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MASTER OF SUSTAINABLE REAL ESTATE DEVELOPMENT

Supporting a Resilient and Sustainable City:

A Programmatic Review and Analysis of Green Renovation Programs in New Orleans

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RESEARCH STATEMENT

The Finance Authority of New Orleans seeks to improve the quality of life in New Orleans by investing in affordable housing and economic development programs that produce jobs and wealth for residents. To that end, it's newly completed 5-Year Strategic Plan outlines multiple focus areas designed to identify and develop innovative and effective strategies that further this mission. One example is the Single Family Green Renovation Program, which will provide a competitively priced loan product that enables New Orleans homeowners to invest in substantial upgrades, improvements and repairs that increase the efficiency and environmental resiliency of their homes. To support the creation of this program, my research project will:

1) Survey existing financial assistance or financing programs and related eligibility criteria for homeowners;
2) Survey financial resources from federal, state, philanthropic, or other housing and related organizations that may be available to FANO for this loan program (loan capital, loan loss reserves, credit enhancements, lower interest rates, grants, operating expense support, etc.)
3) Conduct market research, obtaining feedback from industry stake-holders and professionals;
4) Define potential clients' practical housing demands and deficiencies; and
5) Identify potential professional and institutional partnership models for implementation

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INTRODUCTION

Since its founding in the early 18th century, the City of New Orleans has had a precarious relationship with its natural environment. These three hundred years reflect a series of strategies big and small, to cope with, and benefit from, New Orleans' environmental and geographic context near the basis of the Mississippi River. Today, the city lives with a network of environmental infrastructure systems, both passive and active, and both old and new. These systems, although critical to the city's physical existence, prove largely insufficient in supporting the city's current and future resiliency.

A central component to New Orleans' resiliency is the efficiency and economic and environmental resiliency of its aged housing stock. Since the 2005 aftermath of Hurricane Katrina, New Orleans has undergone billions of dollars of investment in many of the key components that support modern life in a city, including basic infrastructure such as roads, bridges, and drainage systems, public amenities such as schools and libraries, and key transportation infrastructure, such as light rail, pedestrian and bike paths. And tens of thousands of natives and new residents alike have made substantial investments re-building and building anew their homes and communities. But even with these monumental investments, large swaths of New Orleanians continue to live in homes that are neither operationally efficient, nor prepared to withstand the environmental conditions of their geographic contexts. Some seventy-nine percent of the City's housing stock was built prior to 1980.[1] The financial resources needed for the physical upkeep of these kinds of older properties is significant, and most property owners have limited access to capital for significant repairs.[2]

[1] Office of Community Development, City of New Orleans, *Housing for a Resilient New Orleans: A Five-Year Strategy*, Enterprise Advisors, Enterprise Community Partners, and the National Resource Network. (New Orleans, LA, City of New Orleans, 2016), page 8.
[2] Ibid.

The City of New Orleans, and its elected officials, are largely aware of these challenges, and have developed clear and specific plans to address the city's environmental challenges and opportunities. Prominent amount these plans is the City's 2015 resilience plan entitled "Resilient New Orleans: Strategic Actions to Shape Our Future City", the City of New Orleans, under the direction of then Mayor Mitchell Landrieu and Chief Resilience Officer Jeffery Hebert, articulated its intent to transform into a sustainable city through a specific resilience strategy. In the first page of its Executive Summary, the resilience strategy states

> *"We will provide incentives to property owners to retrofit their homes to be more resilient to storms."*[3]

The report goes on to say

> *"We will promote sustainability as a growth strategy, seeking ways to increase energy efficiency…"*[4]

Prior to commissioning Resilient New Orleans, in 2013 Mayor Mitch Landrieu enlisted the New Orleans Business Alliance to create ProsperityNOLA, a citywide five-year economic development strategy designed to increase wealth and quality job opportunities for New Orleans.[5] The report defined an economic cluster as a geographically proximate group of interconnected companies and associated institutions, including product producers, service providers, suppliers, educational institutions, and trade associations, and describes clustering as a way of categorizing all the components of an industry that make it successful and help it grow.[6] After completing a comprehensive strategic advisory review with seventy-five stakeholders from a diverse cross-section of New Orleans, identified five economic clusters which, it

[3] City of New Orleans, *Resilient New Orleans: Strategic Actions to Shape Our Future*, Office of the Mayor (New Orleans, LA, 2015), 4.
[4] Ibid., 5.
[5] New Orleans Business Alliance, *ProsperityNOLA: A Plan to Drive Economic Growth for 2018*, (New Orleans, LA, 2018), 6.
[6] Ibid., 7.

argues, combine the historic foundation of the New Orleans economy, while leveraging emerging sectors to catalyze growth.[7] The five economic clusters identified are divided into two categories, foundational and emerging, and are as follows:

FOUNDATIONAL:	**EMERGING:**
ADVANCED MANUFACTURING	BIOINNOVATION AND HEALTH SERVICES
TRANSPORTATION, TRADE, AND LOGISTICS	CREATIVE DIGITAL MEDIA
	SUSTAINABLE INDUSTRIES

[8]

The Report defined the Sustainable Industries cluster as encompassing companies that can profitably manage and solve environmental issues and challenges.[9] This includes companies that handle water, waste, building efficiency and remodeling, and environmental administration. At the time of the report, this cluster, as previously defined, had a total of 1,735 jobs, and the report noted that other opportunities and industries fit into this cluster, such as solar energy, coastal restoration, and disaster recovery, thereby further expanding the scope of the cluster, relative to the size of the overall New Orleans economy.[10] The report identified key strengths of the Sustainable Industries cluster, including New Orleans' competitiveness in multiple segments within the cluster, such as sustainable components manufacturing, advanced biofuels, costal restoration and protection, disaster mitigation and management, wastewater treatment, water management, and solar. It also identified strengths that benefit, but are not unique to, New Orleans, including logistical access to foreign and domestic markets and strong subsidy-based incentives, such as solar tax credits and RESTORE Act funds. Conversely, it

[7] Ibid.
[8] Ibid., 8.
[9] Ibid., 28.
[10] Ibid.

identified multiple primary challenges facing the cluster, including lack of a clear definition, insufficient coordination within the cluster, knowledge management and transfer, and the future uncertainty of the subsidies. Even with these challenges, the report identified increased prominence of environmental hazards, locally and internationally, as a key driver of great local opportunity within the cluster.

To catalyze these five economic clusters, the report identified and described seven themes called "strands", which provide an organizational framework for the report's specific strategies. These strands are defined as:

1) Coordinate and Collaborate;
2) Invest to Compete;
3) Prepare our Workforce;
4) Promote Entrepreneurship and Small Business Development;
5) Promote Equity as a Growth Strategy;
6) Reposition the City's Brand; and
7) Think Internationally

[11]

THE PROBLEM IN NEW ORLEANS

Sustainable development is defined by The World Commission on Environment and Development as a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development; and institutional change are all in harmony and enhance both current and

[11] Ibid., 62.

future potential to meet human needs and aspirations.[12] Furthermore, the United Nations defines urban resilience as the measurable ability of an urban system, with its inhabitants, to maintain continuity through all shocks and stress, while positively adapting and transforming toward sustainability.[13]

At its outset, New Orleans was a city highly adapted to living with water. During its first two centuries, New Orleans occupied the high ground nearest the Mississippi River and the natural ridges throughout the region.[14] With the advent of highly efficient pumping technology in the early 20th century, the draining of swampland in low-lying parts of the City and region incentivized new development to spread into previously uninhabitable locations.[15] With this development came suburbanization and regional sprawl, setting the stage for challenges to the City's water management and flood protection systems.[16] Today, land subsidence – a result of low groundwater levels maintained during dry times – places a significant stress on pumping and other aging urban infrastructure systems. A March, 2018 independent assessment of the drainage system conducted by Veolia, a transnational utility management and consultancy firm, confirmed that the system currently exhibits widespread deterioration and an urgent need to improve several aspects of the Sewage and Water Board's organization and processes.[17] Report findings indicate that catch basin, pipes, box canal, and open canals exhibit a diminished capacity of 16%, 27%, and 14% respectively.[18] The report also indicates that at the time of assessment, some but not all of the power generation turbines were operational, the power distribution system largely failed to

[12] World Commission on Environment and Development, *Report of the World Commission on Environment and Development: Our Common Future*. (Oxford, England: Oxford University Press, 1987), 43.
[13] United Nations Habitat for a Better Urban Future, *Urban Resilience Hub, What is Urban Resiliency*, http://urbanresiliencehub.org/what-is-urban-resilience/ (accessed April 10, 2018).
[14] City of New Orleans, *Resilient New Orleans*, 18.
[15] Ibid.
[16] Ibid.
[17] Veolia North America, *Drainage System Condition Assessment: Final Report for the Sewerage and Water Board of New Orleans, Louisiana*. (New Orleans, LA 2018), 4.
[18] Ibid., 6.

meet industry standards for insulation resistance, electrical current polarization, and equipment age, and drainage pumps, vacuum systems, and electrical systems exhibited 89 distinct, major issues.[19]

According to the American Council for an Energy-Efficient Economy's 2016 Energy Burden Report, New Orleans households spend a median of 5.25% of their gross income in energy costs.[20] Low-income households in the city (those at or below 80% of area median income), spend a median of 9.78% of their gross income in energy costs.[21] At the highest energy burden quartile, low-income households in New Orleans spend 18.90% of their gross income in energy cost.[22] Even more, 23.71% of all households, and 45.84% of low-income households, have energy burdens at least twice the city median.[23]

Benchmarking is defined by the United States Department of Energy as the practice of comparing the measured performance of a device, process, facility, or organization to itself, its peers, or established norms, with the goal of informing and motivating performance improvement.[24] In this way, benchmarking facilitates energy accounting, comparing a facility's energy use to similar facilities to assess opportunities for improvement, and quantify/verify energy savings.[25] According to the 2017 ACEEE state and local policy database, New Orleans has a benchmarking program in place for its municipal buildings, however the city does not yet have a benchmarking program for private sector buildings or residential structures.[26] Additionally, Entergy New Orleans does not provide building managers or owners with automatic whole-building benchmarking data for input into Portfolio Manager and does not participate in the Green Button

[19] Ibid., 11.
[20] A. Drehobl and L. Ross, Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities, *American Council for an Energy-Efficient Economy*, April 2016, 45.
[21] Ibid.
[22] Ibid., 47.
[23] Ibid., 50.
[24] Office of Energy Efficiency & Renewable Energy, US Department of Energy, *Building Energy Use Benchmarking*, https://www.energy.gov/eere/slsc/building-energy-use-benchmarking, (accessed April 10, 2018).
[25] Ibid.
[26] American Council for an Energy-Efficient Economy, *State and Local Policy Database, National City Database*, https://database.aceee.org/city/new-orleans-la, (accessed April 15, 2018).

program, an industry-led effort to provide utility customers with easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format for electricity, natural gas, and water usage.[27] The Green Button Alliance posits that Green Button data access is important because it supports awareness and mitigation.[28] They argue that giving end uses access to their usage data enables them to take action to reduce overall usage, determine whether solar might be right for them, and allow companies and apps to assist in underwriting where improvements may be able to help them save money.[29] Entergy New Orleans does not provide community-wide energy use data for community planning and evaluation purposes.[30] The City's climate action plan, to be completed in 2018, calls for the city and Entergy to establish data protocols. ResultsNOLA is the City's scorecard for tracking progress toward citywide and strategic goals.[31] Each year, the Mayor and City Council create a budget that plans how public dollars will fund services to address community priorities.[32] ResultsNOLA is used by City leaders and the public to measure the outcomes of those services. Currently the platform captures over 300 quarterly performance indicators. Under the Sustainable and Resilient Communities category, one of the three defined objectives is to "improve resilience through sustainable development". The platform tracks progress on a total of six strategies implemented to achieve this objective. Of these six strategies, three have at least one measure for tracking progress. Among the three strategies currently lacking a measure, is "promote the adoption of energy efficiency, renewable energy, and alternative fuels".[33]

THE CURRENT PROGRAMATIC LANDSCAPE

[27] Ibid.
[28] Green Button Alliance, *What is the Green Button Initiative?*, http://www.greenbuttonalliance.org/about, (accessed April 16, 2018).
[29] Ibid.
[30] American Council for an Energy-Efficient Economy, *State and Local Policy Database.*
[31] City of New Orleans, *ResultsNOLA*, https://datadriven.nola.gov/results/, (accessed April 20, 2018)
[32] Ibid.
[33] Ibid.

Residential Resiliency retrofit programs available in New Orleans focus largely on energy efficiency, storm preparedness, and to a lesser degree, environmental impact. These programs are typically financed through loans, rebates, tax credits, grants, and net metering. To support the Finance Authority of New Orleans' creation of a green renovation loan program, this paper examines representative programs with a clear mission consistent with FANO's objective. Specifically, in its 5-year Strategic Plan released in the first quarter of 2018, the relevant strategic objective is to "research and develop financing programs that help mitigate the impacts of climate change, increase energy efficiency and resiliency, or reduce utility costs for households, businesses and public infrastructure". In the same brush, the request for this paper is to focus exclusively on programs for homeowners.

ENERGY SMART

Pursuant to New Orleans City Council Docket Number UD-08-02, Entergy New Orleans began implementation of its Energy Smart program on April 1, 2011, with the program portfolio including a three year, $11 million plan.[34] The initial Energy Smart plan included 7 residential programs and 2 commercial programs that were implemented by CLEAResult, a North American energy efficiency consultancy firm.[35] After a year and a half of successful programs on the Eastbank, the Council offered the same programs in Algiers for the first time in October 2012.[36] Later, both the Entergy-Legacy and Algiers programs were extended through March 31, 2015.[37] In April 2015, Energy Smart started a new two-year plan, Program Years 5 and 6, which includes the slate of current programs offerings.[38]

[34] Entergy New Orleans, Inc., *Energy Smart Annual Report – Program Year Six*, New Orleans, LA, 2017, 5.
[35] Ibid.
[36] New Orleans City Council, *Council's Energy Smart Program Soon to be Available to Algiers Residents*, http://www.nolacitycouncil.com/content/display.asp?id=54&nid={E03F5ACC-A023-42EB-B901-EC9E979E431B}, (accessed April 28, 2018).
[37] Entergy New Orleans, Inc., *Energy Smart Annual Report – Program Year Six*, 5.
[38] Ibid.

Currently, the program includes solutions for residential and commercial customers. For homeowners, there are a total of 14 distinct solutions:

PROBLEM	ENERGY SMART SOLUTION	INCENTIVE
Energy inefficiency across a range of systems and components within the home	Home Performance	Free energy assessment; Free energy saving measures; variable rebates
Energy inefficiency across a range of systems and components within the home, and owner has limited income	Income-Qualified Weatherization	Free energy assessment; Free energy saving measures
Energy inefficiency across a range of systems and components within the home, and resident lives in an apartment	Multifamily	Free energy saving measures
Central air conditioning system is in efficient and the specific reasons may be unknown	A/C Tune Up	$150 rebate
The owner desires a new central air conditioning system, and needs a qualified contractor to provide installation	Central A/C Rebates	Variable rebates from $50 to $500 per system (can be combined)
The owner needs a new window air conditioning unit	Window A/C Rebate	$50 rebate per window unit (up to four)
The owner needs a new refrigerator	Refrigerator Rebate	$50 rebate
The owner needs a new water heater	Heat Pump Water Heater Rebate	$400 rebate
The owner's pool is expensive to operate	Pool Pump Rebate	Up to $300 rebate
The owner needs an incentive to reduce air conditioning usage on hot days	EasyCool Program	$40 credit on energy bill
The owner needs more energy efficient lighting within and around the home	Residential LED Lighting	15x longer product life; 80% less energy used vs incandescent

The local educator needs tools to teach energy efficiency to students	Energy Smart for Kids	Age appropriate educational materials and curricula
The local community leader needs tools to help community members learn about energy efficiency	Energy Smart Workshops	Age appropriate educational materials curricula, and instruction
The owner is unsure of what is driving energy use in the home	Energy Smart Scorecard	Supports informed energy savings and efficiency measures

[39]

RESULTS

Table 2.1

ENO - Home Performance with Energy Star

	Cost			Energy Savings (kWh)			Demand Savings (kW)			Participants		
Program	Budget	Actual	%	Reported	Evaluated	%	Reported	Evaluated	%	Reported	Actual	%
Program Year 2014	$ 818,293	$ 790,383	97%	6,061,685	5,783,448	95%	1,666	1,319	79%	6,580	6,580	100%
Program Year 2015	$ 291,512	$ 658,178	226%	1,356,876	4,286,868	316%	354	883	249%	2,550	2,550	100%
Program Year 2016	$ 827,457	$ 787,694	95%	4,082,245	4,217,279	103%	879	1,103	126%	1,153	1,153	100%

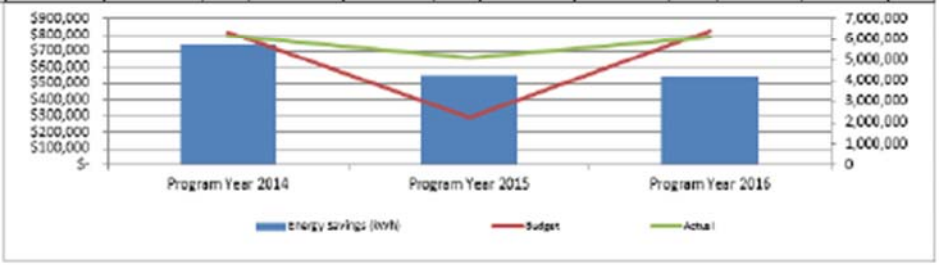

Table 2.2

Algiers - Home Performance with Energy Star

	Cost			Energy Savings (kWh)			Demand Savings (kW)			Participants		
Program	Budget	Actual	%	Reported	Evaluated	%	Reported	Evaluated	%	Reported	Actual	%
Program Year 2014	$ 116,050	$ 113,460	98%	1,155,244	1,635,141	142%	n/a	256	-	1,579	1,579	100%
Program Year 2015	$ 23,806	$ 72,316	304%	59,989	577,130	962%	21	124	590%	1,277	1,277	100%
Program Year 2016	$ 93,947	$ 218,084	232%	282,097	301,333	107%	57	72	126%	100	100	100%

[40]

[39] Entergy New Orleans, Inc., *Energy Smart > Home Owners*, https://www.energysmartnola.info/home-owners, (accessed May 4, 2018).

[40] *Entergy New Orleans, Inc., Energy Smart Annual Report – Program Year Six*

ENTERGY NET METERING

Net metering is a billing mechanism that credits solar energy system owners for the electricity they add to the public grid.[41] In residential applications, photovoltaic panels sometimes generate more electricity than the homeowner consumes. In these instances, net metering enables the site-level electricity meter to run backwards, generating a credit toward the owner's energy bill. When this happens, the exported energy is distributed locally to serve nearby customers' energy demands. On average, 20-40% of a solar energy system's output goes into the public grid.[42] For this process to occur, the home must have a compatible electricity meter, and the local utility must participate in the initiative. Not all states have net metering. As of November 2017, thirty-eight (38) states, the District of Columbia (DC), and three (3) U.S. Territories had mandatory rules for certain utilities. In Texas and Idaho, there are no statewide mandatory rules, but some utilities allow net metering (Appendix C).[43]

In May 2007, the New Orleans City Council adopted net metering rules to require Entergy new Orleans to offer net metering to customers with systems that generate electricity using solar energy, wind energy, hydropower, geothermal or biomass resources.[44] The City Council's rules apply to residential facilities with a maximum capacity of 25 kilowatts (kW).[45] Net excess generation (NEG) is credited at the utility's current retail rate and applied to the customer's next bill on an indefinite basis. NEG credits remaining when the customer discontinues service are paid at the avoided cost rate.[46] The avoided cost

[41] Solar Energy Industries Association, *Net Metering*, https://www.seia.org/initiatives/net-metering, (accessed May 5, 2018).
[42] Ibid.
[43] Database of State Incentives for Renewables & Efficiency, *Net Metering Policies Map*, https://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2017/11/DSIRE_Net_Metering_ November2017.pdf, (accessed May 5, 2018).
[44] U.S. Department of Energy, *City of New Orleans – Net Metering*, https://www.energy.gov/savings/city-new-orleans-net-metering, (accessed May 5, 2018).
[45] Ibid.
[46] Entergy New Orleans, Inc., *Net Metering Service Schedule NM-3*, http://www.entergyneworleans.com/content/price/tariffs/eno/enol_elec_nm.pdf, (accessed May 5, 2018).

rate is variable and determined biannually, but is generally around 40% of the residential retail rate charged to customers.[47] [48]

LOUISIANA WEATHERIZATION ASSISTANCE PROGRAM

First established in 1976, The Weatherization Assistance Program (WAP) is a federally-funded, state-administered Department of Energy program that weatherizes homes to improve heating and cooling efficiency; thereby reducing energy costs and improving the comfort level of household members.[49] [50] In Louisiana, the program is administered through the Louisiana Housing Corporation (LHC).[51] The program is in turn implemented through contract agreements with local community action agencies and local government entities to deliver services to all sixty-four (64) parishes throughout state.[52] Because WAP is intended for low-income residents, it caps income eligibility at 200% of the Federal Poverty Level, and uses an applicant priority ranking system to ensure that high priority populations are targeted to maximize program effectiveness. High priority populations are characterized as: elderly (60 years of age and older), families with children 18 years of age and under, persons with an established disability under the Supplemental Security Income program, high residential energy users, and households with a high energy burden.[53] The priority ranking is calculated by a system which assigns points based on each family members' eligibility factors, as well as number of months on the waitlist.[54] Households are ranked according to the total number of points awarded. The household with the highest

[47] Ibid.
[48] Entergy New Orleans, Inc., *Appendix F: Avoided Costs and Retail Rates*, http://www.entergy-neworleans.com/content/irp/Appendix_F-Avoided_Costs.pdf, (accessed May 5, 2018).
[49] Energy Policy and Conservation Act of 1975, codified at 42 U.S. Code § 6861 - p. 6054, https://www.gpo.gov/fdsys/pkg/USCODE-2013-title42/pdf/USCODE-2013-title42-chap81-subchapIII-partA.pdf, (accessed May 5, 2018).
[50] State of Louisiana, 2018 Weatherization Assistance Program State Plan, https://www.lhc.la.gov/assets/Programs/Weatherization_Assistance/2018-Weatherization-State-Plan-Proposed.pdf, p. 2-15, (accessed May 7, 2018).
[51] Ibid.
[52] Ibid.
[53] Ibid.
[54] Ibid.

number of points is ranked first on the waiting list. In New Orleans, WAP is implemented by the Quad Area Community Action Agency, Inc.[55]

SERVICE DELIVERY

As part of its service delivery package, WAP deploys locally-based and professionally trained weatherization crews to create a comprehensive assessment of the home.[56] This assessment is used to determine the most appropriate and cost effective weatherization measures for the home, and to identify any health and safety risks.[57] The agency auditor then creates a work order, and trained crews deploy to install the energy efficiency, health, and safety retrofits. A certified quality control inspector then certifies the work and safety of the home.[58] On average, WAP's administrative overhead represents 10% over its overall weatherization funding, 15% supports health and safety costs, 20% supports training and technical assistance costs, and 55% covers program operations costs.[59]

INTERVENTION TYPES

Typical WAP retrofits include mechanical, building envelope, health and safety, and electric and water interventions, including programmable thermostats, solar screens, wall and attic insulation, mechanical ventilation, low-flow shower heads, replacement appliances, and LED lighting. WAP's average weatherization cost per in 2017 was $4,695 per unit, and the average annual energy cost savings was $283, or approximately $24 per month.[60] On average, this number represents a 7% annual electric consumption savings, and an 18% annual heating consumption savings.[61]

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[55] Louisiana Housing Corporation, *Weatherization Assistance Program Provider Directory*, p. 3, https://www.lhc.la.gov/assets/Programs/Weatherization_Assistance/WAP-PROVIDER-LISTING-07-18-2017.pdf, (accessed May 7, 2018).
[56] U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, *Weatherization Works!*, (accessed May 7, 2018)
[57] Ibid.
[58] Ibid.
[59] Ibid.
[60] Ibid.
[61] Ibid.

PROGRAM EFFECTIVENESS

In 2017, Louisiana's Weatherization Assistance Program received $1,425,235 in allocated funds and completed weatherization on 127 units.[62] The Quad Area Community Action Agency, Inc. (responsible implementation in a number of areas including New Orleans) received an allocation of $445,340 and completed weatherization on 57 units.[63] This represents a total program cost of $7,813 per unit. Nationally, more than 6 million homes have been weatherized since the inception of the program.[64]

POWERSAVER LOAN PROGRAMS

The United States Department of Housing and Urban Development (HUD) currently insures two privately originated lending programs designed to support home improvements and rehabilitations.[65] The first, known as Title 1 Home and Property Improvement Loans, are HUD-insured loans originated by approve Title 1 lenders. For single family homeowners, these loans feature a maximum loan amount of $25,000, a maximum loan term of 20 years, a fixed interest rate, loan security in the form of a mortgage or deed of trust on the property (for loans over $7,500, and no prepayment penalties.[66] These loans are tailored for housing rehabilitation activities that do not require acquisition or refinancing. In Louisiana, Title 1 Home and Property Improvement Loans are originated by the following private lenders:

Anthem Bank & Trust
7809 Jefferson Hwy
Baton Rouge, LA 70809

Progressive National Bank of De Soto
300 Bert Kouns

[62] State of Louisiana, 2018 Weatherization Assistance Program State Plan
[63] Ibid.
[64] Ibid.
[65] U.S. Department of Housing and Urban Development, FHA Single Family Programs, https://www.hud.gov/program_offices/housing/sfh, (accessed May 4, 2018)
[66] U.S. Department of Housing and Urban Development, About Title 1 Home and Property Improvement Loans, https://www.hud.gov/program_offices/housing/sfh/title/ti_abou, (accessed May 4, 2018).

Shreveport, LA 71118

Progressive National Bank of De Soto
5258 Stonewall Frierson Road
Stonewall, LA 71078
[67]

The second, known as Federal Housing Authority (FHA) 203(k) Rehabilitation Mortgage Insurance, is broken into two distinct programs, the Limited 203(k) Mortgage, and the 203(k) Rehab Mortgage.[68] FHA's limited 203(k) program permits homebuyers and homeowners to finance up to $35,000 into their mortgage to repair, improve, or upgrade their home. Under this program, homebuyers can quickly access capital to finance property repairs or improvements, such as those identified by a home inspector or FHA appraiser.[69] The 203(k) Rehab Mortgage program enables homebuyers and homeowners to finance either the purchase or refinancing of a house, and the cost of its rehabilitation.[70] In Louisiana, there are a total of 22 lenders approved to originate 203(k) loans, and 10 approved to do so in New Orleans (see Appendix B for a complete list)[71]. In contrast with the Limited 203(k) Mortgage program, which is designed for less extensive repairs/improvements, the 203(k) Rehab Mortgage is designed as a streamlined, lower interest alternative to a tradition construction-to-permanent loans and stand-along, interest-only residential construction loan.[72] In this way, the 203(k) Rehab Mortgage can be rightsized to the specific rehabilitation, similar to traditional construction loans. Specifically, the following lending terms are characteristic of a 203(k) insured Rehab Mortgage:

1. A portion of the loan proceeds is used to pay the seller, or, if a refinance, to pay off the existing mortgage;

[67] U.S. Department of Housing and Urban Development, Title 1 Lender List Search Results, (accessed May 4, 2018).
[68] U.S. Department of Housing and Urban Development, 203(k) Rehabilitation Mortgage Insurance, https://www.hud.gov/program_offices/housing/sfh/203k, (accessed May 4, 2018).
[69] Ibid.
[70] U.S. Department of Housing and Urban Development, 203(k) Rehab Mortgage Insurance, https://www.hud.gov/program_offices/housing/sfh/203k/203k--df, (accessed May 4, 2018).
[71] U.S. Department of Housing and Urban Development, 203(k) Lender List Search Results, (accessed May 4, 2018).
[72] *U.S. Department of Housing and Urban Development, 203(k) Rehabilitation Mortgage Insurance.*

2. The remaining funds are placed in an escrow account and released as rehabilitation is completed;
3. The cost of the rehabilitation must be at least $5,000, but the total value of the property must still fall within the FHA mortgage limit for the area;
4. The value of the property is determined by either:
    a. The value of the property before rehabilitation plus the cost of rehabilitation, or;
    b. 110 percent of the appraised value of the property after rehabilitation, whichever is less
5. For 2018, the FHA Forward Mortgage Limit for New Orleans, LA is as follows:

The CY2018 basic standard mortgage limits for FHA insured loans are:

	One-family	Two-family	Three-family	Four-family
FHA Forward	$294,515.00	$377,075.00	$455,800.00	$566,425.00

[73]

SCOPE OF PERMITTED WORK

Rehabilitation covered under a 203(k) insured mortgage can range from minor (so long as the $5,000 threshold is met or exceeded) to virtual reconstruction.[74] For example, a home that has been demolished or will be razed as part of rehabilitation is eligible, as long as the existing foundation system remains in place.[75] Additionally, 203(k) insured loans can fund the rehabilitation of the residential portion of a property that also has non-residential uses, and can fund the conversion of a property of any size to a one- to four- unit structure[76]. Among the complete list of permitted improvements is "making energy conservation improvement".[77]

[73] U.S. Department of Housing and Urban Development, FHA Mortgage Limits, https://entp.hud.gov/idapp/html/hicostlook.cfm?CFID=15430004&CFTOKEN=ebcd9e2ba525afee-EF5A5D6D-9F89-005A-C0EB524B17122BC5, (accessed May 4, 2018).
[74] *U.S. Department of Housing and Urban Development, 203(k) Rehab Mortgage Insurance.*
[75] Ibid.
[76] Ibid.
[77] Ibid.

INDUSTRY PARTNERS

In addition to existing financing programs, there are multiple programs in the private, non-profit, and government sectors that provide residential resiliency and energy efficiency retrofits in New Orleans. The attached appendix (Appendix D) identifies a series of these industry partners. Each represents a potential opportunity for partnership, across the program implementation life cycle. What is important to note is that each of these industry partners works directly with a network of their own partners to administer their respective programs. Common partnership networks include: construction contractors, lenders/funders, volunteer administrators and laborers, and local, state, and federal agency partners. A careful examination of these industry partners and existing programs outlined in this paper has revealed the logistical complexity of successfully funding, administering, evaluating, and marketing a residential energy efficiency retrofit program.

OPPORTUNITY AND IMPORTANT CONSIDERATIONS

While there are multiple energy efficiency residential retrofit programs currently operating in New Orleans, and while many of these programs share common objects, business models, intervention types, partnership networks, and core administrative capabilities, these existing organizations and programs appear to function largely independent of each other. This presents both potential for increased effectives through greater collaboration, and reason to believe there could be specific and substantial reasons greater collaboration has not occurred.

FINAL RECOMMENDATIONS

To successfully implement a residential green renovation program in New Orleans, the Finance Authority will need to assess its current and expected organizational capacities, including:

1. Property assessment capacity
2. Retrofit/Renovation financing capacity
3. Partnership management and administrative capacity
4. Consumer relations capacity
5. Marketing capacity

Additionally, FANO will need to consider and weigh the benefits and drawbacks of both a partnership-based model, drawing resources, capacity, and experience from existing programs and industry partners, as well as a vertically integrated program model.

Lastly, the regulatory landscape poses certain challenges which FANO will need to consider, adapt to, and potentially advocate against. These include a lack of publically available demand-side data from Entergy New Orleans, and Entergy's lack of participation in an industry standard benchmarking and consumer education platform, such as the Green Button Imitative. Additionally, with the changing Mayoral administration, it will be essential to ensure that the city's current efforts to lead and incentivize sustainability and resiliency are continued and expanded.

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Appendix A – FHA 203(k) insured mortgage program comparison

PROGRAM GUIDELINE	203(K) STREAMLINED-LIMITED REPAIR	203(K) STANDARD
DOWN PAYMENT AND CREDIT UNDERWRITING	The same as for any loan.	The same as for any loan.
WHO CAN GET A 203(K)?	Owner-occupant borrowers, HUD-approved non-profits, government agencies.	The same as for any loan.
ELIGIBLE IMPROVEMENTS	No minimum repair requirement. Up to $35,000 of minor repair. Cannot be used for structural repairs.	A minimum $5,000 requirement for improvements. Any repair is acceptable, however – health and safety items and building code or ordinance violations must be addressed first. Then, minor repairs and discretionary items may be included.
203(K) CONSULTANT	203(k) consultant is not required.	203(k) consultant is used.
WHAT MAY BE INCLUDED IN REHABILITATION COSTS?	Total cost of rehabilitation (including energy package and lead-based paint abatement costs,) contingency reserves, inspections (if required), supplemental origination fee and discount points, all not to exceed $35,000.	The total cost of rehabilitation (including energy package and lead based paint abatement costs, consultant fees, and architectural and engineering fees), contingency reserves, inspections, up to 6 months PITI, and supplemental origination fee. The loan amount including the cost of rehabilitation cannot exceed the FHA maximum loan limit for jurisdiction.
CONTINGENCY RESERVES	A contingency reserve is not required. Lenders have the option to establish a reserve.	The lender must establish a contingency reserve when the property is 30 years or older. The reserve should be between 10 and 20 percent of the rehabilitation cost, depending on the complexity of the project.
CONTRACTORS	Contractors provide written work plan and cost estimates. Contractor must be licensed and bonded, as required by locality.	203(k) consultant provides a work write-up including a cost estimate and work plan. Borrower selects contractors with assistance of the consultant and review by the lender.
ALLOWABLE FEES	Supplemental origination fee of 1.50% of the rehabilitation costs or $300, whichever is greater, plus inspection fees, and title update fees.	Same as Streamlined 203(k) plus financed mortgage payments, and architectural and engineering fees.

Appendix B – 203(k) Approved Lenders in Louisiana as of 05/01/2018

ACCEPTANCE CAPITAL MORTGAGE CORPORATION
2714 CANAL ST STE 507
NEW ORLEANS, LA 70119
ORLEANS County

Title II
Approval Date: May 24, 2012
HECM: No
Originates 203K: Yes
Telephone: (504) 821-4999
FAX Number: (504) 827-9911
E-Mail Address:

ACCEPTANCE CAPITAL MORTGAGE CORPORATION
10001 LAKE FOREST BLVD STE 300
NEW ORLEANS, LA 70127
ORLEANS County

Title II
Approval Date: Oct 26, 2009
HECM: No
Originates 203K: Yes
Telephone: (504) 392-2901
FAX Number: (504) 392-2903
E-Mail Address:

AMERICA'S MORTGAGE RESOURCE INC
3317 N I 10 SERVICE RD W

METAIRIE, LA 70002
JEFFERSON County

Title II

Approval Date: May 16, 1997

HECM: Yes

Originates 203K: Yes

Telephone: (504) 833-2111

FAX Number: (504) 831-6706

E-Mail Address:

ASSURANCE FINANCIAL GROUP LLC
18212 E PETROLEUM DR STE 5A
BATON ROUGE, LA 70809
EAST BATON ROUGE County

Title II

Approval Date: Oct 09, 2007

HECM: No

Originates 203K: Yes

Telephone: (225) 810-3752

FAX Number: (225) 810-3753

E-Mail Address:

CALIBER HOME LOANS INC
8575 FERN AVE STE 108
SHREVEPORT, LA 71105
CADDO County

Title II

Approval Date: Jul 31, 2013

HECM: No

Originates 203K: Yes

Telephone: (318) 470-1682

FAX Number: (866) 373-2968

E-Mail Address:

CROSSCOUNTRY MORTGAGE INC
2680 HIGHWAY 190
MANDEVILLE, LA 70471
County

Title II

Approval Date: Nov 09, 2011

HECM: Yes

Originates 203K: Yes

Telephone: (504) 207-7600

FAX Number: (985) 612-1907

E-Mail Address:

EUSTIS MORTGAGE CORPORATION
1100 POYDRAS ST STE 2525
NEW ORLEANS, LA 70163
County

Title II

Approval Date: Jan 20, 1964

HECM: No

Originates 203K: Yes

Telephone: (504) 586-0075

FAX Number: (504) 561-7849

E-Mail Address:

EUSTIS MORTGAGE CORPORATION
11408 LAKE SHERWOOD AVE N STE

BATON ROUGE, LA 70816
EAST BATON ROUGE County

Title II

Approval Date: Jan 15, 1991

HECM: No

Originates 203K: Yes

Telephone: (225) 292-3203

FAX Number: (225) 292-3211

E-Mail Address:

GULF COAST BANK AND TRUST COMPANY
7235 JEFFERSON HWY
BATON ROUGE, LA 70806
EAST BATON ROUGE County

Title II

Approval Date: Jul 29, 1992

HECM: Yes

Originates 203K: Yes

Telephone: (225) 757-4403

FAX Number: (225) 214-4350

E-Mail Address:

MOVEMENT MORTGAGE LLC
671 ROSA AVE
METAIRIE, LA 70005
TANGIPAHOA County

Title II

Approval Date: Jun 11, 2013

HECM: No

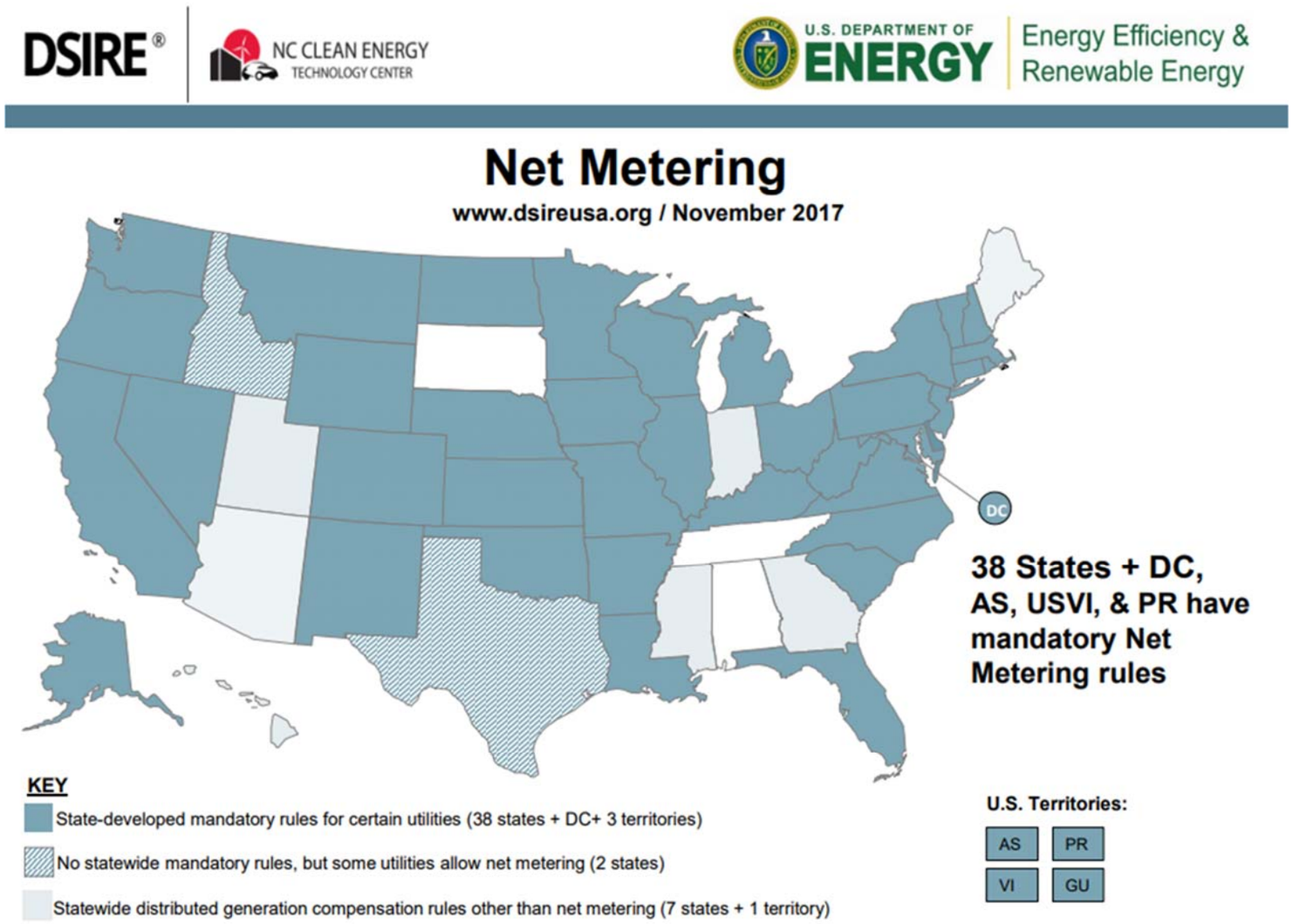
Originates 203K: Yes

Telephone: (877) 314-1499

FAX Number:

E-Mail Address:

Appendix C - Database of State Incentives for Renewables & Efficiency Net Metering Policies Map



Appendix D - New Orleans Resiliency Retrofit Program Matrix – Created in partnership with FANO - Spring 2018

Program	Organization	Type	Delivery Method	Eligible Improvements	Eligibility Persons/Properties
Community Adaptation Program (CAP)	New Orleans Redevelopment Authority	Stormwater Management Interventions (PILOT Grant)	- NORA will oversee the design and implementation of Stormwater management interventions by seeking proposals from experience teams to provide professional design, construction, and education services - Program launch initiated via public contractor Request for Proposal: http://www.noraworks.org/images/CAP_RFP_10.04.17_final.pdf	- Gentilly Neighborhood Resilience District - Green Infrastructure Improvements on individual residential properties - Design/Assessment (i.e.: initial site assessment of soil types, infiltration rates, site suitability, problem areas, drainage patterns, homeowner preferences, etc.) - Construction/Installation (i.e.: provide all labor, materials, equipment, tools and services, including: impervious surface removal, pervious surface installation, bioretention facility, Stormwater planter box, infiltration trench, detention basin, rain barrels and diversion kits, landscaping/grading - Education (i.e.: educational materials, training sessions, workshops, individual operations and maintenance plans for installed interventions)	- All Low Income (at or below 80% of Area Median Income) owner-occupied residential properties within the Gentilly Resilience District are eligible to Apply - Owners must have or obtain flood insurance
Flood Elevation Program	Federal Emergency Management Agency	Hazard Mitigation Grant Program	- Federal PILOT Reimbursement Grant https://www.fema.gov/hazard-mitigation-grant-program	- The home is raised so that potential floodwaters may flow underneath the home	- Eligible sub applicants such as local governments and state agencies may apply for HMGP grants. Individuals are not

					personally eligible to apply, and must seek assistance through their local parish governing authority
Front Yard Initiative	Urban Conservancy	Reimbursement Program (Grant)	- Reduces excess yard paving by providing a reimbursement incentive - Process: Online Application > FYI Workshop > Submit a Design > Contact Green Sector Professionals > Complete Project > Get Reimbursed - http://www.urbanconservancy.org/project/fyi/#project-details	- Reimburses eligible homeowners $2.50 per square foot of paving removed, up to 500 square feet for a maximum of $1,250	- New Orleans property owners
Energy Smart	Entergy/Aptim	Energy Assessments and Rebates Program	- Users meet rebate criteria, then apply for and obtain rebates or instant rebates under some programs - https://www.energysmartnola.info/home-owners	- Examples include: Income-qualified weatherization, AC Tune Up, Central A/C rebate, Window A/C rebate, appliance rebate, residential lighting, heat pump water heater rebate, workshops, scorecard	- Residential Entergy New Orleans electric customers who invest in energy improvements in their homes
Solar Leasing	Posigen	Solar Panel and Energy Efficiency System - Home Installation	- A series of packages available depending on financial circumstance, efficiency needs, and condition of existing roof - http://www.posigen.com/energy-solutions.html	- Solar Panel and Energy Efficiency Upgrades	- Varies on individual basis, depending on home and personal needs and capacity
Storm Hardening	MyStrongHome	Weather Protection System Upgrades, financing, and insurance package	- Provides home upgrades that are independently certified, and secure financing for those improvements based on future insurance savings - https://www.mystronghome.net/about/	- Residential Roof updates	- Eligibility depends on financing and structural needs assessment

WaterWise NOLA	GlobalGreen	Home Water Efficiency and Rain Water Management Education Initiative	- Series of training workshops and water management materials - http://www.nolawise.org/waterwise	- Outdoor, resource director, project-level examples (The GlobalGreen Holy Cross Project)	- No specific eligibility criteria
Greenlight New Orleans		Stormwater Management Interventions, Energy Efficiency Improvements, sustainable on-site plant-based agriculture	- Install energy efficient light bulbs, rain barrels, and backyard vegetable gardens - Volunteer organization - http://www.greenlightneworleans.org/greenmission	- Energy efficient light bulbs, rain barrels, and backyard vegetable gardens	- New Orleans residents
Groundwork NOLA		Environmentally Sustainable Neighborhood Initiative	- Green infrastructure demonstration site - Educational workshops	Earth Lab – Lower 9th Ward (green roof, bioswale, pervious pavement, flow-through planters, rain barrels, and cypress and native plants - Site obtained via the New Orleans Redevelopment Authority - Funded through New Orleans Sewerage and Water Board grant - Eight Rain Gardens on O.C. Haley Boulevard - Divert stormwater from the municipal drainage system to support restoration of the urban habitat, increase hydrologic and ecological function, and improve the water quality in Lake Pontchartrain	N/A
Energywise		Home energy efficiency Retrofits	- DIY Workshops, presentations to community groups, and building	Case Studies: Weatherization, air-sealed HVAC closet, digital programable thermostats,	- Open to all Louisianans, with a focus on underserved communities

			retrofits at schools, churches and nonprofits - https://drive.google.com/file/d/1kaBP6fhc7G3Fel-qXo_FdwlL7G0b_RbL/view	educational and workshop initiatives	
LifeCity		Business assessment, planning, and performance measurement services	- LifeCity seeks to make social and environmental impact profitable for business. - http://mylifecity.com/about/impact-assessment-and-certification/	Business Membership - Consultation - Networking - Marketing - Training	- Businesses interested in developing and expanding their positive environmentally and socially impact
Water Help/Plumbing Assistance Program	Sewerage & Water Board/Total Community Action	Customer contributions with SWB matching funds. The Water Help Program contributes up to $200 annually to customers in need by way of an account credit (water & sewer only) while the Plumbing Assistance Program pays up to $250 annually to a licensed master plumber to perform minor plumbing repairs at a customer's home.	- Customers wanting assistance should apply in person to TCA for a determination of eligibility.	N/A	- Customer must be a resident of Orleans Parish. - Customer must be at least 62 years old, or disabled or handicapped, as determined by the Social Security, Veterans Administrations or other accepted institutions. - The combined income of all members of the household must be within the current poverty level guidelines of the area. - The water meter must serve only one unit.
Low-Income Home Energy Assistance Program	Louisiana Housing Corporation/Total Community Action (Orleans)	LIHEAP is a federally-funded program that helps low-income households with their home energy bills. The LIHEAP program may provide bill payment assistance and/or energy crisis assistance.	- Customers may apply for Crisis Service (disconnect notice from Entergy) once every 12 months; or Non-Crisis Service once every 6 months. Funding is not guaranteed.	N/A	- Eligibility determined by the number of housing members at 60% estimated state median income - Applicant must be responsible for household energy bill - Applicant must have an active energy account - Applicant may not have received a LIHEAP benefit

					payment in the previous 6 months

Weatherization Assistance Program	Louisiana Housing Corporation/ Quad Area Community Action Agency (serves Orleans but headquartered in Hammond)	WAP is a federally-funded program that weatherizes homes to improve heating and cooling efficiency; thereby reducing energy costs and improving the comfort level of household members.	- Customers may apply through Quad Area CAA. Funding is not guaranteed.	N/A	- Priority is given to the following groups: - Elderly - 60 years of age and older - Families - with children 18 years of age and under - Disabled - One whose disability has been established in accordance with the Title XXVI of the Social Security Act for the SSI Program - High Residential Energy Users and households with a high energy burden