

Vergas Energy & Resiliency Plan (ERP)

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By: Jon Barcenas

Foundations for Energy & Resilience Work

2023 LMC Conference inspired city commitment to climate action

- Former Mayor Julie Bruhn and then Council initiated energy-focused strategy
- Initial focus: reduce costs and emissions in municipal buildings
- Key partnerships: Clean Energy Resource Teams (CERTS), Empowering Small Minnesota Communities (ESMC), Regional Sustainable Development Partnerships (RSDP), West Central Initiative (WCI), Center for Sustainable Building Research (CSBR), and Otter Tail Power company (OTPCO)

Milestones:

- Joined MN GreenStep Cities (#149)
- Secured rural energy planning grants (ESMC & RSDP)
- MPCA Implementation Grant awarded for weatherization & refrigeration upgrades

Work informed by: 2019 CIP, 2020 Housing Study, 2022 Comprehensive Plan

Process built momentum for the 2025 Advisory Board and community-led planning

Vergas Community Energy & Resilience Advisory Committee

Purpose: Guide implementation of the Energy & Resilience Plan

Objectives:

- Support plan development and advancement
- Recommend local energy and resilience initiatives
- Lead community education and outreach
- Monitor progress and adapt strategies over time

Structure:

- 5-member board, with 3 resident members
- Appointed by Mayor, approved by Council
- Elects Chair, Vice Chair, and Secretary
- Reports regularly to the City Council

Project Objective & Implementation Categories

Create a community-informed Energy and Resiliency Plan that builds on Vergas' strategic priorities, outlines actionable next steps for city facilities, and leaves room for continued refinement and community ownership.

- Built on: 2019 CIP, 2020 Housing Study, 2022 Comprehensive Plan
- Guided by: OTP energy audits, CSBR envelope assessments, B3 tracking
- Focused on 4 municipal buildings: Fire Hall, Event Center, Liquor Store, City Office

4 Initial Implementation Categories:

- Weatherization
 - Mechanical system upgrades
 - On-site energy generation & storage
 - Engineering documentation for future readiness
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- Opportunity to expand: Water/environmental strategies highlighted in 2025 survey
 - Plan is a **living document**—designed for community input and Advisory Board leadership

ERP building example

Building Overview: Use, size, systems, and energy performance (EUI)

Weatherization Needs: Air leakage & insulation gaps identified via thermal imaging

Recommended Upgrades: Air sealing, attic insulation, and hatch weatherstripping \$9,200 (labor & materials)

Mechanical Systems: Continued ERV maintenance, no major replacement

Resilience Opportunities:

- Explore solar PV + battery for emergency operations

Water Environment: No current issues, future opportunity for bioswales

Engineering documentation: pending submission from WCI grant

Fire Hall



Building Overview

The Vergas Fire Hall consists of two equipment bays constructed at different times, a large meeting room, and several support areas including restrooms and offices. The building is infrequently occupied. Space conditioning relies on a mix of natural gas and electric systems, with ventilation supported by two energy recovery units (ERVs) that help mitigate heat loss during air exchange.

The building's Energy Use Intensity (EUI) is 23.7 kBtu/ft²·yr, significantly lower than the comparable Frazee facility (EUI 89.92). However, several energy inefficiencies were identified during the CSBR study, particularly related to air leakage and insufficient insulation in critical areas.

Weatherization Efforts:

- Air leakage was observed around equipment bay overhead doors (evidenced by dirt streaks, daylight penetration, and thermal imaging).
- The West equipment bay attic is under-insulated, and the attic hatch is not sealed.
- Recommendations:
 - Air seal all overhead doors.
 - Insulate attic floor to R-50.
 - Install weatherstripping to seal attic hatch.
- Estimated Cost: \$9,200 (labor and materials)

Mechanical Systems Upgrades / Critical Loads:

- Combination of gas-fired heating and electric systems used for conditioning.
- Recommendation: Continue preventive maintenance and inspection of ERVs to ensure efficient recovery of heat and minimize winter losses.

Renewable Energy Opportunities:

- Consider small-scale solar PV system for lighting and auxiliary power needs.
- A resilience-oriented battery system could also support emergency operations.

Water Environment (Future Category):

- No specific stormwater or water conservation issues were identified.
- Opportunities may exist to integrate native landscaping or bioswales in future site upgrades to improve drainage and reduce runoff.

Engineering Documentation:

- Future engineering documentation from Energy Conservation Grant (WCI)



ERP building example

One-page matrix synthesizes key info across all 4 buildings

Includes use, energy intensity (EUI), resiliency potential, and upgrade priorities

Helps compare and prioritize projects at a glance

Supports implementation planning and grant alignment

Summary Table of Building Characteristics and Priorities

Category	1. Event Center	2. Fire Hall	3. Liquor Store	4. City Office
Primary Use	Assembly, Kitchen, Community Hub	Emergency Services, Meeting Space	Retail (Liquor + Second-hand)	Office/Admin + Shared w/ Post Office
Square Footage	~7,200 sq ft	N/A	~7,840 sq ft	N/A
Energy Use Intensity (EUI)	37.1 kBtu/ft ² -yr	23.7 kBtu/ft ² -yr	32.8 kBtu/ft ² -yr	17.8 kBtu/ft ² -yr
Resiliency Hub Potential	Yes – primary gathering site	Yes – emergency use	No – mixed-use and structural limits	No – limited capacity
Key Observations	Breaker trips with load; slab heat loss; drafty doors	Overhead door leakage; attic poorly insulated	Penthouse and rear leakage; economizer in place	Excellent performance; no gas; minimal heat loss
Recommended Focus	Upgrade electrical panel; weatherization for slab and doors	Air sealing and attic insulation	Targeted air sealing; preserve historic features	Monitoring and solar feasibility
Upgrade Priority	High – resiliency and energy	High – resiliency and heat loss	Medium – selective improvements	Low – maintain existing systems

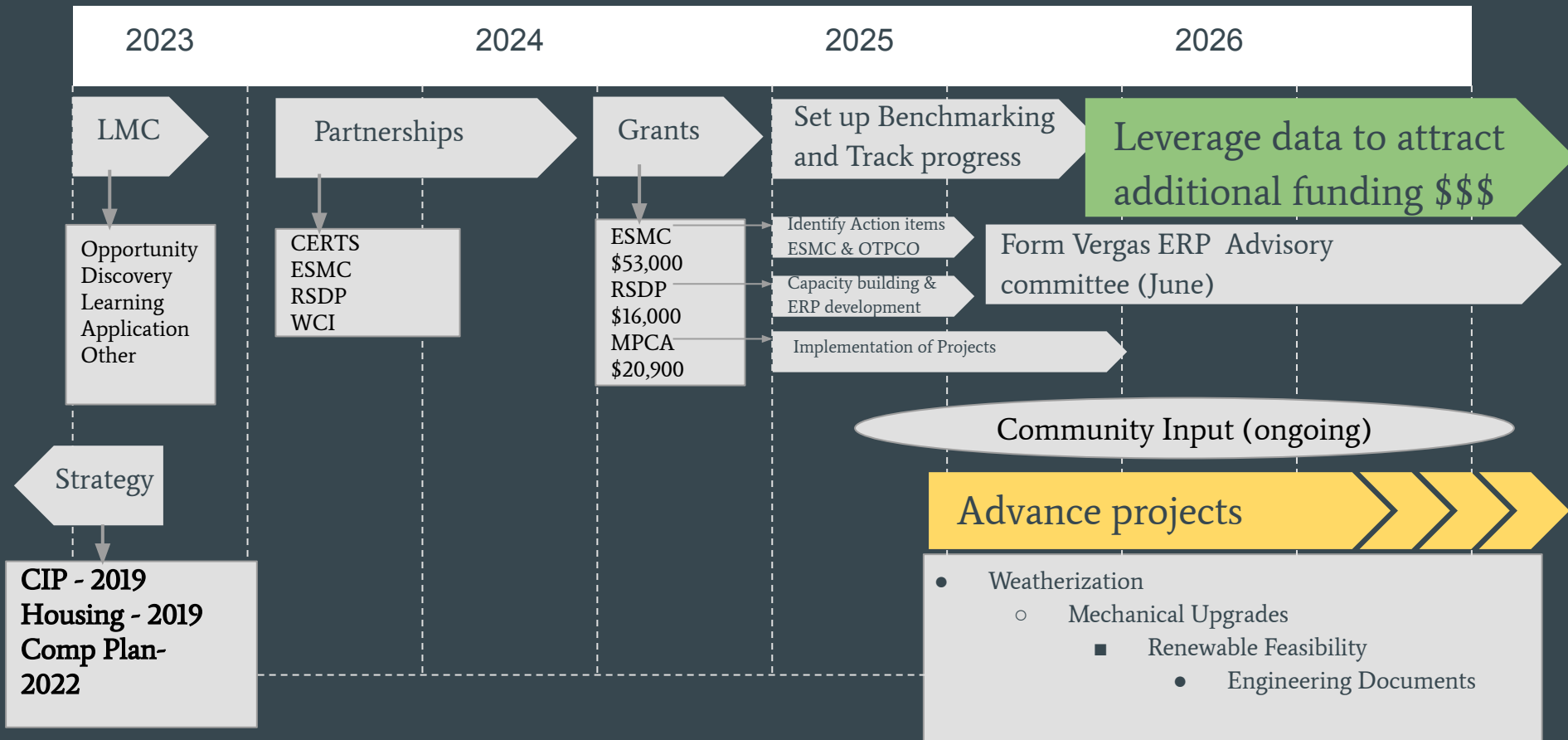
What the Energy & Resiliency Plan (ERP) Is.

And Why It Matters

- **Defines community priorities** for energy, resilience, and infrastructure
- **Identifies shovel-ready projects** and timelines for action
- **Improves grant competitiveness** with funders like WCI, MPCA, SoISmart
- **Shows planning & readiness**—a requirement for most major climate-related grants
- **Supports small-city leadership**—without needing a full-time sustainability team
- **Integrates B3 Benchmarking** to track energy use and show real performance data
- **Sets measurable goals**—GHG reductions, energy savings, resilience benchmarks
- **Future-proofs city assets** for long-term savings and community well-being

Timeline

Building Momentum: The Path to Energy and Community Resilience

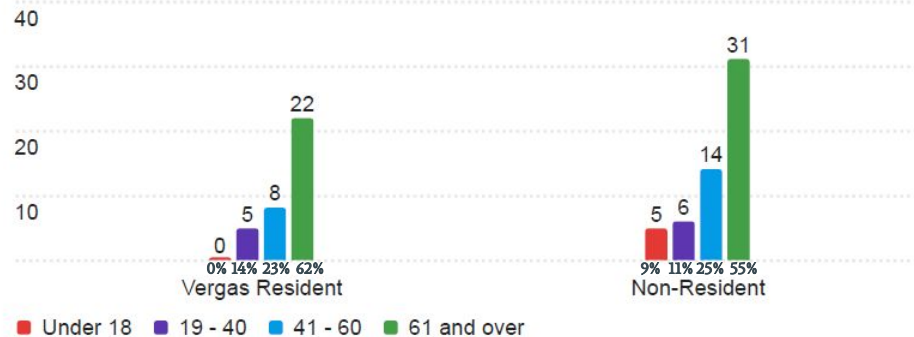


Community Survey Results

Demographics & Community Profile

Age

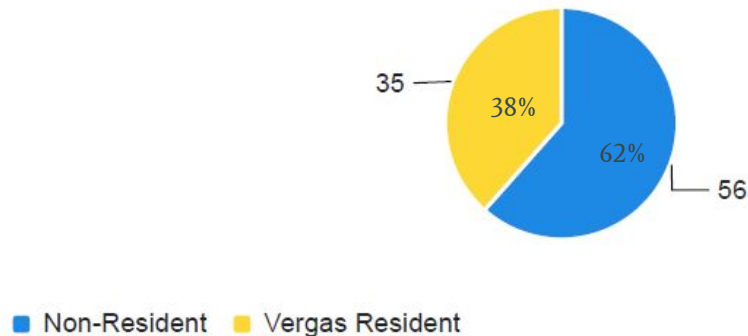
91 Responses



City of Vergas Community Resilience & Energy Survey 2025

Residency Status

91 Responses



Recommendations

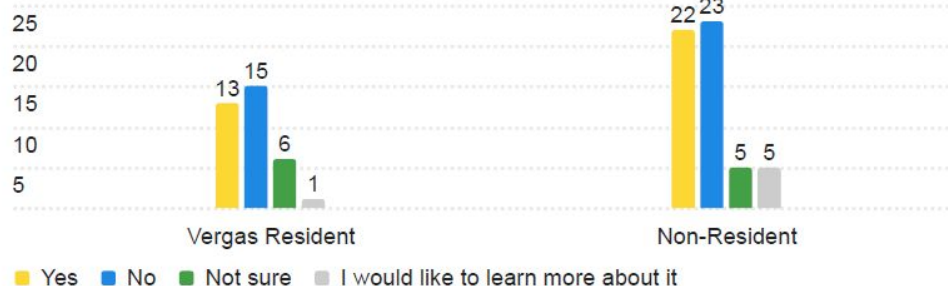
- Design programs with accessibility for older adults (large print, convenient times, multiple formats)
- Develop youth engagement strategies to build long-term program sustainability
- Leverage high civic engagement for volunteer leadership and program champions
- Partner with existing senior organizations and established community groups

Community Survey Results

Emergency Preparedness

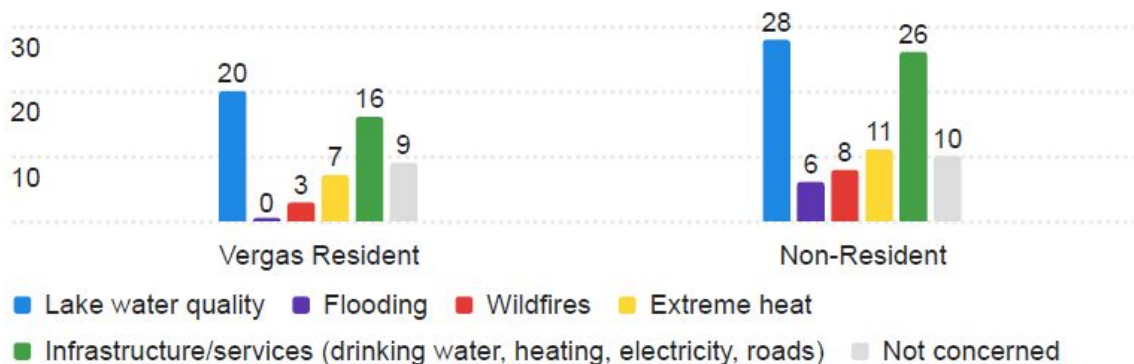
Do you have a backup plan for utility disruptions (electricity, water, heating)?

90 Responses



What types of extreme weather are you concerned about impacting Vergas in the next 5 years?

90 Responses

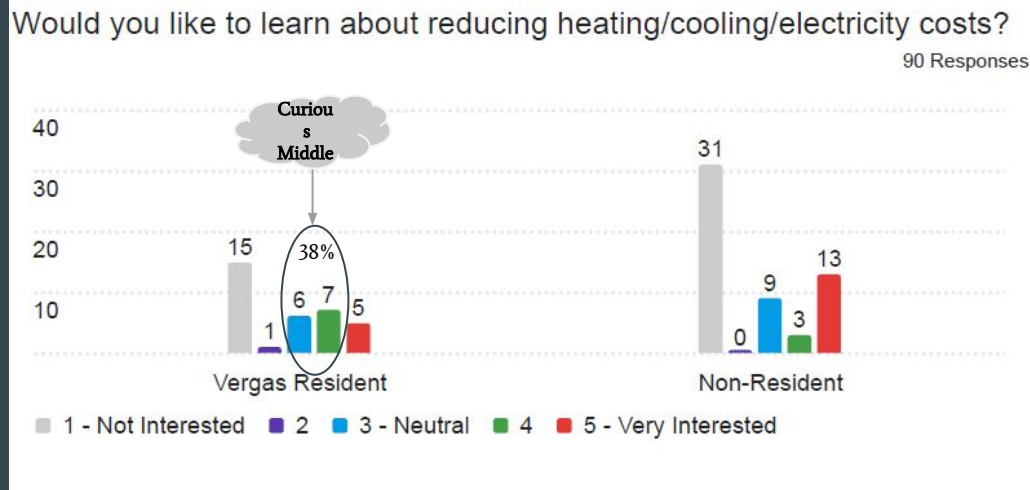


Recommendations

- Launch emergency preparedness education as highest priority initiative
- Develop community-wide backup power and heating strategies
- Create neighborhood-level mutual aid networks for emergencies
- Partner with utilities on system resilience and outage communication
- Establish community emergency shelters with backup systems (event center and Firehall)

Community Survey Results

Housing & Business Temperature Comfort



Has your home or business experienced uncomfortably high or low temperatures recently?



Recommendations

- Target outreach to the engaged 35% using simple, relatable materials
- Highlight peer examples and community champions to show real savings and comfort improvements
- Launch pilot programs like basic home energy checkups, appliance rebates, or LED swaps
- Track interest over time especially during seasonal utility spikes, when people are more likely to seek solutions

Community Survey Results

Ongoing processes

38% of survey responses came from non-residents → need more outreach to year-round residents

Future engagement ideas:

- School events, utility bill inserts, civic/faith-based gatherings
- Partner with regional organizations for facilitation

Workshops & Listening Sessions (in progress): Reflecting on local energy burdens, weather impacts, and resilience needs

Energy & Resilience Action Committee: Continues refining goals and tracking plan progress

Potential Upcoming: Peer Learning Exchange to UMN–Morris le by WCI

- Agrivoltaics, wind, battery storage, and district-scale planning
- Builds leadership capacity and inspires implementation strategies



Questions?