



Talk to us!

Ambitious commitments for global decarbonisation pledged at the 2015 UNFCCC climate summit in Paris will require large reductions in CO₂ emissions not only in the energy sector, but also in carbon intensive industry (such as cement, iron and steel, paper and pulp, refineries etc.). Storing CO₂ deep underground in carefully selected locations offers the only currently available technology to help these industries to meet the requirements and to allow for future economic growth. This means that CO₂ geological storage will be as important in developed countries as it will be in less developed countries. CCS (CO₂ Capture and Storage) technology is a viable, proven and safe mitigation measure as demonstrated at the Sleipner field in the Norwegian North Sea where CO₂ has been injected for the past 20 years for permanent storage.

The CO₂GeoNet Association has a wealth of experience in CO₂ geological storage research. As a not-for-profit network with over 300 researchers from 19 countries, we are the largest scientific community in this particular field in the world. CO₂GeoNet's mission is to provide scientific advice, expertise, training and capacity building to all interested parties, including regulators, local communities and the general public. As a UNFCCC accredited non-governmental organisation, we provide multidisciplinary and independent advice to all those who need it. CO₂GeoNet was recently awarded

CTCN (Climate Technology Centre and Network) membership and aims to use this mechanism to offer advice to developing countries.

CO₂GeoNet is a scientific body able to answer your questions, clarify doubts and share knowledge. This autumn there will be the opportunity to meet us at the three most prominent international events. Representatives from CO₂GeoNet will be present at the COP22 in Marrakesh, Morocco, the GHGT-13 conference in Lausanne, Switzerland and the AGU Fall Meeting in San Francisco, USA. Please, see our activities in the table below and visit our [website](#) where you can find information and the latest news on the advancement of CO₂ geological storage.

Marjeta Car,
Leader of Dissemination activities in
CO₂GeoNet

CO₂GeoNet will be present at:



MARRAKECH COP22 | CMP12
UN CLIMATE CHANGE CONFERENCE 2016



ghgt-13



COP22 - UN Climate Change Conference 2016

UNFCCC Negotiation blue zone

Booth on CCS

'CO₂ Capture & Storage (CCS) is needed to meet the Paris Agreement targets'

7 - 18 Nov 2016

Organisers: CO₂ GeoNet with Carbon Capture and Storage Association, IEAGHG and University of Texas at Austin

Side event

7 Nov 2016

'CO₂ Capture and Storage is necessary for meeting the 2°C target'

18:30 - 20:00

Organisers: CO₂ GeoNet with EERA CCS, EuroGeoSurveys, GCCSI and IEAGHG

EU Pavilion

Side event

8 Nov 2016

'Opportunities for Africa in Carbon Capture and Storage (CCS)'

11:30-13:00

Organisers: University of Texas at Austin with Carbon Capture and Storage Association, CO₂ GeoNet and IEAGHG

Observer room 6

Innovations green zone (open to the public)

Side event

10 Nov 2016

'Carbon dioxide Capture and Storage (CCS): what it's all about and why we need it'

9:00-10:30

Organisers: CO₂ GeoNet with Club CO₂, IEAGHG, SACCCS (South African Centre for Carbon Capture and Storage) and other international experts

room tbc

GHGT-13 - 13th Conference on Greenhouse Gas Control Technologies

Poster session

17 Nov 2016

'CO₂GeoNet perspective on CO₂ Capture and Storage: a vital technology for completing the climate change mitigation portfolio'

14:00-16:00

Organiser: CO₂ GeoNet

Poster Session B

AGU Fall Meeting - American Geophysical Union Fall Meeting

CO₂GeoNet poster session

13 Dec 2016

'Lessons learned from CO₂ Geological Storage research in Europe: natural laboratories, site characterisation, monitoring, modelling, and advances in understanding associated processes'

13:40-18:00

Organiser: CO₂ GeoNet

Poster Hall of the Moscone South

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- ENOS - New exciting research initiative
- GeoEnergy Test Bed - progress with characterisation
- Sulcis summer school on CCS technologies
- ECAC Symposium on adaptation and mitigation measures



ENOS
Enabling Onshore CO₂ Storage

New exciting research initiative



ENOS, another initiative of CO₂GeoNet has been launched: **Enabling Onshore CO₂ Storage in Europe – ENOS** started officially on September 1st 2016. The project is financed through European Research & Development Programme Horizon 2020, has a budget of 12.5M€ and will last for 4 years. The project draws together 29 organisations from 17 countries. It has been endorsed by the European Energy Research Alliance on Carbon dioxide Capture and Storage Joint Programme - EERA CCS JP.

ENOS will tackle the most urgent issues to enable onshore CO₂ storage in Europe. Storing CO₂ onshore, relatively close to the emission points, would contribute to reducing the costs of CCS and help energy producers and other CO₂ intensive industries to manage their CO₂ emissions locally, thus building public confidence in CCS as a powerful mitigation option that can also contribute to local economic growth.

ENOS aims to develop CO₂ storage onshore in Europe by:

- 1) Developing, testing and demonstrating in the field, at pilot and experiment sites, key technologies specifically adapted to onshore applications;
- 2) Integrating CO₂ geological storage into the socio-economic fabric of the concerned territories by involving the local population;
- 3) Contributing to the creation of a favourable environment for onshore storage across Europe through knowledge-sharing, education, and support for new pilot and demonstration CC(U)S projects.

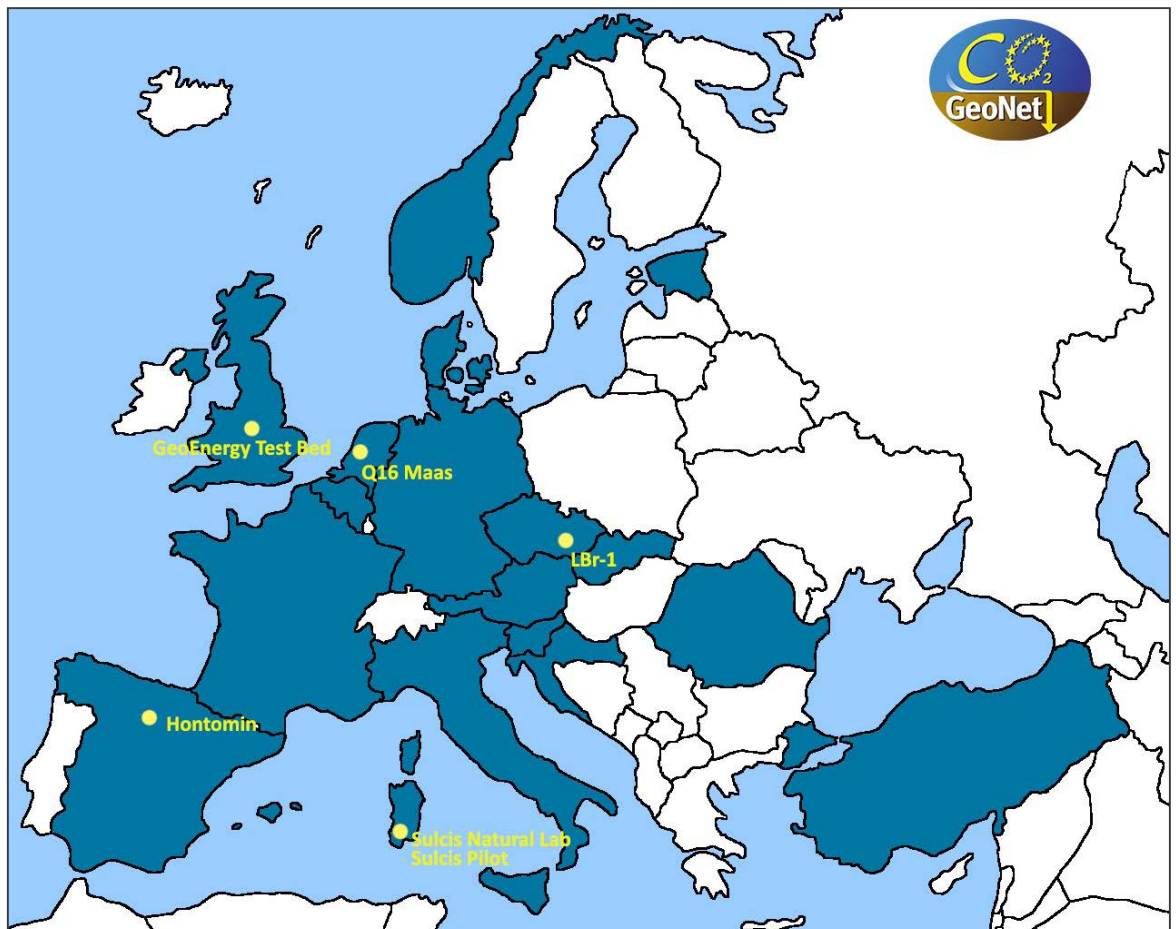
The main identified hurdles CCS is facing onshore that will be addressed concern:

- a. Obtaining additional practical experience to demonstrate further that injection operations onshore can be run safely, efficiently while protecting the local environment;
- b. Demonstrating our capacity to understand, detect and manage leakage and/or other potential risks, which is imperative to prove long-term safety and to obtain regulatory permits;

- c. Ensuring that calculated storage capacities are sufficiently reliable and also affordable to verify, which is needed to enable investments and the deployment of CCS at industrial scale;
- d. Integrating activities related to geological storage of CO₂ into the local economic framework, so that the benefits are also reflected at the local level, which is vital for commercialisation of CCS;
- e. Engaging the local population in the storage projects from the early planning phase, without whom project development is unimaginable.

Practical experiments under real-life conditions will be conducted at the Hontomin Technology Platform in Spain, at the Geoenergy Testbed in the UK and the Sulcis Fault Lab in Italy. Additional site studies will be performed at Q16Maas in the Netherlands, LBR-1 in the Czech Republic and at the Sulcis Pilot in Italy.

ENOS strives for accelerating the deployment of CCS, which can only be performed in close cooperation with industrial



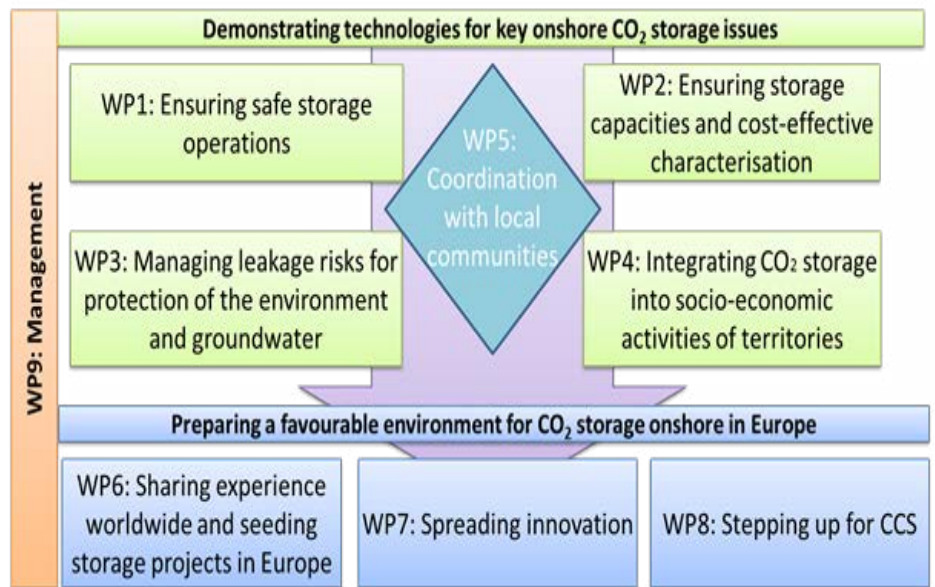
Map showing countries in which ENOS partners are located (blue), together with the locations of pilot sites and field laboratories (yellow)

partners, thus industrial parties will be invited to provide input to ENOS.

Through different activities the outcomes will be disseminated through a comprehensive training and education programme, end-user committees, international collaboration at workshops and conferences. The **CO₂GeoNet annual Open Forum in Venice** (next edition scheduled to 8 – 10 May, 2017) will be a great opportunity to discover the project in detail and will open the floor for a dialogue amongst interested stakeholders and researchers.

This is the beginning of a big adventure! Stay tuned to CO₂GeoNet's information channels – newsletter, website and our annual Open Forum to find out the latest news.

*Marie Gastine, BRGM, France
Marjeta Car, GEOINZ, Slovenia*



ENOS work package (WP) structure

Audience	Dissemination tool	Specific dissemination action
Project consortium	Annual meeting, workshops ENOS knowledge-sharing platform	Presentation and discussion of project results Sharing ENOS results during the project
External stakeholders	CO ₂ GeoNet Open Forum	Session dedicated to latest results from ENOS
Media journalists	Press releases Short courses	Updates on the project and CCS in general
Industry	End User committee	Represent views of industry stakeholders
EERA CCS JP	Workshops Joint communications	Joint organisation of dissemination event(s) Supporting CCS through joint press releases etc
Scientific community	Scientific journals Workshops	Publications of ENOS results Scientific workshops adjacent to Open Forum to share latest results
Students and young professionals	E-learning CCS educational programme CO ₂ storage school	Online training courses to share knowledge Promotion of education opportunities in partner universities One week intensive course on CO ₂ storage
European Commission DGs	Short presentation	Explain impact of the ENOS outcomes for CCS deployment
Local communities around sites	Online info-tool, local media Workshops	Organisation of the interaction between scientists and local communities
General public	Website	Publish documents and videos with information about CCS and ENOS that are easily understandable

Planned dissemination activities for specific audiences

GeoEnergy Test Bed – progress with site characterisation

The GeoEnergy Test Bed (GTB), a field laboratory initiated by the University of Nottingham and the British Geological Survey was introduced in the November 2015 issue of the CO₂GeoNet newsletter. Since then, two geological characterisation wells have been drilled and shallow geophysical surveys have been carried out. The wells confirmed the presence of water-bearing fractures and thin sand-rich layers in the Mercia Mudstone Group as well as the thick (>40 m) Helsby Sandstone aquifer (equivalent to part of the offshore Bunter Group). The next phase of drilling will start in

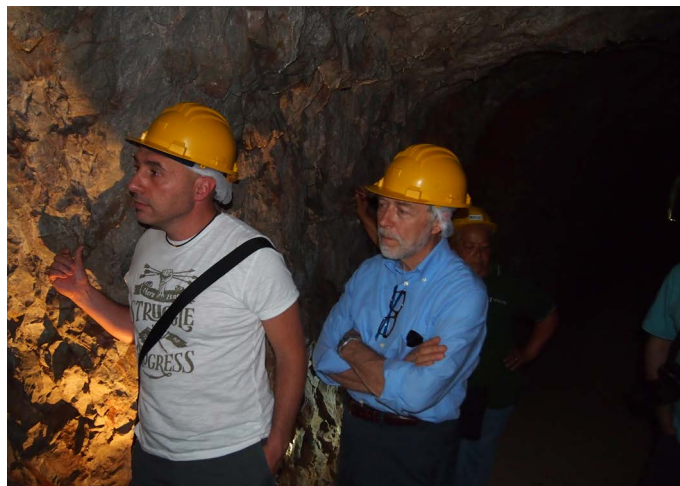
November 2016 with funding from the UK Energy Research Accelerator (<http://www.era.ac.uk/>). This will include one cored well to allow laboratory testing of the aquifer and seal properties. When completed, the GTB will include an array of boreholes drilled to different depths. Sensor technologies will be used (both above and below ground) to study the rocks and the flow and properties of underground fluids through natural pathways.

Ceri J. Vincent, BGS, UK



Sulcis Summer school on CCS technologies

The fourth International Sulcis Summer School on CCS Technologies (from June 28th to July 1st 2016) was very well attended by students, graduates and early stage researchers. The school was co-organised by CO₂GeoNet and took place at the Sotacarbo Research Center of Carbonia, Sardinia (Italy). After an introductory session the Summer School addressed the topics 'CO₂ capture approaches and technologies', 'CO₂ utilisation technologies', and 'CO₂ storage'. The program was complemented by visits to the Sotacarbo pilot platform and laboratories, the Serbariu Old Mine Museum and a guided tour to the impressive underground complex of Porto Flavia as well as excellent social side events. CO₂GeoNet contributed with four presentations on 'Enhanced oil and gas recovery by injecting CO₂', 'CO₂ storage: where we are and new challenges', 'Cap rock-reservoir hydraulic characterization and test implementation - Experiences of Hontomín site', and 'Site monitoring'. The Summer School was a great success and benefitted from an expert organising committee,



Sergio Persoglia (right), Secretary General, impressed by the underground complex of Porto Flavia (photo courtesy A. Liebscher)

high-level international speakers, and last but not least, enthusiastic participants. We look forward to the fifth edition in summer 2017.

Axel Liebscher, GFZ, Germany



CO₂GeoNet at ECAC Symposium (photo courtesy S. Persoglia)

ECAC Symposium on adaptation and mitigation measures

CO₂GeoNet was invited to participate in the 16th European Meteorological Society Annual Meeting & 11th European Conference on Applied Climatology (ECAC) (12-16/09/16, Trieste, Italy). Ceri J. Vincent, BGS, UK, CO₂GeoNet Chair, presented on 'why reaching the COP21 targets is important and how CCS can contribute' in the ECAC Symposium on Climate Change – Adaption and Mitigation: The Role of Climate Science and Services. This offered the opportunity to communicate the important role CCS can play in reducing emissions and that the technology is flexible and ready to be rolled out globally to a scientific audience working in parallel to understand our changing climate. The presentation attracted several questions on how CCS works, where it is being demonstrated and how security of storage can be ensured. Read more at <http://www.emetsoc.org/emsecac-2016/>



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