

# STAYING HEAD OF THE CURVE

*BY PLUGGING INTO NEW TECHNOLOGIES  
AND REGIONAL ECOSYSTEMS*



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# AGENDA

Energy transition to net zero will require more than current technologies...Ohio's startups are meeting the technology and innovation challenge.

- ⚡ Why should you care?
- ⚡ Ecosystem Overview
- ⚡ Innovation in Ohio
- ⚡ Call to Action

# BRITE ENERGY INNOVATORS

*WE ARE UNLEASHING THE  
ENERGY REBOLUTION*

We believe anyone anywhere  
can be a catalyst for change to  
create a BRITE future.

We believe that empowering  
energy tech startups can create  
opportunity, good jobs and a  
resilient economy.

Building programs, services, and community  
for clean tech founders to start, grow and  
stay in the region.

*Jing Lyon*

ENTREPRENEUR PROGRAMS DIRECTOR

*Engineer, Founder, and Mentor*





Carbon

Renewable  
Efficiency

Renewable Energy

Solar  
COST

Security

ESG  
Climate

Sustainability

Clean Energy

Hydrogen

Sustainable

Net Zero

Reduction

Transition

# ESG/Decarbonization Pressures

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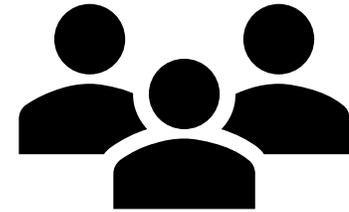
*ECONOMIC and ENVIROMENTAL decision*



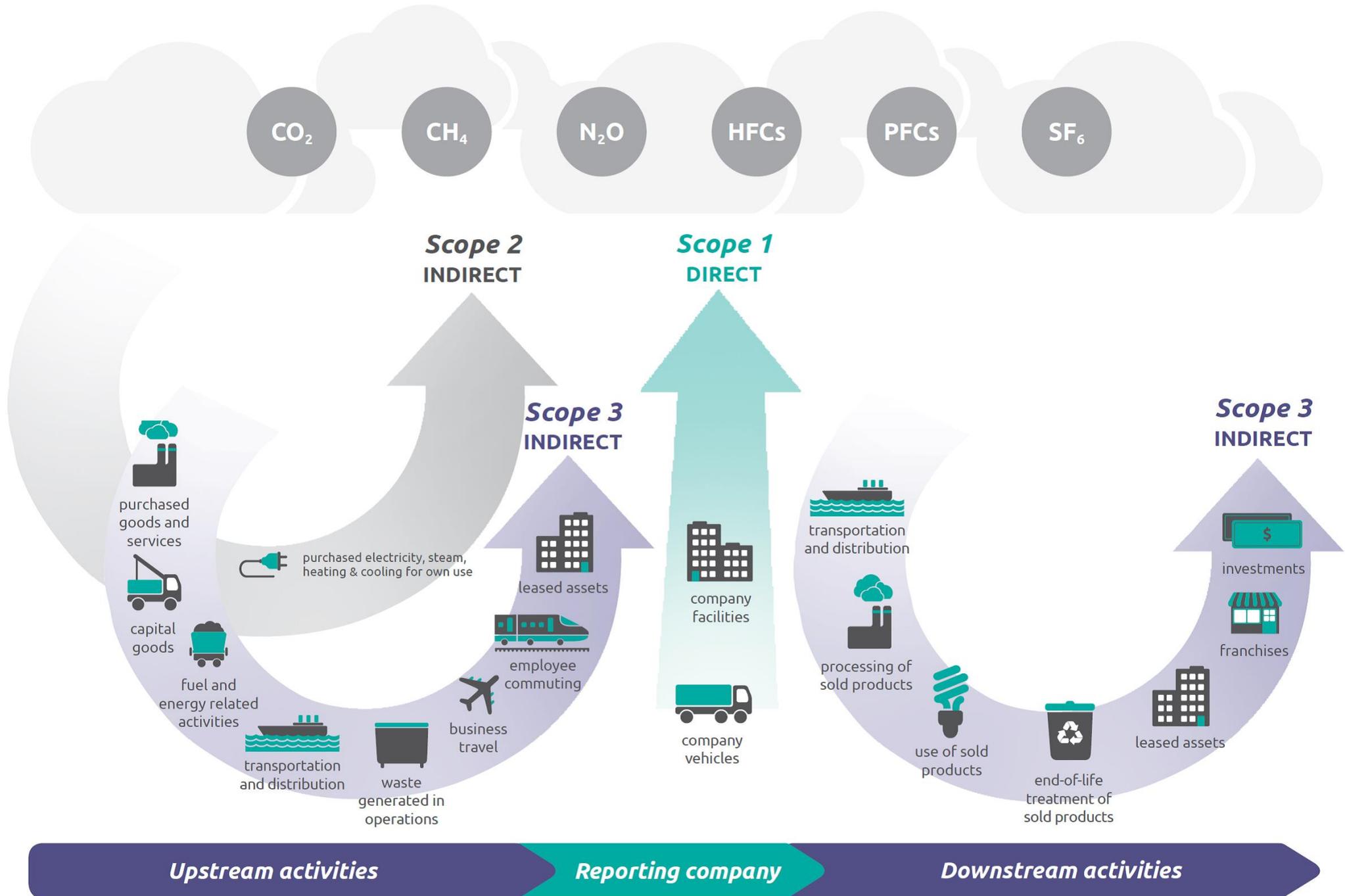
INVESTOR



GOVERNMENT



CUSTOMERS



## INFLATION REDUCTION ACT

(AUGUST 2022)

**\$2 billion**  
for domestic  
manufacturing grants



ELECTRIC  
VEHICLES

**\$3 billion**  
for zero-emissions  
equipment and climate  
action plans at ports



SHIPS &  
BUSES

**\$3 billion**  
for Neighborhood Access  
and Equity Grants to  
improve transportation  
access



TRANSIT

**\$9.7 billion**  
for better reliability and  
resilience in rural areas



ELECTRIC  
GRID

## INFRASTRUCTURE INVESTMENT AND JOBS ACT

(NOVEMBER 2021)

**\$7.5 billion**  
for charging  
infrastructure

**\$5 billion**  
for clean or zero-  
emission school buses

**\$66 billion**  
for passenger  
and freight rail

**\$65 billion**  
to modernize and  
expand the national grid

## INFLATION REDUCTION ACT

(AUGUST 2022)

**\$8.6 billion**  
in rebates for energy  
efficiency upgrades

**\$27 billion**  
for a national climate  
bank to finance green  
projects in underserved  
communities

**\$19.5 billion**  
for climate-smart  
agricultural practices



HOMES



POLLUTION &  
JUSTICE



AGRICULTURE  
& FORESTRY

**\$3.5 billion**  
to the Weatherization  
Assistance Program

**\$21 billion**  
in environmental  
remediation funds

**\$3.3 billion**  
for wildfire risk reduction



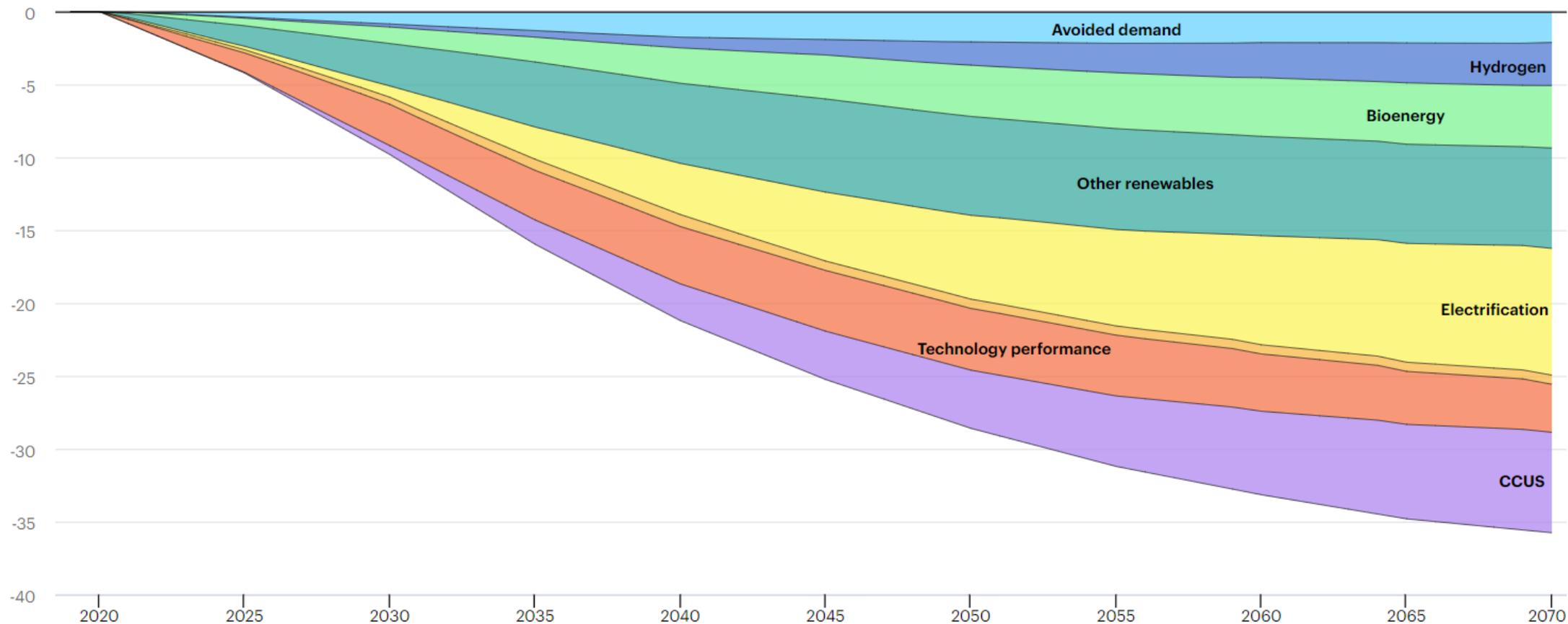
EESI

Sources: Sen. Cantwell, the White House,  
BlueGreen Alliance, National Wildlife Federation,  
Evergreen Action, Bipartisan Policy Center

Graphic by: Alison Davis

# Global energy sector CO2 emissions reductions scenario

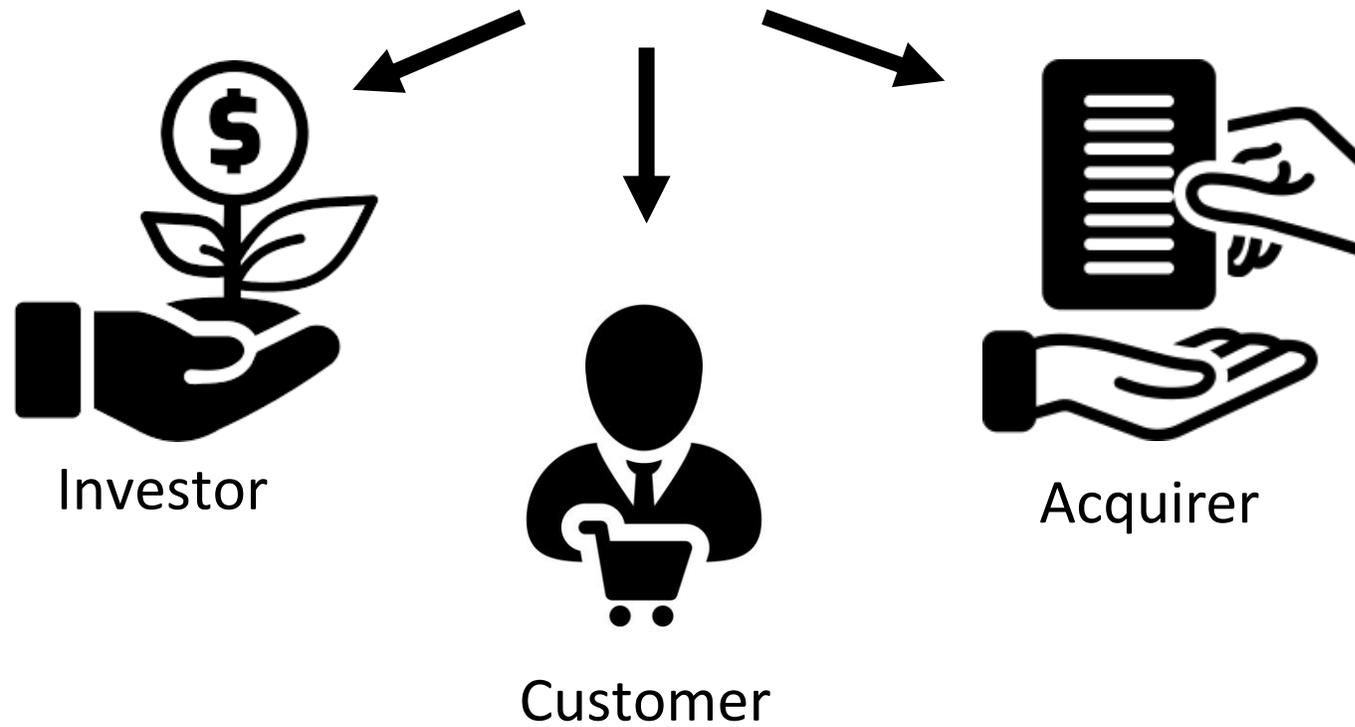
GtCO2 per year



IEA. Licence: CC BY 4.0

● Avoided demand ● Hydrogen ● Bioenergy ● Other renewables ● Electrification ● Other fuel shifts ● Technology performance ● CCUS

# MARKET OPPORTUNITY



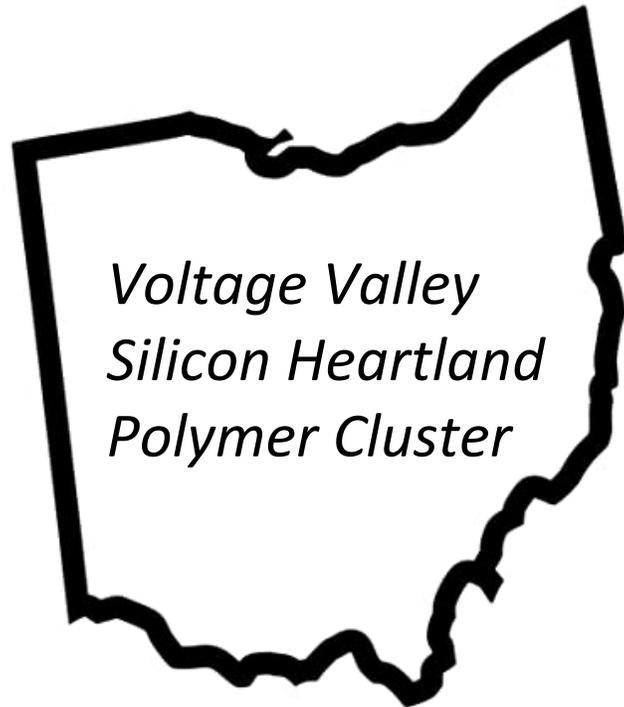


**ECOSYSTEM**

 **BRITE**  
ENERGY INNOVATORS

# Ohio Among Top States in EV Batteries, Transport Automation, and Aerospace

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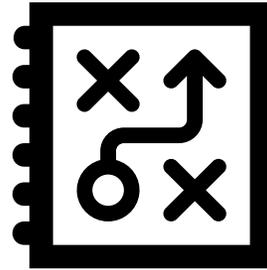
-  Ohio is poised to be a leader in EV battery manufacturing in the U.S. by 2030
-  Ohio ready to test automated semi-truck platoons on Rt. 33
-  #4 state in PWC's 2022 Aerospace Manufacturing Attractiveness Rankings report.

# INNOVATION LIFECYCLE

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R&D

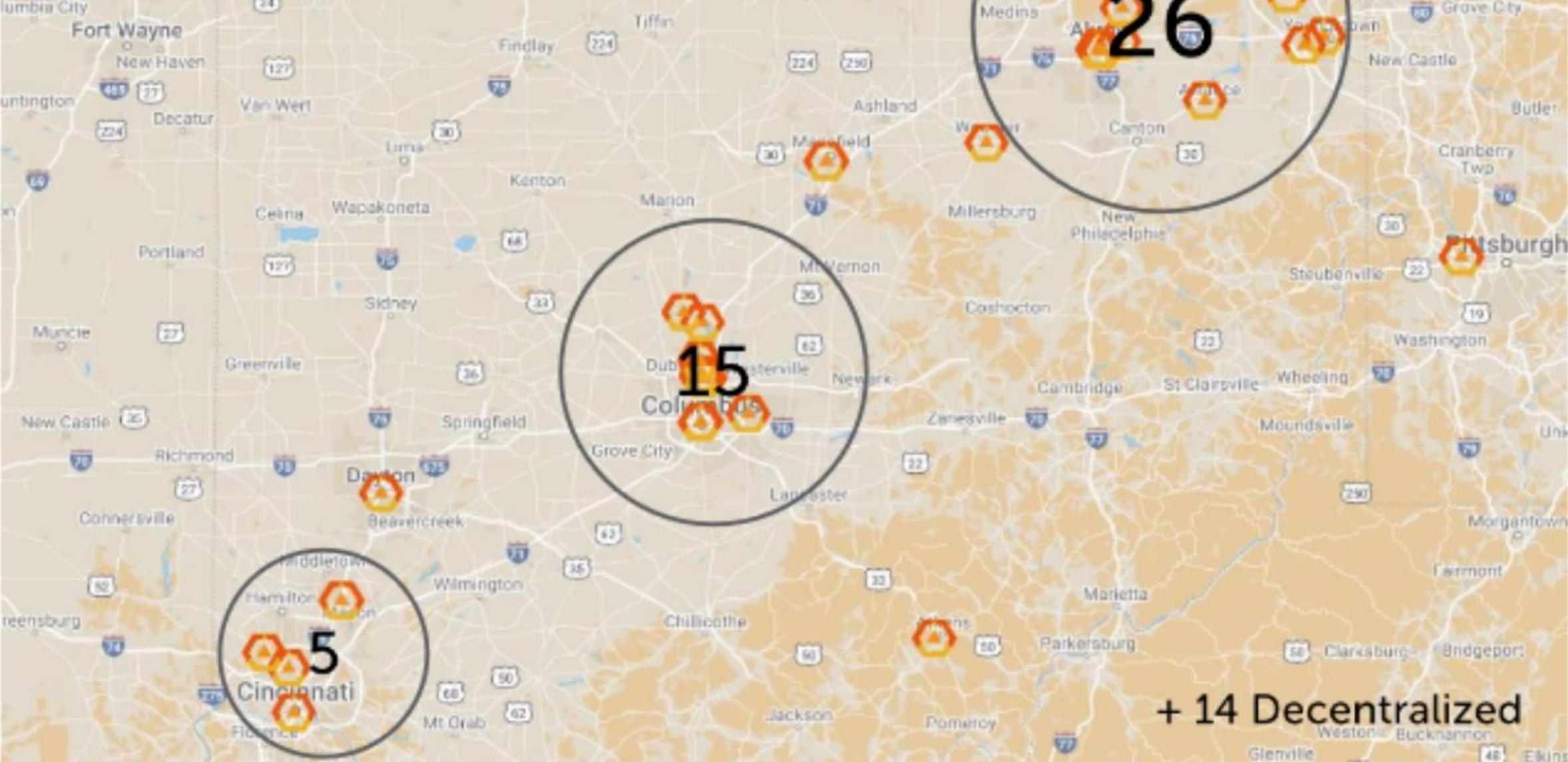


INCUBATE



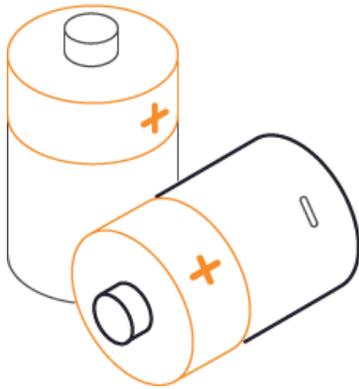
COMMERCIALIZE

# OHIO ENERGY STARTUPS



# SECTOR FOCUS

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**ENERGY STORAGE**



**MOBILITY**



**GRID RESILIENCE**

# MOBILITY



- 1. Charging Infrastructure**
- 2. Electric Mobility as a Service**
- 3. Artificial Intelligence**
- 4. Vehicle-to-Everything**
- 5. Internet of Things**
- 6. Micromobility**
- 7. Big Data & Analytics**
- 8. 3D Printing**

# MOBILITY



# GRID



- 1. Advanced Invertors**
- 2. Broadband**
- 3. Cybersecurity**
- 4. Data Analytics**
- 5. Drones**
- 6. Sensors**
- 7. Power Electronics**
- 8. Interactive Homes**
- 9. Interoperability**
- 10. Interconnection Standards**

# GRID



# ENERGY STORAGE



- 1. Advanced Lithium-Ion Batteries**
- 2. Lithium Alternatives**
- 3. Short Term Response Energy Storage Devices**
- 4. Battery Energy Storage Systems (BESS)**
- 5. Advanced Thermal Energy Storage (TES)**
- 6. Enhanced Redox Flow Batteries (RFB)**
- 7. Distributed Storage Systems**
- 8. Solid-State Batteries**
- 9. Hydrogen Storage**
- 10. Energy Storage as a Service**

# ENERGY STORAGE



# HYDROGEN



1. Fuel Cells
2. Renewable Hydrogen
3. Advanced Electrolysis
4. X-to-Hydrogen-to-X
5. Hydrogen Carriers
6. Carbon Capture, Storage, & Utilization
7. Hydrogen Distribution
8. Liquefaction & Compression
9. Combined Heat & Power
10. Green Propulsion

# HYDROGEN



# CALL TO ACTION



- 
- ⚡ Lend Your Expertise
  - ⚡ Provide Testing/Pilot Opportunities
  - ⚡ Get Financially Involved
    - ⚡ Investor
    - ⚡ Customer
    - ⚡ Acquirer



**BRITE**

**ENERGY INNOVATORS**

PEOPLE | LABS | FUTURE

JING LYON –

As Entrepreneur Programs Director, Jing leads engagement with startup companies by creating a community that offers services and support that help drive growth. Since starting at BRITE, she has doubled the number of companies engaged and created programming for founders from ideation through venture preparation. Prior to BRITE, Jing worked in several startups including founding an electric bicycle company based in Cleveland, OH.

Jing engineering experience includes time spent in research and development of fuel cells and lithium-ion polymer batteries. She has also spent time in Corporate America working as a process consultant specializing in data and business analytics. She graduated with a BS in chemical engineering from Case Western Reserve University and an MBA from Keller Graduate School.