

**Barry K. Worthington  
Address To The  
American Bar Association  
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Washington, DC**

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Good afternoon. It is an honor and a privilege to have the opportunity to address this prestigious gathering on the topic of Climate Change, *"Understanding the Legal Issues"*. I compliment the organizers for assembling an outstanding selection of topics and speakers.

Issues of federal legislation, regulatory implications, financial and investment issues, and of course, litigation, are very well covered.

In contemplating what I might add to the conversation, I decided to focus on a couple items.

First, I want to talk a bit about the international processes and the international issues and their domestic impacts. Second, I want to talk a bit about how we get there from here. And lastly, I will pose some observations and questions regarding global trends that all of you, in your roles, may need to be aware of.

First, the international scene...

Much hype has swirled around the Copenhagen meeting at the end of 2009. Unreasonably high expectations were not achieved and Copenhagen ended with no international agreement to replace the Kyoto Protocol. The United States, of course, did not sign onto Kyoto. It was negotiated under the Clinton Administration, but not submitted to the United States Senate for ratification – and – no surprise to anyone, not submitted by the Bush Administration. In fact, you will recall that President Bush announced early in his Administration, that he would not submit Kyoto to the Senate, and we became the only major nation that did not sign-on to Kyoto.

For eight years, being a U.S. climate negotiator was awkward, to say the least. Nevertheless, multiple international initiatives were pursued under the Bush Administration, and properly so, continued in 2009 and 2010, by the Obama Administration.

Perhaps, most importantly, the Major Economies Process was launched, which provides a meaningful forum for discussion with a handful – a big handful of the most important countries from a greenhouse gas emission perspective. Other forums of discussion

include the Carbon Sequestration Leadership Forum, the G-8 and the G-20.

The Copenhagen collapse, the leaked emails from East Anglin University, the self-admitted flaws in the IPCC Reports – (no, the Himalayan Ice-cap will not melt by 2035!), and other concerns will not significantly impede the United Nations Framework Convention on Climate Change, which was signed in 1992 in Rio. This process will continue – possible floundering and all – but it will continue.

At the end of the day, there is near certainty that there will be a global agreement to reduce greenhouse gas emissions. In all likelihood, domestic action on the part of the U.S. and on the part of China, both nations adopting binding limits to greenhouse gas emissions, precedes and ultimately forces a global consensus. The world cannot get there without the U.S. and China.

Our collective challenge to reduce CO<sub>2</sub> is daunting. A goal of reducing US CO<sub>2</sub> emissions by 83% has been suggested. This represents essentially a decarbonization of the energy sector.

Going into this a bit deeper, the Electric Power Research Institute (EPRI) has suggested how the future of power generation looks in the US based on a limited versus a full portfolio of technologies deployable.

A major attribute of the limited portfolio suggests that CCS and new nuclear does not become available. The full portfolio has both of these technologies deployable. In the limited portfolio – coal is gone by 2030 and nuclear gone in 2050. In the full portfolio, with CCS and new nuclear available, you see that coal with CCS maintains its market share and nuclear generation shows a significant expansion.

Comparing the two alternative portfolios, again, the full portfolio has CCS for coal and natural gas generation; much more efficiency; plug-in electric vehicles and expanded nuclear. The limited portfolio has no CCS, no plug-in hybrids and no expanded nuclear.

This results in a very different generation mix in 2030 – only 20 years from now. Coal is gone; natural gas is half of generation and renewable are at 35-41% in the limited portfolio. In the full portfolio; coal is about 25%; nuclear about 1/3; renewable about 1/3 and a reduced role for natural gas.

In 2050 – coal with CCS meets the economic test and is about 40% of generation; with sizeable renewable and nuclear contributions, and with a diminished role for natural gas. I must point out that the assumptions of how new domestic natural reserves fit into these models is not clear. I believe future modeling will show a much larger role for natural gas under either scenario.

So what global trends do attorneys in the energy space think about?

Here are a dozen or so big picture issues to keep in mind:

1. Recent drop in demand – electricity first time since WWII – new trend or blip?
2. Recent increase in supply, i.e., U.S. shale gas; Brazilian offshore oil and gas – are they sustainable or are they blips?
3. How goes Russia? European security threat or solution?  
Geopolitics of pipelines?

4. Mid-East oil and now natural gas supply – stable or unstable? Is a organization of gas exporting countries likely? Likely to be effective?
  
5. Will credit thaw or will energy infrastructure projects face financial challenges?
  
6. What percentage market share for fossil fuels; Renewables and nuclear in 2030 and 2050?
  
7. Will Carbon Capture & Storage and new nuclear be politically viable? Financially viable?
  
8. Will electric vehicles – hybrids, plug-ins, or pure electric vehicles overcome cost and convenience of gasoline?
  
9. What is the timeframe for climate agreements? Global Agreements and domestic legislation?

10. Will national oil companies (90% of resources) and international oil companies find a mutually useful business/cooperation model?
11. Will next generation biofuels resolve the food versus fuel debate?
12. Since you can't (and don't want to) put the renewable genie back in the bottle – how much wind can the power system absorb and how much ethanol can the gasoline supply system absorb?
13. Can the U.S. adopt an Energy Efficiency “ethic”, or is technology the only option?
14. Will we build 400 new nuclear plants globally by 2050? Is the supply chain, including human resources, ready?
15. What about the energy and water nexus?

16. How far can international collaboration take us? How do government organizations and the private sector relate? Can intellectual property be protected in an era of increased cooperation?
17. Can the optimum balance of reliance on markets and government intervention be found?
18. How can the U.S. government help U.S. companies compete overseas and should it?
19. How does energy fit into strategic interests? Security? Development? Climate?