CHP eCatalog and Accelerator

Entropy Research LLC | Exergy Partners Corp | Analytical Energy Solutions
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Overview

Project Title:

Packaged CHP eCatalog and Accelerator

Timeline:

Project Start Date: 05/01/2017

Budget Period End Date: 12/31/2021

Project End Date: 12/31/2021

Barriers and Challenges:

- Develop an easy to use technical site balancing the needs of site energy engineers with the complexities of next generation Packaged CHP Systems
- Engaging the CHP Packaging community to submit technical data for inclusion into the eCatalog.
- Engaging key market actors (states, utilities and municipalities in using and promoting the eCatalog.

AMO MYPP Connection:

- Target 13.4: Support a 20% reduction in installed cost of commercially available, packaged (<10 MW) CHP systems (while maintaining >75% system efficiency at HHV).

Project Team and Roles:

- **Entropy Research LLC** – Coordination Lead for the Packaged CHP Accelerator and support for the eCatalog development, technical review of Packaged CHP systems and coordination with CHP Packagers, Installers, and Developers.
- **Exergy Partners Corp.** - Coordination Lead in eCatalog development. Overall responsible for eCatalog project development, technical review of Package CHP systems and coordination with CHP Packagers, Installers, and Developers, and support for the Packaged CHP Systems Accelerator.
- **Analytical Energy Solutions** – development of the eCatalog website and support for all eCatalog process flows.
- **ICF** – Program support for the Packaged CHP Accelerator
- **Lawrence Berkeley National Laboratory** – CHP Deployment Program Lead and oversight for eCatalog development and Packaged CHP Accelerator

CHP eCatalog and Accelerator

Problem Statement

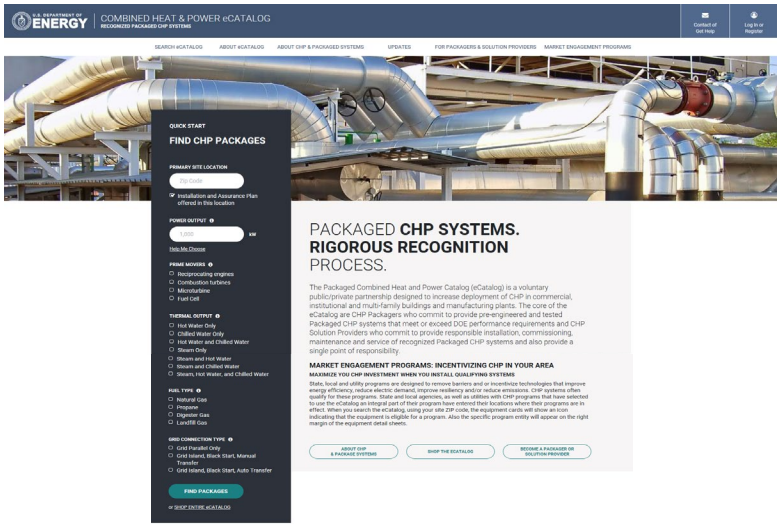
- CHP systems have traditionally been individually designed and engineered to meet specific requirements at the site, resulting in extended project timelines and additional cost.
- When treated as a unique solution, CHP is often viewed as a risky investment due to lack of comparable operating data needed by financers and project developers.
- A solution is the development of pre-packaged CHP systems that include standardized engineering design and verified performance data.
- Experience has shown that public/private partnerships can accelerate the development and market acceptance of packaged CHP solutions for commercial, institutional, multi-family and light industrial applications.

Objective

- Develop web-based catalog ("eCatalog") of pre-qualified DOE-recognized packaged systems that meet DOE technical specifications provided by vendors with demonstrated resources, warranties, and service agreements to ensure performance to design; supported by robust state and utility market engagement programs to promote the eCatalog and provide technical assistance to users navigating the project development process.

Technical Innovation

Web-based system to provide verified performance data on commercially available CHP packages to growing markets in commercial, institutional, multi-family and light industrial applications with little historical experience with CHP and limited technical resources



Basis

Based on the success of a New York State Research and Development Authority Packaged CHP catalog program, a properly designed and promoted national Packaged CHP system platform with broader focus would likely accelerate market acceptance of emerging packaged CHP systems.

Outcomes

Using market based web platform technology to efficiently review CHP system design and performance information, and provide an easy end-user experience, as well as an easy and efficient technical interface with CHP packagers.

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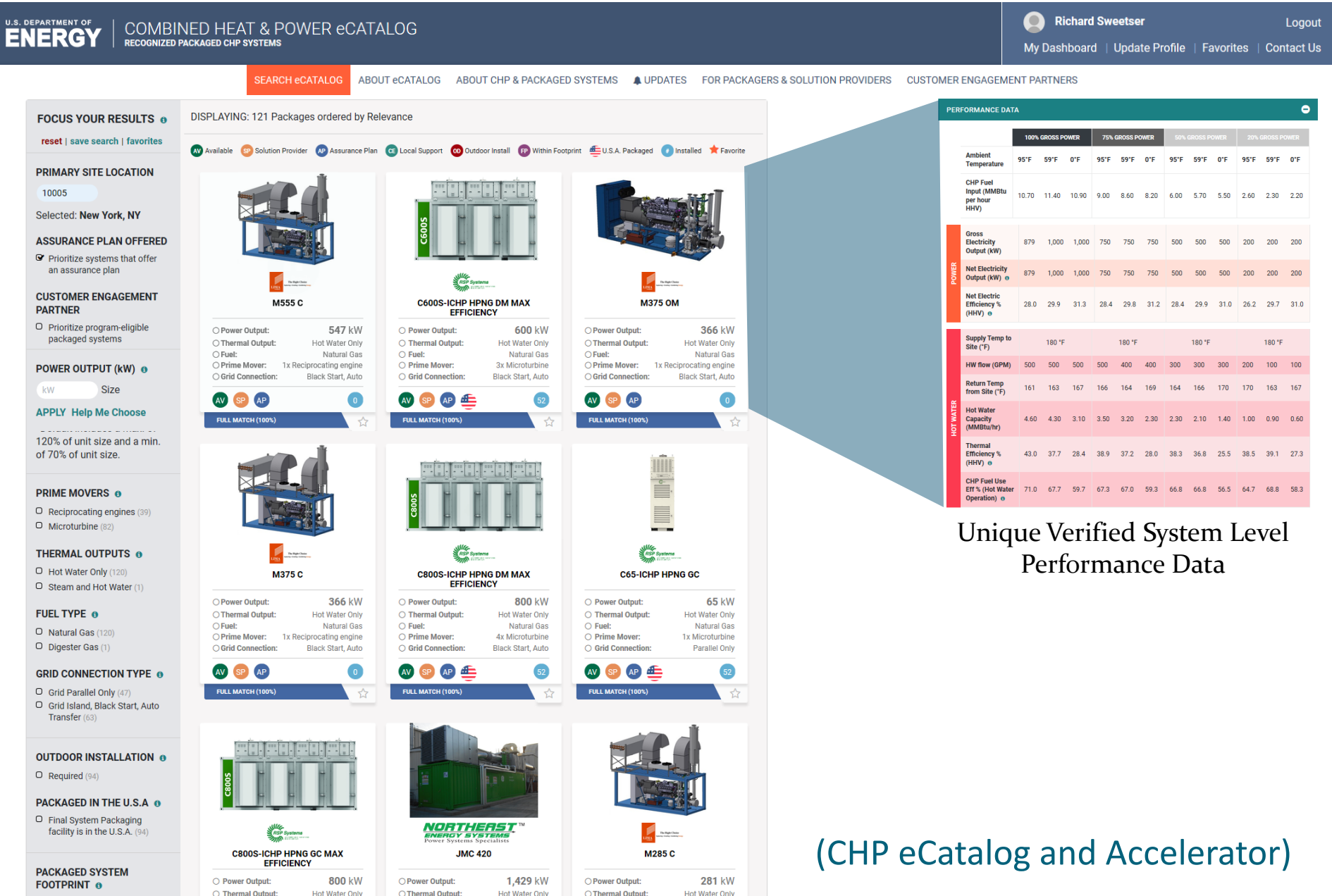
Technical Approach



Unique Verified System Level Performance Data

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Results and Accomplishments

2021 Goals:

25 CHP Vendor allies and over 100 pre-qualified, DOE-recognized packaged CHP systems and 15 Customer Engagement Partners (CEPs) in states, communities, or utilities.

Results:

- eCatalog version 1.0 release candidate launched April 1, 2019
- Results to date: 27 vendor allies and over 37 pre-qualified, DOE-recognized packaged CHP systems and 7 state, community, or utility CEPs.

Work to be completed:

- Expand vendor base to 50, expand CHP system size to 10 MW, add fuel cell prime movers, add combustion turbine prime movers, add waste heat to power applications, add site installation data.
- Develop CEP roadmaps in stakeholder locations.
- Launch eCatalog version 2.0

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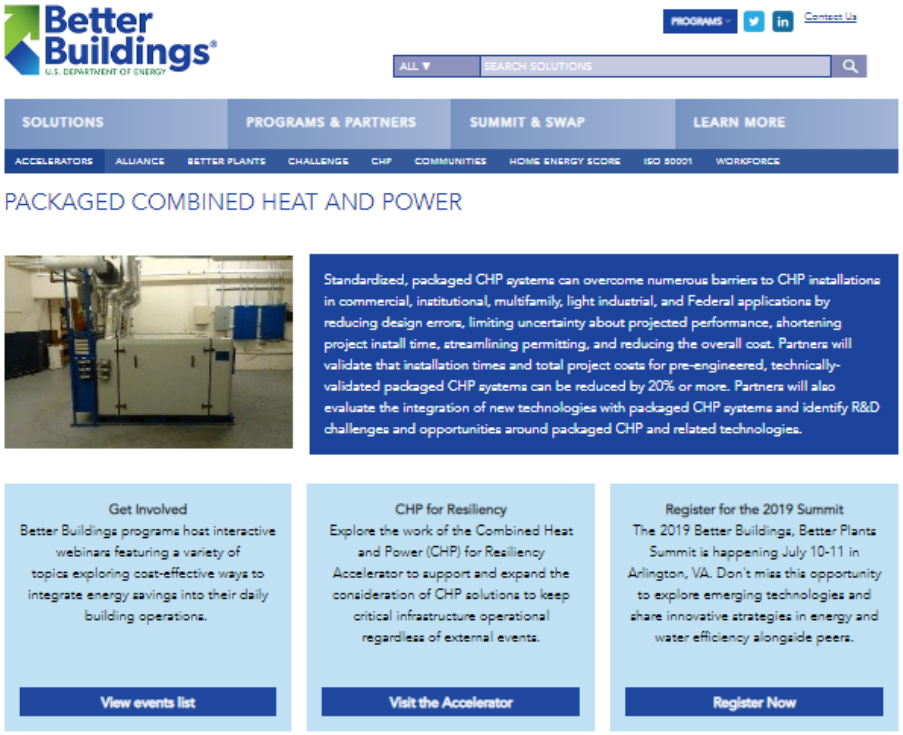
Transition

- Success is a robust Packaged CHP eCatalog actively used by the market and requiring modest updating and maintenance to accommodate new technologies and package innovations.
- Supported by the *Packaged CHP Accelerator,* consisting of 15 CHP Supplier (vendor) and 15 Customer Engagement Partners that form the core of the project's transition into the market and development of eCatalog version 2.0.
- Accelerator Engagement Partners promote the eCatalog to end users and design engineers, and integrate the eCatalog into state, local and utility CHP deployment programs.



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