US Update to IEA TCP on High Temperature Superconductivity

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Advanced Grid Research and Development
Office of Electricity
U.S. Department of Energy

Commonwealth Edison Demonstration

- ComEd installed HTS wire with funding from the Department of Homeland Security and support from DOE Office of Electricity developed technologies
- Location: Chicago's north side
- Duration: One-year evaluation.
- Benefits:
  - Can transfer 200 times the electrical current. (compared to conventional copper wire)
  - provides ComEd the flexibility to reroute power around downed substations to shorten restoration times for customers.
- Showcasing how HTS will work in real-world settings and help deliver reliable electricity to homes and businesses

How Superconductors Are Helping Create the Resilient Grid of the Future | Department of Energy

Departments of Homeland Security and Energy Join ComEd to Showcase Power of Innovation | ComEd - An Exelon Company

U.S. DEPARTMENT OF ENERGY
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DOE Announces CABLE Conductor Manufacturing Prize Winners

Conductivity-enhanced materials for Affordable, Breakthrough Leapfrog Electric and thermal applications (CABLE)

- **Stage 1: Ten teams selected, $4.5 million, of a three-stage competition**
- **Work to develop affordable, manufacturable materials that conduct electricity more efficiently and upgrade our manufacturing and transportation infrastructures**
- **The Super Cool Conductor from Selva Research Group in Houston, Texas is making a rare-earth, high-temperature superconductor that could be manufactured at half the cost of copper and cooled with liquid nitrogen or cryocooling for applications such as long duration electric storage**

Conductivity-enhanced materials for Affordable, Breakthrough Leapfrog Electric and thermal applications (CABLE) Conductor Manufacturing Prize

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CABLE Conductor Manufacturing Prize Stage 2

- **Stage 2 of the Competition Will Evaluate Conductivity-Enhanced Materials that Support Increased Electrification for Decarbonization**
- **Stage 2 will award up to $1.8 million to support electrical conductivity testing – requiring teams to produce a sample of their material for evaluation by CABLE Prize-approved testing labs**
- **Stage 2, competitors will prepare preliminary commercialization plans to scale-up and manufacture their materials.**
- **Stage 2 is not limited to Stage 1 winners. New competitors, along with all teams that participated in Stage 1, can compete in Stage 2 of the prize.**
- **Submissions are due by December 1, 2022**

Conductivity-enhanced materials for Affordable, Breakthrough Leapfrog Electric and thermal applications (CABLE) Conductor Manufacturing Prize

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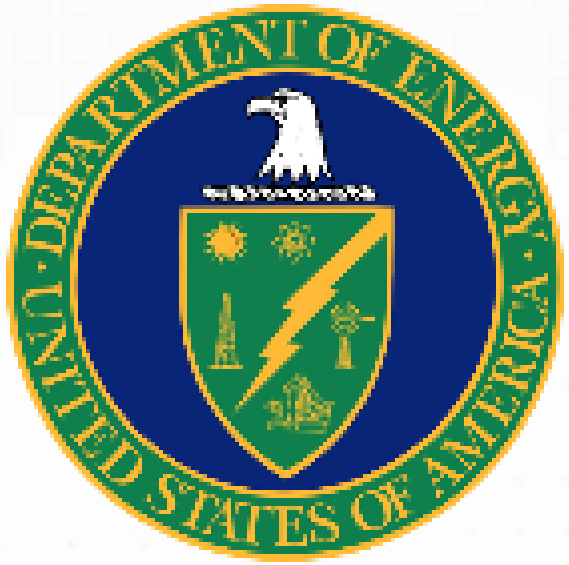
Bipartisan Infrastructure Law

(Infrastructure Investment and Jobs Act)

The Bipartisan Infrastructure Law's more than $65 billion investment includes the largest investment in clean energy transmission and grid in American history.

It will upgrade our power infrastructure, by building thousands of miles of new, resilient transmission lines to facilitate the expansion of renewables and clean energy, while lowering costs. And it will fund new programs to support the development, demonstration, and deployment of cutting-edge clean energy technologies to accelerate our transition to a zero-emission economy.

Possible Relevant Sections:
40106 Transmission Facilitation Program
41003 Mineral Security Projects (Critical Materials)



Thank You

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