# Frequently Asked Questions

**What is the route of this energy transmission line?**
The proposed route of the Lake Erie CleanPower Connector, a high-voltage direct current (HVDC) project, will start in Nanticoke, Ontario, Canada, and travel south, beneath Lake Erie, into Pennsylvania.

**What is HVDC Transmission?**
High voltage direct current (HVDC) is a stable, safe technology that is able to transmit power over long distances. HVDC lines use a combination of high voltage and direct current to transfer energy more efficiently than alternating current (AC) energy transmission lines. Because HVDC uses constant direct currents, they do not have an electro-magnetic field like overhead power lines. They have a very low level static (constant) magnetic field that is similar to the earth's naturally occurring magnetic field.

**Where does the energy come from and where is it going?**
The Lake Erie CleanPower Connector will transmit energy generated from clean and renewable generators in Canada (hydro, wind, solar, nuclear, and combined-cycle gas) to a converter station to be built in Erie County, Pennsylvania to provide electricity to the PJM Regional Transmission Organization comprised of thirteen states including Pennsylvania and the District of Columbia.

**Is this transmission project safe?**
Yes. The Lake Erie CleanPower Connector is a very safe project. The HVDC technology used for these cables is safe and reliable. The solid cables are well insulated, do not contain liquids or gels, and are made from non-flammable materials. The HVDC converter stations are solid state, which means that the conversion process is extremely stable. Unlike thermal generation stations, these converter stations contain no flammable fuel. If damaged, the electrical protection systems within the HVDC converter stations will shut down the system within fractions of a second. In this unlikely event, current and voltage are reduced to zero in the cable.

**How do you install the cables beneath Lake Erie?**
The Lake Erie CleanPower Connector uses a solid and compact cable, only six inches wide. A ship will lay the HVDC cable along the bottom of Lake Erie, navigating the best route for the cable along the lake bed. Low impact water jet technology is used to place the cable in a temporary trench barely wider than the six inch cable itself, which will be immediately filled by natural forces.

**Are there any other transmission lines similar to this one?**
All over the world, similar underwater HVDC cables are in use. There are a dozen HVDC projects installed in North America and around 200 projects installed worldwide. For example, the Cross Sound project, which transfers energy between Shoreham, Long Island and New Haven, Connecticut, is a transmission line using underwater HVDC cables beneath the Long Island Sound. Placing transmission cables along natural waterways has been an established and safe way to move energy for over a half century.

**What is the environmental impact of this new transmission line?**
The safe and reliable HVDC technology ensures that this energy transmission line would have minimal to no impact to the surrounding environment – both during and after installation.

**Will overhead transmission lines be used?**
Limiting visual impact is important. The majority of the transmission cable will be primarily placed underwater or underground.

**Does HVDC generate induced currents from EMF?**
No. Direct current is constant (similar to the Earth's magnetic field) and does not have the electromagnetic field ("EMF") associated with all alternating current (AC) transmission lines. HVDC lines have a very low level static (constant) magnetic field that is similar to the earth's naturally occurring magnetic field.

**Can the cable be damaged once it is placed under Lake Erie?**
It is highly unlikely because the solid and compact cables will be either buried deep enough in the bottom of the lake and/or armoured with a protective cover preventing potential external damage. In the unlikely event the cables are damaged, the system can immediately identify the location and shut down within fractions of a second. Protocols are in place at both converter stations to ensure safety and minimal interruption of service.

**Will the costs of this transmission project change my utility bill?**
No. None of the costs for the installation of this project will be passed to consumers in Ontario. LEPC's project is a merchant project, which means that we are responsible for making this project an economic success.

**How long will this transmission cable be in service?**
There are many examples of these projects that have been in operation for more than half a century. Transmitting energy through the cables does not wear them down.

**How much upkeep needs to be done on the transmission system to keep it working properly?**
Like any project, the converter stations in Ontario and Erie County will undergo routine maintenance and the HVDC cables will be constantly monitored.

**Who can I contact if I have questions?**
There are several ways to connect with us including our website (www.cleanpowerconnector.com) and email (info@lakeeriepower.com). You can also mail us at: 161 Bay Street, PO Box 508, Toronto, ON, M5J 2S1. Also, please feel free to contact either of the following:


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