PGS New Energy

Bank of America Future of Energy Conference, 2nd September 2021
Cautionary Statement

- This presentation contains forward looking information
- Forward looking information is based on management assumptions and analyses
- Actual experience may differ, and those differences may be material
- Forward looking information is subject to significant uncertainties and risks as they relate to events and/or circumstances in the future
- This presentation must be read in conjunction with the risk factors disclosed in PGS 2020 annual report and the latest earnings releases
PGS New Energy brings value to partnerships

World Class Data Library

Identify Define Monitor

Data acquisition and processing

G&G: derivative products and services

Operating license advisory / support

PGS and CGG Sign MoU to Develop MultiClient Data Collaboration for CO2 Storage

Coopetition is key

Leading Seismic Service Provider
CCS seismic market size estimates

**2050 CO₂ storage scenarios assessed by IPCC (Gtpa)**

Scenarios assessed by IPCC have a median value of ~15 Gt CO₂ in 2050, approximately double the level in IEA’s NZE 2050.

**Global CCS Institute 2050 CO₂ storage scenario**

IEA Net Zero 2050 and Global CCS Institute 2020 report are less bold on CCUS than most models assessed by IPCC, but still require growth of >>100 times today’s storage volumes.

**Annual seismic vessel demand**

CO₂ storage volumes can be translated to number of offshore projects; survey size and frequency gives an estimated vessel demand.

**IEA Net Zero 2050 scenario: 7.6 Gtpa in 2050**

CCUS total growth requires large-scale projects

CCS represents a meaningful seismic market
**Northern Lights**

CO₂ transport and storage company Northern Lights JV DA was launched March 2021, with Equinor, Shell and Total as equal JV partners.

Developing the world’s first open-source CO₂ transport and storage infrastructure to deliver carbon storage as a service.

Ph.1 will be completed mid-2024 with ~1.5 Mt/year capacity. Longship will deliver 0.8 Mt/year if both Brevik and Oslo capture projects are realized.

Ambition to expand capacity to a total of 5 Mt/year, dependent on market demand. Can be further expanded within aquifer at ~2,600m burial depth.

**Northern Endurance**

BP, ENI, Equinor, National Grid, Shell and Total formed Northern Endurance Partnership to develop offshore CO₂ infrastructure in the UK North Sea.

Serve Net Zero Teesside and Zero Carbon Humber projects, aiming for commission by 2026.

NTZ plans to capture up to 10 Mt/year and ZCH plans up to 17Mt/year, but injection plan is not communicated yet.

Storage formation is Bunter sandstone at ~1,000m burial depth.

**Acorn**

Pale Blue Dot, Harbour and Shell works with Scotland’s New Zero Infrastructure program from the St. Fergus gas terminal to repurpose existing gas pipelines to take CO₂ directly to the Acorn storage site.

This first phase offers a low capital cost start that can be delivered by 2024, to be further expanded through import of CO₂ to St. Fergus from ships.

Storage formation is Captain sandstone at ~2,500m burial depth.
Offshore Wind – an industrial revolution in the making

Floating Wind

Floating wind turbines give access to abundant wind resources over deep water – at least four times as much ocean surface space compared with bottom-fixed wind. This gives an increased flexibility in site selection including the possibility to take advantage of areas with higher wind speed and areas with lower social and environmental impact. In the next five years we expect to see significant technology development in floating wind to reduce cost, scale, and increase applicability.

Floating Wind has great potential

The sampling conundrum

Improved geophysical modeling

Large scale mapping

High / Ultra-high resolution mapping
The International Seabed Authority (ISA) is an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea (UNCLOS).

- 167 member States plus the European Union
- ISA organize and control all mineral-resources-related activities in the Area for the benefit of mankind as a whole
- The Area covers ~ 54 % of the total area of the world’s oceans

 ISA has issued 15-year exploration contracts with 21 contractors

- Impact assessment ongoing
- Resource mapping through NPD projects
- First possible opening in 2023

Norway in impact evaluation stage

License to operate
Summary

- Tremendous growth in CCUS required to meet 2050 Net Zero / 1.5-2°C targets, and offshore storage will be required for large-scale projects
- Long-term monitoring requirements for reservoir and sealing layers above

- Offshore wind industrial revolution has started
- Supporting geophysical data and services to be further developed

- Marine minerals in environmental impact assessment stage
- Vast, underexplored areas in need of geophysical data

- New partnerships to enable cost efficient growth

Significant future markets for PGS, but shape of growth curve still uncertain