

## Annex A<sup>1</sup>

### Mini Case Study: Global Carbon Capture and Storage Institute

Prepared by the Delegation of Australia

#### Introduction

Approximately 100 new conventional large-scale power stations are currently being constructed around the world each year. Carbon capture and storage provides a solution for existing fossil fuel plants, as well as plants that will be built in the coming years. The technology involves capturing CO<sub>2</sub> that would otherwise be emitted to the atmosphere, compressing it, transporting it to a suitable site and injecting it into deep geological formations where it can be safely stored.

The Global Carbon Capture and Storage (CCS) Institute focuses on addressing the global challenge of climate change. Although established only in 2009, its experience to date offers lessons for governance structures to facilitate international co-operation and provide solution for climate change.

The International Panel on Climate Change (IPCC) estimates that global CO<sub>2</sub> emissions must be reduced by 50% to 85% by 2050 compared to 2000 levels in order to prevent the global mean temperature from rising by more than 2.0°C to 2.4°C, the threshold at which climate change becomes severe. Electricity sourced from fossil fuels accounts for more than 40% of the world's energy-related CO<sub>2</sub> emissions. A further 25% comes from industrial processes including iron and steel production, cement making, natural gas processing and petroleum refining. CCS is a technology that can reduce emissions from power plants and industry to levels approaching zero. To achieve the goal of limiting global average temperatures to 2°C above pre-industrial levels by 2050, the International Energy Agency (IEA) found that CCS must contribute one-fifth of the lowest-cost emissions-reduction solution. Without CCS, overall costs to achieve this goal increase by up to 70%.

#### Establishment of the Global CCS Institute

In September 2008, the Australian government announced that it would establish the Global CCS Institute to help shape an international solution to climate change by building momentum for the deployment of CCS technology. The Global CCS Institute was formally launched in April 2009. It became a legal entity in June 2009 when it was incorporated under the *Australian Corporations Act* (2001) as a public company. It began operating independently as of July 2009. The Global CCS Institute is a not-for-profit entity, limited by guarantee, and owned by its members. The Australian government initially committed annual funding of AUD 100 million for a four-year period.

In 2008 at the Hokkaido Toyako Summit, G8 leaders affirmed their support for the launching of 20 large-scale CCS demonstration projects by 2010 with a view to broad deployment of CCS by 2020. The overarching objective of the Global CCS Institute is to facilitate the achievement of the G8 goal to accelerate the broad deployment of

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1. As noted in Chapter 1 and Box 1.1, two smaller institutional case studies were undertaken to complement the in-depth core case studies, and one is presented in this annex.

commercial CCS to ensure that the technology plays a role in responding to the world's need for a low-carbon energy future. The achievement of this objective requires the following: a global portfolio of integrated CCS demonstration projects to demonstrate the technology at industrial scale; a set of “enablers” to facilitate commercial roll-out; policy, financial, and public awareness; capacity building and knowledge sharing. A strategic framework guides the Global CCS Institute's work on demonstration projects and on strategic enablers to support the longer-term commercial deployment of CCS.

## Institutional arrangements

Detailed consultations among research and global stakeholders preceded the decision on the governance arrangements of the Global CCS Institute. The Australian government engaged the Boston Consulting Group (BCG) to advise on the most suitable business model, to present the model to stakeholders and incorporate their feedback, and assist in its implementation. The model had to reflect the Australian government's vision of the Global CCS Institute as a truly global entity rather than an Australian entity acting globally. The governance structure needed to allow the Global CCS Institute to operate independently of government and have a responsive and dynamic governance structure in order to accelerate the commercial deployment of CCS.

A meeting of global stakeholders was held in London in November 2008 to discuss the legal and governance structure. An issues paper was developed outlining the objectives in choosing a legal and governance structure that:

- a) Allowed for governments, research organisations and industry bodies (wherever located) to be members of the Institute as the arrangements for the Institute evolved, thereby facilitating its truly global nature.
- b) Did not preclude a range of models for the governance of the entity;
- c) Supported the view that the Governing Board should act in the interests of the Institute as a whole rather than any individual member.
- d) Enabled a CEO to have legal responsibility to act in the interests of the Institute and report to the Governing Board.
- e) Provided flexibility in determining employment and secondment arrangements for the CEO and the technical experts to ensure that the Institute would be recognised as a centre of excellence in CCS.
- f) Provided a potential shield from liability should members be concerned about incurring legal liability as a result of activities performed by the Institute.
- g) Provided accountability and transparency.
- h) Was a legal concept well understood by governments, industry participants and researchers.
- i) Enabled members to easily terminate their membership.
- j) Was consistent with the Institute's “not for profit” status.
- k) Enabled the Institute to enter readily into legally binding commitments with demonstration project parties (*i.e.* parties wishing to provide funding to the Institute and others wishing to receive services from the Institute).
- l) Ensured that the Institute is not hindered by government processes and can respond quickly to emerging scenarios.
- m) Did not exclude stakeholders from decision making on any changes to the activities or governance arrangements concerning the Institute.

- n) Allowed all stakeholders to have a role in determining the governance arrangements and other activities of the Institute equivalent to that of the Australian government if they provide comparable levels of funding and other forms of commitment.

A range of alternative legal models was considered: a company limited by shares; a trust; an international organisation; an unincorporated joint venture; an Australian government agency; and a transitional hybrid for a company limited by guarantee. Analysis of the options, supported by legal advice and broad consultation with stakeholders, concluded that a multi-member not-for-profit company limited by guarantee was the optimal legal structure to achieve the stated objectives.

When the Global CCS Institute was launched in April 2009 it had 15 governments and more than 40 major companies and industry groups as foundation members. By October 2010 membership had increased to 263 members, including 26 national governments. The criteria for membership are set out in its constitution. It is open to any government, corporation or organisation that can demonstrate a legitimate interest in the advancement of CCS. There is no application fee to become a member though there is a small contingent liability (AUD 10) should the Global CCS Institute be wound up and unable to discharge its liabilities.

The Global CCS Institute is governed by a board of directors based in Australia, France, Japan and the United Kingdom. The board seeks input from an International Advisory Panel and a Technical Advisory Committee. In relation to decisions that determine the direction of the organisation, the constitution distinguishes between various classes of members. Voting rights are specified for government, major industry and general members. Each group is able to appoint two members to the Board Selection Panel. This guarantees that the views of government and major industry groups are still heard when their proportion of overall membership base is diluted with the growth of new members.

On an operational level the Global CCS Institute has built close working relationships with international organisations with complementary skills and a vested interest in the deployment of CCS. Two examples are the IEA and the Carbon Sequestration Leadership Forum. These close ties help to avoid duplication of effort and to create synergies from the respective strengths of each organisation.

### **Global CCS Institute – the first and second years**

Although the Global CCS Institute is a newcomer, it has closely considered the efficacy of various governance dimensions. For example, the theme of the Global CCS Institute members' meeting held in Kyoto in October 2010 was "Building Project Capability through Knowledge Sharing". Attended by over 130 representatives from over 90 members, the event launched a new digital platform to facilitate collaboration among members. Breakout sessions investigated members' preferences for the right mix of collaboration via digital technology and face-to-face meetings.

At the Kyoto meeting the first round of project support funding was announced: AUD 18 million were allocated to address specific technical barriers related to six projects around the world. As a condition of receiving funding from the Global CCS Institute, projects needed to commit to knowledge sharing for the benefit of the global CCS community. A number of informative presentations at the meeting provided valuable lessons for the benefit of all delegates.

Not surprisingly, in its first year of operation the Global CCS Institute emphasised setting up its operations, establishing relationships with other key stakeholders, and determining a forward work programme that met the needs of its rapidly growing membership base. In its second year, the emphasis shifted from set-up to execution, with a continuing focus on co-operation and collaboration with other organisations.

The Institute's membership continued to grow, and reached 330 by November 2011, including 27 national governments and the European Commission. This membership is spread across all inhabited continents. To reflect its global status and the need to service its diverse membership, the Institute opened offices in Washington, DC, and Tokyo in 2011, adding to its presence in Paris and Canberra. Global CCS Institute staff are also present in Canada, the United Kingdom, Belgium and the Netherlands. Full-scale members' meetings continue to be rotated through different regions of the world. Meetings were held in Europe and Australia during 2011, following meetings in the United States and Japan in 2010. A programme of local member workshops was also instituted during 2011; meetings were held in Australia, Japan, Korea, the United States, Canada, the United Kingdom and Poland.

Specialist thematic groups of members were also formed around certain issues to bring together organisations with common interests to share information on technical issues relating to CCS, and to provide input to the Institute's work programme. Some of these groups or networks used the Institute's knowledge platform to facilitate knowledge sharing through document exchange and online discussion groups. The knowledge platform was also used as an outreach mechanism to disseminate information related to CCS in many different forms, including publications authored by the Institute and other organisations (more than 100 published on the Institute's website), blogs by a wide variety of contributors, and a "community" space open to anyone who registers interest.

Collaboration with other international organisations also increased during the year. The Institute is a member of the Carbon Capture, Use, and Storage Action Group under the Clean Energy Ministerial; a collaborating international organisation with the Carbon Sequestration Leadership Forum (CSLF); funds the IEA CCS Unit; provides monies to capacity development trust funds administered by the World Bank, the Asian Development Bank and the CSLF; and became an accredited observer organisation to the United Nations Framework Convention on Climate Change. It works closely with all these organisations, and has established close working relationships with many non-governmental organisations (NGOs) with an interest in CCS.

The governance structure adopted by the Institute has proven effective for meeting the objectives set out by stakeholders in 2008. Broad support from a wide and increasing membership shows that governments, corporations and research bodies see the Institute as independent and not captured by specific stakeholders. Recommendations on the treatment of intellectual property (IP) have been adopted by the Institute and have led to close relationships with project developers. Under these recommendations, sensitive commercial issues can be discussed, but such information can be protected; only non-proprietary information can be released. The independent, not-for-profit status of the Institute facilitates the development of such relationships. On the basis of relationships and the significant start-up funding provided to the Institute, a large amount of technical and project-specific knowledge is now being generated and widely disseminated. This information dissemination role is very well received, as demonstrated by the number of web downloads and attendance at both online and face-to face seminars and workshops.

The Institute's governance structure has also allowed it to establish and implement a work programme quickly, as it is not constrained by the “consensus” or committee-based decision making which is a feature of many international organisations. The Institute is answerable to its membership, but the company structure means that members are not intimately involved in day-to-day decision making. This freedom has allowed the Institute to make an impact and establish itself as a major voice for CCS within its first two years. The model adopted in setting up the Institute appears to be a good example of how to achieve global collaboration across government, industry and NGOs for effective results in a relatively short period of time.

**Intellectual property** has received considerable attention since the early planning stages of the Global CCS Institute. The BCG developed some general principles regarding how IP should be treated by the Institute and included the following recommendations for the Institute’s conduct of IP:

- Gather and package non-proprietary information about CCS and make it accessible to all stakeholders;
- Endeavour to make IP generated through programme activities as widely accessible to members as practical.
- Seek to make IP jointly generated by the Institute and its partners through Institute activities available on reasonable terms to other Institute activities (including demonstration projects).
- Respect the IP rights of partners and project proponents, and the right of IP holders to profit from their work.

**Knowledge sharing** remains pivotal to the work of the Global CCS Institute. In fact it is one of the following three core functions:

1. Sharing knowledge
  - Collect information to create a central repository for CCS knowledge.
  - Create and share information to fill gaps and build capacity.
2. Fact-based advocacy
  - Inform and shape domestic and international low-carbon energy policies.
  - Increase awareness of the benefits of CCS and the role it plays in a portfolio of low-carbon technologies.
  - Project assistance
  - Tackle specific barriers, particularly among early movers.
  - Bridge knowledge gaps between demonstration efforts.

## Summary

The Global CCS Institute has a governance structure designed to incorporate the diverse views of its membership and to remain independent from government and sufficiently responsive to make the deployment of CCS technologies a reality. It is too soon to draw lessons from the Global CCS Institute. However, the growth in the membership base would indicate that many consider this model of international collaboration an option worthy of close consideration when looking to address global challenges.





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