

FLORIDA ENERGY SYSTEMS CONSORTIUM

RESEARCH SCOPE:

> PV ENERGY CONVERSION & INTEGRATION

Develop a Plug'N'Gen solar power architecture for: decentralized, low-cost, mass-produced, PV panel-mounted micro-inverters.

> PHEV ENERGY GENERATION & STORAGE

Develop & demonstrate a PV power generation architecture using PHEVs as the energy storage and transfer element

> WAVE POWER GENERATION

Analyze, design and demonstrate a wave power generation system with novel multi-functional energy converting devices

> PV MICRO-INVERTER DEVELOPMENT

Develop an integrated, decentralized, low-cost, mass-produced PV Plug'N'Gen AC modules and focus on commercialization.

It includes:

I. Packaging:

Integration & packaging of DC/DC & DC/AC stages
Magnetic components design and packaging

II. Control

Optimal pulse skipping techniques to improve light load efficiency
Decentralized VAR generation/ control algorithms

III. communications:

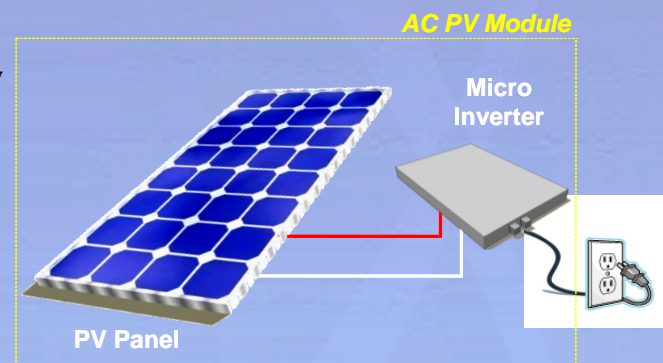
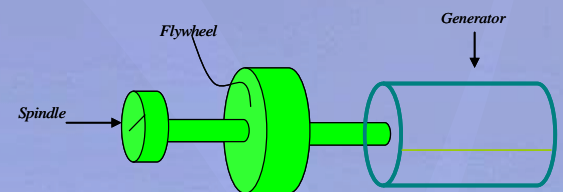
Wireless zigbee for large scale AC module networks

IV. architecture

Decentralized AC coupled solar micro storage systems

V. applications

Impact of distributed low voltage (secondary) VAR generation



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