

Key Points From the CCSReg Interim Report

- There is no feasible way for the U.S. to achieve a 50-80% reduction in emissions of carbon dioxide by mid-century without carbon capture and sequestration (CCS) as part of a portfolio of low-carbon technologies (such as energy efficiency, renewables, and nuclear). (*Ch. 1*)
- All the technologies required for capture, transport, and geologic sequestration of CO₂ exist at commercial scale, but have yet to be integrated and applied to the control of CO₂ emissions. (*Ch. 2 and Ch. 4*)
- Geoscientists believe that the risks associated with sequestration are modest and can be readily managed. There are a number of natural analogs which suggest that, if seepage of CO₂ to the surface occurs, risks to humans will be minimal. (*Box 4.5*)
- Wide-spread adoption of CCS will require a large pipeline infrastructure for which an adequate regulatory framework does not yet exist. We recommend that Congress resolve this issue in the near future to provide project sponsors with greater regulatory certainty in time for deployment of the first commercial-scale CCS projects. (*Ch. 3*)
- Because the EPA proposed rule for regulating CCS has been developed under authority provided by the Safe Drinking Water Act, it does not address the two issues that we consider most critical:
 - Legal access to and use of appropriate deep geological formations for sequestration (*Ch. 5*);
 - Adequate financial, regulatory, and liability arrangements for long-term stewardship of sequestration sites after they have been closed (*Ch. 7*).
- In much of the world (Europe, Australia, Canada, etc.) governments own deep-subsurface resources, making access for CCS straightforward. In the much of the U.S., ownership rights are undefined. We outline several ways in which this ambiguity might be resolved, many of which could make CCS economically infeasible. Our current thinking is that a Federal solution is likely to be superior to a state-by-state solution or resolution in the courts. (*Ch. 5*)
- During injection, site operators should be required to pay into a fund that will cover the cost of long-term stewardship and any remedial actions that may be needed. While this could be done on a state-by-state basis, a single federal program would be less costly due to the larger risk-pool and better deal with interstate and international issues. (*Ch. 7*)
- To avoid perverse incentives, the regulatory entity that oversees site permitting and injection operations, should be different from the entity that manages long-term stewardship. (*Ch. 7*)
- Liability through the injection phase of a project can probably be managed with the same mechanisms employed by other large-industrial projects. Less conventional mechanisms, probably involving government, will be needed for long-term stewardship. (*Ch. 8*)
- Rather than finalize all regulatory details now we argue for a "two-stage" approach in which a Presidential-Congressional Commission monitors experience with 10 to 15 projects and then recommends how to handle specific details on the basis of this experience. (*Ch.4 and Ch. 11*)
- If CCS is to be adopted on the necessarily substantial scale, an attractive and predictable commercial environment must be created (*Ch. 9*). It must also be compatible with any future national emissions control regime for greenhouse gases (*Ch. 10*).