America's Energy Interstate

LAUNCH THE NATIONAL HVDC SUPERGRID

OUR NATION'S ENERGY INFRASTRUCTURE IS AT RISK



- The North American power grid rightly celebrated as one of the greatest engineering feats of the 20th century — is the invisible backbone of our economy and society. But today, it is operating at the edge of its capacity.
- It was designed over 100 years ago to deliver, at the speed of light, centrally dispatched power to often distant load centers.
- Today it is straining to keep up with:
 - electrification
 - Increasing penetration of intermittent, inertia-less renewable generation at the grid edge
- -These growing demands — combined with escalating threats from cyberattacks and extreme weather — are placing the nation's energy supply at increasing risk of large-scale disruption. 1. The recent Iberian Peninsula blackout is a stark reminder of the vulnerability of an aging
- AC power grid.

2024 - 25

Explosive growth from AI data centers, semiconductor manufacturing, and transport





2024-25

Building more power plants to accommodate the explosive electricity demand is useless if the power can't be delivered to the load centers



3

Our Power System needs a resilient, reliable and efficient transmission grid to bring that power to industrial, commercial and residential customers at the speed of light



4

A STRATEGIC INFRASTRUCTURE IMPERATIVE

- \rightarrow electricity at high voltage over long distances.
- \rightarrow synchronized AC systems.
- \rightarrow (HVDC) transmission grid.
 - HVDC enables efficient long-distance transmission (e.g., in China, Canada, and Europe), at a lower cost per mile if over 250 – 300 miles.
 - It offers lower transmission losses, greater stability, and precise real-time power flow control.
 - HVDC is ideal for connecting remote power sources to load centers and for building interregional macrogrids.

2024 - 25

The U.S. power grid was built on Alternating Current (AC) technology, which enables efficient transmission of

However, AC networks — especially when interconnecting a large number of generators and loads — are inherently prone to instability. Events like the 2003 Northeast Blackout exposed the vulnerabilities of complex,

Thanks to advances in power electronics, a more modern solution has emerged: The High Voltage Direct Current





RESTORING AMERICAN ENERGY LEADERSHIP IS CRUCIAL TO THE COUNTRY'S FUTURE

- → The vision for the American Interstate Grid of the Future needs to be developed at the Federal level, in close cooperation with the private sector and the States Agencies.
- → American Colleges and Universities are forming some of the best engineers and technicians in the world, but most of those with advanced degrees must go back to their native countries when graduating.
- → America lacks the manufacturing facilities, components and trade skills needed to support the development of the HVDC Super Grid.
- President Eisenhower built the Interstate Highway System, a delivery system, to unify a continent and secure America's future in the 20th century.
- → President Trump has the opportunity to do the same for the electric grid—by championing the American Super Grid of the 21st Century.







RECOMMENDED PRESIDENTIAL DIRECTIVES

- Designate the HVDC Super Grid as critical national \rightarrow infrastructure
- Create a National Economic and Defense Council-led \rightarrow public/private Task Force to oversee the transition to the grid of the 21st Century
- Command Full Agency Alignment \rightarrow
- Enable Federal Backed Private Capital \rightarrow
- Update immigration policies to accelerate the \rightarrow acquisition and retention of power engineers and other critical engineering skills
- \rightarrow interconnection hubs



Instruct FERC to work with the RTO/ISOs to identify and accelerate approval of priority AC–DC





MAGAGA

2024-25

Make the American Grid Great Again



