



IPCC WORKING GROUP III HIGHLIGHTS FRIDAY, 23 SEPTEMBER 2005

On Friday, delegates met in plenary throughout the day and into the night to continue deliberations over the draft SPM. A consistent format was followed throughout deliberations, with the Co-Chairs first introducing the text of a paragraph and highlighting the reasons why some comments by countries and organizations were or were not incorporated. Delegates then discussed that paragraph line-by-line.

In the morning and afternoon sessions, delegates considered the section of the SPM concerned with the current status of CCS technology. In the afternoon and evening, delegates also considered the section on the geographical relationship between the sources and storage opportunities for carbon dioxide. Earth Negotiations Bulletin coverage stopped at 8.00pm.

The contact group established on Thursday to revise the first two paragraphs of the SPM met for a second time. Other contact groups were established to discuss a figure representing the geographical relationship between carbon dioxide emissions sources and storage potential, and issues on the costs of CCS and its economic potential.

CONSIDERATION OF THE DRAFT SUMMARY FOR POLICY MAKERS

Recalling that the SPM had already gone through an extensive review process, Co-Chair Metz urged delegates to move forward on approving the draft text. Delegates then turned to a line-by-line consideration of the text.

What is the current status of CCS technology? BELGIUM said that a figure representing capture systems was unclear and proposed using a figure from the Special Report instead. Co-Chair Metz invited Belgium to work with the Lead Authors on this issue. On the corrosiveness of pipelines for transportation, delegates agreed to a proposal by CANADA to remove reference to hydrogen sulphide, given its negative connotation, and to refer to contaminants instead.

On geological storage, BELGIUM, with the UK, called for a specific reference to secure reservoirs. DENMARK, supported by the UK and the NETHERLANDS, suggested emphasizing caprock as a necessary trapping mechanism. After Lead Author Peter Cook noted that caprock is essential unless injection takes place at a certain depth, language reflecting this was inserted.

On the issue of unminable coal, the UK proposed, and delegates agreed, to insert a footnote explaining that if the coal was subsequently mined, carbon dioxide would be released. Delegates also agreed to add a footnote including reference to the dense phase of carbon dioxide at depths below 800 meters, as proposed by the UK with the support of AUSTRIA and the US, and that the footnote should refer to the recovery of methane, as suggested by FRANCE. Delegates further agreed to include a figure that would provide an overview of both offshore and onshore geological storage options.

Regarding ocean storage technology, discussion centered on whether the environmental risks of ocean storage should be referred to in this section and whether the limited stage of development of ocean storage technology is adequately reflected in the draft text. A number of countries, including BELGIUM, DENMARK, FRANCE and GERMANY, supported the inclusion of some sort of reference to risks. Co-Chair Metz noted that the SPM is organized so that all risks associated with CCS are addressed in a separate section. Other countries, including JAPAN, KENYA and SAUDI ARABIA, said that a reference to risks in this section was not necessary. On the section noting that ocean storage can be carried out in two ways, via injection into the water column or via deposits on the sea floor, AUSTRALIA, supported by BELGIUM and CANADA, suggested noting that ocean storage may “potentially” be carried out in two ways. Although JAPAN and the NETHERLANDS expressed reservations about this, AUSTRALIA’s suggestion was agreed to.

On the relationship between carbon dioxide stored in the ocean and the global carbon cycle, Lead Author Ken Caldeira noted that the consequences of the equilibration between carbon dioxide in the ocean and the atmosphere are nuanced and difficult to express in the SPM. After further comments from CHILE, NEW ZEALAND and GERMANY regarding clarification of the process and time scale of equilibration, delegates agreed to the original version of the draft text, which states that this carbon dioxide would “eventually equilibrate with the carbon dioxide in the atmosphere.” BELGIUM proposed, and delegates agreed, to reference the section of the Special Report on environmental impacts, risk, and risk management. Co-Chair Metz noted work would continue with Japan on clarifying the measurement scale used in a figure providing an overview of ocean storage options.



After lunch, Co-Chair Davidson introduced text on the reaction of carbon dioxide with metal oxides, and noted that while the technology is still in the research phase, certain applications using waste streams are in the demonstration phase. Delegates agreed to the text with minor amendments.

On industrial uses of carbon dioxide, Co-Chair Davidson noted that the draft text incorporated a proposal by Canada, which was supported by the US, to note that enhanced oil recovery (EOR) is excluded from the statement that the potential for industrial uses of carbon dioxide is small. GERMANY noted that including such a reference could falsely suggest that EOR is a large opportunity. Delegates agreed to delete the EOR reference from the text and that the Co-Chairs would instead develop a footnote to explain it.

Co-Chair Davidson introduced text that: highlights that components of CCS are in various stages of development; notes that, although CCS systems can be put together from existing technologies that are mature or economically feasible under specific conditions, the maturity of the overall system may be less than some of its components; and refers to a table summarizing the current maturity of system components. Delegates approved a comment previously submitted by Germany to note that there is relatively little experience in combining carbon dioxide capture, transport and storage into a fully integrated CCS system, and that the use of CCS for large scale power plants remains to be implemented.

Delegates discussed proposed revisions to the table on the current maturity of CCS system components. Several delegates, including GERMANY, AUSTRIA, EGYPT, the UK, and the NETHERLANDS, proposed amendments to text in the table caption that would state that more research and development could reduce costs and improve reliability and safety. The US raised concerns that such text would be policy prescriptive. Delegates agreed to delete any text in the caption that goes beyond explaining that the table is about the current maturity of CCS system components and that the highest level of maturity for each component is identified in the table. On the table itself, delegates also agreed to changes proposed by GERMANY and others on what is meant by “market maturity,” and by JAPAN and KOREA on the inclusion of reference to the two types of ocean storage: direct injection “dissolution type” and direct injection “lake type.”

What is the geographical relationship between the sources and storage opportunities for carbon dioxide? Delegates then turned to a consideration of the section of the SPM on large point sources and their geographical relationship to geological and ocean storage. Discussions on geological storage focused on types of sources, the distance from sources to storage locations, and the location of sources. Delegates agreed to changes proposed by EGYPT and others clarifying that the text refers to major point sources. KENYA sought clarification of why a particular figure (300km) was being used. Lead Author John Gale explained that the 300km should be taken as a guide. Delegates then agreed to the text with minor modifications. After the US asked whether sources were concentrated in urban areas, delegates agreed that the text should refer to “industrial and urban areas.”

Discussions on ocean storage focused on its regional distribution, maturity, and location, and on the existing literature. JAPAN underscored that ocean storage potential varies regionally, and that Japan has more potential for ocean

than geological storage. AUSTRIA, AUSTRALIA and others expressed concern that the language implied greater technical maturity and scientific analysis on ocean storage than actually exists. The US cautioned that the supporting scientific literature consists of only one report that should not be generalized. Lead Author Ken Caldeira said there is a lack of literature on the determining locations for deep ocean storage. AUSTRALIA, supported by the UK, said that meeting the depth criteria alone should not be sufficient to establish ocean storage locations. JAPAN replied that environmental and other considerations are addressed in other SPM sections. The agreed text included a statement that “globally, a small portion of large point sources is close to potential ocean storage locations.”

CHINA, supported by BANGLADESH, EGYPT and SAUDI ARABIA, and opposed by AUSTRIA, called for removing a reference to developing countries as possessing the places where most of the increase in the number of sources is expected to occur. Lead Author John Gale explained that the reference to developing countries was based on projection scenarios on future emissions in the Special Report. AUSTRIA called for distinguishing between large and small point sources, and suggested referring to projections in the sentence on future emissions in developing countries.

CANADA, with the US and NORWAY, proposed including information on storage as well as capture when stating the percentages of global fossil fuel carbon dioxide emissions that could be suitable for capture. Lead Author Keywan Riahi clarified that there is reference to only capture in the SPM and not to storage because there is a lack of literature on storage. CANADA proposed using information from power generating emissions, while the US proposed including emissions from both industry and electricity generation. MALAYSIA and BELGIUM noted that the Special Report referred to 20 - 40% global fossil fuel carbon dioxide emissions as being technically suitable for capture, and proposed deleting reference to economic suitability. AUSTRIA suggested separating the section of the paragraph on scenario emissions from the section on emissions amenable to capture. After further discussions and informal consultations, delegates agreed to remove references to developing countries and economic suitability, and to state that the proximity of future large point sources to potential storage sites has not been studied, rather than that it is uncertain.

On a figure indicating the geographical relationship between carbon dioxide emission sources and sedimentary basins with geological storage potential, CHINA proposed removing the figure, saying that much of the information was not supported by valid scientific facts, and that it did not include future source emissions. AUSTRIA, NEW ZEALAND, the US and CANADA supported keeping the figure because it contains relevant information. Lead Author John Gale explained the data sources for the figure. A contact group was convened to resolve this issue, which met into the evening.

IN THE CORRIDORS

The workday stretched into the late hours of the night. Despite the amount of text left to consider and the limited time in which to do it, the atmosphere remained upbeat throughout the day. Several IPCC veterans seemed unsurprised at the long days and speed of progress. Some delegates noted that the momentum and good will from the morning session began to give way to more serious disagreements as the day progressed, though they expressed hope that this trend would reverse on Saturday.