

What is a microgrid?

The DOE defines a microgrid as a group of interconnected loads and distributed energy resources (DERs) within clearly defined electrical boundaries that acts as a single controllable entity with respect to the power grid.

What drives microgrid development?

Resilience, efficiency, sustainability, flexibility, security, and reliability are key drivers for microgrid developments. These factors motivate the need for integrated models and tools for microgrid planning, design, and operations at higher and higher levels of complexity.

What is a microgrid planning capability?

Planning capability that supports the ability to model and design new microgrid protection schemes that are more robust to changing conditions such as load types, inverter-based resources, and networked microgrids.

What is Madra - microgrid assisted design for remote areas?

MADRA - Microgrid Assisted Design for Remote Areas (MADRA) is an open-source microgrid design tool developed (in Python 2.7) by Oak Ridge National Laboratory (ORNL) under DOE/NETL Project #M615000481.

Abstract Resilience, efficiency, sustainability, flexibility, security, and reliability are key drivers for microgrid developments. These factors motivate the need for integrated models and tools ...

Sudan's rural regions face acute challenges in energy access, exacerbated by ongoing conflict that has destroyed major power infrastructure and crippled conventional electricity ...

Integration of renewable energy sources in the national grid is a promising approach of solving grid problems, power losses, and shortage of supply in Sudan. The implementation of ...

The objective of this work is to evaluate the potential of alternative energy technologies to increase electricity access in rural areas of Sudan. One of these alternative energy technologies is renewable ...

The viability of microgrid projects largely depends on the cost of diesel fuel and transportation, as well as local renewable energy resource availability. These factors dictate investment decisions, as cheaper ...

MICROGRID DESIGN The Micro Grid is a selected area that has distributed generation able to satisfy the local load. Al-Kobbaneya, part of Shambat district in Khartoum (Sudan), is the ...

Solar Mini-grids Projects in Sudan Sudan, a country rich in natural resources, faces significant challenges in rural electrification. With a large portion of its population living in remote ...

This intensive 10-day training course is meticulously designed to empower electrical engineers, power system

planners, renewable energy developers, facility managers, and policy makers with the ...

Given the abundance of solar radiation and wind resources, Sudan has a lot of promise for clean energy solutions. This study describes a grid-connected PV-wind hybrid system's ...

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