

Appalachian Regional Clean Hydrogen Hub (ARCH2)

Community Briefing
October 24, 2023



Why ARCH2

RESOURCES

- Largest natural gas-producing formation in the United States (EIA, 2022)
- Natural gas spot prices consistently discounted to Henry Hub
- Renewable electricity sources for H₂ production
- Subsurface CO₂ and H₂ storage



COMMUNITIES

- Long history of energy production vital to US economic growth
- Disadvantaged by energy transition from coal
- Designated ENERGY COMMUNITY by IWG



LOCATION

- Close to major demand centers in all directions key for interhub connectivity
- Includes eight of the top 25 priority communities as designated by the Interagency Working Group (IWG) on Coal and Power Plant Communities and Economic Revitalization



APPALACHIA

Project Development Partners

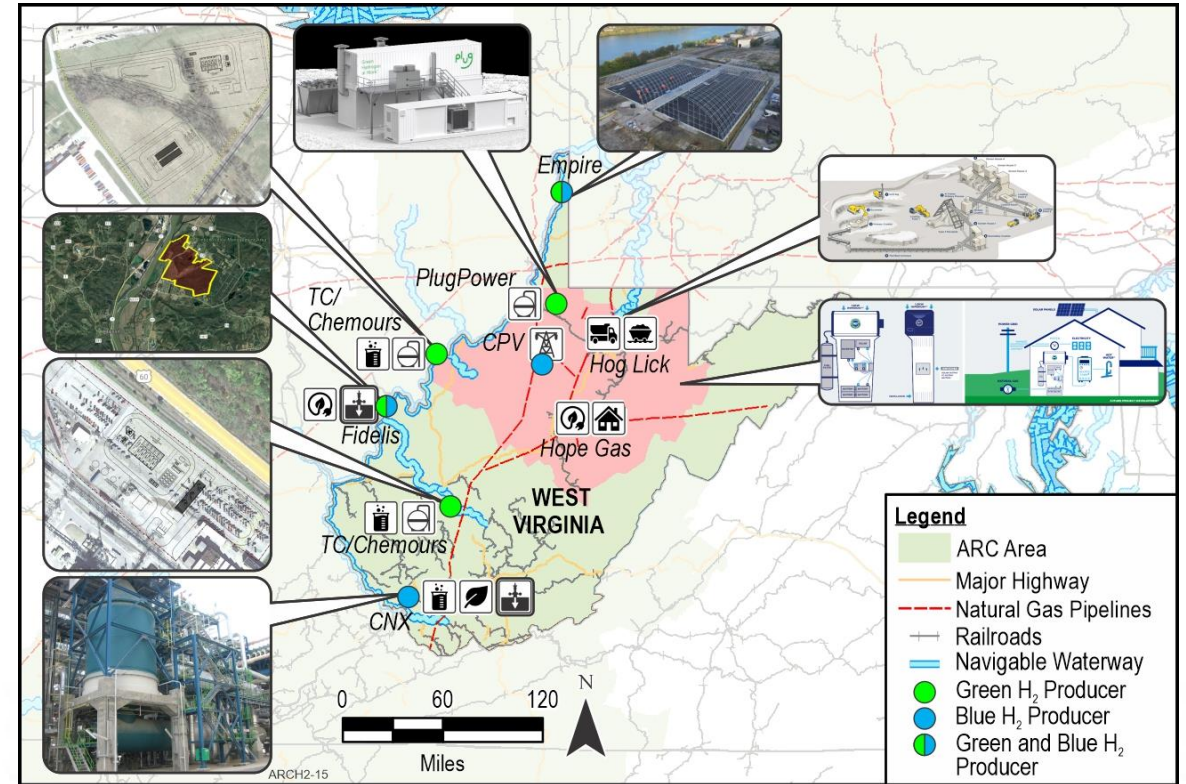
- Decades of expertise in the region
- Strong financial commitment to ARCH2
- Leadership in ESG and Climate initiatives



Re-energizing Appalachia
Economically • Socially • Environmentally

ARCH2 Project Summaries

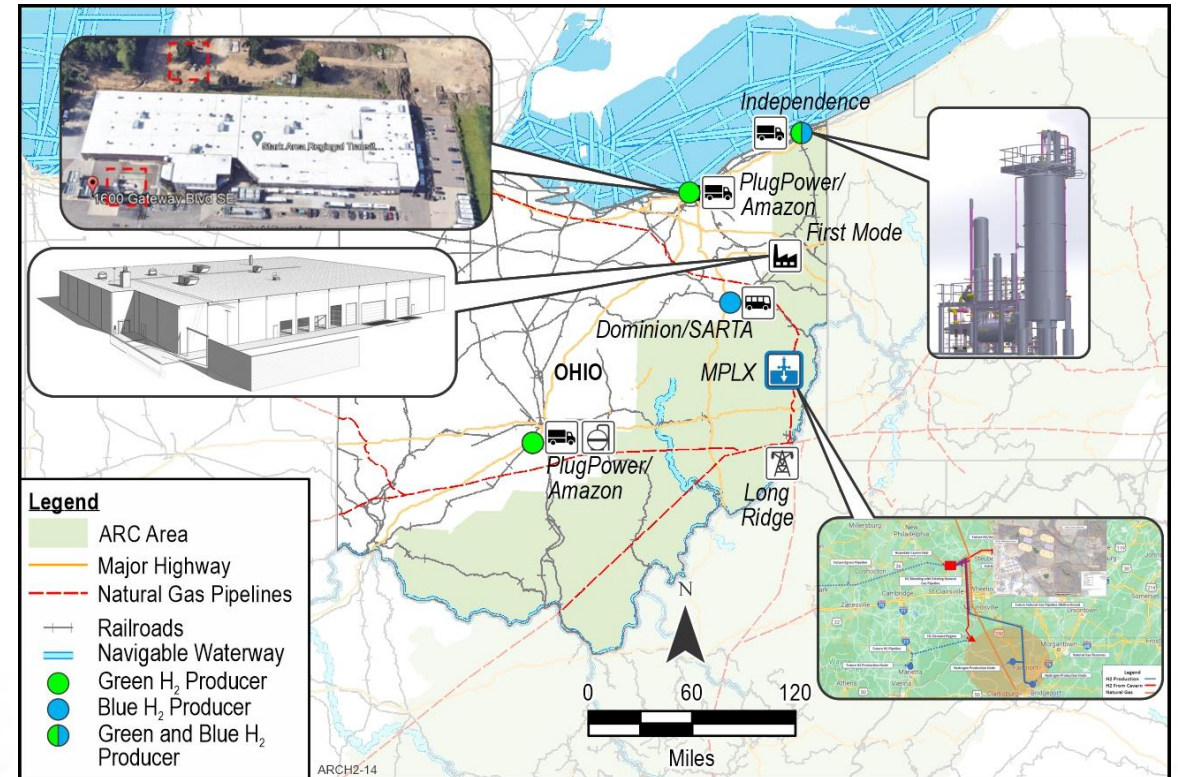
- **CNX/ TransGas:** Low-CI ammonia production
- **TC Energy/ Chemours:** Electrolysis-based H₂ production in two chemical facilities
- **Fidelis / Mountaineer GigaSystem:** NG + biomass to produce Low CI H₂ for datacenters, other off-takers.
- **HLA:** H₂ off-taker: H₂ use as fuel for off-site aggregate delivery trucks and on-site haul trucks/equipment.
- **Hope Gas/ WATT Fuel Cell Corp / EQT:** Produce clean H₂ from NG for blending in Hope local distribution system and residential fuel cells.
- **Empire Diversified Energy:** Anaerobically digested food waste based H₂ production for industrial and transportation fuel.
- **Plug Power/ Amazon:** Green H₂ production facility in northern WV.



Note: Proposed project locations based on preliminary siting are subject to change during the detailed planning phase (phase 1).

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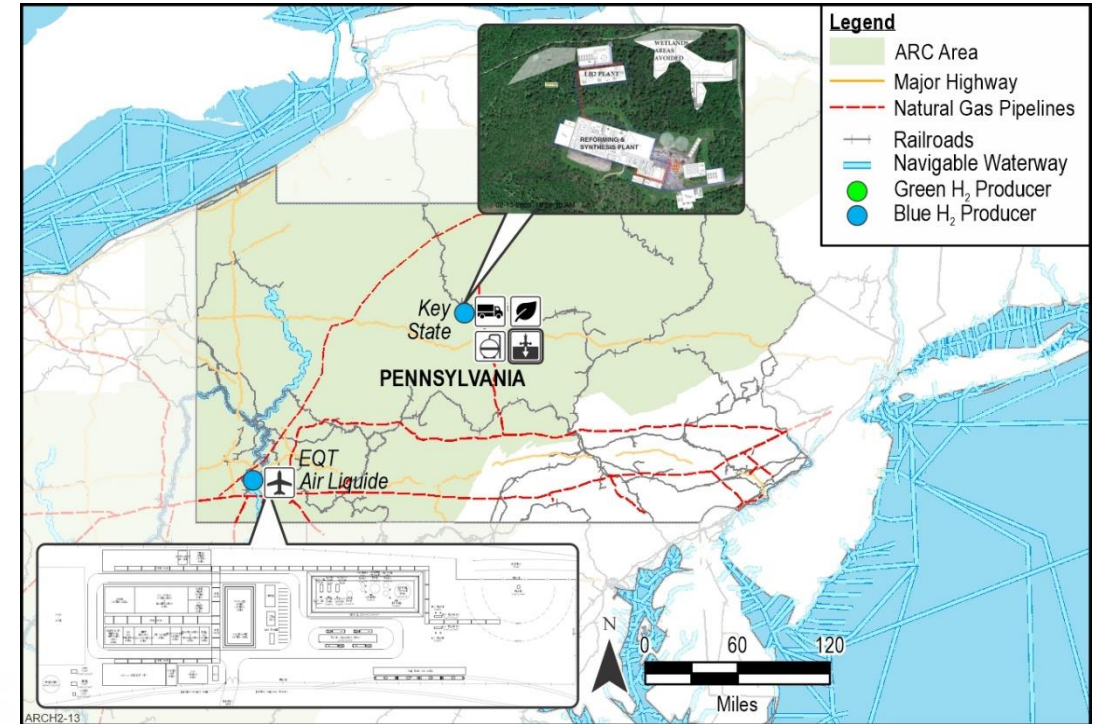
- **MPLX:** H₂ storage facility development with connective infrastructure to support ARCH2 producers, storage, and end-users
- **Dominion Energy Ohio:** H₂ production with CO₂ capture to supply H₂ to regional transit (e.g., SARTA)
- **Plug Power/ Amazon:** One distribution center with H₂ fueling MHE; fueling station FCEV delivery trucks.
- **First Mode:** H₂ end-user: Manufacturing facility for retrofitting mining trucks with H₂ fuel cell power system.
- **Independence Hydrogen:** H₂ production facility using industrial off-gas as feedstock in Ashtabula, Ohio to provide clean hydrogen for material handling equipment at distribution centers.



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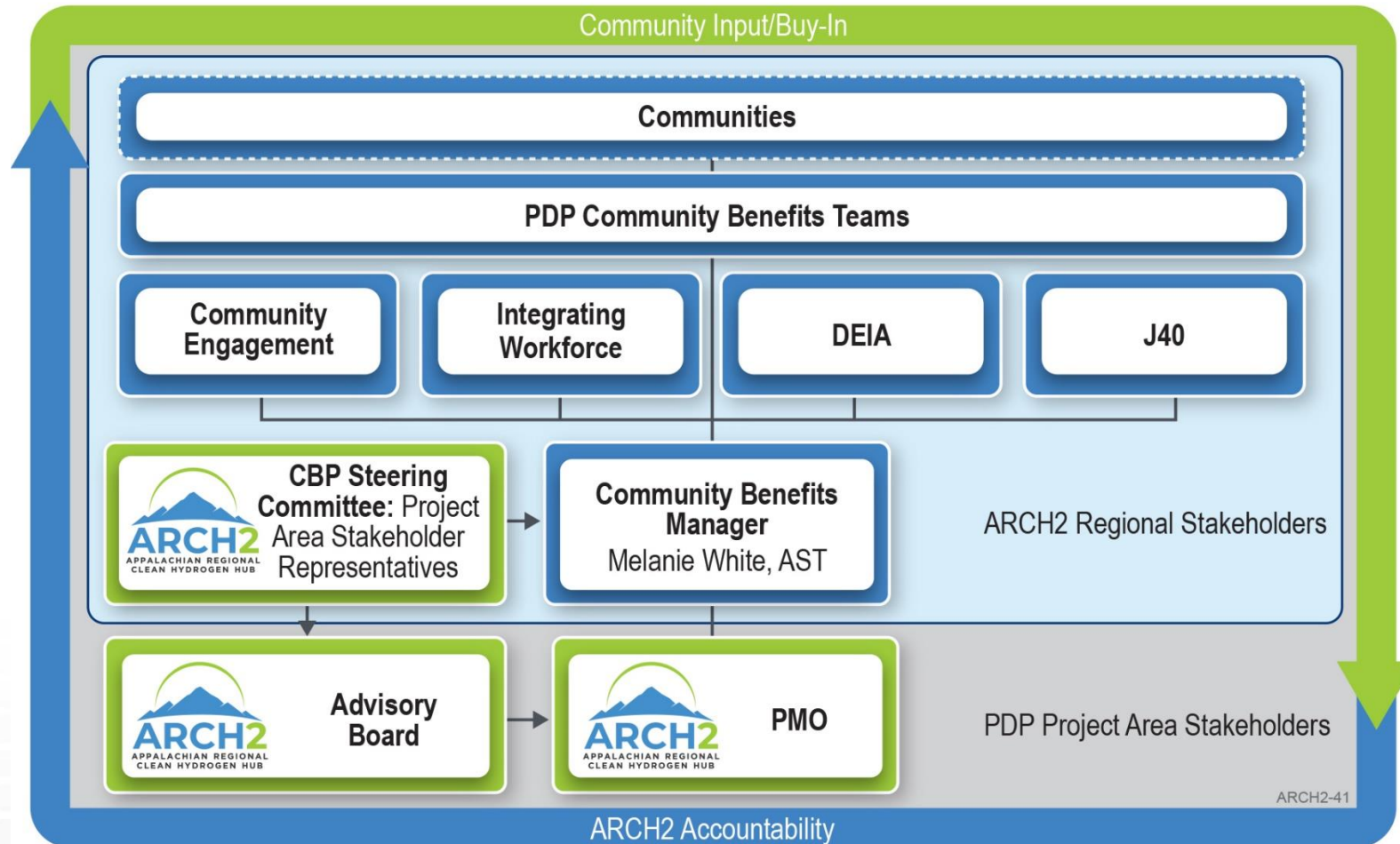
ARCH2 Project Summaries

- **EQT-GTL:** Low-carbon NG and renewable natural gas (RNG) (as required) to produce low-carbon aviation fuel.
- **Air Liquide** - Liquified H₂ facility in southwest PA to serve as an offtake for EQT's excess hydrogen to be used in the mobility sector.
- **KeyState:** H₂ production plus other products (NH₃, urea/diesel exhaust fluid (DEF))



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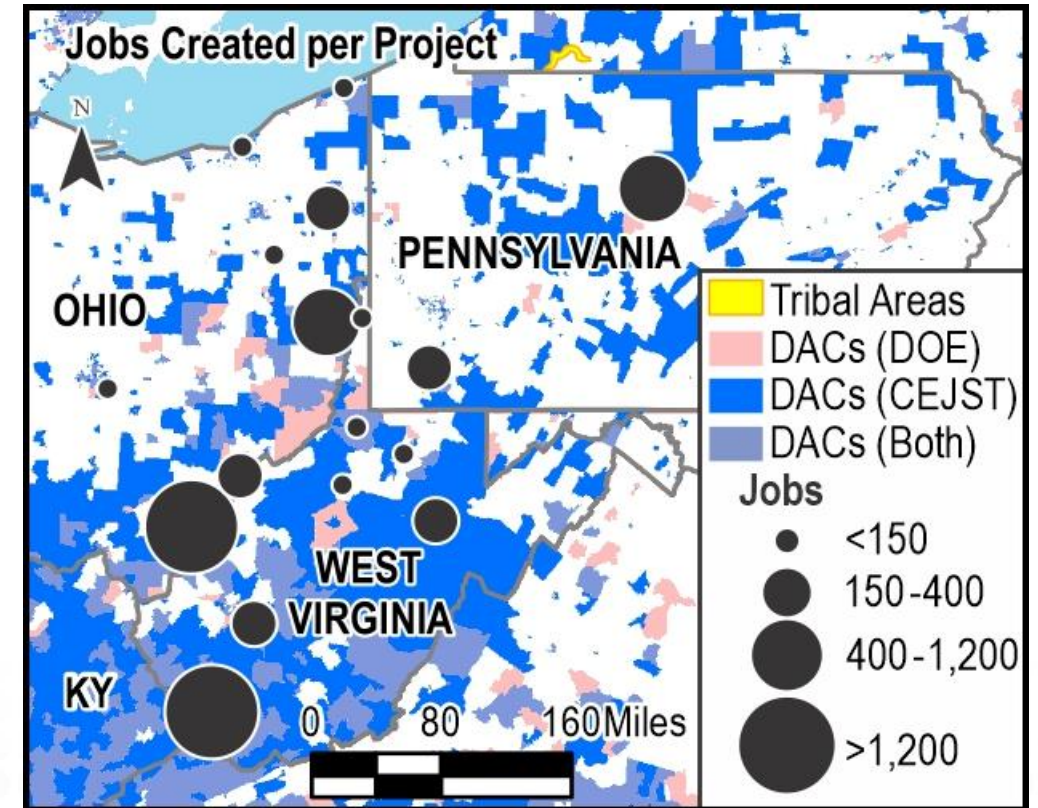
ARCH2 Communities First Approach



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ARCH2 Jobs Impact

- ARCH2 will foster a just energy transition in a region disproportionately impacted by the loss of extractive industry jobs
 - Environmental benefits
 - Economic benefits
 - Jobs creation
 - Workforce development
- At its peak ARCH2 is expected to create more than 21,000 jobs
 - More than 18,000 in construction jobs
 - More than 3,000 permanent jobs.



ARCH2 Regional Outreach

Labor / Trades / Workforce Development



> 10 unions, trades organizations, and employment agencies

Business Development / Industry Organizations



THE MIDWEST HYDROGEN CENTER OF EXCELLENCE
A Key Initiative of the Renewable Hydrogen Fuel Cell Collaborative

> 40 service providers

Community / Environment / Non-Profits



> 15 environmental, special interest groups, and faith-based organizations

Academia



> 15 universities, community colleges, and trade schools

Government



> 25 federal, state, local, and tribal

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