

# Hydrogen: A new industry for the low-carbon energy transition in Arctic Norway



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### Research interests:

- Hydrogen
- Energy transition
- Energy justice
- Socio-technical perspective

### Estimated progress of the PhD project:



### Introduction

Cheap electricity prices and proximity to the majority of Norway's remaining natural gas resources makes Arctic Norway<sup>1</sup> an attractive region to build a new industry based on blue and green hydrogen. How can a just low-carbon energy transition towards a hydrogen economy come about in Arctic Norway?

### Primary objective

Assess the prospects of a low-carbon hydrogen economy in Arctic Norway

### Secondary objectives

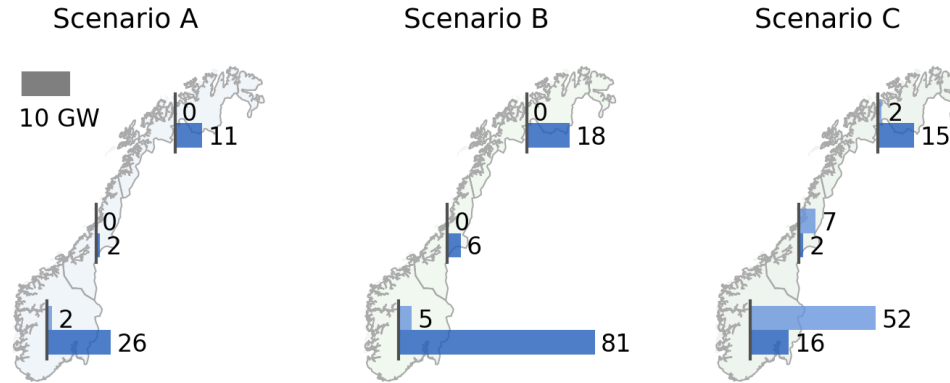
Examine the interactions between hydrogen and the various regimes (natural gas, power supply, maritime)

Assess Norway's competitiveness of hydrogen exports to the EU and the socio-environmental implications

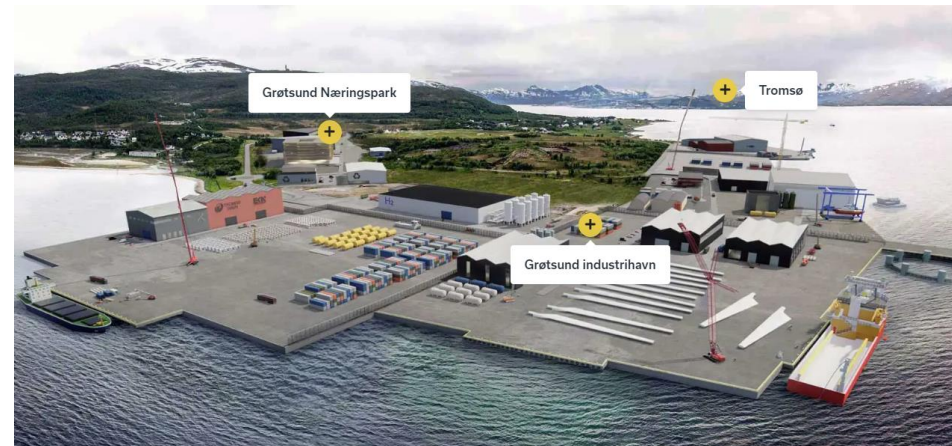
Study the potential for a green shipping corridor in the Arctic based on green ammonia

Identify key drivers and barriers for the development of a just and accelerated low-carbon hydrogen economy

<sup>1</sup> Nordland, Troms and Finnmark counties & Svalbard



Spatial distribution of onshore wind (dark blue) and offshore wind (light blue) capacities for blue and green hydrogen production in Norway (in GW)



Grøtsund Industry port. Source: Tromsø Havn

### Publication(s):

Claudia Cheng (2023). Does time matter? A multi-level assessment of delayed energy transitions and hydrogen pathways in Norway. ERSS. 100, 103069, 11 pp.

DOI: <https://doi.org/10.1016/j.erss.2023.103069>

Claudia Cheng (*in revision*). A Green Shipping Corridor in the Arctic by 2030? Barriers and opportunities In *Handbook of Ocean Governance and Maritime Affairs*. De Gruyter.

C. Cheng, K. van Greevenbroek & I. Viole (*manuscript in progress*). Can Norway save the European Union's hydrogen ambition for 2030?

