

10 arguments against CCS

1. Climate - timing. CCS will - perhaps – be developed by 2020-30. It is too late for CCS to contribute with reductions in the extent that is needed before 2050.

2. Energy. Energy accounting. Climate efficiency. It will require approx. 40 percent more energy to capture approx. 85 percent of the CO₂. When production of extra energy, construction of CCS plant, construction of transport infrastructure and releases from the various CCS activities are included, this means that only 70-75 percent of CO₂ emissions can be avoided. The 25 to 30 percent which is not captured, will be too much when looking at the overall budget for emissions that are “available” globally.

3. Energy Planning.

The demand that new coal fired power plants have to be “CCS-ready” will just open a huge door for even more coal fired plants. These plants may operate for many years without CCS while the technology is developed, storage sites are identified and financing is secured.

CCS will consolidate our dependence on fossil fuels and direct investments away from an energy system based on low energy consumption and renewable energy. CCS is a technological fix, which at first glance appears attractive to politicians because the focus is on energy supply, while consumers can continue a high energy consuming and CO₂-emitting lifestyle without unpopular political interventions.

CCS is a large-scale technology associated with large CO₂ emitters as power plants and heavy industry. CCS will bind us to a centralized energy supply system based on coal and thus hamper the development of a more decentralized renewable energy system.

“CCS on biomass” is sometimes mentioned as representing an especially promising perspective. CCS with e.g. 30 % co-firing of biomass will in Denmark lead to a complete exploitation of the accessible biomass – or depend on a problematic import.

4. People, society and environment. CCS will prolong the coal age with the damages to human health, nature, environment and local communities resulting from the mining of coal. CCS requires large extra amounts of water for cooling, which in many places will lead to an intensified competition for fresh water.

5. Public priorities. CCS can only be developed with substantial public subsidy. These funds can not be used twice, so CCS is a competitor for investments in renewable energy (RE) and energy efficiency.

The large investments in power plants and CCS-facilities will entail that these plants will operate around the clock due to economical considerations. This is just the opposite of what is needed in the development of a flexible energy system integrating renewables like wind, wave and solar. The production from these will naturally be fluctuating. Therefore there is a need for a supplementary production that can quickly be regulated upwards or downwards. This could be smaller decentralized biomass based Combined Heat and Power plants as well as a system of batteries.

6. Financing. Funding needs will be enormous. A plant for the capture with pipelines for transport and facilities for injection of liquid CO₂ to the underground would cost 5-25 billion DKK. To this must be added costs for the establishment of the storage, its use and monitoring plus costs of extraction and transportation of about 40 percent more coal. The cost per ton reduced CO₂ are so high that no CCS plants will be built without massive public support.

7. Security. There may be leakage of CO₂ from the compression facility, pipelines, injection sites and new boreholes and from crevices, abandoned poorly sealed boreholes and fissures in the underground. Leaking CO₂ can destroy ground water and if it leaks from storages in geological formations under the seabed, it will affect the marine environment negatively. Injection pressure is suspected to trigger earthquakes.

8. Stock Liability. NOAH believes that the operator of CO₂ storage should carry the full responsibility for the amount of CO₂ in the storage. The operator must therefore continually set aside funds in case of release of CO₂ by accident or unforeseen events in order to compensate fully for the spill through the rapid use of other safe reduction technologies. IPCC estimates that 99 percent of the stored CO₂ is 'very likely' to remain in the store for 100 years and that 99 percent even is 'likely' to be remain after 1000 years, but dare we trust it? The EU is even suggesting that the companies shall be released from the liability when the injection ceases, after which it passes to the public. The time horizon for the storage is so large that the responsibility and burden associated with stocks in practice is left to future generations. That is not sustainable.

9. CDM. If CCS is authorized under the CDM, rich countries will benefit through the many new credits that the storage of CO₂ in developing countries will generate. The quota price will drop and domestic reduction efforts will diminish. It gives less room for renewables and energy efficiency. Few, relatively well-developed developing countries will receive most of the projects - and the already existing imbalance in the CDM will increase.

10. Public debate and acceptance. IEA and other stakeholders are aware of the risk associated with a growing opposition to CCS in the public and the industry makes great efforts to influence politicians to rapidly undertake large public subsidies for research, development and demonstration of CCS.

In 2006 the then Environment Minister Connie Hedegaard announced that the government would launch an awareness raising and public debate on CCS. That has not happened, so today it is really the big energy companies Vattenfall and DONG that set the agenda for CCS in Denmark.