



GLOBAL
CCS
INSTITUTE

DRAFT DISCUSSION PAPER

PROJECTS STRATEGY

PROJECTS STRATEGY—DRAFT DISCUSSION PAPER

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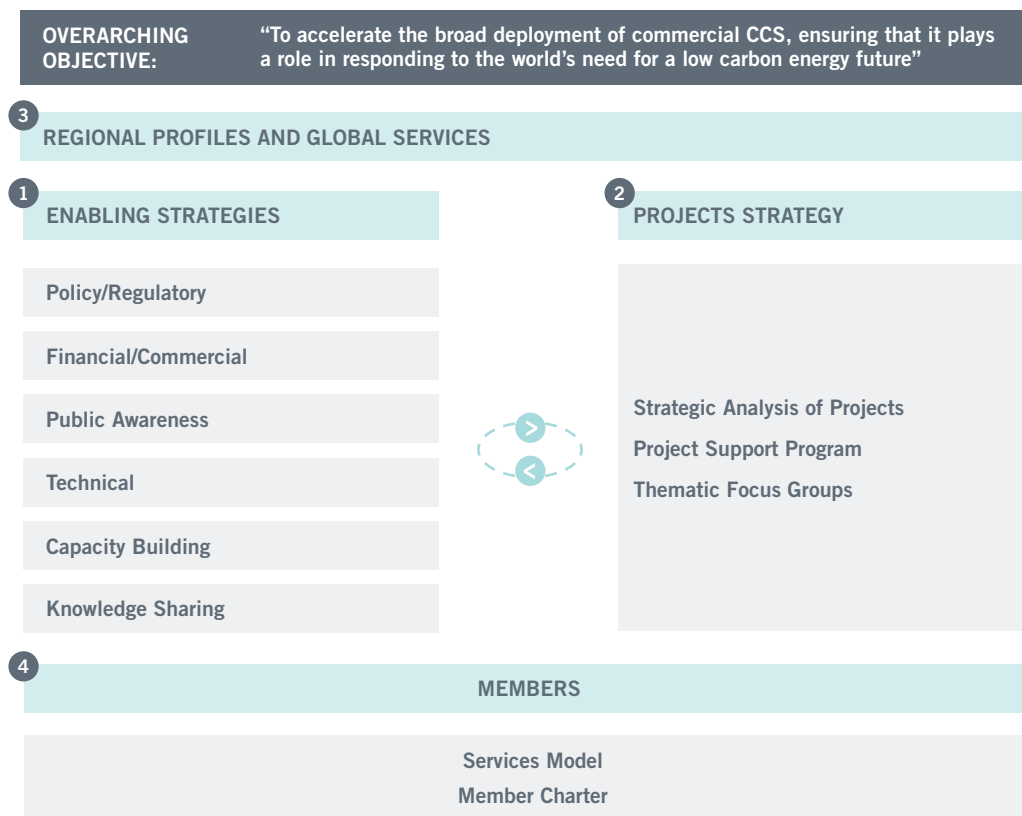
INTRODUCTION

Projects Strategy within the Global CCS Institute’s Strategic Framework

The Global CCS Institute works collaboratively with organisations and governments to accelerate the broad deployment of commercial carbon capture and storage (CCS), ensuring that the technology plays a role in responding to the world’s need for a low carbon energy future.

The Institute’s work towards accelerating broad CCS deployment is undertaken as a set of workstreams under a Strategic Framework (Figure 1). The Strategic Framework is described in detail in the Enhanced Strategic Framework document. The Framework includes four broad ‘elements’ of Institute activity (areas where the Institute will interact with the global CCS stakeholder community). A key element of the Framework is the Projects Strategy.

FIGURE 1: GLOBAL CCS INSTITUTE STRATEGIC FRAMEWORK



The Institute’s engagement with industrial scale projects is core to delivering the Institute’s overarching objective.

- First, through the Projects Strategy, the Institute supports stakeholders in overcoming barriers to project delivery by:
 - + maintaining a comprehensive, global view of project progress and challenges;
 - + directly supporting Member activities which address key barriers to project deployment; and
 - + facilitating knowledge sharing between project proponents in order to promote best practice.

- Second, the Projects Strategy reinforces the Institute’s work on Enabling Strategies (Figure 2) by:
 - + disseminating the knowledge developed within the Institute’s enabler workstreams; and
 - + contributing to the Institute’s knowledge base through the Institute’s practical experience with projects.

FIGURE 2: REINFORCING RELATIONSHIP BETWEEN ENABLERS AND PROJECTS



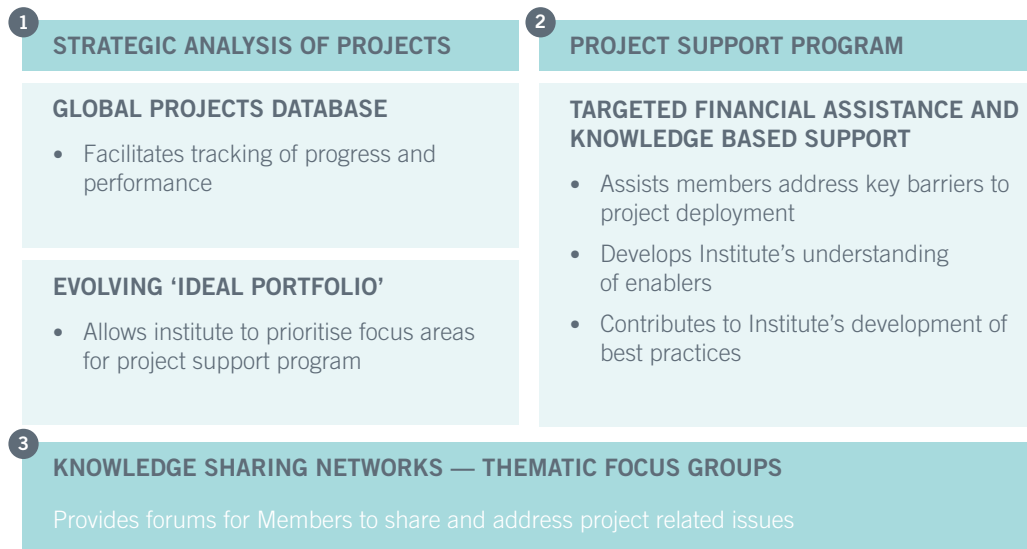
Purpose of this document

This document sets out a draft of the Institute’s Projects Strategy. It describes the purpose and role of each of the three work programs that will guide the Project Team activities in the future.

OVERALL PROJECTS STRATEGY

The Institute implements the Projects Strategy through three mutually supporting component programs (Figure 3). These programs echo Member needs identified during the Institute's base-lining work, and through Member feedback following the November 2009 Members' Meeting in Paris (Figure 4).

FIGURE 3: OVERVIEW OF PROJECTS STRATEGY PROGRAMS



- **Strategic Analysis of Projects**—The Institute builds and maintains a comprehensive view of the developing pipeline of demonstration projects, their progress and barriers. The Institute uses analysis of the global project portfolio to identify how the Institute can best act to accelerate broad CCS deployment.
- **Project Support Program**—The Institute offers targeted financial and knowledge based support in order to overcome key barriers associated with demonstration projects. The Institute distils learnings from these projects in order to derive best practices, and to be able to better inform and support other CCS projects facing similar challenges.
- **Thematic Focus Groups**—The Institute forms networks around common themes, as a means to develop and share best practice amongst project proponents.

In combination, the three Project Strategy programs form a platform for the Institute to effectively leverage the project experience and expertise of its Membership in order to accelerate the broad deployment of CCS.

FIGURE 4: PROJECTS STRATEGY PROGRAMS DESIGNED TO ADDRESS MEMBER NEEDS

NEED/REQUEST	QUOTES	PROGRAM
An authoritative picture on progress of CCS	<ul style="list-style-type: none"> “The real task of the Institute is monitoring global progress in CCS and identifying gaps” “The best thing the Institute can do is to provide as much information as possible” “What is needed is an impartial fact base” 	Strategic Analysis of Projects
Support for projects to overcome barriers	<ul style="list-style-type: none"> “In terms of how the Institute supports individual projects, there could be a role in consortia building” “The Institute could help find experts in some areas and put them on projects” “The Institute could be developing structured approaches to solving CCS barriers” 	Project Support Program
Forum for projects to share/broker knowledge	<ul style="list-style-type: none"> “The Institute could take on a knowledge sharing role” “Facilitate communication and networks of people” “I do see a role for the Institute in knowledge broking” 	Thematic Focus Groups

STRATEGIC ANALYSIS OF PROJECTS

Purpose

The Strategic Analysis of Projects is intended to position the Institute as the leading authority on the status and dynamics of the global CCS project portfolio.

The Institute will work with its partners and unique Membership base to keep a comprehensive, up-to-date Projects Database of the global CCS project pipeline, and a record of any barriers that projects encounter. In parallel, the Institute will maintain an evolving view of the ‘Ideal Portfolio’ of CCS projects. This Ideal Portfolio is not intended to exclude CCS projects from the desired project mix, but rather to identify gaps in the current global project portfolio which require significant development.

Together, the Projects Database and Ideal Portfolio activities will allow the Institute to:

- keep the global CCS community informed of project progress;
- identify common barriers and common criteria for success; and
- focus Institute activities through Project Support and enabler workstreams.

Program activities

Projects Database and analysis

The Institute’s Projects Database, coupled with regular reporting represents the world’s only comprehensive overview of the status of CCS projects. The Institute’s strategic analysis and reporting on the global project portfolio will deliver insight on the status of projects worldwide, and the barriers they are facing. This will further assist the Institute in identifying how they can best act to accelerate broad CCS deployment.

The Projects Database will be updated annually following a comprehensive survey of global projects. The Projects Database will support the Institute’s biannual projects analysis and reporting process that will be undertaken in order to capture and reflect the dynamics of the rapidly evolving CCS environment.

The Institute will continue to develop its internal capacity so that Institute personnel can increasingly undertake the review, analysis, and reporting on projects in-house. This will assist the Institute in building an internal knowledge-base, and create further opportunities for Institute staff to develop networks and relationships with project proponents.

The Institute’s key Projects Database and analysis activities are:

- maintaining a comprehensive database to track the status of all CCS projects that are either operating, under development, or on-hold/cancelled;
- developing an annual ‘report card’ on the overall advancement of CCS projects; and
- analysing the Projects Database and engaging proponents in order to develop reports on common barriers and drivers, and how they may change over time. An understanding of project barriers, and their dynamics and dependencies, will help guide the Institute’s work in the enabler workstreams (Figure 5).

FIGURE 5: PROJECTS DATABASE ANALYSIS CAN HELP GUIDE THE INSTITUTE’S ENABLER WORKSTREAMS



¹ ‘Major challenge’ defined as being amongst the top two challenges identified in survey responses

Note: Number of responses: Identify – 20, Evaluate – 14, Define – 8, Execute – 3, Operate – 5; Total of 76 integrated, demonstration or commercial scale projects in database; 50 responses; 66% response rate

Source: Global CCS Institute Projects Database

A publicly accessible, web-based version of the Projects Database will be launched in 2010, and will contain non-commercially sensitive project information.

Ideal Portfolio

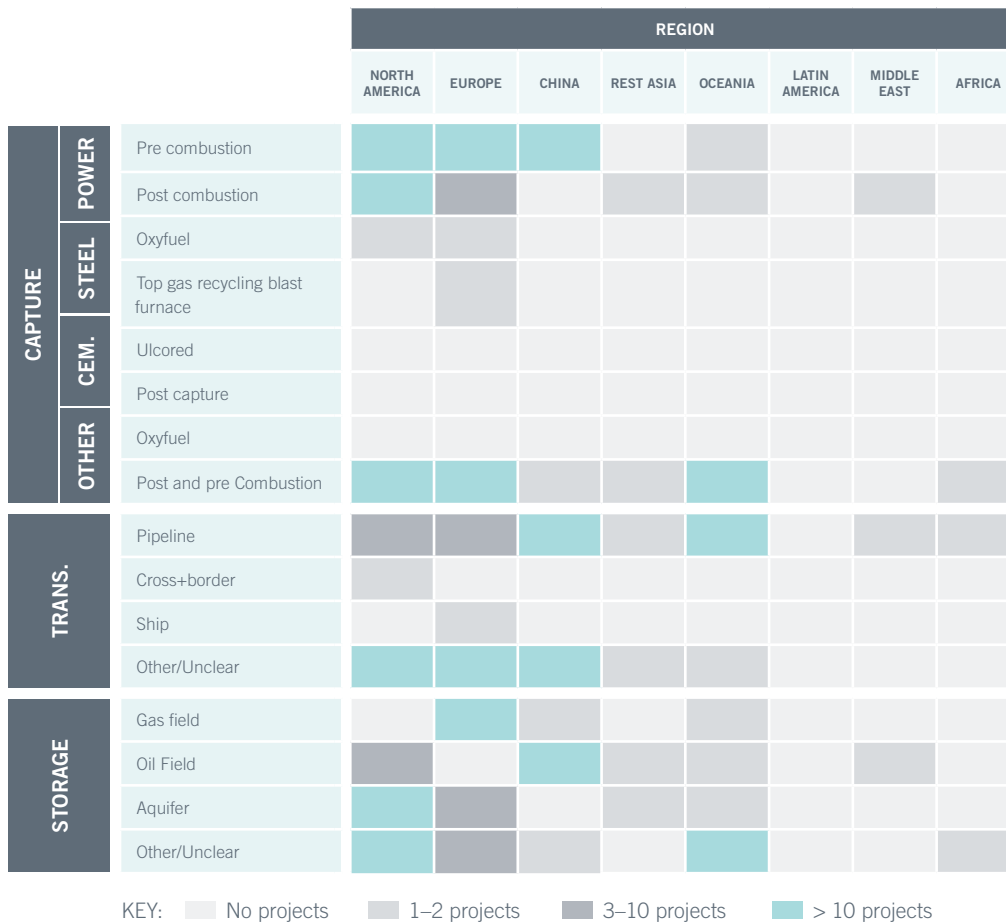
The Ideal Portfolio has been developed in order to identify the types of demonstration projects that may be necessary to prove CCS in the range of applications and geographies required for broad deployment. The Ideal Portfolio is defined in order to include a mix of project types across three dimensions: geography, technology and industry (Figure 6). The Ideal Portfolio is dynamic in nature and will evolve over time in line with technological and regional developments.

FIGURE 6: DIMENSIONS FOR DEFINING AN IDEAL PORTFOLIO

DIMENSIONS	CONSIDERATIONS
Most relevant emitting industries	<ul style="list-style-type: none"> • The largest CO₂ emitting sectors • Industries that already carry out CO₂ separation
Most attractive technologies and configurations	<ul style="list-style-type: none"> • Readiness for commercial deployment by, or around, 2020 • Competitiveness on cost and performance • Ability to address a significant share of the potential market
Geographic distribution	<ul style="list-style-type: none"> • Level of CO₂ emissions • Availability of suitable storage sites • Current attractiveness of the policy and regulatory environment

By comparing the Ideal Portfolio with the Projects Database, the Institute is able to identify gaps in the emerging global portfolio of projects, allowing it to take action through its enabler workstreams and the Program Support Program. Preliminary analysis of existing and developing CCS projects reveals significant gaps in deployment relative to the Ideal Portfolio (Figure 7).

FIGURE 7: PRELIMINARY ANALYSIS OF CURRENT GLOBAL PROJECTS VS THE IDEAL PORTFOLIO



PROJECT SUPPORT PROGRAM

Purpose

The aim of the Project Support Program is to:

- provide targeted financial and knowledge-based support to Member activities which address key barriers to the delivery of integrated, commercial-scale CCS demonstration projects;
- gain access to learnings in order to facilitate transfer of knowledge amongst Institute Members and the wider CCS community, and to inform the development of best practices; and
- promote the development of projects aligned with the Ideal Portfolio, in order to prove viability of CCS in the range of applications and geographies required for broad deployment.

The Project Support Program is not designed to provide financial support to close the total project lifecycle funding gap. Rather, it is targeted to support the completion of particular activities required to address critical barriers to project development.

Program activities

Types of project supported

The Institute supports projects which contribute to the widespread deployment of integrated, commercial-scale CCS. In order to ensure that the most value is realised from project support, the mix of project types supported may change over time. The evolving Ideal Portfolio will continue to guide the selection of projects, by identifying the industries and geographies where project development is most critical, and learnings most valuable.

Initially, the Institute supports projects which best fit two criteria:

- the projects are developing, and willing to share, valuable knowledge for the broader deployment of CCS:
 - + the project should be relevant to the ideal portfolio;
 - + the knowledge generated should be relevant to the Institute’s Membership; and
 - + the project should address general barriers to widespread development of CCS technologies.
- the projects should be credible—i.e. they should have a robust business plan and viable commercial structure with participants possessing the required competencies.

An initial focus on first-mover projects allows the Institute to build internal capabilities and standing, as well as begin to develop best-practices which can be shared within the CCS community.

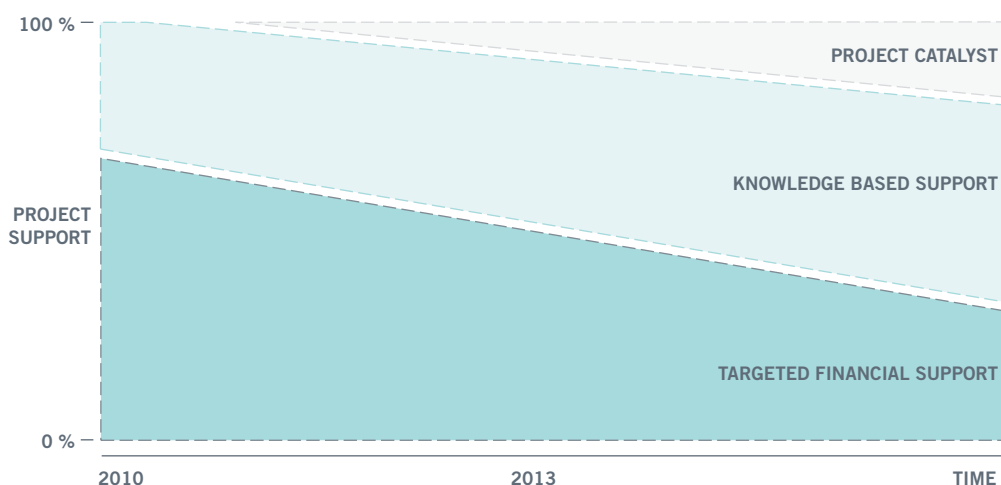
Nature of support provided

The Project Support Program can directly support projects in three broad ways. The mix of these types of support may evolve over time (Figure 8):

- providing targeted financial support to projects to perform targeted studies that directly address project barriers;
- providing knowledge based support to CCS projects, delivered by regionally-based teams with CCS related capabilities; and
- catalysing industry and government Members to develop projects where the Project Support Program identifies major gaps in the project portfolio.

Through engagement with projects in all these ways, the Institute can facilitate the sharing of knowledge and know-how between Members involved in project development.

FIGURE 8: MIX OF PROJECT SUPPORT MAY CHANGE OVER TIME

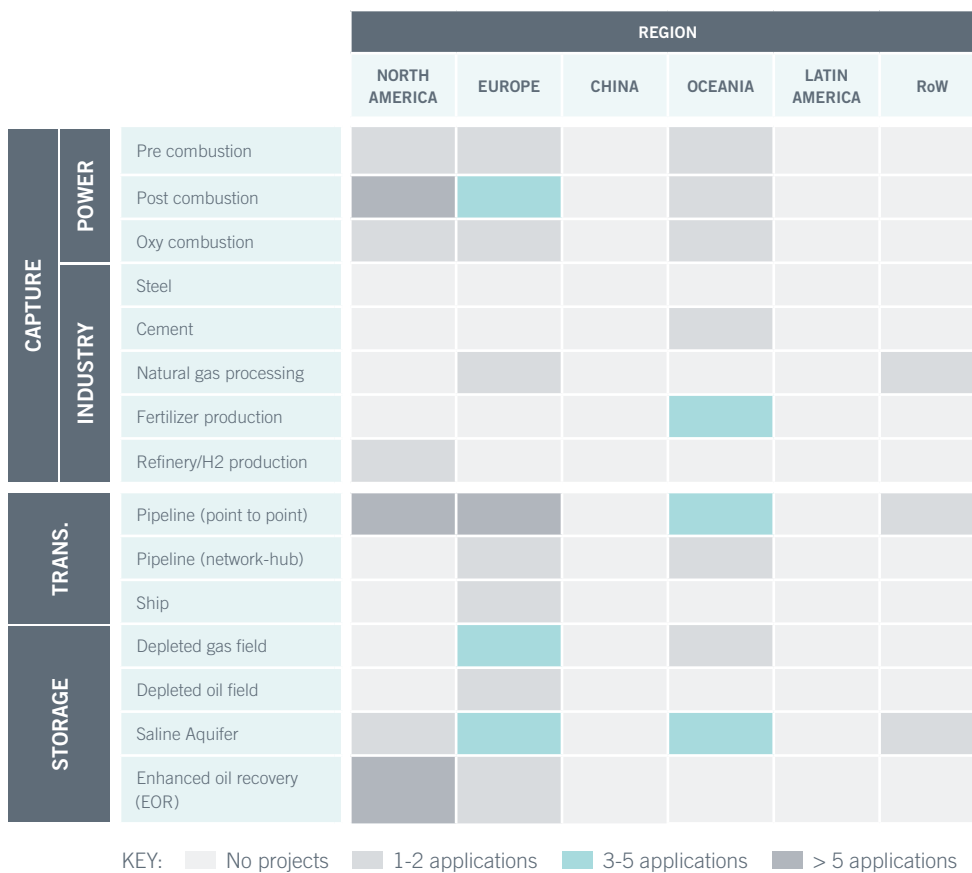


Targeted financial support

The Institute has initiated the Project Support Program with the first round of targeted financial support. For project proponents, this will provide the financial support required to conduct targeted studies which address barriers to CCS project development. For the Institute, providing targeted financial support allows it to both establish a relationship with key projects, and gain access to the knowledge and know-how generated.

The selection of projects for financial support is made with a view of the Ideal Portfolio, in order to ensure that the captured learning spans the range of required applications and geographies. To date, applications for support have been received from projects covering a significant portion of the Ideal Portfolio (Figure 9), however several key geographies and are currently unrepresented.

FIGURE 9: APPLICATIONS FOR FINANCIAL SUPPORT VS THE IDEAL PORTFOLIO



Knowledge based support

The Institute will increasingly aim to deliver knowledge based support to projects. It will do this by offering to flexibly deploy regionally-based teams to help individual demonstration projects. The type of support offered will be matched to the life-stage of the demonstration project, and the types of Institute support requested.

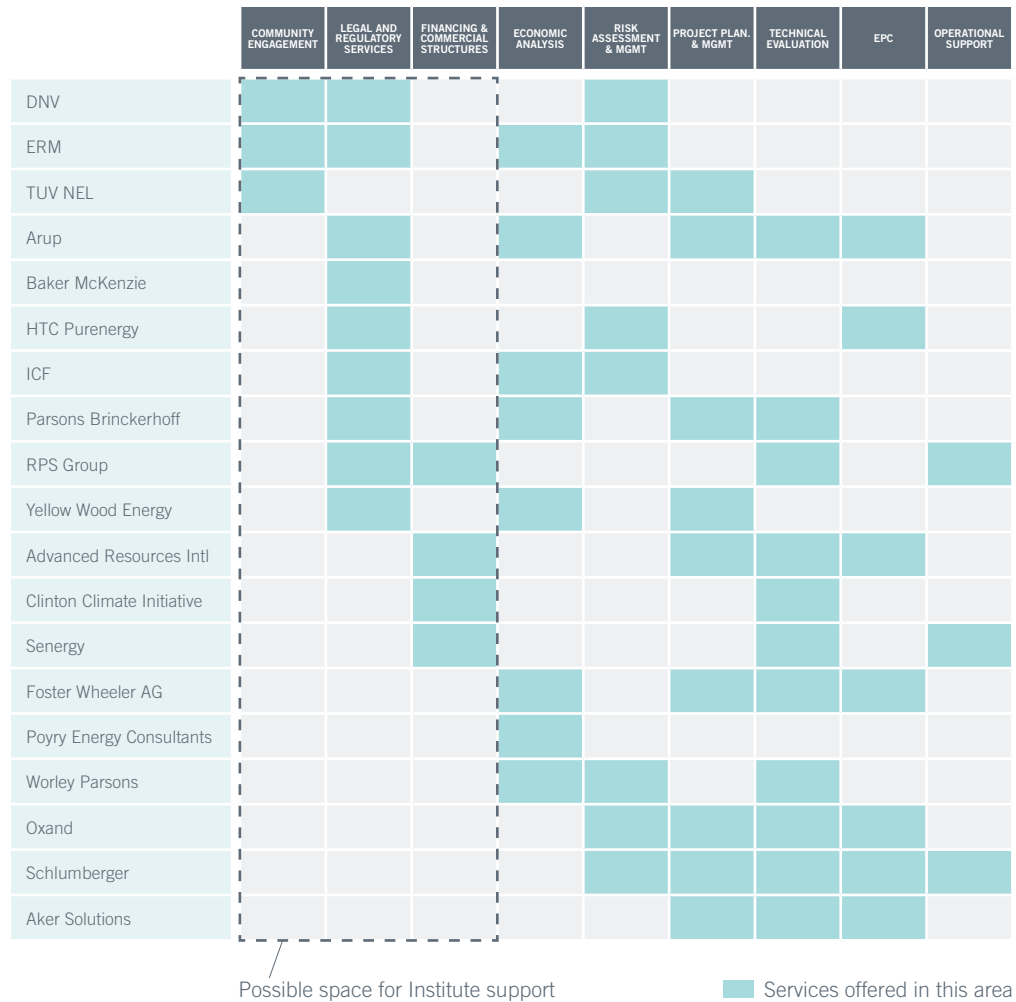
The majority of feedback from Members indicates that while they do not see a need for the Institute to offer direct project support in technical disciplines, areas for a support role could include finance/economics, regulatory and permitting issues, and community engagement (Figure 10). The teams would draw upon, and contribute to, the detailed knowledge base being developed in the enabler workstreams, to inform and support project development.

FIGURE 10: MEMBER VIEWS OF INSTITUTE'S ROLE IN PROJECT SUPPORT



Further analysis of the CCS project services landscape will be conducted in order to determine how the Institute can best offer support that is complementary to the services currently offered in the CCS industry by other organisations (Figure 11). The focus of the project support will be around issues where the Institute is naturally advantaged due to both exposure to projects and its deep knowledge base informed by ongoing work in the enabling workstreams.

FIGURE 11: INITIAL ANALYSIS OF PROJECT LEVEL SUPPORT OFFERED BY OTHER BODIES



Project catalysis

As the Institute’s capability and capacity develops further, it may choose to play a more catalytic role in project development. This may include, for example, seeding and building consortia around new projects in gap areas identified through Regional Profiling and the Project Support Program. The project catalysis role is particularly applicable in non-Annex 1 countries, where CCS projects may not be otherwise developed. Project catalysis activities align with Members’ views of the Institute’s potential role in project support (Figure 12).

FIGURE 12: MEMBERS VIEW OF THE INSTITUTE IN A PROJECT CATALYSIS ROLE



THEMATIC FOCUS GROUPS

Purpose

Members have asked the Institute to develop ways to share knowledge, including acting as a knowledge broker between projects. The Projects Team, together with the broader Knowledge Sharing Team propose to establish Focus Groups of project proponents around specific themes.

Focus Groups will be assembled to address those issues which are better dealt with through a dedicated and specialist forum. This could be, for example, because they are too sensitive in nature for a broad audience, or because convening small groups of project developers provides the most effective way to share knowledge.

Program activities

The Institute will identify Focus Group themes during its engagement with projects through the Project Portfolio and Support Programs. Thematic Focus Groups may address a range of issues. Preliminary themes were identified during the first round of project support assessments. These were recognised as common issues in applications from project proponents, and include:

- project stakeholder engagement and awareness;
- storage: Measurement, monitoring and verification and associated regulatory issues;
- ‘The Hub Concept’—common challenges; and
- barriers to scale-up and demonstration of CCS on a commercial-scale.

The Thematic Focus Groups will be project-specific, and as such will complement, rather than duplicate, existing forums within the CCS community. Focus Group themes will be further developed in break-out sessions at the 2010 Pittsburgh Members’ Meeting.