PilotSTRATEGY

H2020-LC-SC3-NZE-6-2020: Geological Storage Pilots

PilotSTRATEGY project: *CO_2 Geological Storage in Offshore Portugal*

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PilotSTRATEGY – Project overview

Portugal:
Selected offshore location with commercial scale potential

Scaling up CO_2 storage - pilot studies in regions with promising geological resources

- 2021-**2026**
- **EU Horizon 2020** funding
- **Research, Industrial and Regulatory** partners
- **Deep saline aquifers**: large capacity for storing CO_2
- CO_2 injection **Pilot Design/ up to pre-field investment decision**

PilotSTRATEGY – Project scope

Multidisciplinary approach for Pilot Design

- Technical evaluation
- Safety and performance risk assessment
- Legal framework
- Investment proposal and pilot life-cycle
- Social acceptance and stakeholders' participation
- Communication and dissemination

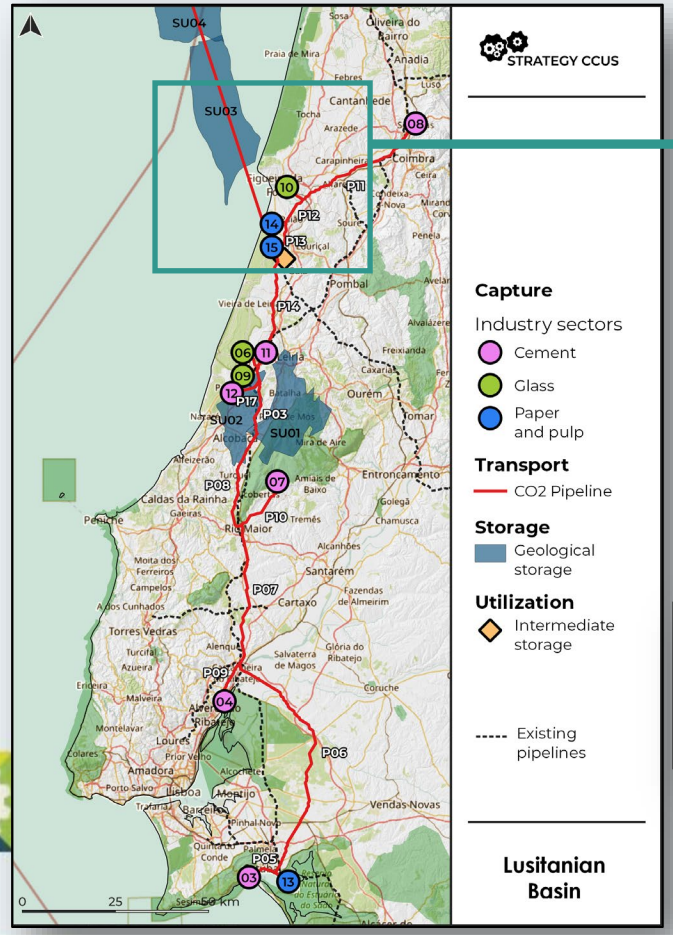
Regional Stakeholder Committee

Management	WP1
Geo-characterization	WP2
Simulation	WP3
Pilot development	WP4
Safety	WP5
Social acceptance	WP6
Communication and impacts	WP7

PilotSTRATEGY – Portugal offshore location

STRATEGY CCUS
A viable solution for a sustainable future

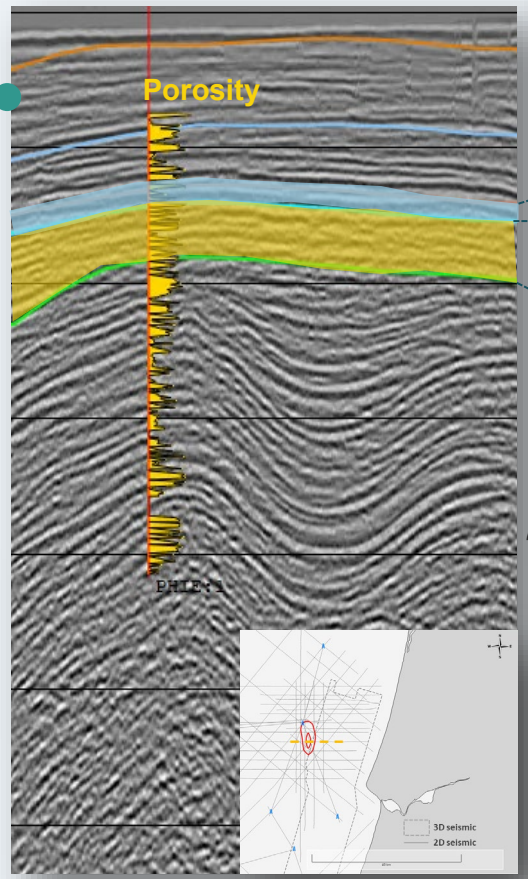
PilotSTRATEGY

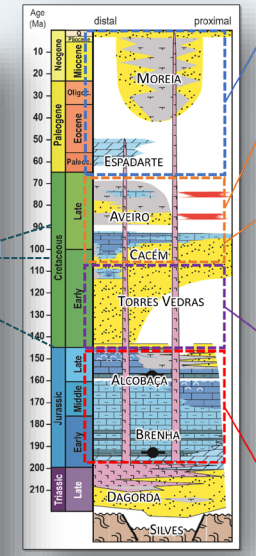


Major findings for Portugal

Up to 2050

CO_2 Captured	93Mt CO2 Captured
Stored	61-70 Mt CO2 Stored
E-gas production	22-32 Mt CO2 Utilized





Lithostratigraphic chart of the Northern Lusitanian Basin (offshore), highlighting the key geological formations composing the CO_2 storage complex

Overburden
Cenozoic siliciclastic deposits and dolomites (Espadarte Fm.)

Secondary seal
Upper Cretaceous siliciclastic deposits (Aveiro Group)

Primary seal **≈ 740m**
Upper Cretaceous limestones, argillaceous limestones and shales (Cacém Fm.)

Reservoir **≈ 850m**
Lower Cretaceous siliciclastic deposits, with coaser sediments at the bottom evolving to sandstones and interbbeded claystones towards the top (Torres Vedras Group)

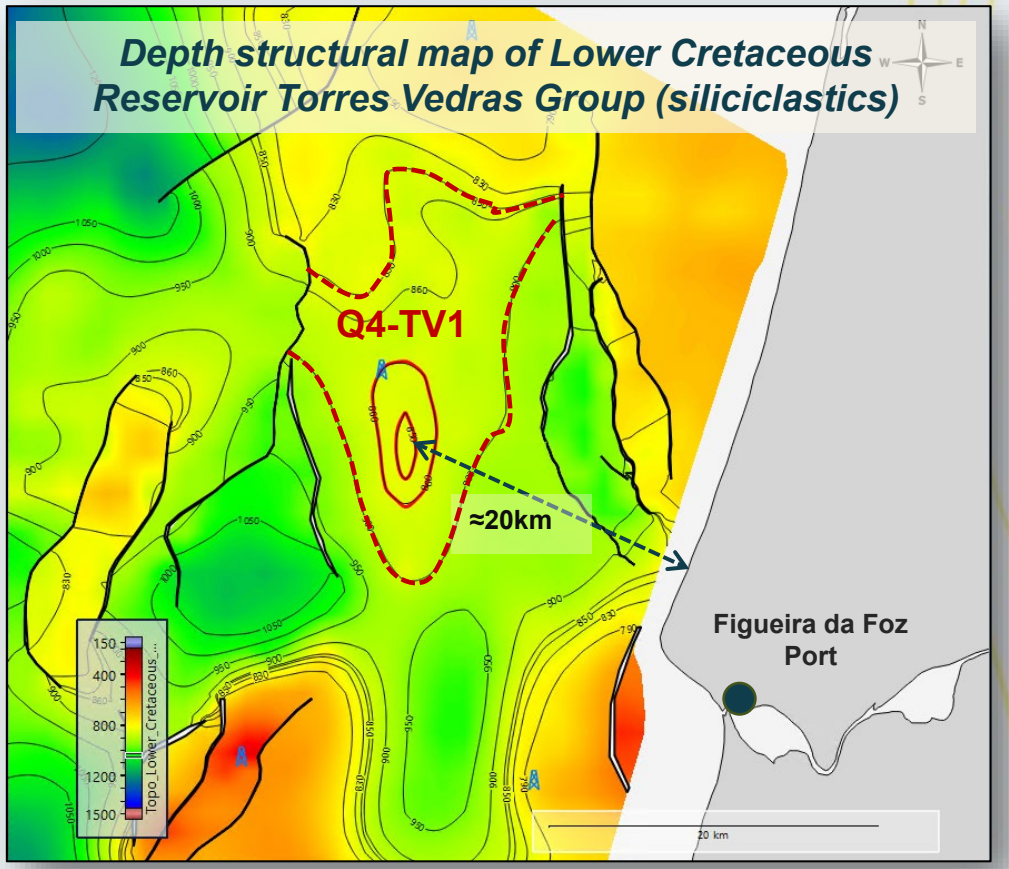
Underburden
Upper Jurassic layers with intercalated sandstones/ claystones (Alcobaça Fm.) and Middle Jurassic carbonate-rich rocks (Brenha Group)

Offshore site selection + characterization

PilotSTRATEGY – Portugal offshore location

Pilot design with commercial scale potential

- Privileged location in the **Atlantic coast**
- Good **data quality** and **coverage**
- **Excellent reservoir quality**
- **Low** active seismicity
- Conditions for **safe storage**
- Preliminary storage capacity estimation for Q4-TV1 up to **30Mt CO_2**
- Other prospects identified in the region



PilotSTRATEGY – Portugal offshore location

Integration and local development

- Nearby main national **CO_2 emitters** from industrial sector
- Engagement with **Figueira da Foz Port** authorities and **Municipality**
- Regulatory aspects more challenging - Opportunity to **engage with decision makers**
- **Social acceptance** – Regional Stakeholders Committee and engagement with local population
- Integration with **CTS project** – *CO_2 Transport and storage directly from ship*
  - Ship design by NEMO Maritime AS
  - Two main industrial CO_2 sources in the region in Industry Club of CTS: CIMPOR - Cement sector; LHOIST - Lime sector

PilotSTRATEGY – Expected impacts

- Prove the technical conditions for **safe CO_2 storage in the Offshore** of Portugal
- Conduct all **licensing, environmental and economic studies** required for a pre-investment decisions
- Link to existing plans for **CO_2 capture pilot in the cement and glass sectors**
- **Increase visibility** of the CCUS technology
- **Engage local communities**
- Clarify the **regulation and licensing** procedures for offshore

Thank you for listening

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