



## **6<sup>th</sup> Meeting of the Carbon Sequestration Leadership Forum (CSLF) Ministers**

### ***Moving Beyond the First Wave of CCS Demonstrations***

**Communiqué  
4 November 2015 at 1700**

We, the Ministers and Heads of Delegation of the CSLF Members, are greatly encouraged by the progress made in the research, development, demonstration and global deployment of Carbon Capture and Storage (CCS) since we last convened in 2013. R&D portfolios have grown, international collaboration has expanded, and the world's first large-scale CCS project in the power sector commenced operation. There are now 22 large projects in operation or under construction, with several others in final design awaiting financial decision.

The advances in CCS are noteworthy, but more needs to be done to bring CCS to the marketplace where it can achieve significant reductions in CO<sub>2</sub> emissions and help combat climate change. As noted by the International Energy Agency (IEA), in a scenario in which global CO<sub>2</sub> emissions are constrained to levels consistent with a less than 2°C rise in global temperatures at the lowest cost, CCS could contribute about one-sixth of needed CO<sub>2</sub> emission reductions in 2050, and 13 percent of the cumulative emissions reductions between 2015 and 2050 compared to a business-as-usual approach. The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Synthesis Report (AR5) concluded that without CCS the costs of climate change mitigation would increase by 138 percent, and without CCS, 2°C may not be possible.

Considerable progress in the deployment of CCS has been made in the last two years, and we have the opportunity to accelerate CCS deployment now and in the near future with strong global commitments and supportive government policies. Such government policies would be built on existing national circumstances, priorities, and obligations. We met today to discuss and address the key remaining challenges facing CCS and especially to identify collective activities necessary to support and accelerate further deployment. Our common goal is to ensure that the conditions are right for all CCS projects currently under construction or in advanced stages of planning to be completed. We must increase the number of new large CCS demonstrations by 2020, and support the development of the next generation technology for full-scale demonstration in the 2020s.

The CSLF is the world's only Minister-level multinational CCS forum and this year celebrates its 12<sup>th</sup> year of operation. While it is clear that significant progress has been made on CCS, challenges remain that we must – and can – overcome.

## **Key Actions Needed for CCS Deployment:**

- 1. We assert and advocate for clean energy policies that support CCS alongside other clean energy technologies, such as renewable energy and efficiency measures.** We are pleased that the role of CCS is recognized under the United Nations Framework Convention on Climate Change (UNFCCC) processes and mechanisms. Global momentum is building toward an agreement on ambitious climate change mitigation goals, and CCS can and should be an important part of the solution. Governments should work together to ensure the UNFCCC processes and mechanisms support all clean energy technology development including CCS.
- 2. We will continue to foster international collaboration aimed at advancing development and deployment of large-scale projects that demonstrate CCS technologies and build government, investor, and public confidence in CCS.** This will include encouraging the development of open networks to share lessons learned and help stakeholders, especially in non-OECD countries, to deal with difficult and time-consuming challenges such as financing. These will build on existing CSLF initiatives including the International Test Centre Network, the Large-Scale Saline Storage Project Network, the Capacity Building Program, and the CCS in the Academic Community Task Force. We will also publicly communicate benefits of CCS.
- 3. We commit to coordinated global efforts to deploy CCS projects and build technical and regulatory capacity around the world.** Many emerging 2<sup>nd</sup> and 3<sup>rd</sup> generation technologies with potential to significantly reduce the cost of CCS are in the process of being developed, tested, and scaled up, with timeframes for commercialization and deployment generally beyond 2020. We will actively seek and support such opportunities through bilateral and multilateral collaboration with other key bodies and organizations including the IEA, the IEAGHG, and the Global CCS Institute. We believe that the increasing number of such collaborations reflects the growing global recognition of the criticality of CCS and view such collaborations as complementary to the CSLF.
- 4. We will create opportunities and remove barriers for private sector investment in order to advance CCS and spark innovation.** Around the world, CCS is being implemented in selected “sweet spots” where regulatory, commercial, and technical factors converge with timely government support to realize a business case that attracts private investments. We will learn from these opportunities and take policy actions to create and sustain conditions that support investment and broaden CCS deployment.
- 5. We will give CCS fair consideration in clean energy policies and resource commitments, while also supporting development of comprehensive CCS policy frameworks.** CCS can provide different opportunities and solutions for different countries, and the appropriate design of a CCS policy framework, including development of financing policy and incentives, will vary among countries and across industries. Comprehensive policy frameworks should be created to help improve technology performance, reduce cost and create favorable conditions for CCS deployment by providing greater parity for CCS as a clean technology option. This may build upon existing frameworks and structures, such as those under the

UNFCCC, including its technology mechanism, the Green Climate Fund, and the Clean Development Mechanism.

6. **We support industrial CCS applications as a pathway to implement substantial, scalable CCS pilot plants.** CCS is the only option for decarbonizing high emission process industries such as refineries, and the chemical, cement and steel sectors. By 2050, half of the captured CO<sub>2</sub> could come from industrial sources outside the power sector. Furthermore, industrial processes will offer opportunities for early projects, as many processes produce relatively pure streams of CO<sub>2</sub>, and thus will have significantly lower capture costs.
7. **We encourage early stage exploration and development of common user storage and transport infrastructure which can significantly de-risk many potential CCS projects.** Governments can facilitate early-stage projects by supporting the development of transport hubs and clusters and by anticipating the characterization of potential storage sites.
8. **We will continue to explore the potential of CO<sub>2</sub> utilization technology to accelerate the deployment and technology maturation of carbon capture and mitigation.** The CSLF will encourage creative, economically beneficial, environmentally friendly uses of CO<sub>2</sub> by disseminating relevant information supplied by its members, and recognizing new projects that deploy Carbon Capture, Utilization and Storage (CCUS) approaches with significant market and CO<sub>2</sub> abatement potential.

### **Importance of Stakeholder Involvement**

We will seek input from stakeholders on how to further the goals of the CSLF and implement the actions identified above. Supportive and engaged stakeholders in industry, society, and the academic community are critically important to the development and commercial deployment of CCS. While the CSLF is a means of international collaboration by governments, collaboration at the international level between governments and industry is also vitally important. We applaud the efforts of stakeholders to advance CCS and to be involved in CSLF activities. We strongly encourage their continued involvement in the CSLF.

### **Building on the Success of the CSLF**

We recognize the success of the CSLF in providing governments with an international forum to collaborate and create shared commitments to CCS research, development, demonstration, and deployment. This includes CSLF initiatives to:

- Lead global collaborations on pilot scale capture testing and large scale injections in deep saline geological formations;
- Share information internationally on important CCS projects, policy initiatives, and legal and regulatory developments in member countries;
- Build the capacity for CCS in the developing country CSLF Members;
- Explore methods for financing CCS projects, including in developing countries; and
- Develop global roadmaps for research, development, demonstration, and deployment of CCS technologies.

We are pleased to announce our recognition of 5 additional CCS projects, making a total of 49 active and completed CSLF-recognized projects sharing their results globally. We also commend the CSLF's capacity building initiative for successfully supporting 14 projects in 5 developing nations.

We are very pleased to welcome Romania and Serbia as new members of the CSLF and look forward to their active participation.

### **Moving Forward: Next steps for CSLF and its Members**

We advocate the need for CCS to compete on a comparable basis with other clean energy options as they prepare their Nations for implementation of the outcome of the UNFCCC Conference of the Parties next month in Paris.

This includes advocating for large-scale integrated projects as well as for the infrastructure needed for capture, transport and storage of CO<sub>2</sub>. Co-benefits of CCS projects that are integrated with production of hydrocarbons or water resources or heat should also be leveraged.

We also convey support to the International Maritime Organization (IMO) for its leadership on *The 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972*<sup>1</sup>. The steps taken to enable safe sub-seabed CO<sub>2</sub> storage and address transport issues under this agreement seek to create future CCS opportunities for countries with unsuitable or insufficient geological storage. The ratification of the export amendment to the London Protocol, or a similar agreement, is required to enable cross-border transfer of CO<sub>2</sub> for permanent sequestration.

To support the key actions above, we task the CSLF to work to accelerate CCS deployment through specific actions, including:

- Establishing a global CCS project network to facilitate the sharing of lessons learned from early CCS projects now being deployed;
- Exploring opportunities to collaborate on research, development, and demonstration projects advancing CCS combined with fresh water co-production;
- Promoting appropriate recognition of and crediting for bioenergy plus CCS (BECCS) and enhanced oil recovery plus CCS (CO<sub>2</sub>-EOR) in regional, national and multi-national CO<sub>2</sub> accounting mechanisms;
- Expanding outreach to the academic community to engage the next generation of CCS scientists, engineers, and policy makers.

The CSLF will continue to lead strategic multi-national initiatives, leverage investments, and share knowledge. Specific CSLF initiatives include ongoing capacity building efforts, reinvigorated CCS in the Academic Community Task Force efforts, multi-lateral R&D collaborations, the International Test Centre Network, and the Large-Scale Saline Storage Project Network.

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<sup>1</sup> See <http://www.imo.org/en/OurWork/Environment/LCLP/Pages/default.aspx>

These joint efforts will help streamline global collaboration on CCS and help position CCS as a competitive and deployable low-carbon technology, attracting investments, and enhancing the growth in CCS. This will help to resolve barriers for successful implementation of CCS projects worldwide in a time frame consistent with global climate change mitigation aspirations.