Introduction

The Packaged Combined Heat and Power (CHP) Catalog (eCatalog) is a public-private partnership designed to increase deployment of efficient CHP systems in commercial, institutional, and multifamily buildings and manufacturing plants. The eCatalog is a searchable web-based system that hosts commercially available Packaged CHP Systems recognized by the U.S. Department of Energy (DOE) to meet required performance standards. 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.

eCatalog Design and Capabilities

The eCatalog provides in-depth search capabilities that allows CHP users, consulting engineers, and government agencies to sort 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 key items such as system size (kW), fuel (natural gas/RNG, propane, digester gas, hydrogen blends, etc.), heat recovery (hot water, steam, cooling, or any combination), and other system attributes like prime mover type, grid connection type, and physical size constraints. The eCatalog is focused on Packaged CHP Systems less than 20 MW (individual system capacity) and will be routinely updated to add new packaged CHP systems, Packagers, and Solution Providers.

The eCatalog offers a variety of features for users that are readily available from the home page. The SITE GUIDE page provides an understanding of the basic functions of the catalog as well as background information on CHP and packaged systems. The SEARCH eCATALOG feature allows users to conduct a detailed packaged CHP system search yielding Packaged CHP Systems Overview Cards (see next page) that can be saved, compared, and downloaded (PDF and Excel).

What is Packaged CHP?

Packaged CHP Systems can incorporate a variety of CHP technologies, including reciprocating engines, microturbines, combustion turbines, and fuel cells. Instead of being defined by the type of prime mover, packaged systems are defined by their preinstalled components and turn-key functionality. Manufacturers design and build standardized systems that can be used in many different settings, rather than designing and engineering a new system for each location. These units are tested and preassembled, arriving skid mounted or containerized with standard installation requirements. Most containerized or single packaged CHP system offerings range from 10 kW to 3 MW. Modular pre-engineered systems are available in larger sizes. The eCatalog includes packaged systems from 24 kW up to 17 MW. 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.
Detailed Search Results

Click on a Packaged CHP System Overview Card (screenshot provided here) to reveal detailed technical information about that system, including verified CHP performance data only found in the eCatalog (see below), supplier contact information, utility or state energy office program information, and access to the DOE CHP Technical Assistance Partnership (CHP TAP) servicing the site ZIP code. All this information is at your fingertips and can be easily saved or downloaded.

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 system performance and service agreements. The DOE review and recognition process is designed to assure eCatalog users that recognized Packagers and Solution Providers have proven engineering, design, assembly, testing, and installation capabilities to provide Packaged CHP Systems that can be easily installed, commissioned as expected, and deliver stated performance. 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 the system design and operability of the package.

The CHP eCatalog Website: A CHP Packaged Systems Marketplace

The eCatalog provides single portal access to DOE CHP activities and information. The BENEFITS tab provides a quick understanding of CHP and Packaged CHP benefits today and into the future. The FINANCING tab describes common financing mechanisms to fund CHP projects. The RESOURCES tab contains a vast library of CHP case studies, database information, tools, technology fact sheets, presentations, and webinars. The PACKAGERS and SOLUTIONS PROVIDERS tabs detail roles and responsibilities, list recognized suppliers, filter operations by state, and provide access to descriptions and contact information for companies that provide recognized packaged CHP systems or services. The ENGAGEMENT PARTNERS tab lists utilities and state agencies with CHP programs and provides one-click access to key contacts and program information. The DOE SUPPORT - CHP TAPS tab showcases DOE CHP TAPS, coverage areas, and contact information. NEWS & EVENTS covers news that pertains to CHP design, application, economics, decarbonization, regulation, etc., and eCatalog partner news is specifically focused on suppliers recognized in the eCatalog. The EVENTS column lists upcoming educational webinars, conferences, and other events where interested parties can learn more about how CHP can meet their needs.

For more information or for directions on how to get involved, please contact us through the eCatalog’s SITE GUIDE messaging form at chp.ecatalog.lbl.gov/site-guide.