

# ECCSEL

European Carbon Dioxide Capture and Storage Laboratory Infrastructure

## Preparatory Phase 2 Newsletter 1



*Enabling low to zero CO<sub>2</sub> emissions from industry and power generation ... to help combating global climate change*

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EUROPEAN  
STRATEGY FORUM  
ON RESEARCH  
INFRASTRUCTURES



SEVENTH  
FRAMEWORK  
PROGRAMME

## The way forward

*By Sverre Quale, Project Director & Coordinator ECCSEL*

ECCSEL has now entered the last year of the preparatory phase, with the final project documentation to be submitted by the end of this year.

Several important decisions have already been made, and some are still to come. In this edition of the Newsletter you will find a summary of what has been achieved so far, as well as an update of the general CCS status and situation in Europe.

With a planned ECCSEL implementation in 2015, the process of getting commitments from countries to join the ECCSEL RI operational phase is ongoing. At the last Policy Group meeting with today's partner country funding authorities/ministries, which took place on the 30<sup>th</sup> January, significant progress was made, with 5 countries already stating that they are supporting ECCSEL into the operational phase intending to join the ECCSEL RI from the start. And through bilateral ministerial meetings, we soon expect even more countries to sign up and supply Letter of Intents.

This is a very positive development, the next step being finalization of the statutes and contractual agreements with the individual partners.

The huge progress we have made lately would not have been possible without the great effort from the project staff and support from partners and ministries. So thanks and keep up the good work! The success of ECCSEL is dependent on all of us!

## ESFRI

### The European Strategy Forum on Research Infrastructures,

is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. The competitive and open access to high quality Research Infrastructures supports and benchmarks the quality of the activities of European scientists, and attracts the best researchers from around the world.

The mission of ESFRI is to support a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level.

ECCSEL has been on the ESFRI Roadmap since 2008.



## The need for CCS in Europe

By Volker Röhling, Project Manager ECCSEL

Carbon Capture, Transport and Storage (CCS) is a powerful tool in climate change mitigation and is an integral part of the SET Plan (European Strategic Energy Technology plan) and the ongoing development of the SET Plan Integrated Roadmap. It will be a needed tool for Europe to reach its 2030 and 2050 emission targets. Contrary to popular belief, CCS is a cheap and affordable technology for combating climate change. IEA (International Energy Agency) studies<sup>1)</sup> point towards 40% increase in cost of restructuring the electricity sector alone if CCS is not deployed. CCS is fully competitive with offshore wind and PV (solar/photovoltaic) and it offers a unique and only solution for retrofit of the fossil energy system we have today, which will be in operation for decades to come. It is also the only option to drastically reduce emissions in the industrial sector of steel, iron, cement, refineries and fertilizers. As climate change is happening, there is an urgent need to develop technologies that can drastically reduce our greenhouse gas emissions.

To secure European competitiveness and a sustainable industry, CCS will need to be deployed and will also offset 'carbon leakage' to other economies. It is also the only technology that can remove CO<sub>2</sub> from the carbon cycle by using CCS for biogenic CO<sub>2</sub> sources (bioCCS). Finally and not to be missed, is the relation to value creation and engineering solutions from Europe on the global market. Technology development and state of the art engineering solutions have been the hallmark of the European industry. CCS technologies offer a great possibility for value creation, jobs and export of services and products from Europe. This is where world class research infrastructures (RI's), such as ECCSEL aims to become, fit in.

We need to keep up the pace with other economies like Canada, the US and China in CCS, especially in R&D, not to lose momentum and the knowledge base for CCS in Europe. RI's for CCS are consequently critically important and the **Horizon 2020 Energy Work Programme**<sup>2)</sup> will have continued strong support for CCS R&I (Research & Innovation). This is also reflected in the European Parliament decision on the budget for H2020. H2020 will have a split of 15/85 in fossil/non-fossil R&I activities and the **bulk of the fossil R&I will be CCS**. In this respect a pan-European world class RI is needed as a tool for innovation and competitiveness. CCS is not only about climate change mitigation and security of energy supply, it is also very much about creating a vendor industry for these technologies, competitive on a global scale. **Europe's answer to this demand is the implementation and development of ECCSEL.**

*How ECCSEL will respond to policy goals of the European Union*

- 1) [www.iea.org](http://www.iea.org) IEA
- 2) Horizon 2020 Programme: <http://ec.europa.eu>

## ECCSEL Preparatory Phase 2 (PP2)

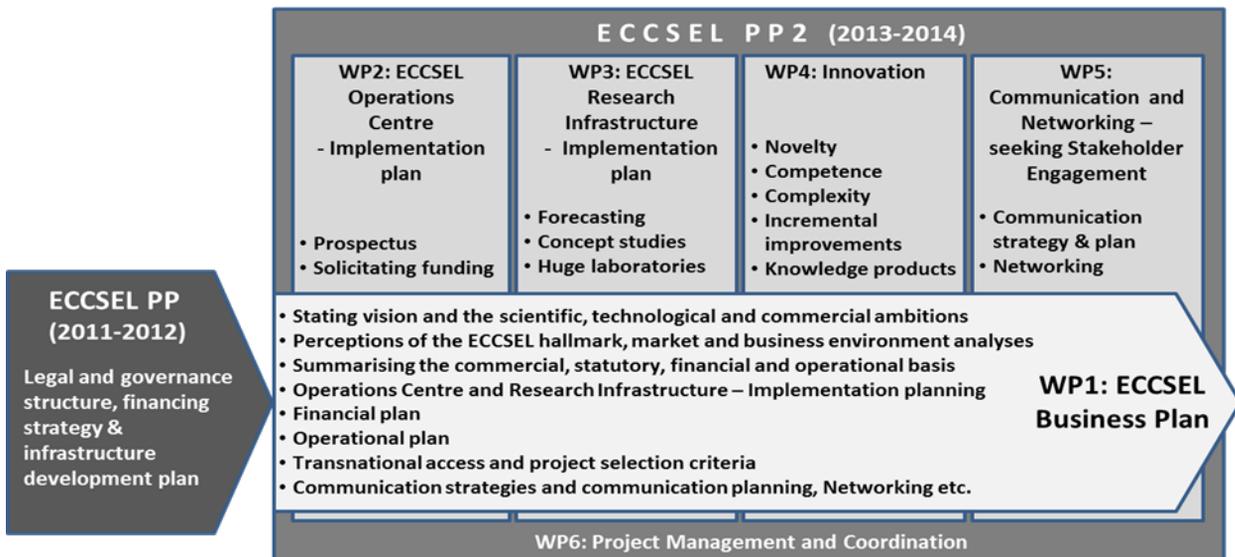
By the ECCSEL PP2 Project Management Team

The overall strategy of ECCSEL PP2 is to provide the prerequisites for two operational outlets, 1) the Research Infrastructure comprising European laboratory facilities, and 2) the Operations Centre (OC). The OC will form the overarching superstructure, the coordinating body of ECCSEL. The strategy will be summarised in a working document, taking into consideration the structure, mandate and commercial aspects of these outlets, forming the ECCSEL Business Plan.

**The main objectives of the ECCSEL initiative are to:**

- **Establish and manage access to a world class Carbon Capture and Storage (CCS) distributed research infrastructure (RI) in Europe (cooperating closely with the owners of the individual research facilities)**
- **Integrate and decide on upgrading existing laboratories across Europe and supplement with new ones**
- **Enhance European science, technology development, innovation and education in the field of CCS.**

ECCSEL has made significant progress since the last PCG meeting one year ago. ECCSEL PP2 is currently on schedule with only a few current deliverables expected to be completed up to 1 month later than projected. Those delays are not seen to impact the overall progress of the project. By now, a number of important conclusions have been made and several key deliverables have been completed, namely, the location of the ECCSEL Operations Centre, collegial decision making processes engaging policy makers.



*Work breakdown structure of ECCSEL PP2 providing the prerequisites for forming ECCSEL by 2015*

## Progress report of the specific ECCSEL PP2 work packages (WP1-5)

### WP1 ECCSEL Business Plan

The prerequisites of ECCSEL will be accomplished and summarised in the ECCSEL Business Plan. The business plan will have two distinct purposes: One internal, addressing issues of importance to the partners; The other purpose is external, addressing topics of relevance to stakeholders, particularly funding agencies, investors, industrial players, clients and users. As this work package covers all aspects of legal, financial, strategic, commercial and techno-economic relevance, it is considered the main deliverable of the project.

- Draft statutes of the legal entity for ECCSEL, has been approved by the ECCSEL Steering Board. A Norwegian state owned limited company will be the initial legal vehicle for the ECCSEL RI and a MoU with a "consortium agreement / rules of operation" will be signed by the future ECCSEL members.
- A 1st version of the Business Plan will be submitted in January 2014.
- Business Plan presentation material with concrete information needed for stakeholder meetings are continuously being updated.

### WP2 ECCSEL Operations Centre – Implementation Plan

The ECCSEL Operations Centre with its underlying services shall be duly planned for swift start-up forming the core hub of ECCSEL in 2015.

- The overall implementation plan for the Operations Centre (OC) as the core hub of ECCSEL has been established.
- The operational plans during implementation and the first three years of operation of ECCSEL have been completed.
- In July 2013 the General Assembly (GA) agreed to locate the OC in Norway and, at the same time, to foresee that the Operations Centre will take benefit from national hubs in the countries where the major laboratories forming the pan-European ECCSEL infrastructure will be located.
- "Evaluation criteria for topical research and transnational access projects" is completed.



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**The ECCSEL PP2 Project Management Team**

## **Progress report of the specific ECCSEL PP2 work packages (WP1-5)**

### **WP3 ECCSEL Research Infrastructure – Implementation Plan**

Proper planning will be made to meet the timeline for establishing the research infrastructure under the hallmark of ECCSEL in 2015.

- Substantial work has been done in forecasting future needs for upgrades and new research facilities and opportunities.
- Factsheets have been completed for 75 current capture, transport and storage facilities.
- Plans for upgrading existing and constructing new facilities have been prepared.

### **WP4 Innovation**

The purpose is to increase the potential for innovation mainly in three directions, notably to improve: 1) laboratory functions, 2) communication, 3) technology issues.

An innovation survey has been completed by all ECCSEL partners and work on creating the innovation management tool has started.

### **WP5 Communication and Networking – seeking Stakeholder Engagement**

This work package shall provide appropriate communication strategies and communication plans for networking, solicitation and negotiations, and for branding the ECCSEL hallmark.

- A communication strategy for fund-raising has been completed.
- The Communication Plan for soliciting and negotiating commitments and branding hallmark of ECCSEL as well as an “Outreach plan” have been completed.

## Meetings and events

*By Volker Röhling, Project Manager ECCSEL*

### 7th Trondheim conference on CCS

**4-5- June 2013**

ECCSEL participated conference and had a poster stand presenting ECCSEL.

### Communication and Policy development for Research Infrastructures in Europe (CoPoRI) meeting in Brussels, Belgium

**4-5 December 2013**

ECCSEL participated in the latest workshop where valuable experiences were shared.

### EERA meeting in Rome, Italy

**13 December 2013**

ECCSEL was an observer at the EERA General Assembly meeting.

