

Climate and Environment: Carbon Reduction and Resource Efficiency

Webinar 25 November 2025
9:00–15:00 CET

9:00	Opening Jarmo Joutsensaari, NVF Chairperson	12:30	Potential benefits of replacing aluminum with (GFRP) in the installation of evacuation guidance lighting Jonas Andersson, Swedish Transport Administration 15min
9:05	From Data to Decisions: Global Best and Next Practices in Carbon Management Andreas Linnet, Ramboll Transport 20 min	12:50	Challenges with reuse of bridge components Andri Gunnarsson, EFLA 15min
9:35	NordCLIMPACT – Reducing the impact on climate through joint action in the Nordic NRAs Bob Hamel, Norwegian Public Roads Administration 7 min Jon Jørgensen, Danish Road Directorate Åsa Lindgren, Swedish Transport Administration Karoliina Saarniaho, Finnish Transport Infrastructure Agency Páll Valdimar Kolka Jónsson, Icelandic Road and Coastal Administration	13:10	Coffee break
10:30	What we do is more important than how we do it Marius Slinde, Norwegian Public Roads Administration 15min	13:30	The Borgarlinan project – A backbone for sustainable urban mobility in the Reykjavik Capital Area Hallbjörn Reynir Hallbjörnsson, Transport for the Capital Area 15 min
10:50	Alternative fuels for heavy goods vehicles Martin Frimann Mortensen, Danish Road Directorate 15 min	13:50	Zero emission technology and sustainability in infrastructure projects – Nordic Construction Market perspective Jörgen Simu, Swedish Transport Administration 10 min Arne-Richard Stadaas, Norwegian Public Roads Administration 10 min Ditte Dahl Mathiasen, Danish Road Directorate 10 min
11:10	Lunch	14:30	Estimating variation of CO2e emissions of pavement replacements Marja-Terttu Sikiö, Destia Oy 15min
11:50	Circular economy and sustainable materials for biodiversity regeneration in bridge projects Lyubomira Vasileva, Ramboll 15 min	14:50	Closing words Karoliina Saarniaho and Hannah Sutton, NVF Theme: Climate and Environment Coordinators
12:10	Circular salt for sustainable road maintenance Andreas Backstrom, Svevia AB 15 min		

From Data to Decisions: Global Best and Next Practices in Carbon Management

Andreas Linnet, Global Decarbonisation Lead, Ramboll Transport (NVF Road Design working group)

Join Andreas Linnet, Global Decarbonization Lead at Ramboll, as he explores emerging global frameworks and practical pathways for decarbonizing infrastructure. Drawing on Ramboll's carbon management experience and the FIDIC Carbon Management Framework, Andreas will share how shared methodologies and digital tools are enabling real carbon reduction. Examples include the Danish InfraLCA as a national best practice and Ramboll's global application of data-driven design optimization.

NordCLIMPACT – Reducing the impact on climate through joint action in the Nordic NRAs

Bob Hamel, Norwegian Public Roads Administration; Jon Jørgensen, Danish Road Directorate; Åsa Lindgren, Swedish Transport Administration; Karoliina Saarniaho, Expert, Environment, Finnish Transport Infrastructure Agency, Páll Valdimar Kolka Jónsson, Icelandic Road and Coastal Administration (NVF theme Climate and Environment)

The NordCLIMPACT project unites Nordic road administrations to integrate climate considerations into infrastructure planning and management. Four work packages will be presented: WP1 addresses challenges in integrating life cycle assessment (LCA) climate data into BIM, proposing technical and organisational solutions. WP2 reviews how LCA and greenhouse gas data are used in strategic decision-making, including mapping land use and land use change (LULUC) emissions. WP3 examines EU taxonomy and its implications for Nordic transport agencies in the context of the Green Deal. WP4 explores how public procurement and project management can stimulate contractors and consultants toward emission reductions, innovation and climate-neutral practices.

What we do, is more important than how we do it

Marius Slinde, Senior Principal Engineer, Norwegian Public Roads Administration (NVF Tunnels working group)

A Norwegian working group analysed whether small regulatory and procedural adjustments in tunnel construction could lower costs and reduce climate impact. Findings indicated that cost savings often align with positive environmental outcomes, reinforcing the link between efficient planning and sustainability. The most decisive climate benefits arise from fundamental choices made early in the project lifecycle, rather than from later measures such as electrification or material substitution. Developing frameworks that ensure necessary safety and performance, without unnecessary excess, is critical. Examples from the working group's report and

additional Norwegian tunnel projects illustrate the importance of aligning economic and climate objectives. A Norwegian working group analysed whether small regulatory and procedural adjustments in tunnel construction could lower costs and reduce climate impact.

Alternative fuels for heavy goods vehicles

Martin Frimann Mortensen, Special advisor, Danish Roads Directorate (NVF Road Freight Transport working group)

A comprehensive overview of alternative fuels for heavy goods vehicles will address both current technical solutions and future developments. The presentation examines performance, availability and potential of renewable fuels, electrification and emerging technologies, highlighting suitability for different freight contexts. Perspectives from the industry will be included, reflecting practical considerations and expectations regarding adoption and scalability. Opportunities and challenges in transitioning to lower-emission heavy transport will be clarified, with attention to infrastructure requirements, regulatory frameworks and cost implications. By combining technical insights with sector viewpoints, the session aims to inform strategies for sustainable freight mobility.

Circular economy and sustainable materials for biodiversity regeneration in bridge projects

Lyubomira Vasileva, Designer, Bridges and Special Structures & Environmental Engineering, Ramboll Finland Oy (NVF Bridges working group)

Global resource extraction has risen from 27 to over 90 billion tonnes between 1970 and 2017, driving biodiversity loss through habitat destruction, over-exploitation, pollution and climate change. Conventional construction materials such as concrete, steel, timber, earth and asphalt have ecological impacts beyond carbon emissions. Integrating ecological considerations at the earliest design stage and applying circular economy principles can reduce resource use, waste and pressures on biodiversity. Approaches include biodiversity-friendly sourcing, waste prevention and the Biodiversity Net Gain framework, supported by monitoring and metrics tailored to site conditions. Nature-based solutions and blue-green infrastructure further strengthen resilience, restore degraded areas and embed biodiversity regeneration in bridge projects.

Circular salt for sustainable road maintenance

Andreas Bäckström, Svevia AB (NVF Operation and Maintenance working group)

The project running from May 2024 to June 2026 demonstrates the use of circular salt, produced from residual products such as fly ash from waste incineration, as an anti-slip agent in Swedish winter road maintenance. The process reduces waste, lowers

emissions, and decreases dependence on imported salt, with potential CO₂ cuts of up to 55% compared with conventional rock salt. Annual production is projected to reach 80,000 tonnes, reducing emissions by more than 1,600 tonnes per year. Field trials over two winters will validate spreading methods, regulatory adaptations and equipment needs. Led by Svevia AB with partners including Nordic Salts AB, Luleå University of Technology and ViaPM, the project supports circular resource use, technological innovation and more sustainable infrastructure.

Potential benefits of replacing aluminum with (GFRP) in the installation of evacuation guidance lighting

Jonas Andersson, Specialist Tunnelsafety, Swedish Transport Administration
(NVF Tunnels working group)

Substituting aluminium with Glass Fibre Reinforced Polymer (GFRP) for evacuation guidance lighting in the E4 Stockholm Bypass tunnel system could cut greenhouse gas emissions by 473–819 tonnes CO₂e and reduce total material weight by 16 tonnes, improving logistics and installation efficiency. The study indicates that GFRP provides significant climate and handling advantages, especially in large-scale tunnel projects where long aluminium profiles are difficult to source and transport. Key uncertainties remain regarding long-term durability, fire resistance, and UV stability, and recyclability is currently less favourable compared with aluminium. Despite these concerns, GFRP shows strong potential for wider tunnel applications, including cable trays, signage supports and handrails.

Challenges with reuse of bridge components

Andri Gunnarsson, Specialist, Bridge engineer, EFLA (NVF Bridges working group)

The need for reducing environmental impact when designing new bridges is a significant design criteria. One way of reducing the environmental impact is to reuse old bridge components when designing a new structure.

Reusing old bridge components, however, involves challenges, for example with respect to the following matters that the project owners, designers and the contractors need to understand, comprehend and solve:

- Cost
- Design standard and rules to be used
- The defined service life for the new bridge
- Uncertainty

In this presentation, examples of projects where reuse has been considered, are presented and the challenges which that included discussed.

The Borgarlínan Project – A Backbone for Sustainable Urban Mobility in the Reykjavík Capital Area

Hallbjörn R Hallbjörnsson, Specialist, Transport for the Capital Area (NVF Urban Transport and Transport Planning working group)

The Borgarlínan project is a central element in Iceland's strategy to transform mobility, cut greenhouse gas emissions and improve quality of life in the Reykjavík Capital Area. As a 57 km Bus Rapid Transit (BRT) system, it will deliver fast, reliable and frequent service with dedicated lanes, prioritised intersections and modern stations. It is part of the Höfuðborgarsvæðið 2040 plan, supporting compact development, reduced car dependency and equitable access. Integrated with public transport and cycling networks, the project forms the backbone of a multimodal system. Developed jointly by national and municipal authorities, Borgarlínan emphasises resilience, climate action and user-centred design.

Zero emission technology and sustainability in infrastructure projects – Nordic Construction Market perspective

Jörgen Simu, Swedish Transport Administration; Arne-Richard Stadaas, Norwegian Public Roads Administration; Ditte Dahl Mathiasen, Danish Road Directorate (NVF Nordic Construction Market working group)

This joint session summarises key insights from the 3rd L2Z & NVF Conference on Zero Emission Construction Sites conference, focusing on zero-emission technology and sustainability in infrastructure projects. Highlights include the Nordic Construction Market's mandate and progress, as well as reflections on the conference outcomes. From Sweden, the recap covers Trafikverket's initiatives enabling the transition to zero-emission construction machinery, emphasising critical steps identified by Magnus Lindgren. From Norway, experiences from the RV22 Hafslund–Dondern project are presented, addressing sustainability in zoning, procurement and contracts. From Denmark, the focus is on zero-emission construction sites and collaboration between public buyers, with insights from the Leap to Zero network on shared learning and next steps for sustainable practice.

Estimating variation of CO₂e emissions of pavement replacements (B4 phase, high volume roads)

Marja-Terttu Sikiö, Leading Consultant, Destia Oy (NVF Road Technology working group)

Abstract will be provided later.