Energy Transition to Net Zero
Reducing CO2 emissions

Stuart Young, Strategic Markets Development Manager, ABB (IAEN)
Energy Transition to Net Zero

**ABB Core Competencies (EICT-DRC)**

- **E** Electric (VSD SubSea LV MV HVDC)
- **I** SMART Instrumentation (T, P & F)
- **C** Control Systems (ICSS / DCS / PCS)
- **T** Telecoms / SCADA / Security / EPC
- **D** Digital (Cyber, AI, VR...)
- **R** Robotics (Heavy Industries)
- **C** Consultancy Services (Process Safety, Asset Integrity, NII, Decom, MoRE, Green Electrification Concept Studies)
E-mobility

Energy Transition to Net Zero

ABB’s heritage of supporting Clean Energy across all industries
ABB delivers the first **Carbon Neutral, Self Sufficient Solar Power** Plant to Busch Jaeger Germany, (a global market leader in electrical installation technology), which will deliver around **1,100 MWh** of **climate-neutral solar power** a year using ABB’s scalable energy management system OPTIMAX®.

It will also **reduce CO2 emissions by 630 tons per year**.
Opportunities for ABB

HESC Hydrogen Production & Liquification plant Australia

Technology giant ABB will deliver automation, electrification and instrumentation solutions for the Hydrogen Energy Supply Chain (HESC) pilot project at Port of Hastings, Victoria.

The project aims to produce clean hydrogen in Australian and transport it to Japan, in one of the first attempts in the world to use technology to liquefy and transport hydrogen.

This Brown Hydrogen generation requires CCUS and is being imported to fuel the Japanese transportation market.

ABB has been awarded the full EICT & D contract in Australia (Production, Liquefaction and CCUS) and an automation contract from Kawasaki Heavy Industries in Japan (Regasification).
Opportunities for ABB

Hydrogen Developments ZEEDS

ABB are working with industry partners on the ZEEDS concept for a Zero Emissions Energy Distribution system.

Producing Green Hydrogen from Offshore Wind, and bunkering this for offshore Marine vessel refuelling, or O&G storage (in low wind conditions) and export to mainland UK and potentially Europe.

Hydrogen on the high seas: welcome aboard!
Opportunities for ABB

Hydrogen Developments – New Subsea Pipelines

Currently discussing the possibility of building a new Hydrogen Sub Sea export pipeline (and possibly a second CO2 import sequestration pipeline) for domestic and European demand.

Energy Transition to Net Zero

CCUS capabilities in Norway

ABB partners with the newly established Low Emissions Research Center in Trondheim (hosted by SINTEF).

ABB delivered all Electrical & Automation to the CO2 Technology & Test Centre next to the Mongstad refinery (operated by Equinor).
Imperial College London

Carbon capture and storage

ABB installed their 800XA ICSS control System and all instrumentation and analytical equipment in the Imperial College Carbon Capture pilot plant in London, in 2009.

By working closely with industry and academia ABB can develop retrofit carbon capture solutions to address brownfield emissions as well as Integrated CCUS solutions for new greenfield installations.

Capturing carbon

Technology and theory
Carbon dioxide can be absorbed in coal beds, allowing storage to be effective at shallower depths; also can enhance methane recovery

Captured and transported to CCS locations from major emission sources

Dissolved into ocean water below 3,300 ft. through a fixed pipeline or ship

Released via offshore platform to form a “lake” on the ocean floor

SOURCE: Intergovernmental Panel on Climate Change

https://www.imperial.ac.uk/chemical-engineering/discovery/facilities/
CCUS Collaboration Workshop

CCUS installed base UK – Imperial College CCUS Pilot Plant

CCUS Workshop in March 2020

Industry leaders visiting the plant

Workshop to develop strategies for delivering viable CCUS solutions for existing onshore CO2 emissions facilities (i.e. Grangemouth, Teeside, Humberside etc), as well as for offshore Sequestration in the UKCS.

Currently developing the All Electric Subsea Well Control “Xmas Tree” with ABB NO and key sub sea alliance partners.

https://www.imperial.ac.uk/chemical-engineering/discovery/facilities/
Energy Transition to Net Zero

So how can ABB support you in achieving Net Zero compliance?
Looking for strategic alliance partner’s across all industries to meet all Net Zero 2030 and 245 deadlines

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