FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

November 7-8, 2019
Washington, DC

DOE's Packaged CHP eCatalog

Hosted by:

FEMP
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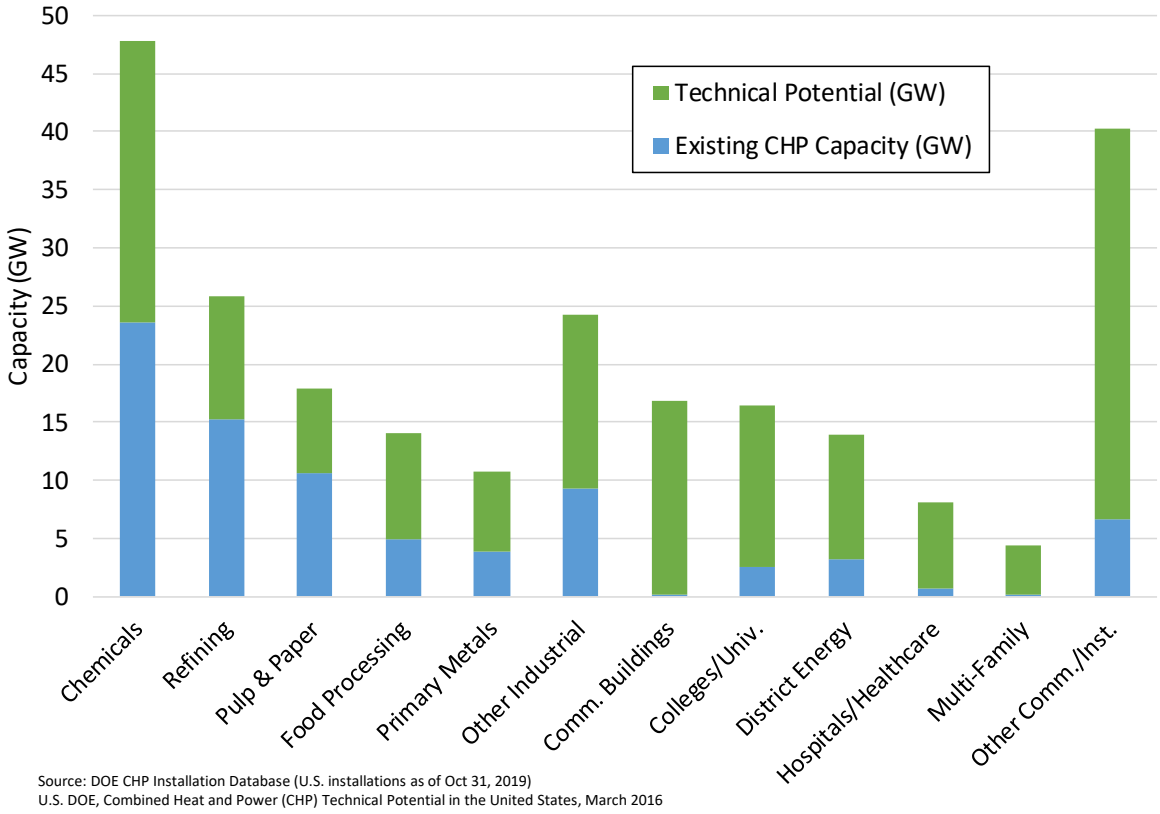
Non-Traditional CHP Markets Are Growing

- Large CHP potential in light manufacturing, commercial, institutional, government and military applications
- Markets utilize smaller systems (< 10MW)
- Markets have limited CHP experience
- Users have limited technical resources
- History of issues with system performance and with CHP sales and service support
- Many perceived risks by both users and suppliers



Source: DOE CHP Installation Database (U.S. installations as of Oct 31, 2019)
U.S. DOE, Combined Heat and Power (CHP) Technical Potential in the United States, March 2016

Non-traditional markets represent 35% of the capacity and 70% of the projects installed since 2008.

Challenges

- CHP viewed as a discretionary purchase
- Lack of user awareness / understanding
- Under-developed sales and service infrastructure
- Every installation is considered unique
- High soft costs
- End-user responsibility

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NYSERDA's CHP Program Evolution

CHP Demonstration Program
Goal: Diversity -- Broad Portfolio for Learning via Trailblazing Examples

CHP Performance Program
Goal: Further acquisition of grid load relief

Packaged CHP Catalog Program
Goal: Market Transformation via Standardization & Maturity

2000 2006 2012

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DOE eCatalog Builds on NYSERDA's Packaged CHP Program

- Realign the way CHP deals are transacted in the marketplace to:
  - Achieve genuine cost reductions
  - Increase consumer confidence
- Facilitate customer acquisition to reduce marketing / soft costs and early-stage project development
- Facilitate replicable project designs to reduce design errors, associated performance losses, and re-work expenses
- Reduce uncertainty for consumers and suppliers

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Specific Objectives of NYSERDA's CHP Program

- Educate the market on the benefits of CHP
- Prime the pump to grow market to scale
- Attract focus of world-class solution providers
- Coach customers to have mature expectations
- Groom a cadre of competent solution providers to be able to deliver
- Help the market learn how to reduce costs and capture alternative sources of market-based compensation (displacing need for subsidies)
- Provide consumer protection to ensure high-quality installations

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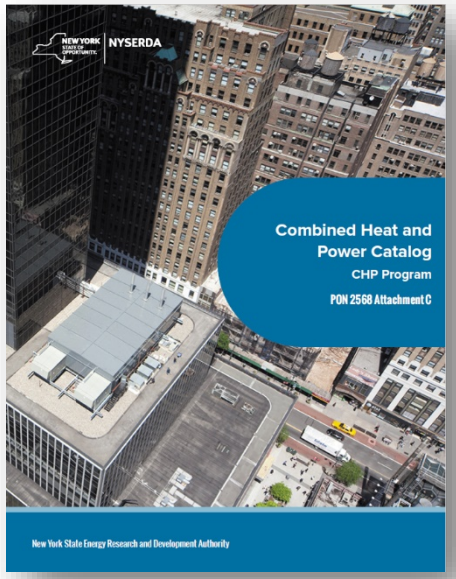
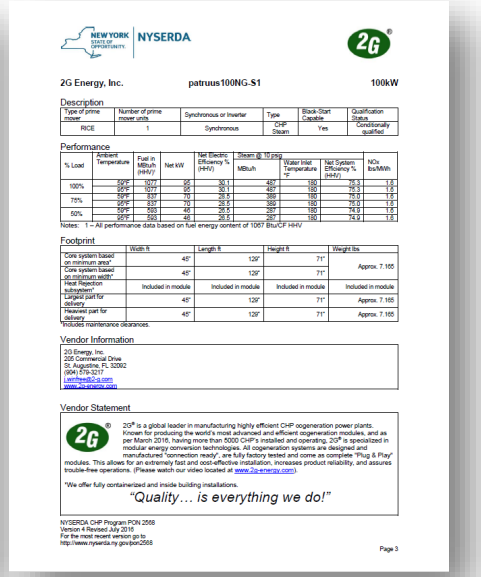
NYSERDA's Packaged CHP Catalog Program

NYSERDA Packaged CHP Catalog - Reduce perceived risk of installing and operating CHP by offering comparable standardization of CHP systems and field service agreements.

Approved CHP Vendor
NEW YORK STATE OF OPPORTUNITY. NYSERDA
For Pre-Engineered Systems





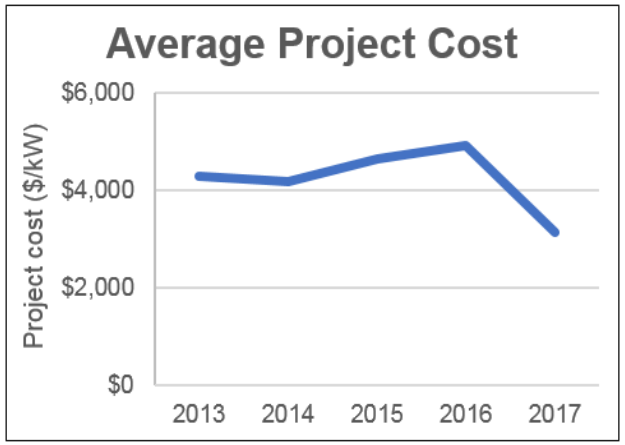
Source: NYSERDA CHP Catalog

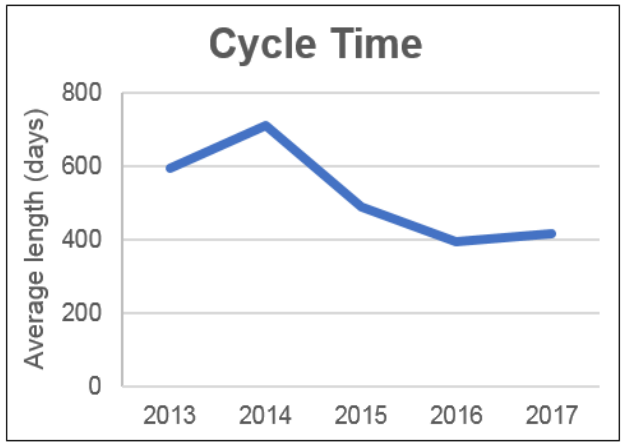
v1: 8 Vendors & 36 systems
v2: 10 Vendors & 64 systems
v3: 13 Vendors & 141 systems
v4: 22 Vendors & 219 systems
V5: 26 Vendors & 253 systems

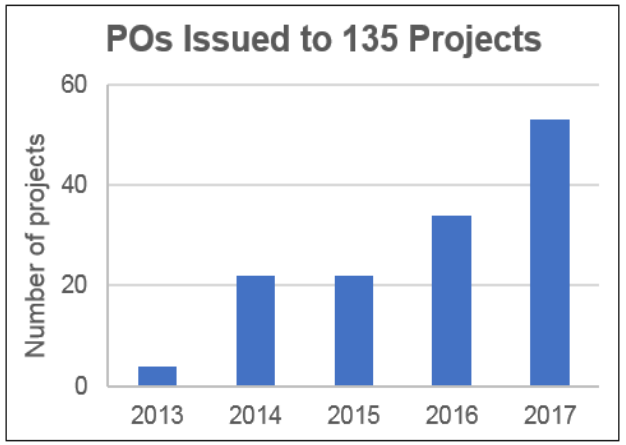
- Independent endorsement based on in-depth analytical review
- Single-point-responsibility as the basis for customer-vendor relationship
- Comparison shopping to promote competition and expand offerings

NYSERDA CHP Program Successes

- Commoditization of offerings and expansion of options
- Project cost reductions and time compression
- Increased program uptake
- Less dependent on subsidies (incentives ramping down over time)





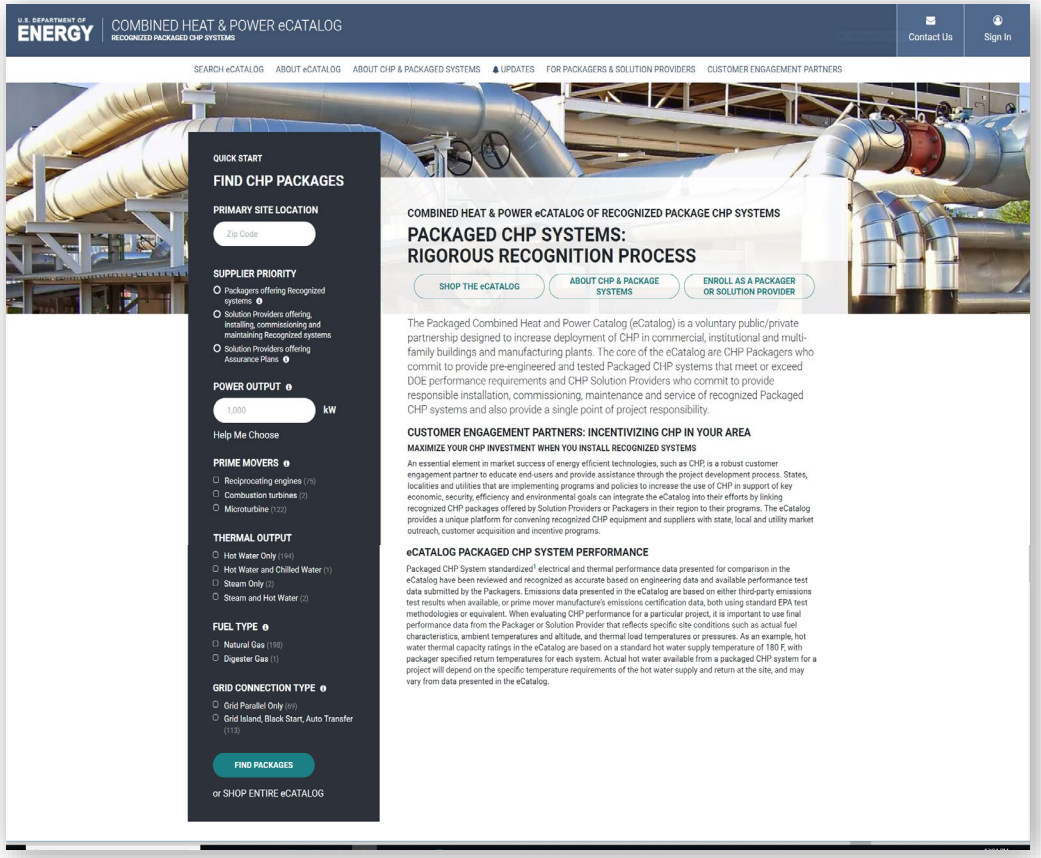


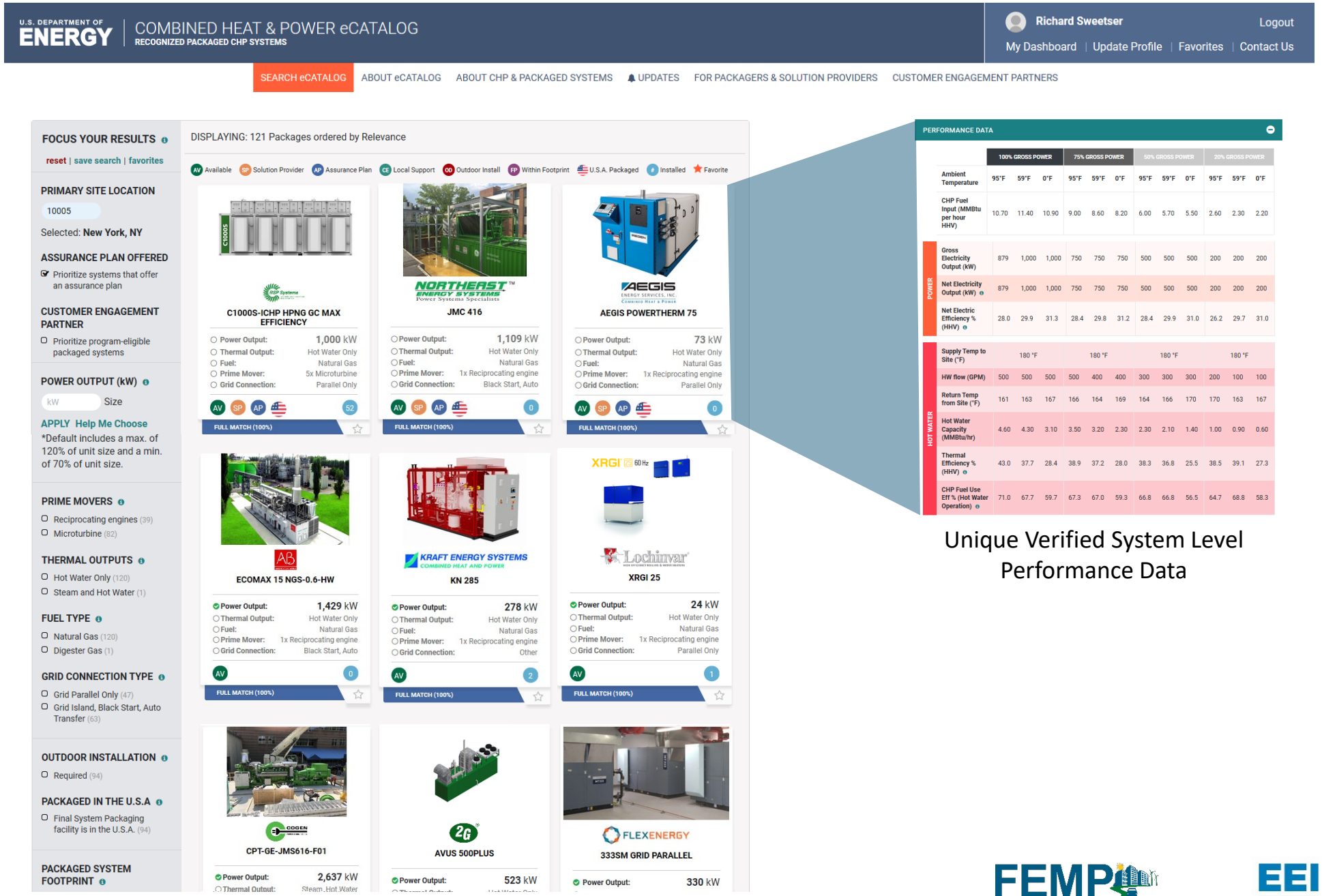
DOE Packaged CHP eCatalog

- **Reduce Risks for end-users and vendors** through a combination of a national web-based catalog (*eCatalog*) of DOE-recognized packaged systems and suppliers, and state/utility partners with CHP market engagement programs

- End-users and design engineers search for applicable CHP system characteristics, and get connected to packagers, installers and CHP engagement programs

- Allows users to compare technology options on a common basis





Unique Verified System Level Performance Data

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DOE Packaged CHP Accelerator

Better Buildings Accelerators *demonstrate, catalyze and validate innovative approaches to increase investment in efficient energy technologies.*

- A venue to populate and launch the Packaged CHP eCatalog – *success requires state/utility market engagement programs to promote CHP deployment, publicize the eCatalog, and provide technical and market assistance*
- *CHP Supplier Partners* – CHP system packagers and solution providers participating in the national *eCatalog* of packaged CHP systems
- *CHP Engagement Partners* – Utilities, federal agencies, states, cities or other market entities committed to promoting packaged CHP (via the *eCatalog*)

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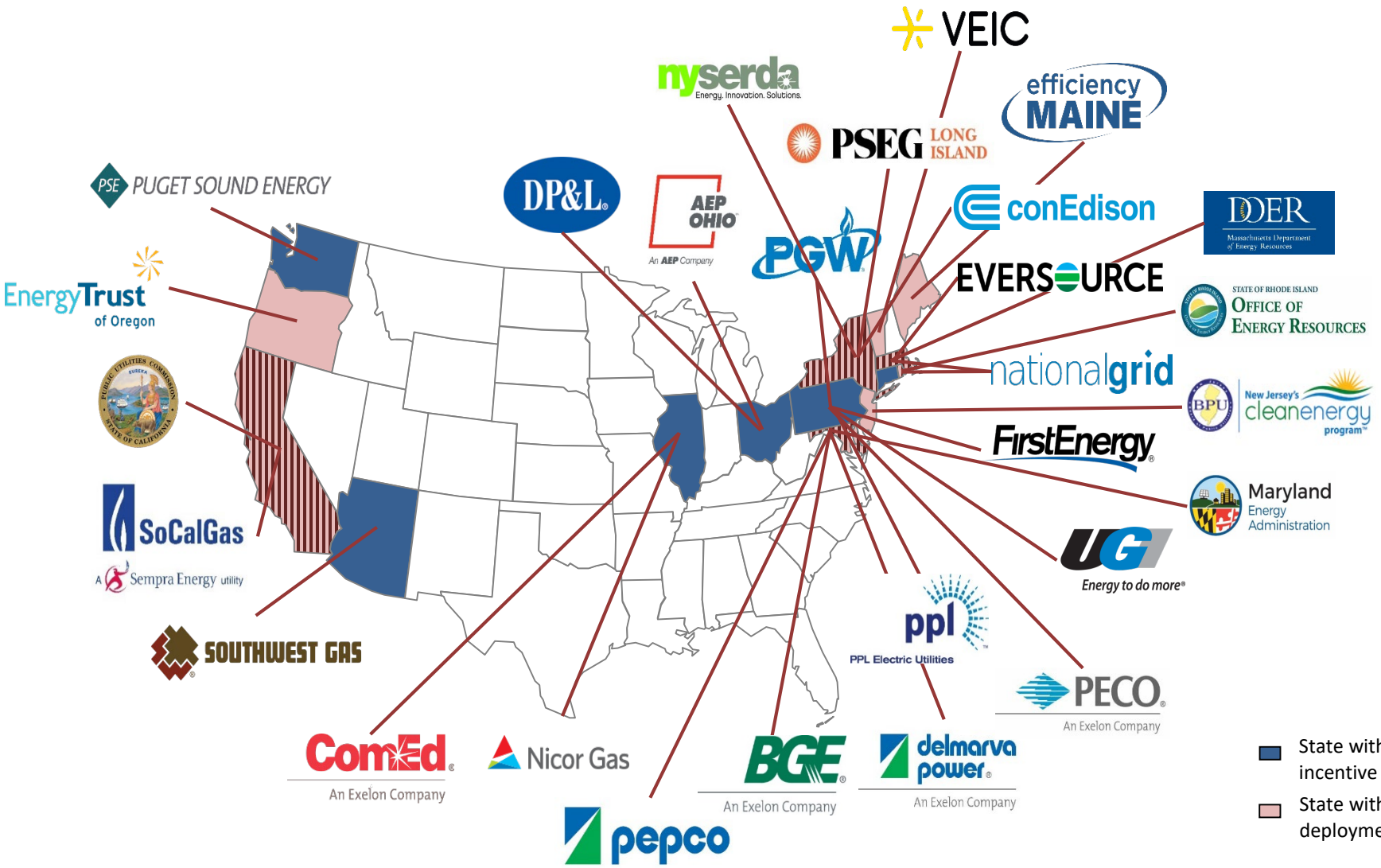
State and Utility CHP Programs are Growing



Questions

https://chp.ecatalog.lbl.gov/

https://betterbuildingsinitiative.energy.gov/accelerators/packaged-chp

Bruce Hedman, Coordinator, Packaged CHP Accelerator

bhedman.entropyresearch@gmail.com

202-251-0017

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