance with the contract concluded on 6 August 2025 between the Zemgale Planning Region and KPMG Baltics SIA, within which an analysis of the development potential of industrial territories, sustainability principles, and policy instruments was carried out. The aim of this section is to evaluate international certification frameworks and identify their relevance within the context of the GIA project, as well as to analyze the possibilities for integrating these approaches into the national policy systems.

International Approaches to the Certification of Industrial Territories

The GIA project in the Baltic Sea Region focuses on the development of a unified approach for assessing and certifying the development of green industrial zones. Within the framework of the project, a methodology is being developed that enables the evaluation of industrial territories according to several criteria, including energy and resource efficiency, emission reduction, infrastructure quality, the development of industrial symbiosis, and the effectiveness of governance systems. The introduction of

such an approach can help territories demonstrate their compliance with sustainability principles, while at the same time increasing investor confidence and enhancing opportunities to attract financing for green investments.

In international practice, several instruments already exist that are used to assess the sustainability of industrial territories. One of the most significant is the Eco-Industrial Parks (EIP) framework developed by the United Nations Industrial Development Organization (UNIDO). This approach defines four key dimensions: governance, environmental aspects, social responsibility, and economic development. The EIP concept is based on the principle that companies located within an industrial territory cooperate in order to use resources more efficiently, reduce waste generation, and promote circular economic solutions. Such cooperation contributes both to reducing environmental impacts and to strengthening economic competitiveness.¹

In addition to the EIP approach, the DGNB (Deutsche Gesellschaft für Nachhaltiges Bauen) certification system plays an important role in assessing the sustainability of industrial territories. This system provides a comprehensive evaluation of territorial sustainability throughout the entire project life cycle – from planning and construction to operation and site management. The DGNB system analyses ecological, economic, socio-cultural, and technical aspects, as well as the quality of governance and the integration of the territory into the surrounding environment. As a result, industrial zones can become more attractive to investors, companies, and employees, while also promoting efficient resource use and emission reduction.

Another widely used instrument is the BREEAM certification system, the national versions of which in several countries are also adapted for the assessment of territories and districts. For example, the BREEAM-NL approach developed in the Netherlands enables the analysis of industrial territory development by taking into account energy consumption, water use, mobility solutions, biodiversity conservation, and the quality of territorial governance. Such instruments help ensure that territorial planning is carried out sustainably already from the earliest stages of development.

Directions for Policy Development and Proposals at the National Level

The analysis of international experience and the solutions identified within the GIA project indicate that the sustainable development of industrial territories requires a coordinated set of policy instruments at the national level. Currently, Latvia has several support instruments for green investments, including EU-funded programs, energy efficiency grants, and investment incentives provided through national and regional schemes. However, dedicated large-scale support mechanisms specifically targeting net-zero industrial technologies remain relatively limited compared with some other EU Member States. Therefore, the development of instruments that promote the transformation of industrial territories towards climate-neutral and resource-efficient development models remains an important policy priority.

One of the most significant directions is the development of national support mechanisms to produce net-zero technologies. This may include both public financing and tax incentives for companies investing in clean technologies, such as renewable energy solutions, energy storage technologies, hydrogen infrastructure, or carbon capture and storage solutions. The introduction of such instruments

¹ KPMG Baltics SIA. Zaļo industriālo zonu potenciāls un attīstība Zemgales plānošanas reģionā. 2025

could facilitate the transformation of industrial zones and accelerate the transition to a climate-neutral economy.

In addition, it is important to strengthen the implementation of green public procurement principles by integrating sustainability and resilience criteria into the implementation of infrastructure and industrial projects. Such an approach would ensure that public sector investments promote the use of sustainable technologies and foster innovation in the industrial sector.

Another important direction for policy development is the integration of industrial symbiosis principles into national planning documents. Industrial symbiosis involves cooperation between companies in order to use resources more efficiently and reduce waste generation, for example by using the by-products of one company as raw materials for another. The implementation of such approaches can be an important instrument both for reducing emissions and for increasing the competitiveness of companies.²

From the perspective of the GIA project, the introduction of a unified certification approach for green industrial zones is particularly significant. A certification system can serve as a methodological instrument that helps to systematically evaluate the level of territorial development and demonstrate compliance with sustainability criteria. Such an approach can increase investor confidence, improve project competitiveness in funding acquisition processes, and ensure a transparent system for assessing territorial development.

It is also important to define an institutional structure that would be responsible for administering and implementing such a certification system. This could include the coordination of the certification process as well as methodological support for municipalities and entrepreneurs who wish to develop green industrial zones. Such an institutional approach would help ensure coherent policy implementation and promote the long-term sustainable development of industrial territories.³

² KPMG Baltics SIA. Zaļo industriālo zonu potenciāls un attīstība Zemgales plānošanas reģionā. 2025

³ KPMG Baltics SIA. Zaļo industriālo zonu potenciāls un attīstība Zemgales plānošanas reģionā. 2025

5. Key Conclusions, Recommendations and the Role of Collaborative Learning in the GIA Project

Key Conclusions on the Impact of the Project on Policies and CO₂ Emission Reductions

1. The GIA project has established a structured approach to the development of green industrial areas by creating a transnational certification standard and a practical toolbox that supports public authorities and companies in planning sustainable investments within industrial territories.
2. The project results demonstrate that significant reductions in CO₂ emissions in industrial areas can be achieved through the integration of energy efficiency measures, the use of renewable energy sources, and the implementation of industrial symbiosis principles.
3. The certification approach developed within the GIA project provides a methodological framework for assessing the sustainability of industrial areas and for comparing their level of development across different countries.
4. The project has contributed to the improvement of policy instruments across the Baltic Sea Region, creating favorable conditions for integrating the concept of green industrial areas into regional and national planning documents.
5. The analysis indicates that the transformation of industrial territories towards a climate-neutral development model is closely linked to the coordination of spatial planning, energy policy, and innovation policy.
6. The application of industrial symbiosis principles in the project territories demonstrates that cooperation among companies can significantly reduce resource consumption and emissions.
7. Pilot activities implemented in different countries provided practical experience on how green infrastructure solutions and digital energy management systems can improve the efficiency of industrial areas.
8. The project outcomes emphasize the importance of cooperation between public institutions and enterprises in order to ensure efficient energy infrastructure and sustainable management of industrial territories.
9. Policy analysis conducted in the partner territories shows that the project tools can be integrated into climate, energy, industrial development, and regional policy documents.
10. The results of the GIA project contribute to attracting investments in green technologies and strengthening the international competitiveness of industrial territories.

Recommendations for Further Action for Local, Regional, and National Authorities to Ensure the Continuation and Expansion of the Changes Made, Particularly in Terms of Scaling up CO₂ Reduction Efforts

To ensure the effective implementation of the project results, policy actions can be structured within a phased implementation roadmap that reflects different time horizons.

In the short term (1–3 years), the priority should be to integrate the principles of green industrial area development into existing spatial planning documents and climate strategies. Local and regional authorities should also promote pilot initiatives that demonstrate the practical benefits of the certification framework and the Toolbox.

In the medium term (3–7 years), policy efforts should focus on establishing financial support mechanisms that encourage companies to invest in energy-efficient infrastructure, renewable energy technologies, and circular economy solutions. The certification framework could also be gradually integrated into funding programs and regional development strategies.

In the long term (beyond 2030), the development of a coordinated national or European certification system for green industrial areas could significantly strengthen the policy framework for sustainable industrial development. Such a system would provide a transparent and standardized approach for evaluating industrial territories and attracting green investments.

The implementation of this roadmap would contribute to the systematic transformation of industrial areas towards climate neutrality while supporting the broader objectives of European climate and industrial policy.

1. In accordance with the national legislative framework for spatial planning and regional development, local municipalities are encouraged to integrate the principles of green industrial area development into spatial planning documents and local development strategies in order to promote sustainable infrastructure development, efficient land use, and climate-neutral industrial growth.
2. Regional institutions should promote cooperation platforms among companies in order to support the development of industrial symbiosis initiatives and shared resource solutions.
3. At the national level, it is necessary to develop financial support instruments that stimulate investments in energy efficiency, renewable energy sources, and low-carbon technologies.
4. Policy makers are recommended to use the GIA certification approach as an instrument for assessing the sustainability of industrial areas and promoting the attraction of investments.
5. Public-private partnership models can serve as effective mechanisms for implementing green infrastructure projects in industrial territories.
6. It is important to strengthen coordination among different policy levels in order to ensure a coherent approach to the decarbonization of industrial areas.
7. The implementation of green public procurement principles can become a significant instrument for promoting the use of sustainable technologies in industrial projects.
8. Regional and local institutions should encourage innovation and pilot initiatives that test new energy efficiency and circular economy solutions.
9. Data monitoring systems should be further developed to enable the analysis of energy consumption, emission trends, and infrastructure efficiency within industrial areas.
10. In the long term, it is recommended to establish a coordinated national system for the certification and development support of green industrial areas.

The Role of Collaborative Learning.

The GIA project clearly demonstrates that interregional and international cooperation is one of the key prerequisites for developing effective policy solutions aimed at mitigating climate change and promoting the sustainable development of industrial territories.

During the implementation of the project, the exchange of experience among partners and their close cooperation enabled the identification of various policy instruments and governance approaches that can significantly support the transformation of industrial areas towards a climate-neutral and resource-efficient development model.

At the same time, international collaboration created opportunities to analyze and adopt good practice examples from countries and regions where advanced green industrial policies have already been implemented, thereby enabling the adaptation of these solutions to other institutional and territorial contexts.

An important added value of the project lies in its collaborative learning approach, which contributes to strengthening institutional capacity at local, regional, and national levels.

The cooperation networks established within the project facilitate systematic knowledge transfer among municipalities, companies, policy makers, and research institutions, while also promoting the dissemination of innovative ideas and solutions in industrial development policies.

Such a collaborative environment enables a more effective analysis of experiences from different regions, the identification of efficient mechanisms for reducing greenhouse gas emissions in industrial territories, and the promotion of resource efficiency, including through the development of industrial symbiosis and modern energy management solutions.

The transnational approach implemented in the GIA project makes it possible to adapt policy instruments to different socio-economic, institutional, and territorial conditions, thereby expanding the potential for integrating these solutions into policy planning documents.

At the same time, cooperation platforms significantly foster the introduction of innovations and the application of new technologies in the industrial sector, supporting improvements in energy efficiency as well as the integration of renewable energy sources within industrial territories.

In the long term, this approach may serve as a foundation for developing a common methodology for assessing and certifying green industrial areas at the European level.

Overall, collaborative learning and international knowledge exchange strengthen the capacity of regions to adapt to European Union climate policy requirements, while simultaneously promoting the development of a sustainable, competitive, and climate-neutral economy across the Baltic Sea Region and beyond.