

## **The Future Promise of the EnergyNet, the “New Grid Architecture” that will enable a quantum leap and exponential expansion in generating and distributing green energy**

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Ever since photovoltaic cells for solar panels were first invented and utilized during the 1970s, there have been three major challenges: 1) reducing the costs, which has now been significantly accomplished, as the price of solar continues falling; 2) substantially increasing battery storage, which has now finally begun making substantial progress; and 3) enlarging and improving the capacity of the existing electric grid to accommodate the large-scale growth of renewable energy. This third task remains today, and it will require trillions of dollars of new investment to fully grow the necessary electric grid's transmission capabilities. The EnergyNet is the solution to the third challenge, combining the digitalization of energy management and distribution together with power electronics drawn from electric vehicle charging technology. It operates just like the high-speed broadband Internet, and it will spread throughout the world over this next decades in the same way that the high-speed broadband Internet spread beginning in the late 1990s, and similar to how smartphones rapidly spread globally starting in 2007.

### **Benefit 1: Cost Savings – cheaper solar electric power generation, combined with a much cheaper/faster/better technology for distributing renewable energy.**

The new **SWS (Solar-Wind-Storage) EnergyNet System** (“New Grid Architecture”) that is being designed and implemented in Lund, Sweden during 2025 is the solution to the bottleneck/obstacle/barrier/”gridlock” of the electric grid, as it will enable exponential expansion of solar power in a much cheaper/faster/better way through a decentralized network of Energy Routers and copper “Freedom Cables” moving rooftop-generated solar energy between buildings without utilizing the existing grid. The EnergyNet operates exactly like the Internet, moving electrons through routers and cables. The only difference is that those electrons are moving electric power, and not just information and communications data.

Indeed, the electric utility companies in Sweden are open to the idea of implementing EnergyNet for most current and future residential and commercial buildings (preserving the existing power plant-to-long-distance electric grid distribution system for heavy industry, transportation, data centers, and other very high-volume users), because it will save both the utility companies and the Swedish Government \$200 billion by not needing to upgrade the existing grid in order to distribute large-scale expansion of rooftop solar energy generation, which instead will be distributed through the alternative EnergyNet.

### **Benefit 2: Enhanced Energy Security and Resilience through a more Decentralized Clean Energy Infrastructure and Distribution Network**

The EnergyNet in Lund is made possible by a new Energy Communities law enacted by the European Union in response to the Ukraine War, where one Russian bomb disabled 97 percent of all electric power in the entire country of Ukraine. The EU leadership authorized new approaches to energy distribution that would not be so highly vulnerable to centralized explosions or cyberattacks. The EnergyNet's New Grid Architecture will be a highly innovative and effective solution. This is the first time in the world that the now increasingly outmoded model of the centralized electric grid monopoly has been disrupted/deregulated to promote market competition for more cost-effective, innovative, and efficient solutions. The EnergyNet can be designed and programmed for automatic backup power to ensure maximum resilience: ***no more power outages.***

**Benefit 3: The EnergyNet is private sector-driven, market-oriented, and profitable. It essentially pays for itself, while at the same time it dynamically promotes entrepreneurship and growing businesses, jobs, incomes, and assets. EnergyNet communities, cities, regions, states, and countries definitely can (and will) “get richer by becoming greener.”**

In Sweden, when large real estate development and management companies begin installing the SWS EnergyNet System (solar panels, batteries, energy routers, and copper “Freedom Cables”) in their multifamily residential developments, they will reduce their electric utility costs by 60 percent. The companies, and everyone living in their apartment buildings, all will save money by using their own cheaper rooftop solar power, and the real estate companies will earn revenues by selling the less-costly solar electricity to their residential (and also commercial) tenants. In addition, financial institutions and investors will make money providing the necessary capital for installing the EnergyNet systems.

**Benefit 4: The EnergyNet enables local energy autonomy and self-sufficiency for communities, cities, counties, regions, states, and provinces, including both urban and rural areas, to generate 100% renewable electricity from solar and wind, and together with the necessary back-up storage from electric batteries, green hydrogen, and other sources, every place in the world can now become entirely fossil-free. This result can be accomplished everywhere, without first needing any specific local natural resources. It levels the playing field globally -- places with fossil fuels in the ground will no longer have a competitive economic advantage, and places without fossil fuels will not need to bear the enormous expenses of importing them.**

**Benefit 5: The EnergyNet addresses the rapidly growing need for a huge increase in electric power to support the future expansion of Data Centers processing Artificial Intelligence (AI) and related digital computation and electronic communications.**

This is an enormous crisis on the horizon -- how to ramp up enough clean, zero-emission energy to accommodate the future electricity needs of our rising AI/digital era. For the first time, now we have an excellent *green* and *cost-effective* solution: the EnergyNet.