



GO- WV: ARCH2 Summary

Charleston, WV
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Introductions



Shawn Bennett

Energy and Resilience Division Manager

Battelle

Shawn Bennett is the Energy and Resilience Division Manager at Battelle, where he oversees all government-funded energy projects awarded to Battelle. In this role, he primarily focuses on opportunities in Carbon Capture and Storage, Hydrogen, Rare Earth Elements and Critical Minerals, and Direct Air Capture. Mr. Bennett is a former Managing Director at FTI Consulting in their Energy and Natural Resources sector where he advised clients primarily in the energy sector on Liquefied Natural Gas (LNG), carbon capture utilization and storage, hydrogen issues as well as corporate strategy, messaging and advocacy plans necessary to securing key business objectives. Before joining FTI Consulting Mr. Bennett served as the Deputy Assistant Secretary for the Office of Oil and Natural Gas. As Deputy Assistant Secretary, he developed the strategy for the office to achieve goals and objectives established by Congress, the Secretary, or directed by national energy policy. Shawn designed and administered the Department's oil and gas technology programs, regulated the import and export of natural gas, conducted analysis of energy markets, and policy analysis.

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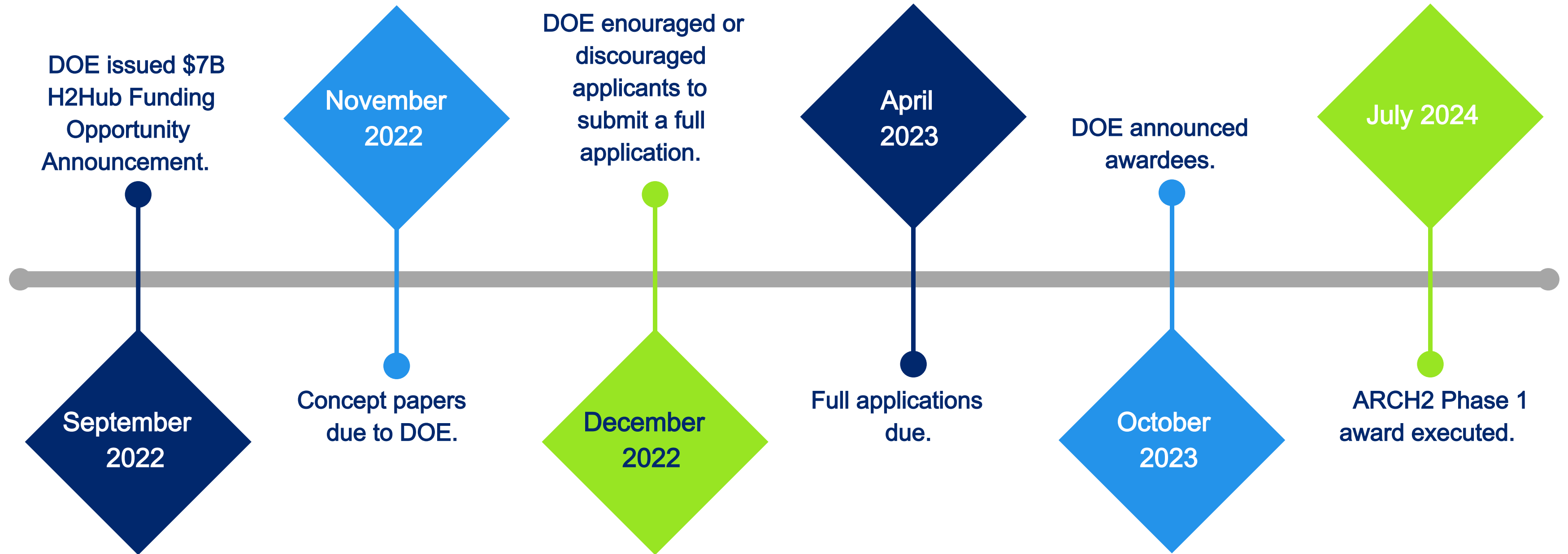
Regional Clean
Hydrogen Hubs
(H2Hubs)

H₂

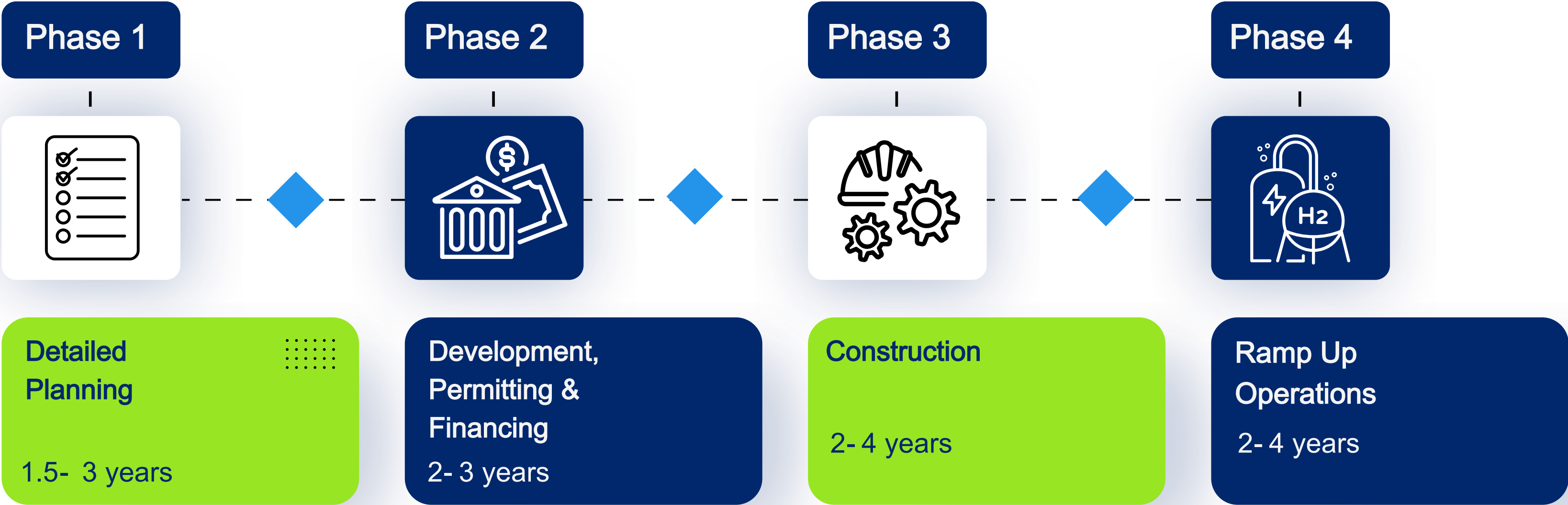


H2HUB **TIMELINE**

Funding Opportunity Announcement, Application Process, and Awardee Selection



ARCH2 PHASES

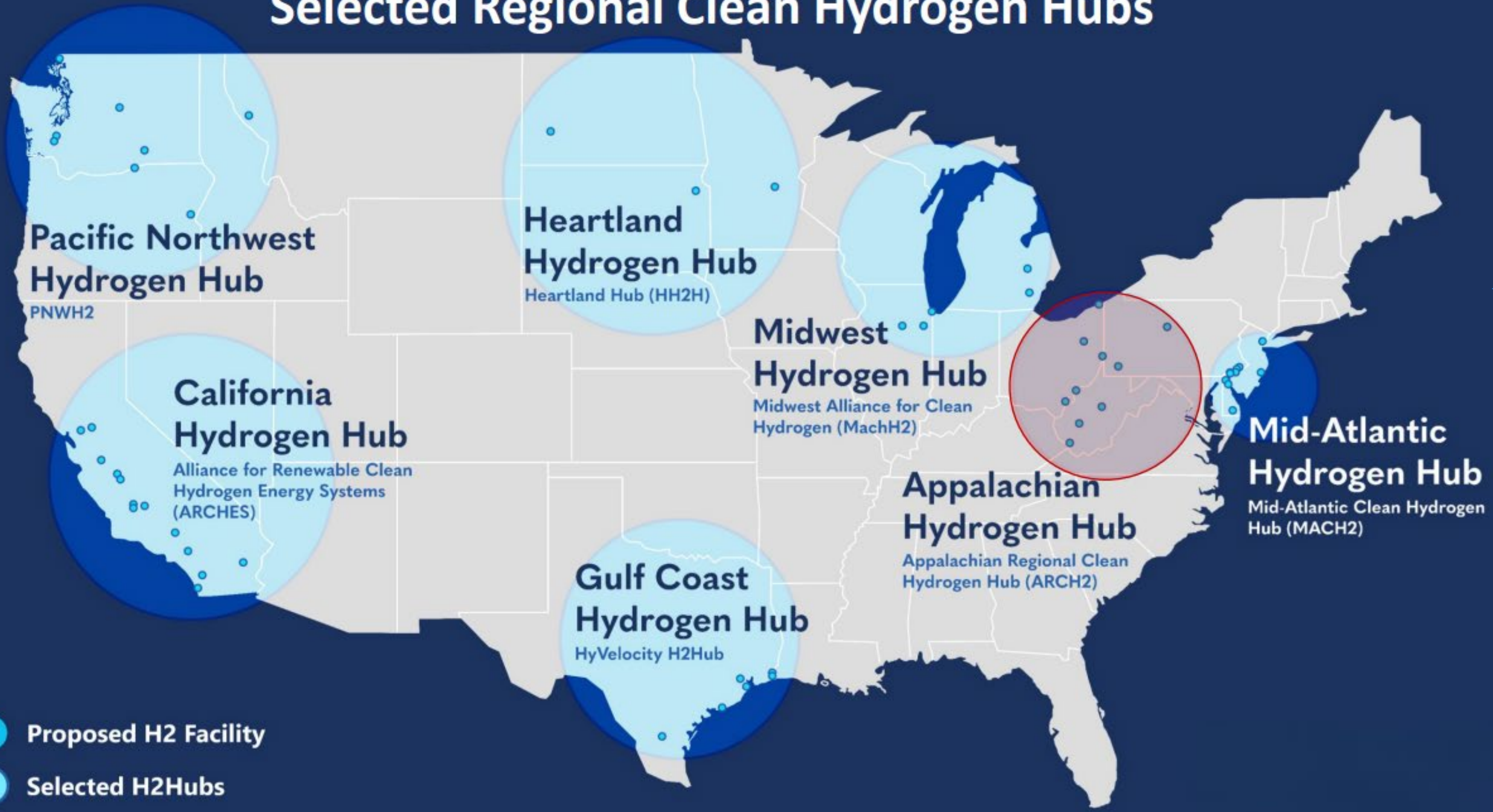


We are here.



◆ Go/No Go Decision

Selected Regional Clean Hydrogen Hubs



Production

Transportation

Storage

Use (Offtake)

ARCH2 Program



The ARCH 2 Project Team

Program Management and Technical Support



BATTELLE



AST
Allegheny Science & Technology



GTI ENERGY



TRC



NETL NATIONAL ENERGY TECHNOLOGY LABORATORY

Project Developers Partners



Air Liquide



EMPIRE
DIVERSIFIED ENERGY



ENBRIDGE



EQT



FIDELIS
NEW ENERGY
CLIMATE POSITIVE CARBON NEGATIVE



HOG LICK
AGGREGATES



Hope Gas



IH Independence Hydrogen

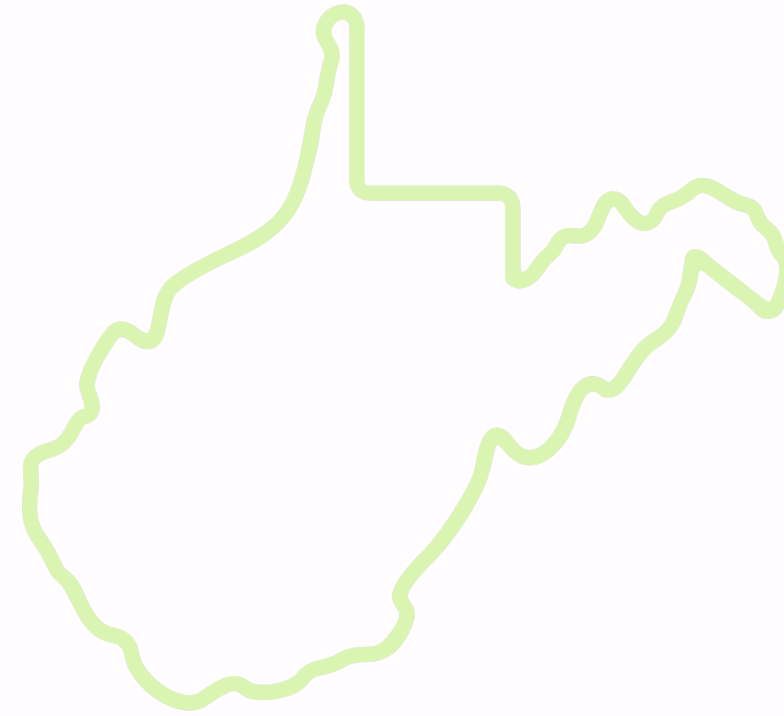


KeyState
Energy



plug

ARCH 2 Proposed Projects in West Virginia



NG + biomass with CCS to produce
Low CIH2 with on-site, short-haul
pipeline to deliver hydrogen for end
use in data centers, power
generation and other off-takers

Point Pleasant, WV



Clean fuel services depot (fueling
and maintenance facilities); clean
H2 off-take to power heavy- and
medium-duty trucks, busses, and
material handling and processing
equipment

Fairmont, WV



In partnership with Watt Fuel
Cells and EQT, produce clean H2
from NG for blending in Hope
local distribution system and
residential fuel cells.

Installation Locations TBD



Anaerobically digested food waste
based H2 production for industrial
and transportation fuel.

Follansbee, WV



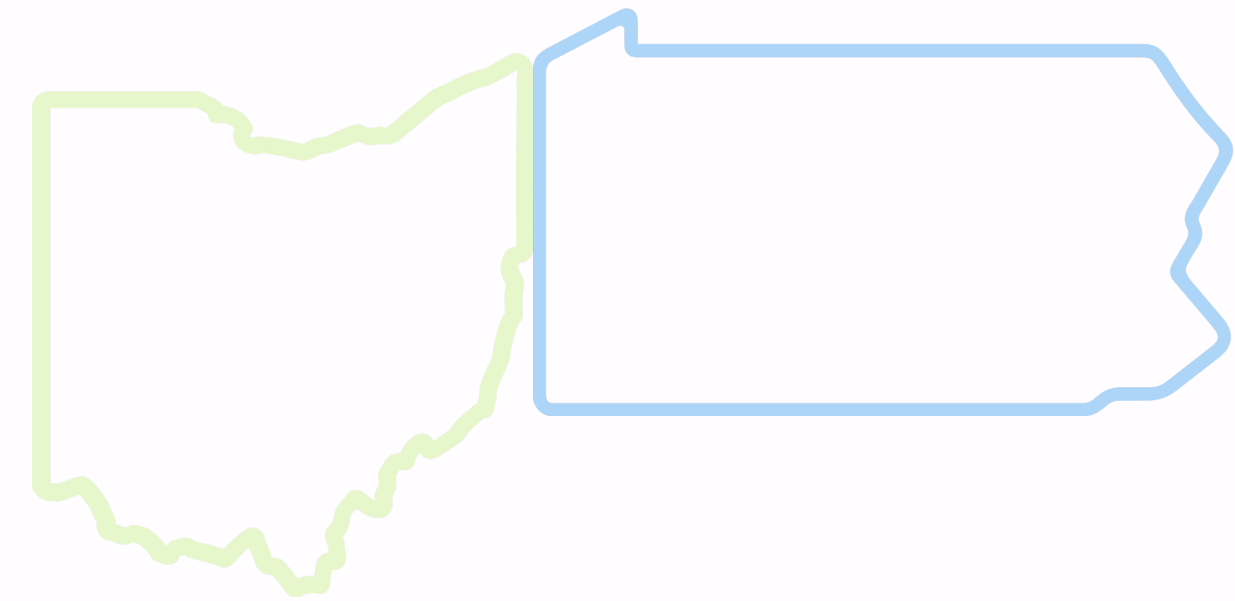
Retrofit and expand H2 production
and liquefaction at an existing
chemical plant using industrial off-
gas and/or electrolysis for H2
production.

Location TBD

**All projects are currently considered as proposals for DOE funding, DOE has not made a final decision on whether to fund construction of these projects. Regardless of DOE funding, all projects must comply with all applicable federal, state, and local laws, regulations and processes.*

struction of these projects. Regardless of DOE

ARCH 2 Proposed Projects in Ohio and Pennsylvania



H2 production via electrolysis with on - site storage and fueling to supply clean H2 to Stark Area Regional Transit's fleet of hydrogen fuel cell buses.

Canton, OH



Distribution centers with on - site liquid H2 storage and refueling stations for FCEV delivery trucks plus stationary fuel cells for MHE and back - up power.

OH sites TBD



H2 production facility that recycles industrial waste gas to provide clean hydrogen for material handling equipment, transit systems, and other transportation uses.

Ashtabula, OH



H2 production via natural gas autothermal reforming with CCS and hydrogen liquefaction to be used for FCEVs, industrial heat and ammonia, urea, and diesel exhaust fluid production

Near Clinton, Clearfield & Centre counties, PA

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ARCH 2 Proposed Projects - Locations To Be Determined



Convert natural gas into hydrogen - rich syngas via autothermal reforming with CCS to produce low - carbon aviation fuel and other products; purify hydrogen for mobility sector and blending into natural gas pipelines (location TBD with plans to locate nearby Air Liquide project)

Location near Air Liquide project



Build and operate a hydrogen liquified facility with on - site storage and loading facilities to serve off - takers in the mobility sector (location TBD with plans to locate nearby EQT project).

Location near EQT project

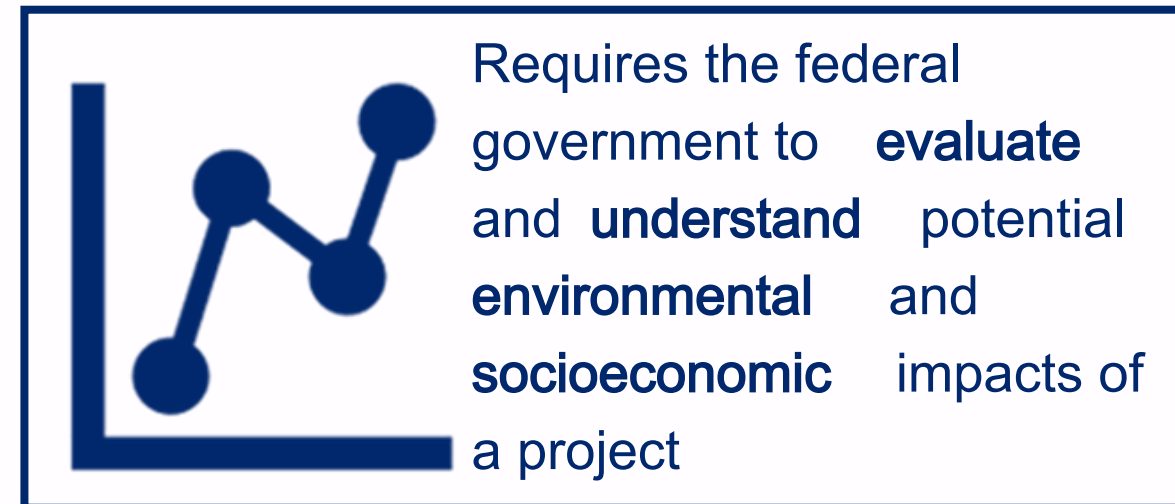
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Federal Environmental Review Process



National Environmental Policy Act (NEPA) - The Big Picture



- NEPA is a law that requires a federal environmental review process when a federal agency, among other things, proposes or provides financial assistance for a proposed major federal action.
- The NEPA regulatory process applies to ARCH2 due to the use of federal funding for proposed activities, including planning, construction and operations of the proposed ARCH2 projects.
- Through the NEPA process an agency evaluates a proposed action and analyzes reasonably foreseeable environmental and socioeconomic impacts to inform the federal agency and the public.
- DOE OCED will conduct a programmatic review in Phase 1 of potential environmental impacts of ARCH2's proposed projects.

Upcoming Opportunities



Upcoming Opportunities

ARCH2 Solicitation for Additional Projects

- Expects to add up to 3 new projects.
- Early October: Initial request for information for additional projects.
- November: Selected projects for full applications (aligned with FOA).
- December: Selected projects to submit full applications.
- January 2025: ARCH2 PMO to review full applications.
- February 2025: Brief OCED on proposed additional projects
- March - April 2025: Project selection notifications.

ARCH2 Consortium

- Open to all entities interested in developing a clean and socially just hydrogen economy in Appalachia.
- Includes ARCH2 Project Team members and non - Project Team members.
- Membership levels, fees, and benefits will be published.
- Membership registration will begin in 2025.

ARCH2 Steering Committee

- ARCH2 Consortium members will have the opportunity to participate in steering committees and working groups.
- Committees/groups may be proposed by ARCH2 Consortium members.
- The ARCH2 Executive Board will approve committees/groups and participants.
- More information will be provided with the ARCH2 Consortium membership information in 2025.



www.arch2hub.com

info@arch2hub.com