



- 1 – Introduction to hydrogen
- 2 – The element hydrogen (H₂)
 - 1 What is hydrogen? (I)
 - 2 What is hydrogen? (II)
 - 3 The hydrogen economy
 - 4 Global hydrogen use
- 3 – Types of hydrogen applications
 - 1 Mobile applications
 - 2 Energy sector applications
 - 3 Industrial applications
 - 4 Portable applications
- 4 – Hydrogen generation and fuel cells
 - 1 Hydrogen production pathways
 - 2 Hydrogen production via electrolysis
 - 3 Types of electrolyzers
 - 4 Hydrogen production with steam reforming
 - 5 Other modes of hydrogen production
 - 6 Fuel cells
- 5 – Hydrogen infrastructure
 - 1 Hydrogen transport and storage
 - 2 LOHC –Liquid Organic Hydrogen Carriers
- 6 – System integration / sector coupling (Power-to-X) PtX
 - 1 System integration and green hydrogen
- 7 – The cost of hydrogen
 - 1 The economics of hydrogen
- 8 – International hydrogen strategies and roadmaps
 - 1 Hydrogen strategies and roadmaps
 - 2 The EU hydrogen strategy
 - 3 The German National Hydrogen Strategy
 - 4 The renewable hydrogen roadmap of California, USA
 - 5 The hydrogen strategy in Australia
 - 6 Cross-border project: Netherlands-Germany H₂ cluster-“NorthH2”
- 9 – Summary of the course