

TABLE OF CONTENTS

2	DSM Staff	8	Energy Management Savings Switch Program
3	DSM Overview 2018 Summary and Highlights	9	Residential HVAC Rebates
4-5	A Decade of DSM	10	Appliance Recycling Program
6	Residential Lighting Programs	11-22	Appendices
7	Commercial and Industrial Programs	23	Hoosier Energy Power Network

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2018 DEMAND SIDE MANAGEMENT (DSM) OVERVIEW

Demand Side Management (DSM) refers to both energy efficiency and demand response programs. Hoosier Energy utilizes the savings from DSM program measures as a resource equivalent to more traditional power supply options such as baseload coal units or natural gas fired peaking plants. These programs are designed to reduce the need for additional power supply resources by providing financial incentives to encourage more efficient energy use by consumer-members and to help shift the time of use to “off-peak” periods. These incentives help offset the cost of purchasing and installing high-efficiency equipment, though the success of DSM programs relies on the investments by consumer-members who voluntarily pursue energy savings and efficiency. Hoosier Energy, a generation and transmission cooperative (G&T), can benefit from a reduced need to buy or build new generating capacity,

member systems can benefit from wholesale power cost savings, and consumers can benefit through lower electric bills.

The past year was characterized by continued positive program results including successful integration of online lighting stores with the Energy Efficiency Collaborative Platform that members and Hoosier Energy use to manage program incentives. The DSM portfolio includes Residential Lighting, LED Security Lighting; Commercial and Industrial Efficiency; Residential HVAC; Energy Management Switch; and Appliance Recycling programs. Programs helped member systems achieve over 19 million kWh of energy savings in 2018.

A summary of program savings in 2018 is presented below:

2018 HIGHLIGHTS

OVER
50,000 MEASURES &
\$2.2 MILLION
IN REBATES

19,221 MWH
IN ANNUAL SAVINGS

2.15 MW
IN SUMMER PEAK
DEMAND SAVINGS

3.68 MW
IN WINTER PEAK
DEMAND SAVINGS

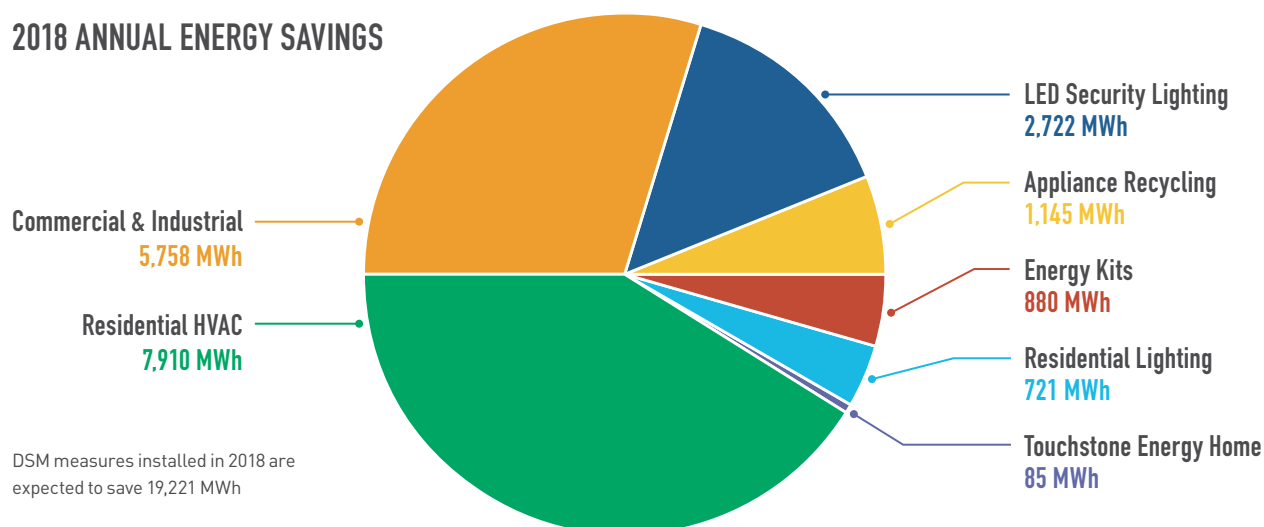
2.11 TO 1
BENEFIT TO
COST RATIO

2018 DSM PROGRAM SUMMARY

Program	Total Units	Annual MWh Savings	Summer Demand Savings	Winter Demand Savings
Residential Lighting	34,255	721	0.07	0.20
Commercial & Industrial	86	5,758	1.22	1.21
Energy Management Switch	285	0	0.20	0.12
Energy Kits (Other Savings)	10,650	880	0.07	0.21
Residential HVAC	1,524	7,910	0.41	1.63
Touchstone Energy Home*	16	85	0.00	0.03
Appliance Recycling	1,156	1,145	0.12	0.10
LED Security Lighting	5,177	2,722	0.06	0.18
TOTAL	53,149	19,221	2.15	3.68

*Homes registered prior to program close, completed in 2018

2018 ANNUAL ENERGY SAVINGS



DSM measures installed in 2018 are expected to save 19,221 MWh

A DECADE OF DSM



2018 marked the tenth anniversary of the voluntary DSM program provided by member systems and Hoosier Energy. As we celebrate this milestone, it is appropriate to reflect on progress and savings achieved over the past decade and consider what may lie ahead for the next generation of efficiency programs.

Members and the G&T formally implemented Demand Side Management in 2009 following more than a year of planning with distribution cooperative CEO's/Managers and in anticipation of significant revisions in wholesale tariffs and rates. Tariff changes approved in 2009 that took effect in early 2010 provided the foundation for DSM programs to help consumer-members and member systems better manage energy use and reduce long-term costs. DSM programs provided financial resources and technical support to help the G&T, distribution systems and consumers reduce demand and energy requirements and capture associated cost savings.

Program offerings over the decade included efficiency incentives for appliance recycling, commercial and industrial (C&I) upgrades, residential HVAC improvements, LED security lighting, residential lighting and energy kits. DSM program elements and funding have changed over the past ten years in response to changing consumer preferences, financial considerations, new technologies and changing priorities. Several programs have been retired such as the Touchstone Energy Home program, attic insulation and duct sealing programs, and a comprehensive residential weatherization program that initially included significant Federal financial support under the American Recovery and Reinvestment Act of 2009. Other potential program offerings have been evaluated and tested through pilot projects and were not adopted. The program portfolio in place today has evolved over time and includes measures that offer the best performance in energy and cost savings and consumer satisfaction.

Technology changes over the past ten years have been significant. Since 2009, rebates have shifted from traditional tank water heaters to heat pump water heaters, from air conditioning units and electric resistance furnaces to heat pump systems, and from incandescent bulbs to CFL's and then LED's for residential lighting. Technology changes also included implementation of the Energy Efficiency Collaborative Platform (EECP) over the past three years. EECP provides a single source for rebate reporting for member systems and is a much more efficient means to collect and store data for analysis and reporting. The flexibility of this analytical online software allows member cooperatives to independently configure and track participation, costs and savings.

Member system efforts to promote DSM programs have resulted in significant successes over the past decade including installation of more than two million efficiency measures, completion of more than one thousand C&I projects and provision of approximately \$40 million in efficiency rebates to consumer-members. Program results by member system are summarized below.

PROGRESS TOWARD POLICY GOALS

The Hoosier Energy Board of Directors adopted a policy in 2008 creating the DSM program that included an aggressive goal of reducing forecasted 2018 summer peak demand and energy requirements by 5 percent. Based upon model results, the cumulative impacts of energy efficiency measures implemented since inception of the DSM program are estimated to have reduced 2018 summer peak demand by about 4.3% and energy requirements by about 3 percent compared to levels that might have been experienced in the absence of DSM programs. Member load has continued to grow over the decade but at a slower rate than would have occurred without DSM programs.

The DSM program portfolio has empowered members to better manage their energy use and costs and, over the last ten years, programs have grown and adapted to keep up with industry best practices. Improving efficiency and reducing demand in homes and businesses has been a low cost option to better serve consumer-members.

PROGRAM RESULTS BY MEMBER SYSTEM (2009-2018)

Cooperative	Residential Lighting	C&I Energy Efficiency	Energy Management Switch	Residential HVAC	Touchstone Energy Home	Appliance Recycling	LED Security Lighting	Total by Co-op
Bartholomew County REMC	120,141	73	195	1,586	6	308	507	122,816
Clark County REMC	344,074	66	0	4,233	52	1,119	783	350,327
Daviess-Martin County REMC	111,530	42	1,191	960	6	235	40	114,004
Decatur County REMC	43,010	44	200	573	24	261	885	44,997
Dubois REC, Inc.	137,593	95	610	2,051	96	1,130	1,021	142,596
Harrison REMC	137,975	58	1,885	3,900	161	993	2,205	147,177
Henry County REMC	66,929	27	958	608	4	474	2,040	71,040
Jackson County REMC	116,050	112	1,162	2,544	72	833	2,435	123,208
Johnson County REMC	98,348	81	0	1,649	2	174	2,232	102,486
Orange County REMC	73,353	19	1,864	978	2	15	626	76,857
RushShelby Energy	65,888	37	1,176	884	48	581	739	69,353
South Central Indiana REMC	71,815	83	2,018	4,422	32	969	1,048	80,387
Southeastern Indiana REMC	114,098	42	2,217	2,950	15	1,520	3,068	123,910
Southern Indiana Power	119,809	68	1,871	1,324	35	494	1,464	125,065
Utilities District of Western Indiana REMC	118,778	68	1,309	2,033	19	567	1,247	124,021
Wayne-White Counties Electric Cooperative	74,744	23	0	1,058	0	247	1,834	77,906
Whitewater Valley REMC	79,618	32	8	860	1	403	1,741	82,669
WIN Energy REMC	33,245	84	1	1,958	1	268	2,053	37,604
Total	1,926,998	1,054	16,665	34,571	576	10,591	25,968	2,016,423

ENERGY EFFICIENT LIGHTING PROGRAMS

2018 RESIDENTIAL LIGHTING

34,255
NUMBER OF UNITS

721 MWh
ENERGY SAVINGS

0.20 MW
WINTER DEMAND SAVINGS

2018 ENERGY EFFICIENCY KITS

10,650
NUMBER OF UNITS

880 MWh
ENERGY SAVINGS

0.21 MW
WINTER DEMAND SAVINGS

2018 LED SECURITY LIGHTING

5,177
NUMBER OF UNITS

2,722 MWh
ENERGY SAVINGS

0.18 MW
WINTER DEMAND SAVINGS

The Residential Lighting program encourages consumers to replace existing lighting with high efficiency LEDs. Hoosier Energy provides each member cooperative an annual allotment of 500 bulbs to distribute at no cost to consumers. Cooperatives use various channels including food drives, annual meeting gifts, and community events such as county fairs and festivals to distribute bulbs.

The residential online lighting store was redesigned for 2018 to include educational resources to help consumers better understand their lighting needs and an expanded selection of LED bulbs was added to better meet homeowner preferences. Cooperatives distributed over 6,500 LEDs in 2018 and members purchased an additional 28,000 bulbs through the lighting store.

Hoosier Energy also provides each member cooperative with an annual allotment of up to 1,000 energy efficiency kits to distribute at no cost to consumers. The kits contain LED bulbs, foam outlet and wall plate gaskets, an LED nightlight and other self-install energy

saving items. Printed materials are included in the kit to help members log in and navigate the online lighting store to order additional items.

Outdoor security lights offer enhanced lighting to improve visibility and safety at consumer homes and properties as well as on public streets and neighborhoods. Member cooperatives have thousands of security lights in their service areas. Traditional mercury vapor and high pressure sodium lighting consume high amounts of energy and have an expected life of about six to ten years. By installing high-efficiency, long-lasting LED security lighting with dusk-to-dawn sensors, cooperatives can improve lighting output, reduce maintenance costs, and reduce energy use by as much as 70% per fixture. The LED security lighting program offers member co-ops an incentive of \$50 per light to offset replacement costs. Hoosier Energy paid members nearly \$260,000 in 2018 for security light incentives.



COMMERCIAL AND INDUSTRIAL PROGRAM

The Commercial and Industrial (C&I) Incentive program offers rebates for a variety of DSM and efficiency measures including lighting, HVAC, air compressors, motors, variable speed drives, and a “custom” application for more unique projects. New and expanding businesses along with some extreme weather in 2018 highlighted the value of the program for C&I consumers. Consumers that pursued efficiency improvements through self-investment and utilization of incentives from their electric co-op were positioned to reduce energy consumption and manage power costs during periods of higher demand.

The program is designed to meet the needs of a broad variety of large consumers. Member systems and Hoosier Energy provided approximately \$370,000 in incentives for eighty six (86) projects in 2018 including nearly \$100,000 to support efficiency gains at schools, churches and agriculture-related facilities. An additional \$2 million was invested by program beneficiaries to leverage co-op efficiency incentives. Power reductions

associated with these investments and incentives are expected to include energy savings of about 5,800 MWh and a 1.2 MW reduction in winter peak demand. Other improvements completed during the year included addition of a new online application process and hiring a C&I Specialist to oversee the program.

Lighting projects remained the DSM measure of most interest to consumers and accounted for nearly 90% of 2018 applications. A planned enhancement for 2019 includes promotion and incentives for C&I facility managers to participate in the nationally recognized Building Operator Certification (BOC) Course. The BOC Course will be offered at Hoosier Energy’s headquarters and is intended to better train C&I employees in how to identify and implement low-cost and no-cost efficiency practices. Participants can apply for full tuition reimbursement following completion of the course. The BOC Course will hopefully enable C&I consumers to better manage their energy usage and cost and further strengthen member relationships with their key accounts.

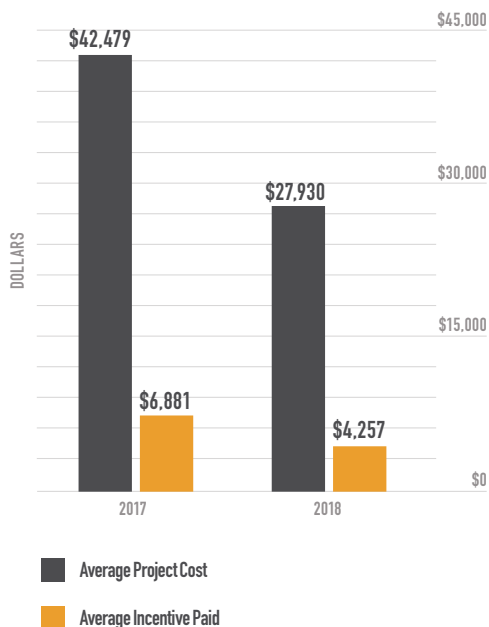
2018 COMMERCIAL AND INDUSTRIAL PROGRAM

86
NUMBER OF APPLICATIONS

5,758 MWh
ENERGY SAVINGS

1.22 MW
SUMMER DEMAND SAVINGS

PROJECT COST VS INCENTIVE PAID



ENERGY MANAGEMENT SAVINGS SWITCH PROGRAM

2018 ENERGY MANAGEMENT SAVINGS SWITCH PROGRAM

210
NUMBER OF UNITS

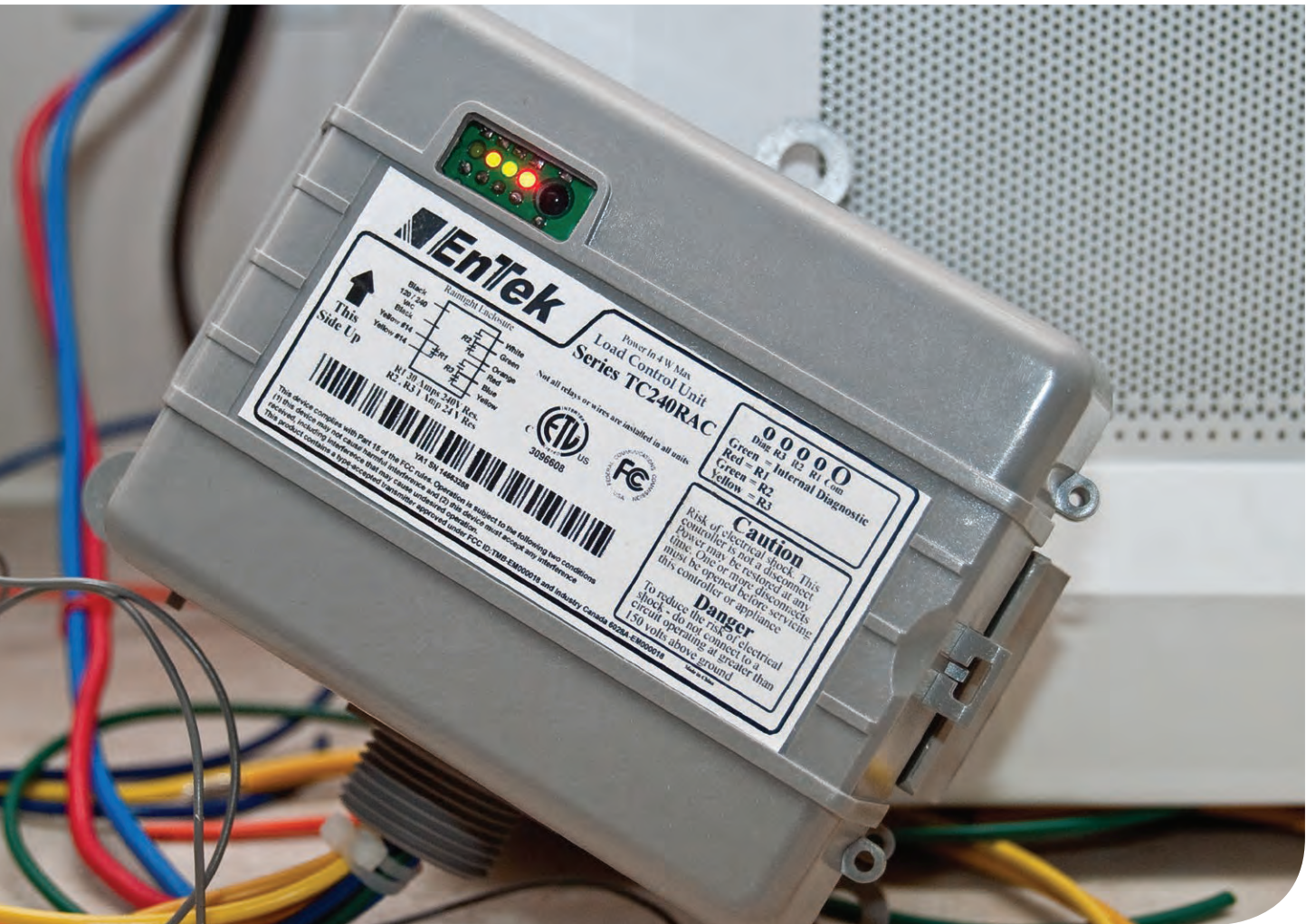
285
NUMBER OF DEVICES CONTROLLED

0.20 MW
SUMMER DEMAND SAVINGS

Six cooperatives participated in the residential energy management savings switch program in 2018, installing 210 switches to control 138 HVAC units and 147 water heaters. Participating consumers allow the cooperative to control these units during periods of high system wide demand in response to load control signals from Hoosier Energy. Control sessions are conducted during peak hours in three summer months (June through August) and three winter months

(December through February). Six load control sessions were conducted for during winter months in 2018 and eight sessions during summer months. Each air conditioning unit switch is estimated to provide nearly 1kW in summer demand reduction. Each water heater switch is estimated to reduce demand by 0.8 kW in winter months and 0.5 kW in summer months.

2018 PEAK CONTROL EVENTS



RESIDENTIAL HVAC REBATES



Heating and cooling are the largest energy expenses in most homes accounting for up to 60% of annual energy costs. The Residential HVAC program encourages selection of units that increase the efficiency of electric heating, cooling and water heating in the home with financial incentives paid by member cooperatives to homeowners after equipment installation. In 2018, nearly 300 heat pump water heaters and over 1,200 qualifying geothermal, air source and dual fuel heat pump units were installed by co-op consumers. Qualifying heat pumps for stick-built and modular homes are required to have a minimum 16 SEER rating. High efficiency heat

pumps replacing electric resistance heat accounted for approximately 20 percent of rebated installations this year. Heat pump efficiency results from units absorbing and transferring heat rather than generating it. The process allows the unit to provide comfort conditioning without the high energy consumption of electric resistance units. Reduced energy use makes upgrading to a heat pump an important investment for homeowners interested in saving on their utility bill. Member cooperatives paid nearly \$1.5 million in incentives in 2018 to help consumers utilize energy efficient HVAC equipment in their homes.

2018 RESIDENTIAL HVAC REBATES

1,524
NUMBER OF UNITS

7,910 MWh
ENERGY SAVINGS

1.63 MW
WINTER DEMAND
SAVINGS

APPLIANCE RECYCLING PROGRAM



2018 APPLIANCE RECYCLING REBATES

1,156
NUMBER OF UNITS

1,145 MWh
ENERGY SAVINGS

0.12 MW
SUMMER PEAK
REDUCTION

Retiring and replacing old, inefficient refrigerators and freezers can result in substantial reductions in energy consumption and big savings for consumers. Depending on models, retiring a twenty year old refrigerator can save about 1,000 kWh per year which translates to an \$80 to \$100 annual saving for a household. We continued to work with Habitat for Humanity chapters in 2018 providing collection services for co-op consumers.

Results in 2018 were consistent with previous years. Consumers recycled over 200 freezers and nearly 1,000 refrigerators that are expected to produce annual energy savings of over 1,100,000 kWh. Consumers receive a \$50 incentive for each appliance recycled. Member cooperatives paid out nearly \$60,000 in incentives in 2018 and consumers opted to donate nearly \$3,000 in rebates to the servicing ReStore. Participating ReStores were able to reinvest over \$125,000 into local communities through the Habitat for Humanity low-income home building program.

UNITS RECYCLED BY RESTORE AFFILIATE

Habitat for Humanity Madison ReStore	629
Raintree Habitat for Humanity ReStore	198
Habitat for Humanity of Dubois County	164
Monroe County Habitat for Humanity ReStore	147
Wabash Valley Habitat for Humanity	18
Total Units	1,156

APPENDICES

12-15

APPENDIX A:
2018 DSM
Program Savings

16-20

APPENDIX B:
Cumulative DSM
Program Savings

21-22

APPENDIX C:
Basic Program
Assumptions

2018 RESIDENTIAL LIGHTING PROGRAM

COOPERATIVE	Total Units	Annual MWh Savings	Summer Demand Savings	Winter Demand Savings
Bartholomew County REMC	1,296	27	0.00	0.01
Clark County REMC	5,368	113	0.01	0.03
Daviess-Martin County REMC	500	11	0.00	0.00
Decatur County REMC	1,497	31	0.00	0.01
Dubois REC	5,105	107	0.01	0.03
Harrison REMC	3,811	80	0.01	0.02
Henry County REMC	450	9	0.00	0.00
Jackson County REMC	2,099	45	0.01	0.01
Johnson County REMC	1,156	24	0.00	0.01
Orange County REMC	982	21	0.00	0.01
RushShelby Energy REMC	1,414	30	0.00	0.01
South Central Indiana REMC	1,889	40	0.00	0.01
Southeastern Indiana REMC	2,338	50	0.01	0.01
Southern Indiana Power	1,783	37	0.01	0.01
Utilities District of Western Indiana REMC	945	20	0.00	0.01
Wayne-White Counties Electric Cooperative	2,607	55	0.01	0.02
Whitewater Valley REMC	403	8	0.00	0.00
WIN Energy REMC	612	13	0.00	0.00
TOTAL	34,255	721	0.07	0.20

2018 C&I ENERGY EFFICIENCY PROGRAM

COOPERATIVE	Total Applications Paid	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	11	2,213	0.29	0.29
Clark County REMC	6	427	0.12	0.12
Daviess-Martin County REMC	6	375	0.11	0.11
Decatur County REMC	7	73	0.03	0.03
Dubois REC	17	406	0.13	0.13
Harrison REMC	6	271	0.12	0.12
Henry County REMC	1	138	0.02	0.02
Jackson County REMC	4	80	0.02	0.02
Johnson County REMC	3	160	0.03	0.03
Orange County REMC	1	9	0.01	0.01
RushShelby Energy REMC	3	166	0.03	0.03
South Central Indiana REMC	2	30	0.02	0.02
Southeastern Indiana REMC	1	2	0.00	0.00
Southern Indiana Power	6	973	0.18	0.18
Utilities District of Western Indiana REMC	4	97	0.02	0.02
Wayne-White Counties Electric Cooperative	0	0	0.00	0.00
Whitewater Valley REMC	1	33	0.00	0.00
WIN Energy REMC	7	305	0.09	0.08
TOTAL	86	5,758	1.22	1.21

Measures for the C&I Energy Efficiency Program are listed in terms of rebate applications paid.

2018 ENERGY MANAGEMENT SAVINGS SWITCH PROGRAM

COOPERATIVE	Total Devices Controlled	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	0	0	0.00	0.00
Clark County REMC	0	0	0.00	0.00
Daviess-Martin County REMC	0	0	0.00	0.00
Decatur County REMC	0	0	0.00	0.00
Dubois REC	70	0	0.06	0.02
Harrison REMC	0	0	0.00	0.00
Henry County REMC	0	0	0.00	0.03
Jackson County REMC	72	0	0.05	0.00
Johnson County REMC	0	0	0.00	0.02
Orange County REMC	42	0	0.02	0.00
RushShelby Energy REMC	1	0	0.00	0.00
South Central Indiana REMC	0	0	0.00	0.04
Southeastern Indiana REMC	66	0	0.04	0.01
Southern Indiana Power	34	0	0.03	0.00
Utilities District of Western Indiana REMC	0	0	0.00	0.00
Wayne-White Counties Electric Cooperative	0	0	0.00	0.00
Whitewater Valley REMC	0	0	0.00	0.00
WIN Energy REMC	0	0	0.00	0.00
TOTAL	285	0	0.20	0.12

2018 ENERGY EFFICIENCY KITS

COOPERATIVE	Total Measures Installed	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	500	41	0.00	0.01
Clark County REMC	1,000	83	0.01	0.02
Daviess-Martin County REMC	700	58	0.01	0.01
Decatur County REMC	0	0	0.00	0.00
Dubois REC	0	0	0.00	0.00
Harrison REMC	0	0	0.00	0.00
Henry County REMC	500	41	0.00	0.01
Jackson County REMC	1,500	124	0.01	0.03
Johnson County REMC	1,000	83	0.01	0.02
Orange County REMC	500	41	0.00	0.01
RushShelby Energy REMC	450	37	0.00	0.01
South Central Indiana REMC	1,000	83	0.01	0.02
Southeastern Indiana REMC	1,000	83	0.01	0.02
Southern Indiana Power	0	0	0.00	0.00
Utilities District of Western Indiana REMC	1,000	83	0.01	0.02
Wayne-White Counties Electric Cooperative	500	41	0.00	0.01
Whitewater Valley REMC	500	41	0.00	0.01
WIN Energy REMC	500	41	0.00	0.01
TOTAL	10,650	880	0.07	0.21

2018 RESIDENTIAL HVAC INCENTIVES PROGRAM

Cooperative	Total Measures Installed	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	46	368	0.01	0.04
Clark County REMC	175	566	0.04	0.11
Daviess–Martin County REMC	27	192	0.01	0.04
Decatur County REMC	34	227	0.02	0.08
Dubois REC	47	197	0.02	0.08
Harrison REMC	233	773	0.04	0.14
Henry County REMC	24	133	0.01	0.04
Jackson County REMC	184	841	0.04	0.13
Johnson County REMC	53	328	0.02	0.07
Orange County REMC	38	455	0.01	0.05
RushShelby Energy REMC	54	244	0.02	0.07
South Central Indiana REMC	188	1,487	0.05	0.26
Southeastern Indiana REMC	121	720	0.03	0.16
Southern Indiana Power	55	303	0.01	0.06
Utilities District of Western Indiana REMC	93	428	0.02	0.08
Wayne–White Counties Electric Cooperative	55	65	0.02	0.05
Whitewater Valley REMC	26	73	0.01	0.05
WIN Energy REMC	71	510	0.03	0.12
TOTAL	1,524	7,910	0.41	1.63

Dual Fuel Heat Pump units have negative kWh savings. See Appendix C for program measure assumptions.

2018 TOUCHSTONE ENERGY® HOMESM PROGRAM

Touchstone Energy Home	Total Measures Installed*	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	0	0	0.00	0.00
Clark County REMC	1	5	0.00	0.00
Daviess–Martin County REMC	0	0	0.00	0.00
Decatur County REMC	1	5	0.00	0.00
Dubois REC	0	0	0.00	0.00
Harrison REMC	5	27	0.00	0.00
Henry County REMC	0	0	0.00	0.00
Jackson County REMC	3	16	0.00	0.00
Johnson County REMC	0	0	0.00	0.00
Orange County REMC	0	0	0.00	0.00
RushShelby Energy REMC	3	16	0.00	0.00
South Central Indiana REMC	0	0	0.00	0.00
Southeastern Indiana REMC	0	0	0.00	0.00
Southern Indiana Power	1	5	0.00	0.00
Utilities District of Western Indiana REMC	2	11	0.00	0.00
Wayne–White Counties Electric Cooperative	0	0	0.00	0.00
Whitewater Valley REMC	0	0	0.00	0.00
WIN Energy REMC	0	0	0.00	0.00
TOTAL	16	85	0.00	0.00

*Homes registered prior to program close, completed in 2018

2018 APPLIANCE RECYCLING PROGRAM

Cooperative	Total Measures Installed	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	29	29	0.00	0.00
Clark County REMC	137	136	0.01	0.01
Daviess-Martin County REMC	10	10	0.00	0.00
Decatur County REMC	25	25	0.00	0.00
Dubois REC	90	88	0.01	0.01
Harrison REMC	163	163	0.02	0.01
Henry County REMC	69	68	0.01	0.01
Jackson County REMC	116	115	0.01	0.01
Johnson County REMC	0	0	0.00	0.00
Orange County REMC	4	4	0.00	0.00
RushShelby Energy REMC	45	45	0.00	0.00
South Central Indiana REMC	75	74	0.01	0.01
Southeastern Indiana REMC	184	181	0.02	0.02
Southern Indiana Power	60	60	0.01	0.01
Utilities District of Western Indiana REMC	72	71	0.01	0.01
Wayne-White Counties Electric Cooperative	0	0	0.00	0.00
Whitewater Valley REMC	59	58	0.01	0.00
WIN Energy REMC	18	18	0.00	0.00
TOTAL	1,156	1,145	0.12	0.10

2018 LED SECURITY LIGHTING PROGRAM

Cooperative	Total Measures Installed	Annual MWh Savings	Summer Demand MW	Winter Demand MW
Bartholomew County REMC	142	75	0.00	0.00
Clark County REMC	499	262	0.01	0.01
Daviess-Martin County REMC	40	21	0.00	0.00
Decatur County REMC	122	64	0.00	0.00
Dubois REC	240	126	0.00	0.01
Harrison REMC	194	102	0.00	0.01
Henry County REMC	499	262	0.01	0.02
Jackson County REMC	496	261	0.01	0.02
Johnson County REMC	498	262	0.01	0.02
Orange County REMC	137	72	0.00	0.00
RushShelby Energy REMC	159	84	0.00	0.01
South Central Indiana REMC	213	112	0.00	0.01
Southeastern Indiana REMC	437	230	0.01	0.01
Southern Indiana Power	232	122	0.00	0.01
Utilities District of Western Indiana REMC	168	88	0.00	0.01
Wayne-White Counties Electric Cooperative	318	167	0.00	0.01
Whitewater Valley REMC	306	161	0.00	0.01
WIN Energy REMC	477	251	0.01	0.02
TOTAL	5,177	2,722	0.06	0.18

ANALYSIS OF MEASURES INSTALLED: 2009–2018

The average lifetime cost of energy conserved to date through DSM measures is just over \$0.02 per kWh, well below the cost to provide power from traditional resources.*

DSM programs are evaluated using a Total Resource Cost (TRC) test that compares avoided energy and capacity savings to the costs of the efficiency measure or program including cost borne by consumers.

Benefits detailed in the TRC test include avoided supply costs such as reductions in capital and O&M costs for generation, transmission and distribution facilities and operations.

A TRC ratio higher than 1.0 indicates program benefits exceed program costs. For all programs to date, lifetime economic benefits outweighed costs by a ratio of 2.11 to 1.**

This ratio suggests that \$2.11 in long-term benefits were obtained for each \$1 invested in efficiency programs.

* Formula for cost per kWh is (Hoosier Energy Cost + Participant Cost) / (Estimated Lifetime MWh Savings * 1000)
Example: (\$40,601,319 + \$49,936,909) / (4,238,895 x 1000) = \$0.0214

** Formula for TRC is Lifetime Economic Benefit / Hoosier Energy Cost + Participant Cost
Example: \$190,763,021 / (\$40,601,319 + \$49,936,909) = \$2.11 or TRC ratio 2.11 to 1

ESTIMATED BENEFITS AND COSTS FOR ALL MEASURES INSTALLED: 2009–2018¹

Program	Total Units	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Residential Lighting	1,871,790	56,623	583,972	5.70	13.93
Commercial & Industrial Energy Efficiency	1,054	126,832	1,791,902	18.46	19.28
Weatherization ²	4,061	19,285	479,329	4.81	3.28
Energy Management Switch	16,665	–	–	12.09	7.71
Other Savings ³	55,208	16,383	161,230	2.01	4.02
Residential HVAC	34,571	53,342	769,597	13.06	44.46
Touchstone Energy Home	576	2,824	65,472	0.57	0.55
Appliance Recycling	10,591	10,584	80,840	4.62	3.94
LED Security Lighting	25,968	16,969	306,553	0.25	0.94
Total	2,020,484	302,842	4,238,895	61.58	98.12

Program	Hoosier Energy Costs	Participant Costs	Lifetime Economic Benefits	Cost/kWh	Total Resource Cost (TRC)
Residential Lighting	\$6,481,647	\$1,921,543	\$27,999,761	0.01	3.33
Commercial & Industrial Energy Efficiency	\$5,056,644	\$23,903,379	\$90,931,013	0.02	3.14
Weatherization ²	\$9,078,275	\$0	\$15,084,780	0.02	1.66
Energy Management Switch	\$2,953,290	\$0	\$5,892,992	0.00	2.00
Other Savings ³	\$2,754,334	\$315,183	\$4,021,414	0.02	1.31
Residential HVAC	\$10,409,959	\$19,690,348	\$29,492,552	0.04	0.98
Touchstone Energy Home	\$599,356	\$940,782	\$1,972,585	0.02	1.28
Appliance Recycling	\$1,128,162	\$0	\$2,334,602	0.01	2.07
LED Security Lighting	\$2,139,653	\$3,165,674	\$13,033,320	0.02	2.46
Total	\$40,601,319	\$49,936,909	\$190,763,021	0.02	2.11

¹ Appendix B measures are shown at generation levels. A 9% transmission and distribution loss is factored into estimates.

² Weatherization program includes 1,393 homes on member systems weatherized through the American Recovery and Reinvestment Act Program 2009–2011.

³ Other Savings include Deferred Weatherization program benefits and energy efficiency kits.

RESIDENTIAL LIGHTING PROGRAM

Cooperative	Total Measures Installed	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	117,720	3,888	35,377	0.40	0.91
Clark County REMC	340,088	10,071	103,966	1.02	2.60
Daviess–Martin County REMC	109,393	1,788	33,265	0.19	0.49
Decatur County REMC	41,571	1,065	13,485	0.11	0.28
Dubois REC, Inc.	136,146	4,246	45,950	0.44	1.02
Harrison REMC	133,464	5,210	43,827	0.44	1.09
Henry County REMC	64,418	1,716	18,966	0.17	0.42
Jackson County REMC	112,250	3,475	34,432	0.35	0.93
Johnson County REMC	93,548	2,958	28,363	0.30	0.70
Orange County REMC	70,922	2,341	21,695	0.24	0.60
RushShelby Energy	63,670	1,638	20,173	0.16	0.44
South Central Indiana REMC	65,252	1,856	21,530	0.20	0.46
Southeastern Indiana REMC	108,856	3,132	33,392	0.31	0.81
Southern Indiana Power	118,299	3,413	36,862	0.36	0.80
Utilities District of Western Indiana REMC	114,323	3,999	34,668	0.41	0.98
Wayne–White Counties Electric Cooperative	73,707	2,629	25,044	0.27	0.63
Whitewater Valley REMC	77,018	2,090	22,947	0.21	0.50
WIN Energy REMC	31,145	1,108	10,030	0.12	0.27
Total	1,871,790	56,623	583,972	5.70	13.93

COMMERCIAL & INDUSTRIAL ENERGY EFFICIENCY PROGRAM

Cooperative	Total Applications Paid	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	73	18,138	320,351	3.23	3.31
Clark County REMC	66	5,163	75,422	0.92	1.00
Daviess–Martin County REMC	42	3,271	35,402	0.65	0.65
Decatur County REMC	44	4,376	59,899	0.66	0.68
Dubois REC, Inc.	95	7,248	77,332	0.90	0.99
Harrison REMC	58	6,176	89,843	0.94	0.98
Henry County REMC	27	1,449	19,547	0.29	0.34
Jackson County REMC	112	2,524	35,178	0.53	0.48
Johnson County REMC	81	8,809	121,913	1.40	1.50
Orange County REMC	19	1,155	16,384	0.20	0.19
RushShelby Energy	37	9,257	129,639	1.02	1.06
South Central Indiana REMC	83	3,578	50,020	0.49	0.53
Southeastern Indiana REMC	42	5,706	53,926	0.81	0.85
Southern Indiana Power	68	11,041	157,824	1.38	1.42
Utilities District of Western Indiana REMC	68	22,587	333,518	2.74	2.96
Wayne–White Counties Electric Cooperative	23	2,490	23,714	0.53	0.55
Whitewater Valley	32	2,037	30,908	0.28	0.28
WIN Energy	84	11,827	161,082	1.49	1.51
Total	1,054	126,832	1,791,902	18.46	19.28

Measures for the C&I Energy Efficiency Program are listed in terms of rebate applications paid.

ENERGY MANAGEMENT SWITCH PROGRAM

Cooperative	Total Devices Controlled	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	195	-	-	0.15	0.10
Clark County REMC	0	-	-	0.00	0.00
Daviess-Martin County REMC	1,191	-	-	0.99	0.44
Decatur County REMC	200	-	-	0.09	0.18
Dubois REC, Inc.	814	-	-	0.36	0.14
Harrison REMC	1,885	-	-	1.50	0.80
Henry County REMC	958	-	-	0.78	0.38
Jackson County REMC	1,205	-	-	0.89	0.39
Johnson County REMC	0	-	-	0.00	0.00
Orange County REMC	1,870	-	-	1.14	0.98
RushShelby Energy	1,182	-	-	0.95	0.47
South Central Indiana REMC	2,018	-	-	1.17	1.43
Southeastern Indiana REMC	2,264	-	-	1.68	1.00
Southern Indiana Power	1,883	-	-	1.46	0.74
Utilities District of Western Indiana REMC	1,321	-	-	0.94	0.66
Wayne-White Counties Electric Cooperative	0	-	-	0.00	0.00
Whitewater Valley REMC	8	-	-	0.00	0.01
WIN Energy REMC	1	-	-	0.00	0.00
Total	16,995	-	-	12.09	7.71

OTHER SAVINGS

Cooperative	Total Measures Installed	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	2,421	857	8,014	0.08	0.18
Clark County REMC	3,986	967	10,803	0.07	0.19
Daviess-Martin County REMC	2,137	538	6,283	0.04	0.10
Decatur County REMC	1,439	457	3,971	0.04	0.10
Dubois REC, Inc.	1,447	462	4,010	0.04	0.10
Harrison REMC	4,511	1,657	13,140	0.24	0.45
Henry County REMC	2,511	921	8,459	0.08	0.20
Jackson County REMC	3,800	969	12,051	0.06	0.17
Johnson County REMC	4,800	1,567	15,003	0.14	0.33
Orange County REMC	2,431	870	8,103	0.08	0.18
RushShelby Energy	2,218	673	6,597	0.06	0.14
South Central Indiana REMC	6,563	1,461	14,261	0.67	0.88
Southeastern Indiana REMC	5,242	1,784	16,522	0.16	0.38
Southern Indiana Power	1,510	436	3,827	0.04	0.10
Utilities District of Western Indiana REMC	4,455	1,087	12,408	0.08	0.20
Wayne-White Counties Electric Cooperative	1,037	204	3,442	0.00	0.02
Whitewater Valley REMC	2,600	913	8,405	0.08	0.19
WIN Energy REMC	2,100	560	5,931	0.05	0.11
Total	55,208	16,383	161,230	2.01	4.02

Other Savings includes energy efficiency kits and Deferred Weatherization program benefits. Savings for installed measures will continue to contribute to program savings for the duration of deemed useful life.

RESIDENTIAL HVAC INCENTIVES PROGRAM

Cooperative	Total Measures Installed	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	1,586	2,194	32,988	0.57	1.29
Clark County REMC	4,233	5,242	65,271	2.06	3.30
Daviess–Martin County REMC	960	1,374	19,836	0.34	1.55
Decatur County REMC	573	1,539	25,318	0.24	1.94
Dubois REC, Inc.	2,051	2,753	39,346	0.75	3.57
Harrison REMC	3,900	6,322	79,293	2.28	3.45
Henry County REMC	608	1,180	17,746	0.26	1.43
Jackson County REMC	2,544	5,179	74,733	1.10	2.78
Johnson County REMC	1,649	2,619	35,023	0.60	1.67
Orange County REMC	978	1,456	20,807	0.29	0.60
RushShelby Energy	884	1,443	22,700	0.29	1.74
South Central Indiana REMC	4,422	6,551	107,724	1.00	4.49
Southeastern Indiana REMC	2,950	4,369	68,162	0.77	4.87
Southern Indiana Power	1,324	2,780	31,577	0.71	2.20
Utilities District of Western Indiana REMC	2,033	3,446	53,787	0.70	2.98
Wayne–White Counties Electric Cooperative	1,058	1,108	14,988	0.37	2.14
Whitewater Valley REMC	860	1,298	20,539	0.27	2.19
WIN Energy REMC	1,958	2,489	39,759	0.46	2.27
Total	34,571	53,342	769,597	13.06	44.46

TOUCHSTONE ENERGY® HOMESM PROGRAM

Cooperative	Homes Registered	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	6	28	568	0.01	0.00
Clark County REMC	52	251	5,606	0.05	0.05
Daviess–Martin County REMC	6	34	738	0.01	0.01
Decatur County REMC	24	112	2,786	0.02	0.02
Dubois REC, Inc.	96	466	9,935	0.10	0.08
Harrison REMC	161	825	19,510	0.16	0.18
Henry County REMC	4	19	379	0.00	0.00
Jackson County REMC	72	360	8,359	0.07	0.07
Johnson County REMC	2	16	360	0.00	0.00
Orange County REMC	2	9	189	0.00	0.00
RushShelby Energy	48	234	5,748	0.05	0.05
South Central Indiana REMC	32	166	3,708	0.03	0.03
Southeastern Indiana REMC	15	43	1,420	0.01	0.01
Southern Indiana Power	35	163	3,658	0.04	0.03
Utilities District of Western Indiana REMC	19	88	2,318	0.02	0.02
Wayne–White Counties Electric Cooperative	0	0	0	0.00	0.00
Whitewater Valley REMC	1	5	95	0.00	0.00
WIN Energy REMC	1	5	95	0.00	0.00
Total	576	2,824	65,472	0.57	0.55

APPLIANCE RECYCLING PROGRAM

Cooperative	Total Units Collected	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	308	325	2,115	0.24	0.20
Clark County REMC	1,119	1,090	9,060	0.29	0.25
Daviess-Martin County REMC	235	256	1,457	0.23	0.20
Decatur County REMC	261	280	1,878	0.24	0.20
Dubois REC, Inc.	1,130	1,120	8,218	0.30	0.25
Harrison REMC	993	1,225	8,990	0.29	0.25
Henry County REMC	474	434	3,731	0.25	0.21
Jackson County REMC	833	891	6,434	0.28	0.24
Johnson County REMC	174	180	899	0.23	0.20
Orange County REMC	15	35	267	0.22	0.19
RushShelby Energy	581	554	3,907	0.26	0.22
South Central Indiana REMC	969	890	7,135	0.28	0.24
Southeastern Indiana REMC	1,520	1,410	12,612	0.31	0.26
Southern Indiana Power	494	377	3,521	0.24	0.20
Utilities District of Western Indiana REMC	567	564	4,399	0.25	0.22
Wayne-White Counties Electric Cooperative	247	254	1,271	0.24	0.20
Whitewater Valley REMC	403	413	3,071	0.24	0.21
WIN Energy REMC	268	286	1,875	0.23	0.20
Total	10,591	10,584	80,840	4.62	3.94

LED SECURITY LIGHTING PROGRAM

Cooperative	Total Measures Installed	Cumulative MWh Savings	Estimated Lifetime MWh Savings	Cumulative Summer Peak MW Savings	Cumulative Winter Peak MW Savings
Bartholomew County REMC	507	331	7,360	0.01	0.02
Clark County REMC	783	561	14,666	0.01	0.03
Daviess-Martin County REMC	40	21	757	0.00	0.00
Decatur County REMC	885	637	9,709	0.01	0.03
Dubois REC, Inc.	1,021	719	13,517	0.01	0.04
Harrison REMC	2,205	1,421	24,882	0.02	0.09
Henry County REMC	2,040	1,335	24,327	0.02	0.07
Jackson County REMC	2,435	1,542	27,652	0.02	0.09
Johnson County REMC	2,232	1,435	26,715	0.02	0.08
Orange County REMC	626	390	7,337	0.00	0.02
RushShelby Energy	739	482	8,651	0.01	0.03
South Central Indiana REMC	1,048	604	12,494	0.01	0.02
Southeastern Indiana REMC	3,068	1,925	31,774	0.02	0.10
Southern Indiana Power	1,464	1,031	15,715	0.02	0.07
Utilities District of Western Indiana REMC	1,247	809	13,505	0.01	0.04
Wayne-White Counties Electric Cooperative	1,834	1,212	20,651	0.02	0.06
Whitewater Valley	1,741	1,177	18,860	0.02	0.06
WIN Energy	2,053	1,337	27,981	0.02	0.09
Total	25,968	16,969	306,553	0.25	0.94

BASIC PROGRAM ASSUMPTIONS

Measure Name	Annual kWh Savings	Winter kW Demand Savings	Summer kW Demand Savings	Installation Rate	Effective Useful Life (Years)
RESIDENTIAL LIGHTING PROGRAM					
LED Lighting (Standard)	26.5	0.029	0.029	70%	13
LED Lighting (Specialty)	34.1	0.037	0.037	70%	13
LED Security Lights	525.6	0.120	0.120	100%	18

APPLIANCE RECYCLING PROGRAM					
Refrigerator Recycling	1,002.2	0.140	0.140	100%	8
Freezer Recycling	932.5	0.134	0.134	100%	8

RESIDENTIAL HVAC PROGRAM					
Heat Pump Water Heaters	1,702.5	0.672	0.672	100%	13
Heat Pump (14 SEER) [Manufactured Home]	436.0	0.170	0.160	100%	18
Heat Pump (15 SEER) [MH]	533.0	0.070	-0.020	100%	18
Heat Pump (16 SEER)	1,103.0	0.350	0.100	100%	18
Heat Pump (17 SEER)	1,281.0	0.820	0.170	100%	18
Heat Pump (18 SEER)	1,286.0	0.830	0.310	100%	18
Heat Pump (14 SEER) Dual Fuel [MH]	-2,769.0	0.000	0.160	100%	18
Heat Pump (15 SEER) Dual Fuel [MH]	-4,150.0	0.000	0.260	100%	18
Heat Pump (16 SEER) Dual Fuel	-6,263.0	0.000	0.300	100%	18
Heat Pump (17 SEER) Dual Fuel	-7,163.0	0.000	0.360	100%	18
Heat Pump (18 SEER) Dual Fuel	-6,768.0	0.000	0.380	100%	18
Heat Pump (14 SEER) Electric Resistance Replacement [MH]	4,765.0	3.700	0.160	100%	18
Heat Pump (15 SEER) Electric Resistance Replacement [MH]	23,692.0	4.120	0.200	100%	18
Heat Pump (16 SEER) Electric Resistance Replacement	23,964.0	4.400	0.320	100%	18
Heat Pump (17 SEER) Electric Resistance Replacement	23,551.0	4.870	0.390	100%	18
Heat Pump (18 SEER) Electric Resistance Replacement	23,839.0	4.880	0.530	100%	18
Geothermal Heat Pumps	4,480.0	3.240	0.680	100%	18
Mini Split Heat Pump (16 SEER)	825.3	3.110	0.830	100%	18
Mini Split Heat Pump (17 SEER)	1,408.0	3.240	0.880	100%	18
Mini Split Heat Pump (18 SEER)	2,015.6	3.390	0.920	100%	18
Mini Split Heat Pump (19 SEER)	2,397.7	3.470	0.950	100%	18
Mini Split Heat Pump (20 SEER)	2,749.2	3.550	0.970	100%	18

ENERGY EFFICIENCY KIT					
Energy Efficiency Kit A	118.5	0.028	0.012	50%	14
Energy Efficiency Kit B	164.0	0.019	0.018	50%	8

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Measure Name	Annual kWh Savings	Winter kW Demand Savings	Summer kW Demand Savings	Installation Rate	Effective Useful Life (Years)
C&I ENERGY EFFICIENCY PROGRAM					
All commercial & industrial savings are calculated for each individual rebate claim based on the estimated existing and replacement wattages and time used.					
Agricultural Lighting	179.9	0.000	0.019	100%	2
Occupancy Sensors	393.1	0.122	0.087	100%	8
NEMA Premium Eff. Motor > 10 HP	35.0	0.010	0.010	100%	15
NEMA Premium Eff. Motor < 10 HP	75.0	0.020	0.020	100%	15
VSD on Motors	679.7	0.000	0.105	100%	15
Programmable Thermostat	61.0	0.000	0.000	100%	9
Heat Pump (11.3 EER, COP 3.4)	54.1	0.020	0.015	100%	15
Air Conditioner (12 EER)	67.3	0.094	0.073	100%	15

DEMAND RESPONSE					
<80 gallon water heater control	0.0	0.800	0.450	100%	13
>80 gallon water heater control	0.0	0.800	0.450	100%	13
AC Control	0.0	0.000	0.990	100%	13
ASHP Control	0.0	0.000	0.880	100%	13
Geothermal HP Control	0.0	0.000	0.930	100%	13

RETIRED MEASURES					
Measures that were incentivized in previous program years continue to contribute to overall program savings for the duration of the measure life, on a per unit basis. The measures below are for historical reference when reviewing cumulative savings totals.					
Touchstone Energy Homes	5,397.0	4.520	0.740	100%	25
Weatherized Homes (HE & ARRA) ¹	4,274.0	0.720	1.060	100%	13
Deferred Homes	795.0	0.720	0.720	100%	13
LED Holiday Lights 2009-13	17.1	0.048	0.048	90%	20
80 Gal Water Heater	115.0	0.050	0.050	100%	13
50 Gal Water Heater	162.0	0.060	0.060	100%	13
Compact Fluorescent Lighting (CFL)	28.6	0.031	0.031	70%	5
Attic Insulation	1,049.0	0.152	0.727	100%	20
Duct Sealing	718.0	0.491	0.357	100%	20
Central AC (14 SEER)	142.0	0.220	0.000	100%	18
Central AC (15 SEER)	147.0	0.200	0.000	100%	18
Central AC (16 SEER)	221.0	0.320	0.000	100%	18
Central AC (17 SEER)	257.0	0.390	0.000	100%	18
Central AC (18 SEER)	325.0	0.530	0.000	100%	18

Basic program assumptions were updated in 2016.

¹Hoosier Energy and American Recovery and Reinvestment Act

THE HOOSIER ENERGY POWER NETWORK

Hoosier Energy is a generation and transmission cooperative providing electric power to 18 member distribution cooperatives in central and southern Indiana and southeast Illinois. Based in Bloomington, Hoosier Energy operates coal, natural gas and renewable energy power plants and delivers power through a 1,700-mile transmission network.





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