



DRAFT
Minutes of the Technical Group Meeting

Rome, Italy
Wednesday, 17 April 2013

LIST OF ATTENDEES

Technical Group Delegates

Australia:	Christopher Consoli (Acting Vice Chair)
Canada:	Stefan Bachu (Vice Chair), Eddy Chui
China:	Risheng Guo, Jiutian Zhang
European Commission:	Jeroen Schuppers, Stathis Peteves
France:	Didier Bonijoly
Germany:	Jürgen-Friedrich Hake
Italy:	Giuseppe Girardi, Sergio Persoglia
Japan:	Ryozo Tanaka
Korea:	Chang-Keun Yi, Chong Kul Ryu
Netherlands:	Paul Ramsak
Norway:	Trygve Riis (Chair), Jostein Dahl Karlsen
Russia:	Georgy Ryabov
Saudi Arabia:	Ahmed Aleidan, Khalid Abuleif
South Africa:	Tony Surridge (Vice Chair)
United Kingdom:	Suk Yee Lam, Philip Sharman
United States:	Mark Ackiewicz, George Guthrie

Representatives of Allied Organizations

Global CCS Institute:	Angeline Kneppers
IEA GHG:	Tim Dixon

CSLF Secretariat

John Panek, Richard Lynch

Invited Speakers

Marcello Capra, Ministry of Economic Development, Italy
Francesca Cappelletti, Ministry of Economic Development, Italy
Salvatore Lombardi, Sapienza University of Rome, Italy
Ali Al-Meshari, Saudi Aramco, Saudi Arabia
Alvar Braathen, University Center in Svalbard (UNIS), Norway

Observers

Australia:	Andrew Feitz
China:	Qi Li, Xiaochun Li
Chinese Taipei:	Chi-Wen Liao
Germany:	Martin Streibel
Norway:	Olav Hansen, Lars Ingolf Eide, Kei Ogata
Saudi Arabia:	Hamoud Alotaibi
United States:	Robert Finley, Sallie Greenberg, John Harju, Lee Spangler, Edward Steadman

1. Chairman's Welcome and Opening Remarks

The Chairman of the Technical Group, Trygve Riis, called the meeting to order and welcomed the delegates and observers to Rome.

Mr. Riis provided context for the meeting by mentioning that the Technical Group will be providing recommendations and messages to the Steering Committee for the upcoming CSLF Ministerial Meeting, which will take place in November 2013 in the United States. To that end, several items on the agenda for this meeting are relevant to the upcoming Ministerial.



Trygve Riis

2. Introduction of Delegates and Observers

Technical Group delegates and observers present for the session introduced themselves. Sixteen of the twenty-three CSLF Members were present at this meeting, including representatives from Australia, Canada, China, the European Commission, France, Germany, Italy, Japan, Korea, the Netherlands, Norway, Russia, Saudi Arabia, South Africa, the United Kingdom, and the United States. Observers representing Australia, China, Germany, Chinese Taipei, Norway, Saudi Arabia, and the United States were also present.

3. Adoption of Agenda

The Agenda was adopted with the small change that the presentation on Italian Law on CO₂ Storage would precede the presentation on CO₂ Storage Science Development and Application in Italy.

4. Approval of Minutes from Perth Meeting

The Technical Group minutes from the October 2012 meeting in Perth, Australia, were approved as final with no changes. After an inquiry, there was a clarification that Canada became a Technical Group Vice Chair as of the end of the Perth meeting.

5. Host Country Presentation

Marcello Capra, representing Italy's Ministry of Economic Development, welcomed meeting attendees to Rome, and described Italy's energy situation and carbon capture and storage (CCS) agenda. In Italy, there is currently an unfavorable energy mix that has

resulted in high energy prices. More than 80% of primary energy (mainly oil and gas) is imported. Renewable energy capacity is increasing throughout Italy, which has resulted in an overcapacity of thermoelectricity power generation.

Dr. Capra stated that Italy's new National Energy Strategy is focused on clear objectives and is consistent with the need for growth. Emphasis is on more competitive energy sources in terms of cost, greater energy security, sustainable economic growth through development of the energy sector, and maintaining high environmental standards and quality of service. Priorities include fostering energy efficiency, promoting a competitive gas market, sustainably developing renewable energy sources, integration of Italy's electricity market with the European market, restructuring the refining industry / fuel distribution network, increasing domestic hydrocarbon production, and modernizing the energy sector's system of governance.



Marcello Capra

Concerning energy sector research and development for CCS, Dr. Capra stated that Italy's CCS agenda includes implementation of the European Directive on CO₂ storage, evaluation of the overall CO₂ storage capacity for the country, involvement in the European Union's framework program for CCS, and participation in international partnerships, including the CSLF.

6. Review of Action Items from Perth Meeting

John Panek provided a brief summary of the seven action items resulting from the Perth meeting. All have been completed.

7. Report from CSLF Secretariat

John Panek gave a brief presentation that provided updates on the CSLF and some of its activities. The CSLF's application for liaison status with the International Organization for Standardization (ISO) Technical Committee on CO₂ Capture, Transportation and Geological Storage (ISO/TC 265) has been approved as a "Category A" organization, which is the most active status. Mr. Panek and Mark Ackiewicz have both agreed to serve as points of contact for the ISO and have expressed willingness to participate as necessary on behalf of the CSLF.



John Panek

Concerning the CSLF website, Mr. Panek stated that a new "Technology Roadmap" section has been created that includes separate web page descriptions of CCS activities for 18 of the 23 CSLF Members. Paul Ramsak noted that the organizational chart shown on the CSLF website was out of date, and Mr. Panek replied that the website would be updated to fix that problem. The Secretariat was also requested to send emails to all CSLF delegations to request that they provide updates to their CCS activities descriptions.

Mr. Panek also gave a short update on the CSLF-recognized projects. There are now 27 active and 12 completed projects in the portfolio. The most recent projects to be completed are the Demonstration of an Oxyfuel Combustion Project, located in the United Kingdom, and the IEA GHG Weyburn-Midale CO₂ Monitoring and Storage Project, located in Canada. Ryozo Tanaka inquired if the Weyburn Project should no longer be classified as a CCS project. Mr. Panek replied that it is still an enhanced oil recovery (EOR) project and will continue long term, but the CO₂ monitoring part of the project is over. Tim Dixon offered to provide clarification at the next Technical Group meeting.

8. Italian Law on CO₂ Storage

Francesca Cappelletti, representing Italy's Ministry of Economic Development, gave a short presentation that described the legal structure for regulation of CO₂ storage in Italy. Italy, as a member of the European Union, must comply with E.U. CCS directives, and to that end, an implementing decree was enacted in 2011. This decree adopted all parts of the E.U.'s directive, and included sections related to selection of storage sites, licensing, technical/economic requirements for being a storage site operator, CO₂ monitoring obligations, site closure/post-closure responsibilities, and public outreach requirements.



Francesca Cappelletti

Dr. Cappelletti mentioned that working groups have been established to prepare additional implementing decrees concerning storage capacity evaluation, financial guarantees/tariffs, and public outreach. The working group on storage capacity will also have responsibility for developing criteria for storage site identification, and will include representatives from several research companies. The working group on communication will develop procedures for disseminating information about CCS to the public, which will include involvement of communities near proposed storage sites. The intention is to promote communication initiatives involving both the public and the private sector.

Dr. Cappelletti ended her presentation with a summary of Italy's National Energy Strategy as it relates to CCS. CCS is not yet cost-effective, but it will play an essential role in the long-term. Italy will therefore continue its research activities in CCS to prepare for that time.

9. CO₂ Storage Science Development and Application in Italy

Salvatore Lombardi, representing the Sapienza University of Rome, gave a short presentation that described Italy's ongoing research, development and demonstration (RD&D) activities in CCS. Much work has gone into developing the CO₂ "baseline" for Italy at both the regional and local scale. This has included geochemical surveys over a wide range of geological scenarios such as volcanic areas, tectonic areas, and the Adriatic trough. There is a natural release of CO₂ occurring at some of these



Salvatore Lombardi

locations, which has made them into “natural laboratories” where technologies for CO₂ detection and measurement can be studied. Prof. Lombardi mentioned that there would be a field trip to one of these sites, Latera Caldera, on the final day of this four-day meeting.

Prof. Lombardi also stated that there are several industrial initiatives regarding CCS that are in progress in Italy, including the CSLF-recognized Zero Emission Porto Tolle (ZEPT) Project and a performance assessment of enhanced coalbed methane recovery in the Sulcis Basin on the island of Sardinia.

Some of the conclusions from this ongoing work are that Italy has a geologic storage capacity of about 12 gigatonnes, and no significant gas leakage has been found in areas of the country suitable for geologic storage. Prof. Lombardi mentioned that in developing the CO₂ baseline for Italy, CO₂ continuous monitoring stations have been installed in onshore and offshore locations. Data from these installations will increase the knowledge base on CO₂ storage for all of Europe.

10. Report from the CSLF Projects Interaction and Review Team (PIRT)

The Acting PIRT Chair, Christopher Consoli, gave a presentation that summarized the previous day’s PIRT meeting. There were several major outcomes from the meeting:

- Two projects were approved by the PIRT for Technical Group action: the Uthmaniyah CO₂-EOR Demonstration Project (nominated by Saudi Arabia and supported by the United States) and the Alberta Carbon Trunk Line Project (nominated by Canada and supported by the United States).
- Action on the UNIS CO₂ Lab Project (nominated by Norway and supported by the United States) was deferred, as there was uncertainty about project funding and the direction the project would take. Currently there are three scenarios: full CO₂ capture from the power plant; small-scale CO₂ capture involving development of a pilot plant; and no CO₂ capture, which would result in the project emphasizing its educational aspects. The PIRT agreed to reconsider this project once the scope becomes a bit clearer.
- There was consensus to revise the CSLF Project Submission Form. Agreement was reached to eliminate the request for projects sponsors to provide information about the relevance of the project to the overall aims of the CSLF and to CCS technology in general, and also to retitle the Gaps Analysis Checklist as the “CSLF Project Elements Checklist”. Actions on other areas of the form were deferred due to their complexity and meeting time constraints. Revisions will be worked out via email exchange between PIRT members, and the current version of the Project Submission Form would continue to be used pending agreement on a complete revision of the Form.



Christopher Consoli

- There was consensus that the PIRT would take on any activities related to the Technical Group Action Plan's "Best Practices Knowledge Sharing" action. This could include collaboration with the Global CCS Institute for a new "Knowledge Hub" website that would serve as a gateway to a broad range of information on CCS technologies and connect to other knowledge-sharing sites such as the European CCS Demonstration Project Network. However, due to the complexity of details and meeting time constraints, consideration of the Knowledge Hub proposal was deferred until the next PIRT meeting.

Ensuing discussion addressed the project approval process and, in general, what it means to be a CSLF-recognized project. Tony Surridge offered that duplication of technologies already used by other CSLF-recognized projects should not be a factor in the recognition process, since every project has at least subtle differences from any other. Philip Sharman suggested that there are three main schools of thought on what types of projects are desirable for the CSLF projects portfolio: (a) that projects proposed for CSLF recognition should address R&D gaps; (b) that knowledge sharing is the key, regardless of technology gaps; and (c) that many large-scale projects should be recognized, regardless of gaps and duplication, as the idea is to accelerate commercialization of CCS. However, there was no agreement on which of these should be the main consideration. In the end, there was consensus that the PIRT should re-examine the CSLF project approval process, including the Project Submission Form, and report back to the Technical Group.

Dr. Consoli then raised the point that any re-consideration of the project approval process, as well as the question on what it means to be a CSLF-recognized project, relates to PIRT governance. To that end, Dr. Consoli suggested that this would seem to be a good time to re-evaluate the PIRT's Terms of Reference document, and stated that PIRT governance would be an agenda item at its next meeting.

11. Approval of Projects Nominated for CSLF Recognition

Uthmaniyah CO₂-EOR Demonstration Project (nominated by Saudi Arabia and the United States)

Ali Al-Meshari, Overall Carbon Management Coordinator of Carbon Strategy for Saudi Aramco, gave a presentation about the Uthmaniyah CO₂-EOR Project. This large-scale project, located in the Eastern Province of Saudi Arabia, will capture and store approximately 800,000 tonnes of CO₂ per year from a natural gas production and processing facility, and will include pipeline transportation of approximately 70 kilometers to the injection site (a small flooded area in the Uthmaniyah Field). The objectives of the project are determination of incremental oil recovery (beyond water flooding), estimation of sequestered CO₂, addressing the risks and uncertainties involved (including migration of CO₂ within the reservoir), and identifying operational concerns. Specific CO₂ monitoring objectives include developing a clear assessment of the CO₂ potential (for both EOR and overall storage) and testing new technologies for CO₂ monitoring. Construction of the capture facility and the pipeline is underway. The project duration is expected to be 4-5 years total, starting in 2013/2014.



Ali Al-Meshari

After brief discussion, there was consensus by the Technical Group to recommend to the Policy Group that the Uthmaniyah CO₂-EOR Demonstration Project receive CSLF recognition.

Alberta Carbon Trunk Line Project (nominated by Canada and United States)

Stefan Bachu, representing project sponsor Enhance Energy Inc., gave a presentation about the Alberta Carbon Trunk Line (ACTL) Project. This large-scale fully-integrated project will collect CO₂ from two industrial sources (a fertilizer plant and an oil sands upgrading facility) in Canada's Province of Alberta industrial heartland and transport it via a 240-kilometer pipeline to depleted hydrocarbon reservoirs in central Alberta for utilization and storage in EOR projects. The pipeline is designed for a capacity of 14.6 million tonnes CO₂ per year although it is being initially licensed at 5.5 million tonnes per year. The pipeline route is expected to stimulate EOR development in Alberta and may eventually lead to a broad CO₂ pipeline network throughout central and southern Alberta. Pipeline right-of-way clearing began in February 2013 with commissioning expected in 2014 and start of operations in 2015. When in full operation, this will be the world's largest CCS project in terms of capacity.



Stefan Bachu

After brief discussion, there was consensus by the Technical Group to recommend to the Policy Group that the Alberta Carbon Trunk Line Project receive CSLF recognition.

UNIS CO₂ Lab (nominated by Norway and United States)

Alvar Braathen, Professor of Arctic Geology at the University Centre in Svalbard (UNIS), gave a presentation about the UNIS CO₂ Lab Project. This research-oriented project is located near Longyearbyen, Norway, in the Svalbard Archipelago (78°N latitude) and is intended to identify challenges for CCS and study CO₂ storage in an unconventional reservoir under difficult arctic conditions. The project includes research on storability of CO₂ at Svalbard, including injection tests, geologic analyses, and studies on cap rock integrity, as well as design of collegiate-level courses on CO₂ storage and other educational outreach.



Alvar Braathen

As described above, the PIRT will reconsider this project at a later date. Prof. Braathen stated that this project would most likely be re-presented at the next PIRT meeting, once the scope and funding questions are settled.

12. Update on 2013 CSLF Technology Roadmap

Trygve Riis provided a brief status update on the 2013 CSLF Technology Roadmap (TRM). A draft-in-progress of the 2013 TRM was sent to Technical Group delegates in mid-March, and comments have been received from several CSLF delegations on this draft. All comments have been reviewed by the TRM Committee (which consists of the Technical Group Chair, Vice Chairs, Task Force Chairs, and the CSLF Secretariat). Most

of these comments will be incorporated into the next version of the TRM. Mr. Riis mentioned that a few of the comments received were policy-related and would need to be addressed outside the TRM.

Concerning the process for completion of the TRM, Mr. Riis stated that the next version of the TRM would be sent by the Secretariat to Technical Group delegates by early May, and that comments on the draft would be needed no later than the end of May. Each CSLF delegation will be requested to provide a single coordinated set of comments, should it have any. The plan is for the final version of the TRM to be sent to the Secretariat by the end of June.

Ensuing discussion centered on messages and recommendations from the TRM going forward into the upcoming Ministerial meeting. John Panek stated that the TRM Committee will assemble messages coming out of the TRM into a much shorter document, and that the Task Force Chairs will be asked to provide input as well. Lars Ingolf Eide, the TRM's editor, stated that the R&D recommendations contained in this shorter document will be at a fairly high level and will not single out specific technologies or projects. However, there will be some definite actions that will be recommended. Mr. Panek mentioned that regional differences will be acknowledged and that one of the strengths of the document will be in pointing out there will be several perspectives in addressing CCS-related issues.

Mr. Panek commended Norway's efforts on the TRM and stated that good work is being done.

13. Report from Technical Challenges for Conversion of CO₂-EOR to CCS Task Force

The Task Force Chair, Stefan Bachu, gave a brief update on the task force and its activities. The task force mandate is to review, compile and report on technical challenges that may constitute a barrier to the broad use of CO₂ for EOR and to the conversion of CO₂-EOR operations to CCS operations. Economic and policy barriers would be outside the scope of the task force. Dr. Bachu stated that the task force has nearly completed its report, which will identify these technical challenges and also any regulatory issues that involve technical aspects. The report will also highlight the commonalities and differences between CO₂-EOR and CCS, and the main message will be that there are no technological barriers to convert a CO₂-EOR project into a CCS project.



Stefan Bachu

Sections of the report not yet finalized are the Summary and Conclusions, which will include recommendations, and the Executive Summary. Dr. Bachu mentioned that a final draft of the task force report will be sent by the Secretariat to Technical Group delegates at the beginning of June, and that comments on the draft would be needed no later than the beginning of August. Each CSLF delegation will be requested to provide a single coordinated set of comments, should it have any. The report will be finished in mid September, well in advance of the upcoming CSLF Ministerial meeting.

14. Report from CO₂ Utilization Options Task Force

The Task Force Chair, Mark Ackiewicz, gave a brief summary of the task force and its activities. The task force is focused on all forms of CO₂ utilization except CO₂-EOR, and the mission is to identify/study the most economically promising CO₂ utilization options that have the potential to yield a meaningful, net reduction of CO₂ emissions, or facilitate the development and/or deployment of other CCS technologies. Mr. Ackiewicz stated that the task force's Phase 1 Report was completed last year. This report summarized existing information regarding CO₂ utilization options and discussed the state of each relevant technology and application.



Mark Ackiewicz

The objective of the Phase 2 Report is to provide a more thorough discussion of the most attractive CO₂ utilization options based upon economic promise and CO₂ reduction potential. The Phase 2 report will also review the current and future economic viability, potential for co-production, and RD&D needs.

Mr. Ackiewicz mentioned that there are still a few sections of the Phase 2 Report that are not yet complete, but it is on track for being finished in time for the upcoming CSLF Ministerial meeting. A final draft of the task force report will be sent by the Secretariat to Technical Group delegates in late June, and that comments on the draft would be needed no later than the middle of August. Each CSLF delegation will be requested to provide a single coordinated set of comments, should it have any.

15. Report from Reviewing Best Practices and Standards for Geologic Storage and Monitoring of CO₂ Task Force

The Task Force Chair, Lars Ingolf Eide, gave a brief update on the task force and its activities. The task force mandate is to perform initial identification and review of standards for storage and monitoring of injected CO₂. The application of such standards should inform CO₂ crediting mechanisms, but economic and policy issues are outside the scope of the task force.



Lars Ingolf Eide

Mr. Eide stated that the current work plan includes identification and review of existing standards for geological CO₂ storage and monitoring (on an annual basis); identification of shortcomings and/or weaknesses in standards/guidelines; communication of findings to the ISO/TC 265; producing annual summaries of new as well as updated standards, guidelines and best practice documents regarding geological storage of CO₂ and monitoring of CO₂ sites; and following the work of other organizations related to CO₂ storage. The task force completed its first annual report in the 4th quarter of 2012 and is on track to finish its 2013 report in time for the upcoming CSLF Ministerial meeting. At that time a decision will be made on continuation or closure of the task force, as well as any future deliverables. A final draft of the task force report will be sent by the Secretariat to Technical Group delegates by about mid July, and that comments on the draft would be

needed no later than the end of August. Each CSLF delegation will be requested to provide a single coordinated set of comments, should it have any.

Mr. Eide stated that there are currently more than twenty best practices manuals that have been assessed by the task force, and that this number will increase as time goes on. Mr. Eide also mentioned that eventually, task force findings could be made available via a web-based knowledge hub.

16. Report from CO₂ Technology Opportunities and Gaps Task Force

The Acting Task Force Chair, Christopher Consoli, gave a brief update on the task force and its activities. The task force mandate is to identify and monitor key CCS technology gaps and related issues, to determine the effectiveness of ongoing CCS RD&D for addressing these gaps, and to recommend any RD&D that would address CCS gaps and other issues. In that regard, the task force is preparing a report that will be finalized in time for the upcoming CSLF Ministerial meeting.



Christopher Consoli

Dr. Consoli stated that the three main sections of the report (capture, transport, and storage) are now essentially complete. Input is still needed for two additional sections, on biomass and oxyfiring. Collection, collation and analysis of data will continue into May, and a final draft of the task force report is expected to be ready for distribution by the Secretariat to Technical Group delegates in July, and that comments on the draft would be needed before the end of August. Each CSLF delegation will be requested to provide a single coordinated set of comments, should it have any.

Ensuing discussion focused on ways of obtaining additional data for the report. Philip Sharman noted that both Alstom and Doosan are developing oxyfiring technology, and could be sources of useful information.

17. Report on Activities of the United Kingdom's CCS Cost Reduction Task Force

At the Perth Technical Group in October 2012, activity had been deferred on the "Energy Penalty Reduction" action of the Technical Group Action Plan pending review of an interim report from the United Kingdom's Cost Reduction Task Force. This task force was established in March 2012 by the U.K.'s Department of Energy and Climate Change (DECC) to advise U.K. government and industry on the potential for reducing the costs of CCS, so that CCS power projects are financeable and competitive with other low-carbon technologies in the early 2020s.



Philip Sharman

Philip Sharman gave a presentation that summarized the conclusions from this report. The main conclusion was that U.K. gas and coal power stations equipped with CCS have clear potential to be cost competitive with other forms of low-carbon power generation. This is possible if there is investment in large, shared pipelines and also large CO₂ storage

clusters, supplying multiple CO₂ sites. There must also be investment in large power stations with progressive improvements in CO₂ capture capability, a reduction in capital costs from the initial first-generation series of CCS demonstrations (achievable in part through lowered risk, which would improve investor confidence), and exploitation of potential synergies with CO₂-EOR opportunities in North Sea oil fields.

Ensuing discussion revisited the option for forming a Technical Group task force on “Energy Penalty Reduction”. Mr. Sharman stated that the final report from this task force would be available soon, and would include a full set of proposed actions on how to take its recommendations forward. In the end, there was consensus to further defer any activity by the Technical Group in this area, pending review of the task force’s final report. The U.K. delegation was requested to provide a copy of the final version of the DECC Energy Penalty Reduction Task Force report to the Secretariat, once it is complete, for the Secretariat to distribute it to the Technical Group delegates.

18. Status of Activities / Discussion of the Need for New Technical Group Task Forces

Trygve Riis proposed that it might be time for the Technical Group to consider new actions beyond those described in the Action Plan. John Panek added that it might also be appropriate for the Technical Group to re-evaluate and update the Action Plan itself. After ensuing discussion, there was consensus for the Technical Group Executive Committee to start this process. The Secretariat was asked to do a short progress report on the Technical Group Action Plan activities.

During the discussion, Tony Surridge offered that the South African Center for Carbon Capture & Storage (SACCCS) had recently completed a study, using CSLF Capacity Building funds, to examine impacts of CCS on South African national priorities beyond climate change (e.g., sustainable development, improved local infrastructure, job creation and protection, poverty alleviation, and social uplift), and that the final report would be issued soon. Dr. Surridge was asked to make the report available to the CSLF.

19. Update from the IEA Greenhouse Gas R&D Programme

Tim Dixon gave a presentation about the IEA GHG and its ongoing collaboration with the CSLF. Based on an agreement made back in 2008, the Technical Group is offered the opportunity to propose studies to be undertaken by the IEA GHG. These, along with proposals from IEA GHG Executive Committee (ExCo) members, go through a selection process at semiannual ExCo meetings. So far there have been three IEA GHG studies that originated from the CSLF Technical Group: “Development of Storage Coefficients for CO₂ Storage in Deep Saline Formations” (March 2010), “Geological Storage of CO₂ in Basalts” (September 2011), and “Potential Implications of Gas Production from Shales and Coal for CO₂ Geological Storage” (to be published later in 2013). The next deadline for proposal outlines is the beginning of June.



Tim Dixon

Mr. Dixon also provided details about several recent and ongoing studies of interest to the CSLF, including a one on “Interaction of CO₂ with Subsurface Resources”. This policy-oriented study reviewed seven existing case studies and provided a checklist of potential

interactions, impacts, and management options. Mr. Dixon stated that there will be several upcoming IEA GHG Network Meetings and Conferences in 2013 and 2014. This includes the GHGT-12 conference, which will be held in the United States in 2014.

20. New Business

Didier Bonijoly reported that some of the Technical Group delegates in Europe had received a letter from Chris Davies, Member of the European Parliament, concerning an upcoming report about “Developing and Applying Carbon Capture and Storage Technology in Europe”. In his letter, Mr. Davies encouraged contributions from all with an interest in CCS. Dr. Bonijoly suggested that the CSLF Technical Group could consider providing information contained in the draft TRM about technology deployment. Ensuing discussion did not result in consensus. Jürgen-Friedrich Hake questioned if it would be advisable to distribute the TRM to outsiders before the CSLF Policy Group would even get to see it, while Philip Sharman suggested that the E.U. communication was a genuine request for input and that not to respond would send a negative signal. Khalid Abuleif suggested that there should be a Technical Group response of some kind, but Stefan Bachu stated that the CSLF itself had not received this request, only certain delegates, and also that it would set a bad precedent to release a draft document before comments on it have been received from the CSLF delegations. In the end, Trygve Riis stated that he would respond to the E.U. communication outside his official capacity as Technical Group Chair, and would provide names of the European Technical Group delegates who are willing to support this work. Also, Jeroen Schuppers agreed to provide the address for the E.C.’s related Clean Coal Technologies & CCS website.

The delegation from Korea confirmed its intention to host the 2014 CSLF Technical Group meeting. Chang-Keun Yi stated that the meeting would be held in either April or May, excluding Easter week, and that additional information would be provided at the CSLF Ministerial meeting in November.

21. Review of Consensuses Reached and Action Items

Consensus was reached on the following:

- The Uthmaniyah CO₂-EOR Demonstration Project and the Alberta Carbon Trunk Line Project are recommended by the Technical Group to the Policy Group for CSLF recognition.
- The Technical Group will defer consideration of the UNIS Field Lab Project pending resolution of uncertainties about the project’s scope and funding.
- The Technical Group will further defer addressing the Action Plan on “Energy Penalty Reduction” pending review of the final report by the United Kingdom’s Cost Reduction Task Force on this topic.
- Korea will host the 2014 Technical Group meeting. Dates and venue will be announced at the CSLF Ministerial meeting in November.

Action items from the meeting are as follows:

Item	Lead	Action
1	Technical Group Chair	Provide the Technical Group’s recommendation to the Policy Group that the Uthmaniyah CO ₂ -EOR Demonstration Project and the Alberta Carbon Trunk Line Project be recognized by the CSLF.

Item	Lead	Action
2	PIRT	Re-examine the CSLF project approval process, including the Project Submission Form.
3	Secretariat	Send the draft Technology Roadmap to CSLF delegations for comments.
4	Each Technical Group Delegation	Provide a single coordinated set of comments on the draft Technology Roadmap by the end of May.
5	Each Technical Group Delegation	Provide a single coordinated set of comments for each of the four task force draft reports in August.
6	Technology Roadmap Committee	Incorporate comments from CSLF delegations and prepare draft final version of Technology Roadmap by beginning of July.
7	Technical Group Executive Committee	Re-evaluate and propose updates to Technical Group Action Plan.
8	United Kingdom	Provide a copy of the final version of the DECC Energy Penalty Reduction Task Force report to the Secretariat.
9	Secretariat	Send the DECC Energy Penalty Reduction Task Force report to Technical Group delegates.
10	Secretariat	Prepare progress report on Technical Group Action Plan activities.
11	European Commission	Provide address for the E.C.'s Clean Coal Technologies & CCS website.
12	South Africa	Provide copy of SACCCS final report concerning impacts of CCS on South African national priorities beyond climate change to the CSLF.
13	Secretariat	Send emails to all CSLF delegations to request they provide updates to their country-specific CCS activities pages on the CSLF website.
14	IEA GHG	Provide clarification of the status of the IEA GHG Weyburn-Midale CO ₂ Monitoring and Storage Project at the next Technical Group meeting.
15	Secretariat	Update CSLF website as needed.

22. Closing Remarks / Adjourn

Trygve Riis thanked the delegates, observers, and Secretariat for their hard work and active participation in the meeting, and expressed his appreciation to the Italian Government and especially to Giuseppe Girardi of ENEA for hosting the meeting. Mr. Riis reminded attendees of the next day's CO₂ Monitoring Interactive Workshop, and adjourned the meeting.