



## Microgrid Grant Overview

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Board of Directors Meeting

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## ENERGISE

ENabling Extreme  
Real-time Grid  
Integration Of  
Solar Energy



**U.S. DEPARTMENT OF  
ENERGY**

## Objective

To develop distribution planning and operation solutions to enable dynamic, automated, and cost-effective management of distributed and variable generation sources, like solar, onto the grid.



Proposed Project Title:

Security Constrained  
Economic Optimization  
of PV and Other  
Distributed Assets



## Project Team



Advanced Microgrid Solutions

Project Lead &  
Microgrid Specialists



Software Intelligence



Grid Management  
Specialist



Host Utility

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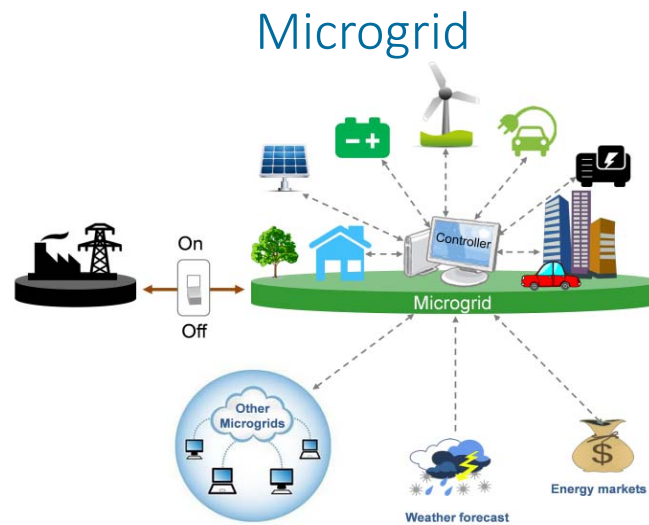
## Project Objectives

Build a microgrid as an intelligent network node,  
co-optimizing PV, storage, EV charging and  
building loads

Enhance grid system layer with real-time  
distribution system situational awareness and  
advanced analytics.

**Solution will enable cost effective integration of  
high penetrations of distributed PV in the  
power grids of the future, while meeting the  
objectives of reliability, resiliency and  
affordability.**





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A microgrid is a local energy grid with control capability, which means it can disconnect from the traditional grid and operate autonomously.



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## Project Setup

Proposed Location: Northwest Operations Center

Solar PV: 50 - 100kW

Battery Storage: 250kW/500kWh

Electric Vehicle Chargers: 2-4

Backup Generators

Gateway, micro-PMUs, and any other equipment  
needed

3-Year Project

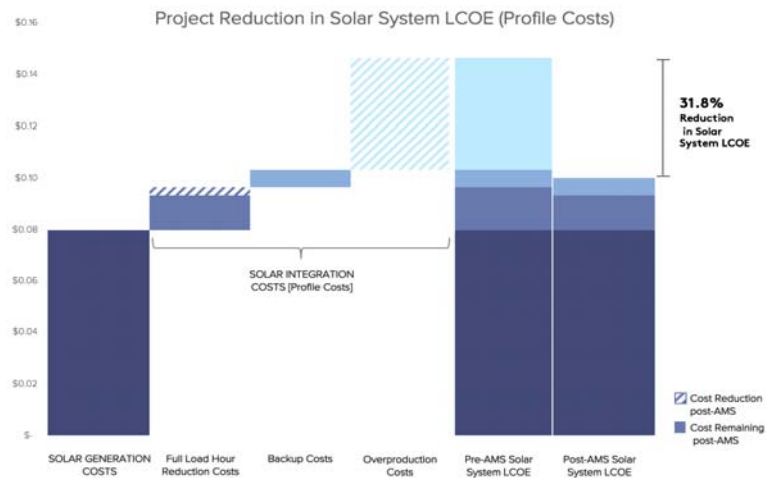


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## Cost Reduction Objectives



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## Project Costs

Total Project Cost: \$6,915,345

Federal funds: \$3,495,628

Cost-share: \$3,419,717

Equipment will be paid by the grant at no cost to PEC

PEC receives \$250,000 from the grant for staff time with no cost on any equipment installed

PEC will provide in-kind labor (staff time) in the amount of \$75,000



# Benefits to PEC

Energy generated from solar PV

Savings on Transmission Cost of Service and potential other revenue streams identified through the use of batteries

Installed equipment could benefit PEC in areas of energy efficiency, voltage optimization, energy management, etc

Learning experience and knowledge exchange

Ownership of equipment and monetizing benefits will be negotiated prior to project start ensuring no cost to PEC and provides benefits in revenue and grid operations



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