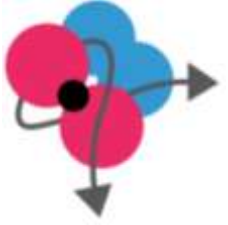


ELEGANCy

Accelerated decarbonization of Europe's energy system – how case studies are applied in the ELEGANCY project to secure adaption of improved technologies, knowledge and tools to national and regional business case opportunities for hydrogen - CCS chains

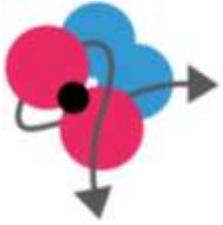
Gunhild A. Reigstad (SINTEF), Maxine Akhurst (BGS), Daniel Benrath (RUB), Rahul Anantharaman (SINTEF), Robert de Kler (TNO), Marco Mazzotti (ETH), Svend Tollak Munkejord (SINTEF)

TCCS-10 18 June 2019

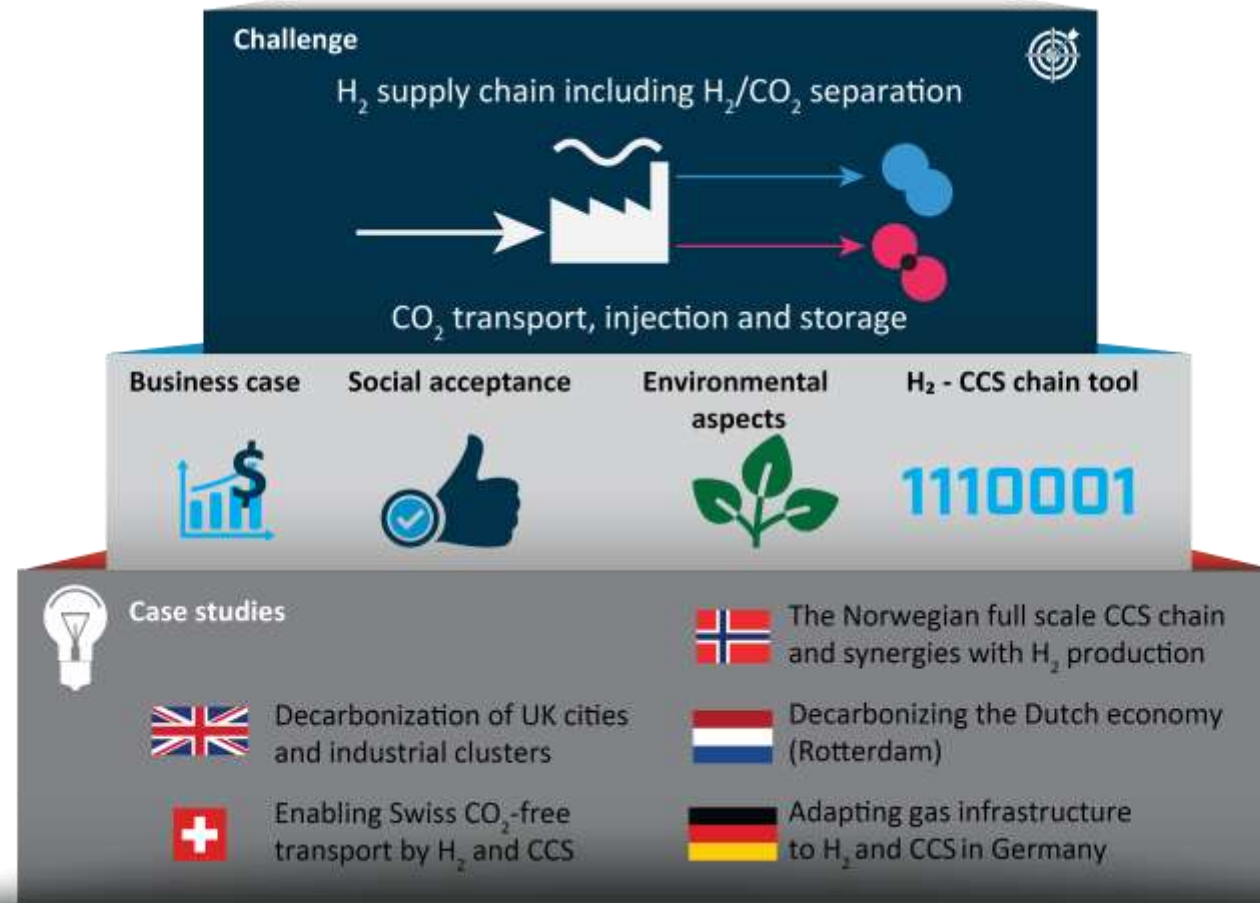


Outline

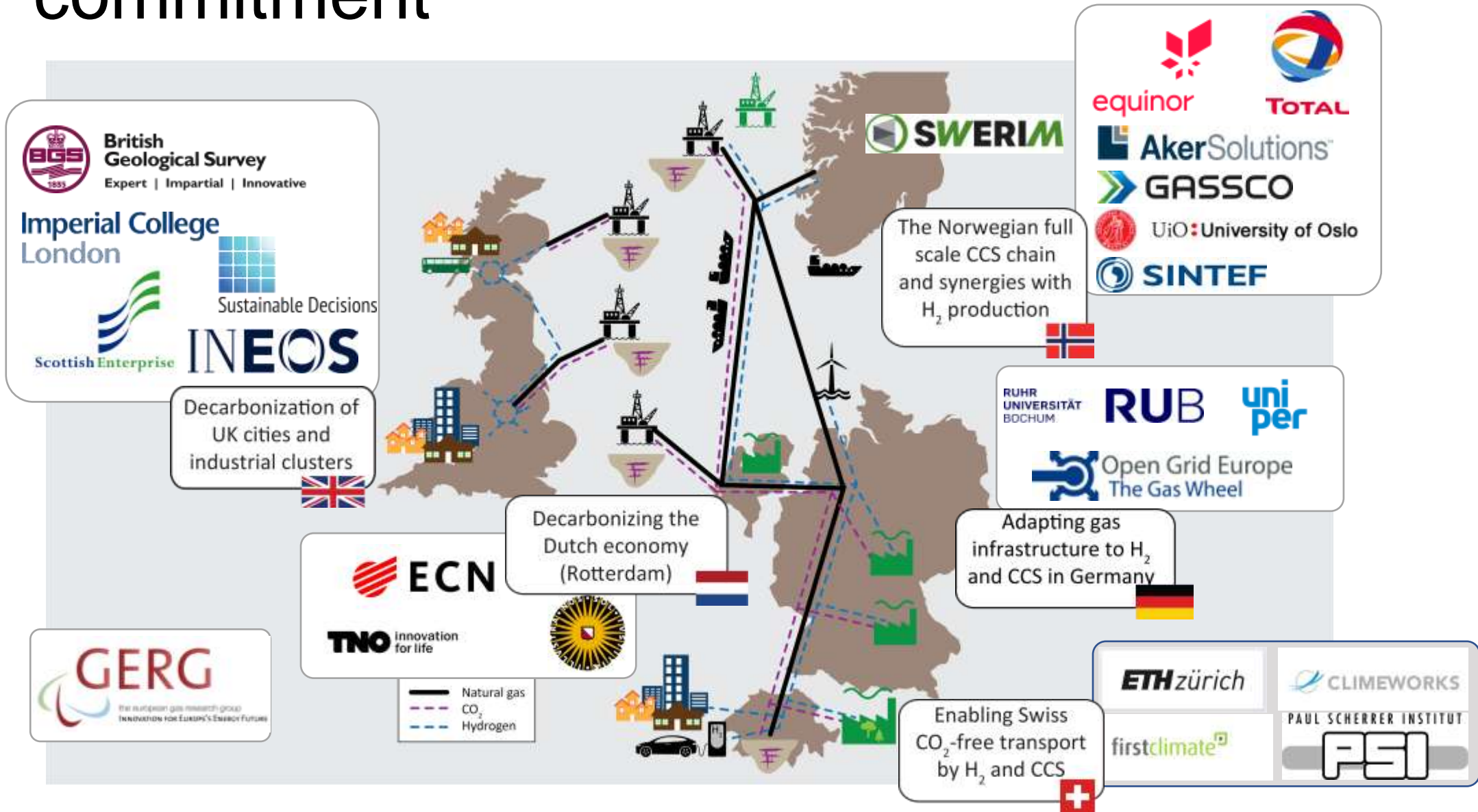
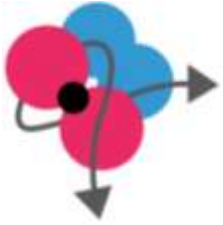
- Introduction
- Purpose and role of national case studies
- Overview of the ELEGANCY case studies
- Summary

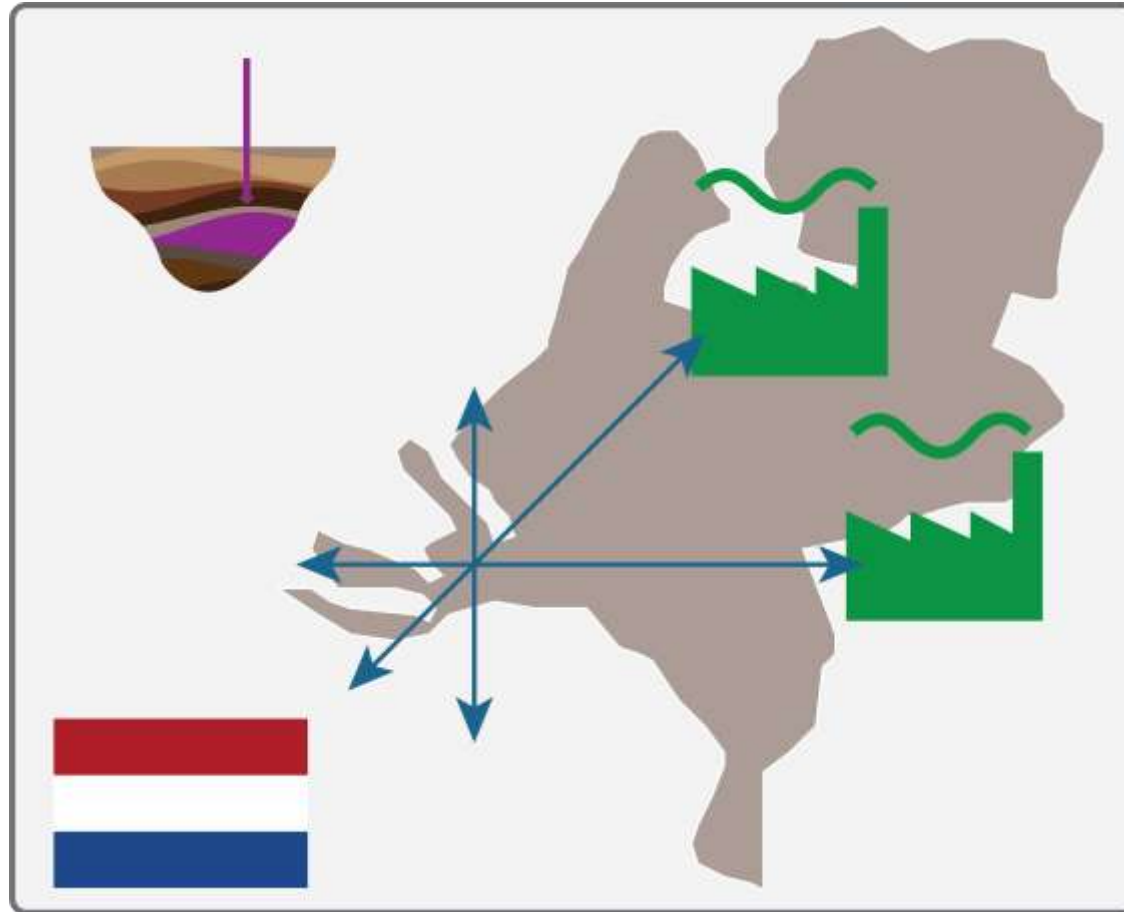
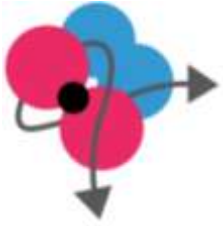


Why case studies?



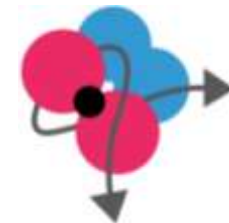
European collaboration – national commitment



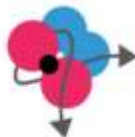


Decarbonizing the Dutch economy

H-vision



www.elegancy.no



ELEGANCY

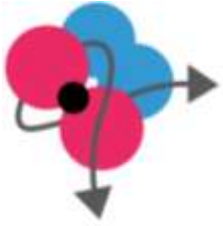
[ELEGANCY](#) [Partners](#) [Project programme](#) [News and Events](#) [Publications](#) [Internal pages](#) [Contacts](#)

Grey hydrogen	Blue hydrogen	Green hydrogen
Natural gas into hydrogen	Split natural gas into CO ₂ and hydrogen Residual gasses also in H-vision scope	Split water into hydrogen by electrolysis powered by wind and solar
CO ₂ emitted in the atmosphere	CO ₂ stored or re-used	No CO ₂ emitted

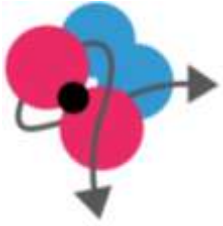
ELEGANCY Dutch Case Study: TNO initiates industrial participation with H-Vision project

23 May 2019

Guest bloggers: Octavian Partenie, Rajat Bhardwaj, Robert de Kler, Erwin Gilling (TNO, The Netherlands) In line with the 2015 Paris Agreement, the Dutch...

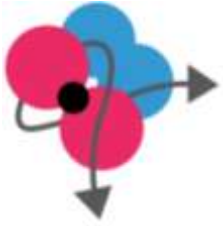


Enabling Swiss CO₂ –free transport by H₂ and CCS

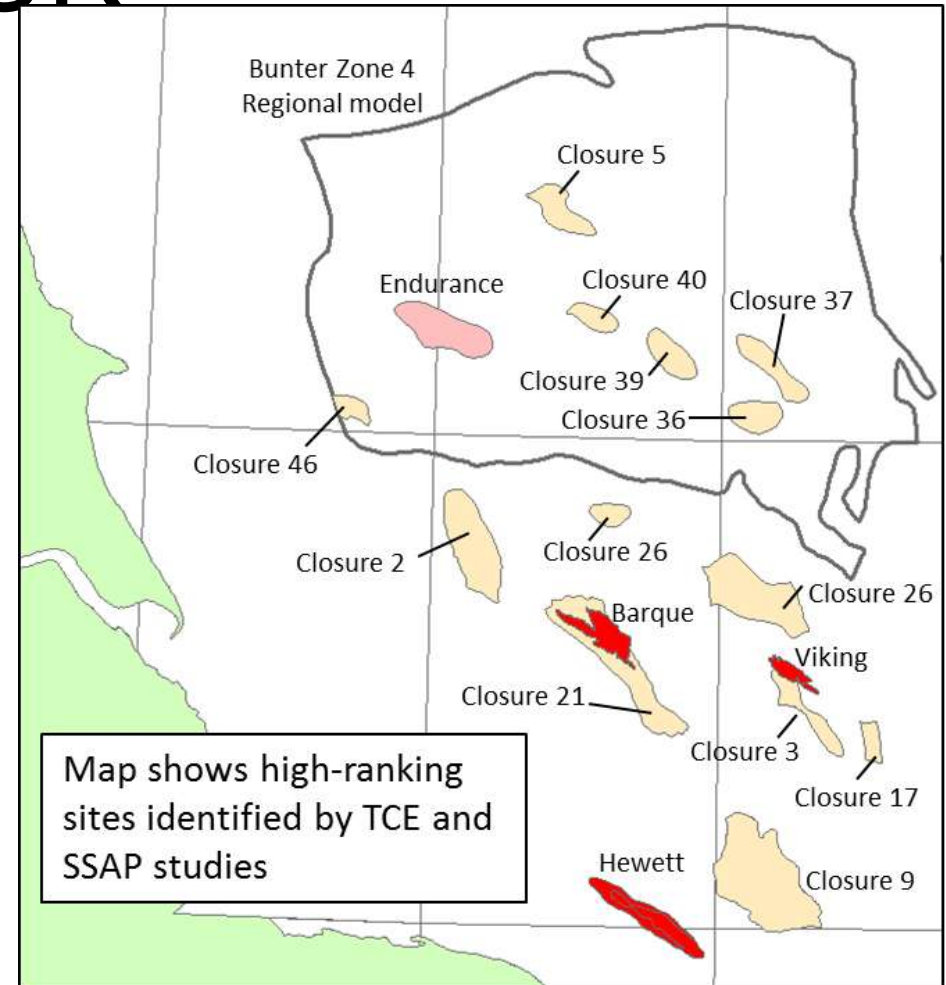


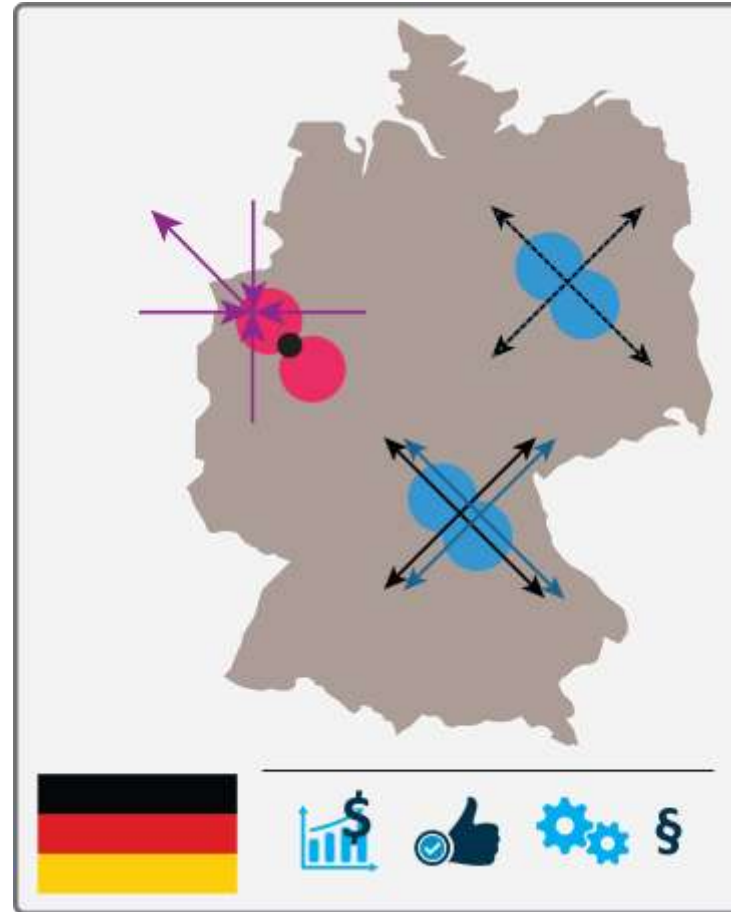
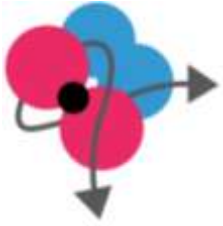
Decarbonization of UK cities and industrial clusters

A new strategy for cost-effective large scale storage of CO₂ in UK

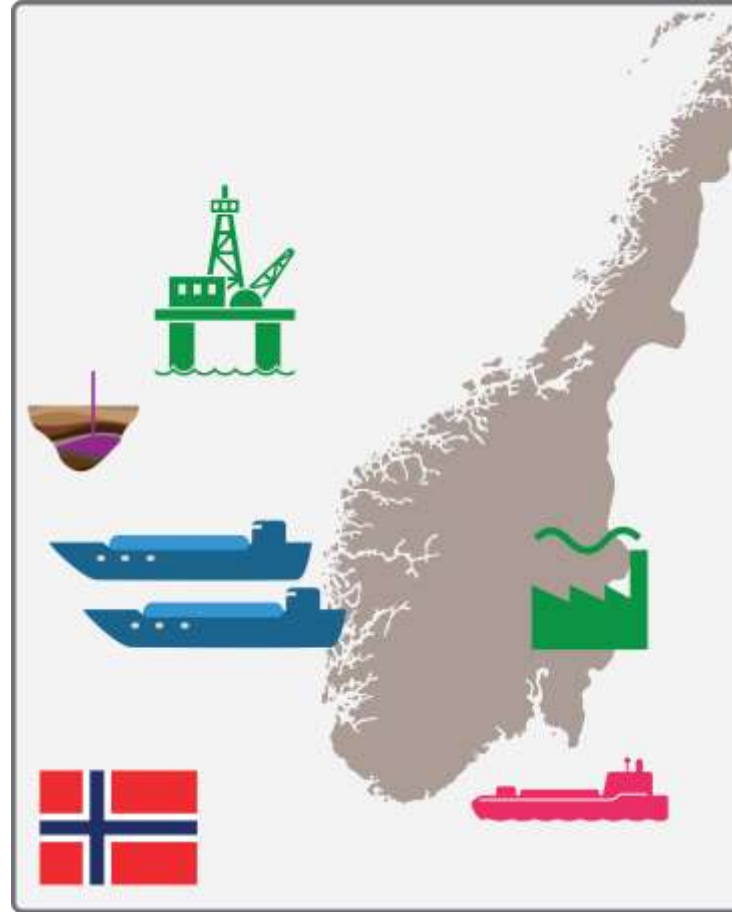
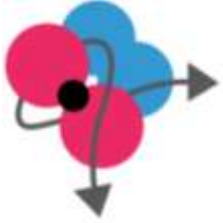


- Overview of the cumulative annual CO₂ capture rates from all published plans and project concepts for Teesside and Grangemouth developed
- Synchronous operation of more than one store required
- This knowledge enables pressure management at storage site, and thus optimizing the storage capacity



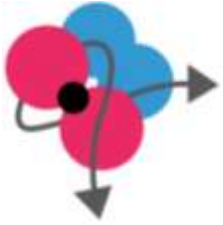


Adapting gas infrastructure to H₂ and CCS in Germany

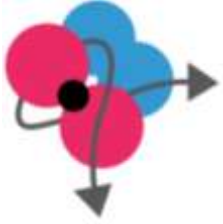


The Norwegian full scale CCS chain and synergies with H₂ production

Case study presentations at TCCS-10



- Oral
 - Sabrina Glanz/Dr. Anna-Lena Schönauer: Public Acceptance of H₂/CCS chains in Germany (Next)
 - A systematic assessment of low-carbon hydrogen and CCS options for the decarbonisation of heat, presented by Mr Nixon Sunny (Next)
 - C. Bauer, X. Zhang, C. Antonini, M. van der Spek, K. Treyer, M. Mazzotti: «Road transport decarbonization via reforming based H₂ with CCS – a Life Cycle Assessment» (16:20, C3)
- Poster
 - UK profiles of CO₂ supply for hydrogen and CCS; present day to 2100, Jonathan Pearce and Maxine Akhurst, British Geological Survey
 - E. Panos, C. Bauer, T. Kober: « “LAUNDERING” THE CO₂ EMISSIONS: THE ROLE OF CDR TECHNOLOGIES IN MEETING STRINGENT NATIONAL CLIMATE TARGETS IN SWITZERLAND»



Acknowledgement

ACT ELEGANCY, Project No 271498, has received funding from DETEC (CH), BMWi (DE), RVO (NL), Gassnova (NO), BEIS (UK), Gassco, Equinor and Total, and is cofunded by the European Commission under the Horizon 2020 programme, ACT Grant Agreement No 691712.

