

Research Topics on Utopia: Global Grid 2026

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Research:

- Wegener Center for Climate and Global Change at University of Graz: <https://wegcenter.uni-graz.at/en>
- Research by Keith Williges: <https://kawilliges.github.io/publications/>
- Austrian Power Grid: <https://www.apg.at/en/projects/>
- Institute of Electricity Economics and Energy Innovation: <https://www.tugraz.at/en/institutes/iee/home>
- DC Micro Grid / Silicon Austria Labs: <https://www.silicon-austria-labs.com/en/research/projects/details/dc-microgrid>

About the idea behind Global Grid:

To limit global temperature rise, the world must switch rapidly to renewable energy sources such as solar and wind power, but there are limitations due to the variable and seasonal nature of renewable generation – for example, less sunshine in winter. The project is investigating the use of interhemispheric transmission lines for trading renewable electricity within a global grid, with a view to achieving climate targets more easily and cost-effectively. Such a grid could help to realize a utopia with an abundance of carbon-free electricity, driving human prosperity and delivered through global cooperation and a fair sharing of the burden between trading regions.

- **Key technologies:**
 - **Large-scale solar and wind power generation, as well as storage in batteries (or pumped-storage power stations)**

- **HVDC connections: overhead, underground or underwater;**

HVDC cannot be connected directly to the local grid, but is only suitable for long distances; converter stations are required at both ends