



JUNE 14, 2023

NATIONAL LABS BUILDING REGIONAL INNOVATION ECOSYSTEMS

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Partnerships and Outreach

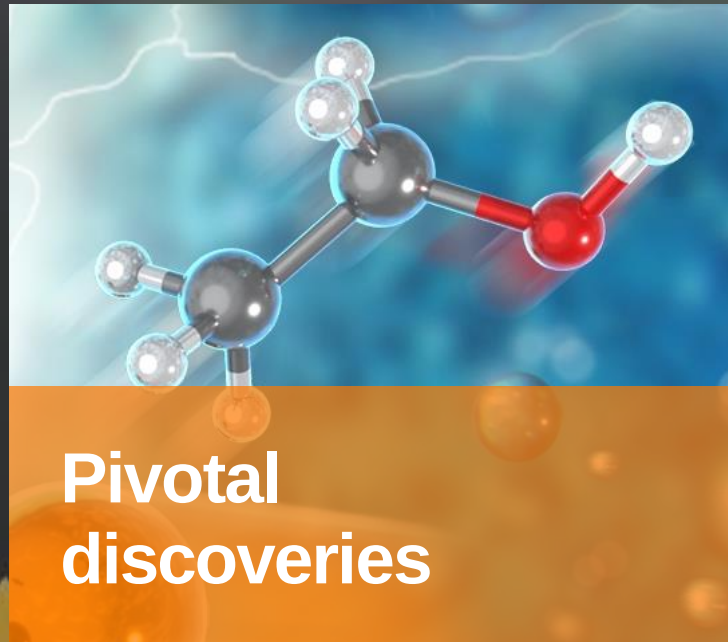


U.S. DEPARTMENT OF
ENERGY

Argonne National Laboratory is a
U.S. Department of Energy laboratory
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Argonne 
NATIONAL LABORATORY

Argonne accelerates science and technology for U.S. prosperity and security.



STRUCTURING INNOVATION

Framework for Innovation

Models of Public-Private Partnerships

Chain Reaction Innovations

Clean Tech Economy Coalition

MachH2

The Role of Culture

Regional Economic Development Playbook



FRAMEWORK FOR INNOVATION

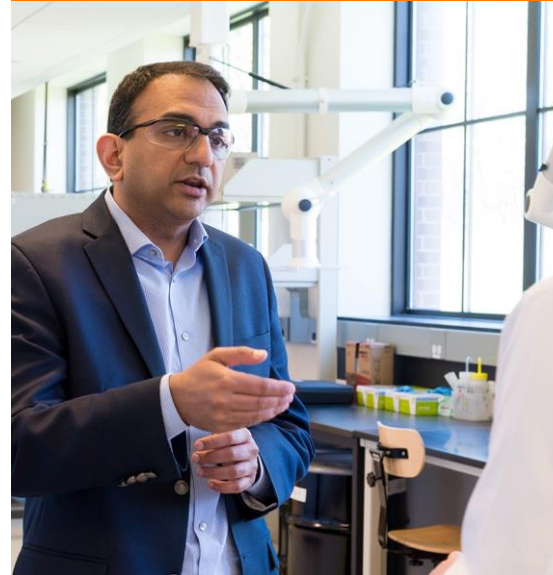
COMMUNITY



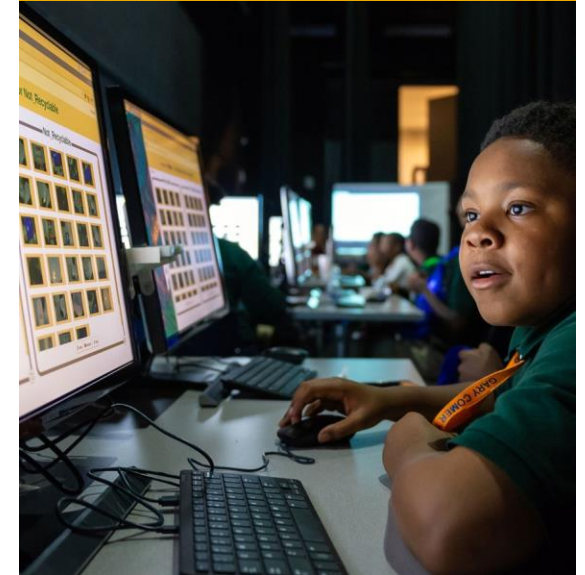
SCIENCE AND ENGINEERING



PARTNERSHIPS



STEM WORKFORCE



CULTURE

MODELS OF PUBLIC-PRIVATE PARTNERSHIPS FOR INNOVATION



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**Science is the bedrock on which innovations will deliver
a more sustainable, prosperous, and equitable nation and world.**

**Annual cohorts
in clean energy,
climate tech, and
critical industries
of the future**

**Two-year fellowship
enables innovator to
focus on tech and
business development**

**Research funding
supports technical
work at Argonne
to de-risk
startup technology**

OPENING NATIONAL LAB DOORS TO U.S. ENTREPRENEURS

Resources for innovators

- Mentoring by national lab scientists
- Use of existing facilities, unlocking tremendous public assets
- Access to regional innovation ecosystems

Flexibility

- Open science environment provides time and space for pivots

Diversity, Equity, Inclusion, & Accessibility

- Address systemic barriers to who can be or who self-identifies as a STEM entrepreneur



“CRI has given us the flexibility to make these pivots and rapidly iterate the manufacturing process and product.”

Justin Whiteley, Co-Founder and CTO

“CRI also gave us a safe place to explore and to fail and to learn and to test the water on how we could succeed in business. We were able to develop business skills, and it rounded us out as business professionals.”

Tyler Huggins, Co-Founder and CEO



Argonne researcher
Meltem Urgan-Demirtas

CHAIN REACTION INNOVATIONS BY THE NUMBERS



**Years in
operation**



**Past and present
innovators**



**Follow-on
funding**



**Jobs created
by CRI start-ups**



**Founders from
underrepresented
groups**



**Female
founders**

CLEAN TECH ECONOMY COALITION

**Only Illinois finalist for the EDA's
Build Back Better Regional Challenge**

Represented \$150-\$200M opportunity

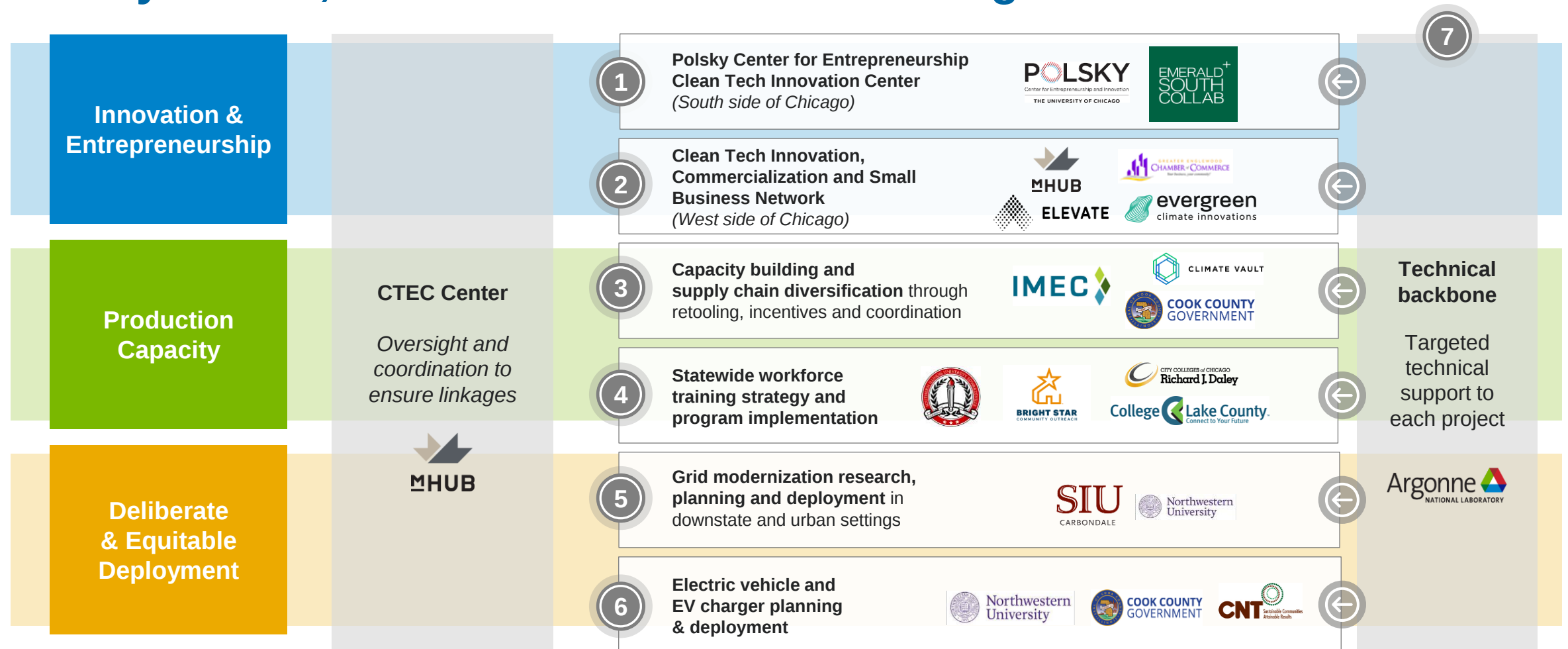
**Coalition continues moving
forward with state investment**

**Bold, transformational vision for
economic growth**

By 2035, Illinois is a national leader in **energy infrastructure** (producing products and services that advance energy transmission, distribution, storage, and management capabilities) across the world, and is advancing efficient clean energy use through a modernized grid.

THE 19-MEMBER COALITION FOR BBBRC

Led by mHUB, a hardtech and manufacturing innovation center



THE MIDWEST ALLIANCE FOR CLEAN HYDROGEN



The Midwest Alliance for Clean Hydrogen (MachH2) is a multistate coalition of public and private entities representing every phase in the hydrogen value chain to produce clean, carbon-free hydrogen. The alliance submitted an application to the DOE to develop a regional clean hydrogen production and distribution hub in the Midwest; a billion-dollar opportunity.

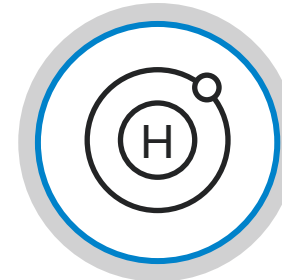
THE ALLIANCE INCLUDES A CROSS-SECTION OF



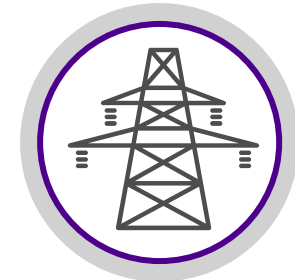
Carbon-free
energy producers



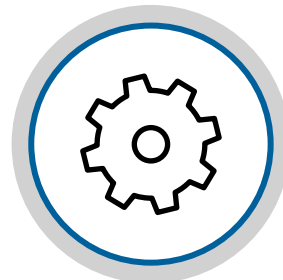
Clean energy
developers



Hydrogen
technology
providers



Utilities



Major
manufacturers



Leading hydrogen
technology development and
deployment institutions



World-class
universities



National
labs

MachH2's hub will seek to maximize existing energy infrastructure and utilize the region's abundant nuclear and other carbon-free energy resources, such as wind and solar, to create clean hydrogen.

Major regional hydrogen value-chain partners

In-place H2 offtake customers

Energy Feedstock

- Renewables (wind)
- Nuclear
- Fossil fuels

End-Uses

- Electrical power generation
- Industrial
- Transportation
- Other (agricultural)

Production Technologies

- Electrolysis
- Thermal conversion

Connective Infrastructure

- H2 pipelines
- H2 carriers
- Above ground H2 storage
- H2 fueling stations

H2 technology RD&D expertise from leading National Labs and technology deployment organizations



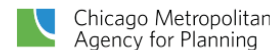
Leading research universities supporting workforce development and entrepreneurship



Minority-serving Institutions (MSI) and DAC-serving institutions



Local CBOs, non-profits, and government agencies



Original equipment manufacturers/vendors



MH2 018

CULTURE OF INNOVATION

Innovation is embodied in Argonne's core values

Impact



Safety



Respect



Integrity



Teamwork



SEEK PARTNERS WHOSE VALUES ALIGN WITH OURS

Argonne's Implementation Playbook offers a framework for a national lab seeking to engage with its regional innovation ecosystem and local communities



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