Syndem Completes the Field Tests of Twenty Grid-Forming Inverters for a Project Funded by the Department of Energy

CHICAGO, IL, USA, March 2, 2022 /EINPresswire.com/ -- SYNDEM, a global pioneer in renewable energy and smart grid, announces that it has successfully completed the field tests of 20 grid-forming inverters in Lubbock, Texas.

The 20 inverters are connected together to form a microgrid, which can be operated with the public grid or on its own without the public grid. Fifteen of the inverters are connected to solar panels in the field and seven of the inverters are connected to batteries so two of the inverters are connected to both solar panels and batteries. The inverters can black-start by itself, synchronize with each other, connect together to form a grid, regulate the voltage and the frequency, detect the presence of the public grid and, if present, synchronize with the grid and connect to the grid, detect the loss of the public grid and, if lost, disconnect from the public grid, all autonomously without relying on communication networks or human intervention.

> “An important milestone to unify and harmonize the integration of renewable energy.”
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> *Dr. Qing-Chang Zhong, Founder & CEO, Syndem LLC*

The successful completion of the field tests has demonstrated the functions of grid-forming technologies and their important roles in enabling the power system paradigm shift from centralized generation to distributed generation, in advancing energy equity, access, and justice, and in developing a low-carbon economy.

The underlying technology tested in the field is Syndem’s Virtual Synchronous Machines (VSM) technology, which makes power electronic converters in distributed energy resources behave like conventional synchronous machines. It is the mainstream grid-forming technology that will unify and harmonize future power systems. Syndem’s Founder and CEO, Dr. Qing-Chang Zhong,

has been pioneering the development of Virtual Synchronous Machines for over 20 years. The successful completion of the field tests represents an important milestone on the way to commercializing the technologies.

The field test is part of a project funded by the Department of Energy Solar Energy Technologies Office Fiscal Year 2019 Funding Program (SETO FY2019), which aims to advance early-stage solar technologies that will lower electricity costs, boost U.S. solar manufacturing, reduce red tape associated with installing solar energy systems, and make solar systems more resilient to cyberattack. The project is expected to help ease the integration of solar energy onto the grid in the U.S. and beyond.

Stay tuned.

About Syndem
Syndem is leading the global development of next-generation smart grids based on the synchronization-and-democratization mechanism to harmonize the integration of renewable energy sources (such as wind and solar), electric vehicles, storage, flexible loads etc. This will enable autonomous operation of power systems without relying on communication networks, improving grid stability, reliability, security, and sustainability, and advance global energy freedom for billions of people with access to low-cost clean electricity. Learn more at www.syndem.com.

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