



# Affordable Home Energy Router with Energy Sharing

DX Energy

---- FLEX-ROUTER

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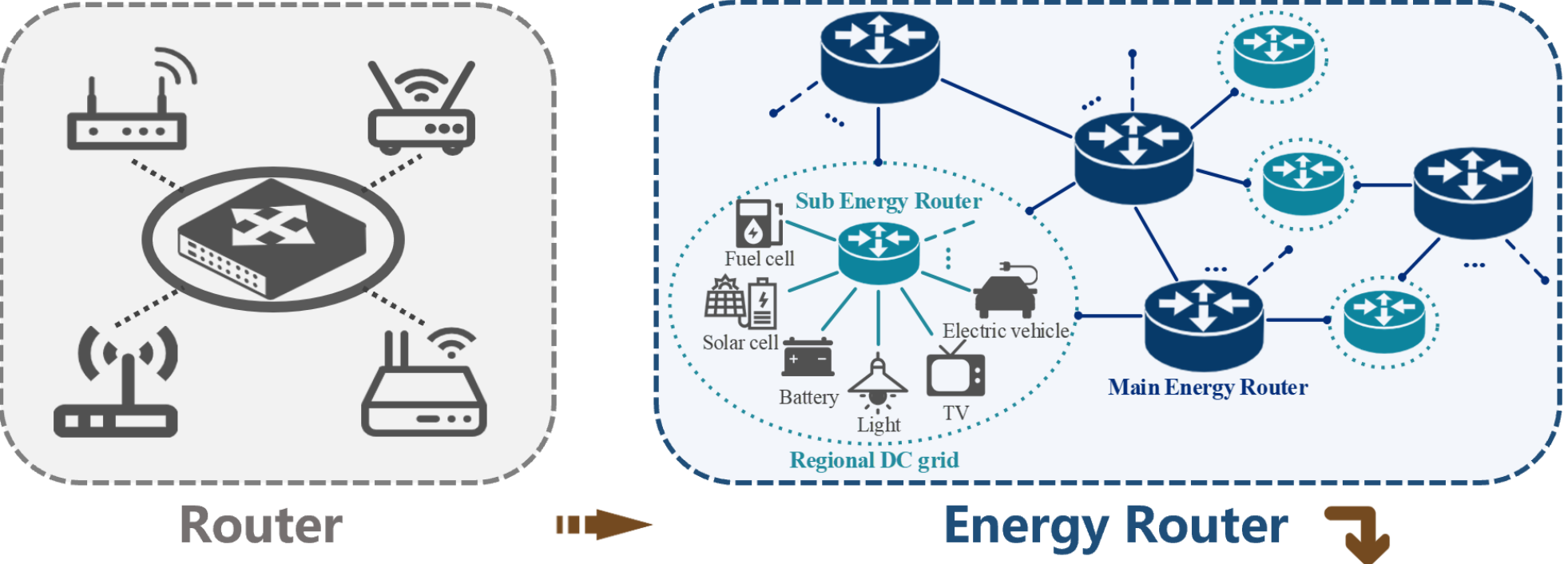
## Introduction

The rise of renewables and EVs demands efficient energy management. The **FLEX-ROUTER** boosts efficiency with **Partial Power Processing (PPP)**, enabling decentralized trading and reducing grid reliance. **(Power Signal Multiplex Modulation) PSMM** ensures secure transactions, accelerating renewable payback and EV integration.

## FLEX-ROUTER: Key Innovations

- (1) A **PPP-based multi-port DC-DC architecture** with radial connections, achieving **98.74% efficiency** by minimizing processed power.
- (2) A **three-layer trading system** for decentralized, low-cost energy exchanges across homes, neighborhoods, and the grid.
- (3) **Secure, traceable trading via PSMM**, embedding data into power signals for interference-resistant transactions.

## Concept of energy router



- ◆ **Function:** Manage transmission and distribution of electricity to incorporate a large number of renewable energy resources in the smart grid.
- ◆ **Characteristic:** Efficient, Flexible, Stable

## Multi-port Energy Router

