

Demystifying Diesel Reduction

A set of introductory guides in support of remote community clean energy

Do you want to bring renewable energy - such as wind, solar, or hydro - to your remote community? This series, *Demystifying Diesel Reduction*, is a set of introductory guides that will give you the info you need to help get clean energy working for you.

The other guides in this series are available at pembina.org/demystifying-diesel

Net metering vs. independent power producers

Choosing the best option for your
remote community clean energy project

Renewable energy projects in remote communities require close collaboration with the utilities that operate the electricity system, or microgrid, in that community.

There are two types of projects to integrate renewables into a microgrid, each with a distinct purpose, technical set up, and business case.



OPTION 1: **Net metering**

Building owners can install renewable energy systems to reduce their energy costs and sell excess power back to the utility. This is called net metering.



OPTION 2: **Independent power producer**

The community, or an affiliated organization such as a development corporation or Indigenous government, can set up a business to construct a renewable energy project and sell clean electricity to the utility to power the microgrid. This is called an independent power producer (IPP).

Comparing net metering and IPP projects

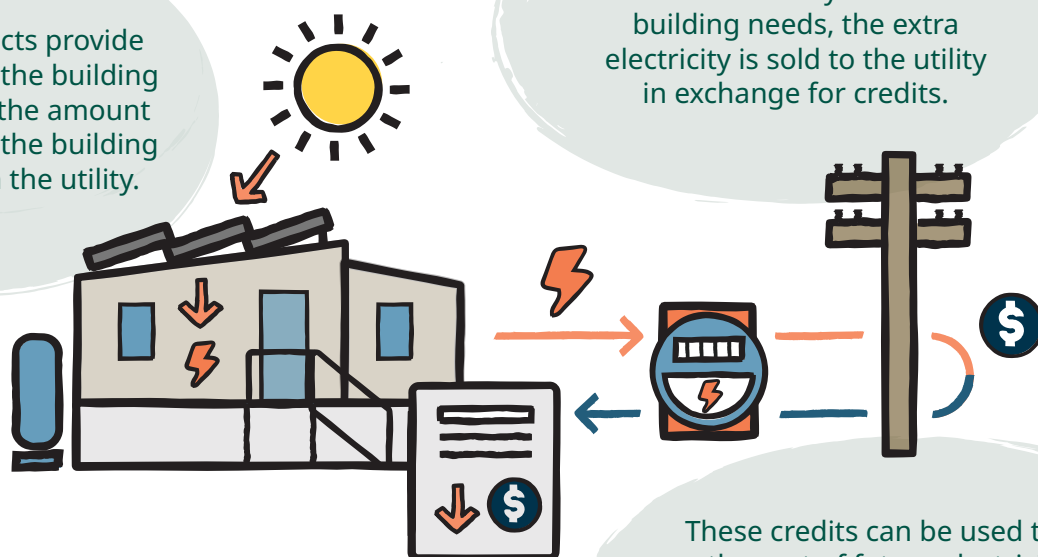
Before deciding which type of project is right for your community, it is important to understand some key differences between net metering and IPP projects.

Net metering projects

- **Small-scale renewable energy projects, usually solar panels.**
- **Installed on houses, businesses, or community buildings.**

These projects provide electricity to the building and reduce the amount of electricity the building needs from the utility.

When the project generates more electricity than the building needs, the extra electricity is sold to the utility in exchange for credits.

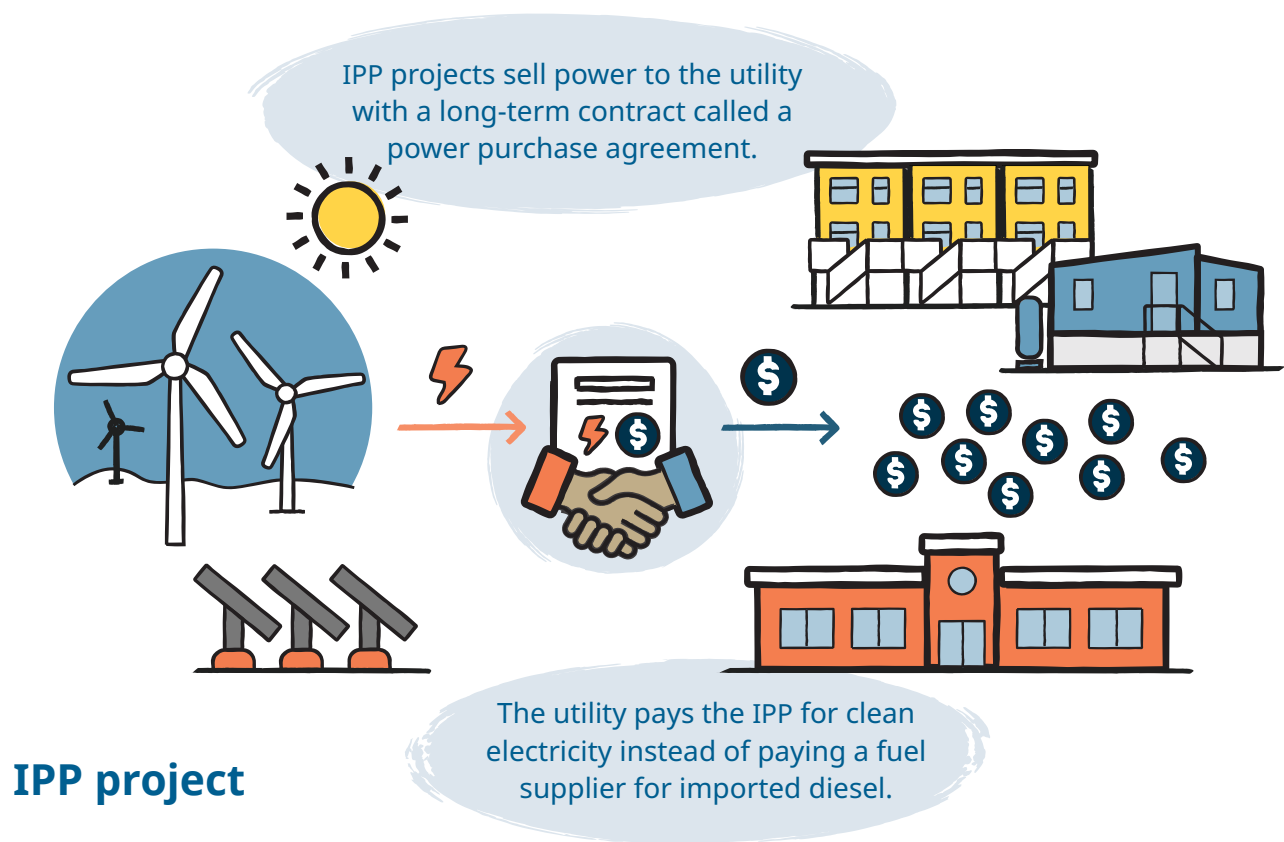


These credits can be used to offset the cost of future electricity the building needs when the project isn't generating electricity, for example when the sun isn't shining at night.

Net metering project

Independent power producer projects

- Large renewable energy projects, such as a hydro plant, a wind turbine, or a field of solar panels.
- Designed to maximize diesel reduction and create revenue for the community.



Summary of key differences















COMMUNITY



Net metering

IPP

 <p>Building</p>	SCALE	 <p>Community / microgrid</p>
 <p>Reduce energy costs and diesel use for a building</p>	PURPOSE	 <p>Generate revenue</p>  <p>Reduce diesel use</p>  <p>Advance energy sovereignty</p>
 <p>On or near a building</p>	LOCATION	 <p>Dedicated site (e.g., lot, field)</p>
 <p>Low Any building owner can install</p>	EFFORT	 <p>High Requires consultation, planning, funding</p>
 <p>Low</p>	DIESEL REDUCTION	 <p>Medium to high</p>

BUSINESS

Net metering



Low



Low



Fixed offer from utility

UPFRONT COSTS

REVENUE OPPORTUNITY

CONTRACT

IPP



High



Medium



Negotiated contract

TECHNICAL

Net metering



Under 100 kW



Limited by building size



Simple: Connected through electrical meter

SIZE

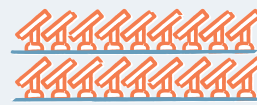
SIZE LIMIT

INTEGRATION

IPP



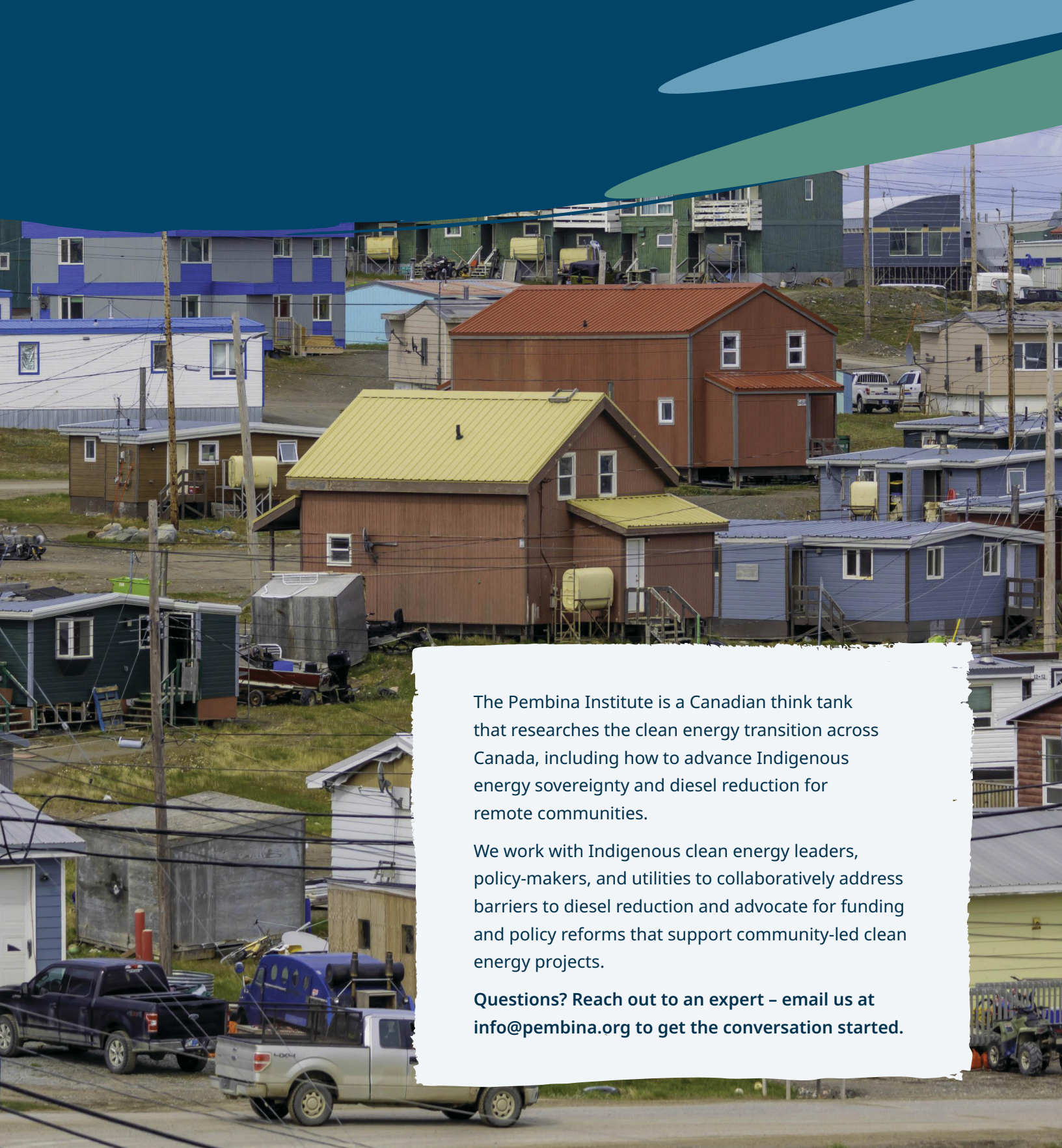
Greater than 500 kW



Limited by microgrid



Complicated: Requires extensive engineering



The Pembina Institute is a Canadian think tank that researches the clean energy transition across Canada, including how to advance Indigenous energy sovereignty and diesel reduction for remote communities.

We work with Indigenous clean energy leaders, policy-makers, and utilities to collaboratively address barriers to diesel reduction and advocate for funding and policy reforms that support community-led clean energy projects.

Questions? Reach out to an expert – email us at info@pembina.org to get the conversation started.

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