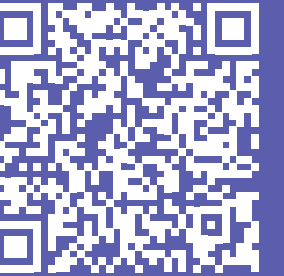


# What is Prebuild Infrastructure?

Submit a Comment at Today's Meeting

How to: The public comment period is open between 9/17/2024 and 10/15/2024. Comments can be submitted through the public docket at: Docket No. QO23100719.



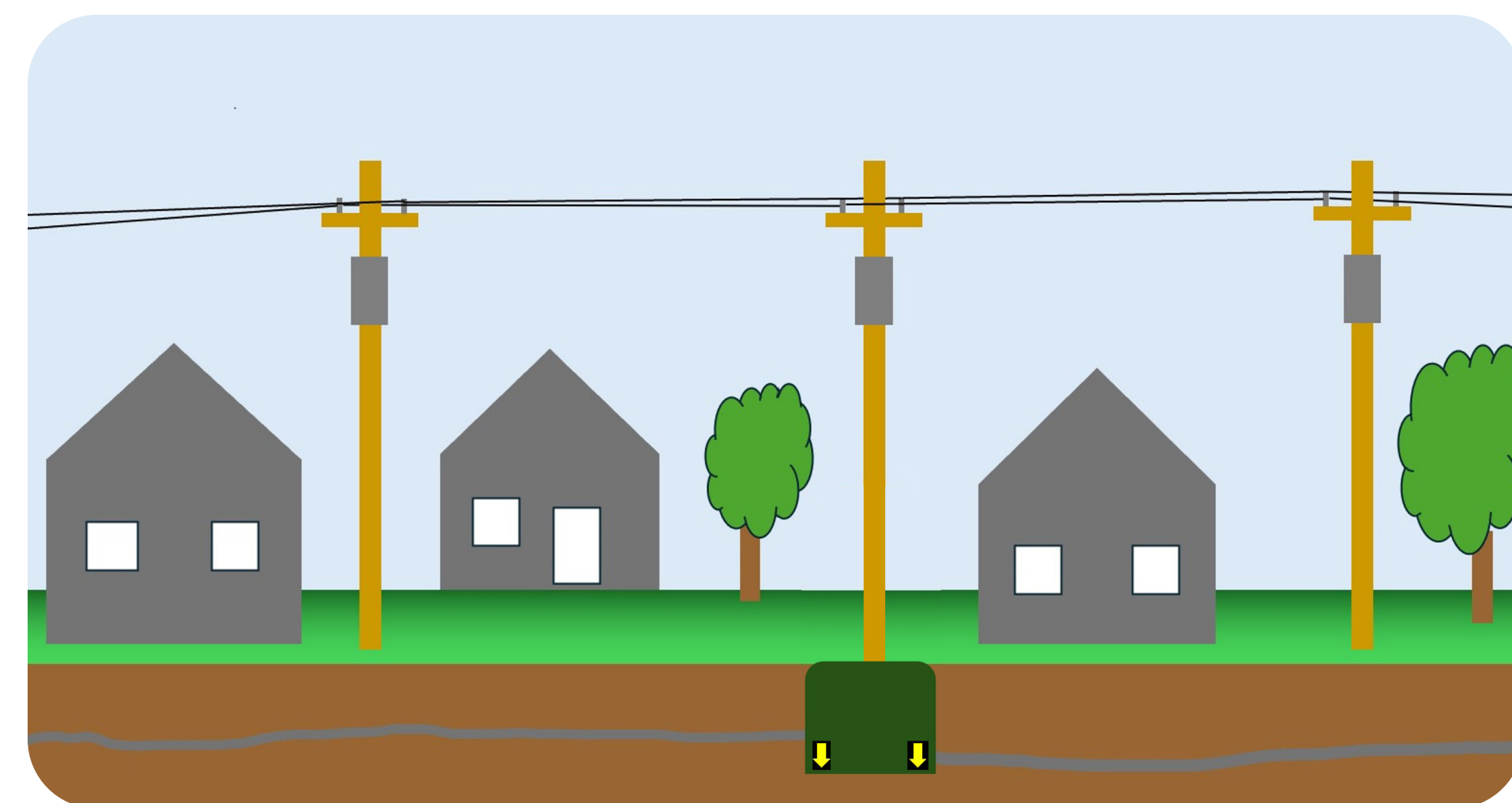
To help bring responsibly developed offshore wind power and increased transmission capacity for New Jersey homes and businesses, the Board has invited developers to build essential onshore electric transmission infrastructure.

The project includes cable vaults and duct banks that will connect offshore wind projects to our power grid. Project infrastructure will be buried once construction is complete.

The planned path for the transmission corridor starts at the Sea Girt National Guard Training Center and ends at the Larrabee Collector Station in Howell, New Jersey.

The developer selected to build this infrastructure will work closely with federal and state agencies, as well as other stakeholders to minimize impacts on natural resources and ensure compatibility with surrounding land use and communities.

The Board will consider making an award for a selected Prebuild Infrastructure developer in fall 2024. Construction is expected to start in 2027 and finish in 2029.



Overhead versus buried power cables

## HELPFUL CONCEPTS



### Duct Banks

- ▶ Provide a protected path for buried cables (electrical, data).
- ▶ Used to route cabling systems throughout facilities such as hospitals, industrial manufacturing, transportation centers (airports, railways), and highways.
- ▶ Reinforced concrete surrounds PVC conduits to provide secure and reliable infrastructure.
- ▶ The concrete used is specifically designed with heat dissipating properties to protect both cables and the surrounding areas.
- ▶ The burial and cable construction of Prebuild infrastructure will effectively block electric fields above ground.



Example of a duct bank

Source: BOND Civil & Utility ([bond-civilutility.com](http://bond-civilutility.com))

### Cable Vaults

- ▶ Large concrete boxes set along the transmission line at regular intervals.
- ▶ Used during construction for splicing lines and then for access and maintenance during the lifespan of the cables.
- ▶ Typically, access is via a manhole and is flush with the road surface making it minimally invasive along transmission lines and roadways.
- ▶ Cable pulling will occur via manholes. There will be no open roadway construction for pulling cables, all access will be via manholes flush to the roadway.



Example of cable vault

Source: ConEd



# Prebuild Infrastructure Project Timeline

**Share your thoughts!** Comments are being received from September 17, 2024 through October 15, 2024. To submit a comment which the Board will consider in its evaluation process, please go to: [https://publicaccess.bpu.state.nj.us/Comments.aspx?case\\_id=2112376&comments\\_id=0](https://publicaccess.bpu.state.nj.us/Comments.aspx?case_id=2112376&comments_id=0) [bpu.nj.gov](https://publicaccess.bpu.state.nj.us/Comments.aspx?case_id=2112376&comments_id=0)



## Key Project Milestones and Public Involvement

**Spring and Winter 2022**

Early planning and public comment

**November 17, 2023**

Solicitation Issued

**April 3, 2024**

Application Submission Deadline

**September 17– October 15, 2024**

Prebuild Infrastructure Public Comment Period

**Fall 2024**

Board Decision

**2025**

Project Permitting / Comment Period

**2027**

Construction to begin

**2029**

Project Completion

Nov 2023–April 2024

### Solicitation

Transmission developers confidentially bid into the solicitation built by the Board and Cooperating state/federal agencies

Public guidance document for Prebuild Infrastructure released

Upon Award (Fall 2024)

### Project Design

Developer works with community groups, stakeholders, state agencies, and utilities to design this project. Multiple opportunities to make comments/have your voice heard.

Developer meetings

Community/stakeholder meetings

TBD: The Developer will announce where and when

2027–2029

### Project Construction

Begins following receipt of all state and federal permits

Developer will continue coordination with local

leaders to minimize temporary construction impacts



★ We are here

### Project Selection

The Board decides whether to select a developer with a responsibly designed project to efficiently build energy transmission infrastructure.

Attend Public Stakeholder Meeting 10/01/2024 (this meeting)

Submit comments live in this webinar or to the Docket No. QO23100719

**Comment period:  
9/17/24–10/15/2024**

Fall 2024

### Project Siting and Permitting

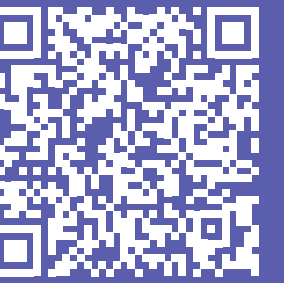
Concurrent with project design, the developer must acquire environmental permits from state and federal agencies, in addition to completing the NEPA process.

This phase has several opportunities to comment at both state and federal levels.

2025–2026

# Why is the Prebuild Infrastructure Needed?

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The Northeast region, especially New Jersey, faces a *transmission capacity crisis* as existing infrastructure requires upgrades and expansion to accommodate new energy sources.

The existing grid is near its limits in many areas, leading to bottlenecks, that can result in energy not being efficiently distributed, increased costs, and reliability issues.

The New Jersey's Pre-Build Infrastructure Project is a critical endeavor to support the state's energy needs. It addresses long-term environmental sustainability, economic development, and modernizing the energy infrastructure.

## New Jersey Energy Use

New Jersey is forecast to consume over **92 billion kilowatt-hours of electricity in 2034.**

The average home in New Jersey consumes about **681 kilowatt-hours a month.**

The projects awarded Prebuild Infrastructure capability will provide enough power for approximately **1.6 million New Jersey homes**

## Energy Equity

- ▶ Provide more consistent and affordable energy to all residents, including those in underserved areas.
- ▶ Improving energy efficiency and integrating renewable energy sources, the overall costs of electricity can be reduced, benefiting low-income households.

## Promotes Renewable Energy Integration

- ▶ Supports integration of offshore wind into the grid to help meet New Jersey's carbon emissions reduction goals
- ▶ Offshore wind is needed to serve increasing demand while importing less coal power from other states

## Grid Resiliency and Reliability

- ▶ Upgrades are necessary to handle new energy sources and reliably meet increasing demand patterns.
- ▶ The state is experiencing increasingly severe weather events, improvements to grid infrastructure are required to become more resilient for natural disasters.

## Economic Development

- ▶ Modern energy infrastructure attracts businesses and industries looking to invest in regions with reliable and sustainable energy sources.

## HELPFUL CONCEPTS

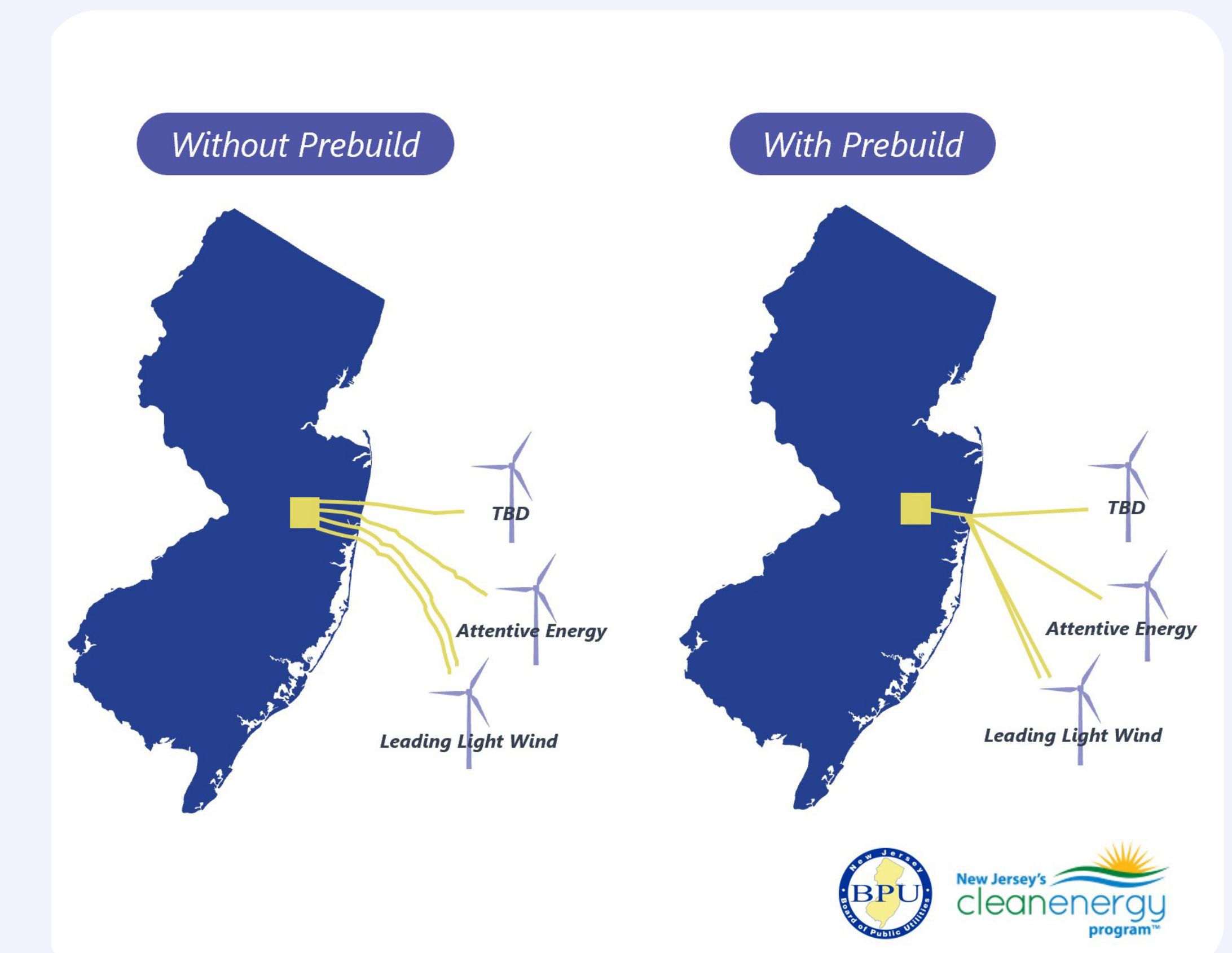


### Transmission Capacity

The ability of the power grid to transfer electricity from where it is generated to where it is needed.

### PJM

A regional transmission organization that coordinates the movement of electricity in 13 states, including New Jersey. PJM plays a crucial role in planning, maintaining, and upgrading the transmission grid to ensure it meets current and future demands.



\*Figure is illustrative and not drawn to scale, landing is intended to be Sea Girt National Guard Training Center

# Responsible Infrastructure

Building underground electric transmission infrastructure is a complex process but offers long-term benefits without compromising the environment or community.

Coordinating a single construction effort to accommodate multiple offshore wind projects access to the electric grid reduces overall impacts.

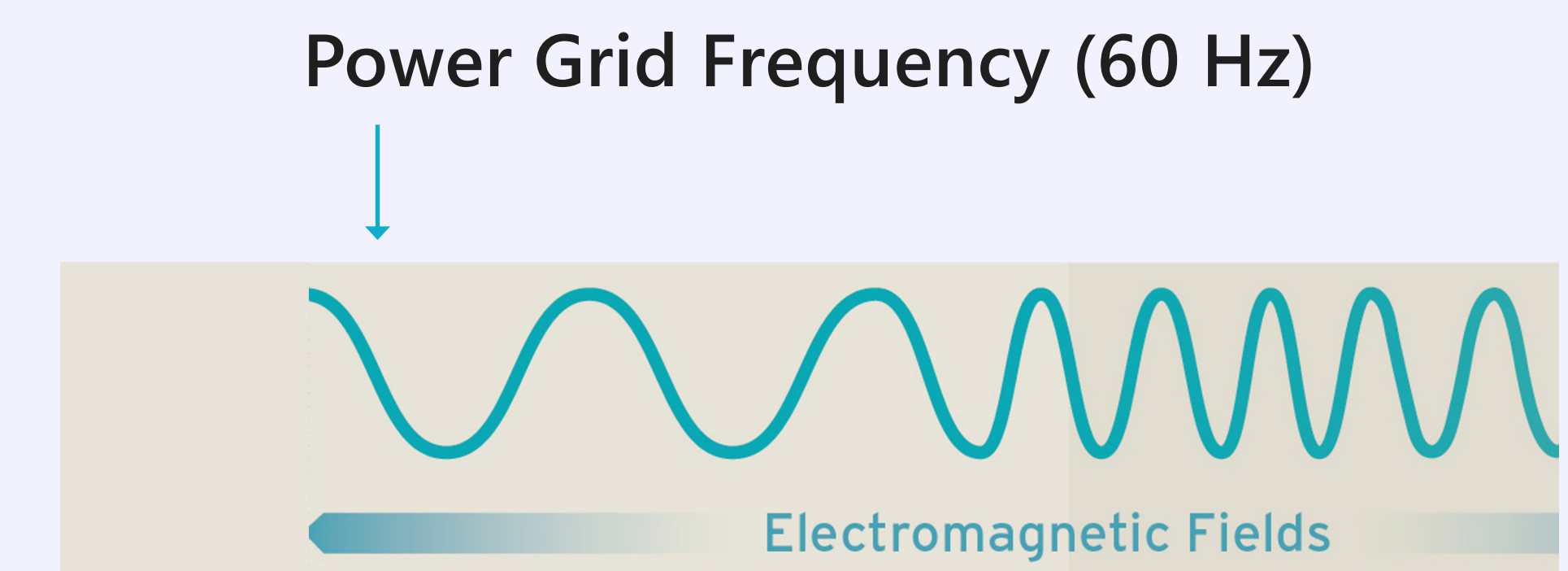
- ▶ Reduces number of onshore cables and landing points
- ▶ Does not add visual clutter (overhead power lines, poles, and towers) preserving scenic views and contributing to community aesthetics
- ▶ Less impacted by severe weather conditions such as storms, hurricanes, and high winds, which can result in fewer power outages and more reliable service
- ▶ Minimizes disruption to natural habitats, particularly in scenic or ecologically sensitive areas
- ▶ Utilizes existing rights-of-way and previously disturbed areas to the greatest extent possible reducing impacts on habitat and community
- ▶ Avoids construction during peak summer tourism period between Memorial Day and Labor Day in shoreside towns

Buried direct current transmission are not sources of significant AC EMF or electric fields.

- ▶ Frequency is number of times per second that fields change strength and direction. The frequency of **AC power grid electricity** is 60 Hertz (Hz) and therefore AC electric and magnetic fields (AC EMF) oscillate at 60 Hz.
- ▶ Direct current power and magnetic fields have a frequency of 0 Hz, - no change in direction with time. Prebuild Infrastructure is a source of **static magnetic** (0-Hz) fields, exactly like that created by the earth.
- ▶ The cable construction and burial of the Prebuild Infrastructure will effectively block electric fields above ground.
- ▶ The Prebuild Infrastructure will not generate any appreciable AC EMF, **so any information about frequencies other than static or direct current magnetic fields are irrelevant** to the proposed Prebuild Infrastructure.
- ▶ International limits for public exposure to direct current magnetic fields have been developed and have been endorsed by the World Health Organization and governments across the globe.

**The upper range of the direct current magnetic field produced by cables using the Prebuild Infrastructure is expected to be less than 1/2 of one percent of the recommended limit for exposure of the general public to static magnetic fields.**

## Frequencies of Power Grid Fields Compared to Direct Current Fields



## Static Fields of Prebuild Infrastructure (0 Hz)

