



GEOHERMAL
EMISSION
CONTROL

GECO – Geothermal Emission Control

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818169.

Aim & Objectives

Generate viable, safe, and cost-efficient technologies for cleaning geothermal power plant exhaust gases.

Ambitions

- *lower emissions by capturing them for either storage or reuse.*

Business and exploitation opportunities

- *Increase geothermal energy competitiveness. Capturing should involve minimum CAPEX as well as energy and resource demand.*
- *Turn captured emissions into commercial products, allowing for cost reductions through increased revenues.*

Expected impact

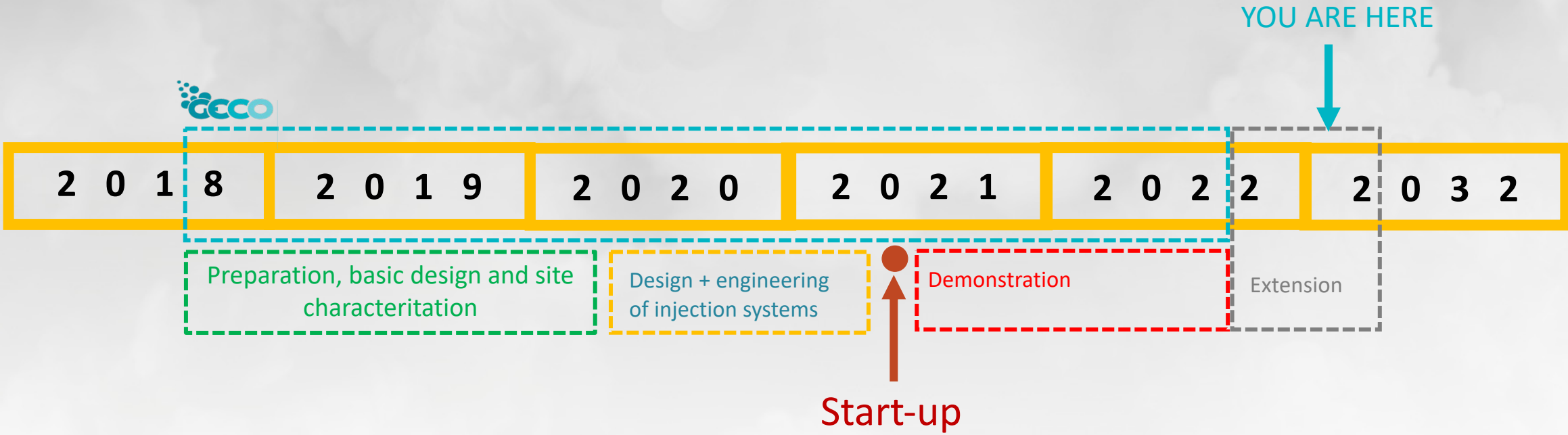
- *Solutions available to the power and heavy industries towards emission free operation in areas not considered before*

Consortium

- 18 Partners
 - 4 Industrial partners
 - 1 SME
 - 13 RTD facilities
- Percentage of women
 - Consortium 37%
 - WP leaders 70%
 - external advisory board 50%



Project timeline



Technologies

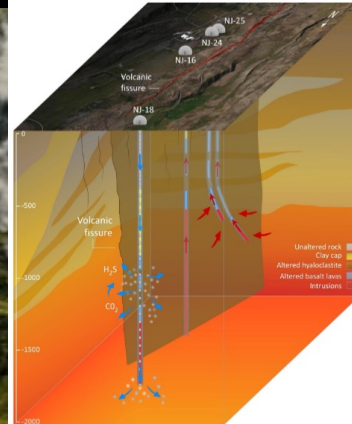
Hellisheiði and Nesjavellir HT-site, Iceland

Reservoir modelling

Gas capture, purification

CO₂ injection

Monitoring



Conceptual model – ISOR, CARBFIX, OR



Corrosion monitoring - AIMEN



Nesjavellir demonstration capture plant - CARBFIX



LIRA sulphur isotope analyser- UKRI

Technologies

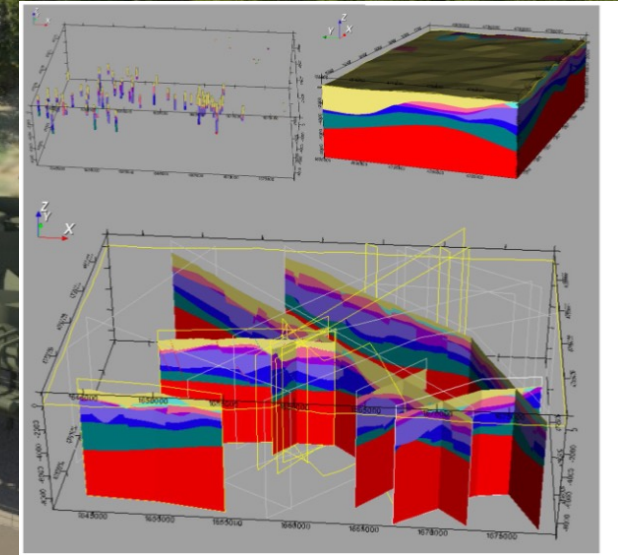
Castelnuovo HT-site, Italy

Reservoir modelling

Gas capture

CO₂ injection

Monitoring > Feasibility studies



Model development—
CNR, MAGMA, IPFEN, UF

Technologies

Hveragerði HT-site, Iceland

Reservoir modelling ✓

Closed loop ✓

CO₂ injection ✓

Monitoring ✓

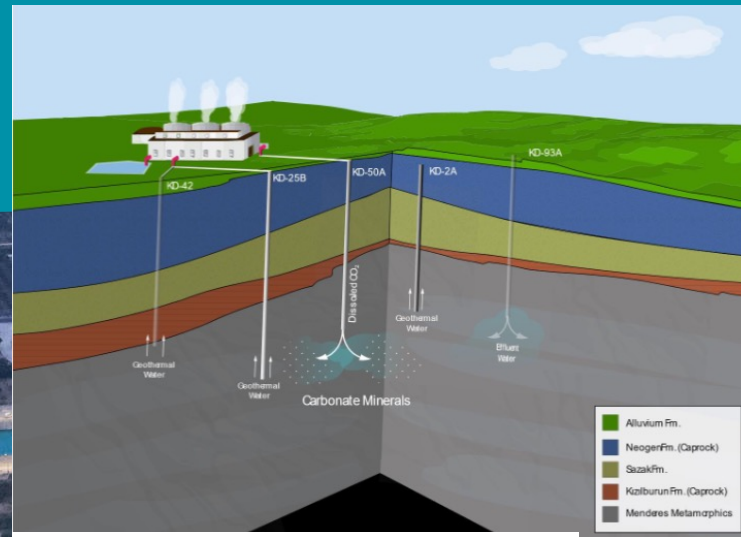


Closed loop testing unit–
Storengy, GGP, MAGMA, IFPEN



Technologies

Kızıldere HT-site, Turkey



Conceptual model – METU, ZORLU

Reservoir modelling

Gas capture

CO₂ injection

Monitoring



NCG capture and injection system - ZORLU

Technologies

Bochum LT-site, Germany

Reservoir
modelling



CO₂ injection

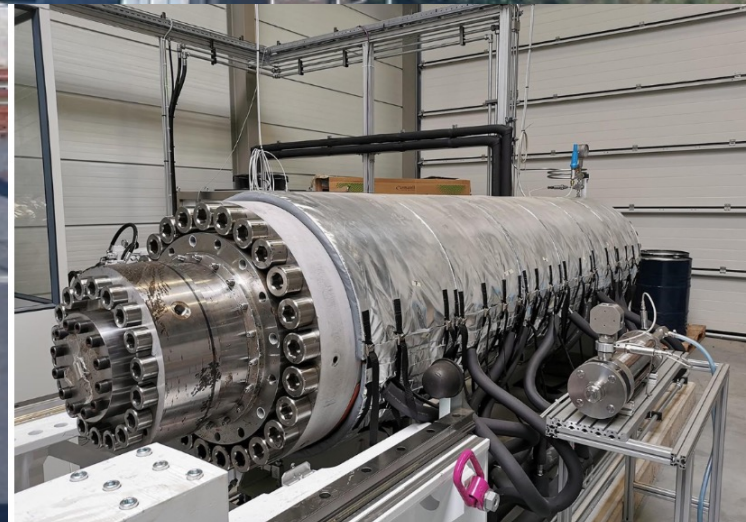
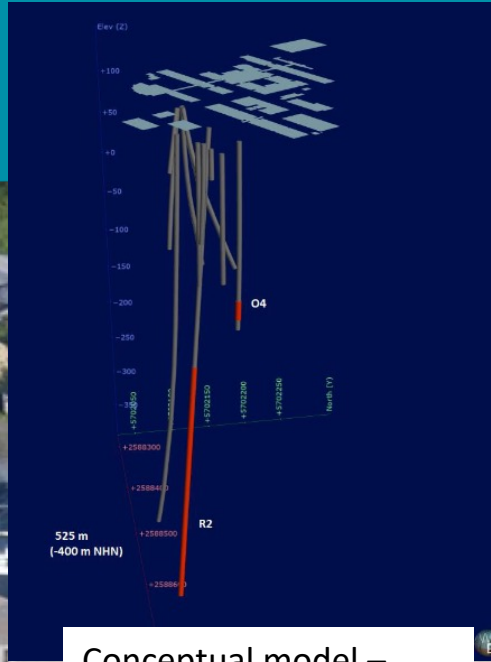


Monitoring



Conceptual model –
FRAUNHOFER IEG

High Pressure cell (I-BOGS) – FRAUNHOFER IEG



Project wrapup in 2023

- Evaluations of demonstration campaigns
 - Successes and failures
- Evaluations of Industry – Tech developers collaborations
- IP exploitation routes under development
- Dissemination activities ongoing
- Market roadmap and opportunities under development

Thank you!



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www.geco-h2020.eu



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