Carbon-intensive industries (e.g., electric power generation, petroleum refining) seeking innovative technologies to reduce carbon dioxide (CO2) emissions increasingly have explored the feasibility of permanently sequestering CO2 in geologic formations deep below the surface. Much of the state of Illinois lies above one of the best potential geologic formations for carbon sequestration—the Mount Simon Basin. From a landowner’s perspective, geologic carbon sequestration (CGS) activities raise several novel legal issues, including property rights (e.g., who owns the pore space used to sequester the injected CO2) and who is responsible for potential injuries to property or the environment caused by the sub-surface injection. Due to the experimental nature of this activity, many of these legal issues remain unresolved.

The injection of CO2 into subsurface geological formations is an increasingly common practice in oil extraction. In this process, known as enhanced oil recovery (EOR), the well operator injects CO2 into the oil reservoir, increasing the pressure and forcing out the remaining oil. In theory, the operator could seal the depleted well in a manner designed to permanently sequester the CO2. GCS outside the EOR context generally involves the capture of CO2 emissions from a manufacturing facility and transporting it via pipeline to the injection site for permanent sequestration in an impermeable rock formation or saline aquifer. Archer Daniels Midland Co. recently received almost $100 million from the Department of Energy to build a commercial-scale GCS operation (1 million tons of CO2 annually) at the company’s ethanol facility in Decatur, Illinois. The Midwest Geological Sequestration Consortium’s website (www.sequestration.org) provides a description of GCS concepts and potential storage locations.

Future, large-scale GCS projects may have pore space underlying the property of numerous landowners. Accordingly, permission to use the pore space for carbon sequestration may require easements from multiple parties and must navigate a conflicting tangle of surface and sub-surface property rights (e.g., coal, oil and gas). This is not a simple task. For example, the proposed FutureGen “clean coal” operation in Illinois experienced significant issues in securing the rights to pore space underlying surface estates. From a liability perspective, the state of Illinois agreed to assume responsibility for potential damages. This was a one-time agreement and does not apply to other experimental sequestration activities in Illinois.

In some jurisdictions, state legislatures have attempted to simplify the property rights issues by allocating pore space to the surface landowner. Other legislative efforts have sought to vest these rights in the state in order to expedite development of this important industry. Regarding liability, in some states, responsibility for any damage
may rest with the sequestration operator for a period of years, with the obligation later
transferring to the state.

The potential for Illinois to lead in this industry warrants careful consideration by
the legislature to explore the advantages of a statutory regime to fill in these legal
uncertainties. In the interim, landowners should carefully consider and consult with legal
counsel before signing an easement or other legal transfer of property rights for future
GCS activities impacting their surface or sub-surface rights. The royalty potential from
GCS operations could provide an important source of revenue to landowners, but the
legal landscape in this industry is far from certain.