



**KYSTVERKET**  
NORWEGIAN COASTAL ADMINISTRATION

# Market dialogue Drammen Fairway

Pilot project - zero emission dredging



NE 038°



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## Agenda

- 09:00 - 09:05 Welcome and introduction
- 09:05 - 09:15 Presentation of NCA and the Port of Drammen
- 09:15 - 09:35 Project scope
- 09:35 - 09:55 Zero emission solutions – possibilities and barriers
- 10:00 - 10:30 Discussion and questions

Photo: Drammen Havn

# Project organization



Martin Fransson  
NCA - Project Manager



Idun Eiken  
NCA - Climate Advisor



Henrik Langseth Kristoffersen  
NCA - Environmental Advisor



Ivar Vannebo  
Assistant Port Director  
Drammen Havn



Gudveig Nordahl  
HSE Manager  
Drammen Havn



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## Our vision

To develop the coast and marine areas into **the world's safest and cleanest**



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## A long-stretched operation

- About 1,000 employees
- 25 pilot stations
- 15 emergency depots
- 7 office locations
- 5 Vessel Traffic Service centres (VTS)



# The port of Drammen

- The Port of Drammen is a limited company (AS) publicly owned by three municipalities: Drammen (64%, Asker (18%) and Lier (18%)
- As a multimodal hub for goods handling, the port of Drammen operates across five primary segments: rolling cargo (RoRo), dry bulk, liquid bulk, containers and project cargo
- Our port district handles approximately 2,4 million tons of cargo each year (around 1 million tons handled at our quays)
- For decades, the port of Drammen has been Norway's largest entry port for vehicles with a 70% market share (Norway's leading gateway for import of cars)
- An important hub nationally and regionally
  - Seen as one of Norway's main hubs and a vital rail cargo hub



**A connected, agile and sustainable hub**



Kongsberg  
Hokksund  
Ringerike,  
Bergen

← Vestfold, Telemark, Agder

Road

Sea

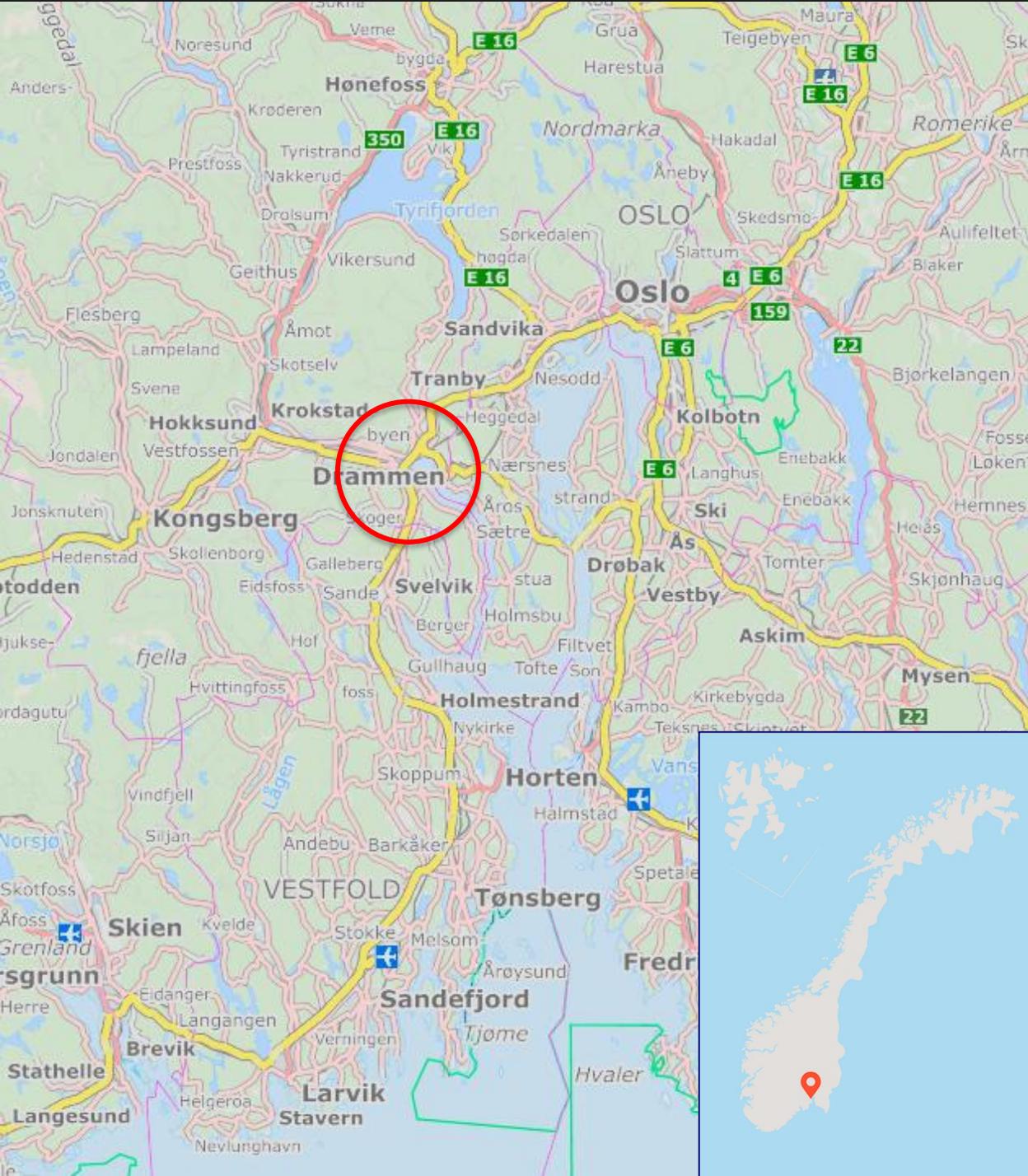
Rail

Oslo, Asker  
Østfold →

Oslo, Trondheim,  
Sverige, Narvik

← Zeebrugge,  
Bremerhaven,  
Hamburg ++



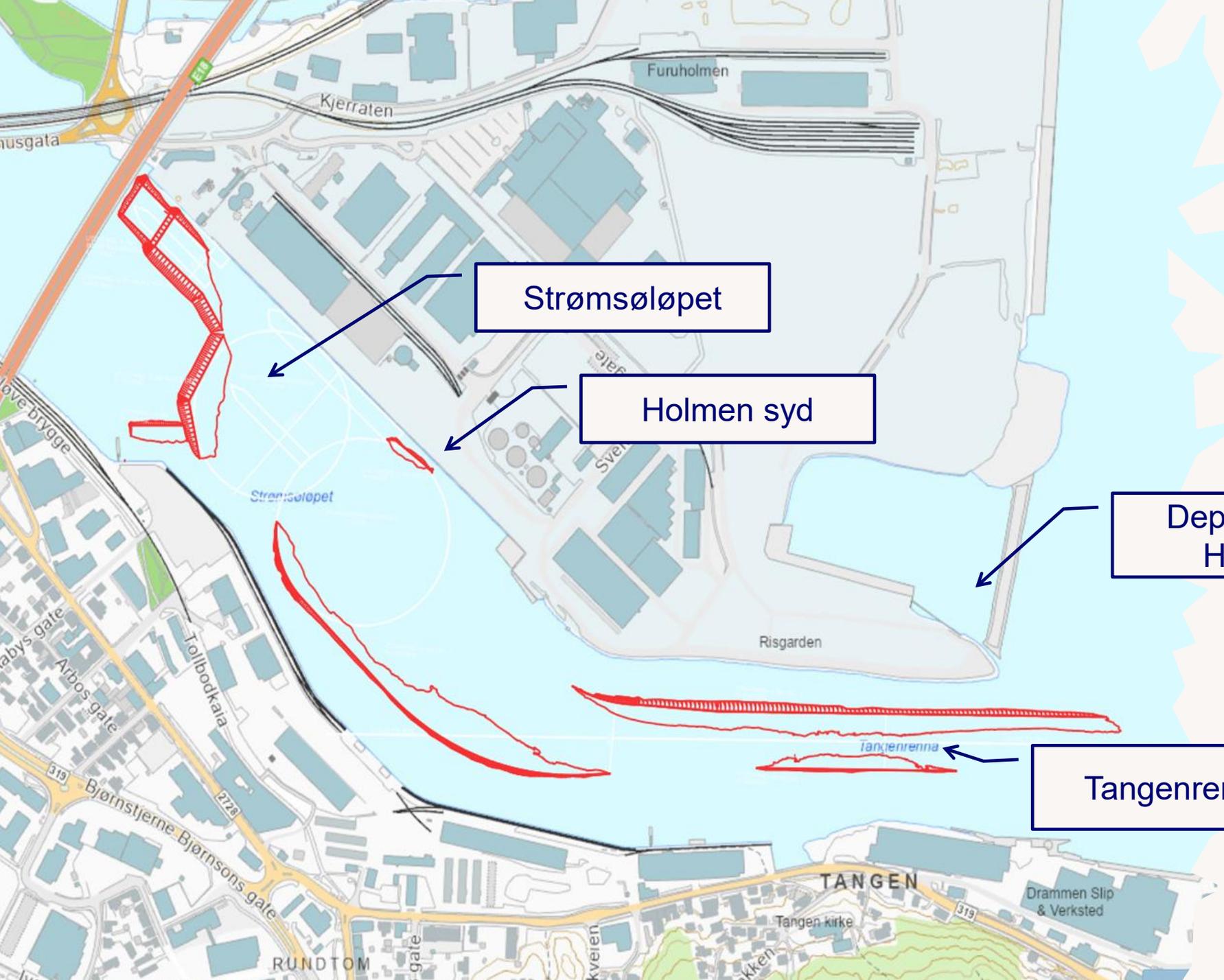


## Drammen Fairway

- **Good access** for larger vessels to Holmen and Strømsløpet
- Reduced risk and **improved maritime safety**
- **Reuse of dredging** materials in the basin at Holmen
- Gain experience with solutions and delivery of **zero-emission dredging**



# Location

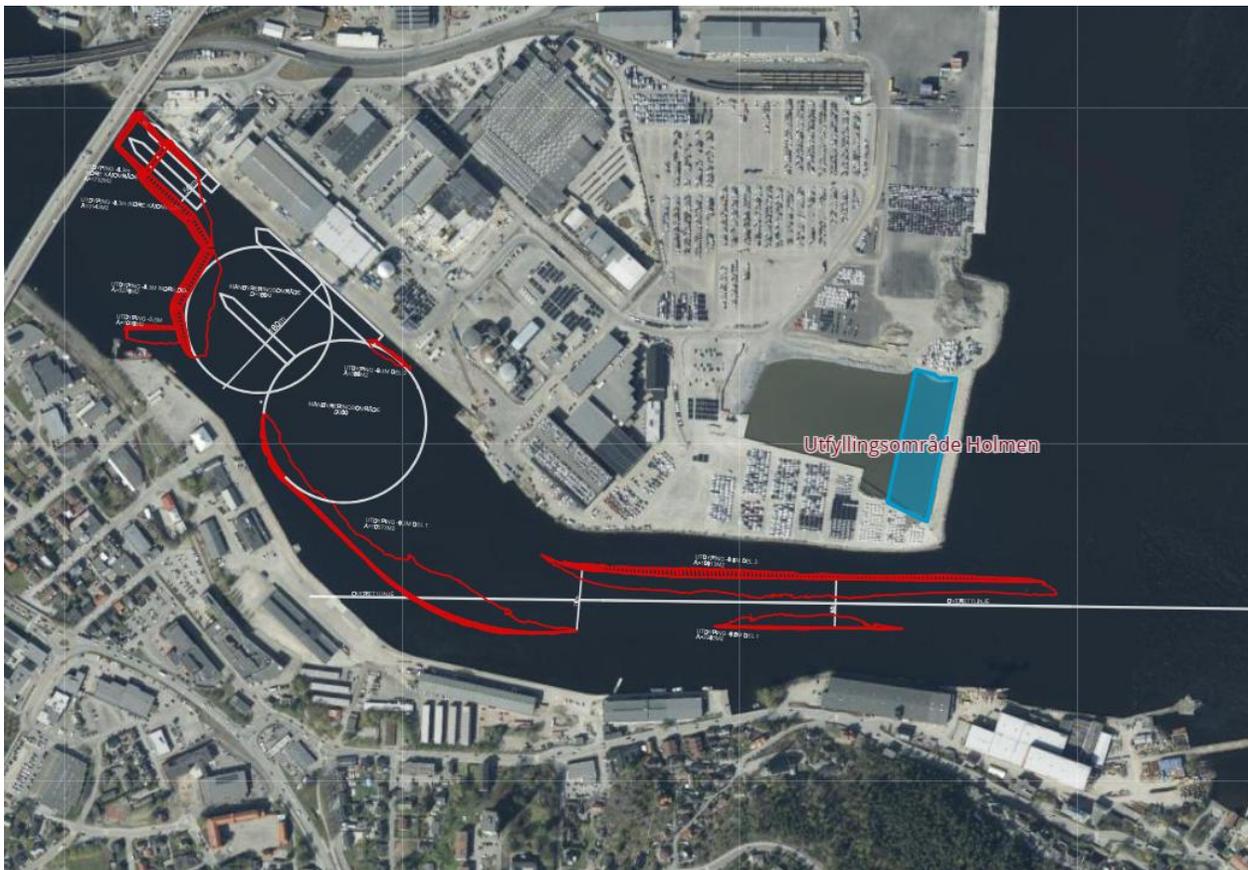


Strømsløpet

Holmen syd

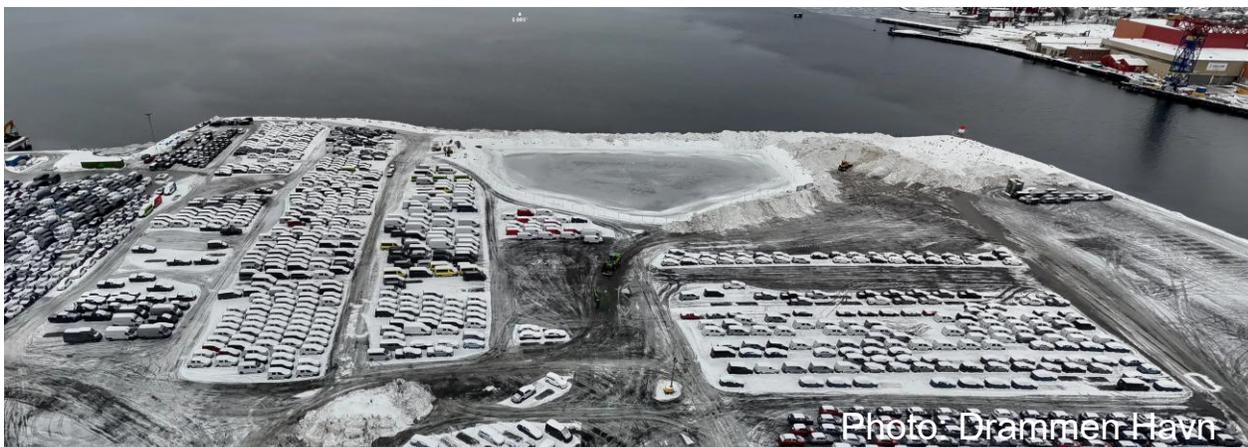
Deposit area  
Holmen

Tangenrenna



## Planned works

- Dredging to depths of  $-5.5$  to  $-10$  m
- Removal of approx.  $70,000$  m<sup>3</sup> sediments from the fairway
- Sediment deposit in the basin at Holmen





## Framework conditions

- Environmental permissions from Statsforvalter/County Governor
  - Polluted sediment
  - Monitoring of turbidity



## Timeline

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**Spring 2026:** Publish tender documents

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**Before summer:** Sign contract

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**Summer:** Start construction

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**By end of 2026:** Complete the work



## Pilot project – zero-emission dredging

- Why this project?
- Location
- Available infrastructure
- Type of work

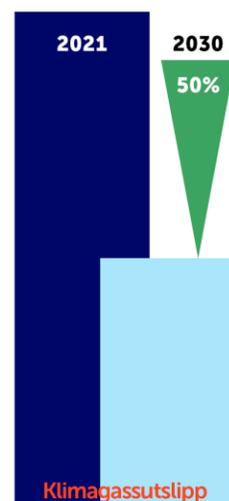


# NCA's climate targets

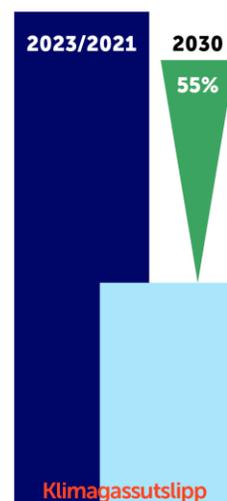
## Kystverkets klimamål

På kort sikt:

Scope 1



Scope 2 og 3



På lang sikt:

Hele Kystverket



**Scope 1:** Utslipp fra virksomhetens eget eid og leid utstyr.

**Scope 2:** Indirekte utslipp forbundet med produksjon av energi som virksomheten kjøper, altså virksomhetens eget strømforbruk.

**Scope 3:** Utslipp knyttet til alt av varer og tjenester som virksomheten kjøper og selger. Dette er en stor og kompleks kategori som omhandler alle indirekte utslipp, bortsett fra energibruken som er Scope 2.

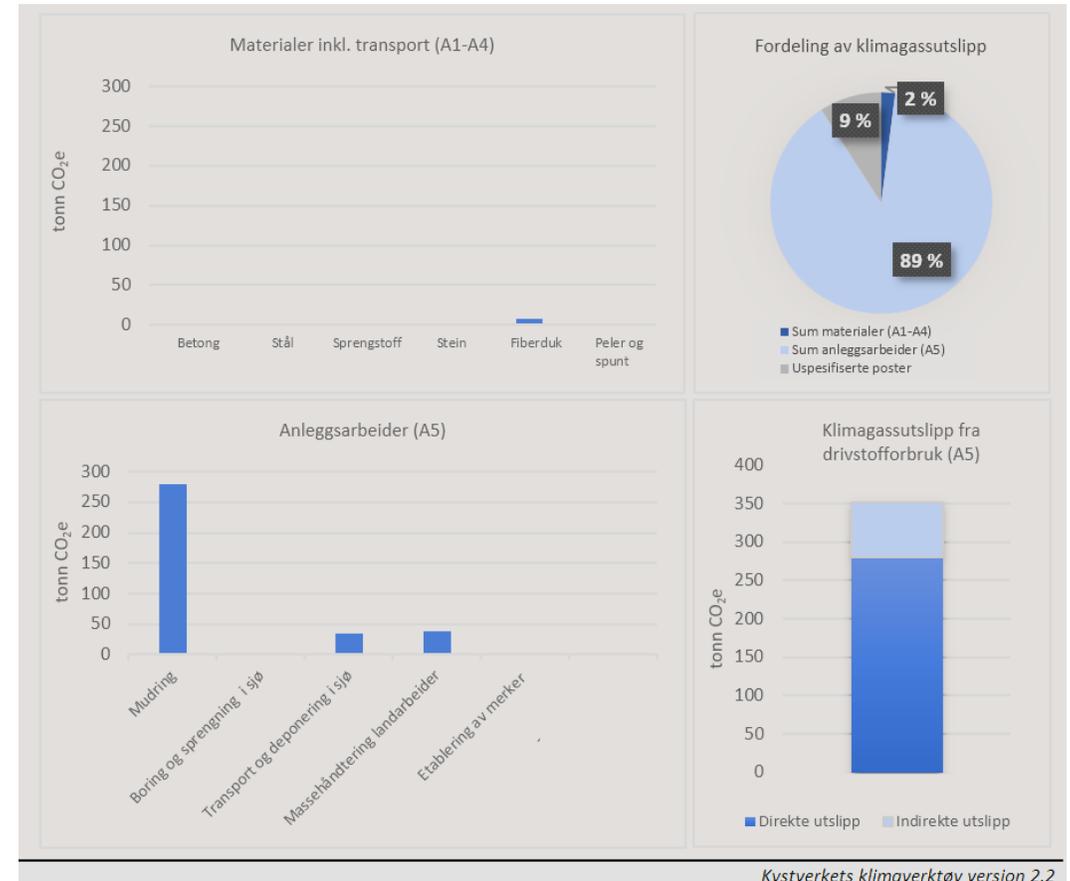


## CO<sub>2</sub> budget - conventional solution

### Oppsummering av resultater

#### KLIMAGASSBUDSJETT

<b>Sum materialer (A1-A4)</b>	<b>8 tonn CO<sub>2</sub>e</b>
<i>Betong</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Stål</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Sprengstoff</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Stein</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Fiberduk</i>	<i>8 tonn CO<sub>2</sub>e</i>
<i>Peler og spunt</i>	<i>0 tonn CO<sub>2</sub>e</i>
<b>Sum anleggsarbeider (A5)</b>	<b>352 tonn CO<sub>2</sub>e</b>
<u><i>Mudring</i></u>	<u><i>280 tonn CO<sub>2</sub>e</i></u>
<i>Boring og sprengning i sjø</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Transport og deponering i sjø</i>	<i>34 tonn CO<sub>2</sub>e</i>
<i>Massehåndtering landarbeider</i>	<i>37 tonn CO<sub>2</sub>e</i>
<i>Etablering av merker</i>	<i>0 tonn CO<sub>2</sub>e</i>
<b>Uspesifiserte poster</b>	<b>36 tonn CO<sub>2</sub>e</b>
<b>Total (A1-A5)</b>	<b>396 tonn CO<sub>2</sub>e</b>





## CO<sub>2</sub> budget – zero emission solution

### Oppsummering av resultater

#### KLIMAGASSBUDSJETT

<b>Sum materialer (A1-A4)</b>	<b>3 tonn CO<sub>2</sub>e</b>
<i>Betong</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Stål</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Sprengstoff</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Stein</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Fiberduk</i>	<i>3 tonn CO<sub>2</sub>e</i>
<i>Peler og spunt</i>	<i>0 tonn CO<sub>2</sub>e</i>
<b>Sum anleggsarbeider (A5)</b>	<b>10 tonn CO<sub>2</sub>e</b>
<i>Mudring</i>	<i>8 tonn CO<sub>2</sub>e</i>
<i>Boring og sprengning i sjø</i>	<i>0 tonn CO<sub>2</sub>e</i>
<i>Transport og deponering i sjø</i>	<i>1 tonn CO<sub>2</sub>e</i>
<i>Massehåndtering landarbeider</i>	<i>1 tonn CO<sub>2</sub>e</i>
<i>Etablering av merker</i>	<i>0 tonn CO<sub>2</sub>e</i>
<b>Uspesifiserte poster</b>	<b>1 tonn CO<sub>2</sub>e</b>
<b>Total (A1-A5)</b>	<b>14 tonn CO<sub>2</sub>e</b>

### Ideal project solutions

- Electric truck – transport
- Electric excavator – dredging
- Electric tugboat – transport dredged material
- Electric excavator and wheel loader – land-based work
- Electric tugboat – mobilization



# Zero-emission solutions

## Technical solutions and equipment

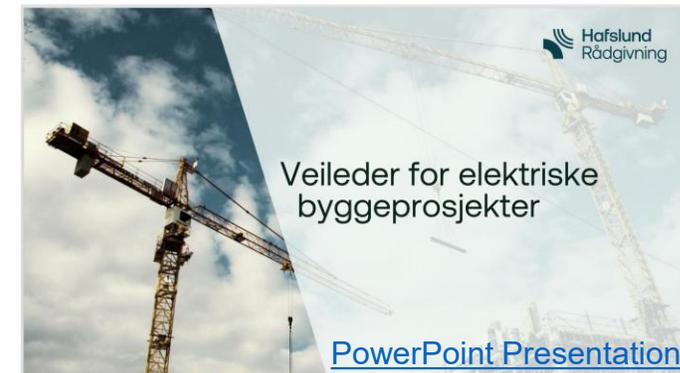
- Electric excavator on a barge
  - Grab dredging
  - Suction dredging
  - Electric tugboat
  - Electric machines for land work
  - Other solutions?
1. **What opportunities and barriers exist?**
  2. **Are any parts of the project particularly challenging?**



# Technical information

Key site or technical requirements for solution delivery?

- Planning electric infrastructure for construction works





## Shore power – Holmen

- 4 connection points
- NEK IEC 80005-3 compliant
- 400–690 V | 50/60 Hz, total of 1250 kW



Movable containers



E.g., onboard connector



Plug and socket system





## Timeframe and execution

- Is the timeline too tight?
- Is timing in the tender phase and project start critical for delivering zero-emission solutions?



## Cost drivers

- What are the key cost drivers for zero-emission implementation?
- Are there measures or facilitation from the contractor that can reduce costs or risks?



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# Questions?



Photo: Tom Atle Bordevik / Drammen Havn AS



## Next steps

- 1:1 meetings during the afternoon
- Presentation published at [www.kystverket.no/drammen](http://www.kystverket.no/drammen)
- Awaiting environmental permit
- Tender launch after approval



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**Thank you for your attention**

[www.kystverket.no](http://www.kystverket.no)