



LARRY HOGAN  
*Governor*

BOYD K. RUTHERFORD  
*Lt. Governor*

KENNETH C. HOLT  
*Secretary*

TONY REED  
*Deputy Secretary*

June 27, 2018

**The Honorable Larry Hogan**  
State House  
100 State Circle  
Annapolis, Maryland 21401

**The Honorable Thomas V. "Mike" Miller, Jr.**  
President  
Senate of Maryland  
State House, H-107  
Annapolis MD 21401

**The Honorable Michael E. Busch**  
Speaker  
Maryland House of Delegates  
State House, H-101  
Annapolis MD 21401

Re: Report required by Environment Article § 2-1305(c)

Gentlemen:

Please see the CY16 and CY17 Green House Gas Annual Reports for the Department of Housing and Community Development. These reports are in compliance with Environment Article § 2-1305(c).

Sincerely,

Joseph R. Seehusen

**cc: Sarah Albert, Department of Legislative Services (5 copies)**





LARRY HOGAN  
*Governor*

BOYD K. RUTHERFORD  
*Lt. Governor*

KENNETH C. HOLT  
*Secretary*

December 19, 2016

The Honorable Larry Hogan  
State House  
100 State Circle  
Annapolis, Maryland 21401

Governor Hogan:

On behalf of the Maryland Department of Housing and Community Development, I am pleased to submit the 2016 Annual State Agency Report for the Maryland Department of Housing and Community Development developed in accordance with the State Environment Article §2-1305, as defined in House Bill 514 Chapter 429, 2015. This status of programs annual requirement under the law that governs the Maryland Commission on Climate Change asks that numerous state agencies submit annual reports on progress surrounding the implementation of climate change programs to both the Governor and the Commission. This report details the results of the efforts for CY 2015 reductions.

Sincerely,

Kenneth C. Holt  
Secretary

Enclosure

KCH/tw

OFFICE OF THE SECRETARY  
MARYLAND DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
7800 HARKINS ROAD, LANHAM, MD 20706  
301-429-7461, TOLL-FREE 800-756-0119, FAX 240-334-4732





LARRY HOGAN  
*Governor*

BOYD K. RUTHERFORD  
*Lt. Governor*

KENNETH C. HOLT  
*Secretary*

December 19, 2016

Maryland Commission on Climate Change  
C/O Maryland Department of the Environment  
Ben Grumbles, Secretary  
1800 Washington Blvd.  
Baltimore MD. 21230

Chairman Grumbles:

On behalf of the Maryland Department of Housing and Community Development, I am pleased to submit the 2016 Annual State Agency Report for the Maryland Department of Housing and Community Development developed in accordance with the State Environment Article §2-1305, as defined in House Bill 514 Chapter 429,2015 . This status of programs annual requirement under the law that governs the Maryland Commission on Climate Change asks that numerous state agencies submit annual reports on progress surrounding the implementation of climate change programs to both the Governor and the Commission. This report details the results of the efforts for CY 2015 reductions.

Sincerely,

Kenneth C. Holt  
Secretary

Enclosure

KCH/tw





LARRY HOGAN  
*Governor*

BOYD K. RUTHERFORD  
*Lt. Governor*

KENNETH C. HOLT  
*Secretary*

**Department of Housing and Community Development**  
**2015 Status of Programs Annual State Agency Annual Report**  
**Efforts to Support Green House Reduction or Address Climate Change**

This report is pursuant to State Government Article §2-1305, as defined in House Bill 514 Chapter 429, 2015

**Program Description**

The Maryland Department of Housing and Community Development Housing and Building Energy Programs Division (the Division) manages a portfolio of energy conservation and retrofit programs that reduce energy costs and address critical health and safety hazards for low-income Maryland residents. These programs also directly reduce greenhouse gas emissions through efficiency.

The Division's programs have a core goal of energy reduction aimed at those that do not have financial resources for a conventional loan or other capital for improvements. These programs include:

- **The Weatherization Assistance Program**, implemented by the Department of Housing and Community Development's Housing and Building Energy Programs, helps eligible low income households across the State of Maryland with the installation of energy conservation measures in their home. These measures reduce the consumption of energy, greenhouse gas emissions and the cost of maintenance for these homes. Funding is provided by the U.S. Department of Energy, Low Income Home Energy Assistance Program, and the Strategic Energy Investment Fund.
- **The EmPOWER Low Income Energy Efficiency Program and the Multifamily Energy Efficiency and Housing Affordability Program** help low income households with installation of energy conservation measures in their homes. Funding is provided by ratepayers of the five (5) participating EmPOWER Maryland utility companies. These funds are regulated by the Public Service Commission.
- **The Targeted and Enhanced Weatherization Program** combines typical weatherization improvements with measures that reduce health and safety risks in the home. This program for low income homeowners in the Baltimore Gas & Electric territory outside of Baltimore City is funded through the Customer Investment Fund created during the merger of Constellation and Exelon.
- **The Improved Efficiency for Affordable Multifamily Housing Program** is also funded through the Customer Investment Fund and it covers the costs of energy conservation measures for multifamily projects in the Baltimore Gas & Electric territory that serve low income communities.
- **The BeSMART Home Loan Program** offers innovative financing to homeowners across the state for energy efficiency replacement and/or upgrade of appliances, heating, cooling and ventilation systems and whole house envelope improvements.
- The Division also receives enhancement to implementation of the US Department of Energy Weatherization Assistance Program from revenue generated from the Regional Greenhouse Gas Initiative Program.

- The Department of Housing and Community Development is a lead agency tracking the impacts of Maryland's state building codes. These codes have a significant contribution to reducing greenhouse gas emissions.

### **Program Objectives**

Under these programs, the Division provides grants and low cost loans with flexible terms for the purchase and installation of energy efficiency improvements in single family and affordable multifamily rental housing developments. The program is being undertaken as part of the State's efforts to:

1. reduce the energy burden on Marylanders
2. reduce greenhouse gas emissions
3. promote energy efficiency and renewable energy sources
4. provide a healthier environment in which to live
5. create and preserve affordable rental housing opportunities
6. create jobs
7. foster business development and sustainable mortgages by reducing the energy burden on residents and property owners

### **Implementation Milestones**

The goal of the Division's programs is to reach eligible residents. In calendar year 2015, the Division served 4,695 households.

The 2015 Greenhouse Gas Emissions Reduction Act Plan Update published October 2015 stated that these programs could reduce 0.02 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) in 2020. This is twice the reduction realized in calendar year 2015.

### **Estimated Emission Reductions for CY 2015**

In calendar year 2015, the Division's energy programs alone reduced greenhouse gas emissions in the state by 0.007 million metric tons of carbon dioxide equivalent (MMtCO<sub>2</sub>e). This value is based on projects funded in the calendar year. The Department of Housing and Community Development is also the lead agency on greenhouse gas reductions due to changes in the Building and Trade Codes in Maryland. The Maryland Department of Environment estimated 3.15 MMtCO<sub>2</sub>e in 2015 in the Greenhouse Gas Emissions Reduction Act Plan Update (October 2015).

<b>Program</b>	<b>MMBtu Saved</b>	<b>Metric Tons CO<sub>2</sub>e</b>
EmPOWER - Single Family	38,332	2,947
Customer Investment Fund - Single Family	3,224	246
Weatherization Assistance	16,806	2,275
Multifamily Energy Efficiency and Housing Affordability	10,918	1,478
Customer Investment Fund -Multifamily	2,957	400
<b>TOTAL</b>	<b>72,248</b>	<b>7,346</b>

<b>Total Greenhouse Gas Reduction</b>	<b>MMtCO<sub>2</sub>e</b>
Housing and Building Energy Programs Division	0.007
Building Code Enforcement and Legislation (Department of Environment estimate)	3.15
<b>TOTAL</b>	<b>3.16</b>

The Division's reduction in greenhouse gas emissions were calculated using project specific energy reductions calculated per measure. The Division used the 2015 emission factors provided by PJM, the Maryland region electric grid operator, and factors from the Department of Energy's eGRID sub-regional estimates. The Division also used U.S. Environmental Protection Agency factors.<sup>1</sup>

### **Enhancement Opportunities**

The Division continually looks for funding sources to expand its programs across the state. The Division is pursuing funds for low interest loans that can be made to multifamily housing and small businesses. The Division is also looking at opportunities to address not only energy efficiency - but the energy security of Marylanders. The Division is seeking resources to assist in bringing renewable technologies to low and moderate income communities. This includes opportunities to expand the deployment of solar technology.

### **Funding**

In each of the last three years, the Division's financial commitments (direct benefits to Marylanders and administrative costs) averaged \$20 to \$25 million.<sup>2</sup> This is largely supported by the Customer Investment Fund - which is temporary - and the EmPOWER funding which requires renewal every three (3) years. The failure to replace the Customer Investment Fund funding or to continue to implement the EmPOWER programs would severely curtail the success of the program.

The Division is currently pursuing an opportunity to develop additional low interest loan options for its portfolio of programs. This will support multifamily and neighborhood business programs and not individual low income homeowners at the outset.

### **Challenges**

The Department will continue to grow the number of residents served by its programs each year. Success will depend on Continued funding, enhanced marketing, and support from partners, contractors, and State leadership.

The Division's programs have often had a long development stage – rooted in lengthy procurement timelines to secure contractors. A program development team is reviewing the potential for a revolving Request for Proposal that enlists vendors who will be eligible to perform work across the many funding sources that may, from time to time, be introduced into the programs financing options. These funding options include a significant emphasis on pulling in leveraged funds from property owners and a collaborative effort between the Division and other state and federal agencies.

---

<sup>1</sup> The Division used CO2 emission factors from the PJM Environmental Information System, [<https://www.pjm-eis.com/reports-and-events/public-reports.aspx>], CH4 and N2O factors from the DOE Power Profiler tool based on the eGRID subregion [<http://www.epa.gov/powerprofiler>], and natural gas and oil factors from the EPA's national inventory [[https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)]. Global Warming Potential data come from the Intergovernmental Panel on Climate Change's Second Assessment Report (100 year).

<sup>2</sup> Based on fiscal year

Development of new program offerings or refinement of existing pilot programs can benefit from providing more comprehensive funding for typical scope items known as Non- Energy Benefits. These funds are used to perform incidental repairs and health and safety work for the properties in a more holistic approach that is fully funded similar to the Customer Investment Fund Single Family Healthy Homes Program.

**Relevant Information [Optional]**

The portfolio of programs within the Department of Housing and Community Development has a direct impact on the economic vitality of the State.

The Division's programs support residents and businesses in direct funding of energy efficiency projects that create or sustain jobs. Energy bill reductions free up funds that can be spent on family well-being or as investments. The Division's programs improve health through reduced air and water pollution from power plants, but also directly remediate hazards such as mold, asbestos and lead in the house.

*Department Contact Information:*

Joe Seehusen  
E-mail: [joe.seehusen@maryland.gov](mailto:joe.seehusen@maryland.gov)  
Tel: 301-429-7731

Caroline Varney-Alvarado  
E-mail: [caroline.varney-alvarado@maryland.gov](mailto:caroline.varney-alvarado@maryland.gov)  
Tel: 301-429-7454

## Attachment A: CY 2015 DHCD Energy Programs - GHG Savings

Area	Program	CO2 Saved	CH4 Saved	N2O Saved	CO2e Saved
<b>TOTAL</b>		<b>7,321.00</b>	<b>0.18</b>	<b>0.07</b>	<b>7,345.87</b>
Electricity		5,745.32	0.15	0.07	5,768.64
SF	EmPOWER	1,492.48	0.04	0.02	1,498.53
SF	CIF	116.68	0.00	0.00	117.15
SF	DOE	2,265.96	0.06	0.03	2,275.15
MF	MEEHA	1,472.17	0.04	0.02	1,478.14
MF	CIF	398.05	0.01	0.00	399.66
Natural Gas		1,564.06	0.03	0.00	1,565.58
SF	EmPOWER	1,446.60	0.03	0.00	1,448.00
SF	CIF	116.66	0.00	0.00	116.78
SF	DOE	-	-	-	-
MF	MEEHA	0.53	0.00	0.00	0.53
MF	CIF	0.27	0.00	0.00	0.27
Oil		11.61	0.00	0.00	11.65
SF	EmPOWER	-	-	0	-
SF	CIF	11.61	0.00	0.00	11.65
SF	DOE	-	-	0	-
MF	MEEHA	-	-	0	-
MF	CIF	-	-	0	-

Area	Program	MWh Saved	Therms	Gallons	Units	MMBtu	MTCO2e
SF	EmPOWER - Single Family	3,244	272,632	-	1,737	38,332	2,947
SF	Customer Investment Fund (CIF) - Single Family	254	21,987	1,137	107	3,224	246
SF	Weatherization Assistance Program (DOE)	4,925	-	-	551	16,806	2,275
MF	Multifamily Energy Efficiency and Housing Affordability (MEEHA)	3,200	100	-	1,597	10,928	1,479
MF	Customer Investment Fund (CIF) -Multifamily	865	51	-	703	2,957	400
<b>TOTAL</b>		<b>12,488</b>	<b>294,770</b>	<b>1,137</b>	<b>4,695</b>	<b>72,248</b>	<b>7,346</b>
						<b>Total MMTCO2e</b>	<b>0.007</b>



## Conversion Factors

### Electricity

CO2 1014.287 lbs/MWH

*PJM System Mix 2015 - <https://gats.pjm-eis.com/gats2/PublicReports/PJMSystemMix/Filter>*

CH4 0.02644 lbs/MWH

N2O 0.01149 lbs/MWH

*2012 DOE eGRID, RFCE - <http://www.epa.gov/powerprofiler>*

### Natural Gas

CO2 0.05444 kg/scf

CH4 0.00103 g/scf

N2O 0.00010 g/scf

*EPA - [https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)*

### Oil

CO2 10.21 kg/gallon

CH4 0.41 g/gallon

N2O 0.08 g/gallon

*EPA - [https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors\\_2014.pdf](https://www.epa.gov/sites/production/files/2015-07/documents/emission-factors_2014.pdf)*

### Global Warming Potential

CO2 1

CH4 21

N2O 310

*IPCC Second Assessment Report 100 Year GWP - [https://www.ipcc.ch/publications\\_and\\_data/ar4/wg1/en/ch2s2-10-2.html](https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html)*

### Other

1 kg 2.20462 lb

1 kg 0.001 MT

1 scf 0.01026 therms of natural gas

1 gallon 0.141 MMBtu

1 therm 0.1 MMBtu

1 kWh 3412.14 Btu