

1 Hydrogen production & conversion technologies: Power-to-X

1.1 Hydrogen production

1.1.1 Electrolysers

1.2 Methanisation and other hydrogen refining processes

1.2.1 Hydrogen-to-Methane (gaseous)

1.2.2 Power-to-Liquid (e.g. methanol)

1.3 Power-to-Heat

1.4 Power-to-Chemicals

1.5 Reconversion

1.5.1 Fuel cell

1.5.2 Combined heat and power plant

1.5.3 Gas turbine

1.5.4 Gas engine

1.6 Other conversion technologies

2 Energy Storage

2.1 Mechanical energy storage

2.1.1 Compressed air energy storage (CAES)

2.1.2 Pumped hydro storage plants

2.1.3 Flywheels

2.1.4 Other types of mechanical energy storage

2.2 Electrochemical energy storage

2.2.1 Batteries

2.2.1.1 Advanced lead-acid

2.2.1.2 Nickel-cadmium

2.2.1.3 Nickel-metal hydride

2.2.1.4 Lithium-Ion

2.2.1.5 Lithium iron phosphate

2.2.1.6 Saltwater

2.2.1.7 Other battery technologies

2.2.2 High-temperature batteries

2.2.2.1 Sodium-Nickel-Chloride

2.2.2.2 Sodium-Sulphur

2.2.2.3 Other technologies of high temperature batteries

2.2.3 Flow batteries

2.2.3.1 Redox flow

2.2.3.2 Hybrid flow

2.2.3.3 Organic flow

2.2.3.4 Other technologies of flow batteries

2.3 Chemical energy storage

2.3.1 Hydrogen storage

2.3.1.1 Pressure storage

2.3.1.2 Liquid storage

2.3.1.3 Hydride storage

2.3.1.4 Feeding Hydrogen into the gas Network

2.3.2 Methane storage

2.3.2.1 Methane feeding into the gas network

2.3.3 Other technologies of chemical energy storage

2.4 Electrical energy storage

2.4.1 Super capacitors / double layer capacitors

2.4.2 Superconducting coils

2.4.3 Other technologies of electrical energy storage

2.5 Thermal energy storage

2.5.1 Sensitive heat and cold storage

2.5.2 Latent heat storage

2.5.3 Sorptive storage

2.5.4 Thermochemical storage

2.5.5 Other technologies of thermal energy storage

3 Components of energy storage

3.1 Inverters

3.2 Power electronics / cables

3.3 Safety-relevant components (e.g. surge protection)

3.4 Other equipments / components

4 Production technologies of energy storage systems

4.1 Cell production

4.2 Battery production

4.3 Fuel cell production

4.4 Production of electrolysers

4.5 Other production technologies

5 Storage systems

5.1 Storage for trade and industry

5.2 Grid-connected systems

5.2.1 Storage for single and multifamily homes

5.2.2 Storage for integration into distribution networks

5.2.3 Storage for charging infrastructure

5.3 Off-grid systems

5.3.1 Stationary off-grid storage

5.3.2 Mobile off-grid storage

5.3.3 Vehicle-to-Grid

5.4 Other Storage systems

6 Energy management systems

6.1 Battery management systems (BMS)

6.2 Energy management systems (EMS) and load management systems

6.3 Other management systems

7 Energy services

7.1 Utilities

7.2 Energy trading

7.3 Energy market services

7.4 Charging infrastructure: EV charging stations, superchargers, inductive charging systems

8 Carbon Carbon Capture Technologies

8.1 CO2 separation and transport

8.1.1 CO2 extraction equipment: Post and Pre-combustion capture

8.1.2 CO2 cleaning and liquidiation equipment

8.1.3 Equipment for CO2 transport (Pipelines, Ships, Freight Trains, Trucks)

8.2 Carbon Usage technologies (CCU)

8.2.1 Production of synthetic fuels

8.2.2 Use of CO2 for plastics production (polymers, polyole)

8.2.3 Use of CO2 for building materials (cement, etc.)

8.3 Technologies for CO2 storage (CCS)

9 Complementary technologies and systems for decarbonisation, energy efficiency and recycling

9.1 Solutions and products for industrial and commercial processes

9.1.1 Extraction systems

9.1.2 Exhaust air purification technology

9.1.3 Air supply technology

9.1.4 Dedusting systems

9.1.5 Water treatment plants and fresh water treatment plants

9.1.6 Washing and splitter systems

9.1.7 Cooling and cleaning systems

9.1.8 Filter systems and filters for equipment

9.1.9 Chemical storage systems

9.1.10 Chemical processing systems

9.1.11 Separators and sorting systems for waste

9.1.12 Processing plants

9.1.13 Recovery plants

9.1.14 Pollutant management

9.2 Solutions and products for buildings and other real estates

9.3 Recycling of energy storage systems

9.4 Software solutions

10 Consulting & Services

10.1 Consulting

10.1.1 Business Consulting

10.1.2 Legal Advisory

10.1.3 Energy Consulting

10.1.4 Carbon Footprint: Analysis and Consulting

10.2 Services

10.2.1 Project developer

10.2.2 Standardization / Security

10.2.2.1 Testing

10.2.2.2 Certification

10.2.2.3 Security

10.2.3 Technical services / Maintenance

10.2.4 Monitoring services

11 Research / Education, Trade Publishers, Associations / Organisations

11.1 Research Institutes and Projects

11.2 Universities and Colleges

11.3 Media

11.4 Associations

11.5 Other Insitutions