

Welcome to this week's presentation & conversation hosted by the **Canadian Association for the Club of Rome**, a Club dedicated to intelligent debate & action on global issues.

The views and opinions expressed in this presentation are those of the speaker & do not necessarily reflect the views or positions of CACOR.

OREC: Empowering Ontario communities with renewable energy

Biographies: **Dick Bakker** has been involved in the Renewable Energy Industry since 2002 and is a vocal advocate for all renewable energy options. He has been operating a home MicroFIT solar system since June 2010.

John Kirkwood is the President of [OREC](#) (Ottawa Renewable Energy Cooperative), leading strategic planning, communications, and advocacy. He developed [MyOREC](#) to help grow OREC's membership and investment base.

Description: *Ontario's electrical system is at a critical juncture. We will need 75% more capacity within 25 years. The government's plan is to increase our dependence on centralized nuclear energy that is more expensive than renewable alternatives. OREC believes community-owned renewable energy is the least expensive and most reliable form of new electricity for Ontario. John Kirkwood and Dick Bakker will present OREC's history, its projects, its advocacy for more progressive policies, and the benefits OREC offers to Ontario's citizens. They will emphasize the value of Distributed Energy Resources (DER's), including improved resilience, efficiency, and local economic benefits. John & Dick will also showcase [OREx Community eXchange](#), a forum which enables members to help others make informed choices about heat pumps, residential solar panels, EVs, and more. OREx empowers communities to take control of their electricity supply and lower their costs.*

CACOR acknowledges that we all benefit from sharing the traditional territories of local Indigenous peoples (First Nations, Métis, & Inuit in Canada) and their descendants.



Website: canadiancor.com

YouTube: [Canadian Association for the Club of Rome](#)

2025 March 12 Zoom #236



POWERING THE
FUTURE *TOGETHER*

Empowering Ontario communities with renewable energy

CACOR Live

12 March, 2025

Agenda

1. Who is OREC?
2. What does OREC do?
3. Why are Distributed Energy Resources (DERs) better?
4. Which DER projects does OREC develop?
5. What needs to change in Ontario to promote sustainable energy?
6. How can you get involved? *OREx community eXchange*
7. Q & A

Who is OREC?

OREC is a co-operative of individual members who can invest in green energy projects in their own communities

- Incorporated in 2010 during the [Feed-In-Tariff](#) ('FIT') era
- Composed of 1,100 members from across Ontario, most in the Ottawa Region
- Finances and develops community-owned renewable energy projects through a co-operative business model (i.e. profits go to our members)
- A for-profit co-operative regulated under Ontario's *Co-operative Corporations Act*
- A lean staff supported by a skilled and devoted group of volunteers
- Works with renewable energy industry partners and development contractors

What does OREC do?

- 1. Enable Communities:** We enable Ontario citizens to join the cooperative to promote renewable energy projects in their communities
- 2. Develop / Build / Buy Renewable Energy Projects:** We find partners and identify projects which align with OREC's mandate
- 3. Raise Capital & Distribute Profits:** We solicit capital from members and aligned institutions; proceeds go to Ontario communities via our membership
- 4. Manage Projects:** We operate our projects to ensure productivity and economy
- 5. Advocate for Progressive Policies:** We make the case for Distributed Energy Resources (DERs) by Renewable Energy Cooperatives (RECs)



5. Advocate for Progressive Electricity Policies

4. Manage Renewable Energy Projects (*Operations*)

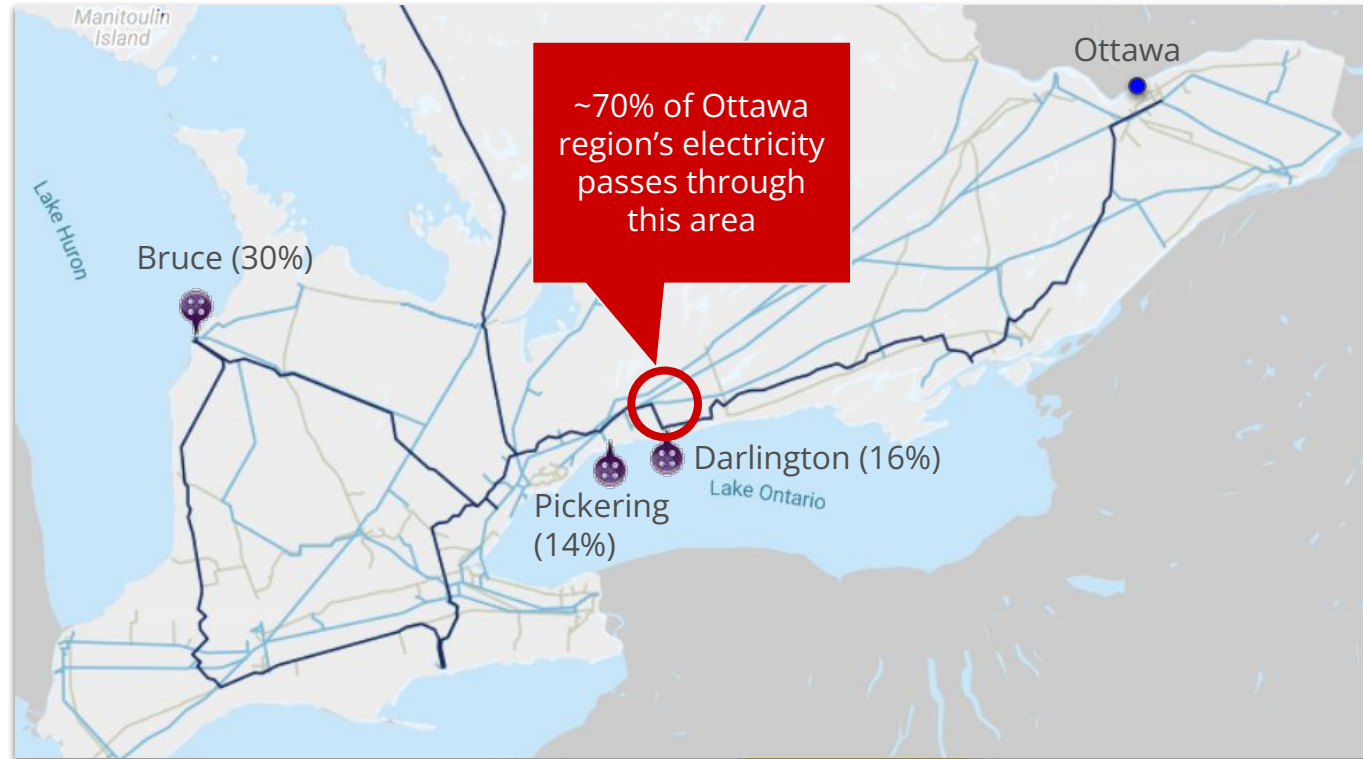
1. Enable Communities through Co-op Membership

2. Develop / Build / Buy Renewable Energy Projects

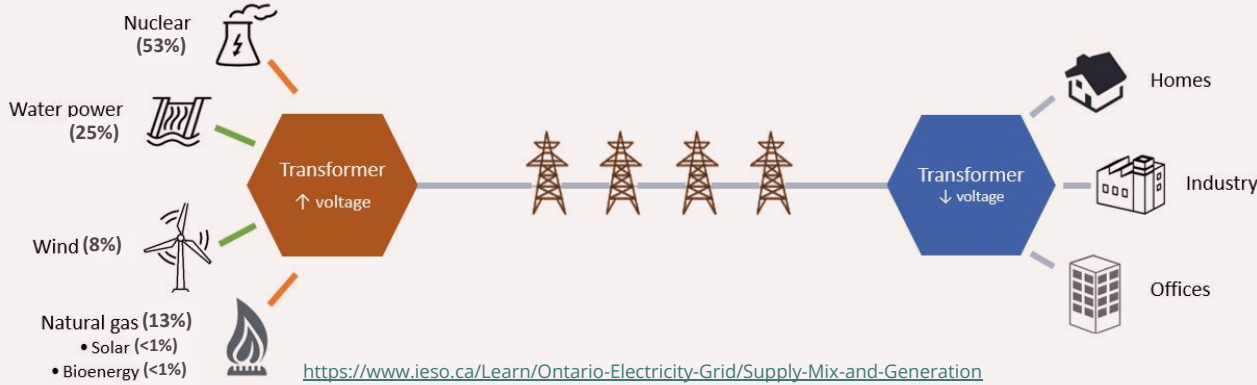
3. Raise Capital & Distribute Profits to our Members

Why is Ottawa's electricity supply at risk?

- The majority of Ottawa's electricity comes from nuclear plants to the West
- Transmission is dependent on a corridor ~40 KM wide
- Increasing weather disasters and system overload put centralized power at risk



Why are Distributed Energy Resources (DERs) better?



<https://www.ieso.ca/Learn/Ontario-Electricity-Grid/Supply-Mix-and-Generation>

Hydro One: <https://www.hydroone.com/about/regulatory/supply-mix>

Past

- Remote and expensive energy generation
- Centralized power distribution
- Loss through transmission

Future

- Clean, local power
- Quick to deploy
- Revenue generating
- **MORE Efficient**
- **MORE Resilient**
- Interdependent
- More democratic, renewable energy future



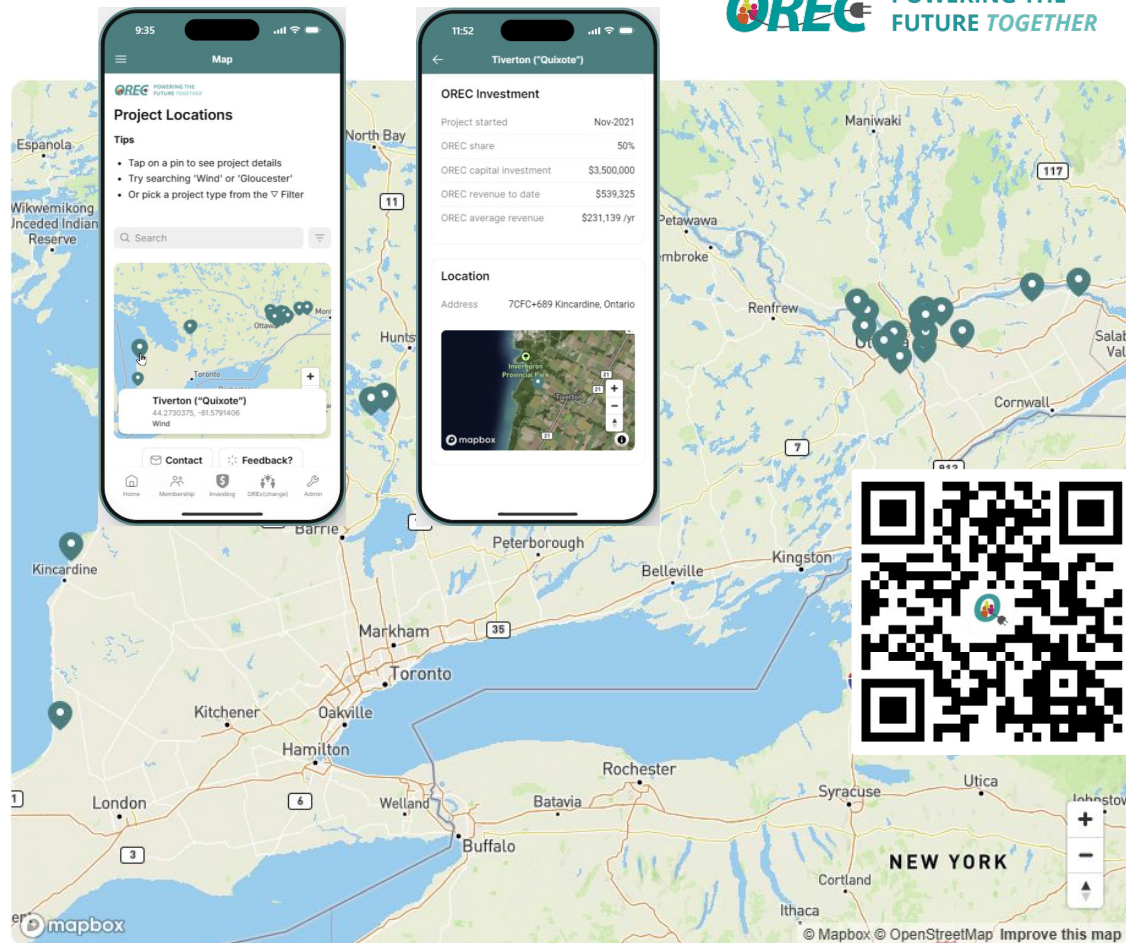
Which projects has OREC built and / or operates?

- **32 Projects producing 8.2 GWh / year (enough to power 867 homes):**

Projects Capacity

- 24 Solar (fixed): 3.2 MW DC
- 2 Solar (tracking): 0.8 MW DC
- 2 Wind: 2.0 MW DC
- 4 Energy Retrofit: N/A
- BESS: *Investigating*

- Live production info? See MyOREC <https://my-orec.orec.ca/dl/projects>



2015 | 385 kW
Hovey Industries
Ottawa South



2016 | 190 kW
Maurice-Lapointe HS
Kanata



Community Owned Renewable Energy

2017 | 500 kW
Alfred Ground Mount
Alfred



2021 | 2,300 kW (50%)
Quixote Wind Turbine
Tiverton



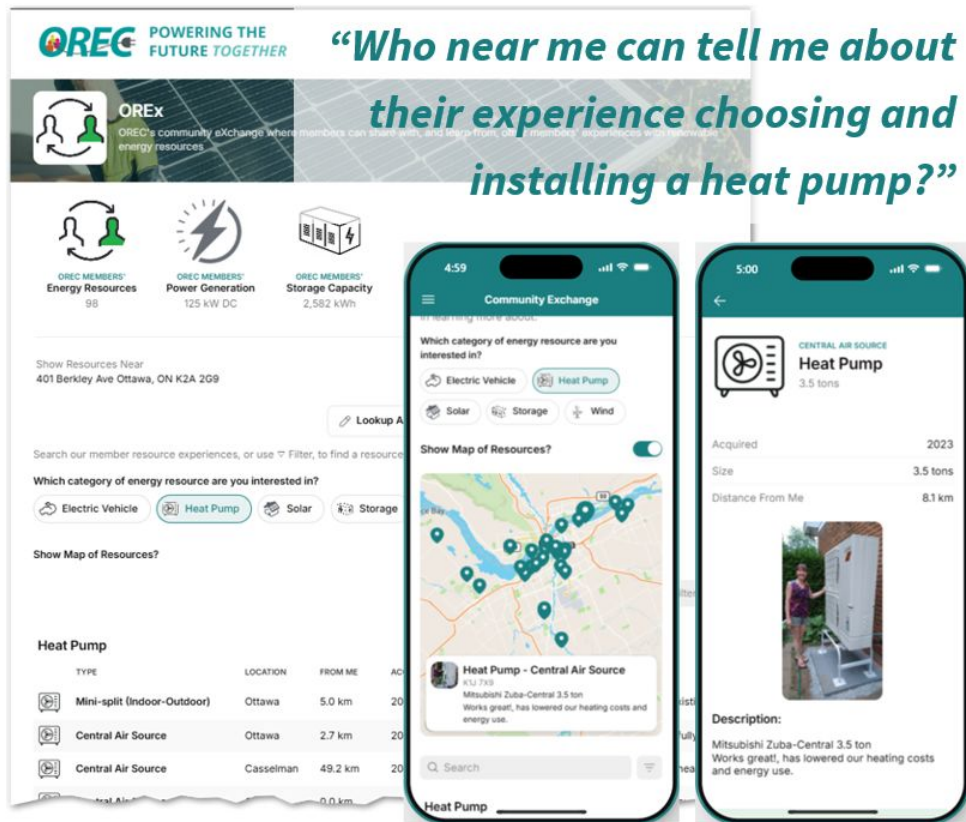
What needs to change in Ontario to promote more sustainable energy?

Stage	Solution	Qty	Permitted?	Description
Past	Feed-in-Tariff (FIT) contracts	19	⊘	Small to medium solar projects earn money based on the electricity they generate through contracts (PPAs). Program halted in 2018.
	Energy retrofits	5	✓	Community energy retrofits are repaid through loans with interest
Present	Net Metering contracts	3	✓	Medium solar projects at partner sites earn money based on the electricity they generate for the client under PPAs
	FIT contract buy-outs	4	✓	Medium solar projects under FIT contracts are paid based on their original agreement rates
		2	✓	Wind turbines under FIT contracts earn money based on their original agreement rates
Future	Solar and wind projects		✓	<i>As above</i>
	Community Solar		⊘	Projects which earn money through client subscriptions that return a share of the energy credits
	Virtual Power Plants		⊘	Distributed resources which act as a single grid resource, earning money from excess electricity sold to the grid, with profits shared among stakeholders
	Battery-as-a-Service		⊘	Battery storage projects (BESS), focused on community resilience, earn money from the grid services they provide
	Hybrid solutions		⊘	Solutions that combine solar, wind and storage resources
	Community Net Metering		⊘	Multiple small and medium solar projects at member sites sharing credits to maximize benefits

How can you get involved? OREx community eXchange

OREx is:

1. A forum for members to share their energy resources and their experiences about installing and using them
 - *Want to start a dialog with someone who can give you an unbiased perspective on the energy resource you're considering?*
2. A database of member energy resources connected to Ontario's electricity grid that could benefit from a future virtual power plant opportunity
 - *Want to continue to earn revenue after your MicroFIT contract expires between 2029-2038?*



Using OREx

"Who lives near me that recently installed a heat pump?"

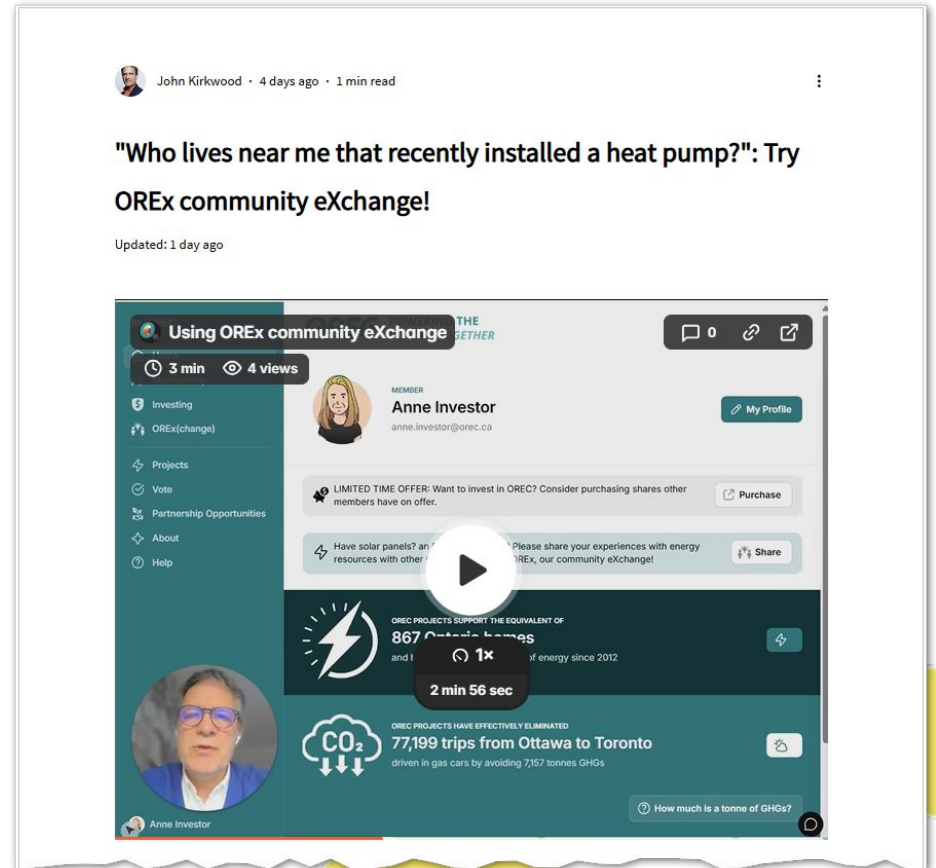
Try [OREx community eXchange!](#)

- Member: Add your resources to OREx
- Public: Find resources nearby of the type / brand you're investigating
- Member: *Have a dialog with the owner* of a nearby resource you're investigating

 [Using OREx \(3 min.\)](#)



<https://my-orec.orec.ca/dl/OREx>



John Kirkwood · 4 days ago · 1 min read

"Who lives near me that recently installed a heat pump?": Try OREx community eXchange!

Updated: 1 day ago

Using OREx community eXchange THE FUTURE TOGETHER

3 min 4 views

Investing OREx(change) Projects Vote Partnership Opportunities About Help

MEMBER **Anne Investor**
anne.investor@orec.ca My Profile

LIMITED TIME OFFER: Want to invest in OREC? Consider purchasing shares other members have on offer. Purchase

Have solar panels? and Please share your experiences with energy resources with other OREx, our community eXchange! Share

OREC PROJECTS SUPPORT THE EQUIVALENT OF **867 Ontario homes** and 1 of energy since 2012

OREC PROJECTS HAVE EFFECTIVELY ELIMINATED **77,199 trips from Ottawa to Toronto** driven in gas cars by avoiding 7,157 tonnes GHGs

2 min 56 sec

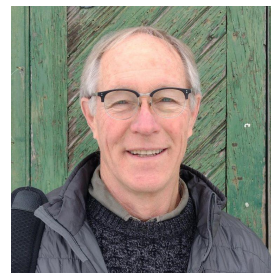
Anne Investor

How much is a tonne of GHGs?

Questions?



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Join OREC today!

- \$100 for a lifetime membership
- **Take real climate action:** Join OREC and support our efforts to build renewable energy projects.
- **Be part of a knowledgeable community:** Connect and learn through *OREx* community eXchange
- **Invest in renewable energy.** In minutes.
We offer RRSPs and TFSA's

my-orec.orec.ca/dl/membership



Appendix

Renewable Energy Cooperatives in Canada

(part of a Worldwide network)

In Canada:
Community
Energy
Cooperatives
Canada ([CECC](#))

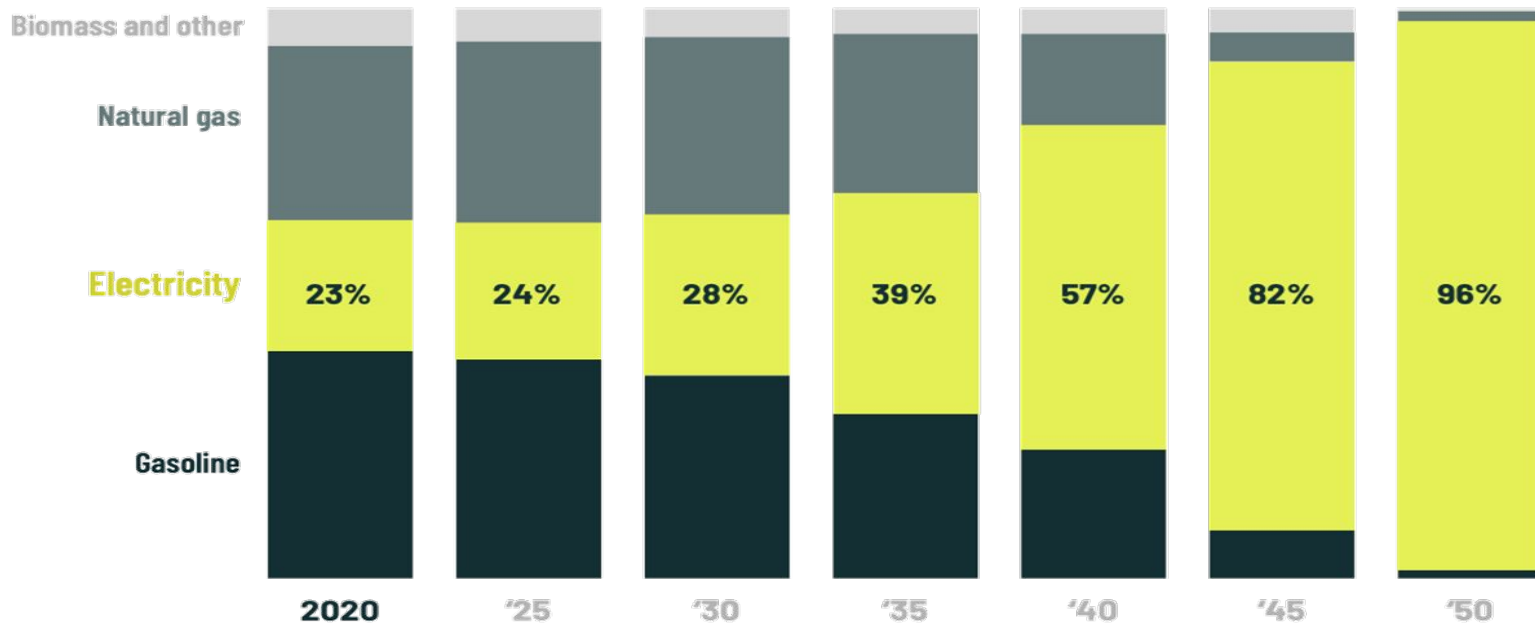


- [Xaadáa Gwaay Renewable Energy Cooperative](#), Haida Gwaii
- [Peace Energy Co-operative](#), Dawson Creek BC
- [Bow Valley Green Energy Co-operative](#), Canmore AB
- [Solar Power Investment Co-operative of Edmonton \(SPICE\)](#), Edmonton AB
- [Wascana Solar Co-operative](#), Regina, SK
- [SES Solar Co-operative](#), Saskatoon SK
- [OREC \(Ottawa Renewable Energy Co-operative\)](#), Ottawa ON
- [SolarShare](#), Toronto ON
- [TREC](#), Toronto ON
- [WindShare](#), Toronto ON
- [Guelph Renewable Energy Co-operative \(GRECo\)](#), Guelph ON
- [Beauséjour Renewable Energy Co-operative](#), Sackville NB

Why and when do we need clean energy?

To support net zero, household energy use will shift away from **natural gas** and **gasoline** toward **electricity**

Average household share of energy consumption by type



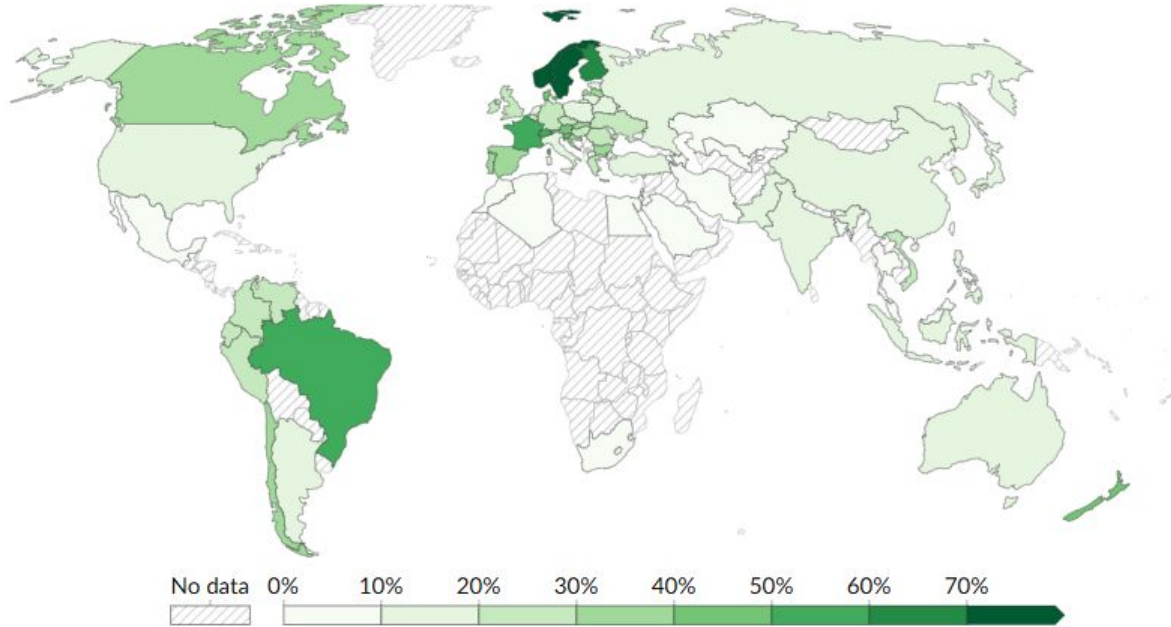
Source: Dion et al. 2021.

Battery Energy Storage System (BESS)

- Fully integrated BESS
- Configurable energy for 1.65 MWh, 2MWh, or 2.5 MWh
- Battery chemistry: Lithium-iron phosphate (LiFePo)
- Innovative fire safety features
- Operating temperature:
-40°C to +55°C (-40°F to 131°F)
- Designed to meet IEEE 693 requirements for seismic events



Which countries get the most energy from low-carbon sources?



▶ 1965

● 2023

Data source: Energy Institute - Statistical Review of World Energy (2024)