Public Service Commission of Wisconsin
Office of Energy Innovation
Energy Innovation Grant Program
ATTACHMENT A - Application Cover Sheet

SECTION I - Provide information summarizing the project proposal.			
Project Title:	Energy Efficiency in Naturally Occurring Affordable Housing: Implementing Efficient Building Technologies and Preserving Affordable Housing		
PSC Grant Request ($):	**Applicant Cost Share ($):**	**Project Total ($):**	
$246,595	**$52,184**	**$298,779**	

Choose one Eligible Activity			
☐ Renewable Energy & Energy Storage	☒ Energy Efficiency & Demand Response	☐ Electric & RNG Vehicles & Infrastructure	☐ Comprehensive Energy Planning

Acknowledgement of ARRA Applicability. Check all that apply. (see Section 1.3 of Application Instructions)

☐ Buy American: Project: Alteration, maintenance or repair of a public building or public work.

☐ Davis Bacon and Related Acts: Use of laborers or mechanics employed by contractors and subcontractors.

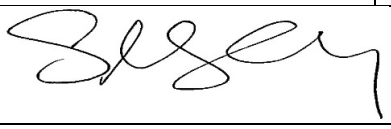
☐ Historic Preservation: Project involves historical (over 50 years old), archeological or cultural resources.

☐ National Environmental Policy Act (NEPA): Project activity is NOT covered by the list shown in Section 1.3.4.

SECTION II - Provide information for your organization, signatory, and primary contact for the project.

Applicant Type:	☒ City	☐ Village	☐ Town	☐ County
☐ Tribal Nation	☐ Manufacturer	☐ K-12 School District		
☐ University of Wisconsin System	☐ Wisconsin Technical College System	☐ 501(c)(3) nonprofit		
☐ Municipal Utility (water, wastewater, electric, natural gas)	☐ Hospital (public or nonprofit)			

Name (on W-9)**:**	City of Madison
Address (on W-9)**:**	210 Martin Luther King Jr. Blvd.
County or Counties Served by Project:	Dane
DUNS Number or CAGE Code:	076147909
NAICS Code:	

Authorized Representative/Signatory (Person authorized to submit applications and sign contracts)		**Primary Contact** (if different from Authorized Representative)	
Name:	**Satya Rhodes-Conway**	**Name:**	**Stacie Reece**
Title:	**Mayor**	**Title:**	**Sustainability Program Coordinator**
Phone:	**608-266-4611**	**Phone:**	**608-261-9823**
E-mail:	**Mayor@cityofmadison.com**	**E-mail:**	**sreece@cityofmadison.com**
Signature of the Authorized Representative			

(R 10/20)

City of Madison

Energy Efficiency in Naturally Occurring Affordable Housing: Implementing Efficient Building Technologies and Preserving Affordable Housing

Summary of Project Budget				
Line	**Description**	**PSC Grant Request**	**Applicant Cost Share**	**Total Project Cost**
1	Personnel		$5,000	$5,000
2	Fringe		$1,228	$1,228
3	Equipment			$0
4	Supplies			$0
5	Travel			$0
6	Contractual	$246,595	$45,956	$292,551
7	Other			$0
8	Indirect			$0
	Totals	$246,595	$52,184	$298,779
	% of Total	**83%**	**17%**	

Applicant Comments: See the Budget Justification and Cost Share description and tables in the application narrative for full breakdown of costs. All Energy Efficiency Installation costs are listed under contractual as they will be contracted out by a third party.

3.3 Application Executive Summary

Energy Efficiency in Naturally Occurring Affordable Housing:
Implementing Efficient Building Technologies and Preserving Affordable Housing

Project Description: Funding from the PSC Energy Innovation Grant will allow for energy efficiency technologies such as more efficient lighting, improved heating, ventilation and air conditioning systems, and water conservation systems to be implemented in 103 units of Naturally Occurring Affordable Housing (NOAH) in Madison WI. Many of the units are home to residents that live in census blocks where 50% or more identify as from communities of color. Grant funding will lead to an estimated 10-20% reduction in energy use in these homes. Implementing these measures will result in approximately 59,000 kWh reduced and savings of over 8,100 therms. This grant proposal works to create more resilient housing stock, reduce utility bills for residents, and provide more equitable and sustainable communities. This project allows the implementation of energy efficiency in a building stock that has been traditionally challenged by the split incentive, outreach and education, qualification, and inequitable access to resources.

Building energy efficiency provides housing that is safe and comfortable in extreme heat and cold temperatures, which are becoming more frequent in our region. With the ability to maintain the temperatures in a home and have efficient heating and cooling systems, it takes less energy to have a safe and comfortable living environment. This is critical to the wellbeing for residents. Equity is central to all aspects of the NOAH initiative, as we serve low-to-moderate income residents from communities of color and work with a community based outreach and education approach.

NOAH buildings that are eligible for this program refers to housing that 1) is renter occupied; 2) is not subsidized or required to maintain affordability rates; 3) contains multiple units of 2-units minimum to approximately 15-units max; and 4) is considered eligible by building location within a census block group where the average median income of residents is at or below 80% of the area median income (AMI) for at least 50% of the residents (see attachment 1 for map of target census block groups).

This project is part of a collaborative effort of municipalities, utilities, and funders to understand the challenges and opportunities for completing energy efficiency in the affordable housing sector. Project success will lead to opportunities to educate and engage around energy efficiency with residents living in and property owners of affordable housing across Wisconsin. As part of the City of Madison's and partners Elevate Energy and Sustain Dane's larger efforts, these documented outcomes will be useful to policy makers and foundations to continue pursuing energy efficiency technologies in other older buildings in the NOAH housing stock in Wisconsin.

Key Activities:

- Property Owner Outreach and Community Education on NOAH Initiative**:** Northside Planning Council (NPC) and Sustain Dane will conduct targeted outreach and education to property owners, residents, and community groups. Simultaneous with this outreach, we will also begin coordinating for energy efficiency technologies implementation in the demonstration buildings.

- Property Assessments & Reports**:** Elevate Energy will conduct energy assessments with property owners to identify and recommend energy efficiency technologies. Reports provided to the property owners will include the expected savings and an implementation overview. Sustain Dane and

Elevate Energy will solicit contractors to complete the energy efficiency technologies on participating properties. Sustain Dane and Elevate Energy will also manage and oversee the contractors for successful energy efficiency technologies installations.

- Installation of Building Energy Efficiency**:** This grant will provide efficiency upgrades to 103 units, which includes such measures as more efficient lighting, improved heating, ventilation and air conditioning systems, air sealing and insulation, and water conservation systems. The units are estimated to include:
  - 23 units (three properties) from the 2020 demonstration cohort. Energy assessments have already been conducted on these properties.
  - 70 units (10 properties) from the Northside of Madison, which is an area of high need for low-to-moderate income residents from communities of color.
  - During outreach and education, we anticipate we will encounter buildings that are eligible for the state weatherization program. In this case, we will assist them to connect with weatherization providers such as Project Home.
  - Through the 2020 demonstration cohort, Sustain Dane and Elevate Energy worked with Focus on Energy (FOE) to develop an in-unit kit for multifamily renters. We will continue this work with FOE to distribute in-unit energy efficiency kits.

- Data Collection & Evaluation: We will collect and analyze energy and financial savings data from all units that complete energy efficiency technologies. The program evaluation will also include qualitative feedback from owners and residents. Research-based documentation will include:
  - building-level cost savings/cost-effectiveness of these investments;
  - community based outreach and education methods with low income residents primarily from communities of color;
  - the financial impact of these investments on both residents and property owners;
  - the impact on residents' comfort and quality of life;
  - Documented process and outcomes that will be useful to policy makers, residents and owners, nonprofits and others in the energy efficiency and affordable housing sector to scale the program across Wisconsin.

Outcomes:

- Energy efficient NOAH housing as a climate solution: Investing in energy efficient technologies will result in an estimated 10-20% in energy savings across proposed units. This approach to increasing energy efficiency in NOAH will reduce energy waste and carbon emissions, and provide valuable insights into what it takes to reach small, affordable multifamily buildings which are often considered the "forgotten stock" as it has often been overlooked or left out of the energy efficiency technologies.

- Resident Resiliency: Energy efficiency provides housing that is safe and comfortable in extreme heat and cold temperatures, which is becoming more frequent in our region. Using less energy overall and maintaining the temperature in a home is important for resiliency. An added benefit is that some energy efficiency measures, such as HVAC upgrades, have been shown to reduce asthma triggers for residents.

- Supporting affordable housing: The City of Madison has an affordable housing shortage. It is critical that we find opportunities to preserve and invest in all of our affordable housing stock even as we continue to build new units. Investing in these properties will help maintain quality affordable

homes.

- Reducing energy burden for residents: Affordable housing consumes on average 33% more energy than market rate housing because it is generally older and in need of deferred maintenance. Reducing building operating costs and resident utility burden can help stabilize housing prices.

Key Partners and Stakeholders:
Elevate Energy: will provide project management expertise, provide energy efficiency technology assessments, technical recommendations, coordinate with contractors and oversee implementation.
Sustain Dane: will provide project management expertise, program outreach and education planning, running an RFP for contractors, and drafting program status reports.
Northside Planning Council: will provide community based recommendations on Northside owners and residents to participate, direct outreach and education, and engage residents throughout the program.

Project Objectives and Metrics: Below is list of each objective (obj) and the metric for evaluation associated with it (metric):

- 10-20% average percent energy use savings (obj) - Amount of energy saved across all units from energy efficiency technologies comparing utility bills before and after implementation via Portfolio Manager (metric)

- 100% of residents served will be at 80% or less AMI (obj) - Demographics of census block level of properties receiving energy efficiency technologies (metric)

- 50% of residents served will identify as a people of color (obj) - Self identified demographic data from a survey to participants receiving energy efficiency technologies (metric)

- Provide model for energy efficient technology installations in NOAH housing (obj) - Creation of report with findings, best practices and road map for expansion (metric)

- 103 total units receiving energy efficiency technologies (obj) - Count of units (metric)

- 114 metric tons of greenhouse gas reductions equivalent to a reduction of over 282,988 vehicle miles traveled (obj) - Metric tons of carbon and vehicles miles traveled avoided (metric)

- 100 people receiving energy efficient technologies education (obj) - Count of people participating in education methods such as in-person or video presentations and instruction, distribution of Focus on Energy kits, and qualitative surveys (metric)

- At least 50% of total units (>52 units) receiving Focus on Energy kits (obj) - Count of units that receive Focus on Energy kits for multifamily units (metric)

Reference Materials: References listed in attachments.

3.4 Application Narrative

The City of Madison is partnering with Sustain Dane and Elevate Energy, who have worked together in 2020 to demonstrate the proposed program in Dane County. Together, they conducted outreach to building owners, building energy efficiency technology assessments, and relationship-building that will now allow them to move forward with implementation and reach additional buildings with this model. Grounded in the knowledge gained in the demonstration project, this grant proposal is innovative and equity-focused. Funding from the PSC Energy Innovation Grant is critical to enabling meaningful energy efficiency technology work to expand to historically underserved neighborhoods with a high population of low-to-moderate income residents and residents from communities of color.

The City of Madison's subcontracting with Elevate Energy, Sustain Dane, and NPC is allowing an expediency of process and implementation that will provide significant positive outcomes for our community at a faster rate than if working through City channels. In March 2017, the City of Madison Common Council passed a Resolution setting a goal of 100% renewable energy and zero-net carbon. Residential energy comprises 18% of community-wide greenhouse gas emissions for the City of Madison (2014 ICLEI ClearPath inventory). There are approximately 30,000 units of NOAH housing in Madison that are a part of these emissions. Our grant also has the potential to model a State-wide plan that would be competitive for future federal funding opportunities.

With funding support from the PSC Energy Innovation Grant, the NOAH project will provide energy efficiency technologies and increase resiliency to 103 NOAH units and the families living in those homes. Three buildings with 23 units total that were part of the 2020 demonstration cohort are ready to move forward with upgrades when funding is secured. They are located in the South and Southwest sides of Madison. The project will also assist approximately 80 units of additional NOAH housing located on Madison's Northside. The Northside Planning Council (NPC) will be a core team member and, as a trusted member of the Northside community, the NPC will be critical to effective and equity-based outreach and education about energy efficiency technologies to owners and residents. *See attachment #1 for map of proposed properties and Northside blocks groups.*

<u>Anticipated Timeline:</u>

Phase 1: March 2021 - May 2021: Education and outreach to building owners and residents about energy efficiency technologies and the opportunity to participate, conduct energy efficiency technologies assessments, conduct Request for Proposals for contractor partner(s).

June 2021: Select contractor(s) for work on buildings and complete contracts.

Phase 2: July 2021 - November 2021: Complete majority of energy efficiency technologies installations and continue education with owners and residents.

Phase 3: December 2021 - March 2022: Energy savings data analysis, collect qualitative feedback from owners and residents, develop program how-to for replicable models in future implementation and complete grant report.

3.4.1 Eligibility and ability to achieve the objectives.

Applicant Eligibility: The City of Madison is a municipal government duly incorporated in 1856 in the State of Wisconsin. The City has extensive experience administering federal and state grants and has the staff expertise required to plan, implement, and evaluate technical projects such as the energy upgrades described in this proposal. The City is capable of complying with the requirements of the requested OEI funding.

Applicant Ability to Meet Objectives: The City of Madison will be team lead on the Energy Efficiency in Naturally Occurring Affordable Housing project and principal applicant of the PSC Energy Innovation Grant. The City will be responsible for monitoring activities during the grant as well as reporting to the PSC. In March 2017, the City of Madison Common Council passed a Resolution setting a goal of 100% renewable energy and zero-net carbon. Residential energy comprises 18% of community-wide greenhouse gas emissions for the City of Madison (2014 ICLEI ClearPath inventory). The City of Madison has goals of racial equity and social justice while also addressing the issue of housing affordability and resilience. This grant will offer the opportunity to invest in the community while addressing these goals. The data and evaluation of the activities in the grant will inform future City programming.

Stacie Reece, the City of Madison Sustainability Program Coordinator will be managing the successful implementation of this grant (see attachment 2 for resume). The City of Madison has successfully managed multiple federal grants (see attachment 3 for highlights documenting past grant performance).

Sub-Contractor Ability to Meet Objectives:
Elevate Energy: Elevate Energy is a leader in affordable housing and energy efficiency and has successfully implemented programs throughout the Midwest. Elevate Energy designs and implements programs that reduce costs, protect people and the environment, and ensure the benefits of clean and efficient energy use reach those who need them most. As an organization, Elevate Energy has upgraded over 65,000 units of affordable multifamily housing in the Midwest. For this grant, they will be responsible for providing energy efficiency technology assessments, technical recommendations, coordinating with contractors and overseeing implementation.

Sustain Dane: Sustain Dane has extensive experience working in public-private partnership to accelerate holistic sustainability in Dane County. For over 20 years, Sustain Dane has impacted the community through education, programming, and project implementation. Partners and program participants have implemented over 590 sustainability projects. Sustain Dane is a strong grant partner having received past funding in partnership from sources such as the EPA and the Public Service Commission of Wisconsin – Office of Energy Innovation. For this grant, they will be responsible for program outreach and education planning, running an RFP for contractors, and drafting program status reports.

Northside Planning Council (NPC): NPC is a community and economic development organization that has been serving the Northside of Madison for 27 years and has a strong, deep base of grassroots and institutional relationships. With the goal of advancing racial and economic equity, NPC's areas of focus include small business incubation, regional food system coordination, commercial district revitalization, family stabilization and early childhood development, community journalism, grassroots leadership development, and community organizing around violence prevention, land use and antiracism advocacy. NPC has a history of engaging diverse neighborhood leaders and leveraging its tools and relationships to assess needs, facilitate collaboration, and develop strategies for systems-level change. As part of this project, NPC's Family Engagement Specialist that is part of the Northside Early Childhood Zone program will oversee the work of neighborhood navigators in reaching out to residents in the target communities

to help identify partnerships, educate the community and engage residents throughout the process. For this grant, they will be responsible for providing community based recommendations on Northside owners and residents to participate, direct outreach and education, and engage residents throughout the program.

3.4.2. Budget Justification and Cost Share ("Match")

1. **Personnel** - Stacie Reece, the City of Madison Sustainability Coordinator will be lead on overseeing this project. Personnel total reflects 128.66 hrs x $38.86/hr for a total of $5,000 cost share for personnel.

Personnel Name	*Base pay rate*	*Number of Hours*	*Total Cost Share*
Stacie Reece, City of Madison, Sustainability Program Coordinator	*38.8614*	*128.66*	*5,000*

2. **Fringe-** Stacie Reece, the City of Madison Sustainability Coordinator will be lead on this project. Fringe is a rate of 24.56% of personnel. 24.56% of $5,000 is $1,228. This will be coverd as cost share.

   Calculation of Fringe from City of Madison Employee Cost Calculator:

Employee Type	Civilian-Non-VEBA
Employee Salary	78,306
FICA	5,990
WRS	5,286
Misc Fringe	554
Health Insurance	7,403
Total Benefit Cost	19,233
TOTAL COST	**97,538**
BENEFIT RATE	**24.56%**

3. **Equipment** - Not included in grant funding
4. **Supplies** - Not included in grant funding
5. **Travel-** Not included in grant funding
6. **Contractual** - Contractual costs include personnel from Elevate Energy, Sustain Dane, and Northside Planning Council, along with the contractor costs of the energy efficiency installations.

Contractual Partner Costs:

Elevate Energy, Sustain Dane and Northside Planning Council are key partners in the project management, outreach, assessment and implementation of this project. Contractual partner costs and associated description of activities listed below for each contractor partner.

Contractor	PSC Grant Request Amount	Applicant Cost Share Amount	Description	Total
Elevate Energy	$15,000	$10,000	Energy efficiency technologies assessments, contractor coordination, and overseeing implementation supported by PSC grant. Executive oversight provided as cost share.	$25,000
Sustain Dane	$10,000	$10,000	Grant project management, outreach and education, running RFP, and drafting status and final report supported by PSC grant. Executive oversight provided as cost share.	$20,000
Northside Planning Council	$10,000	--	Community based outreach and education support for residents and property owners funded by PSC grant.	$10,000
Total Partner Cost	$35,000	$20,000		$55,000

Contractor Installation Costs:

Cost estimates for demonstration building costs are from RS Means, local suppliers, and Focus on Energy. Cost savings for Northside properties are based on a per unit analysis of cost savings for a similar measure mix as the demonstration properties. The analysis was based on a subset of properties located in Madison Wisconsin where energy assessments were completed and weather normalized property specific utility data was used to complete the energy usage and savings calculations. See the cost justification breakdown for per building costs in attachment 4. We plan to cover up to 75% of costs for energy efficiency installations in 23 demonstration property units based on expected availability of upfront grant funds and ongoing conversations and engagement with owners regarding installations. We plan to cover 100% of the costs for the 11 Northside properties. The installation contractor has not yet been identified.

Demonstration Pilot Buildings	**Buildings**	**Units**	**Cost per building**	**75 %Coverage of Demo upgrade cost**
Demo 1	1	8	$28,467.00	$21,350.25
Demo 2	1	7	$16,759.00	$12,569.25
Demo 3	1	8	$14,974.00	$11,230.50
Demonstration buildings total		23		**$45,150.00**
Northside Buildings:	**Buildings**		**Cost per building**	**100% coverage of Northside upgrade cost**

Weatherization Small Building (avg. 5 units)	7	35	$11,000.00	$77,000.00
Weatherization Large Building (avg. 10 units)	4	40	$15,785.00	$63,140.00
All weatherization including Demos				**$185,290.00**
HVAC + weatherization (avg. 5 units)	1	5	$26,305.00	$26,305.00
Total PSC Grant Request for Contractor Installation Cost:		80		**$211,595**
Contractor Labor Installation Cost (20%)				$42,319
Contractor Equipment Installation (80%)				$169,276

Summary of Contractual Costs:

Totals	PSC Grant Request	Cost Share	Totals:
Total Partner Costs	$35,000	$20,000	$55,000
Total Contracted Installation Costs	$211,595	$25,956 (Focus on energy amount*)	$237,551
Total Contractual Costs	**$246,595**	**$45,956**	**$292,551**

**Focus on Energy estimate based on assumption of approximately $252 average incentive per unit based on specific multifamily FOE kits developed over the course of SD & EE pilot work in 2020. If installed in all 103 units: 103 x $252 per unit = $25,956. FOE incentives are based on current incentive levels and the expected measures to be installed according to our analysis.*

7. Other- Not included in grant funding

8. Indirect (overhead costs)- Not included in grant funding

3.4.3. Savings and Payback.

Improving NOAH housing with energy efficiency technologies will result in significant reduction in energy use in common areas and in residential units. Assessments completed in 2020 on NOAH buildings show the opportunity for up to 20% savings for common area meters and 20% for residential meters in this hard to reach, small stock translating to savings of up to $2,000 per year for one owner and approximately 25% for residents in one building where there are no common areas and tenants pay both electric and gas bills for their units. Table 1 below represents three typical properties assessed as part of the 2020 demonstration project and the range of investment and cost savings possible. As part of this grant we propose to complete the energy efficiency technology work on these three buildings including 23 units in addition to twelve other buildings with 80 total units located on the Northside which is home to a large number of low-to-moderate income residents from communities of color.

Table 1: Summary of Energy Savings and Costs for Demonstration Buildings

Property	Square Footage	Building Type	Units	Year Built	Energy Conservation Measures [5]	Estimated Annual Energy Savings (kWh)	Energy Savings (therms)	Estimated Annual Water Savings (kgal)	Total Cost	Adjusted Total Cost	Estimated Focus on Energy Incentives	Average Tenant Utility Cost Savings	Owner Utility Annual Savings [2,3]	Utility Annual Savings [2,3]	Owner Utility Cost Savings	Simple Payback
Demo 1	12,756	Low Rise	8	1973	HVAC equipment replacement, refrigerator, air sealing, thermostats, pipe insulation, lighting, water heater replacement, smart power strips, water aerators	8,014	2,102	25	$28,467	$ 21,351	$4,236	20%	$3,017	$2,263	19%	9
Demo 2	6,758	Low Rise	7	1964	Lighting, pipe insulation, thermostat, smart power strips, HVAC equipment replacement, water heater replacement	1,979	1,338	20	$16,759	$ 12,569	$972	NC [4]	$1,177	$882	15%	14
Demo 3 [2]	7,794	Low Rise	8	1964	Lighting, HVAC equipment replacement, air sealing, pipe insulation, thermostat, smart power strips, water aerators	6,249	777	27	$14,974	$ 11,231	$1,328	25%	$3,664	$2,748	[3]	NA

[1] - Values are based on on-site assessments completed at each of the properties. Energy savings are calculated based on weather normalized property specific utility data.
[2] – No common areas at Property 3. All savings accrue to residents
[3] - Cost savings primarily accrue to units as there is minimal common areas.
[4] NC- Not calculated because of insufficient data
[5] Identified Energy Conservation Measures:
Demo 1: HVAC equipment replacement, refrigerator, air sealing, thermostats, pipe insulation, lighting, water heater replacement, smart power strips, water aerators/showerheads.
Demo 2: Lighting, pipe insulation, thermostat, smart power strips, HVAC equipment replacement, water heater replacement
Demo 3: Lighting, Air conditioning, air sealing, pipe insulation, thermostat, smart power strips, water aerators

The analysis provided is based on actual onsite energy efficiency technologies assessments conducted at each property. Energy savings were calculated using two years of site-specific utility data that was weather normalized. Cost estimates are from RS Means, local suppliers, and Focus on Energy. See further cost justification for energy measures in attachment 4. These calculated savings for the demonstration properties are representative of the potential opportunities in the Northside housing stock as much of the buildings on the Northside are similar in size, age, and building type. We used the calculated results of the pilot assessments to calculate potential costs and energy savings. Table 2 below highlights the Northside buildings we expect to engage and the projected costs to upgrade with potential energy savings.

Table 2 - Summary of Potential Energy Savings and Costs for Proposed Northside

Table 2: Summary of Energy Savings and Costs for Northside Properties

Property	Building Type	Units	Measure Mix	Number of Buildings	Average total number of units per building	Total number of units	Estimate Annual Energy Savings per building (kWh) [1]	Estimate Annual Energy Savings per building (therms) [1]	Estimated kWH savings all Northside buildings [1]	Estimated Therm savings all Northside buildings [1]	Estimated Average Total Cost per Building [2]	Estimated Annual Cost Savings Per Building [2]	Simple Payback (yrs)
NS 1-7	Low Rise	Avg 5	Common area lighting, attic insulation, pipe insulation, air sealing, thermostats, plug load devices	7	5	35	3,427	468	23,991	3,275	$ 11,000	$1,000	11.0
NS 8-11	Low Rise	Avg 10	As above	4	10	40	6,854	936	27,418	3,743	$ 15,785	$2,000	7.9
NS 12	Low Rise	Avg 5	As above plus HVAC system replacement	1	5	5	8,068	1,101	8,068	1,101	$ 26,305	$2,300	11.4
TOTAL						80			59,477	8,120			

[1] kWh and therm savings are based on an analysis of energy savings for the same measure mix in similar NOAH stock located in Madison, WI. The analysis was based on a subset of properties located in Madison WI where energy assessments were completed and weather normalized property specific utility data was used to complete the energy usage and savings calculations.
[2] Cost savings are based on an per unit analysis of cost savings for the same measure mix. The analysis was based on a subset of properties located in Madison WI where energy assessments were completed and weather normalized property specific utility data was used to complete the energy usage and savings calculations.

Estimates on total costs and energy usage for Table 2 are based on an analysis of similar stock and comparable energy efficiency technology measures. Actual costs and energy savings will be established with assessment once the Northside buildings are identified. A summary of the cohort of buildings that will be receiving energy efficiency technologies as part of this project is provided below. The estimated annual cost savings per building is for the owner. The estimated savings for the residents were also estimated and are expected to range from $50-$100 per year based on the in unit technologies installed. Note that owner savings for demonstration property three is zero because all savings accrue to the tenants as there are not common areas in the building.

Table 3 Summary of Potential Energy Savings and Costs for All Buildings

Table 3: Summary of Demonstration Buildings and Northside Properties

Property	Building Type	Measure Mix	Number of Buildings	Average total number of units per building	Total number of units	Estimated Average Total Cost per Building (Adjusted)	Estimated kWH savings all buildings [1]	Estimated Therm savings all buildings [1]	Estimated Annual Cost Savings Per Building [2]	Simple Payback (yrs)
Demo 1	Low Rise	HVAC equipment replacement, refrigerator, air sealing, thermostats, pipe insulation, lighting, water heater replacement, smart power strips, water aerators	1	8	8	$ 21,351	8,014	2,102	$ 3,017	9.4
Demo 2	Low Rise	Lighting, pipe insulation, thermostat, smart power strips, HVAC equipment replacement, water heater replacement	1	7	7	$ 12,569	1,979	1,338	$ 1,177	14.2
Demo 3	Low Rise	Lighting, HVAC equipment replacement, air sealing, pipe insulation, thermostat, smart power strips, water aerators	1	8	8	$ 11,231	6,249	777	$ 3,664	NA
NS 1-7	Low Rise	Lighting, attic insulation, pipe insulation, air sealing, thermostats, plug load devices	7	5	35	$ 11,000	23,991	3,275	$ 1,000	11.0
NS 8-11	Low Rise	As above	4	10	40	$ 15,785	27,418	3,743	$ 2,000	7.9
NS 12	Low Rise	As above plus HVAC system replacement	1	5	5	$ 26,305	8,068	1,101	$ 2,300	11.4
TOTAL					103		75,719	12,337		

[1] kWh and therm savings are based on an analysis of energy savings for the same measure mix in similar NOAH stock located in Madison, WI. The analysis was based on a subset of properties located in Madison WI where energy assessments were completed and weather normalized property specific utility data was used to complete the energy usage and savings calculations.

'[2] Cost savings are based on an per unit analysis of cost savings for the same measure mix. The analysis was based on a subset of properties located in Madison WI where energy assessments were completed and weather normalized property specific utility data was used to complete the energy usage and savings calculations.

3.4.4. Energy Savings and Environmental Impact.

Energy efficiency technologies are the most cost effective strategy to reduce energy use. In addition to reducing energy use, energy efficiency technologies such as insulation and air sealing coupled with upgrades to heating and ventilation systems are reliable strategies to improve resident comfort, in part, by reducing noise pollution. [1] The suite of measures proposed include lighting, attic insulation, pipe insulation, air sealing, thermostats, plug load devices, and for one building HVAC upgrades. The selection of these measures is based on the most common upgrades typically needed in NOAH stock in Madison. Implementing these measures across the twelve Northside buildings will result in approximately 59,000 kWh reduced and savings of over 8,100 therms.

The energy savings and carbon reduction for the potential for the proposed project is calculated in Table YY. Based on calculations using the US EPA GreenHouse Gas Calculator, saving from efficiency upgrades in the buildings would result in 114 metric tons of green gas reductions equivalent to a reduction of over 282,988 vehicle miles.

Table 4: Summary of Greenhouse Gas Reductions from Proposed Efficiency Upgrades

Table 4: Summary of Green House Gas Reductions

Property	Building Type	Units	Number of Buildings	Estimated kWh savings all buildings (kWh)	Estimated therm savings all buildings (therm)	Estimated GHG Reductions from kWh (mt)	Estimated GHG Reductions from therms (mt)	Total estimated GHG reductions (mt)	Vehicle miles saved from kWh savings	Vehicle miles saved from therms savings	Total vehicle miles traveled saved
1	Low Rise	8	1	8,014	2,102	5.7	11.1	16.8	14,060	27,597	41,657
2	Low Rise	7	1	1,979	1,338	1.4	7	8.4	3,472	17,567	21,039
3	Low Rise	8	1	6,249	777	4.4	4.1	8.5	10,964	10,201	21,165
NS 1-7	Low Rise	Avg 5	7	23,991	3,275	17	12.6	29.6	42,091	31,181	73,272
NS 8-11	Low Rise	Avg 10	4	27,418	3,743	19.4	19.8	39.2	48,103	49,142	97,245
NS 12	Low Rise	Avg 5	1	8,068	1,101	5.7	5.8	11.5	14,155	14,455	28,610
				75,719	12,337	53.6	60.4	114	132,845	150,143	282,988

https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

3.4.5. Equity and Energy Justice.

The City of Madison has goals of racial equity and social justice while also addressing the issue of housing affordability and resilience. This grant will offer the opportunity to invest in the community while addressing these goals.

The Joint Center for Housing Services highlight that "According to the most recent Residential Energy Consumption Survey, 54 percent of American Indian or Alaska Native, 52 percent of Black, and 45 percent of Hispanic households experienced some form of energy insecurity in 2015—about twice the

[1] Guidelines for Airport Sound Insulation Programs (2012) http://onlinepubs.trb.org/onlinepubs/acrp/docs/ACRP02-24_FR.pdf
Minneapolis Saint Paul Airports (1992 – present): https://www.macnoise.com/noise-mitigation-program/when-your-home-becomes-eligible

25 percent share of non-Hispanic white Households."[2] Climate change can exacerbate this energy insecurity. For example, during summer extreme heat waves, residents must choose between high utility bills for keeping their homes cool with air conditioning, or suffering from extreme heat.

People of color make up approximately 29% of the residents in NOAH housing, compared to 24.3% of the City of Madison[3] population, based on census tract data (2010) compiled by Sustain Dane and Elevate Energy. Our project will prioritize residents and owners of buildings where census block group data shows that 50% or more residents identify as people of color in the census block group. We will also collect self-identified demographic data through surveys of residents in order to measure impact for people of color. Our community outreach partner, Northside Planning Council (NPC) will provide recommendations of buildings to focus efforts based on alignment with eligibility criteria and knowledge of neighborhood needs.

The Northside Planning Council (NPC) is critical to effective and equity-based outreach and education about energy efficiency technologies to owners and residents. In particular, there will be direct outreach to residents participating in the Northside Early Childhood Zone (NECZ) which is serving low-to-moderate income families with young children from primarily communities of color. NECZ opened in January 2017. NECZ is a public/private partnership among the City of Madison, United Way, and the Oscar Rennebohm Foundation with community partners such as the NPC. NECZ focuses on supporting families with young children so they have access to grow to their highest potential starting at birth and close the achievement gap. NECZ provides home visitation services for families with children birth to age four, housing case management, and employment and training support. NPC will build upon their strong existing community relationships, many of which are also part of NECZ, in their NOAH energy efficiency outreach and education work.

One of the primary challenges to providing energy efficiency technologies in NOAH housing is that few programs are focused on energy justice and tailored to the meeting needs of this stock and there are only limited funding sources available to make investments. Past barriers have included the lack of up-front capital, the lack of resident engagement and awareness, and the inability of property owners to recover efficiency investments through increased rents.[4] This program aims to break down these barriers to improve NOAH housing in Madison and put energy justice first. Living in rented homes means residents have less control over energy efficiency upgrades, and are more dependent on the property owner to make changes. Owners understand that incentives exist to help reduce the cost burden of the potential upgrades, however some say that the incentive levels are not adequate to meet their financial needs, especially the smaller owners who do not have as much cash flow.

The current financial hardship is at extreme levels for many with low-to-moderate incomes. The NOAH energy efficiency improvements will not alone alleviate the magnitude of this issue. It will, however, be able to play a part in correcting a systemic inequity of higher energy burden on low-to-moderate income residents and over time contribute to more resilient communities.

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[2] Joint Center for Housing Studies of Harvard University: State of the Nation's Housing 2020: https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf

[3] Madison Neighborhood Indicators project: https://madison.apl.wisc.edu/

[4] Multifamily Energy Efficiency Retrofits: Barriers and Opportunities for Deep Energy Savings: https://neep.org/sites/default/files/resources/REEO_MF_Report.pdf.

3.4.6. Financial Leverage and Economic Impact.

OEI funds support the continuation of work conducted by Sustain Dane and Elevate Energy for over more than a year to better understand and overcome the barriers to energy efficiency upgrades in NOAH in the region – a housing type known nationwide as one that could greatly benefit from improved efficiency, and that is uniquely challenging to implement energy efficiency technologies due to the split financial incentive between owner and tenant. Sustain Dane and Elevate Energy have done owner interviews, property assessments, provided energy and financial savings reports, and now seek OEI funding to bring initial projects to completion and model a path to replicate the successes.

Without funding readily available to cover energy efficient technology upgrades, property owners are unlikely to move forward with implementation and residents will remain with high energy burdens. While partners Sustain Dane and Elevate Energy have built a robust program to assess and implement upgrades, and are prepared to scale the program significantly, the predominant barrier to improving NOAH is property owners have not received the focused outreach and education and do not have the means to cover these energy efficiency technologies. By covering the cost, we are removing the financial barriers to participation. While there are some incentive structures in place, many of these fall outside of this multifamily housing stock. The inaction of investing in energy efficient systems also leads to increased financial energy burden on residents as utility payment remains expensive. Having a successful implementation of 103 units will be a significant model to show the rest of the County and State the benefits of energy efficiency. There is potential for this program to continue to significantly scale, especially with additional federal 'Green Stimulus' funding. By securing EIGP funding, we will have a model as an example for applying for future funding to continue this program.

NOAH is a crucial part of the City of Madison's housing stock- comprising approximately 40% of the total housing units- thereby providing housing for a significant number of low and moderate income renters in the City.[5] Retrofitting this stock for energy efficiency with assistance from the PSC grant will result in approximately 10-20% average percent energy use savings. Improving energy use in NOAH housing stock is a means of maintaining affordability for these multi-family homes and reducing monthly payments. It greatly enhances community resiliency as tenants of NOAH units are more likely to rent for decades into the future. Residents have a reduced financial utility burden and thus are more likely to be able to pay rent and stay in their homes.

3.4.7. Existing Energy Planning Efforts.

The City of Madison has been a leading agency in the NOAH pilot program being implemented by Sustain Dane and Elevate Energy. Preserving affordable housing is a priority for the City and aligns with the City of Madison sustainability plan and our continued involvement in the NOAH program will enable the City to ensure this NOAH housing stock is made more efficient and comfortable as well as preserved. Providing funds to upgrade even a fraction of the NOAH stock in the City of Madison will highlight the opportunities and savings potential in this stock as well as provide impetus for engagement of a larger cohort of owners in the NOAH program. The City's Northside neighborhoods have long been a priority area to improve the well-being of the low-to-moderate residents from communities of color in Madison.

[5] Analysis completed by Elevate Energy using American Community Survey data.

In March 2017, the City of Madison Common Council passed a Resolution setting a goal of 100% renewable energy and zero-net carbon. Residential energy comprises of 18% of community-wide greenhouse gas emissions for the City of Madison (2014 ICLEI ClearPath inventory).

3.4.8. Energy Resiliency.

A lower energy burden in an energy efficient home is resilient to a climate reality where extreme weather is becoming more frequent. With updated, efficient energy efficiency building technologies, residents stay comfortable longer.

Additionally, with less of a financial burden to heat and cool homes, residents have reduced economic distress, leading to a more resilient community overall. Eviction often comes from owing less than one month in rent - less than $600[6]. Reducing energy bills can work to stabilize housing for residents.

The Joint Center for Housing Services highlight that "According to the most recent Residential Energy Consumption Survey, 54 percent of American Indian or Alaska Native, 52 percent of Black, and 45 percent of Hispanic households experienced some form of energy insecurity in 2015—about twice the 25 percent share of non-Hispanic white Households." Climate change exacerbates energy insecurity. Especially during summer extreme heat waves, residents must choose between high utility bills for keeping their homes cool with air conditioning, or suffering from extreme heat. This is exacerbated by needing to stay home during the pandemic.

NOAH stock is often the smaller buildings and older construction that is critical to the affordable housing sector and meeting housing needs in our community. When residents are energy burdened because of high utility bills, those households have higher rates of eviction, destabilizing families and communities.[7] Our program will help address these issues and provide a model for future success working in this often hard to reach housing sector. Now is the time to take bold action. We cannot wait any longer because a task may be difficult or not done yet. Our grant is proposing to take a leep forward and make solutions happen.

3.4.9. Education and Awareness.

Focused in the initial quarter of the project, we will educate the general community through virtual meetings, presentations, and direct outreach on energy efficiency technologies and the NOAH initiative, provide an overview of how home energy efficiency technologies relate to a more resilient community, and how to participate in the NOAH program. We will center our direct outreach through working with our subcontractors including the Northside Planning Council, as community liaisons who are deeply connected in the neighborhoods where we will be focusing our work. Sustain Dane will be a resource for owners and residents for one-on-one resident questions and troubleshooting for the 12-month duration of the project. Elevate Energy will be an education and technical resource for the project as well as bringing examples of successful program designs and national partnerships.

Additional educational components will include:

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[6] Many Renters Who Face Eviction Owe Less than $600 (2019). https://www.nytimes.com/2019/12/12/upshot/eviction-prevention-solutions-government.html

[7] Correlational analysis of energy burden and eviction rate (2019): https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/18390/MP%20final.pdf?sequence=1

- Resident education regarding how to use household energy efficiency measures included in the Focus on Energy kit.
- Community presentations on energy efficiency installations for more resilient communities
- Energy efficiency technology training for community liaison partners to assist in outreach and engagement with property owners and residents in the Northside neighborhoods.

3.4.10 . Innovation.

Neighborhood Focused Outreach: The NOAH program approaches energy efficiency technologies with a neighborhood-focused method that engages stakeholders, property owners and managers, and residents to understand the challenges and opportunities. Outreach and engagement is a successful method and take extensive focus from committed partners. NPC is a community liaison that is deeply connected in the Northside neighborhoods and who uniquely knows and understands Northside residents and property owners in order to steer outreach and engagement throughout the program. This grassroots approach includes building community channels from the bottom up for resident education and engagement and is unique from other energy efficiency programs. Residents will be notified about the in-unit energy upgrade benefits and timeline for installation from outreach specialists. The results of implementing energy efficiency technologies in these NOAH units will include a more resilient community that benefits from lower utility bills and more comfortable homes, reduced carbon emissions, and more data and lessons learned about how to reach a building stock with unique participation challenges.

Attention to properties and residents often left out of energy efficiency: For decades, the multifamily and specifically the NOAH housing market is considered the "forgotten stock" as it has often been overlooked or left out of the energy efficiency improvements because this market is often hard to access, and more complicated than single family units or larger multifamily. Current incentives and outreach methods have not been helpful in making these upgrades and often leave out marginalized low-to-moderate income residents in NOAH housing. The Energy Efficiency in NOAH grant approach specifically focuses on these mid-range affordable housing multifamily units in order to finally prioritize this housing sector and remove the financial barriers to completion. Income eligibility is based on census block data which removes the barrier to individual resident income verification. Through our community based outreach efforts, we anticipate will encounter opportunities for buildings to participate in the State Weatherization program. Properties that are eligible for state-subsidized weatherization upgrades will be referred to state weatherization providers such as Project Home.

Replicable model for continued scaling: Included in this project would be a research-based documentation that provides documentation and recommendations for scaling of this methodology. As part of the City of Madison's and partners Elevate Energy and Sustain Dane's larger efforts, this documentation will prove essential in future energy efficiency technologies and affordable housing planning and action.

3.5. Reference Materials

List of Attachments:

Attachment 1: Map of Proposed Locations for Project

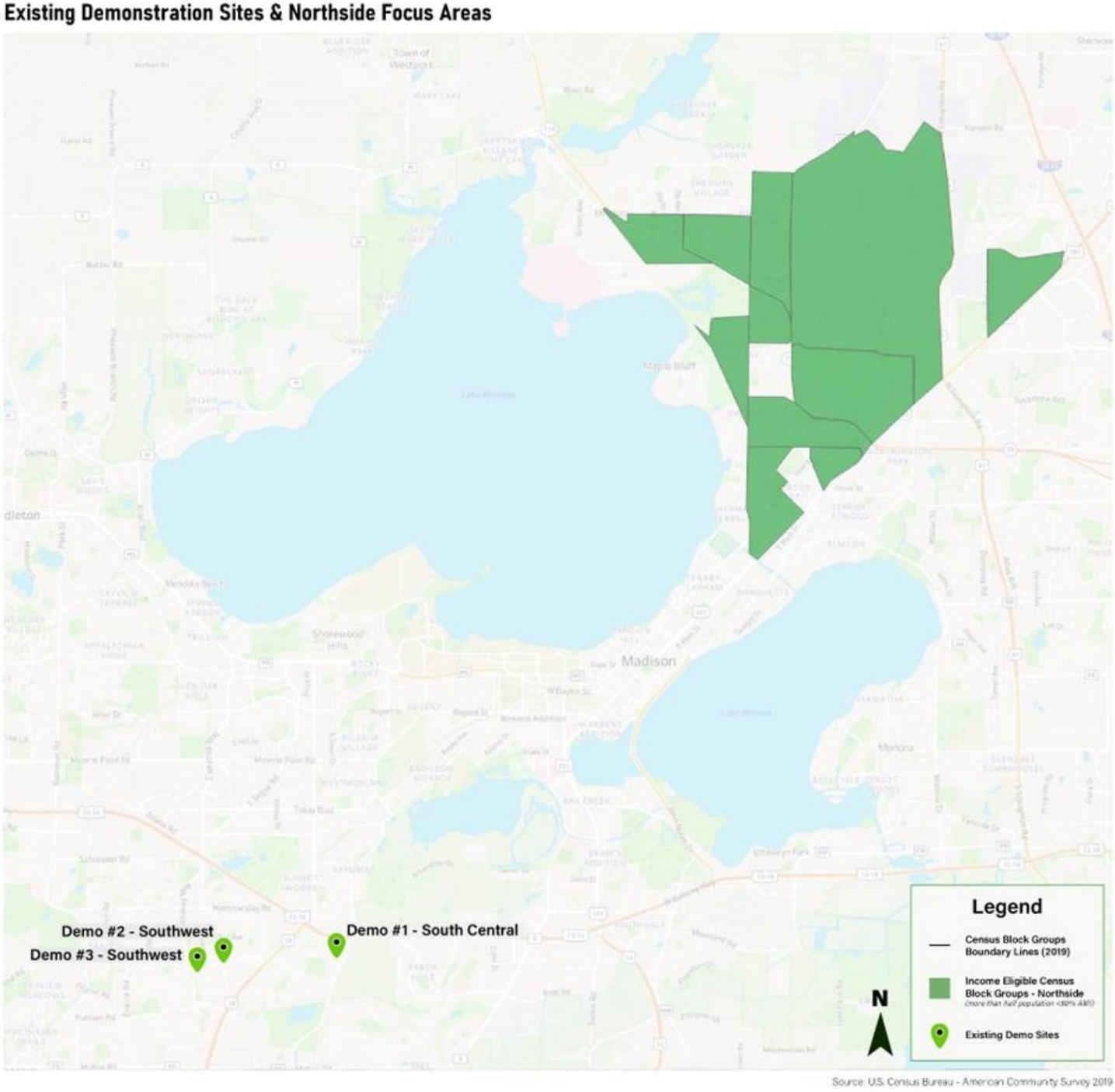

Figure 1. *Map of current work for NOAH Demonstration Sites & Northside Project area focus. We will target outreach to property owners in the highlighted Census Block Group areas of the Northside as they have over half of their residents earning less than 80% area median income (AMI). Pinpoint areas on the map depict current NOAH demo sites where we have completed home energy performance assessments and will continue implementation of upgrades with funding.*

Attachment 2: Stacie Reece Resume:

Stacie Reece
City of Madison, Sustainability Program Coordinator

EDUCATION

- Bachelor of Science in Sustainable Management, University of Wisconsin, 2013

RELEVANT WORK EXPERIENCE

- ***Sustainability Program Coordinator, City of Madison, WI, 2018 – Current***
  Responsibilities include professional outreach/education/policy work that will advocate sustainability concepts throughout the CIty of Madison; serve as a catalyst to produce a culture change for the community that integrates sustainability and environmental value; coordinate with City staff and strategic community partners to develop sustainability initiatives and assess their cost effectiveness, technical feasibility and implementation methods; apply the equity lens to identify and address barriers to the success of the sustainability initiatives.
- ***Sustainability Coordinator, City of Middleton, WI, 2018 – 2018***
  Project Manager for City-wide sustainability projects, including updates to the City's Sustainability Plan, preparing energy benchmarking and goals for City buildings, streetlights, and vehicles, and tackling other large-scale sustainability projects, like curbside compost collection and the development of new renewable energy systems in Middleton.
- ***Director Sustainable Business Initiative, Sustain Dane, Madison, WI, 2014 – 2018***
  Manage programming including the Sustainable Business Network and the MPower Business Champions Program which helped businesses establish over 500 sustainability projects saving over $1.7 million and avoiding over 60,000 pounds of CO2 from our atmosphere.

MEMBERSHIPS

- Urban Sustainability Directors Network
- ICLEI Local Governments for Sustainability

CIVIC INVOLVEMENT

- University of Wisconsin Sustainable Management Advisory Board, 2019 - Present
- City of Madison: Sustainable Madison Committee, 2016 - 2018
- Dane County Council on Climate Change, 2017 – 2019
- Leadership Greater Madison, 2018

Attachment 3: City of Madison 5.0 Past Performance

CFDA 66.041; EPA-AF-83496101: Climate Showcase Communities Grant
Amount of Grant: $499,496
Project Period: April 1, 2011 to December 31, 2014; Sustain Dane was granted a 1-year extension to continue the program; final report was submitted on time in March 2015.
Outputs and Leveraging: This grant was used to support MPower Champions, an initiative started in 2007 that worked with local businesses and schools to measure their baseline emissions, increase their energy efficiency, and incorporate renewable energy sources. With strong communication and collaboration between the City, Sustain Dane, and MG&E (a local energy service provider), all technical and progress reports were completed in full and submitted on time. The reports demonstrated a satisfactory level of attainment for all project goals, including the creation of a Sustainable Business Network and outreach to the Madison Metropolitan School District through the MPower Schools Program. Additional successful outcomes include engaging with 68 local businesses over three years, which has led to a reduction in greenhouse gas emissions of 1,520.6 metric tons per year.

CFDA 10.331; USDA-NIFA-FINI-005395: Food Insecurity Nutrition Incentive (FINI) Grant Program
Amount of Grant: $93,055; 1:1 match in the amount of $93,055
Project Period: May 15, 2016 to November 14, 2017; City was granted a 6-month extension to complete the project; all reports submitted on time.
Outputs and Leveraging: The purpose of the grant was to increase affordability and consumption of fresh produce by SNAP recipients at farmers markets. Among several outcomes successfully achieved, the number of farmers markets participating in the incentives program "Double Dollars" increased from 4 to 8. The program increased the total number of unduplicated SNAP recipients purchasing eligible produce from 354 to 1,500. According to pre- and post-surveys, 51% of SNAP recipients who relied on Double Dollars at farmers markets increased vegetable consumption.

CFDA 66.808; EPA-OLEM-ORCR-SC1801: Supporting Local Infrastructure for Anaerobic Digestion
Amount of Grant: $39,000
Project Period: July 1, 2019 - February 28, 2022
Outputs and Leveraging: The City of Madison, Wisconsin will conduct a feasibility analysis on developing a regional organic waste collection program for the city and surrounding communities in Dane County. The proposed facility is intended to recover energy and compost from the anaerobic digestion of municipal source separated organics from households, restaurants and grocery stores.

CFDA 66.818; EPA-OSWER-OBLR-11-05: Technical Assistance to Brownfields Communities
Amount of Grant: $400,000
Project period: October 1, 2012 to September 30, 2016; City was granted a one-year extension, and all quarterly and final reports were submitted on time.
Outputs and Leveraging: The outputs included 11 Phase 1 environmental site assessments (ESAs) (totaling 33.9 acres), 9 Phase 2 ESAs (totaling 10.0 acres) and full site investigations at 4 sites. Of the 14 sites enrolled in the grant program, 8 have completed their redevelopment and 5 are being actively

remediated and redeveloped. With the redevelopments, the City leveraged $1 million in WEDC brownfield cleanup grants, $250,000 in WEDC Community Development Investment grants, $6.8 million for a public parking garage, $3.45 million in Madison TIF, $11.74 million in low-income housing tax credits, $2.4 million in Dane County financing for low-income housing, and approximately $89 million in private investment.

Attachment 4: Cost Justification for Installation Cost Measures:
See below for the cost breakdown for the demonstration properties as example of cost estimates for energy efficiency installation budget.

Building	Demo 1 Estimated Cost	Demo 2 Estimated Cost	Demo 3 Estimated Cost	Notes
No. Units	**8**	**7**	**8**	
Measures				
HVAC replacement/upgrade	$ 13,340	$ 13,340		Costs are incremental since boiler is in critical need of replacement
Air conditioning			$ 9,450	
Air sealing	$ 474		$ 908	
Energy Star Refrigerator	$ 6,000			
Smart thermostat	$ 2,349	$ 696	$ 2,350	
Smart power strips	$ 480	$ 360	$ 720	
Water aerator/showerhead	$ 288	$ 42	$ 72	
Pipe insulation	$ 3,176	$ 7	$ 1,360	
Lighting	$ 90	$ 44	$ 114	Common area only; Focus on Energy kits recommended for in unit
DHW	$ 2,270	$ 2,270		Costs are incremental since water heater is in critical need of
TOTAL	**$ 28,467**	**$ 16,759**	**$ 14,974**	
Adjusted TOTAL (75%)	**$ 21,351**	**$ 12,569**	**$ 11,231**	
[1] Cost estimates are from RS Means, local suppliers, and Focus on Energy.				
[2] Installed costs vary based on contractor availability, equipment specifications, issues identified during install.				
[3] Adjusted total based on expected availability of pre-reimbursement upfront funding.				
[4] Costs do not include Focus on Energy available incentives.				

Attachment 5: NOAH Overview Pamphlet

NATURALLY OCCURRING AFFORDABLE HOUSING PROJECT

Preserving Affordable Housing and Implementing Energy, Water & Health Upgrades

ELEVATE ENERGY
Smarter energy use for all

SUSTAIN DANE

WHAT IS NOAH?

We have an affordable housing shortage in Dane County. There are over 40,000 units of Naturally Occurring Affordable Housing (NOAH), or workforce housing, in the area, but there is a growing need to build more affordable units while also preserving and investing in our existing stock. Our focus is to provide upgrades to small size multifamily buildings (often 30 units or less) that are owned/managed by small companies, organizations, or individuals.

NOAH stock is considered affordable based on the rents charged and residents income being at or below 80% of the area median income. Research shows that for working families, rent, utilities, and transportation costs were among the highest monthly expenses. Addressing the intersection of environmental, social, and economic justice for cost-burdened residents will be the guiding principles for our NOAH program.

Enhancing resident health and comfort, reducing utility bills, and providing climate resiliency is a key strategy to provide a more equitable and sustainable housing market.

Affordable housing consumes on average **33% more energy** than market rate housing because it is older and not as well updated and/or maintained.

PILOT PROGRAM 2020

In 2020, Sustain Dane and Elevate Energy are running a pilot to better understand the challenges and opportunities to serve NOAH stock in Dane County. The pilot work will develop a plan to move forward with a program to scale for impact. We are emphasizing innovation and partnership and centering our work on equity.

The pilot aims to:

- Convene with stakeholders in the public and utility sector
- Engage with owners and property managers
- Conduct 7-10 building assessments and complete 2-3 efficiency upgrades
- Provide a wealth building component to increase resident savings accounts while reducing utility expenses
- Develop a funding strategy to support the work beyond existing incentives
- Explore equitable workforce development and diverse contractors participation
- Develop recommendations for further engagement
- Provide technical assistance, including access to capital for NOAH owners and managers

BUILDING A NAVIGATOR PROGRAM

NOAH has traditionally not been served well by existing incentive programs. There are several reasons: it takes extensive outreach to contact the owners and residents, split-incentive challenges with making upgrades, lack of up-front capital, it's difficult to recuperate investment due to affordable nature of the housing, and lack of understanding how incentives will lead to the anticipated savings or health benefits.

When residents are energy burdened because of high utility bills, those households have higher rates of eviction, destabilizing families and communities. Eviction often comes from owing less than one month in rent, less than **$600**.

PROGRAM ELEMENTS

The initial design of the program is based on input to date from the pilot program. The navigator program will continue to evolve as we learn from additional engagement, priorities, and experience.

1. Eligibility based on census data to reduce barriers to qualification
2. Buildings with two or more units that are not owner occupied
3. Outreach staff resources to assist owners with navigating and applying to multiple efficiency programs
4. Education resources to connect with residents living in NOAH for input and training about upgrades, answer questions, and other opportunities related to the program.
5. Access to staff for energy and water management assistance with set up of Portfolio Manager accounts
6. Using quick assessment tools to conduct initial reviews to eliminate price barrier
7. Connect owners with trade ally contractors, assist with bidding procedures, and review bids with a focus on diverse contractors and workforce development programs
8. Access to and support in acquiring financial resources, grants, capital, and other funds
9. Residents interested in wealth building can participate in cohort opportunities

Attachment 6: NOAH Owner Interview Summary

ELEVATE ENERGY
Smarter energy use for all

SUSTAIN DANE

July 2020

Naturally Occurring Affordable Housing Project

Multifamily Owners Interviews Summary

Multifamily owners need:

- **Fast payback time** for efficiency upgrades - a focus on the **bottom line**
- **Single point of contact** for upgrade work
- **Guidance** to interpret incentive options
- **Technical assistance** to complete upgrades
- **More durable** and **longer lasting** appliances
- Good **customer service** for tenants
- **Resident education**

How do we preserve affordable housing and provide energy, water, and health upgrades?

Naturally Occurring Affordable Housing

Naturally Occurring Affordable Housing (NOAH) stock is considered to be affordable based on the rents charged and the average median income of its residents which tend to be at or below 80% of the area median income. Over 40,000 units of NOAH stock exist in Dane County, which comprises a notable amount of affordable housing options. It typically consists of small size buildings (often less than 30 units) and is privately owned and managed by small companies.

Who did we interview?

We interviewed over 24 property owners and programs working with them in the Dane County area to understand their experience with energy efficiency, water, and health upgrades. Seven NOAH properties have been selected for a pilot program to conduct assessments and understand challenges and opportunites for upgrade implementation.

When things aren't broken, owners often do not want to replace them. More efficient equipment can be a harder sell, but if the equipment we're offering is durable and high quality with cost-saving measures, they may be more interested.

What do the owners know about rebate/incentive programs?

Owners understand that incentives exist to help reduce the cost burden of the potential upgrades, however, some say that the incentive levels are not high enough to meet their financial needs, especially the smaller owners who do not have as much cash flow. Some owners have suggested that seeing the payback math dome for them would be helpful, with clear graphics and figures to explain the financial benefits (ROI) they would receive from these upgrades. Many owners also lamented the overwhelming paperwork, which can be confusing to understand, saving a navigator-type role present to explain the choices may be benficial. For example, some owners are interested in saving energy costs through heat, so smart thermostats may be a target incentive option to suggest.

What impact could this have on NOAH stock?

Reducing energy and water use in Dane County's NOAH housing stock is a key climate planning strategy, and providing owners and managers with the means to reduce operating costs is critical to maintain affordability. Enhancing resident health and comfort, reducing utility bills, and providing resiliency for these homes is a key strategy to provide a more equitable and sustainable housing market.

Attachment 7: Northside Planning Council Letter of Support

Northside Planning Council

January 21, 2021

Dear Public Service Commission of Wisconsin,

I am writing to express the Northside Planning Council's (NPC) support for the City of Madison's PSC Energy Innovation Grant proposal titled Energy Efficiency in Naturally Occurring Affordable Housing: Implementing Efficient Building Technologies and Preserving Affordable Housing.

The NOAH program approaches energy efficiency technologies with a neighborhood-focused method that engages stakeholders, property owners and managers, and residents to understand the challenges and opportunities. Outreach and engagement is a successful method and take extensive focus from committed partners. NPC is a community liaison that is deeply connected in the Northside neighborhoods and who uniquely knows and understands Northside residents and property owners in order to steer outreach and engagement throughout the program. This grassroots approach includes building community channels from the bottom up for resident education and engagement and is unique from other energy efficiency programs. Residents will be notified about the in-unit energy upgrade benefits and timeline for installation from outreach specialists. The results of implementing energy efficiency technologies in these NOAH units will include a more resilient community that benefits from lower utility bills and more comfortable homes, reduced carbon emissions, and more data and lessons learned about how to reach a building stock with unique participation challenges.

This project allows for the important implementation of energy efficiency in buildings that have been traditionally challenged and serves the diverse residents of the Northside for improved safety during extreme weather, reduced utility bills, and more comfort in their homes.

Sincerely,

Abha Thakkar

Abha Thakkar
Executive Director
Northside Planning Council
(608) 230-1221
director@northsideplanningcouncil.org

Attachment 8: Sustain Dane & Elevate Energy Letter of Support

January 21, 2021

Dear Public Service Commission of Wisconsin,

We are writing to express Sustain Dane and Elevate Energy's support for the City of Madison's PSC Energy Innovation Grant proposal titled Energy Efficiency in Naturally Occurring Affordable Housing: Implementing Efficient Building Technologies and Preserving Affordable Housing.

The grant takes an innovative, equitable, and collaborative approach. It will provide meaningful energy efficient technology outcomes and be useful to policy makers and foundations to continue pursuing energy efficiency technologies in other NOAH housing stock in Wisconsin. In March 2017, the City of Madison Common Council passed a Resolution setting a goal of 100% renewable energy and zero-net carbon. Residential energy comprises 18% of community-wide greenhouse gas emissions for the City of Madison (2014 ICLEI ClearPath inventory). In addition, the City of Madison has goals of racial equity and social justice while also addressing the issue of housing affordability and resilience. This grant will offer the opportunity to invest in the community while addressing these goals.

This project allows the implementation of energy efficiency in a building stock that has been traditionally challenged. Building energy efficiency provides housing that is safe and comfortable in extreme heat and cold temperatures, which are becoming more frequent in our region. With the ability to maintain the temperatures in a home and have efficient heating and cooling systems, it takes less energy to have a safe and comfortable living environment. This is critical to the wellbeing for residents. Equity is central to all aspects of the NOAH initiative, as it serves low-to-moderate income residents from communities of color and works with a community based outreach and education approach.

Sincerely,

Claire Oleksiak
Executive Director, Sustain Dane
Claire@sustaindane.org
608-285-2454

Abigail Corso, P.E., LEED AP O+M
Chief Strategy Officer, Elevate Energy
Abigail.corso@elevateenergy.org
773-321-2663

Attachment 9: Additional References & Sources:

- Interactive map of NOAH eligible census tracts and census block groups: https://elevate.maps.arcgis.com/apps/webappviewer/index.html?id=74931547ff7c47fcac912dd9e06b0ece
- Guidelines for Airport Sound Insulation Programs (2012) http://onlinepubs.trb.org/onlinepubs/acrp/docs/ACRP02-24_FR.pdf
- Minneapolis Saint Paul Airports (1992 – present): https://www.macnoise.com/noise-mitigation-program/when-your-home-becomes-eligible
- Madison Neighborhood Indicators project: https://madison.apl.wisc.edu/
- Joint Center for Housing Studies of Harvard University: State of the Nation's Housing 2020: https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_The_State_of_the_Nations_Housing_2020_Report_Revised_120720.pdf
- Multifamily Energy Efficiency Retrofits: Barriers and Opportunities for Deep Energy Savings: https://neep.org/sites/default/files/resources/REEO_MF_Report.pdf.
- Many Renters Who Face Eviction Owe Less than $600 (2019). https://www.nytimes.com/2019/12/12/upshot/eviction-prevention-solutions-government.html
- Correlational analysis of energy burden and eviction rate (2019): https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/18390/MP%20final.pdf?sequence=1