

Action plan for *Bridges Working Group* Plan for period 1st July 2024 - 30th June 2028

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Terms of reference

A working group will be established to exchange experience in construction and operation of bridges and to plan bridge seminars. The working group should address the following matters:

- a) Climate Bridge construction and maintenance face still greater demands for climate and environmental management.
- Experience obtained in the use of climate and environmental models, including models for CO2 footprint, from bridges (both construction and maintenance).
 - Reductions and models for preparing baselines.
 - How CO2 is calculated in the various models, and how choice of materials and optimization of design may help reduce the CO2 footprint of structures.
- b) Digitization
- Knowledge about the potentials of digitization and the specific experience of the sector regarding digitization of the construction and maintenance of bridges.
 - Using sensor technology and artificial intelligence, artificial intelligence used for condition assessments and risk-based maintenance.
 - The digitization within bridge maintenance and exchange experience in online condition assessments.
- c) Asset management
- The experience in asset management of 'bridge' assets with focus on how best to maintain the value and functionality of bridges.
 - Share knowledge about Asset Management processes.

2025 deadlines:

Focus areas and Planned Actions: 15th October 2024
Reporting and follow-up on the action plan: 1st November 2025

Focus Areas	Planned Actions	Short Report on the Completed Plans
Arrangement of seminars and webinars	2025: A main seminar will be planned for autumn 2025 focusing on the topics below that raise the strongest engagement within the	

	<p>group. Webinars may be arranged for lighter topics.</p>	
<p>Climate, digitization, and asset management Focus on following Sustainable Development Goal / Targets (see attached SDG outline) Target 9.4 Target 9.5 Target 12.2 Target 12.5 Target 12.7 Target 13.2</p> <p>The focus areas are overlapping for several of the planned actions. Focus areas are highlighted in planned actions with bold text and brackets.</p>	<ul style="list-style-type: none"> - Follow-up of work performed in the previous period regarding calculations of carbon footprint in bridge design. Implementation of carbon footprint calculation in construction contracts and actual effect. (Climate/Digitization) - Use of new materials/new technology that helps reducing environmental impact and material use: <ul style="list-style-type: none"> o Status on use of new materials/new technology in Nordic countries (Climate/Asset Management) o Examples of applications where material use was significantly reduced or environmental impact was positive, and demonstration of models for quantification of material savings/environmental impact (Climate/Digitization) o Reuse of bridge components (Climate/Asset management) o Implementation of new materials – the role of standards and national design regulations - Follow-up of work 	

	<p>performed regarding the critical review of local design regulations with regards to overdesign and excessive material consumption.</p> <p>Conservativeness/robustness vs. overdesign and increase of material use:</p> <ul style="list-style-type: none">o Effect of next generation Eurocode. Status and assessment of impact on bridge design (Climate)o Implementation and adjustment in national design regulations (Climate)o Advanced tools leading to optimization and/or giving insight in material savings (Climate/ Digitization)	
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