

Gary Spitznogle, manager of IGCC and Gas Plant Engineering, AEP, Columbus, Ohio

Climate Change obviously is a huge issue for AEP, much of the electric industry and the nation at large. How important is the Mountaineer project in addressing climate change?

The projects at Mountaineer are absolutely critical for AEP and the industry. There are no other projects like ours in the world. Others who are considering or maybe have announced intentions to do similar projects are quite a ways behind us and we have no certainty that their projects will be completed. Without the work that AEP and Alstom are doing at Mountaineer, there would be next to nothing to reference regarding technologies that could be retrofitted on existing coal-fired power plants.

What was your biggest challenge in overseeing the engineering of the Mountaineer CCS project? How did you overcome that challenge?

A project like the one at Mountaineer, with its enormous complexity and cutting-edge nature, presents numerous substantial challenges. Chemical engineering unit operations details, such as the various side reactions and water balance issues, may be the most difficult to resolve. However, we are progressing in a manner much like any other successful first-of-a-kind installation. Fortunately, AEP has a very creative and talented team of chemical and process engineers who are committed to solving each problem. They are doing a fantastic job and I am convinced they will make this technology a viable option for future deployment.

What do you think the future is for CCS in the United States?

When the United States develops legislation or regulations that require a reduction in CO₂ emissions, there is not doubt in my mind that CCS will be an integral part of compliance for the coal-fired power generation industry. While efficiency improvements to the power generation process can take us part of the way toward a lower carbon footprint, there will be no substitute for advanced CCS technology deployment.

What policies would you like to see Congress enact that could facilitate the continued use of fossil fuels for energy production?

As Congress moves toward driving our nation down a path with constraints on carbon emissions, it is imperative that reduction targets and implementation timing are synchronized with the advancement of technology solutions. Policy must not get ahead of technology, as is sometimes the tendency. Any policy that requires aggressive reductions to occur too quickly will impair our ability to continue to produce low-cost electricity from the abundant supply of coal that our nation is blessed to have. Energy and climate policy must not only allow for the development of advanced CCS technology to be matured, but it must substantially subsidize that advancement. CCS processes are very expensive to build and to operate. We cannot require a small number of rate-paying customers to bear the burden for the cost of this work, when the results of the technology development are a benefit to the entire nation and the world. The USDOE has gone part of the way in that direction through their Clean Coal Power Initiative (CCPI) program, as can be seen with the CCPI Round 3 grant award of \$334 million for 50 percent of our next project. Additionally, there needs to be legislation written to define the elements of geologic sequestration of CO₂ that relate to property rights, pore space ownership, and long term liability protection.



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As an engineer who has been deeply involved in the CCS project, what other technologies do you see in the future that could help us address climate change?

AEP has made a commitment to validate and commercialize Alstom's chilled ammonia technology for CO₂ capture, based on knowledge at the time. However, that does not mean we are not also interested in other solutions. There are other CO₂ capture technologies in various stages of research and development that ultimately may prove the better choice. I am in favor of seeing all the options evaluated and proven, or disproven, as viable candidates for retrofit and new-build applications. Additionally, I am still a strong proponent of the FutureGen model, using IGCC with CCS, for new coal-fueled power plants. Whether or not FutureGen is the mechanism, that technology is very attractive for advancing coal use in a carbon-constrained world. Of course, nuclear power is probably the ultimate large-scale, zero-carbon solution for power generation. I would like to see the United States become more active in increasing its use of nuclear power for electricity generation.

Do you have anything else to add?

No. I think the above about covers it! Thanks.