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

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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:

Just started ...	< 50 %	> 50 %	Almost done ☺

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. For custody transfer of hydrogen, it is a prerequisite that the quantity and quality are measured accurately and can be traced to international standards.

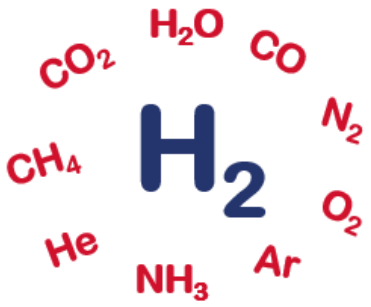
Primary objective

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

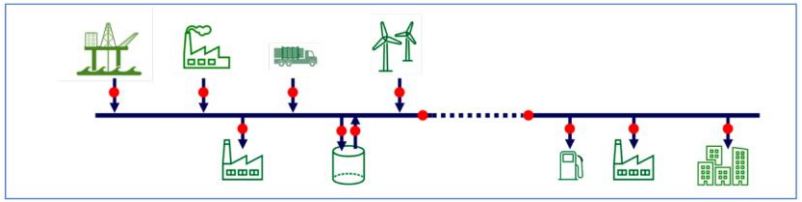
Secondary objectives

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

A wide range of contaminants can enter the hydrogen stream along the supply chain. These must be measured to ensure that the hydrogen quality adheres to the relevant standards.



Example of hydrogen supply chain



Publications (planned)

- State-of-the-art and challenges for quantity and quality measurements of large-volume hydrogen transportation
- High-Risk Nodes for Losses and Quality Degradation in Hydrogen Supply Chains

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