



Statens vegvesen

Emission-Free Technology in Planning & Procurement

Rv. 22 Hafslund - Dondern

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[Bypakke Nedre Glomma](#)



Goals in the National Transport Plan 2025-2036

An efficient, safe and environmentally friendly transport system in 2050



**Easier daily travel
and increased
competitiveness for
businesses**



**Contribute to the
fulfilment of Norway's
climate and
environment goals**



**Vision Zero:
No one killed or
seriously injured**

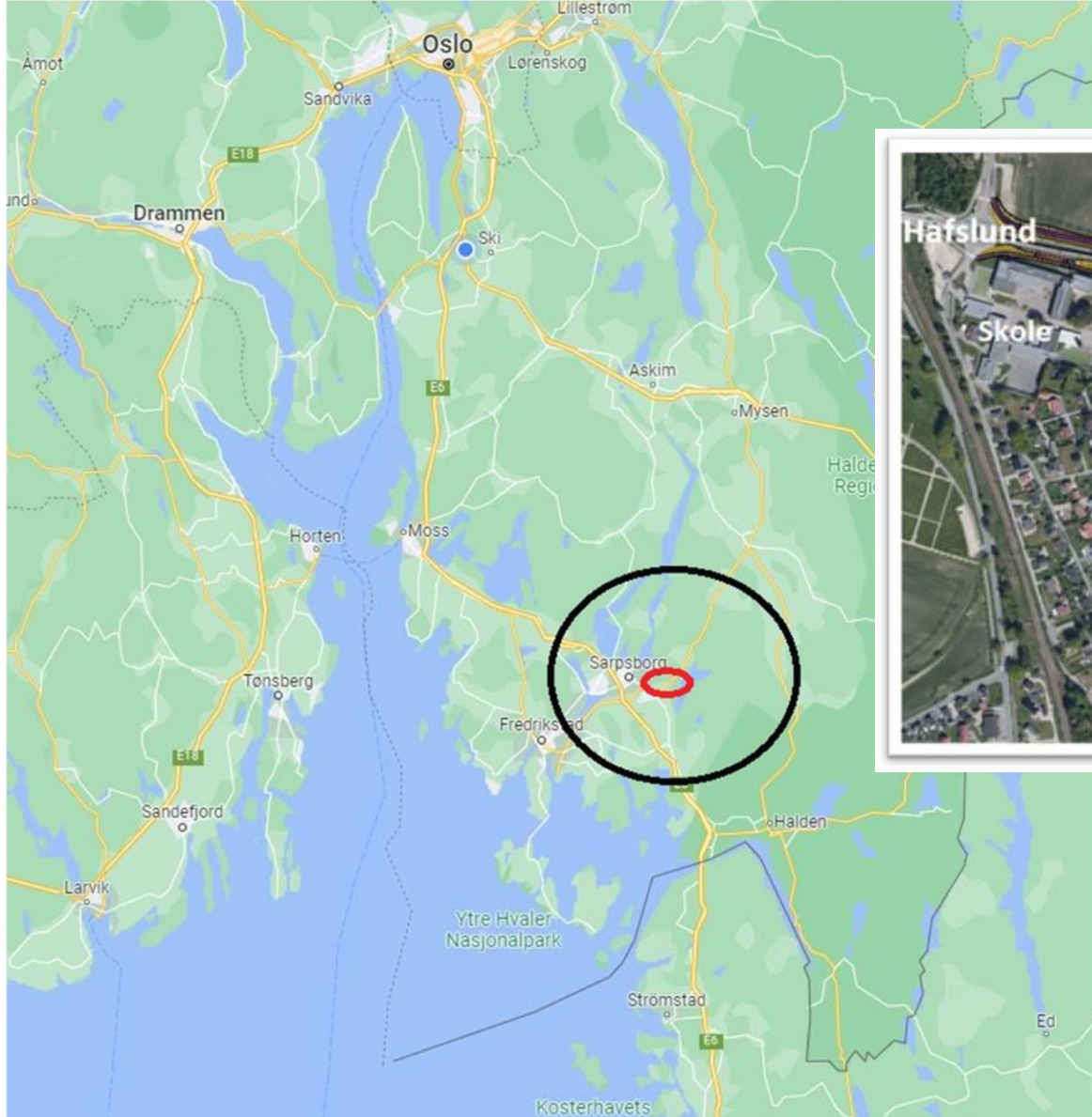


**Efficient use
of new
technologies**



**More value for
money**

About the project



[Bypakke Nedre Glomma](#)



Social goal for Urban Package Nedre Glomma

- The zero-growth objective – greenhouse gas emissions, congestion, air pollution, and noise shall be reduced through efficient land use and by ensuring that the growth in personal transport is absorbed by public transport, cycling, and walking.



Goal and purpose for the project

- The purpose of the project is to create a more attractive offer for pedestrians and cyclists, as well as to reduce delays for public transport.
- The implementation of the project will contribute to achieving the adopted goals for the transport system in the Urban Package Nedre Glomma.
- The project is 100% funded by toll revenues.



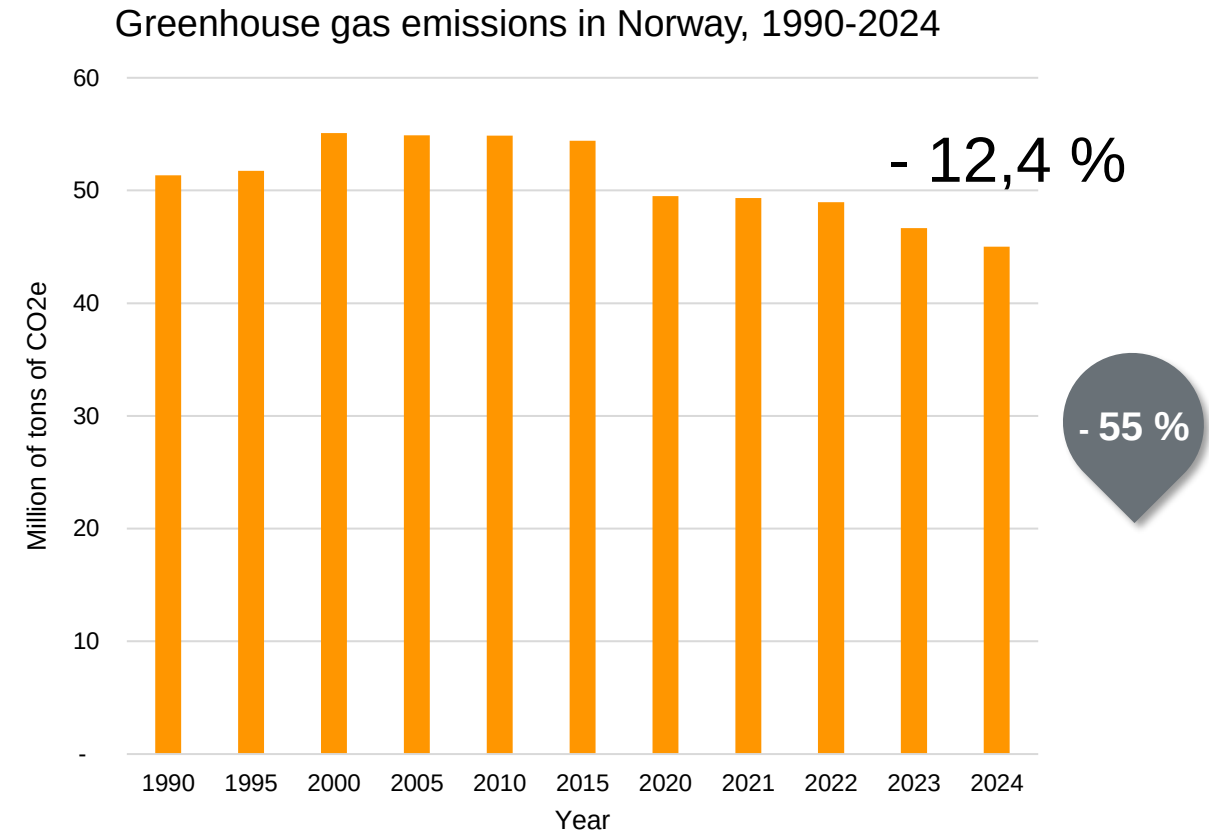
Our goal will be achieved by constructing:

- Public transport lanes
- Cycle path with sidewalk
- Combined pedestrian and cycle path
- Two underpasses for pedestrians and cyclists
- Closing of entry and exit points



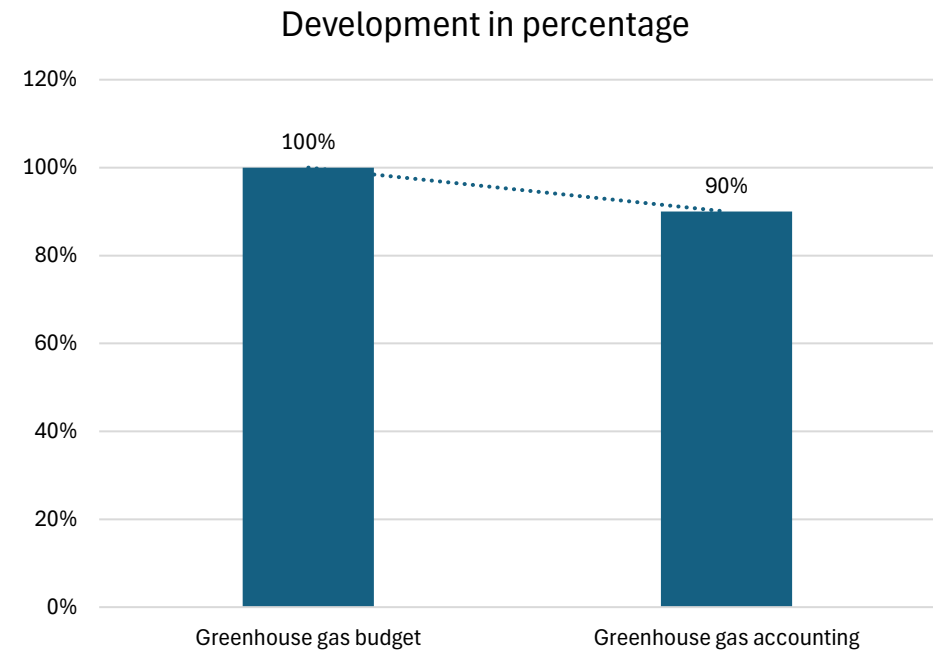
Contribution to national goals

- The Norwegian Public Roads Administration will contribute to achieving Norway's climate and environmental goals by reducing our greenhouse gas emissions by 55 % by 2030.



What we aim to accomplish

- Reduce greenhouse gas emissions from the construction site by at least 10% compared to the climate budget based on the zoning plan.
- The project must achieve a minimum certification of “Very Good” for the design and construction phase in the BREEAM Infrastructure certification system.



Applicable planning guidelines

- National planning guidelines for climate and energy planning and climate adaptation.
- The County Plan – Østfold Towards 2050
- The Regional Climate and Energy Plan 2019–2030 aims for Østfold to reduce greenhouse gas emissions by 60% by 2030.
- The Municipal Sub-Plan for Climate and Energy 2021–2030 includes goals such as increasing the share of cycling and public transport, *achieving fossil-free construction sites, using climate-friendly materials, and maintaining a low resource and energy footprint.*



Change in procurement regulation

- In the beginning of 2024, a new requirement was introduced in the Public Procurement Regulations.
 - The main rule is to weight climate and environmental considerations at 30% in a procurement process.
 - Alternatively, requirements may be set that result in a better climate and environmental impact.



LOVDATA

Forskrift om offentlige anskaffelser (anskaffelsesforskriften)

OPPRINNELIG KUNNGJORT VERSJON

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 **Forskrift om offentlige anskaffelser (anskaffelsesforskriften)**

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External mapping of power supply

- A report has been prepared by Norconsult on behalf of Nye Veier, the Norwegian Public Roads Administration (Statens vegvesen), and Bane NOR.
 - Mapping of power supply for upcoming construction projects
 - Zero-emission construction sites
- [The report](#) includes, among other projects, Rv. 22 Hafslund–Dondern.

Conclusion:

- “Based on the collected information about the project, typical work activities, specific heavy operations, and grid capacity, it can be concluded that a high share of electric machinery use is feasible for this project”

Zero emission construction site

Summary of contractual requirements

- At least 70% of operating hours for excavators heavier than 8 tons must be emission-free
- All machines lighter than 8 tons must be emission-free
- All personnel vehicles and vans lighter than 3.5 tons used on site must be emission-free
- Specific limits on greenhouse gas emissions from concrete, asphalt, and reinforcement steel
- Emission-free: electric or green/blue hydrogen
- Penalty system in place



Award criteria K5

- There were no contractual requirements related to zero-emission transport of construction masses.
- Additional value could be gained in the competition by offering a specific and binding share of zero-emission transport of construction masses.
 - 150kr per m3
- The same applied to zero-emission machinery exceeding 70 %
- The contractor's measures to reduce greenhouse gas emissions from materials.
- The response to the award criteria could result in a deduction of up to **15 million NOK**

Appendix:

A	B	C	D	E
1 Vedlegg - Skjema for tildeling på utslippsfri masstransport ut av anlegg				
2				
3 Firma				
4 Prosjekt	Rv. 22 Hafsund-Dondern			
5 Dato				
6				
7				
8 Dagsonemasser	Til sted/adresse:	Avstand t/r	Mengde (ulm3)	Energibærer
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21 SUM ulm3				

A	B	C	D	E	F
1 Vedlegg, tildelingskriterium K5					
2					
3 Firma					
4 Prosjekt	Rv. 22 Hafsund-Dondern				
5 Dato					
6					
7 Tilbyder skal fylle ut forpliktende liste over alle maskintyper (over 8 tonn) som skal benyttes innenfor anleggsområdet, med angivelse av energibærer og planlagte					
8 Legg til ekstra rader ved behov.					
9					
10 Maskiner og maskintimer med nullutslipps teknologi					
11 Type maskin	Vekt	Energibærer	Timer i kontrakt	Informasjon om maskinen (Leier, eier, forventet levering)	
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23 SUM maskintimer/brukstimer				0	
24					
25 Maskiner og maskintimer med fossil drivstoff					
26					
27 Type maskin	Vekt	Energibærer	Timer i kontrakt	Informasjon om maskinen (Leier, eier, forventet levering)	
28					
29					
30					
31					
32					
33					
34					
35					
36					
37 SUM maskintimer/brukstimer				0	
38					
39					
40					
41 Antall maskintimer totalt				0	
42 Andel nullutslipps maskintimer for maskiner over 8 tonn	KGV/BI			Skal minimum være >= 70%	
43					
44					
45					

The contractor has offered

- **Zero-emission operations:** 77,78% machinery hours, 100% mass transport out of site
- **Efficient design:** Slimmer structure, elevated alignment
- **Material reuse:** Road foundation, curbstones, bus shelters
- **Low-carbon materials:** Concrete, local sourcing
- **Waste & land:** 95% sorting, minimize temporary land use



Key takeaways for future tenders

- The criterion on mass transport is not perfect for a total enterprise. Too much uncertainty on total mass transport and on-site re-use possibilities.
- It was possible to gain deduction at the expense of on-site reuse of construction masses.
- A criterion based on percentage of total mass transport, or work process, and not volume, would probably avoid this loophole

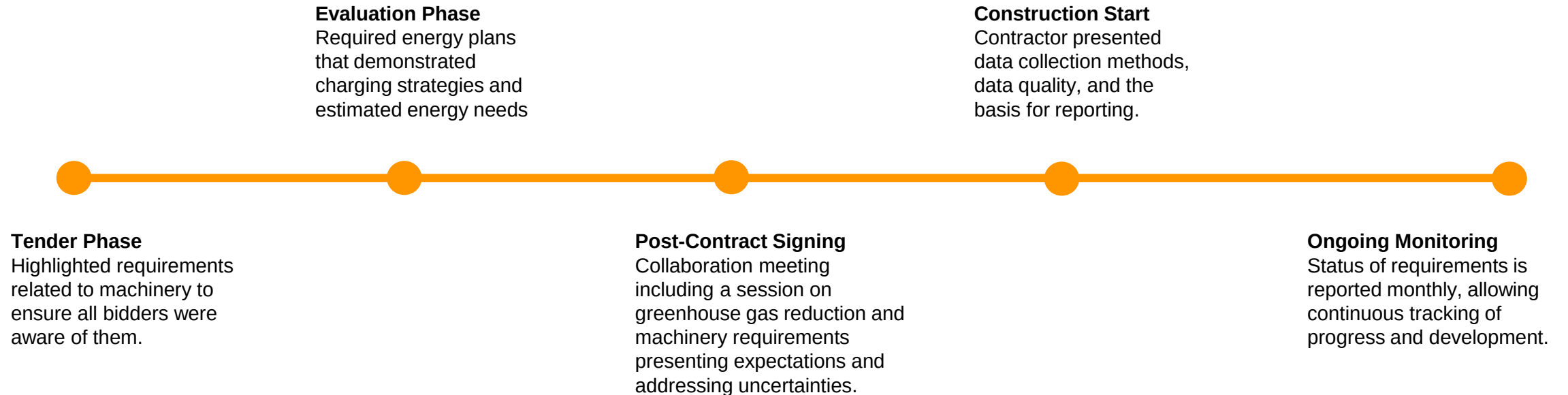


Status as of September

- They have offered $\approx 78\%$ emission free working hours during the construction period for excavators > 8 tons.
- The contractor chose to carry out the demolition of houses and commercial buildings using fossil-fueled machinery.
- More than 500 hours have been completed using zero-emission machinery, and the percentage breakdown is as follows:
 - Excavators > 8 tons: 32 %
 - Machines < 8 tons: 100 %*
 - Mass transport out of the site: 100 %
 - Personnel transport: 100 %
- *For certain machines under 8 tons, exemptions have been granted for specific incidents. These were agreed upon in advance of the work.



Summary of communication



Do our requirements increase costs?

- Only the contractor knows, they are the ones who set the price.
- General calculations show that the construction cost can increase by up to 3-7% by requiring 100% emission-free plant operation.
- The offer in our project was actually lower than our estimate.



Success criteria for emission free sites

- Societal accept and governmental goals
- A strong commitment within the organization to achieving the goal.
- Mapped power access before setting requirements and announcing the contract.
- Well-suited construction site and working processes



Thank you!