WELCOME!

Scioto Darby Creek Road Fuel Cell System

AEP Ohio Installation Project

Thank you for visiting our informational open house to learn more about our state-approved fuel cell installation project.

This virtual open house is designed to help you better understand:

- What this project is about.
- Why fuel cells are safe and reliable.
- The processes we followed to adhere to regulatory and environmental rules.

Please submit any comments at the end of the presentation.

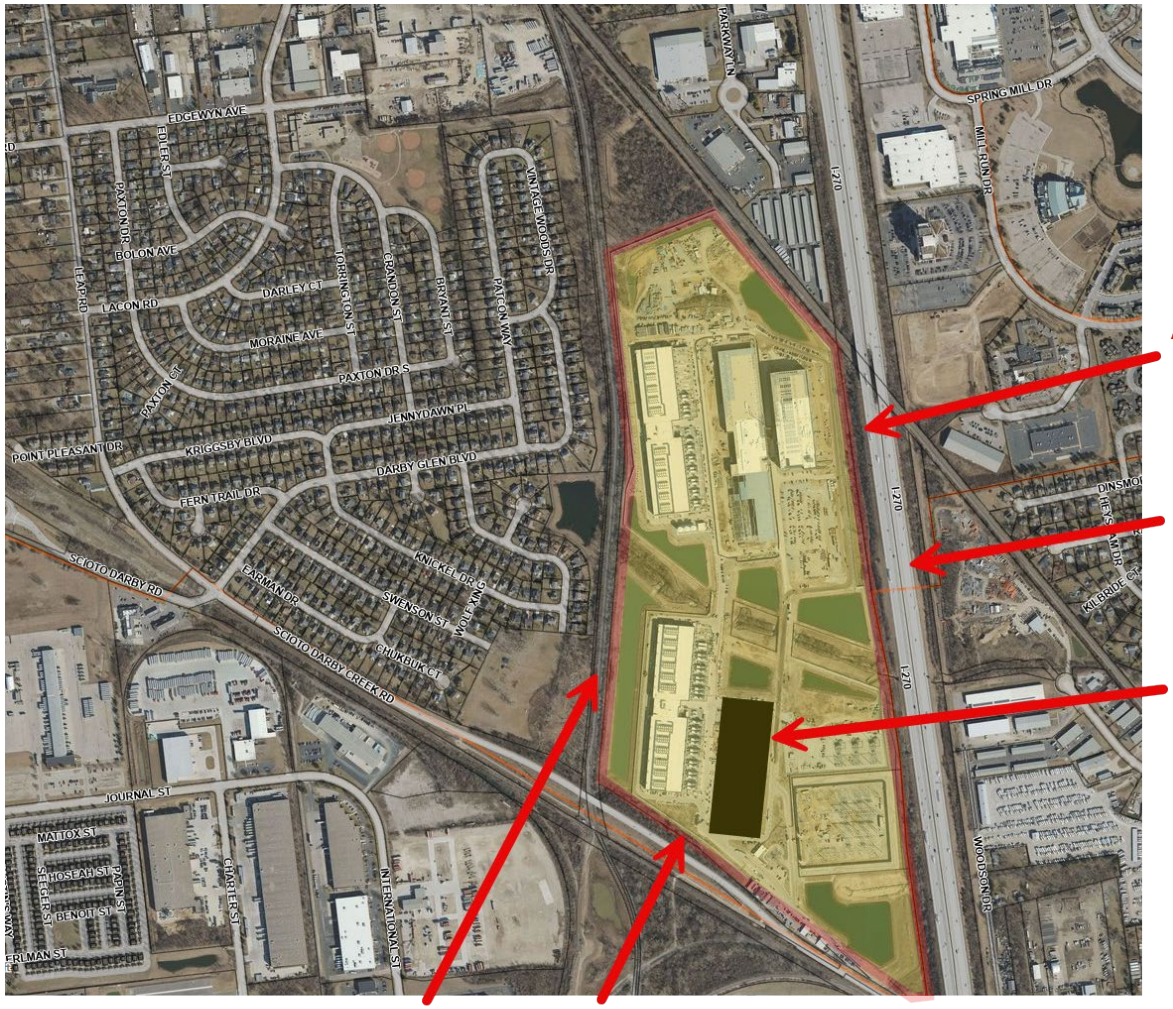
PROJECT LOCATION

4120 Scioto Darby Creek Road

(On Amazon Web Services property)

The fuel cell site will be surrounded by:

- Data center buildings to the north.
- 270 to the east.
- Railroad tracks to the west.
- Shrubs/trees to the south.



[Credit: Columbus Zoning Map]

PROJECT OVERVIEW

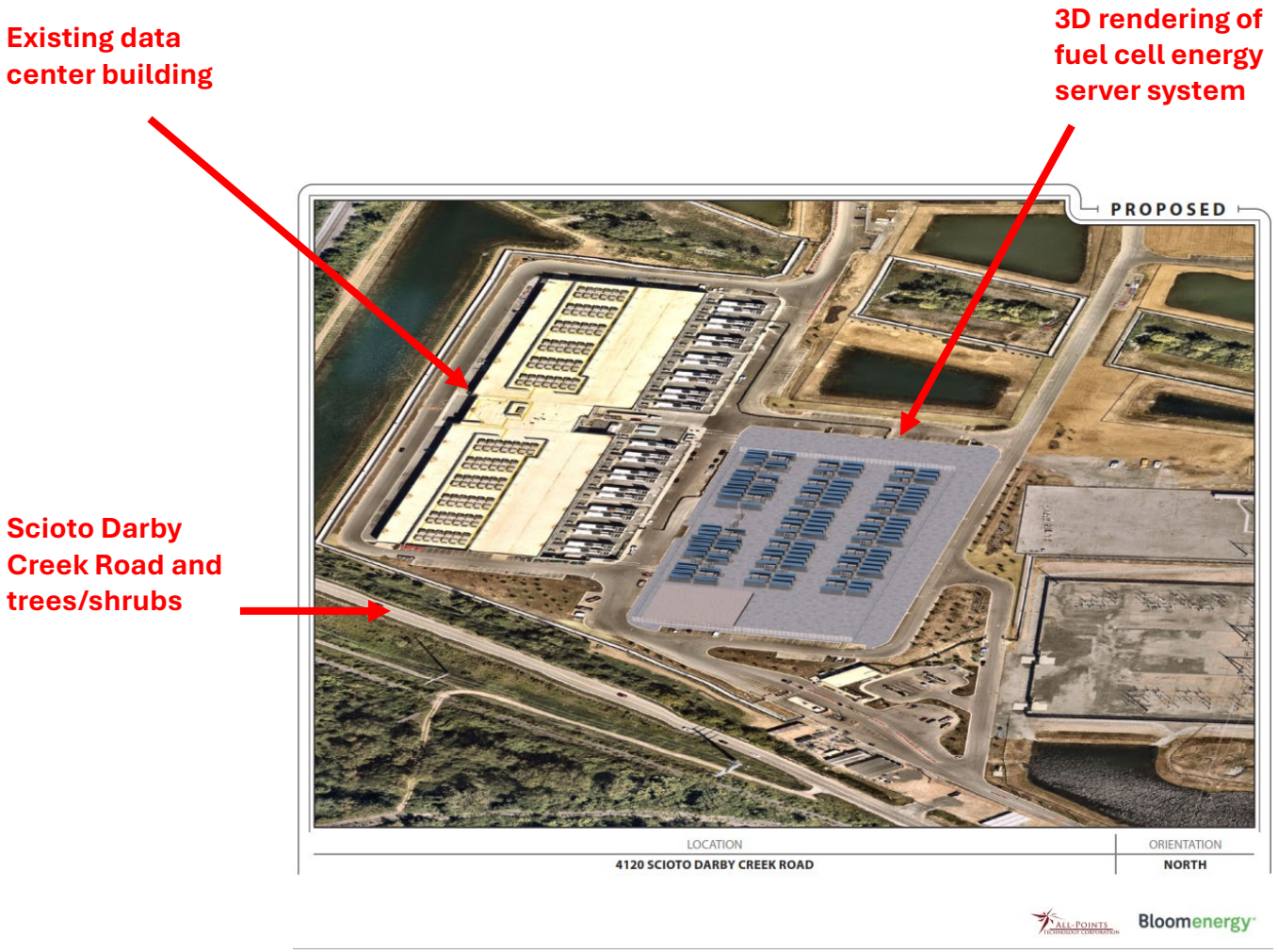
The project involves:

Installing 228 fuel cell energy servers to power an existing AWS data center.

Need & benefits:

Providing electrical capacity service to AWS:

- Without adding additional cost to residential customers.
- Without adding additional strain on the electric grid.



PROJECT TIMELINE

1

Construction

Fall 2026 through late summer 2027

- Types of work include:
  - Construction mobilization.
  - Site prep.
  - Installing equipment foundations.
  - Equipment delivery and installation.
  - Electrical work.
  - Plumbing.

2

System testing

Late summer 2027

- Types of work include:
  - Equipment connection checks.
  - Verifying system communications and response.

3

System in service

Early fall 2027

- Equipment operational and providing power to the AWS data center.

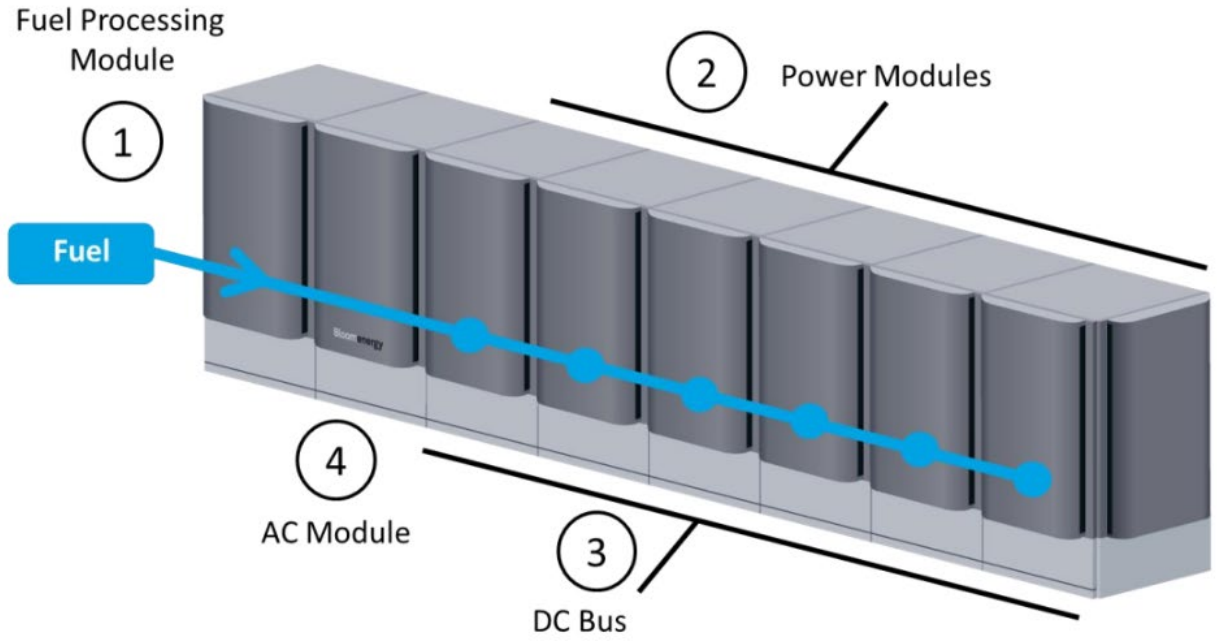
Note: Timeline is subject to change.

FUEL CELL ENERGY SERVER SAFETY

- Fuel cell energy server system does not use combustion.
- Fuel cell energy server system is monitored and controlled 24/7.
  - Internal sensors also continuously measure system operations and will shut down energy server if needed.
- On-site emergency controls:
  - Power off button.
  - Manual natural gas shut-off valve.
  - Electrical disconnect switch.
- Gas is not stored on-site.
- Partnering with Norwich Township Fire Department for system training and coordination on emergency response.

HOW THE SYSTEM WORKS

Energy Server Up Close



1. Gas Enters

Natural gas flows into the fuel processing module.

2. Power Modules

House the stacks of fuel cells and safety components.

2a. Fuel Cells

Gas and air flow through fuel cell stacks and electrochemically convert into DC electricity.

3. DC Collection

DC power is collected by the DC bus and fed to the AC module.

4. AC Conversion

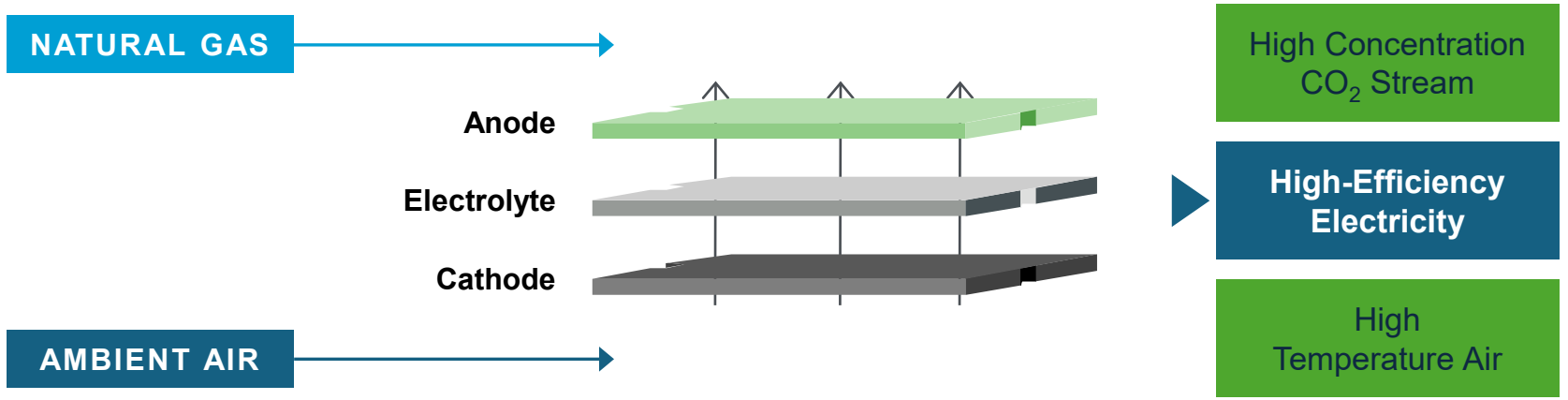
AC module converts DC power to AC power and exports the power to the customer.

HOW THE SYSTEM WORKS

Non-combustion reaction generates high-efficiency electricity

How it works

Solid-oxide fuel cells convert fuel into electricity without combustion.



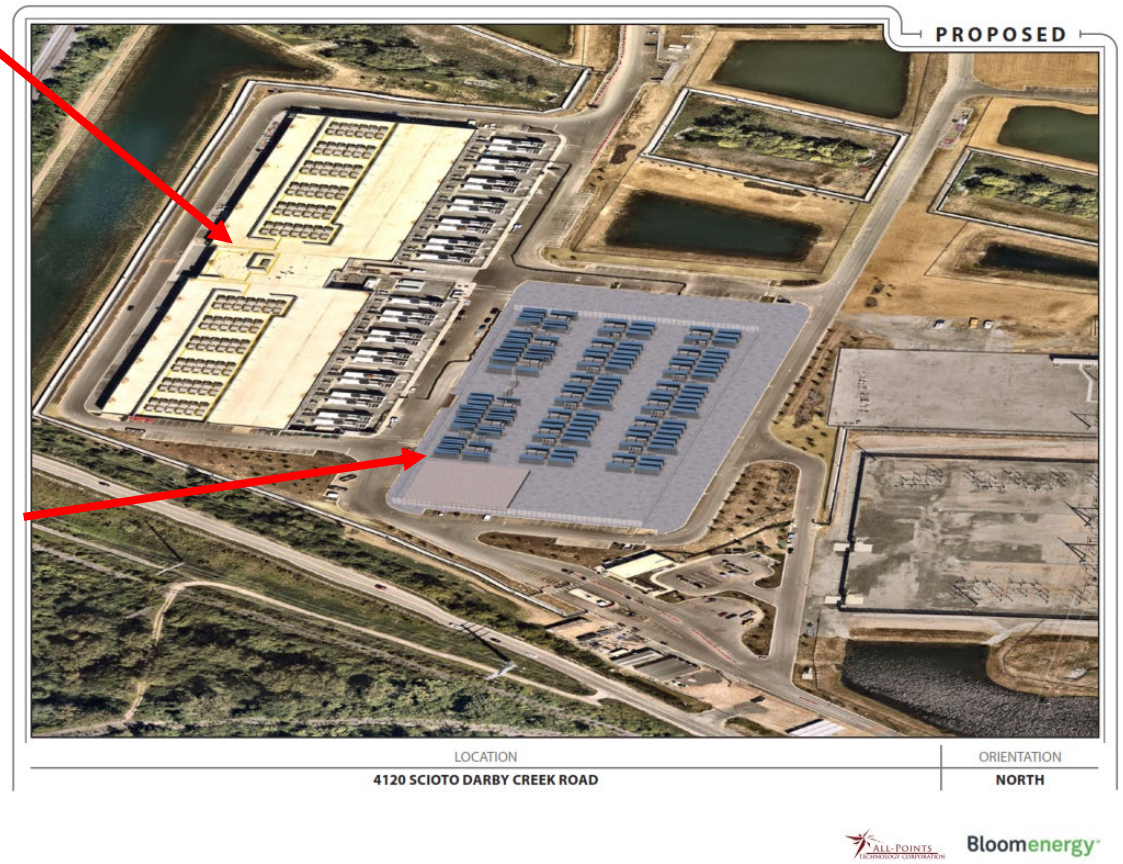
How it scales

Modular building blocks come together to meet small- or large-scale power needs.

ENERGY SERVER SIZE

Existing data center building

Energy server system

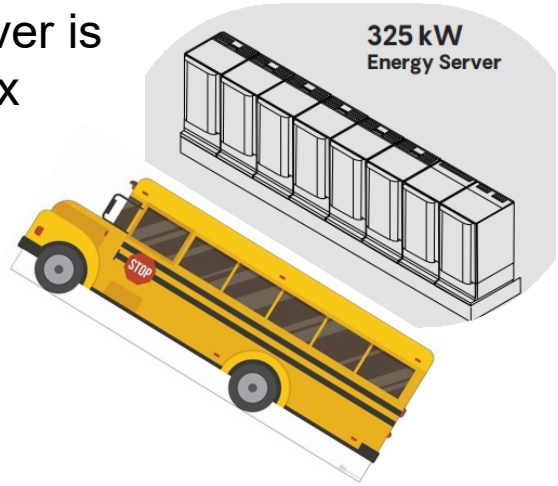


Will the energy servers be visible from residential neighborhoods?

No. The fuel cell energy server system will be blocked by the existing data center building.

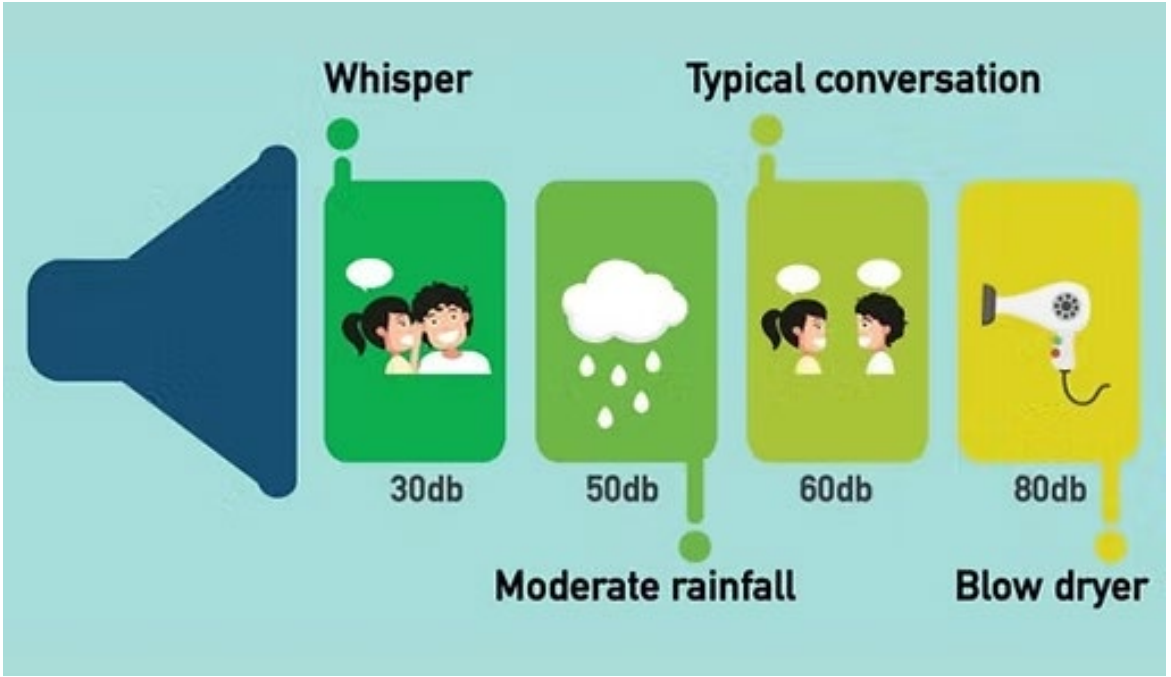
How big is an energy server?

Each energy server is about 19’5” long x 4’4” wide x 8’2” tall.



ENERGY SERVER SOUND LEVELS

- In general, noise levels are less than 65 decibels at 10 feet away, diminishing as distance increases.
- At the edge of the AWS property line, the sound from the fuel cells will be in the 30 to 40 decibel range, comparable to a whisper or light rainfall.
  - Click to see and hear a fuel cell system in service.

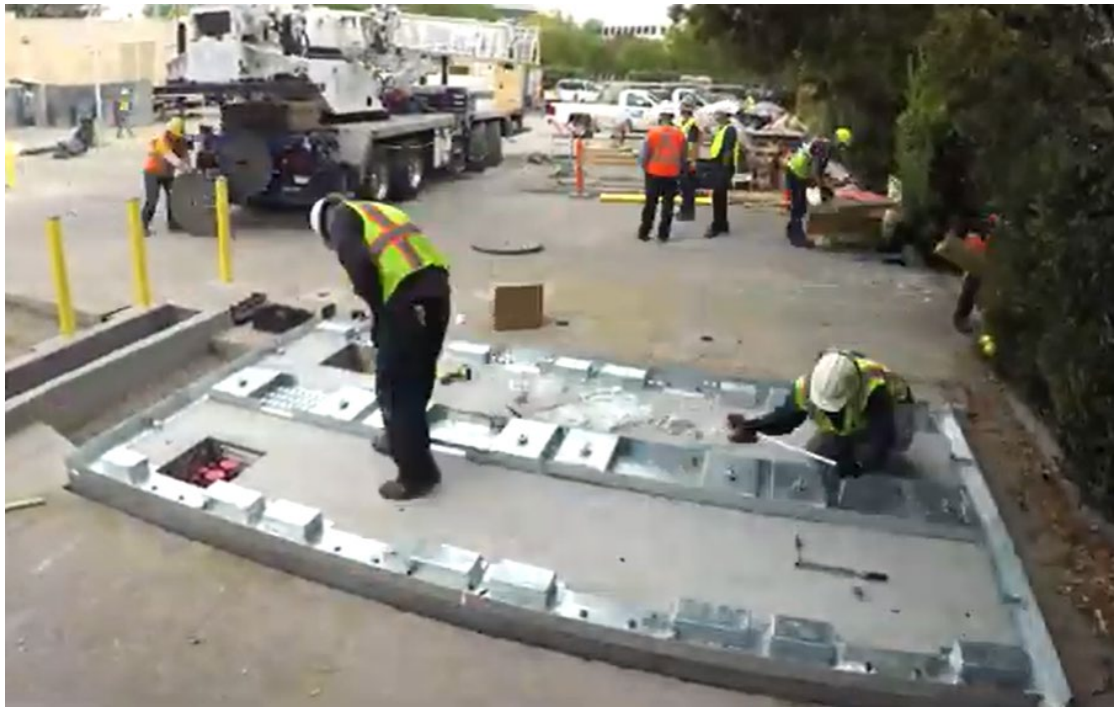


Credit: Center for Hearing and Communication

CONSTRUCTION

What to expect: Respecting work hours

- General construction activities will be limited to 7 a.m. to 7 p.m. or until dusk when sunset occurs after 7 p.m.
- Impact pile driving (for fence installation) will be limited to 9 a.m. to 6 p.m.



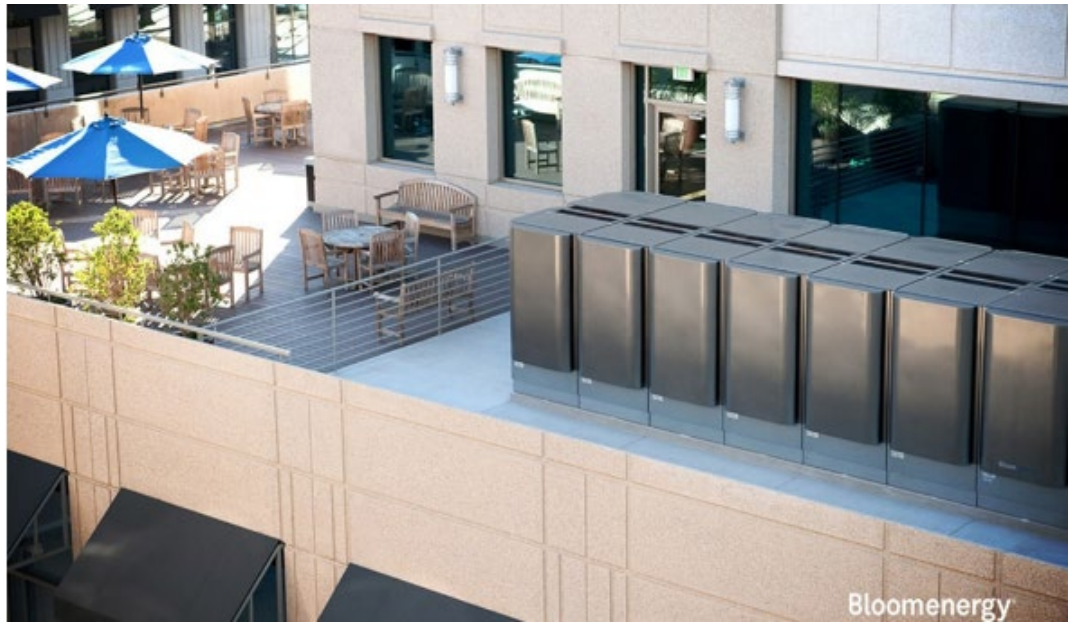
FUEL CELLS USED IN COMMUNITIES

Public event venue, Los Angeles

Retailer, Williamstown, New Jersey

FUEL CELLS USED IN COMMUNITIES

Office site, Sunnyvale, California



Office site, Japan

FUEL CELLS USED IN COMMUNITIES

Hospital, Irvine, California

University, San Diego, California

FUEL CELLS USED IN COMMUNITIES

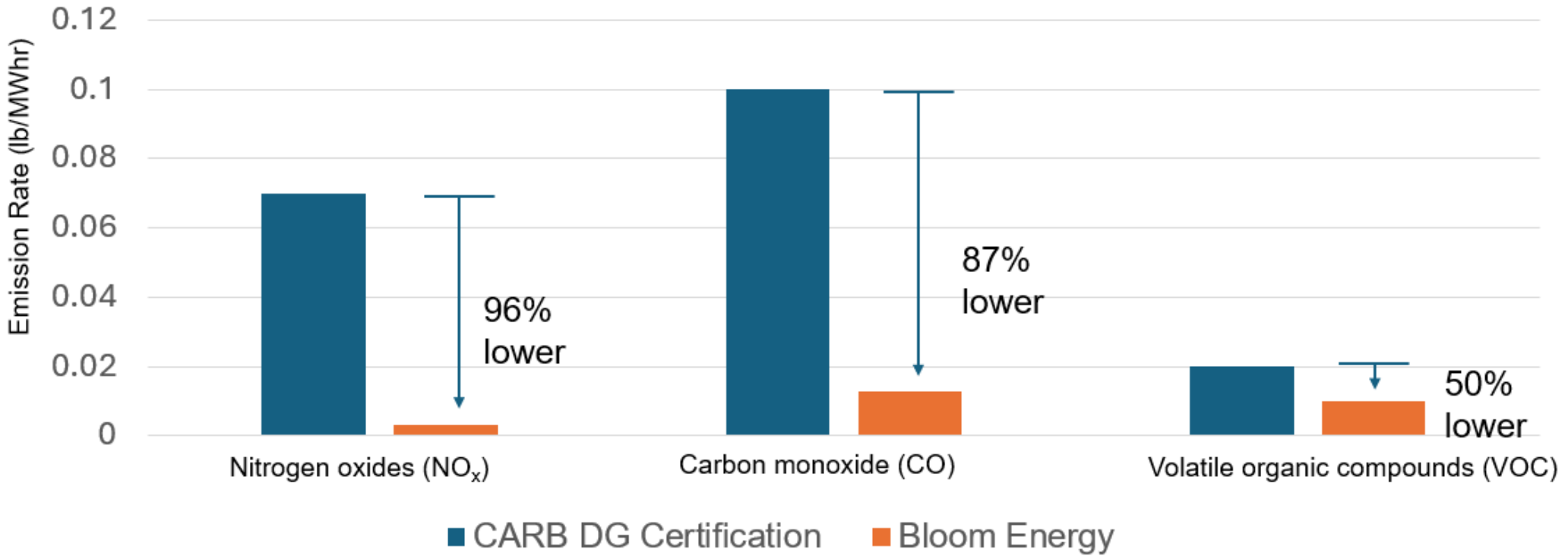
Industrial site, New Castle, Delaware

Industrial site, San Jose, California

FUEL CELL SUSTAINABILITY

Lower Emissions

Bloom Energy's solid oxide fuel cell emissions are **50-96% LOWER** than the best available control technology for distributed generation sources.



**California Air Resources Board (CARB) Distributed Generation (DG) Certification*

FUEL CELL SUSTAINABILITY

Carbon dioxide (CO_2) dispersion study completed

At the nearest sensitive receptors, the fuel cell system does not materially change the ambient CO_2 levels.

- Results indicate this fuel cell system's CO_2 impact will be 93-99% lower than the typical outside ambient CO_2 concentrations.

Location Name	Approximate Distance from Facility (ft)	Model Predicted CO_2 Impact (ppm)
Darby Glen Subdivision	800	27.7
Beacon Subdivision	3,600	4.8
Beacon Elementary School	4,000	3.6
Darby Creek Elementary School	15,000	0.5

Note: Typical ambient air CO_2 in the area is 350 – 450 ppm.

AIR PERMIT PROCESS

Ohio Environmental Protection Agency (OEPA)

Step 1: Research what is being emitted.

- What are the air pollutants emitted from the fuel cell system?
  - We reviewed the manufacturer's emissions data prior to application submittal.

Step 2: Performed calculations.

- For each regulated air pollutant.
- Assume maximum emissions.

Fuel cell potential pollutants:

- Nitrogen dioxide (NO_2).
- Sulfur dioxide (SO_2).
- Carbon monoxide (CO).
- Particulate matter (PM 10 and 2.5).
- Ozone (Nitrogen oxides (NO_x) or volatile organic compounds).
- Source - specific pollutants.
- CO_2 (only for facilities that are major sources of regulated air pollutants).

- Example calculation: $$Source\ megawatt \times \frac{Pounds\ of\ pollutant}{Megawatt\ hour} \times 8{,}760\ hours\ per\ year = Pounds\ pollutant\ emitted\ per\ year$$

AIR PERMIT PROCESS

Ohio Environmental Protection Agency (OEPA)

Step 3: Review permit type needed.

- Compare values calculated in step 2 to the permit type thresholds.
- OEPA minor source permits are issued as a Permit to Install and Operate.
- Our fuel cell system will emit **less than** 250 tons of each **regulated pollutant** per year. Thus, our fuel cell system site falls into the minor source permit category.

Permit type	Permit threshold
Major source permit	250 tons per year
Minor source permit	Less than 250 tons per year

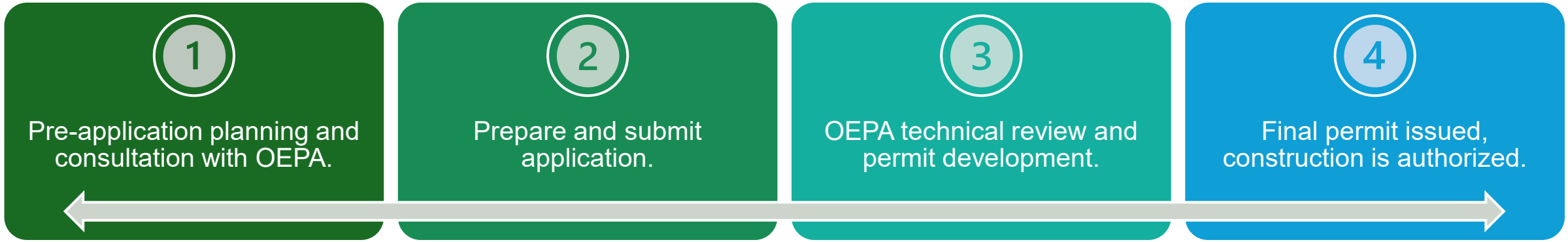
AIR PERMIT PROCESS

Ohio Environmental Protection Agency (OEPA)

Step 4: Fill out the permit application.

- We filled out the application, including all necessary calculations, and submitted it to the OEPA for processing.
- We submitted the Permit to Install and Operate (PTIO) in July 2025. After review, it was **approved on October 8, 2025.**

Recap of process:



LETTER OF NOTIFICATION (LON)

Ohio Power Siting Board (OPSB) Process

Why we submitted a LON application:

- The site's power generation will be over 50 MW.
- The site's power generation will run on natural gas.
- The AWS site is already developed.

OPSB application requirement matrix

What are the OPSB steps to follow?

- File the LON application.
- OPSB staff review the application.
- OPSB staff request substantial additional information about the project.
- OPSB staff make recommendation to the OPSB board.
- OPSB staff identify conditions that the applicant must follow.
- If approved, a preconstruction meeting can be scheduled and construction can begin.

OPSB CONSIDERATIONS

Staff Report Considerations

- **Nature of impacts**
  - Land use.
  - Cultural resources.
  - Public and private water supplies.
  - Transportation.
  - Noise.
- **Electric grid interconnection**
- **Environmental permitting**
  - Air.
  - Water.
  - Solid waste.
  - Aviation.
  - Surface waters.

OPSB Public Utilities Commission of Ohio filing

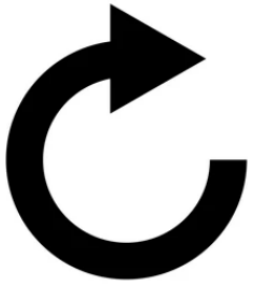
THANK YOU!

Thanks again for visiting our virtual open house to learn about our Scioto Darby Creek Road Fuel Cell System Project.

Learn More
For more information and project updates, please visit the project website.

Contact Us
Reach out with any additional questions.

Replay Open House



Visit Project Website

Contact Us