STRATEGY CCUS

A viable solution for a sustainable future

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STRATEGY CCUS is an ambitious three-year project to support the development of carbon capture, utilisation and storage (CCUS), a critical technology in the net zero carbon transition.

We are focusing on eight regions in southern and eastern Europe identified as promising for CCUS – based on the existence of industry clusters, potential CO_2 storage sites, transport infrastructure and opportunities for CO_2 usage and/or hydrogen production and use.

- Creating local plans & business models
- Providing methodologies & sharing best practice
- Engaging with regional & national stakeholders
- Helping create a Europe-wide CCUS infrastructure

A regional approach

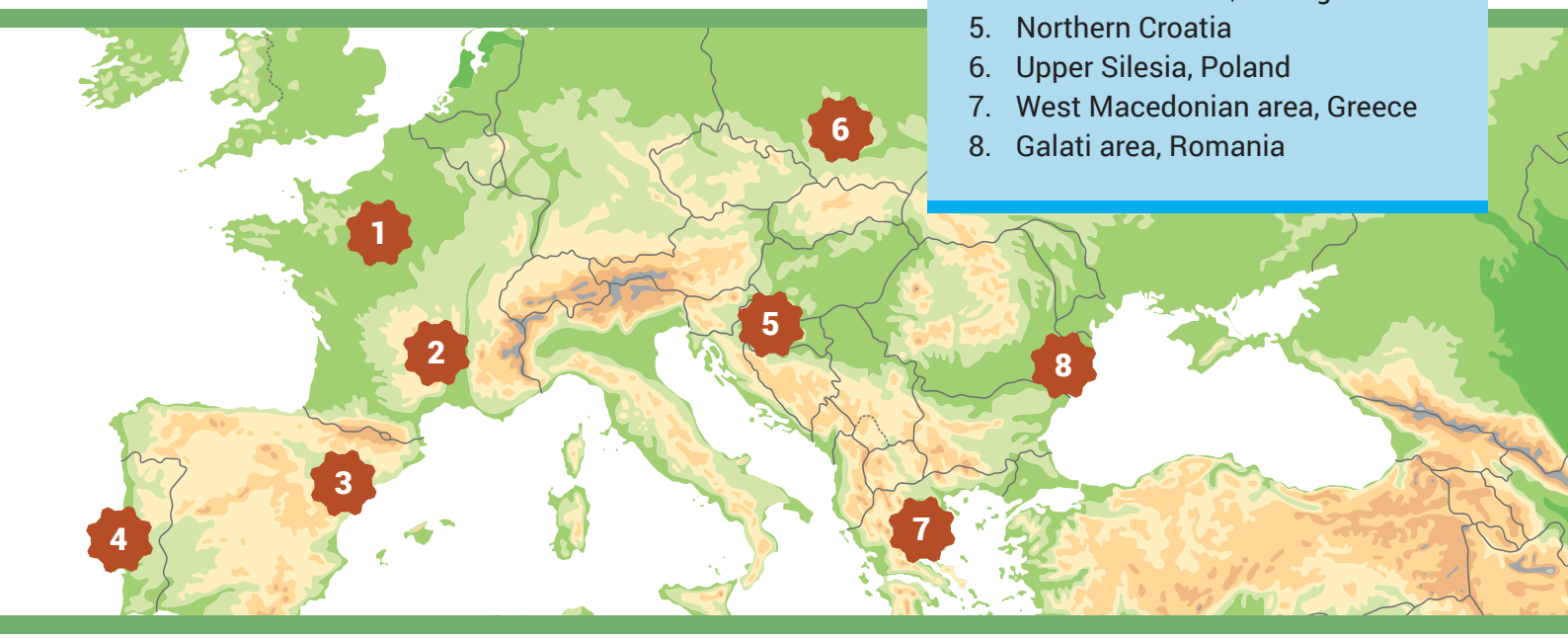
Our eight promising regions span seven countries, which together account for around 45% of Europe's CO_2 emissions from industry and energy production.

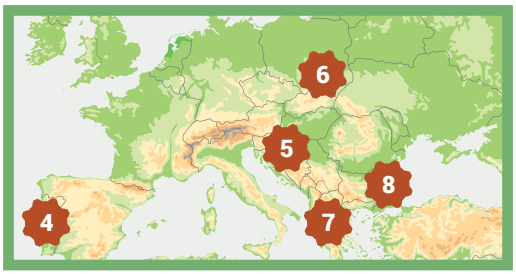
1. France's most industrialised area featuring small and medium industrial emitters. Several possibilities exist for CO_2 storage sites in deep saline aquifers or depleted hydrocarbon fields: estimated capacity 200 million tonnes. Captured CO_2 used in different options, including horticulture.

2. A number of high-emitting industries in "Chemical Valley" and the potential to develop several clusters. Studies already completed on pathways from industrial CO_2 emitters to CO_2 usage opportunities. CO_2 transportation by river and storage in the Mediterranean area.

3. Includes large industrial zones with emissions mainly from power, cement and chemical industries. Geology offers varying CO_2 storage capacity of around 0.6 gigatonnes (Gt). Opportunities for CO_2 usage for chemicals and industrial waste remediation. Potential to access 2000 km of existing gas pipelines.

1. Paris basin, France
2. Rhône Valley, France
3. Ebro basin, Spain
4. Lusitanian basin, Portugal
5. Northern Croatia
6. Upper Silesia, Poland
7. West Macedonian area, Greece
8. Galati area, Romania





4 Includes various CO_2 emitters, mainly power and cement industries, and a variety of storage site options with a theoretical offshore capacity of 3.9 Gt. Previous studies have defined pipeline corridors and ports offering CO_2 transport options to offshore storage.

5 Two current commercial CO_2-EOR projects with others planned. Geological CO_2 storage capacity in deep saline aquifer and depleted hydrocarbon fields has been evaluated at 2.7 Gt. Additional storage capacities have been assessed for ongoing CO_2-EOR projects and candidates.

6 Poland's most industrialised region featuring power generation, coal mining, and metallurgical and coking sectors. The region's ten large power plants account for 90% of Silesia's emissions and position it as the biggest emitter of our eight promising regions. It is Poland's only region to enable CCUS deployment.

7 Covers two industrial zones, which feature coal-fired power, cement and biomass plants. High CO_2 storage potential in Mesohellenic Trough, with two formations having a large capacity. Existing CO_2 capture plant in area.

8 Includes major industrial installations, including one of Romania's biggest emitters (steel production). Depleted hydrocarbon reservoirs offer CO_2 storage options. Black Sea proximity provides potential for CO_2 transport via shipping and/or pipelines.

Work packages

Our research partnership, led by France's BRGM, combines the expertise of science and industry partners from ten European countries to conduct the following research.

Methods (WP2) Mapping technical potential for CCUS clusters in each region

Stakeholder engagement (WP3) Focus on social acceptance and stakeholder perceptions to address challenges that have slowed CCUS in Europe

Economics (WP4) Undertake environmental and cost estimates to ensure CCUS is sustainable

Planning (WP5) Draw up CCUS scenarios and evaluate full techno-economic assessments for each region for short, medium and long-term delivery

Why is this project important?

- According to the International Energy Agency, CCUS must be deployed rapidly if countries are to achieve the emissions reductions laid out in the Paris Agreement.
- CCUS is at an early stage of commercialisation; policy measures and support for innovation are critical.
- Emissions from industry are among the hardest to abate. For high-emitting sectors, such as cement, steel and chemicals, CCUS is currently the most effective and efficient technology for achieving significant CO_2 reductions.
- Sharing CO_2 transport and storage infrastructure can help lower costs significantly.

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