

Supply Chain Losses and Quality Degradation for Large-Volume Hydrogen Transport Chains

Ingrid Marie Stuen

Affiliation: University of Bergen

Related projects: HyMe, HyValue



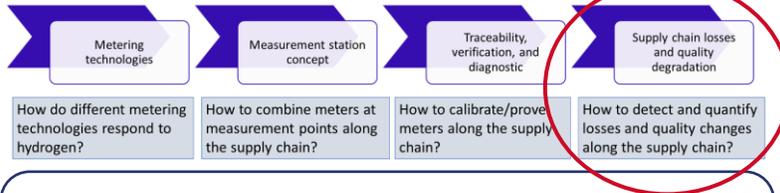
- PhD candidate in measurement science at the Department of Physics and Technology
- Background in physics

Estimated progress of the PhD project:



Introduction

My PhD project is part of the HyMe, “Reliable metering for the hydrogen supply chain”, research project. Our focus is on metering in large-volume supply chains with transfer of hydrogen gas in pipelines.



Mass balance in hydrogen networks

- A pipeline network has measurement stations at each entry and exit point measuring gas flow and composition
- These measurements can be used to monitor the mass balance in the system
- A measured imbalance can be due to measurement errors or hydrogen loss/leakage in the network

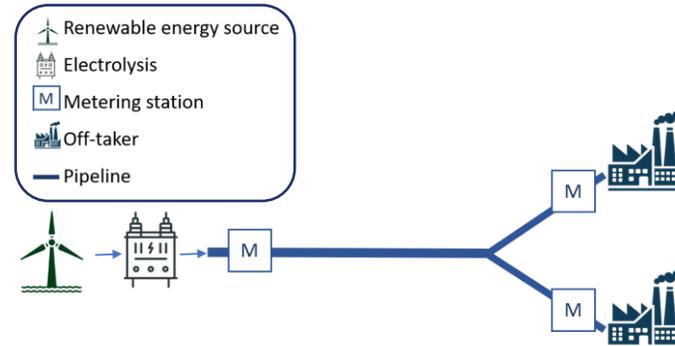
Primary objective

- How to detect and quantify losses and quality changes along the supply chain

Secondary objectives

- Identify high-risk nodes for loss and quality degradation
- Mass and energy balance

Simple hydrogen network:



Ongoing work

- Challenges and Considerations in Hydrogen Gas Flow Metering: Implications for Accurate Energy Calculation and Custody Transfers
- Monitoring of Hydrogen Gas Grids: Losses and Uncertainty



Norwegian Research School on Hydrogen and Hydrogen-Based Fuels



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