

Statement by: John Tombari
Schlumberger Carbon Services

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Regarding the
“Department of Energy
Carbon Capture and Sequestration Program Amendments
Act of 2009”

Submitted to
The US Senate Energy Committee

I would like to open by describing what Schlumberger Carbon Services does. This is particularly relevant since the proposed legislation will encourage companies such as ours to fill a necessary industry role. Schlumberger Carbon Services is a division of Schlumberger, the world's leading oilfield services company. Schlumberger was founded in 1926 and employs more than 82,000 people of over 140 nationalities working in approximately 80 countries. Schlumberger invented the first instruments which take measurements deep below the earth's surface and allow the understanding of the properties of the earth's layers.

Since its inception, Schlumberger has spent consistently and heavily in research and development. In 2008, Schlumberger's R&D expense was \$819 Million USD. It is in large part due to these efforts that today we can see with great clarity into the depths of the earth and visualize its content. Miles beneath our feet we can identify features much like those we observe today on the earth's surface such as: rivers, beaches & reefs. These features moved from the surface to the depths of the earth over millions of years. Despite the alterations that took place over this time, we can map them, evaluate them and follow them as if we were hiking through history. These technologies have been used by the oil gas industry for decades to find & produce hydrocarbons. As you might imagine they also have extreme relevance to the challenges of geologic carbon sequestration.

It is important that I point out, at this time, that Schlumberger does not and never will take equity or production sharing contracts in the oil and gas businesses.

I appear today however, on behalf of Schlumberger Carbon Services and my comments relate not to oil and gas but more specifically to the prospects for the development of a geologic carbon sequestration industry. I joined Schlumberger Carbon Services in 2005 having worked elsewhere in Schlumberger since 1981.

Schlumberger Carbon Services has been involved in carbon sequestration since the mid 1990s. In 2005 this became a business initiative with the intent of providing comprehensive geological sequestration solutions to major point source emitters of CO₂. Our technical expertise, project management capability and technology portfolio in Carbon Services are leveraged from Schlumberger's

80 year history. We draw from the existing skills and technologies used for safe hydrocarbon exploration, production and reservoir management and apply them to sequestration site exploration and operations including injection and monitoring of CO₂. Schlumberger Carbon Services plans to design, build and operate sequestration sites in a safe and environmentally friendly manner. We hope this can be a business opportunity in the near future. We have participated in almost all of the geologic carbon sequestration initiatives around the world and are a member of most related consortiums and partnerships including all seven of the DOE's Regional Carbon Sequestration Partnerships. We are also investing significantly in the conversion of existing oil and gas technologies and the development of new technologies to fill gaps so that the entire lifecycle of a carbon sequestration project can be properly managed.

If carbon sequestration is to have an impact on the CO₂ concentrations in the atmosphere, we will need to inject billions of tons of CO₂ underground over the next 40 to 50 years and store them for very much longer. The sheer scale of the challenge is daunting, and the industry that will need to develop to achieve this will be massive. It will require many other companies similar in capability to Schlumberger. Hundreds of thousands of technical and non-technical jobs will be created, and it is not unthinkable that one day it will be a sector of a "clean-energy" industry that could itself reach the scale of today's oil and gas business.

Despite the enormous potential for the creation of a carbon sequestration industry and the hundreds of thousands of clean-energy jobs that could be created, progress today is slow, but this is not due to the readiness of technology. In my opinion and through our project experience, the needed technology is ready for safe and large-scale deployment. The risks involved have been thoroughly studied and documented. Financial mechanisms for large-scale demonstrations appear to be in place and are growing in availability. Regulatory frameworks are under development through the EPA and in the State legislatures. The final issue to be resolved is the question of who will handle the long-term stewardship of a sequestration site. Such stewardship will likely extend for hundreds of years and is beyond the likely lifespan of any corporation.

Government legislation and policy must protect the public's interests and the taxpayers' money by allowing for the long-term stewardship of what will be a diminishing risk. Further, legislation should mandate good project

practices that will be a condition for achieving the desired handover. Companies who manage sequestration projects properly must be able to hand them over to the federal government once regulatory requirements have been met.

One suggestion we bring is to provide more clarity around the conditions under which the handover would occur. We believe that early projects such as the 10 covered by the legislation you are considering should be held to the highest of standards with the greatest possible protection afforded to the public. DOE estimates show enormous potential for sequestration sites throughout the United States so we can be highly selective for the first ten. Site selection should be heavily weighted by the simplicity of the geologic environment, and the minimization of geologic uncertainty. To evaluate this uncertainty, and to properly select sites, a minimum standard of site characterization and qualification should be set--with the use of the best available technologies encouraged. Without naming specific technologies, stewardship should only be an option for projects that use the best possible site characterization technologies available at the time of baseline site description and modeling--prior to injection.

In closing we are hopeful that the investments we are making may soon be put to use, and that the beginning of a new clean energy business may be around the corner.