Klimatorium
Danmarks internationale klimacenter

The year 2025 in Klimatorium

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FOREWORD

A year can be summed up in many ways: in numbers, in projects, in results. For us, 2025 has been largely about balance – between idea and practice, between speed and thoroughness, and between local actions and global perspectives. And it is precisely in the tension between the local and the international that Klimatorium's special role lies: to make climate action concrete, testable and scalable – and to bring people and organisations together around solutions that work in reality.

Throughout the year, we have worked purposefully to shorten the path from ambition to action by bringing together key players and creating a common direction in complex agendas. Cooperation on climate adaptation, coastal protection and water management has been strengthened so that local experiences, national priorities and international perspectives interact more effectively.

2025 has also been a year in which testing and demonstration have been central. Klimatorium Living Lab – the world's largest Living Lab covering 508 km² – has made it possible to test new technologies, data and methods under real conditions. This means that solutions can be adjusted, documented and qualified before they are scaled up. This practical approach has been crucial in attracting both Danish and international players to choose Klimatorium as a partner.

At the same time, 2025 marked an important step in Klimatorium's international role. Being designated Denmark's national EU Climate Adaptation Hub has given us a new platform for connecting European ambitions with Danish practice – and for bringing Danish experiences into play in broader European cooperation. In the same vein, work on nature-based solutions, data-driven climate adaptation and citizen involvement has been strengthened through international projects and partnerships.

Internationalisation is not just about structures and strategies, but about people and learning. In 2025, we have had visits and exchanges where knowledge has been shared hand in hand – from capacity building in Ukraine to global conversations about plastic pollution and youth engagement. When local experiences meet other perspectives, new insights emerge.

Klimatorium has enjoyed tremendous support throughout the year. Thousands of visitors, school classes, professionals and politicians have stopped by to see climate solutions up close and understand them in practice. This confirms our belief that the need for a place where knowledge, action and collaboration come together is only growing.

Happy reading

Lars Nørgård Holmegaard
Director, Klimatorium

Jørgen Nørby
Chairman, Klimatorium

TABLE OF CONTENTS

Summary

Climate action does not happen by itself. It arises when people meet, ideas are tested, and experiences are shared, allowing solutions to mature, grow, and have a lasting impact.

The following four sections show how Klimatorium has made an impact in various areas in 2025: 1. Acceleration of climate action → 2. Testing and demonstration in practice → 3. Competencies and capacity → 4. Scaling and dissemination.

1. Acceleration of climate action

Klimatorium's work with acceleration is not about initiating individual projects, but about bringing together actors across projects, sectors and levels to create a common direction – and to tackle the areas where climate action often stalls: the transitions between knowledge, decisions and implementation.

By 2025, Klimatorium will have contributed to shifting climate action from fragmented initiatives to more coherent and strategic efforts, including through the National Climate Summit and a number of European projects. For example, Klimatorium has played an active role in the Danish climate adaptation agenda in collaboration with other key players. Here, climate adaptation has been treated as a strategic societal issue, where technical solutions are linked to economics, insurance, data and long-term choices about retreat and coexistence with water.

At the same time, Klimatorium is working towards a paradigm shift in water management. The focus is shifting from directing water to treatment plants to managing it locally in cities and landscapes. Work with groundwater close to the surface points to new opportunities where water is seen not only as a problem, but as a resource.

Nature-based solutions have been another key agenda item in 2025. When climate adaptation is combined with biodiversity and recreational values, both the robustness of the solutions and their local support are strengthened. Plastic pollution in the aquatic environment has also been a focus area where the solutions are complex and conflicts of interest are clear. Here, Klimatorium took the initiative to organise a national plastics meeting, where the plastics industry and the NGO Plastic Change, among others, came together in dialogue. Different perspectives were made constructive, and new common understandings of responsibility and solutions took shape.

Read more on pp. 7-16

Acceleration – key indicators for 2025

- 8 key focus areas
- +150 actors mobilised across sectors and levels
- 200–300 projects influenced through collaboration, dialogue and climate meetings
- New national project (Food Forest) originating from the Climate Summit

Photo: European NBRACER partners at Bovbjerg Lighthouse

2. Testing and demonstration in practice

Through projects, Living Labs and demonstration activities, Klimatorium tests solutions in real-life environments. Testing and documentation make it possible to adjust solutions, reduce risk and create a solid basis for implementation – and shorten the path from idea to application.

Klimatorium's work with testing and demonstration is not just about trying out new technologies, but about realising their full potential for the climate, environment and resources. In Klimatorium Living Lab, solutions are tested in real systems, where effects on CO_2 emissions, water resources, nature and operations can be assessed collectively before they are rolled out. In 2025, the initiative has had a special focus on solutions with global relevance.

Pyrolysis of sewage sludge demonstrates how waste can become a climate tool with potential for permanent carbon storage and significant CO_2 reduction. Nature-based solutions and LAR systems demonstrate how rainwater and wastewater can be managed locally, reducing the burden on sewer systems, reducing energy consumption and strengthening biodiversity. At the same time, work with near-surface groundwater points to a paradigm shift, where millions of cubic metres of water are no longer seen as a problem, but as a resource for technical water in industry and energy systems.

Testing and demonstration reduce uncertainty in decision-making. When effects are documented in practice – from CO_2 reduction and energy savings to improved water quality and resilience – solutions become more attractive to utilities, municipalities and businesses and easier to scale. Overall, Klimatorium Living Lab acts as a crucial link between ambition and realisation. Here, climate and environmental potential is translated into concrete experiences that show how society can use fewer resources, reduce emissions and at the same time become more resilient to the climate of the future.

Read more on pages 17-30

Photo: A pilot project on nature-based water purification is being developed in collaboration with the company Kilian Water

Testing and demonstration – key indicators for 2025

- Klimatorium Living Lab recognised as a leading test platform by PCP Wise
- 50 companies have used Living Lab for the development, testing and demonstration of new solutions/products
- 5 European projects have specific testing activities in Living Lab

3. Competencies and capacity

Overall, by 2025, Klimatorium will have built up competencies that enable climate action: among those who develop water and climate solutions, those who make decisions, and those who have to live with the consequences.

The Children's Climate Meeting and Global Youth Climate Summit once again gave children and young people a clear voice in the climate debate and made climate change something to engage with here and now – not as a distant future scenario. The Youth Climate Summit brought together participants from over 15 countries, and the Children's Climate Summit took on new dimensions with Jonas Madsen, known from DR and MGP, as host. The focus was not on ready-made answers, but on dilemmas and options for action.

In 2025, Klimatorium has also taken new steps to reach children and young people beyond traditional teaching. Through the TREASURE project, children and young people have been directly involved in learning about plastic pollution through citizen science. In parallel, work is underway on the development of the Plastikpirater learning universe and a tactical board game for secondary schools that stages the conflict between a plastics company and an NGO – without clear villains. The formats make complex climate and social dilemmas concrete, discussable and scalable.

Klimatorium has strengthened the link between education, research and practice. Trainee programmes, project collaborations and teaching visits have given students experience with real climate and water systems and shown how green transition can also be a local career choice. The Prime Minister's visit and dialogue with young employees at Klimatorium emphasised the connection between higher education, jobs and climate.

For professionals and decision-makers, Klimatorium has served as a space where knowledge, data and solutions are translated into decision-making competence. Through the National Climate Summit and the efforts of the Business Beacon for Water Technology, capacity has been built in the areas of climate adaptation and water – areas where action requires both technical insight and common understanding.

Read more on pages 31-40

Competencies – key indicators 2025

- Klimatorium's visitor numbers for 2025 reached 30,044 visitors – despite many closed weekends and school holidays during the year.
- +680 school pupils and 67 private groups were given guided tours
- 10,000 people have participated in Klimatorium's three climate meetings

Photo: Children's Climate Summit - Jonas Madsen is hosting for the first time.

4. Scaling and dissemination of solutions

In 2025, Klimatorium has contributed to solutions developed and tested in Danish projects gaining national and international impact. In practice, scaling and dissemination has been about making documented solutions usable in new geographies, decision-making spaces and collaborations.

The establishment of Klimatorium Nederland marks a new breakthrough for the Klimatorium model as a scalable framework for climate action – following previous experiences in New Zealand. Based on Danish experiences of bringing together business, universities, authorities and civil society in Quadruple Helix collaborations, the model is now anchored in a Dutch municipality, where it is already being translated into concrete projects. This confirms that Klimatorium's approach can be transferred to new national contexts without losing local relevance.

Another important milestone is Klimatorium's new role as the National Adaptation Hub in the EU, which provides an opportunity to bring experience from Danish projects into EU cooperation and European climate policy, while at the same time enabling European tools and methods to be translated into Danish practice via Klimatorium. A new collaboration with Ukraine has demonstrated how Danish expertise in water and wastewater management can contribute directly to capacity building in critical infrastructure in other countries. Here, scaling is not just a matter of exporting technology, but of transferring operational experience, governance and robust solutions in a pressured context.

Communication is a key lever for disseminating solutions. In 2025, Klimatorium's work has been communicated on television through reports on DR Søndag, Vores Vejr on DR1 and NDR in Germany. At the same time, a meeting with the Indonesian Pandawara Group has given Klimatorium great international visibility with more than 20 million views and illustrated how local solutions can achieve global reach through new communication channels.

Read more on pages 41-49

Photo: Director Lars Nørgård Holmegaard and project manager Isa Schipperheijn visited Tynaarlo in February to kickstart the Dutch Klimatorium.

Competencies – key indicators 2025

- Great interest in Klimatorium's work both nationally and internationally
- New collaboration in the Netherlands and Ukraine
- Projects create networks across 17 European countries
- Klimatorium's projects exposed to more than 20 million people abroad +700,000 views on own channels

Chapter 1

ACCELERATION OF CLIMATE ACTION

We create momentum in climate action

Klimatorium works with climate action where the need is greatest and where action can make a real difference. The key focus areas bring together the themes where Klimatorium has contributed to creating momentum, bringing together stakeholders and translating knowledge into action in 2025. The initiatives are primarily carried out through projects and collaborations, but what they all have in common is that they contribute to concrete solutions and strengthen the transition from ambition to practice.

Key focus areas for climate action:

1. National climate adaptation
2. Paradigm shift in water management in cities and open countryside
3. Utilisation of alternative water sources
4. Dissemination of nature-based solutions
5. Citizen involvement in climate action
6. Green heavy transport
7. Mapping plastic pollution in waterways
8. Finding a common direction for climate action in Denmark

1. National climate adaptation

Climate adaptation in Denmark is increasingly becoming a joint national task, where local experience, government frameworks and research-based knowledge must work closely together. In 2025, Klimatorium has played a central role in accelerating this development by bringing together key players and translating knowledge into action through concrete collaborations.

An important framework for this work is the government's acceleration package for coastal protection, which aims to strengthen cooperation between the state, municipalities and professional communities in the work on coastal climate adaptation. The acceleration package has strengthened the opportunities and prospects for cooperation between the Danish Coastal Authority and Klimatorium. This provides new opportunities to develop, test and qualify solutions that can handle rising water levels, storm surges and coastal erosion – based on data, local conditions and practical experience. In Lemvig and the western Limfjord, this work is directly linked to the government's further studies of the Thyborøn Canal and future coastal strategies.

At the same time, Klimatorium is involved in several major Danish-German and European collaborations that address climate adaptation in new ways. **Climate Blue** brings together municipalities, researchers and authorities from Denmark and Germany to address the coastal challenges that were clearly exposed during the storm surge in October 2023. The project examines not only technical solutions, but also the difficult strategic choices: where should we protect, where should we adapt, and where should we eventually retreat and make room for the water? Klimatorium contributes with Living Lab experiences, practical cases and the dissemination of solutions that can inspire both national and international climate adaptation, and hosted a meeting in 2025 that brought together stakeholders over two days for professional discussions and practical excursions with a focus on translating knowledge into action.

ClimatePol focuses on strengthening political and administrative capacity for climate adaptation across the Danish-German border. The project works to map existing structures, identify barriers and develop new forms of cooperation between authorities, municipalities and professional actor

In 2025, Klimatorium provided the framework for a strategic meeting between directors from DMI, the Danish Coastal Authority, Lemvig Municipality and Klimatorium, focusing on strengthening cooperation

Klimatorium hosted a strategic meeting with Forsikring & Pension, where climate adaptation was discussed from a societal and risk perspective.

In ClimatePol, Klimatorium contributes experience from specific demonstration projects and local solutions to recommendations that can be incorporated into planning and policy development.

In addition, Klimatorium serves as a testing ground and meeting place for data- and technology-driven climate adaptation initiatives, including **PCP WISE**, where digital mapping tools are developed in close collaboration with users and decision-makers. Workshops have been held at Klimatorium to identify real needs and thus bring future solutions closer to practical application in municipalities and utilities.

Common to all these initiatives is that Klimatorium serves as a place where national strategies meet local experiences, where data meets operations, and where new forms of collaboration can be tested in practice.

In this way, the work in 2025 will contribute to moving Danish climate adaptation towards more coherent and robust solutions.

Photo: The National Climate Summit:
Lars Holmegaard, Director of Klimatorium, in dialogue about ground-level groundwater and new legislation with Anja Wejs (NIRAS).

2. Paradigm shift in water management in cities and the open countryside

Water is a crucial focal point in climate action. Globally, around DKK 3,000 billion is invested in water infrastructure every year, and the need for new climate solutions is urgent. Klimatorium is working in the **Business Beacon for Water Technology** to bring about a paradigm shift in how we think about water management. Instead of focusing exclusively on solutions at waterworks and treatment plants, we are looking at the potential outside these facilities. This brings solutions such as localised stormwater drainage (LSD), sensors, a better understanding of groundwater dynamics and GIS based decision-making tools into play closer to where the water comes from.

The reason for this paradigm shift is that traditional, centralised solutions are becoming increasingly costly and inadequate in the face of climate change. More extreme rainfall, rising groundwater levels and higher water levels are putting pressure on systems that are primarily designed to drain water away. Decentralised solutions enable local water management. This reduces the need for large investments in pipes, pumps and treatment plants and provides greater flexibility in terms of water retention, treatment and utilisation.

Whereas the years 2022–2024 have focused particularly on highlighting the necessity, 2025 has been about accelerating decentralised technologies through collaborations, test programmes and partnerships and documenting effects

Water Valley Summit 2025:
As part of the Business Beacon for Water Technology, Klimatorium co-organised a summit with 150 professional participants, presentations, debates and a marketplace. At the marketplace, Danish water technology companies were able to present their latest solutions

3. Utilisation of alternative water sources

Drinking water is a limited resource, and climate change, population growth and increasing industrial water consumption are putting growing pressure on water resources. At the same time, periods of drought and changing precipitation patterns increase the risk of local water shortages.

In this context, it is becoming increasingly important to use drinking water where it is needed – and to find alternative solutions elsewhere. This is a task that Klimatorium has taken on in terms of communicating the potential and contributing to the development and maturation of alternative water sources as a central element in future water management

Great export potential for Denmark in the water sector

Denmark is a world leader in the development and supply of a range of water technology solutions (e.g. pumps, valves, filters, membranes) with large companies such as Grundfos, Danfoss, AVK, and Kamstrup generating significant exports. At the same time, new water technology solutions with significant export potential are emerging, including digital and database-driven solutions (e.g. the use of sensors and digital solutions for data collection and processing) and solutions focused on green transition (e.g. the use of recycled plastic for pipes and manhole covers, purification of water for PtX, etc.), which have matured under the auspices of the Business Beacon projects (Source: Evaluation Q4 2024, Business Promotion Board).

The **VUDP project Vandternativet (Water Alternative)** is working to utilise groundwater and surface water close to the ground as technical water for industrial purposes, so that drinking water can be reserved to a greater extent for households and food production.

At the same time, Klimatorium has contributed through **SUSTAQUA** to strengthening planning and policy development, making it easier for authorities and utilities to prioritise rainwater and recycled water as sustainable water sources. Together, these efforts contribute to an important shift in mindset: from viewing excess water as a problem to seeing it as a resource that can be actively incorporated into climate, water and energy systems.

Photo: Kick-off of the Vandternativet project at Klimatorium.

Changing the conversation about water for industry

Since 2021, Klimatorium has been working to raise awareness of shallow groundwater as a more sustainable water source for industry. Shallow groundwater poses a growing challenge for utilities, agriculture and homeowners, but at the same time offers potential as technical water for water-intensive industries. In 2025, efforts to put shallow groundwater on the agenda have been anchored through a number of national and international forums, where Klimatorium has contributed knowledge, perspectives and concrete examples:

Selected forums in 2025:

- Power-to-X conference: From green vision to reality (28 January 2026)
- Debate on the future of drinking water at the Climate People's Meeting in Middelfart
- Water Talk on Water for PtX, organised by Danish Export

4. Udbredelse af naturbaserede løsninger i Danmark og Europa

Nature-based solutions (NbS) play an increasingly important role in climate adaptation because they can address climate risks such as flooding, drought and coastal erosion in a way that also strengthens biodiversity and local values. By 2025, Klimatorium will have played a central role in promoting the use of nature-based solutions – both nationally and across Europe.

Through the **EU project NBRACER**, Klimatorium has contributed to bringing nature-based solutions from niche to mainstream. The focus here has been on bringing together technical, social and economic perspectives and showing how nature-based solutions can function as a real and competitive alternative to traditional, grey solutions. Calculations from Klimatorium show, among other things, that nature-based solutions for wastewater management can be established at around one-third of the price of traditional concrete and pipe solutions – while also contributing positively to biodiversity and the landscape.

In February, Klimatorium hosted a regional workshop focusing on gathering NBS experience from Denmark, and in October 2025, Klimatorium hosted **NBRACER's 5th General Assembly in Lemvig**, where 60 researchers, experts and decision-makers from across Europe met to share experiences and see solutions in practice. Lemvig and the West Jutland landscape served as a European learning space, where field visits to wetlands, coastal landscapes and pilot projects in the Living Lab showed how nature can re-enter as an active climate partner.

In 2025, Klimatorium has also been designated **Denmark's official NbS hub** and now serves as the national hub for nature-based solutions. As a hub, Klimatorium brings together researchers, authorities, businesses and civil society to promote knowledge sharing, capacity building and concrete implementation of NbS in Denmark. The work builds on existing networks and experiences, but has a clear focus on breaking down barriers and making naturebased solutions easier to use in practice – from urban development and climate adaptation to nature restoration.

As Than-Tam Le, Director of Impact and Performance at EIT Climate-KIC, points out, the strength of NBRACER lies precisely in its ability to bring together technical, social and economic perspectives and show how they complement each other. The experiences from Lemvig and the rest of Europe emphasise that climate action cannot be separated from biodiversity and people. Nature-based solutions are therefore not about choosing nature over technology, but about reinstating nature as a necessary climate partner in the green transition.

5. Citizen involvement in climate decisions

Climate adaptation and climate action can only succeed if the solutions are rooted in the communities and everyday lives in which they are to function. In 2025, Klimatorium has placed particular emphasis on strengthening citizen involvement as an active part of climate work – not as a consultation, but as an ongoing and structured process.

Through the EU project **RESUREXION**, Klimatorium has worked with Lemvig Municipality to make citizen involvement operational in climate adaptation. Klimatorium has contributed to linking local experiences and needs with a common European learning platform, where knowledge about citizen involvement, resilience and local climate adaptation is shared across countries and regions. The initiative has strengthened the interaction between citizens, municipalities and European actors and contributed to a more systematic inclusion of citizen perspectives in climate adaptation work. This is being put into practice, for example, by collecting citizen input on a potential narrowing of the Limfjord at Thyborøn.

In parallel with this, a **climate citizen group** functions as a local, citizen-driven forum, with Klimatorium acting as secretariat and supporting the group's work through facilitation and professional sparring. The group focuses on citizens' opportunities to make climate-friendly choices in their everyday lives, while also focusing on the frameworks that businesses and the public sector create for citizens and employees.

As part of the EU project **ClimateBlue**, Klimatorium has played a central role in strengthening the connection between the project's technical work and the citizen perspective. Citizen involvement is crucial in the work with coastal adaptation and coastal retreat, where solutions have a direct impact on local communities and everyday life. In October 2025, Klimatorium hosted a partner meeting, where we facilitated a full-day excursion for the project partners. The following day, the work continued with more concrete discussions of the project's efforts and methods.

Together, Klimatorium's efforts have helped to bridge the gap between everyday choices and the systemic level. Klimatorium has created structures where citizens' knowledge, experiences and perspectives are brought into play in dialogue with authorities and European collaborations. Citizen involvement is therefore not an isolated track, but an integral part of the work to develop more robust and locally anchored climate solutions.

Photo: Climate citizen group meeting at Klimatorium

6. Green heavy transport

The transport sector accounts for around a quarter of Denmark's total CO_2 emissions and is one of the most complex sectors to transition. Through **the Green Jutland Corridor**, Klimatorium has contributed to accelerating the green transition of freight transport by bringing together stakeholders and creating a common direction for more climate-friendly solutions.

A key focus has been on strengthening multimodal freight transport, with more freight being moved from road to rail and sea – especially on long distances. This is crucial because freight transport remains heavily dependent on diesel: in the EU, over 96% of lorries run on diesel, and almost 96% of newly registered lorries are still dieselpowered. Even limited shifts from road to rail or ship therefore offer significant climate potential.

Here, Klimatorium has worked with analyses, dialogues, collaborations and communication that highlight the benefits of making better use of trains and ships – not only in terms of reduced CO_2 emissions, but also less congestion, lower noise levels and less wear and tear on infrastructure.

The necessary changes in the transport sector require significant investments and joint solutions. The Green Jutland Corridor has therefore focused strongly on partnerships and has established broad cooperation between energy companies, ports, authorities, transport operators, developers and research environments. This cooperation is a prerequisite for our ability to develop solutions that work in practice in the future.

Batteritog som løftestang for grøn godstransport

By 2025, battery trains will be a reality in Danish passenger transport at Midtjyske Jernbaner, which is a partner in the Green Jutland Corridor. In continuation of this, the corridor has been working to clarify how battery technology can also play a role in the freight transport of the future – with Klimatorium as an active participant in dialogues and knowledge sharing.

Battery trains address a key challenge in the green transition of the railways. Only around 57 % of the EU's rail network is electrified, which means that large parts of it remain dependent on diesel. On branch lines, port tracks and in terminal areas – the so-called last mile – diesel has been dominant until now, as full electrification is often technically complex and economically burdensome.

The global perspective further emphasises the relevance of this issue. In the United States, less than 1% of the rail network is electrified, making full electrification unrealistic in many places in the short term. Here – as in large parts of Europe – battery trains point to a more flexible and economically realistic way to reduce diesel dependency.

In 2025, the work carried out in the Green Jutland Corridor has helped to highlight battery trains as a realistic alternative that can reduce diesel consumption without major investments in new infrastructure. Experience thus points to solutions that can support more climate-friendly and robust freight transport solutions – both nationally and internationally

Klimatorium was invited into the carriage when HM King Frederik inaugurated Denmark's first battery train.

7. Reducing plastic pollution in water

Plastic pollution in the aquatic environment is a crossborder problem, where local waste can quickly become an international challenge. By 2025, Klimatorium will have played a central role in strengthening efforts to combat plastic pollution by contributing to new knowledge about how plastic moves through aquatic environments and by bringing stakeholders together around a more coordinated national approach.

Through the EU project **TREASURE**, Klimatorium is working with Lemvig Vand and partners in the North Sea region to understand how waste – especially macroplastics – is transported through watercourses, fjords and coastal waters. The project is conducting realistic experiments in Lemvig and Varde municipalities, among others, where over 10,000 wooden blocks with unique QR codes are being placed in the aquatic environment to map the movement patterns and accumulation points of waste.

Initial results already show that blocks released locally in Denmark have been found in both Norway and Sweden – a clear illustration that plastic pollution does not stop at municipal or national borders.

When knowledge, citizens and action come together

The fight against plastic pollution requires more than technical solutions – it requires knowledge, ownership and joint action. Through TREASURE, Klimatorium has contributed to accelerating climate action by combining testing, citizen involvement and cross-disciplinary collaboration. By using Citizen Science in the wooden block experiment, citizens and school pupils are directly involved in data collection. This strengthens both the data basis and the common understanding of how local waste moves through aquatic environments and becomes an international problem. When citizens themselves register findings via QR codes, plastic pollution becomes concrete, visible and actionable.

The collected data is used to develop more targeted efforts against plastic pollution, including solutions for detection, collection and prevention – for example through physical barriers, behavioural changes and technological measures. Klimatorium's role in TREASURE has been to support communication, educational initiatives and citizen involvement, so that knowledge is translated into action.

In 2025, Klimatorium took the initiative to bring together key Danish players to discuss a common approach to plastic pollution. At a **national plastics meeting** in Klimatorium, municipalities, authorities, NGOs, companies and research environments gathered to discuss how the many existing initiatives can be better coordinated. Participants included the Danish Environmental Protection Agency, the Plastics Industry, Plastic Change, municipalities from across Western Denmark, universities and business actors.

The aim of the meeting – and the subsequent sessions – is to lay the foundations for a joint national strategy for reducing plastic pollution, harmonising efforts across sectors and geographical areas.

Photo: Thomas Drustrup (left) from Plastindustrien, Lars Holmegaard from Klimatorium and Henrik Beha Pedersen (right) from Plastic Change at Klimatorium for a meeting on a joint strategy for reducing plastic pollution.

8. Finding a common direction for climate action

The National Climate Summit is one of Klimatorium's central focal points. The summit is an expression of Klimatorium's purpose: to bring together knowledge, decision-makers and practitioners and create movement from ambitious goals to climate action.

In 2025, the climate summit brought together more than 500 participants physically in Klimatorium and around 1,700 participated online. The participants represented municipalities, utilities, businesses, research communities, civil society and political decision-makers – precisely the broad composition that is crucial for developing solutions that can be implemented locally and scaled nationally.

The climate summit serves as a shared networking and learning space. A particular strength of the National Climate Summit is its ability to bring together topics that are often dealt with separately. Climate reduction, climate adaptation, biodiversity, health, business development and exports are linked together here into a whole.

Among other things, it became clear how nature-based solutions can both reduce flood risks and improve well-being, how the transport sector has significant potential for reduction, and how water and climate adaptation must be understood as strategic societal issues with implications for both the economy and emergency preparedness. The crosscutting approach is at the heart of Klimatorium's work – and what the climate summit makes operational.

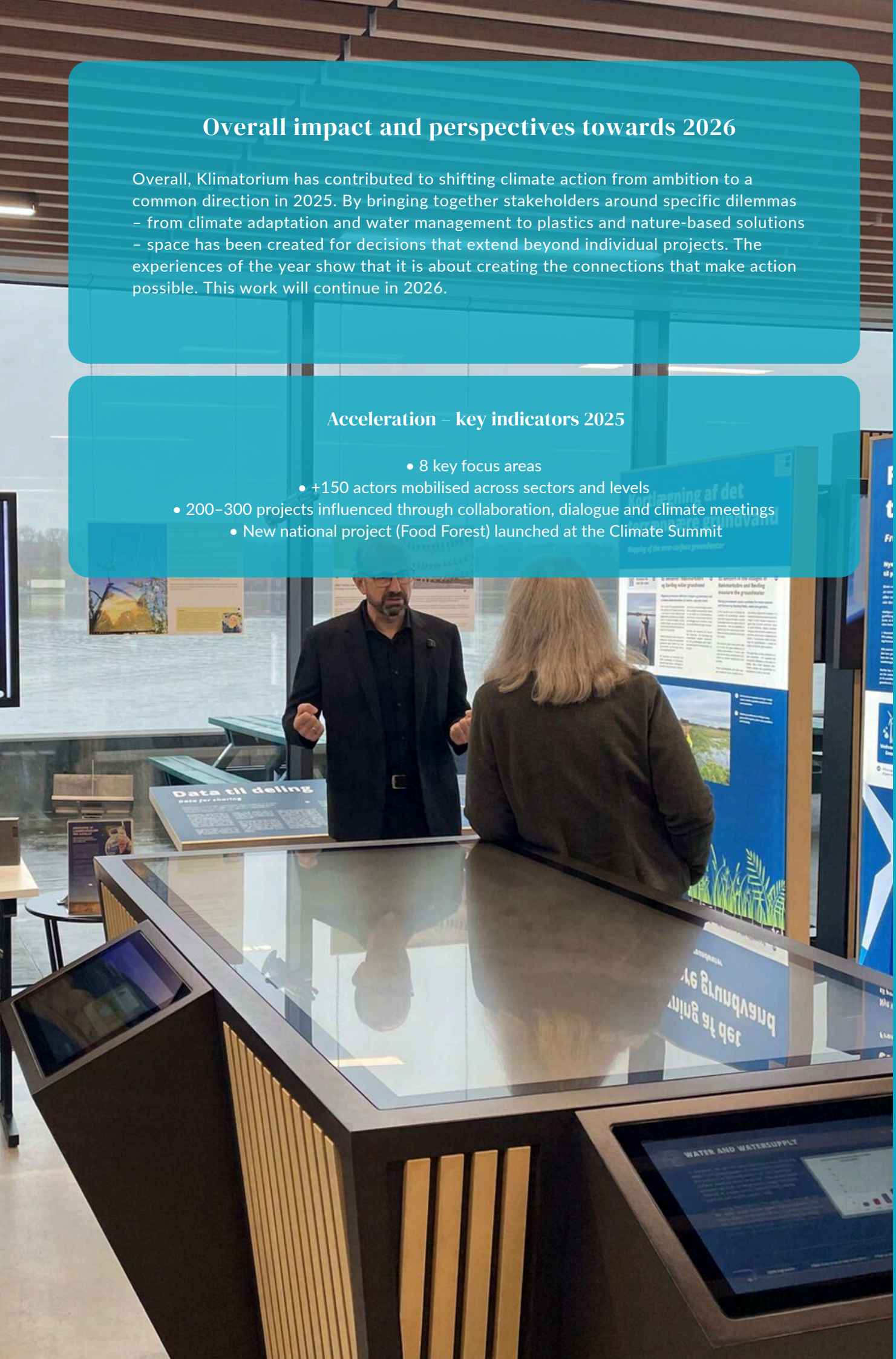
The evaluation of the climate summit also points to a consistent message: Denmark has strong knowledge, advanced technologies and clear climate goals, but the pace of the green transition needs to be accelerated. Barriers such as sectoral divisions, legislation, lack of incentives and a widespread zero-error culture are slowing down implementation, even when the solutions are known.

A lever for climate projects

With over 500 physical participants, the National Climate Summit plays an important role in influencing the direction and development of 200–300 ongoing or upcoming climate projects. When relevant actors gather in the same room, silos are broken down, common understandings of problems emerge more quickly, and the risk of projects stalling in the transition from idea to action is reduced.

At the same time, the climate summit acts as a food chain for new initiatives, where ideas, solutions and experiences are translated into concrete projects. One example is Madskove, supported by the VELUX FOUNDATION. The project originated from an idea by PhD student Mika Thorsgaard, who participated in the National Climate Summit. Discussions about the potential of afforestation here – not only for the climate and biodiversity, but also for democracy, community and citizen empowerment – marked the start of a new collaboration between Aarhus University, Klimatorium and local actors. The project is currently being tested in the Klimatorium Living Lab.

Watch film from the two days



Overall impact and perspectives towards 2026

Overall, Klimatorium has contributed to shifting climate action from ambition to a common direction in 2025. By bringing together stakeholders around specific dilemmas – from climate adaptation and water management to plastics and nature-based solutions – space has been created for decisions that extend beyond individual projects. The experiences of the year show that it is about creating the connections that make action possible. This work will continue in 2026.

Acceleration – key indicators 2025

- 8 key focus areas
- +150 actors mobilised across sectors and levels
- 200–300 projects influenced through collaboration, dialogue and climate meetings
- New national project (Food Forest) launched at the Climate Summit

Chapter 2

TESTING AND DEMONSTRATION IN PRACTICE

We make solutions concrete in reality

At Klimatorium, we work with testing and demonstration to translate climate ambitions into solutions that work in reality. Through **Klimatorium Living Lab** – the world's largest Living Lab covering 508 km² – technologies, methods and collaborations are tested in specific contexts. From cities, hinterlands and coasts to industry, infrastructure and landscape. The Living Lab provides the framework for testing and demonstration within seven thematic focus areas. Common to all these initiatives is a focus on robustness, circularity and applicability in real-world systems. On the following pages, you can read about the activities and initiatives that have characterised our work in 2025.

Klimatorium Living Lab

1. Climate adaptation and water resilience

Climate change is placing increasing demands on society's ability to cope with extreme weather events such as storm surges, cloudbursts and q rising water levels. At Klimatorium, we work with climate adaptation and water resilience as a comprehensive discipline, where d ata, technology and physical solutions are linked closely linked to local realities.

A. Data-driven decision-making tools

Klimatorium works purposefully with data-driven solutions that strengthen society's ability to predict, manage and respond to climate-related events.

The LIFE ACT project is developing a dynamic, AIbased warning and control model that can predict storm surges and extreme water levels while supporting proactive management of water levels in lakes and depressions. By creating buffer capacity before extreme events occur, the risk of flooding in urban areas and critical infrastructure is reduced. The models are linked directly to the local operation of pumps, sluices and drainage systems, with Lemvig Vand acting as the technical link between data, models and practical application.

The data-driven approach is further strengthened through participation in the European **PCP WISE project**, funded by Horizon Europe. The project develops intelligent systems based on satellite data and advanced analysis for monitoring, warning and managing water-related crises such as floods, droughts and soil degradation in both urban and rural areas. Klimatorium Living Lab has been designated as one of only five test sites in Europe where new data and satellite-based technology is being tested in practice. Klimatorium is thus helping to translate advanced European technological developments into solutions that can be used operationally and scaled up to other regions

B. Physical climate adaptation and coastal protection

In parallel with data-driven solutions, Klimatorium is working on physical climate adaptation, where adaptation takes place directly in the landscape, towns and buildings.

Lemvig Vand and Lemvig Municipality are collaborating on the development of an **adaptive coastal protection strategy** for Lemvig, Lemvig Lake and Harboøreland. The strategy is based on analyses of historical data from the fjord, lake and hinterland and is integrated with the daily operation of pumps, sluices and drainage systems and new AI tools. In this way, planning, data and physical infrastructure are linked in a comprehensive approach that can be continuously adapted to changing climate conditions.

As part of the physical coastal protection, **the Danish Coastal Authority's sand nourishment** on the west coast is also included in the Klimatorium Living Lab. Sand nourishment is used to slow down the natural retreat of the coastline and protect the hinterland from erosion and flooding – in areas north of Thorsminde with a potential coastal retreat of up to 6–8 metres per year without intervention.

In addition, two new **RESIST demonstration houses** in Lemvig are contributing new knowledge about climate adaptation of buildings in flood-prone areas. The houses are designed to withstand flooding by accepting water in controlled zones and using flood-resistant materials, circular design principles and sensor technology. They thus serve both as concrete physical protection and as a learning platform for the robust and climate-friendly construction of the future.

Photo: One of the RESIST demonstration houses is located next to Klimatorium and focuses on communicating the solution.

2. Local and decentralised water management

Water systems play a central role in the green transition – both as critical infrastructure and as the key to better resource utilisation. Klimatorium is working on solutions that rethink how water is managed, purified, stored and reused across scales – from local and decentralised management close to the source to more circular utilisation in supply and energy systems.

A. Nature-based wastewater treatment

More precipitation and rising sea levels mean that the groundwater table is rising. This leads to groundwater seeping into leaky sewage pipes and thus significantly larger volumes of water to the treatment plants, which is not actually sewage. In many municipalities, this so-called extraneous water now accounts for 30-50% of the total volume treated at treatment plants.

Traditionally, this challenge has been addressed by expanding the central infrastructure with larger pipes, larger basins, more pumps and more concrete. However, these solutions are both capital-intensive and difficult to scale in line with climate change – and carry the risk that the costs will ultimately be passed on to consumers.

In 2025, Klimatorium's work on alternative solutions has been concretised through the planning of a fullscale pilot project in the Klimatorium Living Lab.

Here, diluted wastewater and rainwater will be treated using nature's own processes – plants, filter materials and gravity – as a supplement to the existing treatment plant.

The initiative is being implemented in close collaboration with Lemvig Vand, authorities, knowledge partners, businesses and citizens, and is anchored in the European **NBRACER project**. The project is investigating how nature-based solutions can relieve the burden on central infrastructure, reduce energy and chemical consumption, and at the same time strengthen biodiversity and local resilience. Experience from Klimatorium Living Lab indicates that nature-based solutions can, in certain cases, perform the same task as traditional facilities – at up to a third of the price.

As part of this effort, **Kilian Water** is collaborating with Lemvig Vand to test a new nature-based treatment plant in the Living Lab. The plant is designed as an aerated vertical filter with vegetation and several replaceable filter materials, so that the treatment effect can be documented and optimised on the basis of valid data. The inflow and outflow are closely monitored, and the experiences are used to develop a scalable solution with potential for both Danish and international water supplies.

The aim is not to replace traditional treatment plants, but to develop a green and cost-effective supplement that handles climate-related water close to the source, thereby making overall water management more robust in the face of future climate change.

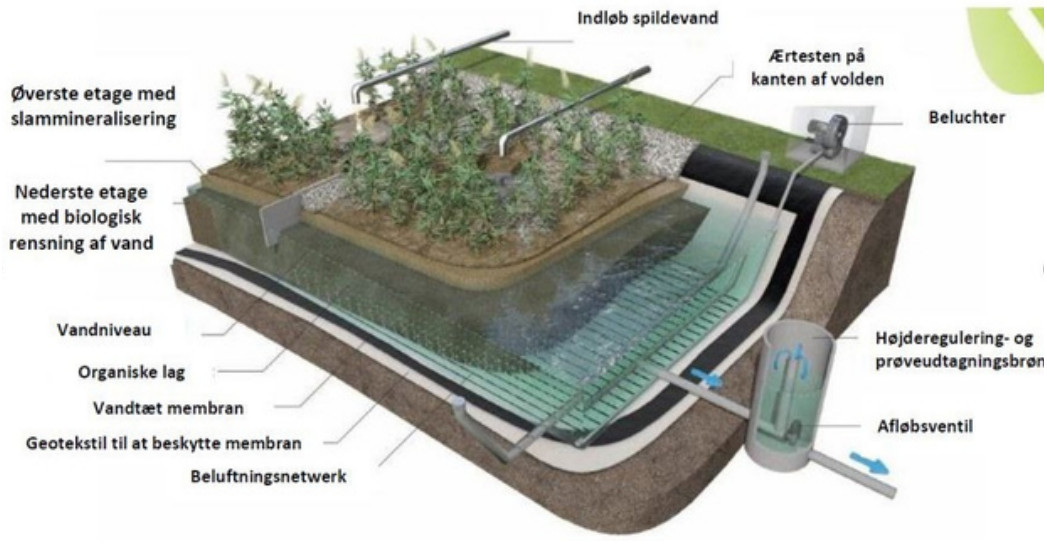


Photo: Natur-based wastetaster treatment by Kilian Water

B. Local drainage and treatment of rainwater (LAR)

In parallel with its work on nature-based water purification , Klimatorium has further developed **LAR Living Lab** in Rom near Lemvig as a test and demonstration environment for local drainage and purification of rainwater. Here, solutions are tested that handle rainwater where it falls – before it burdens sewer systems, roads and the aquatic environment.

The Living Lab tests various technologies and materials for purifying and delaying road water and surface water, including lightweight clinker, rock wool, filter materials and bottom aeration. The test procedures focus, among other things, on the removal of metals such as copper and zinc, as well as mechanical and biological purification. Sensors, control equipment and digital rainfall data make it possible to continuously document effects and optimise the solutions in operation.

At the same time, new LAR solutions are being tested in urban environments where rainwater is actively used as a resource. Here, rainwater is retained and reused locally for trees and plants, reducing the need for watering, improving growing conditions and contributing to more robust and green urban spaces.

LAR Living Lab can handle up to 23,000 m³ of rainwater annually from nearby businesses and serves as a practical testing environment where businesses, utilities and researchers work together to develop solutions that purify water, reduce the load on the sewer system and protect the aquatic environment. The experience gained is used directly to qualify future solutions for decentralised water management in Denmark.

LAR partners

BOXofGREEN: Tests rock wool-based plant cassettes that improve growing conditions for urban trees and reduce the need for watering.

ROCKWOOL: Rainwater Systems: Supplies specially developed rock wool solutions that can absorb, delay and reuse rainwater directly in root systems.

Leca Denmark: Testing the use of lightweight aggregate (Leca nuts) for rainwater purification, including the removal of copper and zinc from road water.

SmartBrønd: Supplies control and monitoring equipment that enables documentation and datadriven evaluation of LAR solutions.

Hvidberg A/S: Supplies recycled, crushed asbestos-free fibre cement for testing alternative filter materials in rainwater purification.

Alexandra Institute: Collaborates on the development and testing of humidity sensors and data-driven control solutions for optimising LAR systems.

IBG: Participates as a local company in LAR Living Lab and contributes with experience and test areas.

Tolstrup: Collaboration partner in specific planting and installation projects.

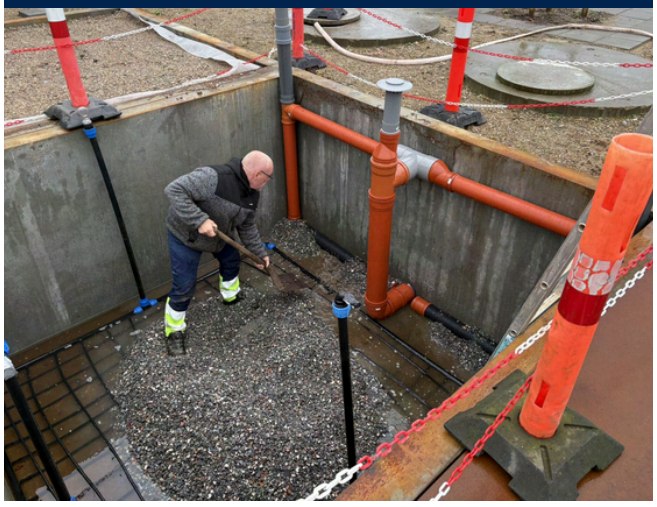


Photo: Skovgaard Energy is constructing the world's first dynamic Power-to-X plant in Ramme, powered exclusively by renewable energy from wind and solar. The plant produces green ammonia and is expected to deliver up to 5,000 tonnes annually, corresponding to a CO_2 reduction of approximately 8,200 tonnes per year.

3. Water storage and technical water

Climate change is challenging the balance between water quantities, water quality and water demand. Periods of large water surpluses are increasingly being replaced by droughts, while demand for water for industry, energy and production is growing. This places new demands on how water is stored, prioritised and used. At Klimatorium, we work with solutions that make it possible to manage water as a flexible resource – not just as something that needs to be drained away. The goal is to relieve the pressure on drinking water resources, increase the robustness of water systems and create coherence between water, energy and climate systems

A. Holistic water management in the catchment area

To manage periods of water surplus and water deficit, Klimatorium works with holistic water management in the catchment area, where water is seen as a combined resource across precipitation, groundwater, surface water and usage.

The **LIFE ACT project** is developing a detailed hydrological model for Lemvig Ådal, Lemvig Sødal and Harboøreland, which will form the basis for mapping the possibilities for seasonal water storage. The project is investigating how excess water from winter can be retained in depressions, wetlands and artificial reservoirs and later used during periods of drought – either for nature, agriculture or as a resource in energy systems, including Power-to-X.

The work is being carried out in close collaboration with Lemvig Vand, landowners, farmers and local stakeholders, with a clear focus on avoiding maladaptation.

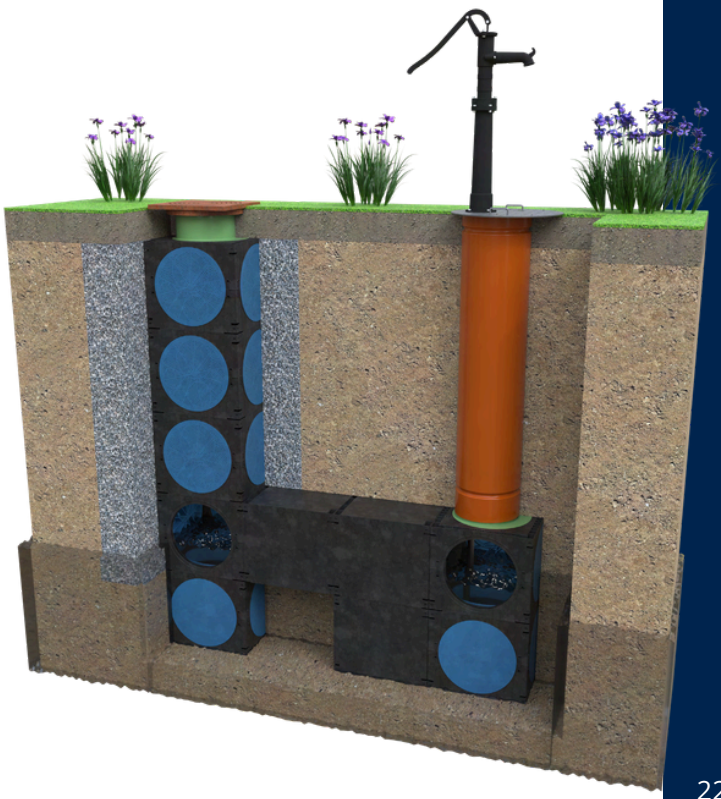
The solutions must improve climate adaptation without damaging nature, drainage conditions or the fulfilment of the Water Framework Directive's objectives. In the coming phases, pilot projects will be established where the most promising solutions will be tested in practice and can serve as models for other catchment areas.

B. Drainage of high groundwater levels –from problem to resource

Rising groundwater levels are creating challenges for buildings, infrastructure and drainage in many areas. Klimatorium is working on testing and demonstrating solutions that combine drainage of high groundwater levels with new uses for the water.

In Ramme in West Jutland, a demonstration project is being carried out in which groundwater close to the surface is drained via special wells (see image below), undergoes preliminary purification and is then used as a water source in the production of green ammonia at **Skovgaard Energy's Power-to-X plant**. The project is being carried out in collaboration with UWR, IBF, WatsonC, VIA University College and a number of utilities that are closely following the project.

The demonstration provides concrete experience of how drainage water can be used as technical water in industrial processes, while at the same time reducing local problems with high groundwater levels. The project serves as a test of technology, operation and collaboration models and contributes knowledge that can be used in future solutions – including in more urban contexts.



C. From near-surface groundwater to technical water

In parallel with drainage projects, Klimatorium is working on testing and demonstrating treatment technologies that can convert groundwater, surface water and other non-conventional water sources close to the ground into technical water.

Through the VUDP project **Vandternativet** (The Water Alternative), solutions are being tested in which water is treated to the required quality level for industrial use – without impacting drinking water resources. A key element is the establishment of a full-scale plant at Lemvig Vand, where concentrated waste streams from the production of ultra-pure water for the Power-to-X industry are treated and documented. The tests focus on purification efficiency, operational reliability and interaction with existing water infrastructure, supported by systematic data collection.

Through the EU project **SUSTAQUA** and Vandternativet, the technical tests are linked to planning and policy development, so that the experiences from Living Lab can be used more broadly by authorities, utilities and industry. In this way, the testing and demonstration activities serve as a bridge between concrete solutions and a long-term transition in water management.

4. Robust and reliable water infrastructure

Climate change and increasing pressure on water infrastructure are placing new demands on operational reliability and robustness. At the same time, the water sector is facing increased demands to reduce energy consumption and CO_2 emissions, which means that solutions must be both stable and more resource-efficient. Klimatorium tests and demonstrates technologies and methods that strengthen the monitoring, operation and maintenance of water infrastructure. The aim is to extend the service life of existing facilities, reduce energy consumption and ensure more robust and climate-friendly operation under future conditions.

Photo: Project manager Mette Visbøll with the final report from the Circular Pipes project in her hand

A. Circular Pipes – from documentation to implementation

The Circular Pipes project was completed in 2024, but remains highly relevant in 2025, where the focus has shifted from testing and documentation to implementation and scaling. In January 2025, the project's final report was published and now forms a solid technical basis for the wider use of recycled plastic in wastewater infrastructure.

Circular Pipes has documented that pipes and wells produced with recycled plastic can meet current European standards for quality and service life – without compromising operational reliability. Through testing, installation and documentation of several types of pipes and wells in PP, PE and PVC, the project has shown that plastic waste from households and the maritime sector, among others, can be incorporated into new pipe products.

Calculations show that the use of recycled plastic can reduce CO_2 emissions by 30-50% compared to traditional production. At the same time, the project has pointed out that the key to widespread adoption lies in collaboration across the value chain – between suppliers, manufacturers, contractors and certification schemes.

The results are now part of the dialogue with Nordic Poly Mark, which may pave the way for recycled plastic to become a more common part of future tenders and standards in the water sector.

B. Reducing and monitoring extraneous water

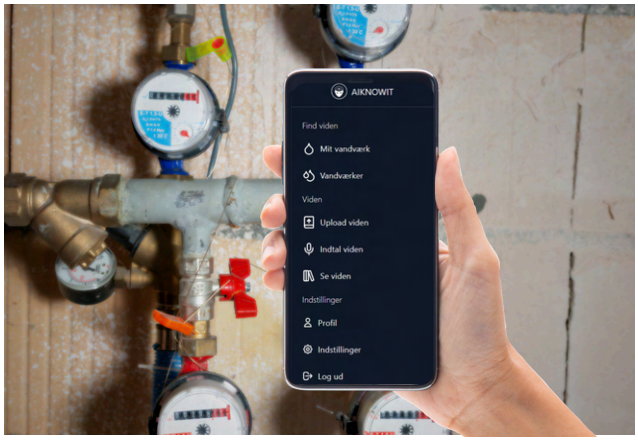
Climate change, with increased precipitation and rising groundwater levels, has exacerbated the challenge of extraneous water in wastewater systems. **Lemvig Vand** receives around 1 million m^3 of extraneous water at its treatment plant every year – equivalent to approximately 2,000 swimming pools. The water comes primarily from seepage through leaky pipes and wells, faulty connections and ground subsidence in older pipe networks.

The extra water puts pressure on pipes, pumps and treatment plants and increases energy consumption and operating costs. Lemvig Vand is therefore working hard to reduce **unauthorised water consumption** through a combination of traditional renovation measures and new digital tools.

These efforts include:

- systematic mapping of problem areas and TV inspection of the pipe network
- replacement and sealing of older pipes and wells
- collaboration with the company SmartBrønd, which has developed a new type of flow meter that uses microphone technology to monitor water volumes in the sewer system.

The challenge of unauthorised water cannot be solved with a single technology. It requires a systematic and long-term effort, where utilities work purposefully with planning, prioritisation and a combination of several measures – from handling faulty connections and leaks to better data and decision-making. These experiences are gathered and developed in the Klimatorium Living Lab.



C: AI for retaining and activating tacit knowledge in the water sector

A robust and reliable water infrastructure depends not only on pipes, pumps and facilities, but also on the knowledge possessed by employees. In many water supply companies, crucial operational knowledge is tacit – locally rooted and built up through decades of experience. When experienced employees change jobs or retire, this knowledge and experience risks being lost, thereby weakening both operational reliability and emergency preparedness.

In 2025, Klimatorium's Living Lab has formed the framework for a development collaboration between Lemvig Vand and AIKnowIT, which aims to bring tacit knowledge to life and make it usable through artificial intelligence. The project is being tested as part of the Business Beacon for Water Technology and focuses on collecting, structuring and sharing employees' practical experiences across the organisation.

The digital platform developed by AIKnowIT makes it possible to link knowledge directly to specific facilities and geographical locations in the supply network. Documents, notes, images and audio recordings can be added directly from mobile phones while employees are working in the field. AI is used to organise and present the content so that experience can be actively used in daily operations, troubleshooting and long-term infrastructure renewal.

In 2025, the solution is still under development and being tested in practice, but the ambition is clear: to make human experience as accessible and operational as technical data – and thus strengthen the overall robustness of the water sector.

5. Circular utilisation of wastewater

Wastewater has significant but often overlooked potential as a resource. In addition to water, wastewater contains energy, nutrients and materials that can be reused and contribute to both climate reduction and resource efficiency. The Klimatorium Living Lab is therefore working on testing and demonstrating solutions that transform wastewater from being a waste product into an active part of circular systems. The focus is on technologies and processes that can utilise the contents of wastewater – for example, energy, heat and residual products.

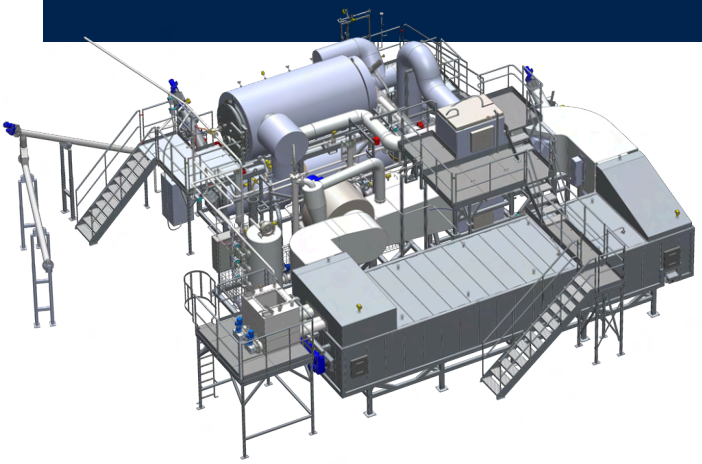
A. Pyrolysis of wastewater sludge

Sewage sludge contains both valuable nutrients and undesirable environmentally harmful substances such as PFAS, microplastics and medicine residues. Traditional treatment plants cannot remove these substances completely, which has made sludge an increasing challenge for the environment, groundwater and agriculture. The Klimatorium Living Lab therefore includes a full-scale pyrolysis plant as a central demonstration solution for circular and climate-friendly sludge treatment.

At **Harboøre Wastewater Treatment Plant**, Lemvig Vand has established the world's first secondgeneration full-scale pyrolysis plant for sewage sludge, with over 300 improvements since the first generation. The plant was designed by **AquaGreen** and treats sludge from the entire supply area – equivalent to approximately 40,000 person equivalents – reducing sludge volume by up to 90%. In an oxygen-free process, the sludge is heated to around 650–750 °C, where environmentally harmful substances are broken down and the carbon is bound in biochar. The process is largely self-sufficient in energy, as the pyrolysis gas is used to dry the sludge.

Pyrolyse som klimaværktøj

Pyrolysis of biomass – including wastewater sludge – has been internationally identified as one of the most promising tools for permanent carbon storage. International research estimates indicate that biochar technologies have the theoretical potential to reduce up to 6% of the world's total CO_2 emissions if they are widely disseminated and used strategically. In Lemvig, this potential is being translated into concrete action. The pyrolysis plant at Harboøre Wastewater Treatment Plant reduces the climate footprint by approximately 1,200 tonnes of CO_2e annually, while also destroying environmentally harmful substances such as PFAS, microplastics and medicine residues in the process. The carbon is bound in biochar, which can be stored in the soil or used in new circular solutions – thereby contributing to climate goals, resource reuse and environmental protection.



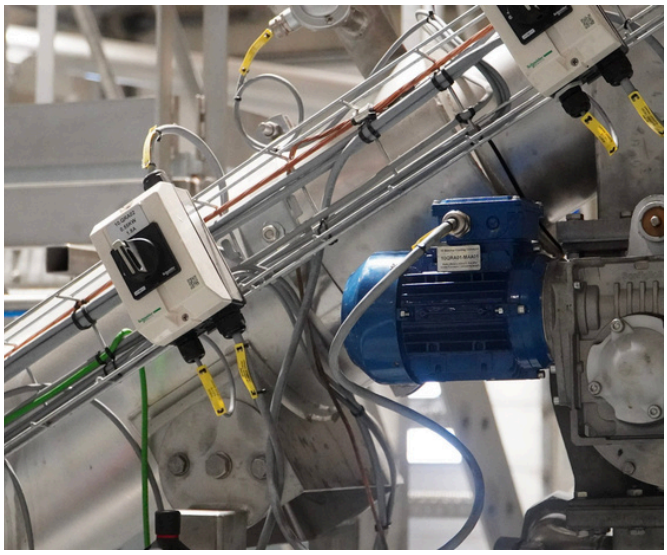


Photo: The pyrolysis plant in Harboøre is the world's first second-generation plant for sewage sludge.

Photo: Harboøre Wastewater Treatment Plant. Now equipped with the world's first second-generation pyrolysis plant for sewage sludge.

B. Use of biochar – from waste product to active resource

Biochar from the pyrolysis of sewage sludge has significant potential as a resource in the water sector, agriculture and industry. In addition to functioning as a permanent carbon store, biochar contains phosphorus and minerals that can be reused, and the material has strong properties as a filter and soil improver.

Klimatorium therefore focuses not only on the production of biochar, but also on developing and documenting specific uses for biochar.

In 2025, a new development project was launched under the **Business Beacon for Water Technology**, in which Klimatorium, together with DTU, TECHRAS Miljø, Frichs Pyrolysis and Lemvig Vand, is investigating how biochar and activated carbon can be used to improve biological processes at wastewater treatment plants. The project will start with a proof of concept at laboratory level and aims to be continued on a full Living Lab scale.

The prospects extend far beyond treatment plants. Biochar can be used for soil improvement, where it binds nutrients, increases soil water retention capacity and reduces leaching – an important property in a climate with both drought and extreme precipitation events. At the same time, phosphorus recycling helps reduce dependence on limited global phosphorus resources. This makes biocoal a key link between wastewater, climate, food and resource cycles.

C: Energy-efficient utilisation of wastewater heat

Wastewater contains large amounts of low-temperature heat, which is currently largely lost. At the same time, the water sector is facing stricter requirements for energy efficiency and CO_2 reduction. Klimatorium is therefore working to demonstrate how wastewater heat can be utilised as a stable, local energy source.

As part of the **LIFE ACT project**, Lemvig Vand is contributing to the development of Lemvig Municipality's Strategic Energy Plan and the mapping of surplus heat potential from both industry and utilities.

In this context, a demonstration project is being established at Lemvig Wastewater Treatment Plant, where the possibilities for utilising wastewater heat are being tested in practice – both for temperature stabilisation of treatment processes and as a supplement to district heating.

The work links water and energy systems more closely together and contributes to reducing both energy consumption and operating costs. At the same time, the experiences are incorporated into national GIS datasets and calculation models that can be used by other municipalities and utilities.

The demonstration project thus serves as a concrete step towards a more integrated and climate-neutral water and energy sector.

Photo: Biochar

6. Pollution in the aquatic environment

Pollution in the aquatic environment is a complex challenge, with waste, plastics and environmentally harmful substances moving through the water cycle – from cities and catchment areas to fjords and the sea. Climate change exacerbates the problem by increasing runoff, erosion and the transport of pollution, while the connections between sources, transport routes and effects are often insufficiently mapped. At Klimatorium, we work with testing and demonstrating methods that make the movement of pollution visible and manageable in practice.

A. 10,000 wooden block experiment

As part of its efforts to prevent plastic pollution in the aquatic environment, Klimatorium is participating in the European **TREASURE project**, in which 10,000 wooden blocks are used as physical markers to map how plastic waste moves through watercourses, fjords and out into the North Sea. The blocks simulate macroplastics and provide concrete knowledge about the interaction between currents, wind and geography – knowledge that is otherwise difficult to collect using traditional measurement methods.

The blocks were deployed in 2024 and 2025 from selected locations in the municipalities of Lemvig and Varde, as well as directly in the sea, and are continuously recorded when they are recovered. Each block is equipped with a unique QR code and ID, which makes it possible to map movement patterns, identify accumulation zones and identify critical stretches where efforts can be targeted more effectively.

Results from the experiment

Initial results already show that waste can be transported over long distances and cross national borders in a relatively short time. Several of the exposed wooden blocks have been recorded in both Sweden and Norway within a few months, documenting how waste from local watercourses and coastal areas can quickly become an international problem. The results emphasise th , plastic pollution cannot be dealt with locally alone, but requires coordinated efforts across municipalities, countries and sectors.

Data from the experiment contributes directly to the development of more precise measures against plastic pollution, e.g. placing barriers in watercourses, collection solutions at hotspots and prioritising preventive measures.

B. AI-based identification of macroplastics

In parallel with the physical experiments, Klimatorium Living Lab is working on data-driven solutions for early identification of plastic pollution. In collaboration with **Cross Company**, a system has been developed for video surveillance of inflows to treatment plants, where AI is used to automatically identify macroplastics in wastewater.

The technology makes it possible to detect plastic before it reaches the treatment process and potentially ends up in the aquatic environment. At the same time, it creates a new basis for decision-making, where utilities can obtain knowledge about the quantities, types and times of plastic inflow – and thus target both technical and behavioural efforts.

7. Land- and area-based climate solutions

Climate adaptation and resource efficiency are not just about technology and infrastructure, but also about how we use and manage land and soil. Land and soilbased climate solutions take the landscape as an active player and work with solutions that contribute to climate action, biodiversity, food production and nature quality at the same time.

A. Food forest – a climate solution with multiple bottom lines

As part of its work on soil and land-based climate solutions, Klimatorium is participating in a new interdisciplinary research project that investigates food forests as a tool for combining climate adaptation, biodiversity, local value creation and active citizen involvement.

The project "Democratic sustainability in afforestation", led by Aarhus University and supported by the VELUX FOUNDATION with DKK 5.5 million, is based on the government's goal of 250,000 hectares of new forest by 2045 – and examines how future afforestation can become more multifunctional, democratically anchored and socially sustainable. The project encompasses both natural science and social science research and takes a closer look at how civil society can be actively involved in the planning, establishment and use of new forest areas.

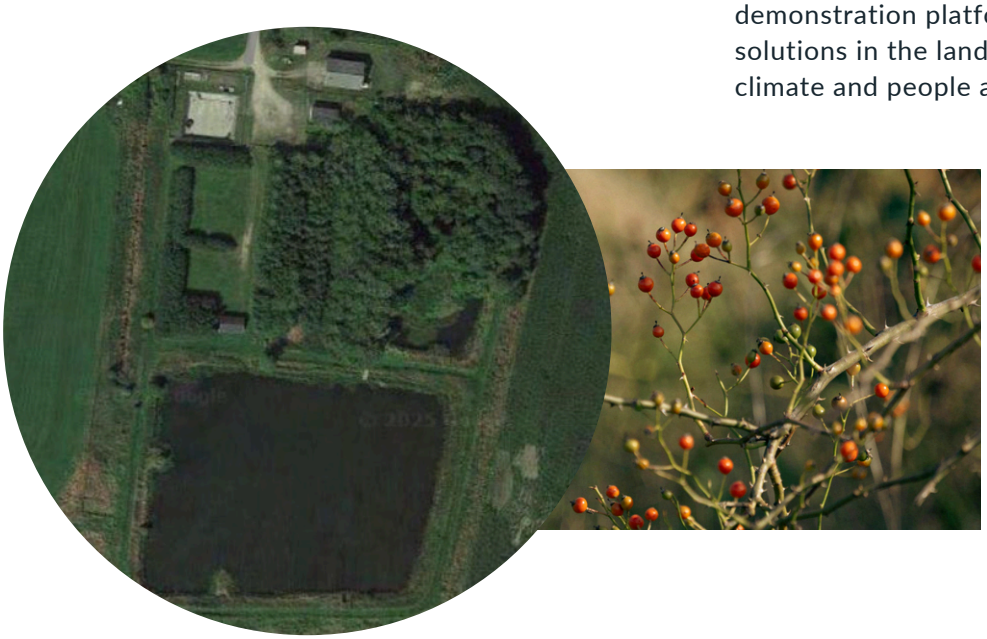
The project involves establishing a demonstration food forest in Nørre Nissum near Lemvig. Klimatorium is participating as a partner alongside Aarhus University, Lemvig Vand and local stakeholders. In Nørre Nissum, an area of approximately five hectares owned by Lemvig Vand will be used, where existing nature will be supplemented with new "food trees", shrubs and herbs. The food forest will function as a Living Lab, where ecological effects, uses and forms of citizen involvement will be monitored and documented over time.

In a food forest, trees, shrubs and herbs are cultivated in several layers according to nature's own principles. The solution binds CO_2, improves soil structure, strengthens biodiversity and can also produce food. Food forests thus represent a land use where climate, nature, food and local engagement are combined in a single system.

The project is looking into how food forests can help with:

- carbon sequestration and climate reduction
- increased biodiversity and robust ecosystems
- multifunctional land use, where nature, food and recreation coexist
- strengthened civil society participation and democratic anchoring in afforestation

At the same time, methods and experiences are being developed that can be applied more broadly in future afforestation and nature management – both in Denmark and internationally. For Klimatorium, the food forest is a concrete example of how land and areas can be actively brought into play in the green transition and serve as a practical demonstration platform for new climate solutions in the landscape – with nature, climate and people as active co-creators.



Photos: Food forest in Nørre Nissum.

Overall impact and perspectives towards 2026

Klimatorium's work with testing and demonstration is not about trying out solutions in isolation, but about making climate action concrete, applicable and ready for decision-making. Through Klimatorium Living Lab, technologies, methods and collaborations are tested in real-life environments, where technical, environmental and operational consequences can be assessed collectively.

In 2025, efforts have had one overarching focus: reducing uncertainty and shortening the path from idea to implementation. Across water systems, climate adaptation, circular resource utilisation and nature-based solutions, targeted efforts have been made to document impact, identify barriers and adjust solutions before they are scaled up.

Klimatorium Living Lab has proven its strength as a place where solutions can mature before scaling. Testing and demonstration have reduced uncertainty and highlighted potential – from CO_2 reduction and resource utilisation to more robust water management. Experience emphasises that the path to balance requires solutions that have been tested in real life. This is the foundation on which Klimatorium will continue to build in the coming years.

Testing and demonstration – key indicators for 2025

- Klimatorium Living Lab recognised as a world-leading test platform
- +70 actors involved in testing and documentation
- 5 European projects with specific testing activities in Living Lab

Chapter 3

COMPETENCIES AND CAPACITY

We build capacity for climate action

Effective climate action requires knowledge, understanding and the ability to translate insight into action. At Klimatorium, we work purposefully to strengthen competencies across society – from children and young people to professionals and decision-makers. Through communication, learning and active involvement, we create space for curiosity, dialogue and collaboration on climate challenges and solutions.

1. Education of children and young people

Children and primary schools

Young people and secondary schools

Higher education

3. Citizens and families with children

2. Professionals and decision-makers

1. Education of children and young people

Children and young people are key players in the green transition – both as future decision-makers and as active voices in the present. At Klimatorium, we work to strengthen their knowledge, drive and commitment through learning, community and genuine involvement, transforming climate anxiety and climate fatigue into hope, courage and shared responsibility.

A. Children and primary schools (6-15 years)

Klimatorium works to ensure that children not only learn about the climate, but also experience that they can take action on it. That is why we develop learning programmes that combine knowledge with creativity, community and concrete experiences with real-life climate solutions. When children experience how Lemvig works with climate adaptation in practice – from storm surge protection and sluices to pumping stations and nature-based retention basins – the climate becomes something that can be seen, understood and talked about at a child's level. This gives children a language for what they experience and shows that solutions are not only found in reports, but also in the landscape around them.

The **Children's Climate Meeting** is the focal point of this effort and Klimatorium's proposal for how children can not only be involved in the climate agenda, but also be given a real voice. In 2025, more than 300 children participated physically in Klimatorium, while thousands of pupils from grades 3-6 followed live from classrooms across across the country. The Climate Meeting is the culmination of a longer learning and co-creation process, where children work with climate, innovation and solutions at eye level through the Children's Climate Universe. Here, pupils and teachers are provided with flexible materials that can be adapted to the class's level and time, and which help children turn concern into action – from climate anxiety to climate hope.

Through school visits and theme days throughout the year, Klimatorium invites children into the dialogue about climate and nature and gives them the opportunity to reflect on how we as a society can deal with the challenges of the future. In these meetings, children contribute their perspectives, questions and ideas, which in selected contexts are passed on to Klimatorium's network – including through the **EU Climate Pact**, where children's voices can be included in a broader conversation about climate action.

Children and young people also contribute directly to Klimatorium's projects. As part of the EU project **NBRACER**, students from Lemvig Gymnasium have been working on developing app concepts for citizen science, where data on biodiversity is collected and used to assess the impact of nature-based solutions. Through the **TREASURE** project, school pupils have also participated in experiments where wooden blocks with unique QR codes are placed in the aquatic environment to map how waste and plastic move through watercourses and fjords and out into the sea. When children and young people contribute to both deployment and registration, they become part of a larger knowledge base that is used to develop solutions that can prevent plastic pollution. At the same time, they experience first-hand how their actions create data, learning and change.

By 2025, 680 students will have participated in school courses at Klimatorium. In addition, there will be several thousand participants and visitors in connection with other activities, events and communication offerings.

Photos: Jonas Madsen from DR Ultra and MGP hosted the Children's Climate Conference 2025. Joining him on stage were a graffiti artist and a freestyle rapper, who helped convey serious climate issues in a creative and engagin

Two new learning universes for grades 4–6

As part of its efforts to engage children and school pupils, Klimatorium has worked purposefully in 2025 to strengthen and further develop the learning materials that support both teaching in schools and the Children's Climate Conference.

Two new learning universes have been developed: Plastic Pirates and Mission Climate – aimed at pupils in grades 4–6, which will be tested in collaboration with schools from the beginning of 2026 and can be used independently in teaching or as preparation for the Children's Climate Meeting.

Plastic Pirates was developed in collaboration with the EU project TREASURE and focuses on equipping children to understand plastic issues and work towards solutions. Through an interactive narrative, pupils are invited on an adventure with a group of plastic pirates, where they learn about the journey of plastic through nature, the consequences for the environment and possible solutions to plastic pollution. The universe gives children the opportunity to actively engage with issues that might otherwise seem complex and abstract.

www.plastikpirater.dk

The second learning universe, Klimanauter, takes students into space and gives them a broader basis for working with climate change and climate innovation. Here, students work with climate challenges across themes and develop ideas for solutions in a universe that supports curiosity, creativity and system understanding. In connection with the development of Klimanauter, content from the existing climate universe from the Children's Climate Meeting has been carried over and adapted so that the material is now also included directly as part of the Children's Climate Meeting.

www.klimanauter.dk

With these two new learning universes, Klimatorium strengthens the connection between teaching, projects and events and ensures that children encounter climate action in a recognisable format – before, during and after the Children's Climate Meeting. At the same time, a model is being established where knowledge and solutions from Klimatorium's projects can be translated into teaching in schools, including the opportunity to work with topics such as water technology, climate adaptation and green transition in future universes.

B. Young people and secondary schools (15-22 years)

Klimatorium works to give young people a real place in the climate dialogue and to create spaces where their voices are not only heard but also matter. Many young people experience climate change up close and may feel both climate fatigue and powerlessness, but at the same time they have a strong commitment and a clear willingness to contribute to solutions. That is why Klimatorium creates communities where young people can meet across countries, disciplines and cultures and turn concern into hope and joint action.

One example of this is the partnership in **Youth Island Peace Camp**, where Klimatorium participated in a global youth community where young innovators and changemakers worked on how technology, AI and citizen science can support a peaceful and sustainable future.

The **Global Youth Climate Summit** is Klimatorium's focal point for this effort. The annual youth climate summit in Klimatorium brings together young people between the ages of 15 and 25 from all over the world – both physically in Lemvig and online. On 6 October 2025, the summit was held for the fourth time with participants from 15 countries, giving participants the opportunity to share experiences, ask questions and develop solutions together on climate issues. The youth climate meeting differs from traditional climate conferences in that it creates a safe space for reflection, storytelling and joint conversations about hope, values and the future, rather than technical reports and professional solutions.

The EU project **NBRACER** played a central role in the Youth Climate Summit 2025. The project contributed both to the programme through workshops on nature-based solutions and to the involvement of young people before the day itself through the international art and photography competition Voices of the Youth. Young people from all over the world submitted works about their relationship with nature, and 13 selected works were presented at an official opening in Klimatorium during the Youth Climate Summit. **The TREASURE project** has also engaged young people directly in specific activities, including high school students participating in the release of wooden blocks into the aquatic environment as part of mapping the movements of plastic. At the same time, TREASURE has participated in sailing in the North Sea, where young trainees have worked hands-on with microplastic samples, driftwood, data collection and dissemination.

Upper secondary schools and vocational schools are generally an important target group for Klimatorium, all of which have the opportunity to receive free guided tours, participate in the National Climate Summit and take part in professional courses developed in collaboration with Klimatorium. Klimatorium collaborates with Lemvig Gymnasium, HF Holstebro and Struer Gymnasium, among others, and has been in dialogue with Herningsholm Erhvervsskole & Gymnasier, which has been designated a climate vocational school.

New board game for upper secondary schools: The Game of Plastic

In 2025, as part of the TREASURE project, Klimatorium began developing The Game of Plastic – a game-based learning and dialogue tool in the form of a classic board game. The game provides insight into the complex conflicts of interest between plastic production, political influence and environmental considerations in a local community.

The game is set in the fictional town of Rivermouth, home to a plastics company that has been a central part of the town's economy and identity for generations. At the same time, a new environmental organisation has established itself in the town and is challenging local plastics production.

The Game of Plastic is expected to be fully developed in the second quarter of 2026 and will be thoroughly tested in collaboration with secondary schools, which are the game's primary target group. The game is aimed broadly at young people and adults aged 15 and above, and the long-term goal is to roll it out to other European countries in collaboration with the TREASURE project partners.

Photo: North Sea Conference in Oldenburg
With our TREASURE project, Klimatorium has won first place in the "Engaging People" category in the North Sea Photo Contest 2025! The winning photo was taken at Lemvig Harbour, where we, together with schools and secondary schools they sent the first 500 wooden blocks into the water.

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C. Students and higher education (20-30 years)

Klimatorium works purposefully to build bridges between education, research and practice and to create attractive frameworks for students and new talents in the climate and water sector. Through collaborations with educational institutions, young people are given the opportunity to translate their academic knowledge into concrete solutions and experience how the green transition unfolds in practice – while also creating educational and job opportunities.

A key element of the initiative is the collaboration with VIA University College on the **engineering trainee programme**, where students can take a diploma engineering degree while being affiliated with Klimatorium. The programme enables young people to stay in the local area while gaining valuable professional experience. By 2025, three trainees will have been employed and will have become an integral part of the organisation, working on tasks tailored to their course of study, thus creating a close link between theory and practice.

Klimatorium has also built up a close network with the climate and supply engineering programme, from which two students have been hired. In addition, students and teachers from VIA University College, UCN and DTU have visited Klimatorium to gain insight into the centre's work. The visits contribute to teaching programmes, where current climate and water challenges and concrete solutions are brought directly into the programmes.

Students are an important target group in Klimatorium's projects and development activities. Through guided tours, project days, educational visits, and career and matchmaking forums, Klimatorium meets students from all over the country. For example, **the Business Beacon for water technology** has provided a framework for matchmaking events where national and international students have met companies from the water sector, and the **NBRACER project** has contributed as both a case study and a speaker in the BlueGreen Innovation Challenge.

The meetings with students are about both recruitment and dialogue – about professionalism, motivation and how the climate and water sector can develop to attract and retain the next generation of employees. Klimatorium thus serves as a natural meeting point for students, educational institutions and businesses.

Prime Minister's visit: Young people, education and green jobs

In November, Prime Minister Mette Frederiksen and Minister for Children and Education Mattias Tesfaye visited Klimatorium to highlight the connection between education, green transition and local job opportunities. Based on Klimatorium's work with climate, innovation and education, the ministers gained insight into concrete solutions and participated in dialogue with young people about their choices of education and working life.

During the visit, the ministers met with engineering trainees and students from Klimatorium (see photo) as well as upper secondary school and HF students, apprentices and new employees from the Lemvig area, who shared their experiences and thoughts on education, green jobs and the future in West Jutland. The conversations made it clear that climate challenges are not only a global issue, but also offer local development opportunities.

2. Professionals and decision-makers

The green transition and climate adaptation are placing ever greater demands on professionals and decisionmakers. The challenges are complex, cross-cutting and rapidly changing – from groundwater and extreme rainfall to biodiversity, health and security of supply. Klimatorium therefore works purposefully to strengthen the competencies of those who plan, prioritise and implement climate action in practice on a daily basis.

Through continuing education, knowledge sharing and interdisciplinary meetings, Klimatorium contributes to translating new knowledge, data and technology into useful decision-making power. The focus is not only on technical solutions, but also on understanding, judgement and the ability to navigate the intersection between climate, economy, legislation and social considerations.

A key initiative is webinars and e-learning targeted at the water industry, developed under the auspices of Vandets ADC (Water ADC) under **Business Beacon for Water Technology**. These programmes equip current employees, new recruits and managers to work with digitalisation, data, GIS, sensors, IoT and data-driven management. The courses address both the need to strengthen digital imagination in the existing industry and to give new players a common language and understanding of the special conditions of the water sector. The webinars and e-learning courses have had over 200 participants. As evaluations and participant feedback show, the link between technology and practice is crucial to ensuring that solutions do not remain theoretical but can be implemented effectively.

Klimatorium also works with interdisciplinary workshops, where professionals from different disciplines meet to discuss specific issues. One example is the workshop on the earth's hidden layers and processes, where planners, biologists, consultants and municipal employees used visualisation and joint reflection to build a deeper understanding of the interaction between groundwater, urban development, agriculture, biodiversity and recreational considerations. These types of process skills are key when climate adaptation requires holistic thinking and early clarification of conflicts and opportunities.

Through climate adaptation tracks at major professional conferences, including the Nature & Environment Conference, Klimatorium brings the latest knowledge into play where professionals already meet. The focus here has been on linking research, practical experience and specific cases – e.g. within nature-based solutions, rainwater as a resource and shallow groundwater – and on providing participants with tools they can take directly back to their organisations.

Klimatorium also actively contributes to industry and business-oriented stages, such as the Water & Energy Stage at HI Tech & Industry Scandinavia. Here, new technologies and solutions are communicated in a practical format, where companies, utilities and consultants gain insight into technical potential, implementation barriers and market opportunities.

Finally, **the National Climate Summit** is a key element in building the competencies of professionals and decisionmakers. The evaluation shows that many participants use the summit to keep up to date with a constantly changing agenda, gain professional inspiration and qualify their own projects. The summit serves as a space where researchers, practitioners, companies and authorities can test ideas, get feedback and translate new knowledge into concrete decisions. It is precisely this link between new insights and practical application that strengthens participants' capacity to act wisely and timely in their daily work.

Overall, through these efforts, Klimatorium contributes to building the competencies necessary for climate action in practice: technological understanding, interdisciplinary collaboration skills, data literacy and strategic judgement. This not only strengthens the individual professional, but also the overall capacity of the organisations and sectors that need to translate ambitions into concrete climate action.

Themes for the National Climate Summit 2025

1. The transport sector as a driver of the green transition

2. Nature-based solutions with climate, biodiversity and health effects

3. Biodiversity, coherence and long-term land use planning

4. The Green Tripartite – potential and governance challenges

5. Climate, health and preparedness

6. Groundwater as a systemic challenge

7. Rainwater as a resource in cities and landscapes

8. The EU's Water Resilience Strategy and Danish perspectives

9. Hydrological complexity and local differences

10. Soil, drainage and the significance of historical structures

11. Digital twins and data-driven climate adaptation

12. Wastewater as a resource in the green transition

13. Nitrous oxide (N_2O) as an overlooked climate problem

14. Regulatory sandboxes and innovation in practice

15. Governance, implementation and adaptive forms of governance

16. Danish climate solutions – from national practice to global scaling

17. Communication, citizen involvement and applicable climate knowledge

3. Citizens and families with children

Climate action cannot succeed through technical solutions and political decisions alone. Climate action also requires understanding, support and ownership among citizens, tourists and families – those who live with the consequences of climate change in their everyday lives. Klimatorium therefore works purposefully to engage the general public and make climate challenges and solutions concrete, present and relevant.

As Denmark's international climate centre, Klimatorium has a special role in building bridges between knowledge and people. Through communication, experiences and dialogue, a common language about the climate is created, which strengthens both the drive and legitimacy of the choices that must be made locally and nationally. The involvement of citizens and visitors is therefore not a supplement to Klimatorium's work, but a fundamental prerequisite for long-term and responsible climate action.

In 2025, Klimatorium has worked systematically with citizen involvement through open events, exhibitions and activities where climate issues are communicated at eye level and linked to everyday life, community and local contexts. A central format has been **Klimakaffe**, which is held monthly and is open to everyone. Here, citizens are invited to informal presentations and discussions on current climate issues – from international cooperation on drinking water in Ukraine to plastic pollution in the sea, circular materials and Klimatorium's own history. In addition, there have been 67 guided tours for private groups in 2025.

In 2025, Klimatorium has had a targeted focus on seasonal activities for families and tourists, supplemented by creative workshops and temporary exhibitions. The content included solutions developed at the Children's Climate Meeting, an art exhibition featuring European young voices on nature and climate, and communication about the EU project **NBRACER** and its work with nature-based solutions. During both the autumn and Christmas holidays, open activity courses were held, which together attracted approximately 1,100 and 1,200 visitors, respectively.

Klimatorium has also been actively present in the city's communities through participation in local cultural and urban events. For example, on Culture Night, Klimatorium invited visitors to enjoy stories/films about satellites, a treasure hunt in the exhibition and listening bingo, which proved to be a huge success with 239 visitors between 6 and 9 p.m.

This year's general meeting was combined with a public presentation by climate researcher Sebastian Mernild to attract a wider audience, and the National Climate Summit was open to the public – an offer that many took advantage of, among other things to participate in selected presentations.

Photo: During the summer, families with children and other innovative souls were able to build their own climate solutions.

General Meeting 2025

Professor Sebastian Mernild gave a climate presentation on global climate change and the consequences for society if we do not do more. Subsequently, Klimatorium's projects and activities for the year were reviewed as part of the general meeting.

Overall impact and perspectives towards 2026

By 2025, Klimatorium will have strengthened competencies for climate action across generations, disciplines and levels of society. The ambition is to make the challenges facing the planet more tangible. When different target groups work with real issues – from citizen science and global dilemmas to specific cases and interdisciplinary dialogues – a common language and a better understanding of the climate emerge, and engagement and ownership arise.

Klimatorium has served as a gathering point where learning, practice and collaboration are closely linked, and where competence building contributes to long-term capacity in the organisations and communities that must translate knowledge into action.

In 2026, the Business Beacon for Water Technology Phase 3 will focus more on strengthening access to more qualified employees with skills in water. This supports efforts to roll out Klimatorium's skills development programme nationwide, where learning, recruitment and practice are more closely linked and help build the capacity needed to turn knowledge into action.

Competencies – key indicators 2025

- Klimatorium's visitor numbers for 2025 reached 30,044 visitors – despite many closed weekends and school holidays during the year.
- +680 school pupils and 67 private groups were given guided tours
- 10,000 people have participated in Klimatorium's three climate meetings

Chapter 4

SCALING AND DISSEMINATION OF SOLUTIONS

We disseminate solutions nationally and internationally

Klimatorium works to ensure that solutions create value far beyond their local starting point. Through national dissemination and international partnerships, knowledge, methods and data from Klimatorium are shared so that tried and tested solutions can be applied more widely. Scaling links practical experience with strategic decision-making processes and contributes to advancing climate, water and adaptation work both in Denmark and internationally.

1. National dissemination of solutions

Klimatorium works purposefully to ensure that knowledge and solutions developed in projects and Living Labs do not remain local, but contribute to raising the national climate and water agenda. Through strategic communication, national media, professional publications and public debates, experiences from testing and demonstration are disseminated so that they can inspire and be used by municipalities, utilities, businesses and decision-makers throughout the country.

By 2025, several of Klimatorium's projects will have been communicated to a broad national audience through various channels.

- **Circular Pipes** was featured on DR1's Vores Vejr programme, where the work with recycled plastic in wastewater pipes was communicated to a broad audience.
- The **TREASURE** project was covered in a lengthy report on DR Søndag and subsequently communicated to children and young people via DR Ultra Nyt, focusing on plastic pollution in the aquatic environment.
- Issues surrounding water for Power-to-X, rising groundwater and water resources were addressed in DR's podcast Vildt Naturligt, where Klimatorium contributed to the national debate on the future management of water resources.
- At the same time, the use of satellite data and sensors in water infrastructure was communicated through debate articles in Ingeniøren, where Klimatorium focused on the need for new datadriven tools in the supply sector

In 2025, Klimatorium's physical exhibition supported the national dissemination of climate solutions through new communication films about Circular Pipes, TREASURE, Water to Power-to-X and satellite reflectors. The films were produced in collaboration with **Lasse Winther** and were subsequently dubbed into several languages and used in the exhibition, on guided tours and in external contexts.

The exhibition has also served as a framework for visits by a large number of professional groups who have come to Klimatorium to gain insight into specific projects and solutions.

The dissemination has had a clear purpose: to shift the focus from problems to solutions and contribute to a mindset shift in the work with water and climate adaptation. When documented practical experiences – such as CO_2 reduction through recycled pipes, early identification of subsidence damage via satellites or the use of nature-based solutions in water infrastructure – are shared widely, the basis for more robust and cost-effective decisions at national level is strengthened.

Overall, national dissemination in 2025 has strengthened Klimatorium's role as a knowledge bridge between testing, practice and decision-making. By combining concrete solutions with active participation in the public debate, Klimatorium has contributed to accelerating the spread of climate action in Denmark – and to ensuring that tried and tested solutions are increasingly becoming part of the common toolbox in the work on climate, water and infrastructure

Exposure on social media

Klimatorium actively uses social media to promote projects and activities. The primary channels are LinkedIn and Facebook, while Instagram and YouTube are supplementary platforms.

- LinkedIn: Posts: 217 - Impressions: 231,276 - New followers: 758 (4,197 in total)
- Facebook: Posts: 180 - Views: 592,700 - New followers: 192 (2,300 in total)

In 2025, Klimatorium has had a special focus on engaging employees as ambassadors, where they have written posts about their projects and activities via their own LinkedIn profiles. Data from these employee posts is not included in the above figures.

2. International partnerships

Klimatorium also works to spread solutions and the Klimatorium model internationally. That is why long-term partnerships are important, where knowledge, methods and solutions are developed and tested together with partners in other countries. By 2025, Klimatorium will have strengthened several strategic country partnerships, where local challenges form the basis for shared learning – and where experiences from Denmark are brought into play in new contexts.

A) Klimatorium Nederland – the Danish model on an international scale

In 2025, **Klimatorium Nederland** was officially launched in Tynaarlo, marking the first concrete example of Klimatorium as a brand being promoted as an independent concept outside Denmark. The Dutch Klimatorium was developed in close collaboration with Klimatorium in Lemvig and is based on the same basic idea: an open, physical meeting place where citizens, authorities, researchers and businesses work together on practical climate solutions.

Klimatorium in Denmark serves as the international headquarters and provides organisational and strategic support, while Klimatorium Nederland is locally based with its own board and partnerships. The Dutch centre has already launched its first major project on water in and around the home – a topic of great relevance in a country that lives with the consequences of water in everyday life.

The establishment of Klimatorium Nederland shows how the Klimatorium model can be scaled internationally without losing its local roots. At the same time, the collaboration serves as a mutual learning platform, where Danish and Dutch experiences with water, climate adaptation and citizen involvement enrich each other.

B) New Zealand – long-term partnership and common international voice

Since 2020, Klimatorium has had a close and trusting collaboration with partners in New Zealand, including Wakatū Incorporation, which actively works with Klimatorium's values and approach in a New Zealand context.

The collaboration is based on shared challenges with water, coasts, climate adaptation and local anchoring – and on a shared view that solutions must be developed in close collaboration with the people who live with the consequences. In 2025, the collaboration was further strengthened through Klimatorium's active participation in the **UN conference Adaptation Futures** in Christchurch, New Zealand. Here, Klimatorium contributed to two professional sessions focusing on locally anchored climate adaptation and young people's perspectives on future climate solutions, respectively. The conference served as an important platform for bringing Danish experiences with water, high water issues and Living Lab approaches into a global context.

C) Ukraine – capacity building and concrete support for the water sector

One of the most socially critical international collaborations in 2025 has been Klimatorium's involvement in Ukraine. In collaboration with Lemvig Vand, Ikast-Brande Municipality, Komponent and Governor Vitalii Kim from the Mykolaiv region, Klimatorium is working to strengthen water and wastewater management in the city of Voznesensk.

The city faces significant challenges, including water wastage of up to 40%, the need to modernise drinking water treatment and general pressure on water and wastewater systems as a result of war and lack of investment. Through a **Twinning partnership**, Klimatorium supports knowledge sharing, peer-to-peer training and technical advice with a focus on operations, governance and longterm planning.

In 2025, Ukrainian employees have participated in intensive learning programmes in Denmark, including hands-on training at treatment plants, professional sparring on energy efficiency and participation in specialised courses at Aarhus University. The partnership has provided concrete input for the renovation of Voznesensk's wastewater treatment plant and is also helping to build local capacity in a sector that is crucial for health, the environment and societal resilience. The Ukraine collaboration shows how Klimatorium can translate Danish water expertise and experience with robust systems into concrete international support – and how partnerships can create value far beyond national borders in a time of global crises.

Photo: Klimatorium Nederland
In June 2025, the first general meeting was held. Since then, new projects have been launched in the Netherlands and the country has participated as a co-creator of the Global Youth Climate Summit 2025.

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3. International networks

In 2025, Klimatorium has moved from being a national climate centre to also functioning as an international platform for climate action. Through strategic networks and EU roles, Klimatorium contributes to shaping the framework for future climate policy and practice – and ensures that Danish solutions have European and international impact.

EU Adaptation Hub

A key milestone is the designation of Klimatorium as Denmark's national EU Climate Adaptation Hub – the only one in Denmark. As part of the EU's overall network of national hubs, Klimatorium acts as a link between the European Commission and Danish authorities, municipalities, utilities and stakeholders. The hub function supports the implementation of the **EU Green Deal and the EU's climate adaptation strategy** by ensuring that European ambitions are translated into practical solutions – and that Danish experiences are brought into play at European level. The grant will initially run for two years, but is expected to develop further in line with the need for national coordination of climate adaptation.

EU Climate Pact Partner

Klimatorium in 2025 plays an active role in the EU Climate Pact – both as a partner and through the appointment of Klimatorium's director and sustainability manager as official Climate Pact ambassadors. This role strengthens the connection between civil society, authorities and the EU and gives Klimatorium access to European platforms where concrete Danish solutions can be shared, discussed and inspire others.

The Climate Pact collaboration also contributes to enhancing Klimatorium's communication and mobilisation efforts and creating legitimacy around local climate action.

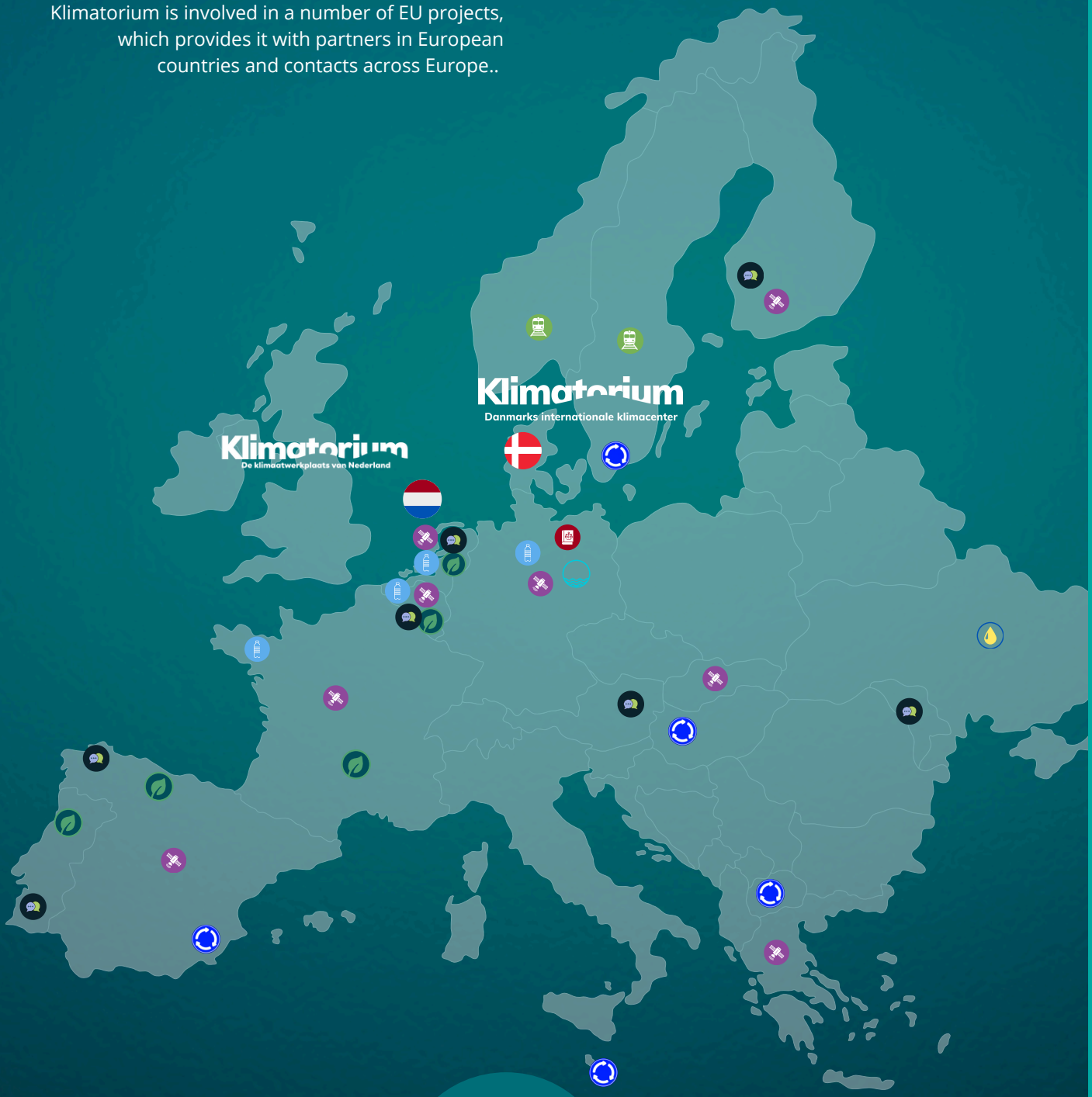
NBS Hub

Through its work in **NBRACER**, Klimatorium has also been recognised as a Danish Nature-based Solutions (NbS) hub. The aim here is to bring together researchers, decisionmakers, businesses and public actors to promote naturebased solutions as a real alternative and supplement to traditional grey infrastructure. The hub function makes it possible to break down barriers to implementation, build capacity and ensure that NbS is increasingly incorporated into both planning and operations – from urban development to wastewater management and climate adaptation in catchment areas. As part of a larger European NbS network, Klimatorium also contributes to international exchange of experience and joint method development.

IURC-partner

Klimatorium continues to participate in the dialogue surrounding IURC (International Urban and Regional Cooperation), which works to strengthen cooperation between European and international cities and regions on sustainable development and climate adaptation. Although new announcements are pending, Klimatorium's position in the network helps to maintain international relations and open up opportunities for future cooperation.

Photo: International networks through projects
Klimatorium is involved in a number of EU projects, which provides it with partners in European countries and contacts across Europe..



EU-PROJECTS

TREASURE
NBRACER Nature Based Solutions
Grønn Jyllandskorridor
CLIMATEPOL
CLIMATEBLUE
PCP WISE
SUSTAQUA
RESUREXION

4. International activities and knowledge sharing in 2025

While the strategic platforms create the framework, it is through concrete international activities that Klimatorium translates knowledge into living practice.

In 2025, Klimatorium has hosted and actively participated in a wide range of international visits, workshops and conferences, where solutions have been experienced, tested and discussed in real-life settings.

A notable example is the visit by the **Pandawara Group** – five young climate activists from Indonesia with over 12 million followers on social media. Through a bilateral collaboration between Danish and Indonesian environmental authorities, the Pandawara Group and the authorities visited Klimatorium to gain inspiration on how we involve children and young people in climate action in Denmark. The visit was linked to Klimatorium's wooden block experiment, where the Indonesian youngsters helped throw wooden blocks into the fjord.

Over 20 million views

Pandawara Group filmed their visit to Klimatorium. This was shared on their own channels, resulting in more than 20 million views on TikTok, Instagram and YouTube. Not only did this give Klimatorium international visibility, it also showed how local practices can inspire global movements – and vice versa.

In 2025, a collaboration was established with German television. NDR wanted to visit the Limfjord area to find green projects for their programme Nordseereport and therefore contacted Klimatorium. The television programme was broadcast in July and included a visit to Klimatorium.

A highlight for NBRACER was Klimatorium hosting the 5th General Assembly of the EU project. The conference had 60 participants from eight European regions and combined professional presentations with practical excursions to Klimatorium Living Lab, where participants experienced nature-based solutions in operation – from Lemvig Sødal and constructed wetlands to pilot projects in Nørre Nissum.

In 2025, Klimatorium has also been a central testing and learning arena for the European project PCP WISE, where international partners have participated in workshops and site visits. Here, advanced data and satellite-based solutions have been demonstrated in practice – including a display of satellite reflectors in Thyborøn and discussions on how data can support decisions on climate adaptation, flooding and drought.
Klimatorium has also shared Danish experiences at a number of international conferences. For example:

- European Climate Change Adaptation Conference in Rimini: Charlotte Rosenkilde presented Klimatorium, NBRACER and the work on combining grey and naturebased infrastructure.
- NORDIWA 2025 in Oslo: Mette Vilsbøl presented the potential of recycled plastic in wastewater pipes, placed in an international context where upscaling and certification are the next steps.

Overall impact and perspective towards 2026

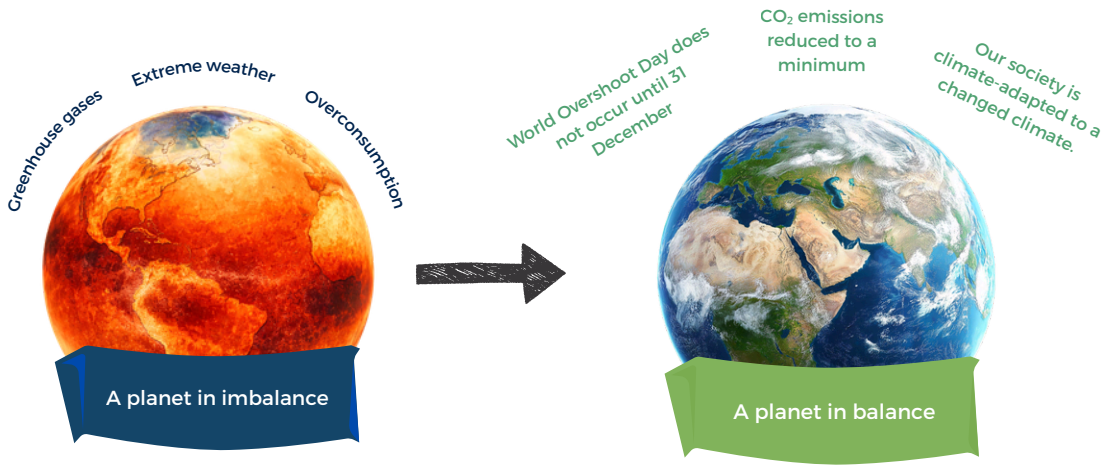
By 2025, Klimatorium will have contributed to solutions developed and tested locally gaining national and international impact. Through targeted communication, strategic partnerships and international networks, knowledge from projects and Klimatorium Living Lab will have been translated into action by authorities, utilities, companies and decision-makers.

Nationally, has Klimatorium strengthened the basis for decision-making for climate adaptation and water management by highlighting solutions and practical experiences. Internationally, collaborations within the EU and with partners in countries such as the Netherlands, New Zealand and Ukraine have made Danish solutions relevant in new contexts, while global knowledge has been translated into local contexts.

Overall, Klimatorium has served as a bridge between testing, practice and scaling, thereby contributing to climate action being increasingly based on solutions that work in reality. The goal for 2026 is to spread the Klimatorium model to more countries while developing our role and platform as the National Adaptation Hub and NBS Hub in the EU.

Scaling and dissemination – key indicators for 2025

- Great interest in Klimatorium's work both nationally and internationally
- New collaboration in the Netherlands and Ukraine
- Projects with contacts across 17 European countries
- Klimatorium projects exposed to more than 20 million people abroad



3.1 Overall impact for 2025

Klimatorium's overall impact in 2025 can be seen in the way solutions move from testing to application – and from local contexts to broader systems. Throughout the year, Klimatorium has been used as a platform for testing, qualifying and disseminating climate, water and nature-based solutions, which are increasingly being incorporated into planning, operations and strategic decisions by municipalities, utilities, businesses and authorities.

Through Klimatorium Living Lab, technologies, methods and forms of collaboration have been tested under real-life conditions. This has provided documentation and operational experience that reduces uncertainty, strengthens the basis for decisionmaking and makes it easier to scale solutions. Living Lab thus acts as an intermediary between research, innovation and implementation – a place where solutions can mature before being put into widespread use.

A significant contribution also lies in building human and organisational capacity. By 2025, Klimatorium's activities will have strengthened the skills of children, young people, students, professionals and decisionmakers. When knowledge is translated into practice, dialogue and concrete cases, both the understanding of the complexity of climate action and the ability to act competently are increased. This capacity building is a prerequisite for investments in climate and water solutions to have a lasting effect.

Internationally, Klimatorium has contributed to linking Danish experiences with European and global efforts. Its role as Denmark's National Adaptation Hub in the EU, NbS hub and active partner in international projects has made Klimatorium a hub for knowledge exchange and policy-oriented learning. This has strengthened both the quality of the solutions developed in Denmark and their relevance in an international context.

Klimatorium also has a measurable economic and commercial impact. As a project developer and catalyst for collaboration, Klimatorium helps to mobilise investment, create innovation activities and strengthen companies' market opportunities. The effects are evident, among other things, through the distribution of project funds to companies, the development and testing of new products and services, strengthened strategic preparedness in supplies, and spin-off effects in the local economy and service industries.

Based on experience from innovation and EU projects as well as current standard figures, it is estimated that Klimatorium's activities contribute to the creation of at least 50–70 jobs annually and have a total economic impact of at least DKK 25–40 million. By 2025, 132 companies will have been involved in collaborations with Klimatorium, which supports the assessment of a growing and long-term impact.

Chapter 5

ORGANISATION AND OPERATION

Five years ago, Klimatorium opened its doors as a physical space with offices, exhibitions and conference facilities. Today, we are much more than just a building – we are a vibrant and dynamic climate centre that promotes knowledge sharing, innovation and collaboration across sectors and national borders.

This chapter delves into how we run and organise Klimatorium and provides insight into the people and networks that drive our work. We present our board of directors, employees, members and partners, who together form the foundation of our success.

5.1 PROJEKTER

Existing projects:

NBRACER (2023-2027)
Develops and demonstrates nature-based solutions as an alternative and supplement to traditional grey water infrastructure..

Funded by the European Union

TREASURE (2023-2026)
Maps macroplastic pollution in aquatic environments through data, citizen science and international collaborations in the North Sea region.

Co-funded by the European Union

ClimatePol (2024-2027)
Bridges the gap between climate policy and practice through Danish-German collaboration on climate adaptation, management and implementation..

Interreg Deutschland – Danmark

Business beacon for water technology – phase 2 (2023-26)
Understøtter innovation, test og opskalering af vandteknologier gennem Klimatorium Living Lab og nationale samarbejder.

Danmarks Erhvervsfremmebestyrelse
Medfinansieret af Den Europæiske Union

Newly launched projects

ClimateBlue (2025-2028)
Explores new approaches to coastal climate adaptation and how we can live with water – rather than just keeping it out.

Interreg Deutschland – Danmark

SUSTAQUA (2025-2029)
Develops and tests new policy and planning measures that reduce energy consumption and strengthen the sustainable use of water resources.

Interreg Europe
Co-funded by the European Union

LIFE ACT (2025-2033)
Accelerates climate adaptation and energy transition through concrete demonstration projects and strong national partnerships.

LIFE ACT – Action for Climate Transition
Medfinansieret af Den Europæiske Union

Vandternativet - The water alternative (2025-2028)
Develops solutions where alternative water sources can replace drinking water in industry, thereby reducing the strain on groundwater resources.

mudp

PCP Wise (2025-2028)
Tests the use of satellite data and advanced analysis for better monitoring and planning of climate adaptation in the water sector.

Funded by the European Union

Ukraine – support for sustainable water management (2025-2027)

Capacity building and knowledge sharing with Ukrainian water utilities to strengthen robust and energy-efficient water and wastewater operations.

RESUREXION (2025-2029)

Strengthens climate adaptation through active citizen involvement and new models of cooperation between municipalities and local communities.

Interreg Europe
Co-funded by the European Union

Food Forest (2025-2029)

Investigates how food forests can combine CO_2 sequestration, biodiversity and citizen participation as an example of democratic afforestation.

VELUX FONDEN

Business beacon for water technology – phase 3 (2026-2029)

Accelerate the implementation of local climate action plans and strengthen the climate resilience of municipalities and utilities.

Danmarks Erhvervsfremmebestyrelse
Medfinansieret af Den Europæiske Union

Completed projects in 2025

Grøn Jyllandskorridor (2022-2025)

Working towards more sustainable freight transport through new collaborations, technologies and planning models.

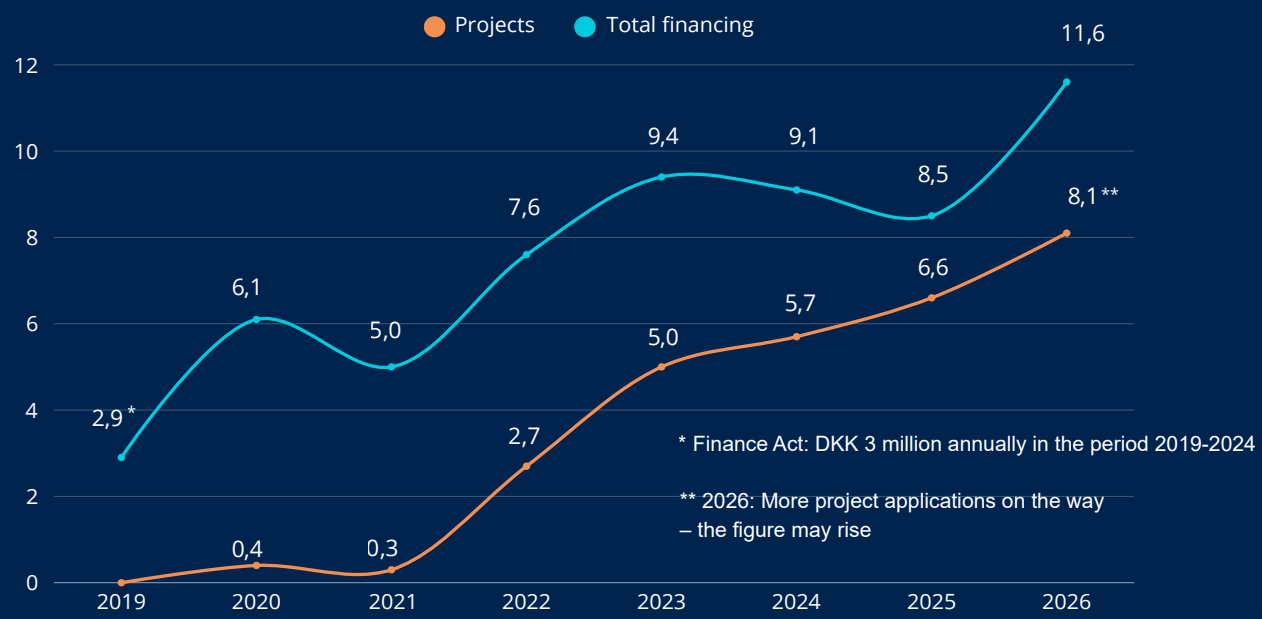
Interreg Öresund-Kattegat-Skagerrak
Medfinansieret af Den Europæiske Union

Circular Pipes (2023-2025)

Demonstrates how recycled plastic can be used in wastewater pipes with significant CO_2 reduction without compromising on quality.

VUDP FORENINGEN

ØKONOMISK DRIFTSUDVIKLING (MIO. KR)



5.2 CLIMATE MEETINGS

The National Climate Summit

The National Climate Summit is an annual summit conference that brings together experts, decisionmakers, companies and organisations from across the country.

Global Youth Climate Summit

The Youth Climate Summit is an international climate summit for young people from secondary schools and similar educational institutions, bringing together young people from Denmark and around the world to engage them in the climate debate and solutions for the future.

Children's Climate Meeting

The Children's Climate Meeting is an engaging climate tool aimed at children in grades 3-6, where students gain insight into climate challenges and develop their own climate solutions.

Partners for the climate meetings

midt regionmidtjylland · Lemvig Kommune · DNNK · Folkesparekassens Fond · NORLYS Vækstpulje · FÆRCH FONDEN

5.3 COLLABORATION WITH UNIVERSITIES AND EDUCATIONAL INSTITUTIONS

VIA University College · AARHUS UNIVERSITET · SDU Syddansk Universitet · AALBORG UNIVERSITET · Technical University of Denmark · DTU · EAMV · IT UNIVERSITY OF COPENHAGEN · uch UDDANNELSESCENTER HOLSTEBRO · UCN PROFESSIONSHØJSKOLEN · STRUER STATSGYMNASIUM · LEMVIG GYMNASIUM STX · HHX · EUX · EUD · 10. KL.

5.4 MEMBERS

Klimatorium has a wide range of business members affiliated with the association, who pay an annual membership fee.

Everything from large Danish knowledge institutions to companies working with climate adaptation, green transition and water technology are members of Klimatorium. In addition, public institutions also support us as members.

Membership of Klimatorium offers a number of benefits and, in particular, brings you closer to solutions, projects and a strong network of key players across Denmark.

Private individuals can also be members of Klimatorium.

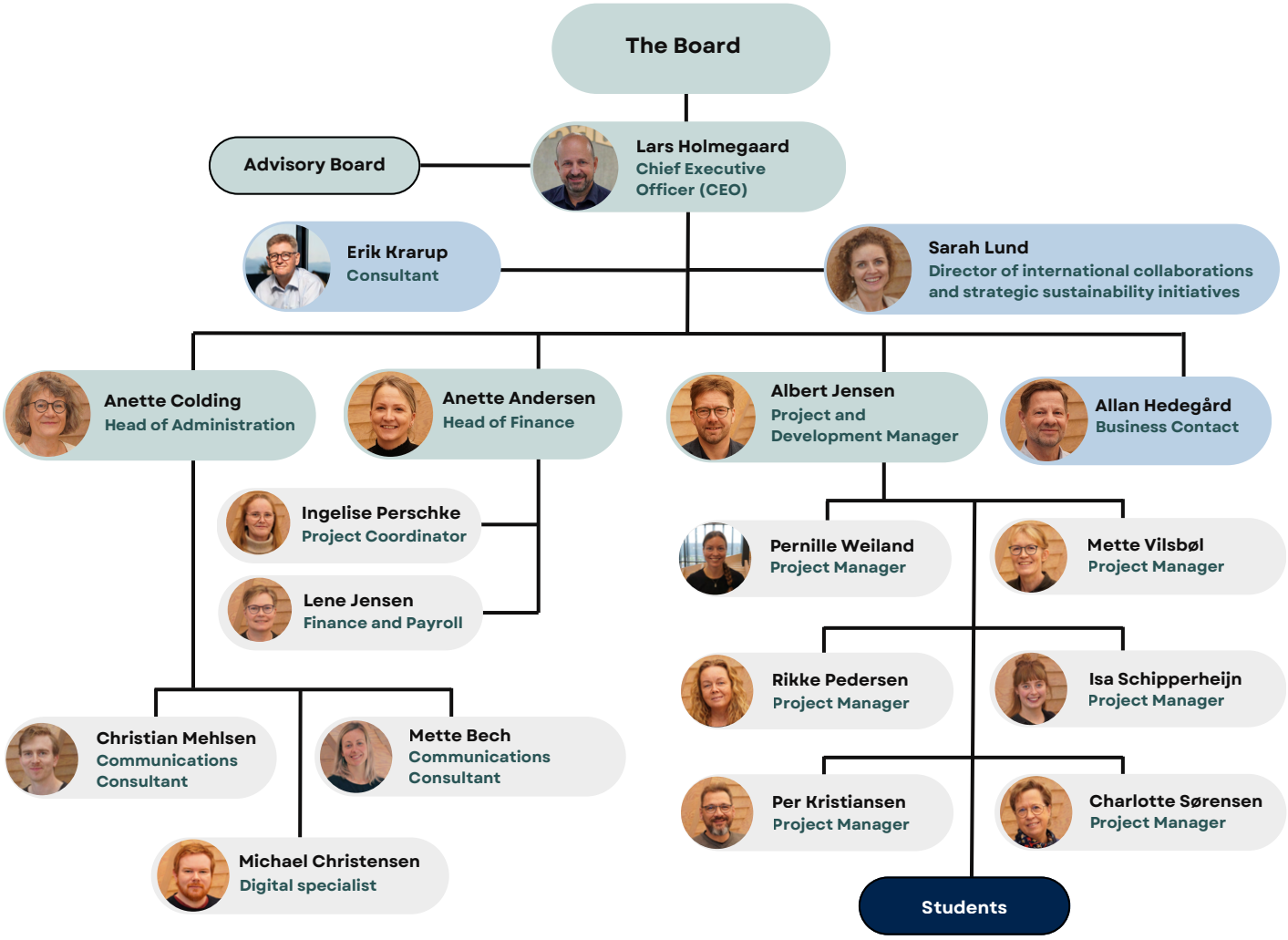
Private members receive newsletters, are invited to events organised by Klimatorium and are kept informed about current and upcoming climate projects. Klimatorium has over 200 private memberships.

Please contact Allan Hedegaard on tel. 20599246 or ealhe@klimatorium.dk if you would like to hear more about becoming a member of Klimatorium.

5.5 Annual accounts

Annual Accounts	2025	2024	2023
Membership Fees	**955**	**968**	**1.055**
Grants and Funding			
Ministry of Environment and Food	0	3.572	2.300
Central Denmark Region, Mobility	0	0	80
Central Denmark Region	1.350	600	600
Danish Board of Business Development – The Water Technology Lighthouse	1.248	933	3.487
Interreg	898	280	121
Ukraine	311	0	0
Foundations, Grants	450	0	0
Horizon	1.807	1.389	100
Events	912	675	677
Miscellaneous	581	696	955
Total Grants and Funding	**7.556**	**8.146**	**8.319**
Net Revenue	**8.511**	**9.113**	**9.374**
Operating Costs	7.207	7.631	8.093
Administrative Costs	1.186	1.249	837
Total Costs	**8.393**	**8.881**	**8.930**
Operating Profit (Loss)	**118**	**233**	**444**
Financial Items	5	0	1
Profit Before Tax	**114**	**233**	**443**
Tax on Profit for the Year	40	20	13
Net Profit for the Year	**74**	**213**	**430**
Cash and Cash Equivalents	5.511	2.811	2.450
Equity	1.449	1.375	1.162
Short-term Liabilities	6.470	2.986	2.329
Total Assets	**7.919**	**4.361**	**3.491**

5.6 MANAGEMENT AND EMPLOYEES



Management

Lars Nørgård Holmegaard, Director

Albert Jensen, Project and Development Manager

Anette Colding, Head of Administration

Anette Andersen, Head of Finance

Staff function

Allan Hedegård, Business Contact

Sarah Lund, Director of international collaborations

Erik Krarup, Consultant

Employees

Pernille Weiland,
Project Manager

Charlotte Rosenkilde
Sørensen, Project Manager

Christian Mehlsen,
Communications Consultant

Michael Christensen,
Digital specialist

Isa Schipperheijn,
Project Manager

Rikke Hougaard Pedersen,
Project Manager

Mette Vilsbøll,
Project Manager

Mette Bech,
Communications Consultant

Per Kristiansen,
Project Manager

Ingelise Perschke,
Projekt Coordinator

Lene Jensen,
Finance and Payroll

Students

Paula Caramidariu,
Mechanical Engineer,
VIA University College

Mette Svenninsen,
Mechanical Engineer,
VIA University College

Signe Haulrik Løkken,
Mechanical Engineer,
VIA University College

Beatris Gonzales,
Climate and Supply Engineer,
VIA University College

5.7 BOARD

Klimatorium's board of directors has overall responsibility for finance and strategy and works to maintain and expand the high level of activity within the organisation. The chairman of the board is Jørgen Nørby, former regional council member and mayor. The vice-chairman is Erik Flyvholm, the current mayor of Lemvig Municipality.

The board is also broadly composed and includes Anders Kühnau, Regional Council Chairman in the Central Denmark Region, Steffen Damsgaard, Chairman of Lemvig Water + Technology and the Environment Committee in Lemvig Municipality + the Joint Council for Rural Areas, Lotte Thøgersen, Dean of Education at VIA University College, Kurt Nielsen, former Vice-Dean at Aarhus University, Lone Pilgaard Sørensen, Deputy Mayor of Lemvig Municipality, and Sebastian Mernild, Professor at SDU.

Lars Nørgård Holmegaard sits on the board as director of Klimatorium. Søren Søndergaard Kjær, municipal director in Lemvig Municipality, has been elected as an alternate member of the board.

From 2026, former regional council chairman Anders Kühnau will step down from Klimatorium's board of directors as a result of changed framework conditions, which mean that the regions no longer have a mandate in the climate area. Klimatorium thanks Anders Kühnau for his commitment and important contributions to the work of the board. At the same time, Carl-Emil Larsen, director of DANVA, will join the board. His appointment will strengthen the board with solid insight into the water sector and the national framework for the green transition – an important contribution to Klimatorium's further development.

Jørgen Nørby
Bestyrelsesformand

Erik Flyvholm
Næstformand
Borgmester i Lemvig Kommune

Anders Kühnau
Bestyrelsesmedlem
Formand for Regionsrådet, Region Midtjylland

Steffen Damsgaard
Bestyrelsesmedlem
Bestyrelsesformand i Lemvig Vand

Sebastian Mernild
Bestyrelsesmedlem
Professor og leder af SDU Climate Cluster

Lotte Thøgersen
Bestyrelsesmedlem
Uddannelsesdekan, VIA University College

Kurt Nielsen
Bestyrelsesmedlem
Fhv. Prodekan, Aarhus Universitet

Lone Pilgaard Sørensen
Bestyrelsesmedlem
Viceborgmester i Lemvig Kommune

Carl-Emil Larsen
Bestyrelsesmedlem
Direktør i DANVA

Lars Holmegaard
Direktør
Klimatorium

Søren Søndergaard Kjær
Tilforordnet i bestyrelsen
Kommunaldirektør i Lemvig Kommune

5.8 Advisory board

The Klimatorium advisory board provides professional sparring and inspiration for the association's management and board of directors and acts as ambassadors for the association.

Carlo Sass Sørensen, Danish Coastal Authority

Astrid Oberborbeck Andersen, Aalborg University

Claus Borg, Lemvig Municipality

Dorthe Selmer, Coast to Coast Climate Challenge

Kristian Vestergaard, Aarhus University

Kristoffer Amlani Ulbak, Danish Technological Institute

Karen Touborg, Business Viborg

Per Hessellund Lauritsen, Siemens

Per Knudsen, DTU

Peter Lindgren, CTIF Global / CBS

Theis Raaschou Andersen, VIA University College

Ole Rasmussen, IkastBrande Deanery

Tina Kandborg Gade, UCH Holstebro Upper Secondary Schools

New members from 2026:

Rene Kilian, Kilian Water

Martin Lehmann, Aalborg University

Simon Wyke, Aalborg University

Anna Worm, Fjordland

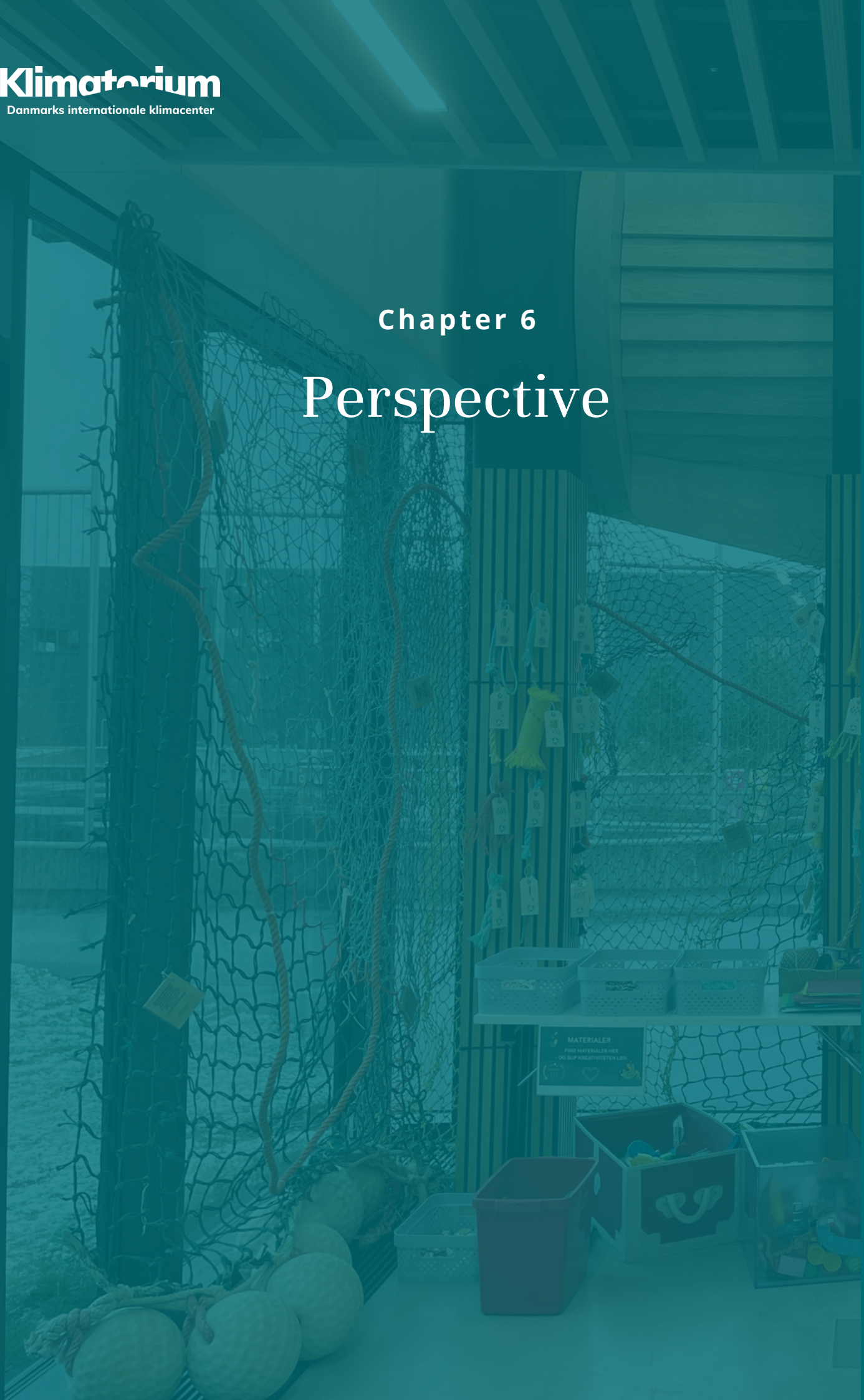
Morten Agger, Lemvig Area Agricultural Association

Torben Bach, GEUS

Klimatorium
Danmarks internationale klimacenter

Chapter 6

Perspective



Towards the next phase

2025 marks the end of an important year for Klimatorium – and the beginning of the next. The experiences from this year's work clearly show that the need for a place where solutions can be developed, tested, documented and shared in practice is only growing. Climate change is accelerating, and the demands for action are becoming both more complex and more urgent.

Today, Klimatorium has developed into an international non-profit innovation centre with a unique starting point: a full-scale Living Lab covering 508 km², strong national and international partnerships, and a working method where projects are the driving force behind solutions, learning and financing. This has made it possible to translate real climate and water challenges into concrete solutions that can be applied in practice – locally, nationally and internationally.

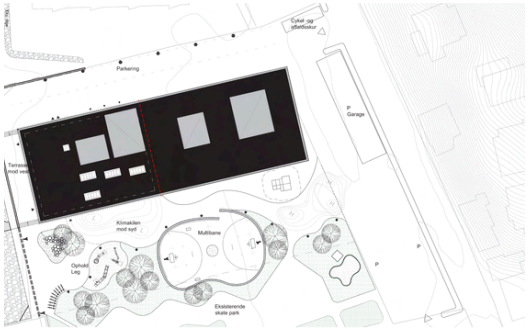
The next phase is about strengthening and scaling up this role even more. This includes physically expanding Klimatorium to make room for more staff, students, businesses, and international collaborations.

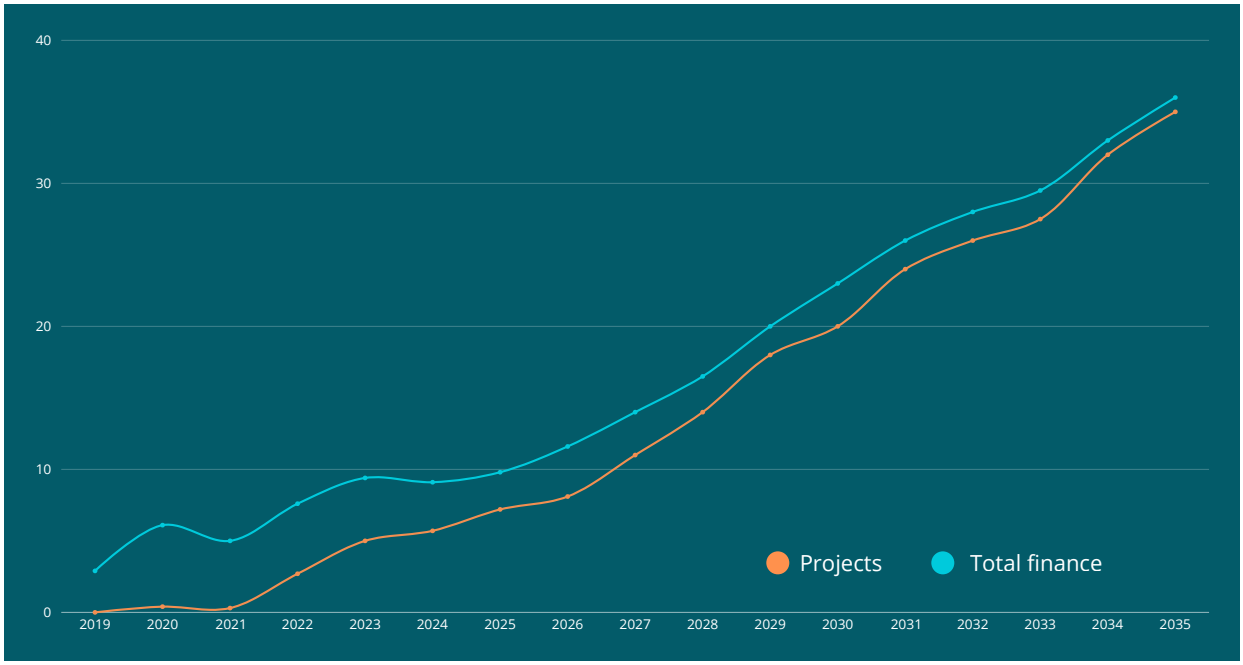
At the same time, Klimatorium will continue to develop as a platform for projects where public actors, research environments, the business community and civil society work together on solutions that reduce climate risks, support green transition and create local and national value.

Internationally, Klimatorium will build on the establishment of Klimatorium Nederland and collaborations in New Zealand, the EU and Ukraine, among others. The ambition is to strengthen a global network of climate centres where experiences are shared and solutions are developed jointly across national borders – always with local roots as the starting point.

At the same time, Klimatorium will continue its work to attract and develop expertise in climate and water. Projects, educational programmes and collaborations with universities and the business community will help to ensure more qualified employees for a sector that is becoming increasingly important for Denmark's green business, employment and exports.

Klimatorium's experience shows that climate adaptation and green transition are not just about technology, but about organisation, collaboration and the ability to translate knowledge into action. It is this experience that Klimatorium is taking with it into the next phase: ensuring that solutions do not remain visions or pilot projects, but become an integral part of the way society deals with climate challenges – now and in the future.





A sustainable platform for long-term growth

The economic projection model illustrates how Klimatorium's project portfolio and total funding are expected to develop in the coming years.

The model is based on experience from previous project years and reflects the way Klimatorium works: where projects are not just isolated activities, but the driving force behind professional development, collaboration and financial sustainability.

The curves show gradual and controlled growth in the number of projects and total funding towards 2035.

This development supports the ambition to strengthen Klimatorium as a long-term platform for testing, demonstration, competence building and international cooperation – while maintaining the organisation's flexibility and ability to respond to new climate and societal challenges.

The projection should not be read as a fixed plan, but as a strategic benchmark: a picture of how investments in projects, partnerships and capacity can create a robust foundation for the next phase of Klimatorium's development.

Thank you for reading

Lars Nørgård Holmegaard
Director, Klimatorium

Jørgen Nørby
Chairman, Klimatorium

Stay up to date on Klimatorium's projects, partnerships and concrete solutions – follow us on LinkedIn and Facebook or read more on our website.

WWW.KLIMATORIUM.DK