



# Pan-European coordination action on CO<sub>2</sub> Geological Storage

## Background

Although the European Union has already made significant progress in advancing CO<sub>2</sub> Capture and Storage (CCS) as a key technology for combating climate change, the situation now calls for acceleration and an even spread throughout EU Member States and Associated Countries. This means supporting the 10-12 large-scale demos in Europe from all possible angles, so as to promote commercial deployment from 2020.

The CO<sub>2</sub> Geological Storage (CGS) part of the CCS chain deserves special attention because of its site-specific and delicate nature (wide range of scientific aspects, regulations still being developed, necessity to guarantee safety and efficiency over at least 1000 years, not yet fully proven, local acceptance issues, etc.).

## The project ...

In this context, a three-year Coordination Action, **CGS Europe**, was launched on 1<sup>st</sup> November 2010, financed by the EC FP7 programme and representing a total budget of 2.9 M€. This project will be carried out by 24 partners (one of which, the CO<sub>2</sub>GeoNet Association, comprises 11 of its members as third parties) from 28 participant countries.

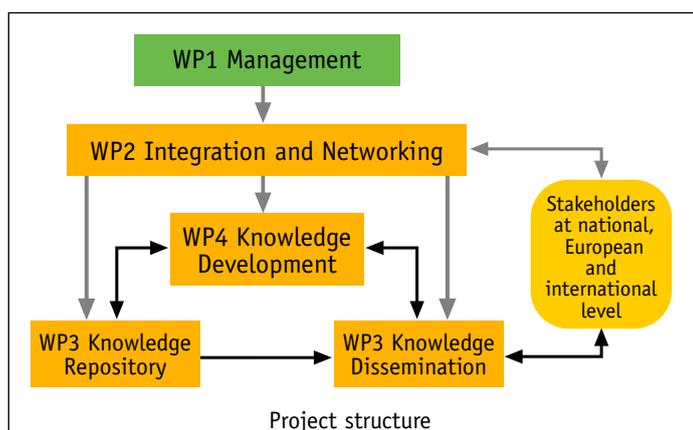
Based on networking, CGS Europe will promote cooperation both:

- *Internally* – between the participants with true European coverage: 24 EU Member States and 4 Associated Countries thus leading to capacity building between the 34 institutes involved, all with experience and references in CO<sub>2</sub> storage research, and
- *Externally* - reaching out to national, European and international stakeholders and initiatives within the CCS community as well as to the general public.

## ...and its objectives

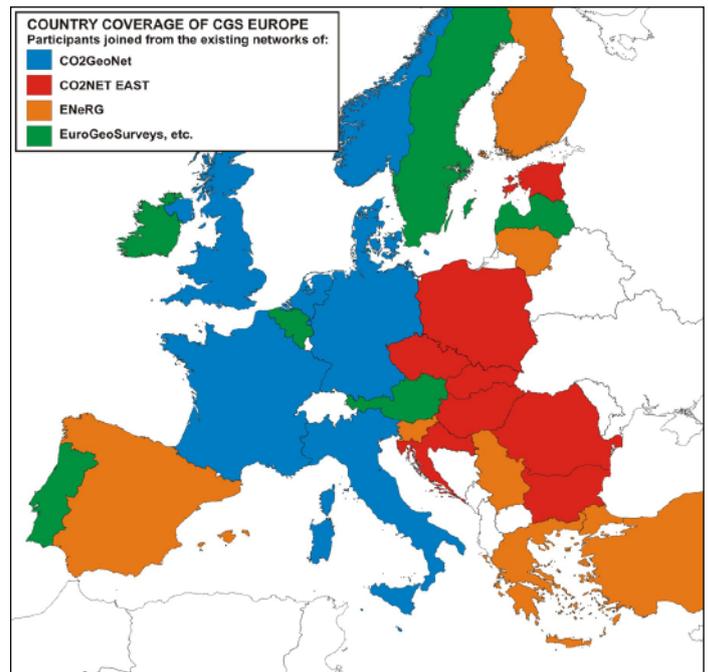
CGS Europe will build a credible, independent, long-lasting and representative pan-European scientific body of expertise on CO<sub>2</sub> geological storage that will:

- Instigate a durable networking of research capacity on CO<sub>2</sub> storage in all the relevant EU Member States and Associated Countries;
- Liaise and coordinate its activities with other stakeholders and existing initiatives in Europe to help define and coordinate CO<sub>2</sub> storage research roadmaps and activities at national, European and international level;
- Help reduce the existing gap between the ‘forerunner’ countries, where CCS activities have been started or planned, and those countries where these actions are not yet happening;
- Contribute to the large-scale demonstration and industrial deployment of CCS;
- Support the implementation of the European Directive on the geological storage of CO<sub>2</sub> and other regulatory regimes.



## The consortium

The project consortium ensures a wide geographical coverage through the involvement of partners from most European countries, and specifically includes all countries with considerable storage potential, although not restrictively so. All participants are key research institutes in their countries and many are leaders on CO<sub>2</sub> storage research at national and international levels, working as independent bodies. CGS Europe partners bring together expertise on two levels: *locally* through their geological and CCS contacts, but also *scientifically* concerning the many different aspects of CO<sub>2</sub> geological storage.



Cooperation, whether within the consortium or reaching out to stakeholders, will be made easier by the fact that CGS Europe builds upon existing networks and relationships, with the well-established CO<sub>2</sub>GeoNet Association acting as a nucleus, linked to the key geoscientific institutions from the CO<sub>2</sub>NET EAST and ENeRG networks, plus a few additional institutes from EuroGeoSurveys to increase coverage.

## Management and work plan

To achieve the project objectives, the CGS Europe consortium has planned a series of mechanisms to further enhance the collection, dissemination, and homogenization of scientific knowledge on CO<sub>2</sub> storage. Five work packages (WP) will concentrate efforts on:

**Consortium management (WP1)** will execute smoothly and efficiently the operational, legal and administrative management of the CGS Europe consortium.

**Integration & networking (WP2)**, encouraging participants to work together but also developing networking activities with external bodies and searching expansion of activities through external funding in order to prepare for self financing at the end of the project.

**Knowledge management** - in order to accelerate the large-scale implementation of CCS, including:

- Knowledge repository (**WP3**): to collect, structure and summarize existing CGS knowledge for easy use, developing a knowledge repository database and generating key summary reports on selected topics,

- ii) Knowledge development (**WP4**): to foster this knowledge by bridging the gaps between the different countries and joining forces through alignment of participants' research programmes and external support for increased capacity, sharing knowledge through internal workshops and exchanging staff, and
- iii) Knowledge dissemination (**WP5**): to spread the results to a broader audience in a clear and appropriate manner. Awareness-raising workshops will be organized as part of this WP, supported by brochures and website information.

### Outcomes and impacts

One major outcome of CGS Europe will be a better understanding of the current status of CO<sub>2</sub> geological storage throughout Europe, a sort of pan-European knowledge pool structured to provide relevant information (reports, best practices, country status, etc.) to a wide and varied audience. Through various dissemination tools (knowledge-dissemination and awareness-raising workshops, a website with an online knowledge repository, publications, spring/summer school, etc.), CGS Europe will offer access to unbiased, scientific advice to national regulatory authorities, industrial stakeholders, the scientific community, media, the general public, etc.

The most concrete outcome of CGS Europe, at the end of the EC funding period, will be a durable European-wide scientific body on CO<sub>2</sub> geological storage, forming the crossroads between national-European-Worldwide perspectives and needs in the field of CO<sub>2</sub> geological storage. This scientific body will remain independent after the end of EC funding through a framework that will enable the consortium to prolong its activities.

### Expected impacts are on two scales:

- *internally* - alignment of research activities between partners leading to significantly more cost-effective research throughout the EU, and the promotion of new common research projects that will be favored by the exchange of staff and knowledge-sharing workshops.
- *externally* - easier access to CO<sub>2</sub> storage knowledge, giving an independent reference for stakeholders, regulators and the general public. CGS Europe will also support the implementation of the European Industrial Initiative on CCS.

Knowledge will thus be spread more evenly throughout the EU using as many languages as possible for the dissemination tools. CGS Europe will become an independent body in which the public can trust and with a sufficient status to liaise with other national and international CCS-demonstration initiatives.



### Annual Open Forum

The Annual Open Forum, to be held in Venice, Italy, in the spring of each year, will continue the 5-year-old tradition founded by CO<sub>2</sub>GeoNet. The event will bring together the European research community and CCS stakeholders from various target groups. It is a unique opportunity to hear up-to-date information and hold discussions concerning the latest progress in the field of CO<sub>2</sub> geological storage.

The 6<sup>th</sup> CO<sub>2</sub>GeoNet Open Forum – the 1<sup>st</sup> organised within the CGS Europe project – will take place on 9-11 May 2011. The theme this year is CO<sub>2</sub> geological storage developments across the whole of Europe, including a country-by-country overview, an update on demos, FP7 projects results, status of the transposition of the EU CCS Directive, etc. The event will also host the 1<sup>st</sup> CGS Europe knowledge-sharing workshop focused on "Legal and regulatory issues for the implementation of the EU Directive on the geological storage of carbon dioxide".

[www.co2geonet.com/Venice2011](http://www.co2geonet.com/Venice2011)



### CCS awareness-raising workshops

Three international CCS awareness-raising workshops will be organised in Lithuania (2011), Turkey (2012) and Bulgaria (2013), a follow-up to the successful tradition of workshops initiated within the former EC FP6 CO<sub>2</sub>NET EAST project. The aim is to raise general awareness of CCS in 'follower' countries with slower CCS development and to provide information on main principles and latest developments in the field of CO<sub>2</sub> capture and storage.

The first workshop in this series will take place in Vilnius, Lithuania, on 13-14 April 2011. The workshop will join together leading European CCS experts and stakeholders from EU Member States and Candidate Countries of the Baltic Sea Region and Central & Eastern Europe.

[www.cgseurope.net/vilnius2011](http://www.cgseurope.net/vilnius2011)



### CGS Europe - some key statistics

#### 3-year Coordination Action

Funding: EC FP7

24 Participants, including the CO<sub>2</sub>GeoNet Association (11 members as third parties)

34 institutes specialized in CO<sub>2</sub> storage matters

24 EU Member States and

4 Associated Countries

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CGS Europe participants at the kick-off meeting in Paris, 29-30 November 2010

#### CGS Europe partners:

CO<sub>2</sub>GeoNet, CzGS (Czech Republic); GBA (Austria); GEOECOMAR (Romania); GEO-INZ (Slovenia); G-IGME (Greece); GSI (Ireland); GTC (Lithuania); GTK (Finland); LEGMC (Latvia); ELGI (Hungary); LNEG (Portugal); METU-PAL (Turkey); PGI-NRI (Poland); RBINS-GSB (Belgium); SGU (Sweden); SGUDS (Slovakia); S-IGME (Spain); SU (Bulgaria); TTUGI (Estonia); UB (Serbia); UNIZG-RGNF (Croatia)

#### CO<sub>2</sub>GeoNet members:

BGS (UK); BGR (Germany); BRGM (France); GEUS (Denmark); HWU (UK); IFPEN (France); IMPERIAL (UK); NIVA (Norway); OGS (Italy); IRIS (Norway); SPR Sintef (Norway); TNO (Netherlands); URS (Italy)

