**ARCH2 Regional Clean Energy Hub – Halt the Hydrogen Hoax**

**In-Person Session Held November 19-20, 2024 at Salt Fork State Park**

 The Appalachian Regional Clean Hydrogen Hub is one of several regional initiatives in the U.S. to promote the development of facilities for the production of hydrogen. Many in the environmental movement think that this federally supported project is a hoax and poorly conceived, scientifically and economically. This two-day session was organized and presented by several well-informed people who have come to the latter conclusion.

Participants. There were 16 participants in this session, some of who are volunteers in environmental organizations and some of whom are paid staff. They came from Ohio, Pennsylvania and West Virginia. Most of the participants were under age 40 by my reckoning.

Goals. Among the goals of the program were to teach and learn about ARCH2, to deepen relationships among those potentially impacted by Arch2, to identify resources that people bring to the table on this issue, to set goals to oppose ARCH2 in the next six months, and to stay in touch with participants after the session.

Scientific and Engineering Background. Dr. Randi Pokladnik presented facts about hydrogen and the plans for development of ARCH2. There are four types of hydrogen production: 1) blue hydrogen which is produced from methane (natural gas) and connected to carbon capture and sequestration (CCS) for management of waste in the process; 2) grey hydrogen made from methane without the CCS feature; 3) green hydrogen, produced through electrolysis, separating hydrogen from oxygen in water, but using power from non-renewable sources; pink hydrogen, produced from atomic energy. The latter is quite rare.

 According to Dr. Randi, hydrogen is flammable and explosive. It reacts to steel, causing embrittlement and leaks in pipes; it can also leak from plastic piping. Unlike natural gas it does not have an odor agent that can be incorporated into the substance for detection by human smell. Hydrogen is an indirect greenhouse gas in that it can combine with other gases, leading to global warming and climate change. There are currently no federal rules or regulations for hydrogen production and transfer. CCS has a failure rate of 88% over nearly 50 years of its use. Dr. Randi’s conclusion: hydrogen production is inefficient, energy hungry, and costly.

 Sean O’Leary of the Ohio River Valley Institute gave a (virtual) presentation on the lack of economic viability of the ARCH2 project, entitled “Far From a Done Deal.” Over $900 million of federal funding is being provided by this program from the Department of Energy. Currently, the ARCH2 project is struggling financially according to O’Leary. Four of the 15 partners have left the Hub; five of the 15 projects have been scrubbed (re: attached map). Usually community engagement occurs late in the process, and company representatives who attend these sessions are not informed about details of the project and problems with hydrogen. As for carbon capture and sequestration (CCS), even if regulations are minimized, CCS and the H2 Hub are still in trouble. One problem unique to the ARCH2 is that the Appalachia region is not a big consumer of energy. Even without ARCH2 fossil-fuel companies are still developing production capacity for natural gas from Appalachia through power generation and through conversion to liquid natural gas (LNG) for export.

 Since one of the objectives of the ARCH2 Hub is to generate jobs and improve the economy of the region, some of us think that it is important that if we strongly oppose ARCH2, we need to come up with other ideas to strengthen the economy in Appalachia and improve the job market. We had some discussion on this issue, and I referred people to ReImagine Appalachia for creative and meaningful ideas on job growth & economic development in the region.

 Participants were urged to contact federal public officials in Congress and in the Department of Energy about ARCH2. They were also urged to attend public-information sessions on ARCH2 when they are held and pose the hard questions to company representatives.

 There were several handouts with detailed scientifically-based information on hydrogen gas that I can provide upon request.

George Banziger

