

Leveraging Delaware’s Roadway Rights of Way for Offshore Wind Transmission



Offshore wind projects require access to electrical substations of high capacity to connect their renewable energy to the power grid. These points of interconnection tend to be miles from where the projects’ power export cables come ashore, usually requiring miles long onshore transmission routes.

Subsurface transmission within public roadway right of ways (ROWs) is the primary way that offshore wind projects bring their power cables from shore to interconnect with the grid. Of 17 east coast offshore wind construction and operations plans reviewed, 13 projects (or 76%) indicated using public roadway ROWs for at least part of their onshore transmission routes¹.

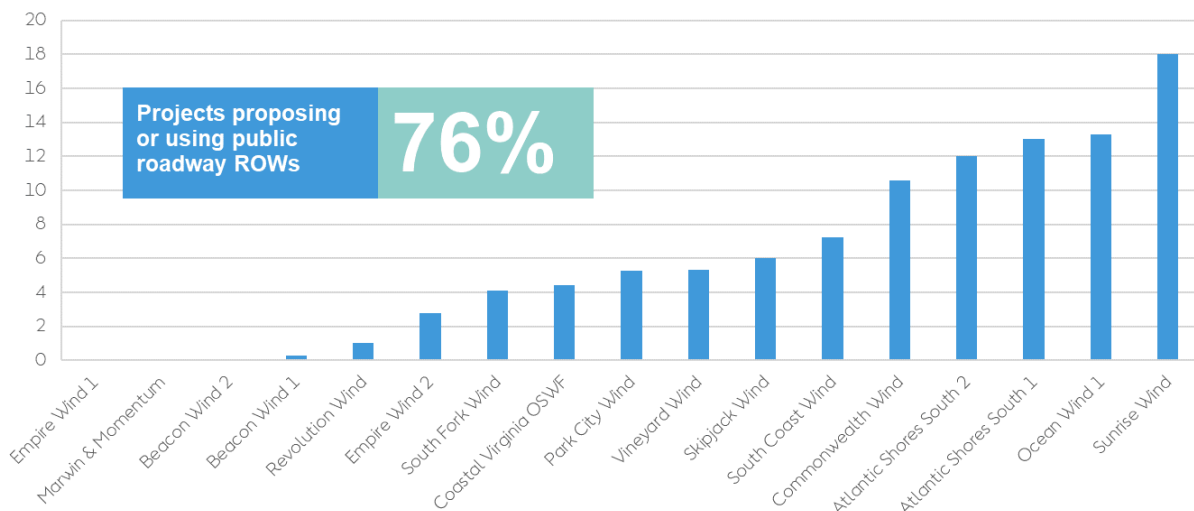
In Delaware, where the state is responsible for 89% of roadways², private electricity generators are not permitted to install power cables along state roadway ROWs.

What is Roadway ROW?

Right of way, or ROW, is a general term referring to land, property, or interest acquired for or devoted to construction, operation, and maintenance of a transportation facility. ROWs may include travel lanes, sidewalks, shoulders, and vegetated roadside areas generally under public jurisdiction.

For Delaware to foster its budding offshore wind ambitions, a controlled process to access public roadway ROWs for transmission is needed.

Onshore subsurface transmission routes in miles for 17 US east coast offshore wind projects under construction or development



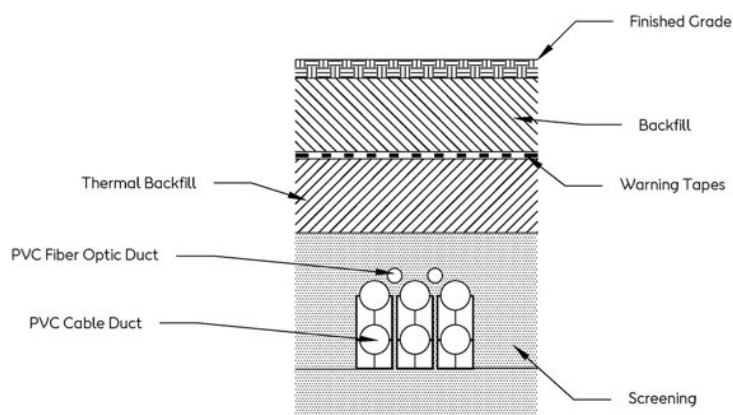
Data taken from COPs accessed Jan. 2024. When multiple routes or route options presented, average or maximum length used depending on data availability.

¹ [Offshore Renewable Activities | Bureau of Ocean Energy Management \(boem.gov\)](https://www.boem.gov/offshore-renewable-activities) (accessed January 2024)

² <https://deldot.gov/dashboard> (accessed January 22, 2024)

Benefits of Subsurface ROW Transmission

- Subsurface ROW transmission provides many benefits versus overhead transmission lines. These include lower visual impacts, improved climate resilience and security for the power cables, and reduced environmental impacts through collocation of utilities in already developed areas.
- Subsurface transmission lines within public ROWs are safe. Cables are located deep under travel lanes and road shoulders and are encased within thick concrete duct banks. Safety markings are installed above the duct banks and cable locations are indicated per state and local guidelines. In Delaware, electric utilities are installed in ROWs subject to the National Electric Safety Code.
- ROW rentals fees provide an opportunity for additional state revenue to make up for lower gas tax revenue as drivers shift to electric vehicles.



Typical Configuration of Subsurface Offshore Wind Power Export Cable in Roadway ROW

Insulated and sheathed high voltage cables are encased within 4 to 5-foot-thick concrete duct banks buried 4 to 6 feet below the surface of shoulders and travel lanes. Buried warning tapes indicate the presence of cables. Special backfill is added to allow heat dissipation from the cables. ROWs are restored to previous or improved conditions. Magnetic fields from the cables nearby will be like safe levels found near typical household appliances. Electric fields will be blocked by the cable sheathing and the ground.

States are using Roadway ROWs to facilitate the renewable energy transition

- In 2021, **New Jersey**³ passed a law allowing qualified offshore wind projects to install power export cables underneath its roadway ROWs.
- In 2003, **Wisconsin**⁴ changed its electric transmission siting law to prioritize highway corridors for the location of electric transmission infrastructure immediately after existing utility corridors.
- In 2016, **New Hampshire**⁵ passed a law authorizing the designation of energy corridors for subsurface transmission along state owned roadways.
- In 2010, **Maine**⁶ passed a law designating certain highway ROWs as energy corridors for siting transmission.

³ <https://www.njleg.state.nj.us/bill-search/2020/S3926>

⁴ [Wisconsin Legislature: 2003 Wisconsin Act 89](#)

⁵ [Bill Text: NH HB626 | 2016 | Regular Session | Chaptered | LegiScan](#)

⁶ [PUBLIC Law, Chapter 655, An Act Regarding Energy Infrastructure Development \(mainelegislature.org\)](#)