



SHAPING OUR ENERGY SECURE FUTURE

WRCE 2025 Report

wrcommunityenergy.ca

CONTENTS

About WR Community Energy	5
Electrification: A strategic opportunity	6
Energy Security: Advancing our quality of life	8
Imported Energy: A financial drain	11
Local Energy: Investing in Waterloo Region	13
Projects in Development	16
A Thermal Plan for Energy Security	19

Cover Photo: Enova Power Corp.



Photo: Tomasz Adamski

Message from the Board

Now more than ever, we need to build a strong and resilient future for our community. As costs rise and climate challenges grow, the energy choices we make today have a growing impact. Each one of us makes critical choices and has impact when deciding how to power our homes, neighborhoods, and local economy. That's what makes local, sustainable energy systems so compelling – they can empower us to take control of our energy future, protect against potential disruption, and build a more affordable community for generations to come.

Waterloo Region is known for adapting in the face of challenges. The Community Energy Investment Strategy (CEIS) is another example of how we have come together to innovate and develop our regional energy resources to enhance our economic competitiveness, resiliency, and quality of life.

WR Community Energy, a partnership between local utilities, municipalities, and institutions, is taking a leadership role by shaping strategic investments and advancing policy. This year, we highlight the importance of local thermal energy as a vital component of our energy transition. Managing this valuable resource wisely can move us toward our shared goal of long-term economic vitality.

Together, we can build an energy-secure Waterloo Region, fuelled by local resources and shared innovation.

– Rod Regier

Chair, WR Community Energy Board



A scenic view of a river with a stone dam and trees in autumn foliage. The image is partially covered by a yellow diagonal overlay on the right side.

Territorial Acknowledgement

WR Community Energy serves an area within the traditional territories of the Anishinaabe, Chonnonton, and Haudenosaunee peoples. This territory is united by the Dish with One Spoon wampum and lies within the Haldimand Treaty of 1784, a formally ratified agreement acknowledging six miles on either side of the Grand River as treaty territory of Six Nations of the Grand River.

As we continue our work to build a sustainable future, we acknowledge the enduring connection Indigenous Peoples have with the land. We honour their stewardship of this land for thousands of years, and we commit to learn from and collaborate with them to create a future that respects the land, honours Indigenous rights, and promotes environmental sustainability.

About WR Community Energy

WR Community Energy (WRCE) was founded on the understanding that incremental fixes alone cannot meet the demands of the energy transition. What is required is bold, coordinated action. Incorporated as an independent non-profit in 2024, WRCE drives agile, cross-sector collaboration across Waterloo Region.

Our mission is to align partners around a shared vision: advancing a clean, local, and equitable energy future. Supported by funding from municipalities, utilities, and federal grants, WRCE works with large energy users, institutions, and community stakeholders to develop low-carbon energy programs, conduct research on emerging trends, and advocate for policies that accelerate the region's transition.

In 2025, WRCE's focus is on **energy security** – creating a resilient, locally controlled clean energy system that supports Waterloo Region's quality of life, strengthens economic competitiveness, and reinforces the region's long-term leadership in the evolving energy landscape. By building a reliable and sustainable energy foundation, WRCE helps ensure that the region thrives today and remains a model for innovation and resilience into the future.

IN PARTNERSHIP WITH





Electrification:

A strategic opportunity

Electrification is more than a technical upgrade, it's a community-building initiative and an economic opportunity.

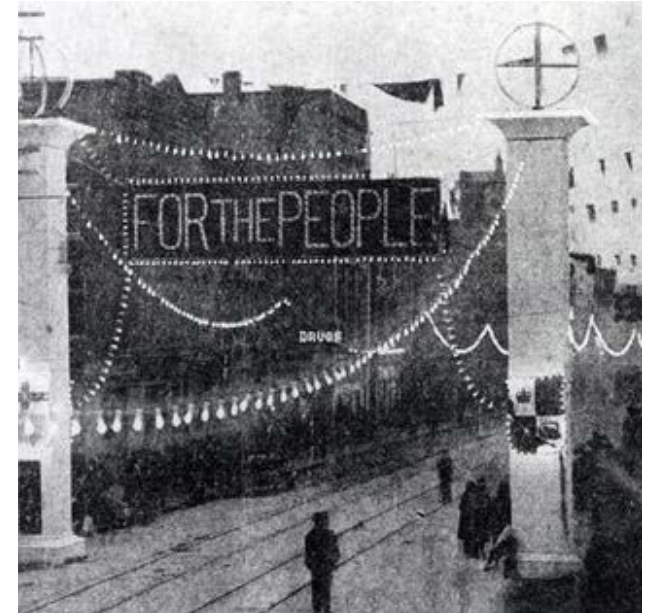
Electrification is at the heart of the energy transition. By replacing fossil-fuel-based systems with electricity in our buildings, transportation, and industry, we're not just reducing emissions – we're reshaping how energy is produced, delivered, and used across Waterloo Region. Powering hospitals, schools, homes, manufacturing, and municipal services with clean, flexible electricity strengthens our resilience, supports local businesses, and enhances quality of life.

When electrified systems are designed in alignment with local development, they keep more energy dollars circulating within the region, create skilled jobs, and attract investment in clean technologies. Done right, electrification transforms energy security into a regional success story – good for the economy, good for the environment, and good for civic health.

By electrifying heating, cooling, and transportation, Waterloo Region will:

- Reduce reliance on imported fossil fuels and retain more wealth locally.
- Leverage clean electricity to cut emissions at scale and strengthen competitiveness.
- Increase flexibility through demand management, distributed generation, and energy storage – improving reliability and lowering costs.

Our responsibility, as community energy leaders, is to learn from the past, address gaps in the system, and develop what's possible. In short, we aim to leave Waterloo Region's energy system stronger, cleaner, and more resilient than we found it.





Energy Security:

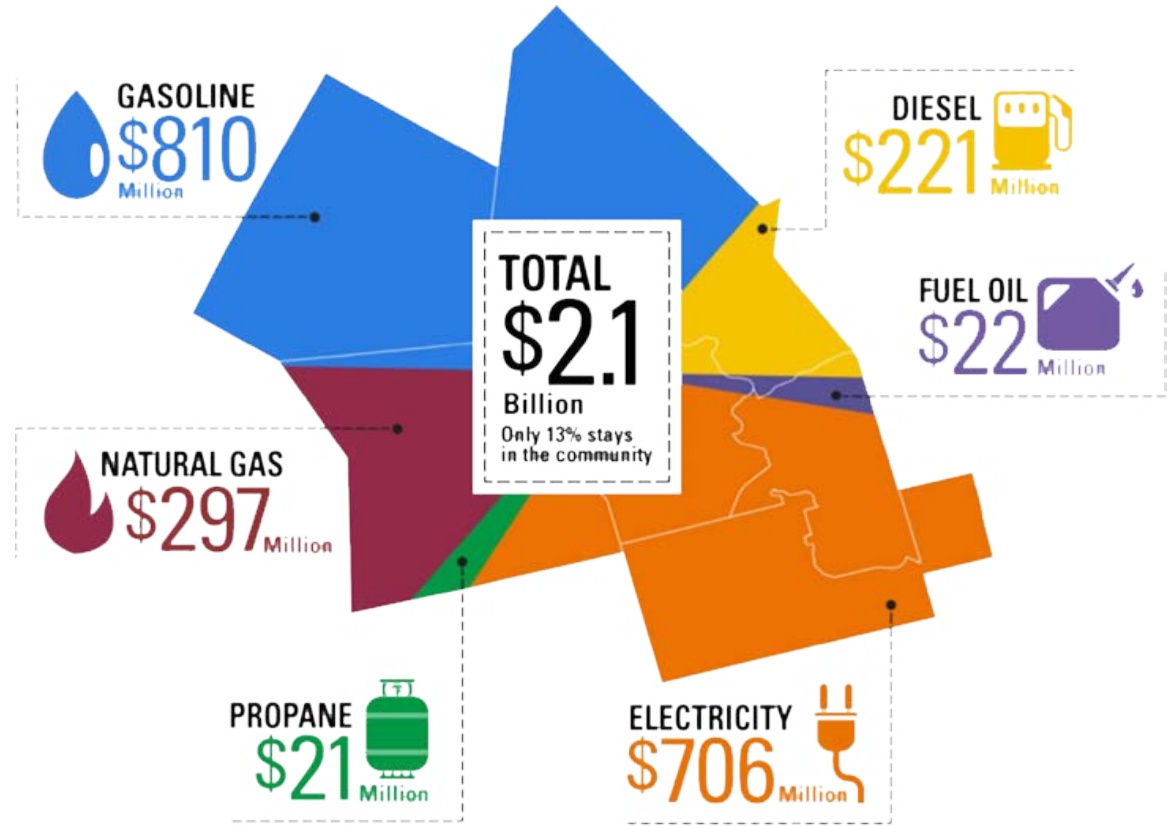
Advancing our quality of life

Climate science, political instability, and the escalating costs of inaction are forcing communities worldwide to rethink energy security and independence.

Energy security is the ability to meet our energy needs in the face of external factors outside our control, while prioritizing the wellbeing of our community. For Waterloo Region, energy security is not a theoretical concept – it’s a pressing concern that affects our daily lives.

WHERE WE ARE TODAY

- **Supply:** Over **99% of Waterloo Region’s energy is imported**. Most of it comes from outside Ontario, and much of it from outside Canada.
- **Infrastructure:** Most of our energy flows through pipelines, highways, and transmission lines we do not own or control. This makes us vulnerable to global supply disruptions, price shocks, and geopolitical instability.
- **Demand:** Energy consumption is split between three economic sectors: **industrial (40%), residential (31%), and commercial (29%)**. Within these sectors, heating, transportation, and industrial processes use the most energy.



Every year, residents, businesses and institutions in our region spend **over \$2 billion on energy**, including electricity, natural gas, gasoline, fuel oil, diesel and propane. **87% of that spending** leaves the community immediately. That’s nearly **\$1.8 billion exported annually**, which could instead be fueling local jobs, businesses, and infrastructure.

“In the next few decades, the transition to global decarbonization will see a gradual reduction in the use of fossil fuel to heat buildings. As society transforms to a clean energy future, geothermal energy is poised to become the holy grail of heating and cooling. It is a constant source of carbon-free energy that is available in the ground beneath virtually every building site.”

Brian Beatty

[*Geothermal Energy Potential for Waterloo Region Building Sector*](#)

WHY LOCAL CONTROL MATTERS

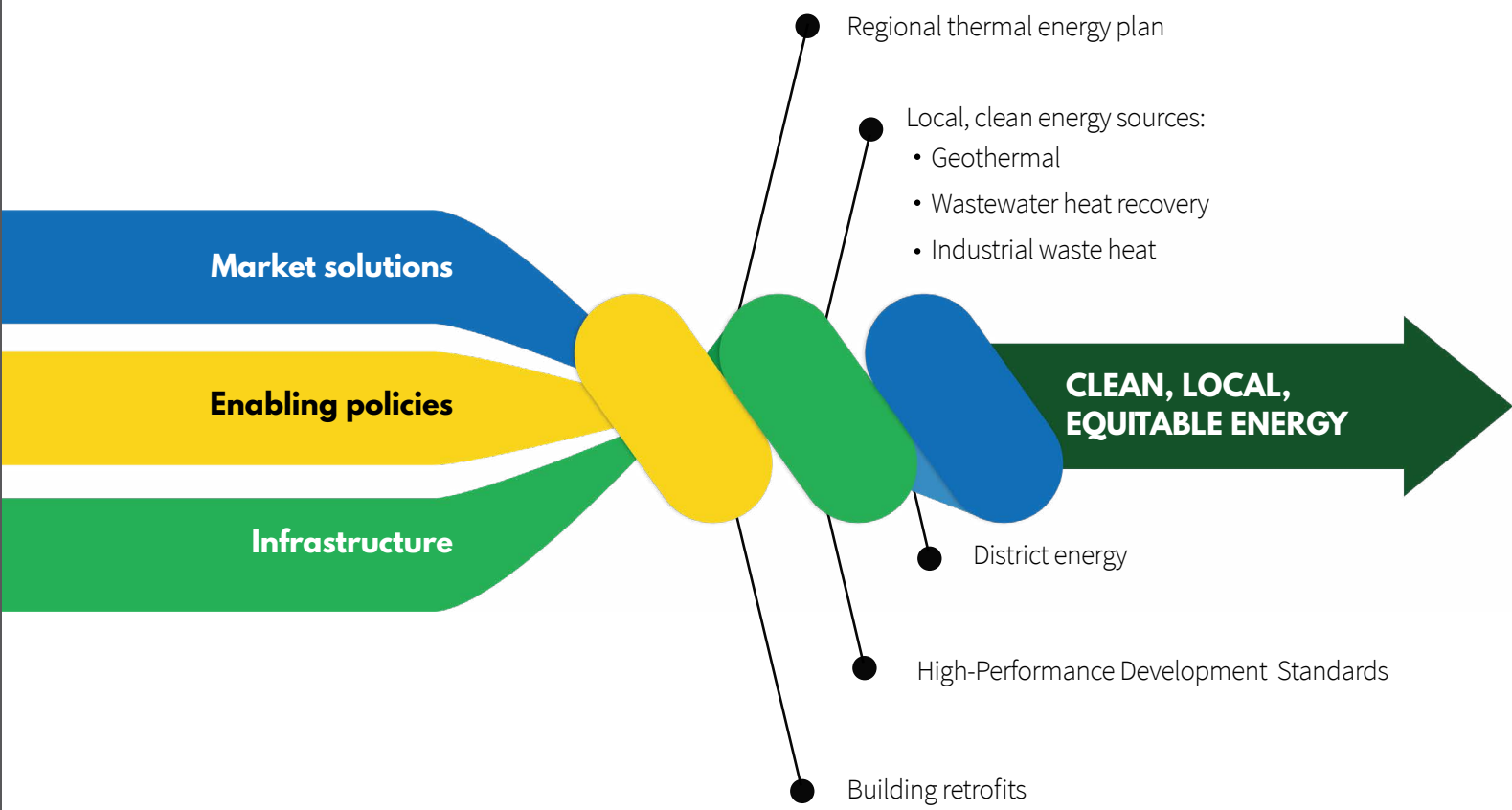
Energy is the life blood of our economy, autonomy, and quality of life. By shifting toward **local energy systems**, Waterloo Region will:

- **Keep money local**, supporting jobs and businesses.
- **Increase reliability**, reducing exposure to global markets.
- **Improve quality of life**, ensuring everyone has access to safe and affordable heating and cooling.
- **Cut emissions**, aligning our local energy system with our climate and public health objectives.

In short, energy security is about more than resilience—it’s about **ensuring we have the means to grow in alignment with our values.**

“When the world feels unpredictable, local action gives us the opportunity to make a real difference. The energy transition and energy security offers our community the chance to take greater control of our future, starting with how we heat and cool our homes, hospitals, and where we play, learn and work. Doing so will create local jobs, use local resources, and ensure we have clean, reliable, locally produced energy for generations to come.”

Dorothy McCabe
Mayor of Waterloo





Imported Energy: A financial drain

Of all the energy we consume, the fossil fuels we use for space heating, hot water heating and running internal combustion engine vehicles pose the most significant threats to our energy security.

Access to natural gas and oil are the source of many contemporary and historical global conflicts.

These energy sources are:

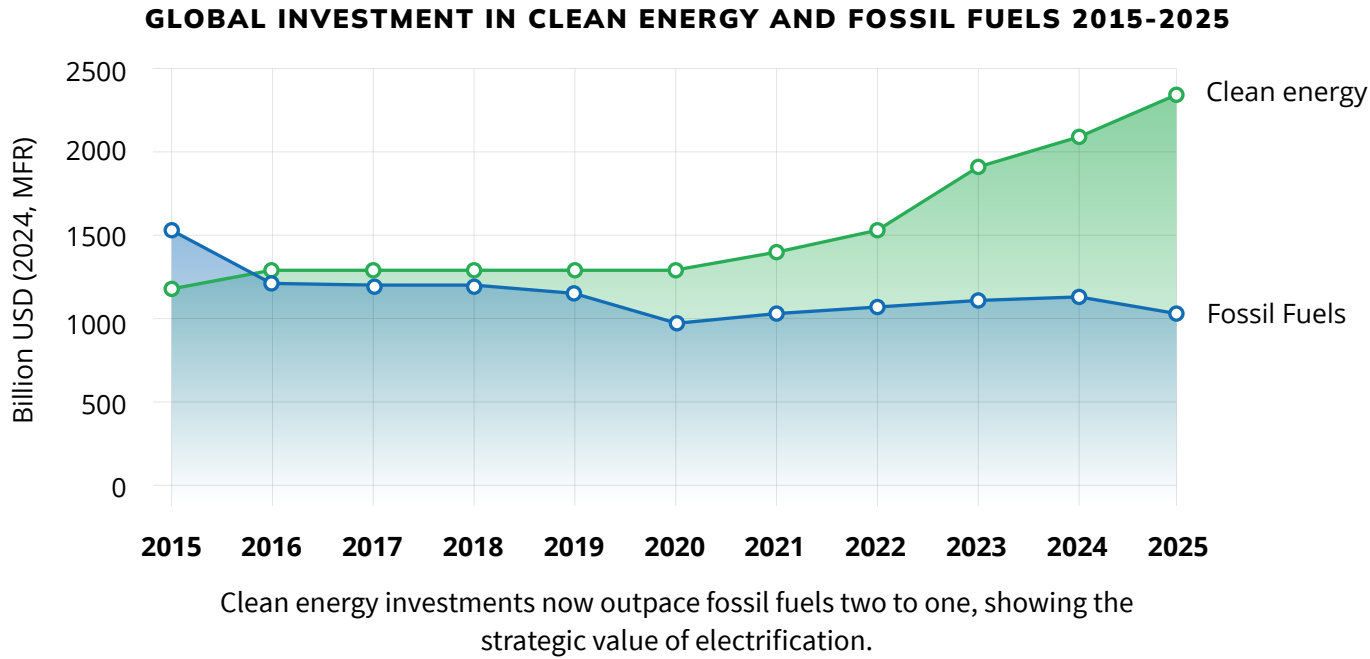
- **The most imported:** we can't produce them locally.
- **The biggest economic drain:** funneling hundreds of millions of dollars out of our community each year, with minimal local economic benefit.
- **The most carbon-intensive:** responsible for the majority of local greenhouse gas emissions in our energy system.
- **The least likely to spur innovation:** fossil fuels are extractive and at a mature point of innovation. While local energy sources and clean electricity technology have ample potential for greater efficiencies.

Almost all of our space and water heating is currently powered by natural gas. But there's good news. With local geothermal, wastewater heat recovery, industrial waste heat, and district energy potential, Waterloo Region has enough local heat resources to replace imported natural

gas for space heating many times over (see page 14). These are not theoretical technologies. They have all been implemented at scale across Waterloo Region or Ontario and are commonly used to heat cities in other parts of the world.

Localizing heat is central to energy security, and part of the region's vision to decarbonize heat. Electrification, thermal utilities, and renewable fuels give us a once-in-a-generation chance to reinvest in infrastructure that keeps money and jobs here while cutting emissions.

The ION and market solutions like EVs are advancing the vital area of transportation electrification, but fossil fuels still dominate. WRCE is focused on the emerging opportunity of local clean heat - an underexplored area where collaboration between municipalities and utilities can boost energy security, keep energy dollars local, and meet climate targets. In both cases, a modern energy system that 'couples' diverse energy sources is essential.





H.P. SUPPLY

Local Energy: Investing in Waterloo Region

Waterloo Region has abundant clean energy resources that can more than meet our community's heating and cooling needs, increasing our economic and energy resilience.

Our four utilities distribute approximately 46 petajoules of energy to our community each year. Space and water heating account for about 18 petajoules (or 40%) of that total. Waterloo Region is fortunate to be **rich in untapped energy resources that can provide more than enough energy** for heating.

Wastewater Heat Recovery

Wastewater leaving homes and buildings carries substantial thermal energy at 20–22°C. With proven heat recovery technology, this could heat all of our post-secondary education institutions or hospitals, the equivalent of **7,000 homes**.

Industrial Waste Heat

Factories, food processors, and data centres release significant recoverable heat. Capturing and reusing this energy reduces waste, lowers costs, and strengthens industrial competitiveness.

District Energy Systems

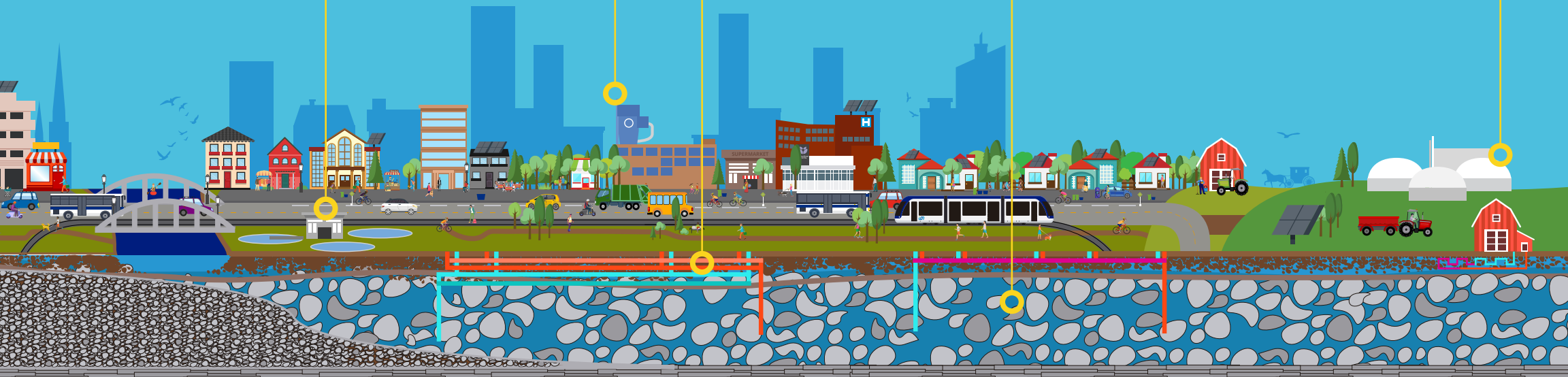
By linking buildings to shared heating and cooling networks, district energy enables the efficient large-scale deployment of geothermal, wastewater, and industrial waste heat. It is a **cornerstone of energy security**, proven in cities across Canada and worldwide.

Geothermal

Our community sits on top of abundant groundwater with a year-round supply of relatively warm water. Without impacting our drinking water, we can heat residential, industrial, and commercial spaces across our region.

Renewable Natural Gas

Renewable natural gas can be generated from landfills, animal manure, food scraps and wastewater sludge. Food waste from green bin programs represents a promising RNG opportunity in our region.



Together, these sources represent our **local, clean, affordable, and resilient energy portfolio**. Through the use of heat exchangers, heat pumps and other proven technologies, we can use clean electricity to turn local heat resources into space heating for our homes and businesses.

SUSTAINABLE INFRASTRUCTURE

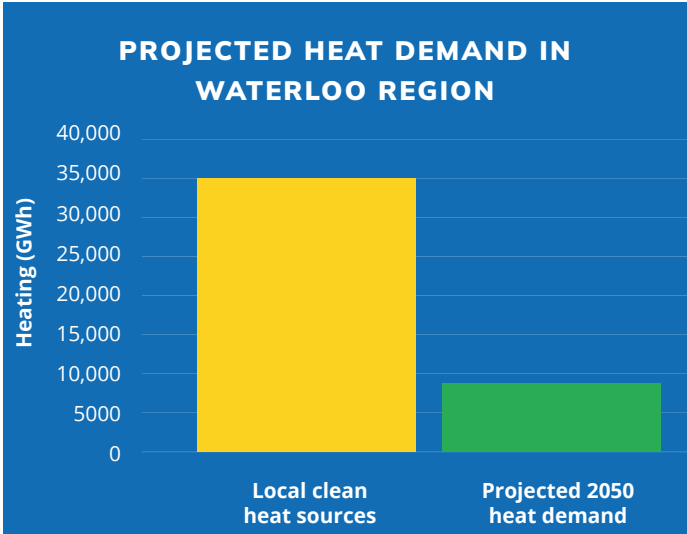
Without smart planning, electricity demand could rise significantly over the next 25 years. This presents both a challenge and an opportunity for Waterloo Region. Utilities and municipalities play a critical role in ensuring the region’s energy system can meet growing demand reliably, safely, and affordably, while also supporting local economic growth and community resilience.

Local utilities can modernize the grid, integrate distributed energy resources, and implement customer-focused energy efficiency programs. Municipalities can complement these efforts through community-scale energy systems, thermal energy planning, clear policies, support for market innovation, and exploration of new business models.

“The Region of Waterloo’s energy transition is creating opportunities to decarbonize, electrify, and modernize our local energy systems. GrandBridge Energy’s purpose is to lead the energy transition by enabling our communities to achieve a sustainable energy future — by investing in a flexible, reliable grid that enables local growth, resilience, and the capacity required for electrification.”

Sarah Hughes
President and CEO - GrandBridge Energy Inc.

By coordinating infrastructure, policy, and innovation, utilities and municipalities can build a system that does more than deliver power. It can strengthen neighbourhoods, improve building performance, enhance competitiveness, and create a resilient, sustainable energy future for Waterloo Region – benefiting the community today and for generations to come.





Projects in Development

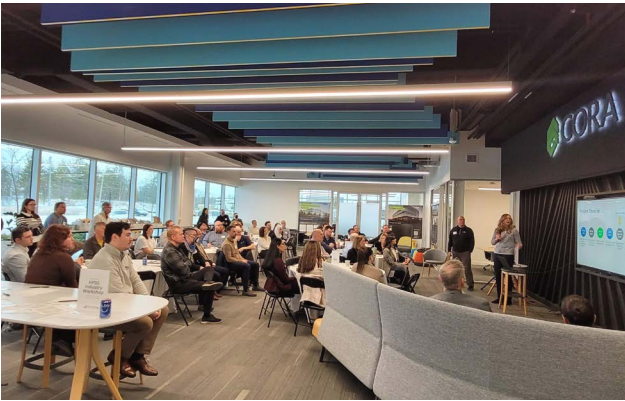
Waterloo Region is already working on dozens of projects demonstrating that energy security is possible, practical, and beneficial.

Here are a few projects that WR Community Energy has spearheaded or is currently supporting to advance the energy transition. Our goal is always to ensure we’re rowing in the same direction and connecting our local energy supply with local energy demand.

“As one of Ontario’s only community-owned gas utility companies, Kitchener Utilities is committed to delivering safe, reliable, and affordable energy to the families and businesses in our city – both today and tomorrow.”

Greg St. Louis

Director, Gas & Water Utilities - Kitchener Utilities



High-Performance Development Standards

Future-proofing buildings to align with the energy transition, with standards harmonized across municipalities to simplify processes for developers.



District Energy Studies

Feasibility studies are underway at major institutions, including hospitals, universities, and city facilities, laying the groundwork for shared heating and cooling networks.



RetrofitWR

An ambitious home retrofit program improving energy efficiency in existing housing, reducing both emissions and household costs.



Official Plan Updates

Integrating energy and climate objectives directly into land use planning and development policy.



Transition Strategies

Kitchener Utilities is developing a Clean Energy Transition Strategy, a visionary, long-term plan to future-ready the city's energy business and diversify residents' energy options.

Together, these initiatives prove that Waterloo Region is already **building the energy systems of tomorrow.**



A Thermal Plan for Energy Security

No single person, company, or level of government can lead the energy transition alone. It is a shared challenge, and a strategic opportunity that requires collective leadership.

The community has already shown foresight through the Community Energy Investment Strategy and strong senior-level support for its implementation. We have the tools, expertise, and partnerships to succeed. With a culture of innovation, strong collaboration, and abundant clean energy resources, Waterloo Region is well-positioned to act. By working across sectors, we can move further, faster, and more affordably.

The next step is clear: we must develop a comprehensive thermal energy plan to ensure all residents, businesses, and institutions have access to affordable, low-carbon heating and cooling.

“Local, sustainable energy systems can empower us to take control of our energy future, protect against potential disruption, and build a more affordable community for generations to come.”

Rod Regier

Commissioner, Planning Development and Legislative Services - Region of Waterloo

Key steps include:

- Determining the current and projected thermal energy demand for existing and planned buildings through 2050.
- Identifying how this demand can be met through local and clean energy resources, with consideration for grid limitations.
- Develop an implementation plan with broad consultation across municipalities, utilities, developers, residents, and other stakeholders.

A clear and achievable thermal energy plan will maximize efficiency, strengthen energy security, and support a sustainable, resilient, and economically vibrant region. The question is not whether Waterloo Region can benefit from the energy transition—it is how boldly we choose to seize this opportunity.





**WR
COMMUNITY
ENERGY**

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