

The Energy Smart New Orleans Plan

at the request of the
New Orleans City Council
and presented by
Entergy New Orleans, Inc.

July 9, 2009

Vision

The Energy Smart Plan proposes programs that are intended to transform the market by creating demand for energy efficiency products and services and stimulate the development of the workforce to meet this demand. In turn, this will help create a sustainable, long term energy efficiency market that creates energy savings for New Orleans residents.

Where We Have Been

2007

- Council responded to a grass-roots effort to develop a comprehensive energy policy for the City of New Orleans
- Resolution R-07-600 – Expressed Council's Commitment to Energy Efficiency

2008

- Resolution R-08-366 describes New Orleans Consensus Energy Efficiency Program Concepts
- Resolution R-08-601 set aside \$1.855 million for Residential use in the Energy Smart Plan

2009

- 2009 Agreement in Principle approved 4/02/09

Where We Have Been

2009 Agreement in Principle (AIP) at Council's Directive:

- Provides \$3.1 million per year for the Energy Smart Plan
- Directs ENO to design cost effective DSM programs generally consistent with the concepts described in Council Resolution R-08-366
- To ensure ENO's commitment as a dedicated partner in Energy Smart Plan, ENO will be held to goals/targets established by the Council based on approved funding levels and programs.

Where We Are Going

- Period of Public Electronic Q&A July 9 – July 24
ENO has 5 days to Respond (through July 31)
- Public Hearing on Filing September 10
- Anticipated Council Approval of Programs September 17
- ENO releases RFP for Third Party Program Administrator (TPA) Within 60 days of Program Approval
- Approval of TPA Determined By Council
- Program Rollout 2010

Analytical Framework
Guiding Principles
Program Selection Process

Flowchart of General Framework

A. Understanding New Orleans DSM Potential

- GCR Baseline Study
- Customer Profiles
- Energy Breakdown
- Guiding Principles
- Regulatory Directives
- Resolutions/ AIP



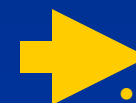
B. Understanding the Environment

- State Energy
Plan
- EE Block Grants
- Weatherization
Program
- Other Programs



C. Identifying the Alternatives

- Best Practices
- Consensus Plan
- Stakeholder input
- ENO Current
Programs
- Other Entergy
Programs
- ICF Study
- Other Utilities
- EPA, ACEEE, etc.
- Vendors/Others



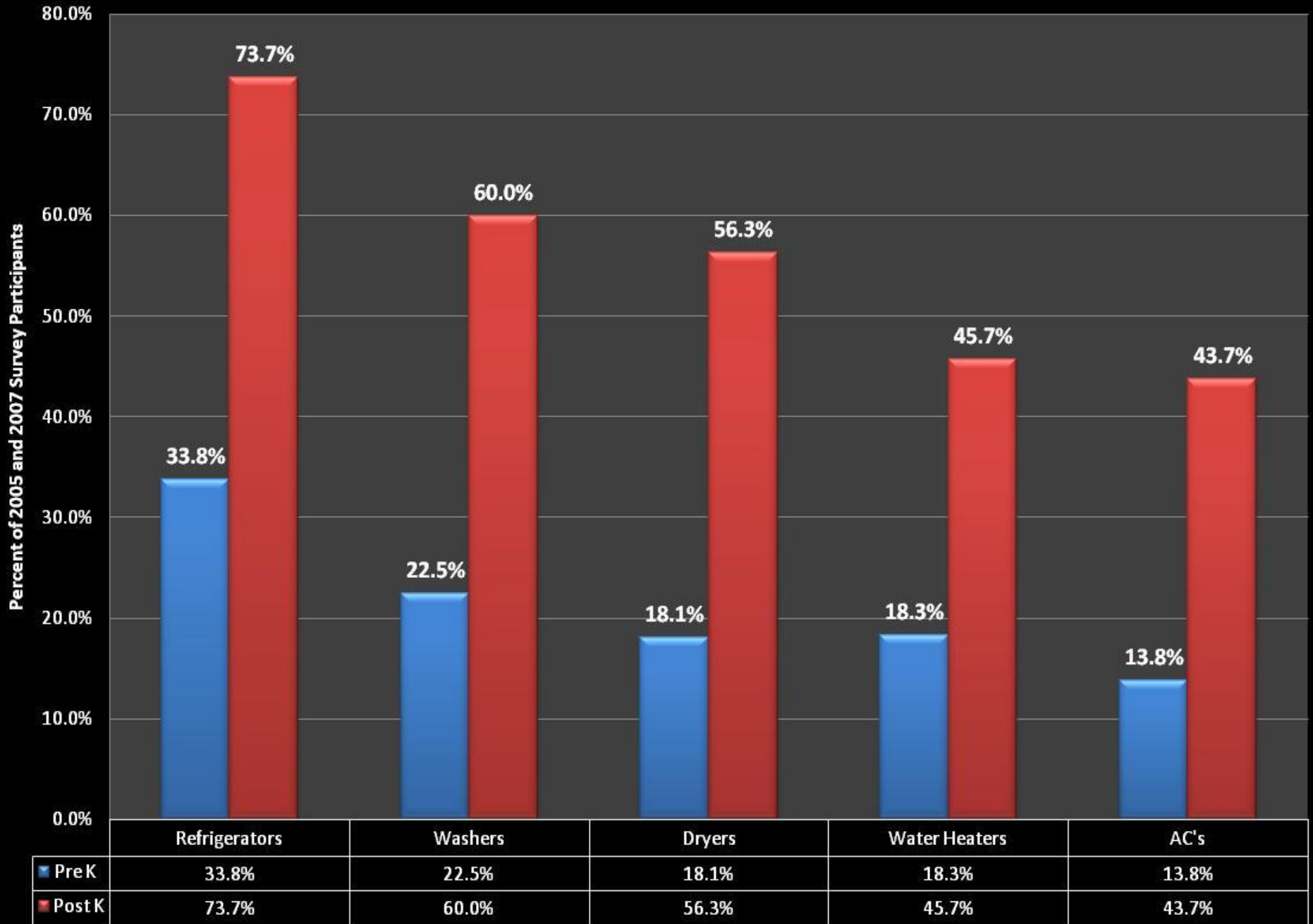
D. Selecting Among the Alternatives

- Cost Effectiveness
Screening
- Consistency
w/Principles
- Leverage of
Funding
- Scaling & Balance

A New Orleans Specific Energy Efficiency Program

- Home Foundation Type (slab, raised, basement)
- Type and Age of Heating System Pre & Post Katrina
- Type and Age of Air Conditioning System Pre and Post Katrina
- Type and Age of Water Heating System Pre and Post Katrina
- Frequency and Type of Energy Star Appliances Purchased Pre and Post Katrina
- Presence of Insulation and Other Energy Efficiency Measures Pre and Post Katrina
- Economic Status, Repopulation and Water Depth

Purchase of Energy Star Appliances Within Last Two Years



Guiding Principles

1. Energy Smart Programs should be developed for, available to, and benefit residential, commercial, industrial and governmental customer classes.
2. All programs should be cost-effective as defined by the Total Resource Cost (TRC) and the Program Administrator Cost (PAC) tests as defined in the California Standard Practices Manual: Economic Analysis of Demand Side Programs and Projects, October 2001 except for those programs listed in the 2009 Agreement in Principle that are not subject to the cost effectiveness tests.
3. Inputs to program design and cost effectiveness measurement should reflect reliable New Orleans data to the maximum extent practicable, while giving express recognition to allowable budget, time and technology constraints.

Guiding Principles

4. Each program should be of sufficient scale to provide a meaningful contribution to kW or kWh reductions over the period of years in which the program is applied.
5. Programs should reflect “best practices” as appropriate for New Orleans with consideration of the City’s unique economic, social and demographic environment and, to the extent relevant, should be consistent with successful models implemented in other jurisdictions.
6. With the exception of pilot programs, technologies should be commercially available and the necessary infrastructure should be present.

Guiding Principles

7. Programs should be economically significant within the budgetary realities of the Energy Smart Plan.
 - Assist in Demand Side Management market development and related job creation.
 - The programs should create measurable benefits to ratepayers and to the city.
8. Except as provided for in Principle 9, the costs of program design, implementation, delivery, measurement of the benefits, and the costs of administration associated with the Energy Smart plan, including the costs of the Independent Monitor and the Third Party Administrator, shall not exceed those funds so established to be collected in rates as authorized by the Council.

Guiding Principles

9. Additional DSM and energy conservation funding may be obtained from other sources and will be evaluated on its merits for inclusion in the Energy Smart program.
10. Program implementation should give priority to the use of local vendors wherever possible and shall be consistent with the criteria of Entergy's Supplier Diversity Program which promotes the utilization of diverse suppliers (i.e., minority, women, veterans, disable veterans, historically underutilized business ("HUB") Zone).
11. All programs shall contain a measurement and verification component for prospective evaluation, modification and improvement within standard industry practice

Consideration of Other Funding & Programs

American Recovery and Reinvestment Act (ARRA)

- State Weatherization Assistance Program (WAP) - \$51M
 - ~ WAP Funding for New Orleans – assumes funding to weatherize 596 homes.
 - ~ ENO is currently working with LACAP and Associated Catholic Charities and in discussions with other non-profits to leverage funding opportunities.
- State Energy Program funding (Total = \$71M)
 - ~ “Lead by Example” State Govt. Building Retrofit. \$25.7M (37% of total SEP)
 - ~ Residential/Commercial Program. \$15.2M (22%)
 - ~ ENERGY STAR Appliance Rebate. \$6.8M (10%)
 - ~ Transportation Efficiency & Alternative Fuels. \$9.9M (14%)
 - ~ Renewable Energy Development Grants. \$9.9M (14%)
 - ~ Education, Training & Outreach. \$2.6M (4%)
- City of New Orleans - \$2.4MM

Program Sources and Considerations

- Industry Best Practices
- Local Stakeholder Suggestions
- Consensus Energy Plan
- Energy Policy Task Force
- Stimulus Programs & Funding
 - SEP
 - WAP
 - EECEBG
- Passing ENO Potential Study Programs
- New Orleans Re-development activity
- Existing ENO Quick Start Programs
- Other Energy System Programs
- ENERGY STAR Resources

Comparison of Consensus Energy Efficiency Programs vs. Proposed Energy Smart Plan

Consensus Energy Efficiency	Recommended Energy Smart Programs
Community Education	One Stop Energy Shop - Community Education, resource for comprehensive energy efficiency information
Technical Diagnostics and energy efficiency measures (residential and small commercial)	Technical diagnostics and energy efficiency measures: Residential Solutions; New Homes Program; Small Commercial; Large C&I; Efficient A/C Programs; Solar Water Heater Program
Low Income Weatherization	Low Income "Weatherization ready", window A/C replacement and education
Energy Efficiency Training and Certification for contractors/ builders (residential and commercial)	Workforce development and training of contractor partners who participate in and market programs
Real Time Energy User Monitoring Pilot	Real Time Energy Use Monitoring Pilot
Energy information and training program for large commercial and industrial customers	Large C&I program provides diagnostic services and incentives for upgrading lighting, HVAC, motors and process improvements
Quality assurance measures to verify effectiveness of program elements	Quality assurance, measurement and verification included in program cost estimates
Program startup and management plan	Included in program cost estimates
Risk-underwriting and targeted buy downs to foster third-party financing of energy efficiency improvements	Includes leveraging of stimulus funding and third party financing

Energy Smart Proposed Expenditure Allocation

	Annual Funding	Annual Funding	\$1.8MM Residential Contribution	Total First Year Funding	Total First Year Funding
Spending Allocation:	%	\$		\$	%
Residential	50%	\$1,559,876	\$800,000	\$2,359,876	60%
Small Commercial	20%	623,950		623,950	16%
Large C&I	30%	935,926		935,926	24%
	100%	\$3,119,752	\$800,000	\$3,919,752	100%

Deemed Savings
Tracking/Measurement
Cost Benefit Tests
Proposed Program Overviews

Deemed Savings

- Deemed Savings is a pre-determined, validated estimate of energy and peak demand savings attributable to an energy efficiency measure in a particular type of application
 - Follows standard statistical analysis and engineering practices
 - Deemed savings specific to New Orleans were developed:
 - Gulf South Region data adjusted for New Orleans weather data
 - ~ Building simulation modeling for insulation measures, windows, and solar treatment
 - ~ Degree day conversions for GSHP and duct efficiency
 - ~ EPA and DOE Energy Star Calculators for various water heating measures
 - ~ Used industry accepted values for non-weather related measures (appliances, lighting)
- Commercial applications applied ASHRAE formulas and ran best fit regressions on weather and savings factors to adjust for New Orleans conditions

Tracking System

- A program tracking database accounts for all program activities associated with reported energy and demand savings. A robust tracking database is essential for collecting, analyzing and reporting key data on program performance, participant information, equipment installations, energy savings, financial/incentive management, and cost effectiveness. For a typical project, tracking data includes, at a minimum:
 1. A unique project identifier
 2. Project initiation date
 3. Project activities and associated dates. This includes scheduled audits, measures installed
 4. Project savings (typically based on deemed savings multiplied by the number of installations)

Evaluation, Measurement & Verification

- ENO committed to regular program evaluation activities to measure net program savings and provide feedback on program process and market transformation
- Program plans each include prospective EM&V activities
- ENO will carry out program activities that support robust evaluation, including:
 - ~ Detailed program tracking
 - ~ Program QA/QC procedures (i.e. audits of contractor activity)
 - ~ Deemed savings updates

Cost Benefit Tests

- Followed CA Standard Practice Manual, per 2009 AIP
- Total Resource Cost (TRC) Test: Typically used as primary test of program cost-effectiveness by utility commissions across the country. Benefits include avoided energy and demand costs. Costs include all program costs to ENO plus participant costs.
- Program Administrator Cost (PAC) Test: Measures cost-effectiveness of program to ENO. Benefits include avoided energy and demand costs. Costs include program costs to ENO.
- Participant Test (PCT): Measures cost-effectiveness of program to participant. Benefits include avoided energy and demand costs plus incentives received by participants.

ENO Proposed ENERGY SMART PROGRAMS

Program	<u>12-Month Goal</u>		Total Program Cost (\$000)	TRC Test	PAC Test
	kWh Savings	kW Savings			
Residential Solutions	586,490	198	\$390	1.00	1.25
Residential Low Income	81,699	18	\$300	0.21	0.22
ENERGY STAR A/C	706,901	208	\$240	1.73	2.94
Residential AC Tune-up	706,191	389	\$240	1.26	1.44
Energy Efficient New Homes	1,266,391	252	\$280	1.03	5.23
Residential CFL	3,081,611	445	\$230	2.73	2.73
Small Commercial Solutions	1,784,262	257	\$680	1.38	1.66
Large C&I	3,304,371	509	\$1,030	1.28	1.72
Solar Hot Water Pilot	259,785	39	\$150	0.33	1.40
In-Home Display pilot	428,100	134	\$280	1.16	1.17
Solar PV Monitor Pilot	0	0	\$100	N/A	N/A
One-Stop Energy Shop*	0	0	0	N/A	N/A
Totals	12,205,801	2,449	\$3,920		

* The One-Stop Energy Shop costs have been spread among all the programs listed above and is discussed in more detail later in the narrative of the report.

Residential Solutions Program

The Residential Solutions program will provide incentives for homeowners to use a whole-house approach to energy efficiency, including a review of entire building envelope effecting everyday needs for reducing energy consumption and help establish and train a network of skilled and credible home energy analysts and contractors.

Measures & Average Incentives:

Water Heater Reduced Setpoint	\$1	Water Heater Jacket	\$20
Faucet Aerator	\$4	High Efficiency Pool Pump & Timer	\$540
CFIs	\$2	Tankless Gas Water Heater	\$300
Low Flow Showerhead	\$18	Hot Water Pipe Insulation	\$20
Wall Insulation	\$500	Solar Screens	\$80
Floor Insulation	\$750	Duct Efficiency	\$800
Air Infiltration Reduction	\$250	Water Heater, Efficient Heat Pump	\$1,000

Projected Participation (*customers*):

All homes in New Orleans are eligible.

Year 1 – 1,301

Year 2 – 1,735

Year 3 – 1,735

Energy Efficient New Home

The Energy Efficient New Homes program offers cash incentives to, recognition for, and promotion of New Orleans' area residential building contractors who take steps to implement specific energy efficiency building practices that meet the program criteria for an energy efficient new home.

Measures & Average Incentives:

Energy Efficient New Home @ 15% Above 2006 IECC Code	\$250
Energy Efficient New Home @ 30% Above 2006 IECC Code	\$375
New Home Advantaged Lighting Package	\$100

Projected Participation (*customers*):

All residential building or remodeling contractors are eligible.

Year 1 – 699

Year 2 – 933

Year 3 – 933

Residential A/C Tune Up

The air conditioning ("AC") Tune-up program will recruit and train AC contractors to perform proper air conditioning tune-ups on existing, working residential air conditioners and provide incentives to customer toward the cost of tune-ups. Tune-ups include filter replacement, blower speed and air-flow adjustment, coil cleaning, and refrigerant charge

Measures & Average Incentives:

A/C Tune-up \$75

Projected Participation (*customers*):

All homes with operational Residential A/Cs are eligible.

Year 1 – 1,636

Year 2 – 2,181

Year 3 – 2,181

Residential Energy Star A/C

The ENERGY STAR Air Conditioning program is designed to increase the market penetration of ENERGY STAR central and window A/Cs in New Orleans through incentives. The program will also train participating contractors on how to perform "Quality Installation" of the units.

Measures & Average Incentives:

Efficient Window A/C	\$25
Efficient Central A/C	\$225

Projected Participation (*customers*):

All homes in New Orleans are eligible.

Year 1 – 624

Year 2 – 831

Year 3 – 831

Residential Low Income

The objective of the Low Income program is to improve the energy efficiency, comfort and affordability of homes for New Orleans' residents who qualify under Federal guidelines for the Weatherization Assistance Program ("WAP") by providing funding to make home weatherization ready, providing replacement window A/Cs where appropriate and education.

Measures & Average Incentives:

Weatherization Readiness

Up to \$2,500

ENERGY STAR Window A/C and installation

Up to \$600

Projected Participation (*customers*):

All WAP qualified residents are eligible.

Year 1 – 190

Year 2 – 304

Year 3 – 304

Residential CFL Program

The objective of the Residential Direct Install CFL program is to increase the market penetration of ENERGY STAR-qualified compact fluorescent lighting ("CFL") in the New Orleans area through direct home installation of CFLs through partnership with local non-profits and customer education.

Measures & Average Incentives:

Lighting CFL 15W – 27W Covers full cost of CFLs

- *Up to 20 CFLs per home*

Projected Participation (*customers*):

All homes in New Orleans are eligible.

Year 1 – 2,301

Year 2 – 3,067

Year 3 – 3,067

Small Commercial Solutions Program

The Small Commercial Solutions program provides incentives for customers to implement cost-effective energy efficiency measures through qualified contractor partners. Provides expedited simple solutions for small non-residential customers, primarily focused on lighting and HVAC systems.

Measures & Average Incentives:

AHU Fan Schedule	\$320	Duct Loss	\$1,200
Air Distribution	\$520	Economizer	\$2,000
Chilled Water Temperature	\$175	Ice Machine	\$740
Coil Efficiency	\$270	HVAC Equipment Efficiency	\$9,000
Commercial Lighting Upgrades	\$39,000	Infiltration Reduction	\$1,000
Connectionless Steamer	\$2,900	Lighting CFLs	\$2
Dual-sided LED Exit Sign	\$30	Lighting Controls	\$43

Projected Participation (*customers*):

All Non-Residential Customers with peak demand of less than 100 kW.

Year 1 – 133

Year 2 – 133

Year 3 – 133

Large Commercial & Industrial Solutions Program

Provides custom and prescriptive incentives and technical assistance to customers with peak demand of 100 kW or greater to implement energy efficient retro-fit and high efficiency opportunities at the time of new equipment purchases, facility modernization, new construction projects and industrial process improvements.

Measures & Average Incentives:

AHU Fan Schedule	\$177	Motors (per HP)	\$8
Air Distribution	\$4,154	Centrifugal Chiller, 0.51 kW/ton, 500 tons	\$2,000
Chilled Water Temperature	\$164	CFL Hardwired, Modular 36W	\$29
Coil Efficiency	\$2,104	HVAC Equipment Efficiency	\$3,744
Commercial Lighting Upgrades	\$13,125	Infiltration Reduction	\$2,320
Connectionless Steamer	\$2,900	Circulating Pumps	\$11,025
Dual-sided LED Exit Sign	\$31	Lighting Controls	\$44
LED Traffic Lights	\$211	Lighting Upgrade	\$50,000
RET 2L4' Premium T8, 1EB	\$25	Ventilation	\$27,036
Server Virtualization	\$109	Industrial Process (\$per kWh)	\$664

Projected Participation (*customers*):

All Non-Residential Customers with peak demand of 100 kW or greater.

Year 1 – 44

Year 2 – 44

Year 3 – 44

PILOT PROGRAMS/ EDUCATION

- Solar Water Heating Pilot
- In Home Display Pilot
- Solar PV Monitoring Pilot
- One Stop Energy Shop

Pilot Program – Solar Water Heater

Provides incentives to install solar water heaters for residential customers and provides training to participating contractors and workshops for interested residential customers and contractors.

Measures & Average Incentives:

Solar Water Heater System \$1,000 *per home*

Projected Participation:

All new homes or existing homes with electric water heater systems in New Orleans are eligible.

Year 1 – 92 participants

Pilot Program – In-Home Display (IHD) of Real Time Energy Information

Residential pilot program featuring in home device that displays electricity usage for the customer in their home and web portal access. An information program designed to increase awareness of energy usage, leading to energy savings.

Measures & Average Incentives:
Free In-home display unit

Projected Participation:
Year 1 – 300 to 400

Solar PV Monitoring

Residential & Commercial 12 month pilot program to monitor non-utility sponsored third-party Solar PV installations. This program does not provide any energy savings independently, but promotes informed investment by customers.

Anticipated Outcome:

ENO to install all sub-metering equipment to capture total energy output of the solar PV systems. A detailed report will provide net energy output, customer savings and overall cost benefit analysis of Solar PV in the New Orleans community.

Projected Participation:

Information available to all New Orleans residents and businesses

10 to 20 residential Solar PV applications and up to 4 commercial applications to take part in pilot program.

One-Stop Energy Shop

- Education & Awareness program to provide customers with a clearing house for information on various energy efficiency related programs and incentives available to New Orleans residents.
- Information will be provided through ENO customer service centers, customer service managers, on-line, through Energy Smart contractor partners and various other venues.
- The cost of the program is projected to be \$200,000 per year. The program does not provide any energy savings independently, but will promote investment by customers in energy efficiency measures.
- Participants include all residential and non-residential ENO customers.
- The cost associated with this program is allocated to all programs recommended in the filing.

Residential Solutions Program

Q&A

Next Steps

- Filing is available to review on ENO website
- Period to Post Questions on Website is July 9 – 24
- ENO has 5 days to Respond (through July 31)

www.energy-neworleans.com/IRP

Thank You