

SUBMISSION FROM NORWAY

AWG-LCA Carbon capture and storage as a key technology for the full implementation of the Convention now, up to and beyond 2012

Norway welcomes the opportunity to provide views on the elements contained in paragraph 1 of decision 1/CP.13 (the Bali Action Plan), and note the conclusions of the third session of the AWG-LCA held in Accra 21-27 August where the group invited its chair to prepare a document assembling the ideas and proposals presented by Parties received by 30 September 2008.

Introduction

To ensure the stabilization of the greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate, the increase of global average temperature must not exceed a maximum of 2 °Celsius compared to pre-industrial level.

It is crucial that the international climate regime establishes a framework that welcomes, promotes and contributes to funding research, innovation and implementation of all technologies that contribute to reducing emissions. This requires increased focus on renewable energy and energy efficiency. But we must also meet the challenge of securing a sustainable future energy supply by reducing the emissions from the production and use of fossil fuels. Carbon capture and storage is one of the most promising technologies to achieve this. These technologies will complement other climate change mitigation actions by providing an option for using fossil fuels, including coal, during the transition to a low-carbon economy.

The Intergovernmental Panel on Climate Change states that with the current climate change mitigation policies and related sustainable development practices, global greenhouse gas emissions are expected to continue to increase over the next few decades. The “Business as usual” scenarios in the Intergovernmental Panel on Climate Change’s Fourth Assessment Report project a 25-90% increase in global greenhouse gas emissions between 2000 and 2030. Fossil fuels are projected to maintain their dominant position in the global energy mix to 2030 and beyond. The CO₂ emissions between 2000 and 2030 from energy use are projected to grow 40-110% over that period. More than two thirds of the increase in energy related emissions is projected to come from non-Annex I countries.

A similar picture is drawn by the International Energy Agency in the base case scenario of the World Energy Outlook 2007. The global primary energy demand is expected to increase by 55% between now and 2030. 74% of the rise in demand is expected to stem from developing countries. Globally, fossil fuels are expected to remain the dominant source of energy to 2030 and coal is by far the most important energy source in power generation. This is driven mainly by power generation. Non-hydro renewable energy, including wind, solar and geothermal energy, are expected to have the strongest growth, but from a small base.

Obviously, the energy consumption trends in these scenarios do not represent a sustainable development, and the existing policies and measures will by no means make it possible to reach a long term goal of limiting the global warming to a maximum of 2 ° Celsius.

Achieving this goal will require deeper cuts in developed countries emissions, as well as increased efforts to reduce emissions of green house gasses through REDD activities and through the implementation of CCS activities at a global scale.

Potential for emission reductions

Carbon capture and storage offers the potential to reduce CO₂ emissions by as much as 85-95% from fossil fuelled power plants. This technology also offers a large potential for reduction in emissions from other industrial processes.

According to the Intergovernmental Panel on Climate Change, carbon capture and storage has, after energy efficiency, the second largest potential for global emission reductions. This view is supported by the International Energy Agency which stresses that carbon capture and storage is a key technology in reaching a long term goal of limiting the global temperature increase to a maximum of 2 ° Celsius compared to pre-industrial level. Similarly the International Energy Agency's Energy Technology Perspectives 2008 shows that carbon capture and storage could contribute with approximately 20% of the reductions needed to reduce emissions to reach a 450 ppm scenario. An enforced effort to stimulate development, deployment and dissemination of this technology at a global scale will in our view be vital to keep the increase in global average temperature within 2 ° Celsius.

Norwegian experience

Carbon capture and storage is an integral part of the Norwegian mitigation strategy. The Norwegian government's strategy for implementing carbon capture and storage technologies has been to introduce a combination of means such as financial support and regulation (requirements in permits). Norway has since 1996 extensive experience in storing CO₂ in geological structures. Monitoring data show the precise subsurface location of the CO₂ plume and confirms that the CO₂ is confined securely within the storage reservoir.

We are also gaining more experience on capturing CO₂ from fossil fuelled power plants. The Government intends to provide for full scale carbon capture and storage solutions at two gas fired power plants. Our aim is to jump-start a development that could contribute to the further implementation of carbon capture and storage technologies not only in Norway, but at a global scale as well.

Action on carbon capture and storage in a international climate change regime

The Bali Action Plan paragraph 1 d) deals with efforts for enhanced action on technology development and transfer to support action on mitigation. The Convention on Climate Change does not distinguish between different mitigation technologies for countries to reach the ultimate goal of the Convention. The Kyoto Protocol's Article 2 encourages Annex I countries to implement and/or further elaborate policies and measures in accordance with national circumstances, such as inter alia "research on, and promotion, development and increased use of, new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies".

The international climate regime must strengthen the promotion of technology development and transfer. In order to mobilize the financial resources needed to enable and disseminate

climate friendly technologies, a framework that incentivizes investments in these technologies should be established. Concerning carbon capture and storage technologies we still face challenges both regarding cutting the costs and overcoming barriers to make the technologies market competitive at a global scale. At the same time we know that there are already emissions ready to be captured and stored if financial and other conditions are in place. Norway is open for considering different kinds of incentives that could help facilitating implementation of carbon capture and storage technologies at the international level. Given the potential these technologies have for reducing CO₂ emissions substantively from a wide variety of sources, it could be useful to explore further whether there is a need to develop specific means, including financial incentives that will facilitate the deployment of these technologies.

There is ongoing work on the issue of carbon capture and storage in a number of different international fora, but we believe that the effort needs to be further intensified and that there is a need for specific global actions under the Convention in this area to give the impetus to an early market implementation of this important technology at a global scale.

Norway welcomes the opportunity to explore alternative solutions and frameworks under the AWG-LCA in this respect. Undoubtedly being a win-win technology, we propose that the workshop that is to be held in Poznan gives priority to the question of deployment of carbon capture and storage. We are also aware that there are important issues regarding carbon capture and storage that need to be further assessed. These issues must be an integral part of the further assessment on how to facilitate the deployment of carbon capture and storage at a global scale.