

**Annual Benefits Realisation and
Knowledge Sharing Report
2024
Northern Lights JV**

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1. Introduction

The annual Benefits Realisation and Knowledge Sharing report describes the activities, communication and results achieved by Northern Lights JV that supports the Government's effect-oriented objectives as stated in the State Support Agreement, with the overall goal of contributing to the development of CCS to reach climate goals in Norway and the EU.

As a first mover in developing CO₂ transport and storage, it is Northern Lights' mandate to share our knowledge and experience with the world. Our communication activities are divided into the following categories: visits, conferences, events, media, digital media, and memberships and support of industry associations and interest organisations. The report outlines the results achieved within each area in 2024.

2. Visits

In 2024, Northern Lights' visitor centre continued to serve as a global hub for CCS knowledge exchange. Visitors from around the world came to Øygarden to learn about the Northern Lights value chain and witness the CO₂ receiving facility under construction. In September, we reached the milestone of welcoming visitor number 10,000 since construction start in 2021.

Northern Lights welcomed 5,025 visitors in 2024, distributed in 306 groups of visitors, which is on average 6 visits per week. That is an increase of 33% visits compared to 2023. By year end we had welcomed a total of 11,513 visitors from 70 countries.

The visitors are distributed in the following categories:

- Industry players: 43%
- Policy makers: 30%
- Public: 16%

- Interest groups: 5%
- Academia: 5%
- Media: 1%

Managing the immense interest in visiting Northern Lights is a time-consuming task and in 2024 we hired a full-time Visitor Liaison Coordinator to the Communications team to professionalise and streamline the visitor management process. We updated our website with a visit request form that automates part of the visit coordination process, and we have developed a visitor policy to ensure consistency in the visitor experience.

Selected visits in 2024:

- January: Visit from the Norwegian Embassy in Paris with French media
- February: Visit from the Australian Ambassador to Norway
- March: Visit from the EFTA Surveillance Authority (ESA) and the Norwegian Environmental Agency (NEA)
- April: 300 visitors from local community in Øygarden during annual Open Day
- May: Visit from Bergen Chamber of Commerce and Industry
- June: Visit from Belgian Government and Flemish Government with Belgian industry leaders
- August: Visit from delegation of Norwegian Ambassadors and Norwegian Climate and Environmental Ministry's leadership team, Norway
- September: Visit from Hafslund Oslo Celsio marking 10,000 visitors to Northern Lights
- October: Visit from delegation of French parliamentarians
- November: Visit from His Majesty King Willem-Alexander of the Netherlands with Dutch industry leaders
- December: Visit from UK Prime Minister Keir Starmer and Norwegian Prime Minister Jonas Gahr Støre

3. Conferences

Northern Lights demonstrates thought leadership through our representation and active participation in industry conferences and forums globally and specifically in Europe. In 2024 we presented at 124 conferences, workshops, and roundtables, advancing conversations on CCS development and deployment, policy frameworks and business viability.

We are frequently invited to present at conferences around the world, however our focus remains on European engagements aligning with our primary market and benefits

realisation goals. Balancing sustainability and efficiency, we consider proximity and virtual participation where possible. This enables us to contribute to key discussions while maintaining our commitment to environmental responsibility and optimising time management in our team for business continuity.

Overview of selected conferences attended in 2024:

Date	Event	Topic
09.01	Presented at ZEP shipping webinar	CO2 shipping in Northwest Europe
30.01	Participated in panel discussion at EFTA house CCS conference in Brussels	NCS storage potential and a solution for Europe. NZIA.
14.02	Presentation at NICE-project, Stockholm Harbour emitters	Carbon Dioxide Removal (CDR) and CO2 shipping
15.02	MD presentation and debate in Brussels organized by Næringsforeningen in Stavanger	NCS storage potential and a solution for Europe. NZIA.
21.03	Attended Japan-Norway Society Business Seminar	CCS and CO2 shipping
17.04	Participation in panel on CCS and CDR/Carbon removal at European Climate Summit in Florence	CDR / Voluntary Carbon Market
18.04	Participation on One Ocean Week event on board Statsraad Lemkhul sailing to Øygarden, presenting Northern Lights.	NL JV status and ambitions for Øygarden
02.05	Zero Emission Platform: Virtual presentation of first two vessels	CO2 shipping
22.05-23.05	2nd Switzerland - Norway CCS CDR stakeholder event participation	Status storage developers and emitters in Switzerland, CDRs
07.06	EU workshop CCUS management strategy	Transport of CO2 in context of Industrial Carbon Management Strategy
20.06	ZEP public perception webinar – presentation on experience from Northern Lights	How NL has been and is working on local acceptance in Øygarden - lessons and proposals
24.06	International Energy Credit Association, European Education & Networking Conference Presentation	Northern Lights general introduction, the development, importance and finance linked topics
12.08-16.08	Arendalsuka, participation on panels with NORSAR and Offshore Norway	Safe storage and monitoring, regulations and political predictability
26.08-29.08	ONS 2024 – exhibition and several participation and presentations at the conference	CCS value chain, CO2 monitoring and safe storage, digital CCS value chain
10.09	Pan-Nordic Green Transition Opportunities Conference	Value chain scalability
10.10	EU CCS Forum in Pau	Standards, infrastructure, public perception
04.11	PCI Energy Days	Accelerating large-scale energy infrastructure through cross-border cooperation, financing, and modernisation to meet the EU's 2030 climate targets.
26.11	European Parliament Breakfast Seminar and meetings	Status NL and regulatory challenges

4. Events

From milestone celebrations to sharing knowledge at exhibitions, Northern Lights hosted several events in 2024 with the goal of creating awareness and knowledge of CCS and demonstrating how we have gone from a carbon transport and storage vision to reality.

ONS

During the ONS conference in August 2024, Northern Lights exhibited with a stand concept called “store it!”. The idea came from a wish to demonstrate CCS in a tangible way that is easy to understand. 1 tonne of liquefied CO₂ is the equivalent to 1 m³ of storage space.

Therefore, we built a message wall of moving recyclable cardboard boxes that symbolises the volumes and movement (or transport) of CO₂. The messages explained the importance of CCS to meet climate goals and offered facts about Northern Lights and our customers.

In addition to the moving boxes of 1 tonne CO₂, we had custom Rubik’s Cubes on the stand which symbolised the climate challenge. We challenged visitors to the stand to solve the puzzle and it was a good conversation starter to share more info about Northern Lights.

The concept was well received and was very effective in explaining CCS in a way that people understand and can relate to. We reused the concept and some of the boxes for the Northern Lights Celebration and have lent the concept to Zero Emissions Platform (ZEP) for their European Industrial Carbon Management Summit in Brussels in December 2024.

Northern Lights Summit

In 2024, Northern Lights hosted its seventh annual Northern Lights Summit with the theme “Scaling CCS for the future”. The conference brought together over 100 European policymakers and industry leaders committed to accelerating CCS and was followed by approximately 500 people online.

The program included speeches from Kadri Simson, Commissioner of Energy in the EU, Norwegian Minister of Energy, Terje Aasland, and leading industry players, policymakers and analysts in Europe.

The theme set out to discuss how we can cooperate to establish a European market for CCS services across borders, how we can unlock commercial investments in carbon capture projects and what are the drivers for the voluntary carbon market.

Northern Light Celebration

On the day of the Northern Lights Summit, September 26th, Northern Lights invited stakeholders to the highlight of the year; the celebration of the completed CO₂ receiving

facilities in Øygarden. Nearly 1,000 people from the local community and internationally joined us on this celebratory day.

The celebration included presentations and speeches by Norwegian Minister of Energy, Terje Aasland and Mayor of Øygarden, Tom Georg Indrevik, performances by local choirs and a brass band, concert with Norwegian artist Daniel Kvammen, and finally the arrival of CO₂ for commissioning and a tour of the receiving facility.

During the event, Northern Lights hosted a media site tour with key spokespeople that enabled interviews and excellent photo opportunities. News articles described the Northern Lights Celebration as a “historic moment,” “a revolution,” and proof that CCS is a viable climate solution. A total of 28 journalists from 17 outlets attended, including international media from France, Germany, Denmark, and UK. The day generated 87 news articles in total.

5. Media

Media relations is an important part of Northern Lights’ knowledge sharing and public acceptance efforts. Offering interviews and fact-based insights, Northern Lights contributes to media stories with the goal of demonstrating progress and successes of the Longship project and communicating the benefits of CCS and its role in achieving climate goals.

In 2024, Northern Lights achieved 481 media stories in national and international media. We experience great interest in CCS and Northern Lights by media across the world. There is particular interest from American, British, French, and German media which is also reflected in the visitor numbers.

Selected media stories in 2024:

- [France24](#): Norway, the CO₂ Necropolis
- [ZDF](#): CO₂ Storage: Is Norway a Pioneer?
- [Teknisk Ukeblad](#): Have completed 98 percent of the first Norwegian CO₂ storage
- [Bloomberg](#): A Giant Carbon Dump Gives Glimpse Into Net-Zero Future
- [The Guardian](#): We're still in the 1970s with cement: Norway plant to blaze carbon free concrete trail
- [TV2](#): Opened a historic facility: – Puts Norway at the forefront globally
- [Teknisk Ukeblad](#): The very first full-scale storage facility is now ready to receive CO₂
- [ZDF TV](#): Norwegisches Kohlendioxid-Speicherprojekt
- [Børsen DK](#): Oil giants ready to pump CO₂ from Ørsted into the depths of the sea
- [NRK Vestlandsrevyen](#): Northern Lights
- [DN](#): Massive investment in CO₂ storage is ready – Next phase still uncertain

- [DR TV](#): CO2 at sea
- [ZDF](#): Norway: CCS pilot project
- [NRK Dagsrevyen](#): Delivery Ceremony in Dalian of 1st ship Northern Pioneer
- [NRK](#): Milestone for the billion-dollar project: First ship for Norwegian CO2 transport completed in China
- [VG](#): Strategic Partnership with UK
- [Finansavisen](#): Norway and the UK Enter a Green Industry Partnership: – Key to Creating More Green Jobs

6. Digital media

In 2024, Northern Lights has strengthened its presence on LinkedIn which is our selected social media channel to distribute news about Northern Lights and share knowledge. We have experimented with more creative storytelling and educational content through video and infographics and actively shared milestones and news articles.

By year end 2024, we had 18,000 followers on LinkedIn. Nearly 6,000 followers are new this year, which is an increase of 50%. The majority of our followers are based in Norway, UK, the Netherlands, and France. We reached 850,000 people organically through 81 posts throughout the year.

On our website, we have shared 16 news articles and press releases with project updates in 2024. Upon request, we developed an automated newsletter that allows stakeholders to subscribe to updates from Northern Lights. This year, nearly 100 people have subscribed to receive articles published on norlights.com directly to their email inbox.

7. Memberships and support

Collaboration with industry associations and interest groups is vital to advancing CCS technology and policy. This chapter outlines which organisations Northern Lights contributes to, underscoring our commitment to collective climate action through shared knowledge, expertise, and advocacy.

Bellona

Northern Lights financially supports the Bellona Environmental Foundation which is an international independent non-profit organisation that aims to find and implement science-based solutions to the climate challenge. Bellona aims to be a bridge between industry and decision-makers and works closely with industry to help them respond to the climate challenge and deploy new sustainable technology.

CCS Europe

CCS Europe is an advocacy and communications body supported by technology providers, project developers, industry and environmental NGOs, who share a commitment to achieve significant reductions in CO2 emissions. Their objective is to secure recognition of the urgent need to deploy carbon capture technologies to curb CO2 emissions from industrial sources and reduce CO2 already within the atmosphere. Northern Lights has contributed through participation in events by CCS Europe.

French-Norwegian Chamber of Commerce

Northern Lights is a member of the French-Norwegian Chamber of Commerce who has the task of promoting economic, commercial and industrial relations between Norway and France, as well as bilateral cooperation between the two countries. The French-Norwegian Chamber of Commerce is an intermediary between French and Norwegian companies and is considered purposeful for business strategic objectives.

Offshore Norway

Northern Lights is a member of Offshore Norway which is the employer and industry organisation for companies with activities on the Norwegian Continental Shelf, and part of the Confederation of Norwegian Enterprise (NHO). We were a contributor to establish a CCS Forum in the organisation which we are currently members of. The forum is a professional advisory body that addresses questions related to topics such as financial security, offshore safety rules, legal and subsurface.

ONS

Global energy exhibition and conference in Stavanger that brought together more than 70,000 visitors from 100 countries in 2024. Northern Lights was part of the Energy Society Committee and the CCUS Committee and contributed to shaping the programme of the 2024 conference. We will continue our engagement with ONS to prepare for the next conference in 2026.

ZERO

The ZERO Environmental Foundation is an independent, non-profit organisation with one mission: the climate issue. ZERO applies a knowledge-based and analytical approach to driving forward zero-emission solutions. Northern Lights supports ZERO financially and is part of a CCS working group with a primary focus on carbon removal such as bioenergy with carbon capture and storage (BECCS) and direct air capture (DAC).

Zero Emission Platform (ZEP)

Northern Lights is a member of ZEP, the trusted advisor to the European Union on industrial carbon management and seeks to accelerate its deployment in line with Europe's climate ambition. We are actively contributing to European CCS policy discussions in various forums and committees. ZEP had also stated that Northern Lights has been a massive source of inspiration for ZEP in their communication and marketing of CCS.

8. Research contribution

In the past year, Northern Lights has contributed to CCS research and knowledge sharing through the cooperation with research institutes and academia.

Academic partnerships:

- [The HNET project](#) Phase III JIP
- [The Clean Energy Transition Partnership](#)
 - [CO2RR](#)
 - [RAMON CO](#)
- [SHARP](#) consortium

HNET project Phase III JIP

HNET is a research and technology development project aimed at developing and demonstrating a baseline seismic monitoring network for offshore CO₂ storage in the Horda platform region of the Norwegian North Sea.

Benefits:

- Testing local seismic array processing for enhanced earthquake detection (HNAR)
- Improving our understanding for seismic hazard potential in this area to support offshore CO₂ storage projects in this region
- Engaging with stakeholders to find better ways of understanding earthquake hazard and addressing of potential public concerns about induced earthquakes and tremors
- CLIMIT (Gassnova) was funding this JIP and will continue to contribute through Phase IV (DAS4HNET)

- Improved detection threshold of earthquakes and tremors and resolution on the location, especially depth.

Clean Energy Transition Partnership

Northern Lights is involved in the Transition Initiative (TRI) 3 (Enabling Climate Neutrality with Storage Technologies, Renewable Fuels and CCU/CCS) with several project:

Project CO2RR: Enabling the establishment of commercial international multi-modal CO₂ transport value chain in Europe

Possible benefits: acceleration of CO₂ storage implementation in Europe

Project RAMON CO: Risk-based framework for assessing CO₂ storage monitoring

Possible benefits: improved monitoring output, quantify societal challenges and requirements, cost-efficient addressing of regulatory requirements and potential public concerns about storage safety

SHARP consortium

The overall aim is to increase the accuracy of subsurface CO₂ storage containment risk management through the improvement and integration of subsurface stress models, rock mechanical failure and seismicity observations.

Possible benefits: Demonstration of storage safety in EL001 by data integration and improved understanding of stress and fault reactivation mechanisms.

Published research papers:

- Chapter 4 in Deployment of Carbon Capture and Storage DOI: [10.1016/b978-0-323-95498-3.00003-1](https://doi.org/10.1016/b978-0-323-95498-3.00003-1)
- Geoenergy, vol. 2. DOI: [10.1144/geoenergy2024-013](https://doi.org/10.1144/geoenergy2024-013)

9. Way forward

In 2025, Northern Lights will remain committed to share knowledge and experience through visits, conferences, media and industry forums, according to our mandate as part of the Longship project. We will balance the external engagements with the priority of preparing for operational start and maturing commercial growth plans.

The new year will be full of milestones with the Longship celebration and arrival of ships to Norway. Our main priority is to support the Norwegian governments Longship event in June 2025.