

# Division of Energy & Climate

## EEAC Update

on

### Energy Efficiency Industrial (E2I)

### Energy Efficiency Investment Fund (EEIF)



# Agenda

- E2I detailed overview
- EEIF brief overview
  - Guidelines
  - CHP
  - Participating Contractors



# What is E2I?

## Energy Efficiency Industrial

E2I is an energy efficiency program designed to support the unique needs and complex energy projects of Industrial and Large Commercial Businesses within Delmarva Power & Light (DPL) service territory



# What is E2I?

As a result of the DPL-Exelon merger agreement DNREC was provided \$8M to administer an industrial/commercial grant and loan program for

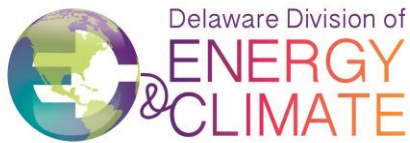
Delmarva customers (PSC Docket No. 14-193)



Gas Delivery Service Area  
(gas may not be available in all areas)



Electric  
Delivery  
Service Area



# Eligibility

Delmarva Power & Light Customers whose

Annual Energy  
Consumption

≥

10,000 MWh

OR

95,000 MMBtu



# Grant Structure: Custom

All amounts are based off of first year annual energy savings


- \$0.14/kWh
- \$5/MMBtu
- \$500-\$700/kW

		FIRST YEAR kWh REDUCTION OR INCREASE (ANNUAL)					
		SUMMER <sup>a</sup>		WINTER <sup>b</sup>			
PEAK ENERGY		kWh		kWh			
OFF-PEAK ENERGY		kWh		kWh			
		FIRST YEAR kW <sup>c</sup> REDUCTION OR INCREASE					
		JUNE	JULY	AUGUST	DECEMBER	JANUARY	FEBRUARY
AVERAGE PEAK							
NATURAL GAS REDUCTION OR INCREASE				MMBtu			

# Grant Structure: Prescriptive


Only lighting is available prescriptively.

Savings from lighting improvements must be independently accounted for and not included in custom application.



**Delaware Energy Efficiency Industrial  
Prescriptive Grant Application**

DNREC Division of Energy and Climate  
100 West Water Street, Suite 5A, Dover, DE 19904 Phone: (302) 735 - 3480



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**LIGHTING APPLICATION**

**Applicant Name:** \_\_\_\_\_ **Control Number:** \_\_\_\_\_

**General Requirements**  
These lamps should be applied in accordance with national best practices in lighting design such as IESNA Recommended Practices and lighting power densities prescribed by local and state building codes.

**High Performance T8 (HPT8) Linear Fluorescent System:** To be eligible for rebates, all T8 lamps and ballasts must be HPT8 and listed on the Consortium for Energy Efficiency's (CEE) Qualifying Products List available at <http://library.cee1.org/content/commercial-lighting-qualifying-products-lists>.

Description	Specification	Rebate per Fixture
Relamp / Reballast to HPT8	Must use low ballast factor Must be an upgrade of an existing T8 or T12	\$5
New HPT8 Fixture	Must use low ballast factor Includes any HPT8 fixture type	\$5
New or Retrofit 2-Lamp HPT8 High Efficiency Troffer Fixture	Must use low ballast factor Fixture efficiency must be 80% of greater	\$15
New HPT8 High Bay Fixture	Must use low ballast factor Fixture efficiency must be 85% or greater	\$25

**T5 Linear Fluorescent Systems**

Description	Specification	Rebate per Fixture
New T-5 Fixture	Includes any T5 fixture type	\$5
New or Retrofit 2-lamp T5 High Efficiency Troffer Fixture	Fixture efficiency must be 85% or greater	\$15
New T5HO High Bay Fixture	Fixture efficiency must be 90% or greater	\$30

**Interior LED Lighting**

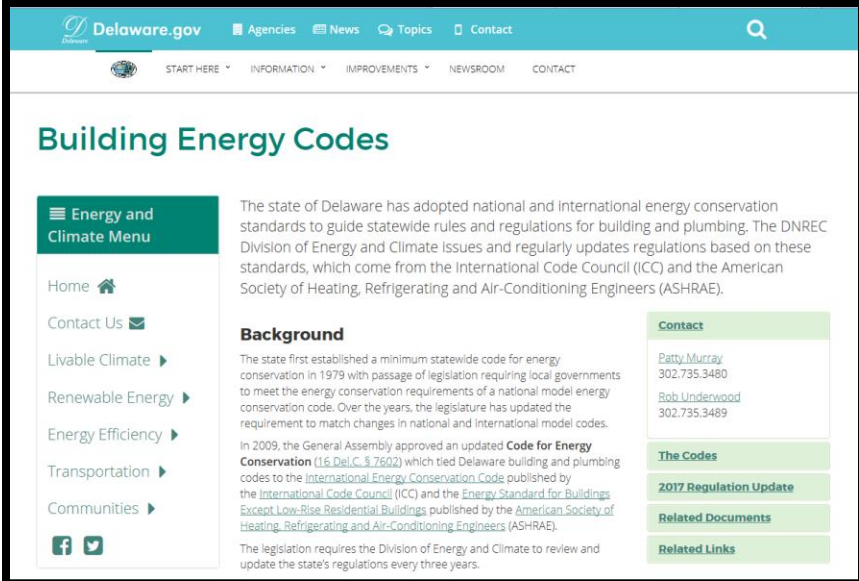
Description	Specification	Rebate per Fixture
LED Linear Lamp	Must be DesignLights Consortium qualified <a href="http://www.designlights.org/QPL">http://www.designlights.org/QPL</a>	\$8
LED Screw-based lamps	Must be ENERGY STAR qualified <a href="http://www.energystar.gov/productfinder/product/">http://www.energystar.gov/productfinder/product/</a>	\$7
Recessed and Surface/ Pendant-mounted Downlight Fixtures	Must be ENERGY STAR qualified <a href="http://www.energystar.gov/productfinder/product/">http://www.energystar.gov/productfinder/product/</a>	\$20
Track Lighting Fixtures	Must be DesignLights Consortium qualified	\$30 per head
Refrigerated Case Fixtures	Must be DesignLights Consortium qualified	\$10 per foot
Freezer Case Fixtures	Must be DesignLights Consortium qualified	\$10 per foot
Display Case Fixtures	Must be DesignLights Consortium qualified	\$10 per foot
1'X4' LED Troffer or Panel Ambient Light Fixtures	Must be DesignLights Consortium qualified	\$40
2'X2' LED Troffer or Panel Ambient Light Fixtures	Must be DesignLights Consortium qualified	\$40
2'X4' LED Troffer or Panel Ambient Light Fixtures	Must be DesignLights Consortium qualified	\$40
High- and Low-Bay Fixtures	Must be DesignLights Consortium qualified	\$100



# Program Structure

Only savings achieved above minimum building energy codes will be paid

[de.gov/energycodes](http://de.gov/energycodes)



The screenshot shows the Delaware.gov website page for Building Energy Codes. The page features a teal header with navigation links for Agencies, News, Topics, and Contact. Below the header is a secondary navigation bar with links for START HERE, INFORMATION, IMPROVEMENTS, NEWSROOM, and CONTACT. The main content area is titled "Building Energy Codes" and includes a left-hand menu for the Energy and Climate Menu, which lists Home, Contact Us, Livable Climate, Renewable Energy, Energy Efficiency, Transportation, and Communities. The main text area provides an overview of the state's energy conservation standards, a background section detailing the history of the code, and a contact section with the name and phone number of Patty Murray. There are also links for The Codes, 2017 Regulation Update, Related Documents, and Related Links.



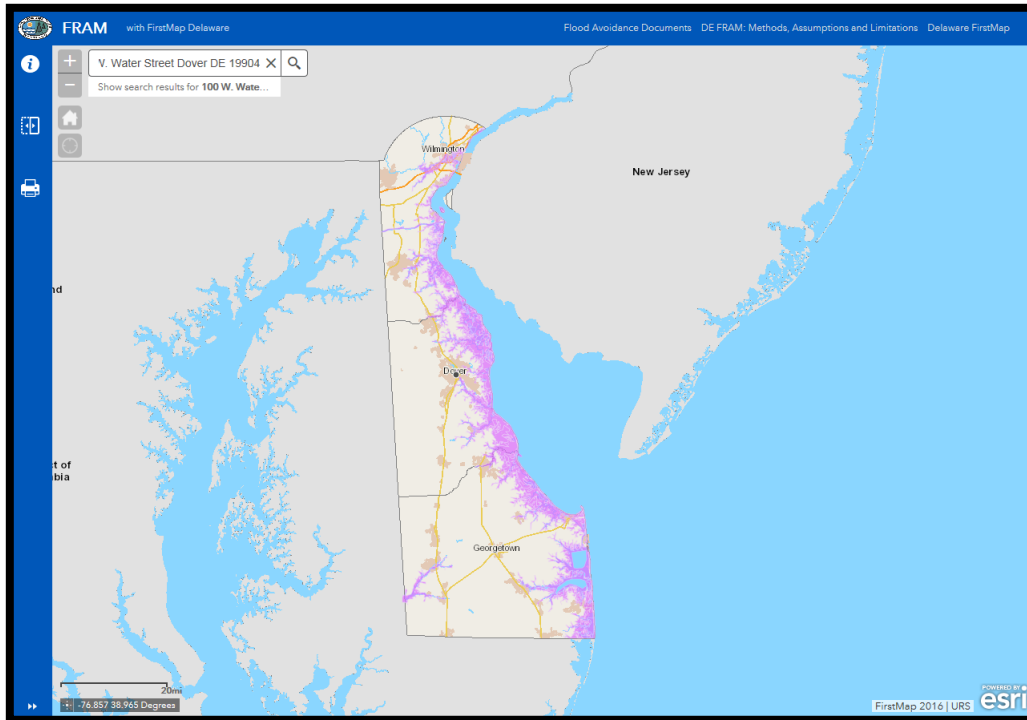


# Installations must be designed to avoid impacts from:

## Flood Risk Adaptation Map (FRAM)

1) Flooding

2) Future sea-level rise



[www.firstmap.delaware.gov/FRAM](http://www.firstmap.delaware.gov/FRAM)

- ❖ Applicants should utilize the FRAM to determine if they are within the one-hundred year, one-meter, sea-level rise flood plan
- ❖ If applicants are within this area – they must submit a flood mitigation plan with application



# Requirements

- Must include draft Measurement & Verification (M&V) plan with application
- M&V plan must be International Performance Measurement & Verification Protocol (IPMVP) compliant
- Applicant must retain a Professional Engineer (P.E.) on their project team
- Project must be a recommission – new construction is not eligible at this time

The screenshot shows the EVO website homepage. At the top is the EVO logo and navigation menu. Below is a banner with the text "SHAPE M&V policy by serving on relevant committees". The main content area is divided into three columns: "TRAINING PARTNERS' NEWS" featuring a photo of a panel discussion and an article about an intensive learning session; "20 YEARS OF M&V IPMVP PROTOCOL DEVELOPMENT 1997-2017" with a globe graphic and a "CORE CONCEPTS" document cover; and "LATEST NEWS" with two news items about a new chair and a new organizational supporter. At the bottom right is a "TRAINING CALENDAR" for October 2017.

**TRAINING PARTNERS' NEWS**

**EVO'S INTENSIVE LEARNING SESSION AT EE GLOBAL**

On May 9 2017, EVO organized an Intensive Learning Session during EE Global in Washington. From the left, Tom Dressens, Chairman of EVO made a presentation on global M&V gap followed by Pierre Langlois, EVO's Vice-Chair, who presented the concept of M&V and provided an introduction to IPMVP. Next in the picture is Steve Kukoda, Executive Director of the International Copper Association, who kindly accepted to moderate the panel. Finally, Kevin Warren, a member of EVO's IPMVP Committee discussed the use of M&V within utility programs.

**20 YEARS OF M&V IPMVP PROTOCOL DEVELOPMENT 1997-2017**

**CORE CONCEPTS**  
INTERNATIONAL PERFORMANCE MEASUREMENT AND VERIFICATION PROTOCOL  
October 2017  
10/20/2017

**LATEST NEWS**

**New Chair for EVO's Extended Training Committee**  
EVO is pleased to announce that Mr Bruce Rowse of Australia, has accepted to chair the Extended Training Committee (ETC). Mr Rowse provides consulting and M&V training services to renewable...

**EVO Welcomes a New Organizational Supporter: RSB for Electricity & Water, Government of Dubai**  
EVO is pleased to announce that the Regulatory & Supervisory Bureau for Electricity & Water of the Government of Dubai has recently joined the select group of EVO's organizational supporters.

**TRAINING CALENDAR**

October 2017

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4



# Questions?

[de.gov/E2I](http://de.gov/E2I)

Applications available  
November 6, 2017



# Energy Efficiency Investment Fund

EEIF

## Program Updates and Additional Pathways



The screenshot shows the Delaware.gov website page for the Energy Efficiency Investment Fund. The page features a teal header with navigation links for Agencies, News, Topics, and Contact. Below the header is a secondary navigation bar with links for START HERE, INFORMATION, IMPROVEMENTS, NEWSROOM, and CONTACT. The main content area is titled "Energy Efficiency Investment Fund" and includes a sidebar menu for "Energy and Climate Menu" with links to Home, Contact Us, Livable Climate, Renewable Energy, Energy Efficiency, Transportation, and Communities. The main text describes the fund's purpose and provides contact information for Emily St. Clair, including her phone number and links to program guidelines and an annual report. A "Participating Contractors" section mentions a list of contractors and an application deadline of Nov. 6, 2017. At the bottom, there are four buttons for "Energy Assessments", "Prescriptive Grants", "Custom Grants", and "Combined Heat & Power".

**Energy and Climate Menu**

- Home
- Contact Us
- Livable Climate
- Renewable Energy
- Energy Efficiency
- Transportation
- Communities

**Energy Efficiency Investment Fund**

The Department of Natural Resources and Environmental Control (DNREC) provides grants through the Energy Efficiency Investment Fund (EEIF) to help commercial and industrial customers replace aging, inefficient equipment and systems with energy efficient alternatives.

Improving the energy efficiency of a business helps to decrease operating costs, reduce energy consumption, and improve environmental performance. Support from the Energy Efficiency Investment Fund is available to perform energy assessments, to take widely recognized (Prescriptive) improvement steps, and to implement custom, site-specific improvements.

To receive periodic updates on the Energy Efficiency Investment Fund, send an email to [DNREC.EnergyEEIF@state.de.us](mailto:DNREC.EnergyEEIF@state.de.us).

**Participating Contractors**

DNREC will publish a list of participating contractors familiar with the Energy Efficiency Investment Fund approval process and capable of installing eligible measures. Companies interested in becoming [participating contractors](#) may apply starting **Nov. 6, 2017**.

**Contact**

[Emily St. Clair](#)  
302.735.3366

[Program Guidelines and Operational Procedures](#)

[Energy Efficiency Investment Fund Annual Report \(2017\)](#)

[Energy Assessments](#)   [Prescriptive Grants](#)   [Custom Grants](#)   [Combined Heat & Power](#)



# Updates

Our Program Guidelines  
and Operational  
Procedures have been  
updated

Be sure to read them!

[de.gov/eeif](http://de.gov/eeif)

Delaware Energy Efficiency Investment Fund

Program Guidelines and  
Operational Procedures

Version 2017.1

Effective November 2017



# Program Overview

## Pathways

### Assessment

Help facilities receive technical evaluations for appropriate cost-effective energy efficiency improvements specific to each building's needs

**Types of Applications:**

- single purpose (targeted) energy audits
- comprehensive energy audits

### Prescriptive

Pre-determined measures based upon industry standards.

**Types of Applications:**

- prescriptive lighting
- vending misers
- natural gas heating and water heating equipment

### Custom

“Catch-All” for innovative energy projects.

**Examples:**

- Building Envelope
- Chillers/Boilers
- Energy Management Systems
- Pumping Systems
- Demand Control Ventilation

### Combined Heat & Power

Ideal for facilities with high annual hours of operation and a high thermal load. There are five types of eligible systems.

**Types of Systems:**

- Microturbines
- Reciprocating engines
- Gas Turbines
- Steam turbines
- Fuel Cells

# Program Overview

## Pathways

### Assessment

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### Pre

- ...
- ...
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... for ... energy

**Examples:**

- Building Envelope
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### Combined Heat & Power

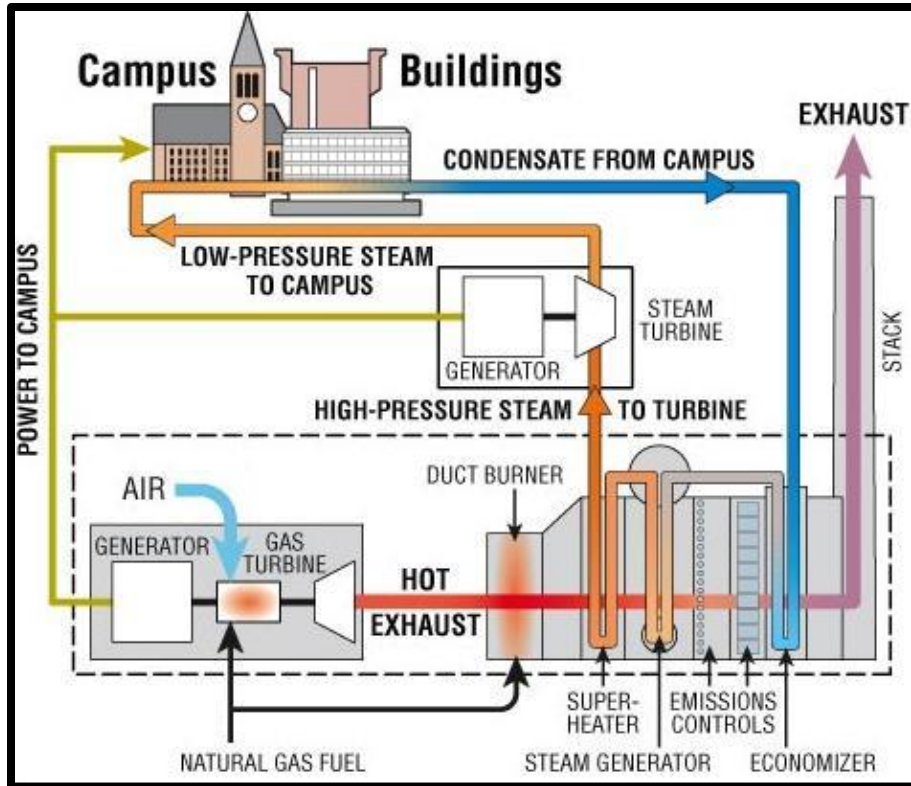
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- Microturbines
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**NEW!**

# Combined Heat & Power (CHP)



- Provides greater energy efficiency to facilities with high annual hours of operation
- Reduces energy operating costs
- Provides greater energy resiliency
- Reduces Greenhouse Gas Emissions
- Limits new demands on electricity grid



# System Requirements

- Must be driven by one of the five:
  - Reciprocating Engine
  - Microturbine
  - Steam Turbine
  - Gas Turbine
  - Fuel Cell



# System Requirements

- New
- Permanently Installed
- Minimum full 3-year warranty
- Minimum System Efficiency Level of 60% on an annual basis
- Minimum 1.0 MMBtu/hour of useful thermal output

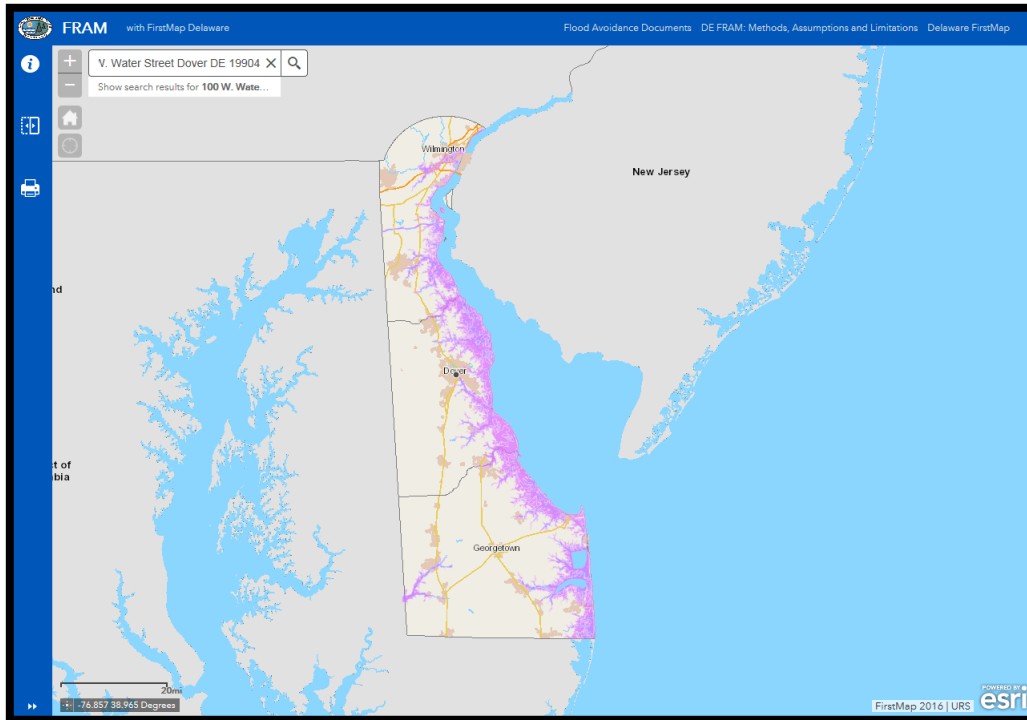


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# Additional Eligibility

- Expansions to existing systems will only be paid for the incremental increase
- Where Third Party Power Purchase Agreements are involved, applicants must provide the fully executed PPA with application documents



# Grant Structure

***\$500/kW of installed system size***

Up to 30% of Total Project Costs

Grants above \$500,000 will not be awarded without  
Division Director Signature



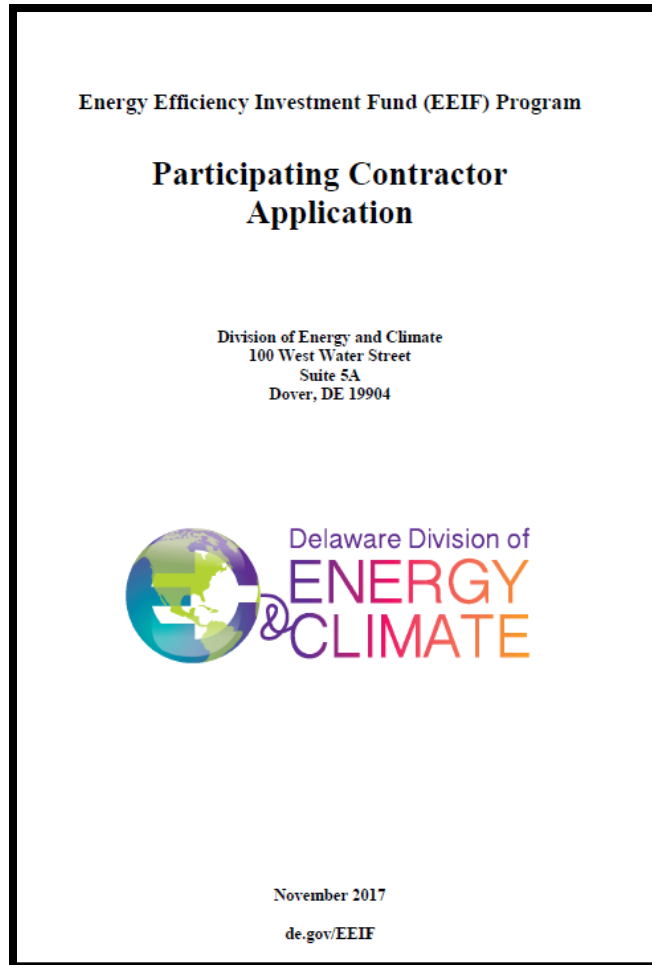
# CHP Pathway Questions?

[de.gov/eeif](http://de.gov/eeif)

Applications available  
November 6, 2017



# Participating Contractors List



Contractors who install eligible measures under the EEIF program may apply to be identified on the EEIF website as retaining the required documentation



# Participating Contractors List

## What does this do?

- ✓ Benefits potential applicants seeking a contractor
- ✓ Gives potential applicants a starting point
- ✓ Allows DNREC planners to direct inquiries to list of contractors identified
- ✓ Organizes identified contractors by specialty



## What does this NOT do?

- ❖ Give any contractors/businesses on list any endorsement from DNREC
- ❖ Preclude eligibility for contractors not identified that have the documentation required by the program





# Are there any questions?



# Thank you!

## Division of Energy & Climate

Department of Natural Resources and  
Environmental Control

[de.gov/energyclimate](http://de.gov/energyclimate)

302-735-3480

facebook.com/energyclimatede

@energyclimatede

## EEIF Program

[de.gov/eeif](http://de.gov/eeif)

Emily St. Clair, CMVP

Energy Planner III

DNREC Division of Energy & Climate

[Emily.StClair@state.de.us](mailto:Emily.StClair@state.de.us)

302-735-3366

## E2I Program

[de.gov/e2i](http://de.gov/e2i)

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DNREC Division of Energy & Climate

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302-735-3366

## EEIF Program – CHP Pathway

[de.gov/eeif](http://de.gov/eeif)

Felicity Laird

Energy Planner II

DNREC Division of Energy & Climate

[Felicity.Laird@state.de.us](mailto:Felicity.Laird@state.de.us)

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