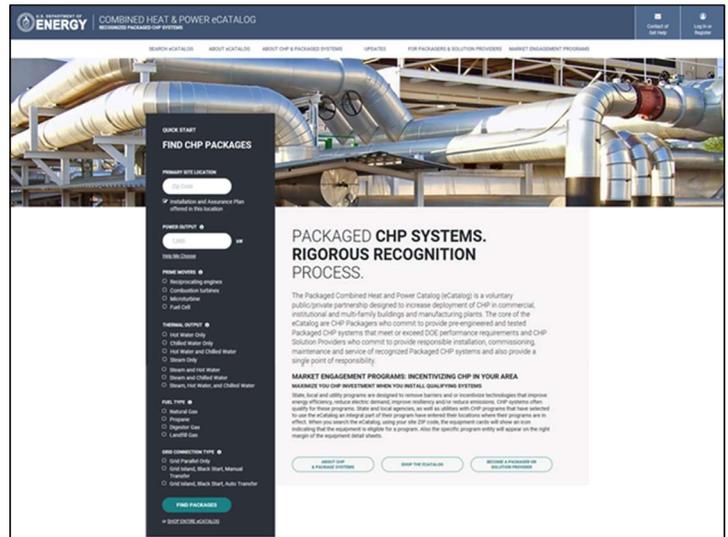


Introduction

The **Packaged Combined Heat and Power Catalog (eCatalog)** is a public-private partnership initiative designed to increase deployment of CHP in commercial, institutional, and multifamily buildings and manufacturing plants. The **eCatalog** functions as an open-source, web-based system that hosts U.S. Department of Energy (DOE)-recognized Packaged CHP Systems. The core of the **eCatalog** are **CHP Packagers**, who commit to provide pre-engineered and tested Packaged CHP Systems that meet or exceed DOE performance requirements, and **CHP Solution Providers**, who commit to provide responsible installation, commissioning, maintenance, and service of recognized Packaged CHP Systems and serve as a single point of responsibility for project execution, service, and warranties. **Customer Engagement Partners** (including state and local jurisdictions and utilities) support CHP deployment by linking their CHP outreach programs, support resources, and incentive programs to the **eCatalog**.



The **eCatalog** provides in-depth search capabilities that allow CHP users and consulting engineers to view the suite of available Packaged CHP Systems given a variety of site specifications and needs. After entering the facility zip code, users can screen the results based on system size (kW), prime mover (reciprocating engines, microturbines, gas turbines, or fuel cells), heat recovery (hot water, steam, cooling, or a combination), and other system attributes including fuel type, grid connection type, and physical size constraints. The **eCatalog** is focused on Packaged CHP Systems less than 10MW (individual system capacity) and will be routinely updated to add new packaged CHP systems, **Packagers**, and **Solution Providers**.

eCatalog Design and Capabilities

The **eCatalog** offers a variety of features for users readily available from the home page. The About page provides an understanding of the basic functions of the catalog as well as background information on CHP and packaged systems. The Search feature allows users to conduct a detailed packaged CHP system search. Enrollment information and requirements are available for **Packagers** and **Solution Providers** looking to enter the **eCatalog**.

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What is Packaged CHP?

In the past, CHP installations required customized engineering and design, with systems constructed at the user site. While this is still common practice, CHP technologies have become more established, and many manufacturers offer standardized, factory-built packaged CHP systems that eliminate many site-specific engineering requirements. Packaged CHP systems, upon delivery to the end-user site, include major components (prime mover, generator or inverter, heat recovery, switchgear, controls, and emissions controls) pre-packaged into single units or, for larger systems, modules. Packaged CHP system offerings currently range from 10kW to 2-3MW in size, with the concept expected to extend to larger systems over time. The development of Packaged CHP Systems can reduce design errors, limit uncertainty about projected performance, shorten project install time, streamline permitting, and reduce the overall cost of CHP installations.

Requirements for CHP Packagers and CHP Solutions Providers

The **eCatalog** is designed to remove installation barriers, lower project costs and installation times, and reduce the perceived risk of installing CHP by offering comparable standardization of CHP systems and service agreements. The DOE review and recognition process is designed to assure **eCatalog** users that recognized *Packagers* and *Solution Providers* meet the following requirements:

- *Packagers* are fully responsible for all aspects of design, engineering, assembly, and testing of Packaged CHP Systems, and may be an original equipment manufacturer, distributor, or any other entity that offers pre-engineered and tested Packaged CHP Systems that meet or exceed DOE requirements. To be recognized in the **eCatalog**, *Packagers* must have documented expertise in engineering, design, assembly, testing, and servicing of Packaged CHP systems, have suitable Packaged CHP System fabrication and assembly facilities, and demonstrate proven experience and capabilities to deliver Packaged CHP systems that can be easily installed, commissioned as expected, and deliver stated performance.
- *Solution Providers* are responsible for installation, commissioning, maintenance, and service of recognized Packaged CHP Systems, and must demonstrate the ability to fully support recognized systems and serve as a single point of responsibility for site integration, system installation, maintenance, and service nationwide or in specific areas of the country. *Solution Providers* are also required to offer a market-priced Assurance Plan in qualified service territories that provides service and maintenance, including planned and unplanned shutdowns, for a period of not less than five years. *Solution Providers* commit to delivering a response to unplanned shutdowns within 12 hours and maintain packaged system availability at or above 92% for reciprocating engines and 95% for gas turbines and microturbines.

Packaged CHP System Review

The review and recognition process for Packaged CHP Systems is designed to verify that the system design and performance meet DOE requirements. Full and part load performance data, system schematics and component details provide **eCatalog** users with enough performance and physical information to instill confidence in the packaged CHP system offerings. Detailed information on installation, commissioning and maintenance procedures, documentation of stated performance and emissions, and applicable certifications are required for DOE internal review. Each requested item is necessary to either convey to the **eCatalog** user the nature of the Packaged CHP System or provide the DOE reviewer with enough information to verify completeness of the system design and operability of the package.



For more information or to get involved, please contact the **eCatalog** at chp@ee.doe.gov.

Packaged CHP Accelerator

DOE's Packaged CHP Accelerator is designed to validate the installation and performance of recognized Packaged CHP Systems engineered and/or installed by Accelerator *CHP Supplier Partners* (**eCatalog** Packagers and Solution Providers). *CHP Engagement Partners* (utilities, federal agencies, states, and municipalities) commit to promote Packaged CHP Systems (via the **eCatalog**) to their customers, constituents, or members and to validate the performance and the benefits of packaged CHP in specific markets.

For more information, visit <https://betterbuildingsinitiative.energy.gov/accelerators/packaged-chp>