

Submission of SustainUS

SustainUS, the United States network of youth advocating for sustainable development believes that Carbon Capture and Storage (CCS) projects should not be credited under the Clean Development Mechanism (CDM).

Global greenhouse gas emissions must peak by 2015 and be reduced at least 80% by 2050 (compared to 1990 levels) if the devastating impacts of global warming are to be averted.¹ As youth, we believe the global community must use the precautionary principle when instituting climate change targets; to do otherwise is to gamble with the future—our future. According to Dr. James Hansen of NASA, parameters for a safe climate "suggest that CO₂ will need to be reduced from its current 385 ppm to at most 350 ppm."² The target of 350 ppm of CO₂ in the atmosphere must be set as the global goal for ensuring a safe and livable climate for future generations.

SustainUS believes that climate change solutions under the CDM should be environmentally just and sustainable. Such solutions to stopping dangerous climate change lie in renewable energy, conservation, and energy efficiency technologies. These are the most effective tools that the global community can utilize and they should be promoted. CCS does not fit in the CDM.

As explained in Article 12 of the Kyoto Protocol, the Clean Development Mechanism is supposed to 'stimulate sustainable development and emission reductions.' CCS does not meet both of these criteria. CCS technology, specifically carbon capture and storage in geological formations, does little to foster clean and sustainable development. CCS fails to assist developing countries in obtaining long-term carbon-free energy sources. Instead, it perpetuates the continued use of carbon-based fuels. The continuation of carbon-based energy sources under the CDM—regardless of CCS technologies sequestering associated greenhouse gas emissions—would invalidate the goal of 'sustainable development' in the CDM. SustainUS believes that instead of CCS, CDM projects in developing countries should be focused on technology transfer, technology absorption, and the direct investment in renewable technologies.

There are several concerns that must be considered and addressed with regard to CCS before any consideration of the technology is made. Specific concerns are outlined below. For further analysis, see the referenced Greenpeace papers on the specific topic areas.

Concerns regarding Leakage in CCS projects³

Carbon Dioxide leakage from geologic reservoirs remains a possibility. This is problematic because the extent and the rate at which leakages may occur over long periods of time is unknown,

¹ IPCC AR4 Synthesis Report: Summary for Policy Makers, Table SPM.6., page 20

² Hansen, et al., "Target Atmospheric CO₂: Where should Humanity Aim?," http://www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf, pp. 1

³ Greenpeace International. "Further guidance relating to the clean development mechanism-carbon dioxide capture and storage technologies-Information addressing the issue on Long-term physical leakage (seepage) levels of risks and uncertainty," May 2007: pp. 1-2.

and experiences with long-term CO₂ storage do not yet exist. The IPCC report on CCS states that "although storage projects are now in operation and being carefully monitored, time is too short and overall monitoring too limited, to enable direct empirical conclusions about the long term performance of geological storage."⁴ CCS projects are also designed to be long-term projects. Monitoring and regulating a CCS project during the CO₂ injection stage is straightforward, but after this phase it becomes much more difficult to regulate effectively. Because the time frame of a CCS project can range from a hundred to a thousand years, it becomes increasingly difficult to quantify and manage the potential leakage over time. If storage projects are to be undertaken, national and international standards should be established and an independent group of experts must be in place to approve, review, verify, and evaluate projects.

Concerns regarding Monitoring of CCS Projects⁵

The time frame of a CDM project is much shorter than the potential lifetime of a CCS storage project. The CDM itself is thus currently unable to adequately address the potential leakage of stored carbon dioxide due to temporal limitations. After the end of the crediting period, there must be a procedure established for monitoring the reservoir and reporting any leakage to the appropriate agencies. The long-term monitoring of any storage site should be given to an independent international entity. This would help guarantee the impartiality of the monitoring and the international standardization of monitoring procedures. This independent entity should hold the monitoring responsibility, but the Annex-I countries implementing the projects should retain fiscal responsibility for monitoring activities. In addition to monitoring, guidelines for mandatory Environmental Impact Assessments, risk assessments, monitoring programs, and remediation contingency plans must be put in place.

Liability of CCS Projects⁶

Potential sources of liability from CCS projects include public health impacts and environmental and ecosystem damage. Another liability is associated with leakage from geologic storage reservoirs and its effect on climate change. Assuming that carbon emissions will be controlled under a regulatory regime in the future, there will be legally-binding liability associated with leakage with regard to the effect on global carbon emissions. Long-term liability for CCS projects remains problematic due to the incredibly long time-line of carbon reservoirs. Liability should be the responsibility of the entity undertaking the project. It is necessary for the organization or sponsoring government to be held liable for all leakage and subsequent mitigation costs for the CCS project's entire lifetime. This will ensure that projects are not just closely monitored; it will create incentives for implementing only the most viable and safe project proposals.

CCS, Renewables, and the CDM

SustainUS believes the most effective CDM projects are those involving clean and sustainable renewable energy development projects. Renewable Energy is one of the single-most beneficial investments that we can make for our future. Renewable energy is immediately available and sustainable, with zero greenhouse gas emissions associated with energy production. Renewables—specifically solar, wind, and geothermal—are safe for our climate, safe for our communities, and safe for the earth's ecosystems.

⁴ IPCC WG-III. Special Report on carbon dioxide capture and storage., IPCC, 2005: p. 246

⁵ Greenpeace International. "Further guidance relating to the clean development mechanism - carbon dioxide capture and storage technologies-Information addressing the issue on long-term responsibility for monitoring the reservoir and any remediation measures that may be necessary after the end of the crediting period," May 2007, pp. 1-2.

⁶ Greenpeace International. "Further guidance relating to the clean development mechanism--carbon dioxide capture and storage technologies-Information addressing the issue on long-term liability for storage sites," May 2007. pp. 1-2.

Renewable energy projects can be implemented immediately. There is no risk of Carbon leaking out of a solar panel or a wind turbine. In addition, renewables have substantial secondary benefits other than solely reducing greenhouse gas emissions and replacing fossil fuel energy sources. Long-term effects of implementing renewable projects in non-Annex I countries can help to develop long-term technical and intellectual capacities of local communities. The shared planning and management of renewable projects will build the necessary skills within the community so that they may implement their own clean energy projects in the future. Empowering local communities to take control of their energy future in a sustainable way is essential for long-term social and environmental progress.

Carbon Capture and Storage does not meet the same benchmarks that the aforementioned renewables do. CCS may have applications beyond the CDM so long as the current concerns with environmental integrity and social justice are addressed. Before implementing CCS projects, it is of the utmost importance to unequivocally show that CCS technologies are effective and will not adversely impact poor, indigenous, or otherwise marginalize communities. As stated in the Montreal Youth Declaration at COP 11, "we ask governments for a just transition to low-impact renewable energy and insist on the removal of fossil fuel subsidies. Human rights and social justice must be included in the transition from fossil fuel dependence...Carbon sequestration is a last resort to mitigating climate change."⁷

Carbon emissions must be decreased rapidly to attain safe atmospheric carbon concentrations of 350 ppm. Doing so will require a just transition from fossil fuel dependence, a transition that is easily attainable given appropriate political, financial, and institutional commitments. Clean sustainable energy development on a massive scale is required to reach this critical goal. Clean sustainable development dictates that projects within the CDM should not support the continued use of carbon-intensive energy sources in developing countries. CCS projects that are coupled with fossil-fuel power plants therefore have no appropriate place within the CDM regime due to their failure to fit the model of clean sustainable development as defined for CDM projects. Carbon sequestration should be seen as a last resort to mitigating climate change due to the plethora of effective, safe, and viable renewable energy options that can be implemented immediately. Sustainable renewable energy projects must be made a priority within the CDM.

Given the necessity for CDM projects to stimulate sustainable development, the emission reductions that CCS provides satisfy only part of the CDM criteria. As such, CCS projects should not be allowed under the CDM. SustainUS advocates for a large increase in the incentives for implementing CDM projects that are focused on sustainable renewable energy development. Projects that help reduce the demand for carbon-based fuels are of the highest importance, and should be treated as such within the CDM.

As young people we recognize the long-term threat of global warming and therefore we want solutions that are sustainable for our future and our children's future.

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⁷ International Youth Declaration, Montreal 2005; <http://www.beyondkyoto.org/docs/affiche%20jeunesse%20ang.pdf>