

RESTART

A Roadmap for Affordable Green Energy in Michigan



WHO WE ARE



RESTART@LTU — short for Retired Engineers, Scientists, Technicians, Administrators, Researchers, and Teachers — is a partnership between the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and Lawrence Technological University (LTU).

WHAT WE DO

Formerly known as the Retired Engineers Technical Assistance Program (RETAP), RESTART offers energy efficiency, sustainability, and waste reduction assessments and services, at no cost to qualified Michigan businesses and public institutions, including K-12 Public Schools. These assessments are designed to be a roadmap for organizations to reduce carbon emissions and lower energy costs.

2023 SNAPSHOT

80

Number of public schools assessed by RESTART

45

Number of assessed schools in rural/disadvantaged communities

60

Number of follow-ups on previous assessments

\$298M

Expected lifetime savings of all 2023 assessments

A Global Movement...

The MI Healthy Climate Plan lays out a vision for Michigan to achieve economy-wide carbon neutrality by 2050 — and specifically focuses on tackling environmental injustices, electrifying transportation, repairing and decarbonizing buildings, encouraging innovation in the industry, and protecting Michigan’s land and water by 2030.

Mitigate the worst impacts of climate change

Spur economic development and create good-paying jobs

Protect and improve the health of Michiganders

Position Michigan as a leader in climate action

Protect our natural resources and wildlife

Make Michigan energy independent

Address environmental injustices

...With Local Impact

RESTART supports the MI Healthy Climate Plan for a low-carbon future by offering meaningful, practical, and effective climate solutions to Michigan’s K-12 public schools, small businesses, and sacred spaces.

RESTART — A Catalyst for Change

OUR GOALS

- Offer technical assistance for energy-waste reduction and sustainability projects
- Help our clients meet their decarbonization goals
- Encourage procurement and use of low-carbon products
- Increase the pace and adoption of decarbonization solutions
- Connect with partner organizations and to identify funding opportunities

OUR PARTNERS



KEY TERMS

energy-waste reduction: reducing energy that is produced but not used or used inefficiently, which cause carbon emissions and other environmental pollution

sustainability: preventing the depletion of natural resources to maintain an ecological balance so they will remain available for the long term

decarbonization: improvements through which an entity reduces its carbon footprint, primarily its greenhouse gas emissions, carbon dioxide, and methane, to reduce its impact on the climate

**5.8
MILLION**

Total square
footage of
buildings
assessed



**40
MILLION**

Total
electricity
savings (kWh)

495,000

Total fuel
savings
(CCF)



2023 SUCCESSES

The theme of 2023 was improving indoor air quality in Michigan's K-12 Public Schools:

- Conducted assessments in 80 schools, including 45 schools in rural areas and disadvantaged communities
- Reached out to over 60 schools to follow up on previous assessments (at a frequency of 12 to 24 months following the assessment)

In 2023, RESTART also supported energy waste reduction initiatives in sacred spaces and private sector entities.

TOP RECOMMENDATIONS

Building Envelope: Minimize air leakage and thermal loss. Lower heat loss through windows by considering window film, exterior sunshade baffles (or utilizing solar panels canopy), and/or adding automatic sensors to existing interior window shades; another option is replacing portions with spandrel glass to allow for insulation to be added.

HVAC: Replace old and inefficient HVAC systems as needed and run them optimally. Recommission and/or install an Energy Management System (EMS) – that can be programmed and potentially remotely control the HVAC and other major equipment. Consider adding make-up-air (MUA) heat pumps to the paint shop and a CNC / plasma cutter balanced to the exhaust fans.

Lighting Systems: Upgrade LED systems with motion detectors. Where there are windows, consider adding 'daylighting' controls. Ensure exterior lighting photo-cell controls are operational.

Control and Building Automation Systems (BAS): Maximize the efficiency of the facilities while maintaining a comfortable and optimal learning environment. Install CO2 and RH monitors to lower virus transmission rates and ensure the health and safety of students.

2023 REPORT:
A YEAR OF IMPACT

“After upgrading our HVAC system and pneumatic controls to electronic/digital controls, we saw our energy bills decrease by over 30%. The improvements made a noticeable difference in our classrooms, creating a healthier and engaging learning space for our students. The savings have allowed us to invest in new technology and resources for the classrooms.”

—Adrian Public School District



“Our solar panel is complete, and our cooling tower is up to date. We are now focused on lowering our energy usage by replacing 18 heat pump systems with RESTART's assistance.”

*— MFP Automation Engineering
in Hudsonville*

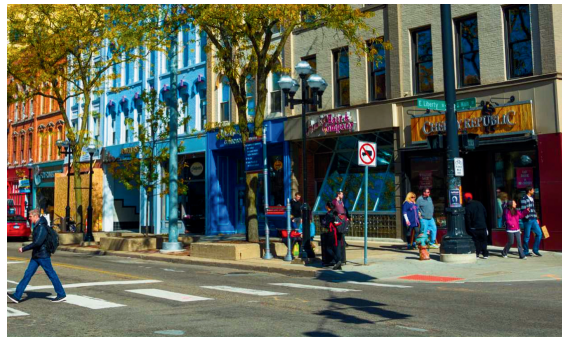
“RESTART conducted a high-level Energy Audit for us, and we are asking our Council to take action on the report. We are fortunate to have an organization to support houses of worship and non-profit groups with limited resources.”

*— St. Paul's United Church
in Grand Haven*



2024 PRIORITIES

- Perform 100 assessments to help Michigan small businesses transition to a low-carbon future
- Encourage the use of carbon-neutral fuels in industrial and commercial building operations
- Help partners find funding to implement RESTART recommendations
- Where feasible, encourage the adoption of early-stage energy waste reduction technologies
- Offer more technical assistance in communities facing environmental injustice (including toxin exposure and poor air and water quality)



“Our partnership with the RESTART program is expected to help up to 20 businesses benefit from adopting advanced early-stage energy waste reduction technologies.”
— Ann Arbor/Washtenaw County 2030 District



“The City of Holland, in partnership with RESTART@LTU and EGLE, will offer free energy audits and technical assistance to select BPW customers through the City’s ‘Business Energy 101 with RESTART’ through 2025.”
— City of Holland

THANK YOU

Working Together to Ensure a Green Future for Michigan

“RESTART is proud to support EGLE’s healthy communities, economic growth, and environmental sustainability priorities.”

— Robert Jackson, Executive Director of RESTART@LTU



Communities

EGLE assists, educates, and encourages Michigan communities to advance conservation and efficient use of energy resources so they may provide for a healthier environment and achieve greater energy security for future generations.



Industry

EGLE is working towards a low-carbon future through programs and policies intended to drive environmental sustainability in industry through energy efficiency, renewable energy and climate resiliency, while accelerating economic growth, creating jobs and reducing greenhouse gas emissions.



Renewable Energy

EGLE strives to achieve clean energy for all through programs that provide access to renewable energy for Michiganders regardless of income.



Residents

EGLE promotes affordable, reliable, secure and environmentally-sound energy solutions for Michiganders and encourages residential energy waste reduction.



Transportation

EGLE is working with businesses, townships, counties, cities and villages in the state to help them become EV ready.



Workforce

EGLE supports education, outreach, and other training activities that provide Michigan businesses, communities, and citizens with information to make informed climate and energy decisions.

CONTACT US

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