Community Energy Plan
Executive Summary

In 2022, Lac La Ronge Indian Band (LLRIB) received funding from the Smart Renewables and Electrification Pathways (SREP) Program to develop a Community Energy Plan (CEP) for all six LLRIB communities.
A local Community Energy Team (LLRIB's Pithesowiskotew Team) and Community Energy Project Manager were hired to lead the CEP development in each of the six communities.

The LLRIB CEP was made possible by the dedication and hard work of Jason Cook-Studer, LLRIB's Community Energy Project Manager. Jason represented the community throughout the project by participating in training opportunities, attending regional conferences, leading engagement activities, collecting data for the CEP, and sharing information with community members and leadership.

Project Timeline

2021

Project funding received from NRCan

2022

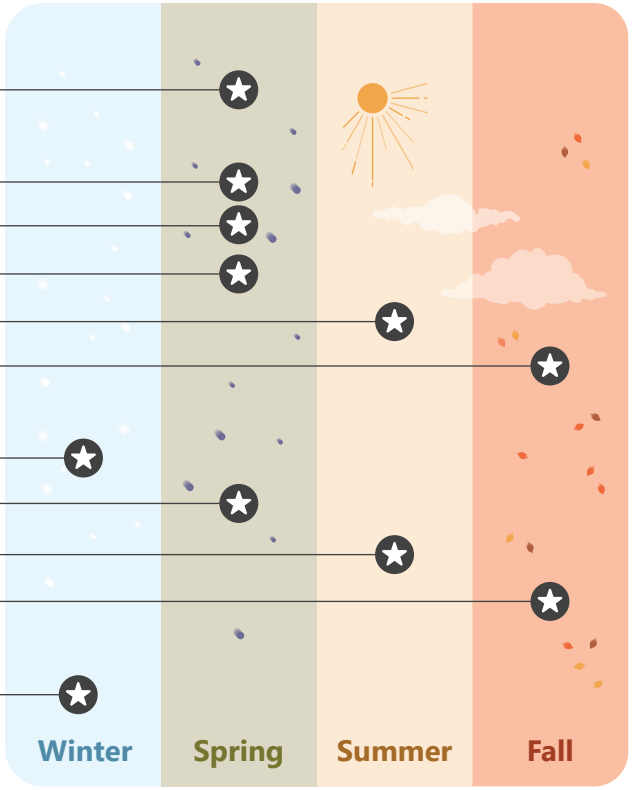
Hiring of Community Energy Coordinators
Establish CEP Working Group and Steering Committee
Training and mentorship for Community Energy Navigators
Training program for Community Energy Navigators
Community Energy Education Workshops

2023

Elder engagement through one-on-one visits and interviews
Visioning Session #1 introducing the CEP and project goals
Visioning Session #2 to provide project update
Community engagement complete

2024

Delivery of six CEPs



The Community Energy Plan is supported by three documents:

The ***Community Energy Analysis*** provides details on how the community's current energy use and projected outcomes of community energy actions were determined.

The ***Community Energy Education and Engagement Report*** shares the knowledge collected by the Community Energy Planning team through internal capacity building and through engaging with the band's membership, staff, and Elders.

The ***Community Energy Planning Learning Materials*** provides background information that supports readers in understanding the Community Energy Plan and provides a reference when doing community engagement and education activities.

Community Engagement & Education

Following the establishment of a roadmap for the project, the LLRIB's Pithesowiskotew team embarked on multiple engagement sessions as well as hosting educational workshops within the community to understand interests and priorities around energy efficiency and renewable energy technologies.

Initial engagement focused on introducing the project to community members and offering support in understanding electricity bills and energy conservation and efficiency.

Two visioning sessions were held in each community to provide information on the CEP, sustainable energy options, and opportunities to provide feedback on community priorities and perspectives.

Interviews with Elders provided value through an understanding of the history of energy usage in the communities over time, which helped establish a timeline of energy usage.

Throughout the project the Pithesowiskotew team hosted **educational workshops** to inform community members on what the CEP strives to achieve, practical actions that members can take to reduce their individual energy use, and programming that supports larger changes to homes to reduce energy use.

Energy Pyramid

Reducing energy costs does not need to be expensive or complicated. It can be as simple as turning the lights off and as complicated as installing solar panels.

The energy pyramid provides a visual representation of the three levels of actions that can be taken to reduce energy use and costs in homes and communities. The bottom layer of the pyramid (energy conservation) includes actions that are inexpensive (often free), and easy to complete. Moving up the pyramid, the cost and effort of completing actions increases.

Time to complete

- <1 month
- < 1 year
- >1 year

Cost

- <$500
- <$10,000
- $10,000+

Step 3 | Renewable Energy

Renewable energy is the final step in an energy saving journey. Examples include installing solar panels, wind turbines, or hydropower systems.

Estimated time to complete: **Estimated cost:**

Step 2 | Energy Efficiency

Energy efficiency is the next step in an energy saving journey. This involves completing retrofits to homes and buildings. Examples include upgrading heating systems, adding attic insulation or replacing windows.

Estimated time to complete:

Estimated cost:

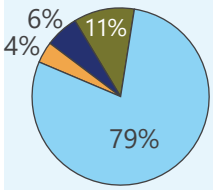
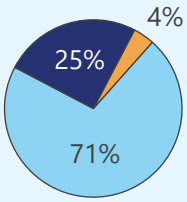
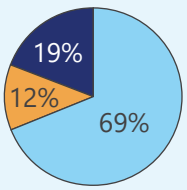
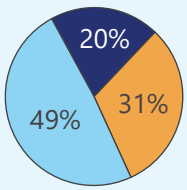
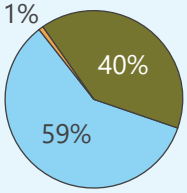
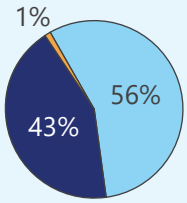
Step 1 | Energy Conservation

Energy conservation is the foundation of energy saving. This includes completing small (and usually free) actions to reduce energy use. Examples include turning off the lights, washing clothes in cold water, and taking shorter showers.

Estimated time to complete:

Estimated cost:

Community Energy Plan Overview

La Ronge	Grandmothers Bay	Hall Lake	Sucker River	Little Red River	Stanley Mission
Community Energy Profile					
Natural Gas · Electricity · Wood · Propane					
					
$2,850,000 / year	$538,000 / year	$947,400 / year	$714,000 / year	$1,120,000 / year	$1,340,000 / year
Highest-Impact Energy Conservation Measures and Retrofit Actions					
Conservation: Set heating to 20°C Efficiency: Air sealing retrofit					
Highest Potential Renewable Energy Opportunities					
Solar on building rooftops • Offsets large electricity bills • Uses roof space instead of land	**Solar on decommissioned lagoon** • Use of contaminated land • Helps transition from propane to electric heating • Could pair with backup battery or microgrid	**Biomass Facility & District Energy** • No Natural Gas • Many buildings clustered together • Close to possible forestry fibres	**Solar on building rooftops** • Offsets large electricity bills • Uses roof space instead of land	**Large-scale ground-mount solar** • Large open sunny land, can be co-located with farming • Established road and electrical infrastructure	**Biomass facility & district energy** • No Natural Gas • Many buildings clustered together
Projected GHG Reductions by 2050					
31%	25%	16%	22%	29%	25%

Community Energy Goals

LR	GMB	HL	SR	LRR	SM	
○	●	○	●	●	○	Create Employment Opportunities for all Members
●	●	●	●	●	●	Ensure Members Have Access to Appropriate Housing
●	●	●	●	○	○	Motivate and Inspire Youth to Achieve Their Goals
○	●	○	●	○	○	Enhance Safety and Security in the Community
●	○	●	○	●	●	Enhance Education Programs and Services for Youth and/or Adults

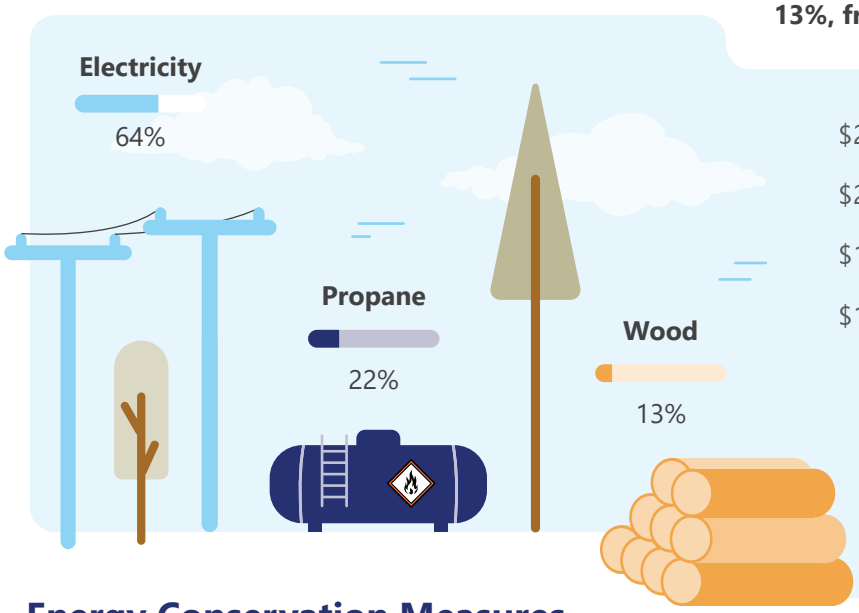
LR	GMB	HL	SR	LRR	SM	
●	○	●	○	○	○	Enhance Members' Independence and Life Skills
●	○	●	○	○	○	Protect the Environment
○	○	○	○	●	○	Develop and implement a home maintenance education program for all homeowners and renters
○	○	○	○	○	●	Enhance existing housing conditions and increase new home availability
○	○	○	●	○	○	Invest in Backup Power Generation

Hall Lake
Community Energy Profile

An energy baseline and forecast were created to understand Hall Lake's total energy usage and costs. This helps understand what Hall Lake's main energy sources are and how energy costs can be reduced through clean energy conservation, energy efficiency retrofits, and the use of renewable energy.

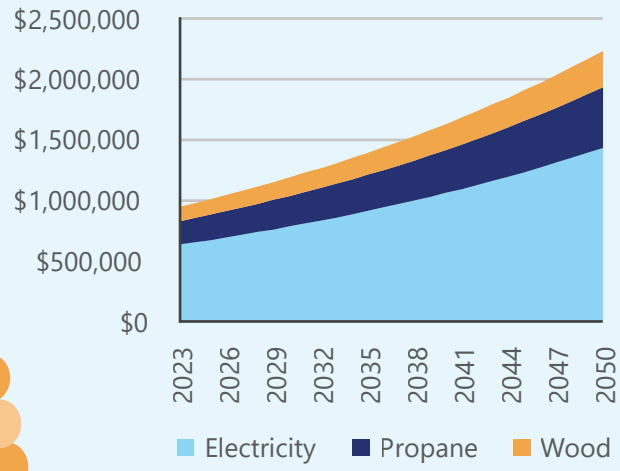
Future Energy Costs

By the year 2050, energy costs in Hall Lake are expected to rise to $2.2 million.



Future Energy Usage

By the year 2050, energy usage in Hall Lake is expected to increase by approximately 13%, from 30,000 GJ to 33,700 GJ.



Energy Conservation Measures

Setting heat to 20°C
Reduces energy costs by $170 - $225 per year

Reduce lighting by 50%
Reduces energy costs by $110 - $220 per year

Hang clothes to dry half the time
Reduces energy costs by $25 - $98 per year

Reduce TV, computer, and radio use by 50%
Reduces energy costs by $70 - $145 per year

Reduce oven use by 50%
Reduces energy costs by $50 - $120 per year

Energy Efficiency Measures

Air sealing retrofits
Reduces energy costs by $790 - $1,290 per year

Improving roof insulation
Reduces energy costs by $100 - $1,290 per year

Upgrading heating systems
Reduces energy costs by $230 - $330 per year

Reducing hot water usage
Reduces energy costs by $460 - $500 per year

Insulating exterior walls
Reduces energy costs by $120 - $800 per year

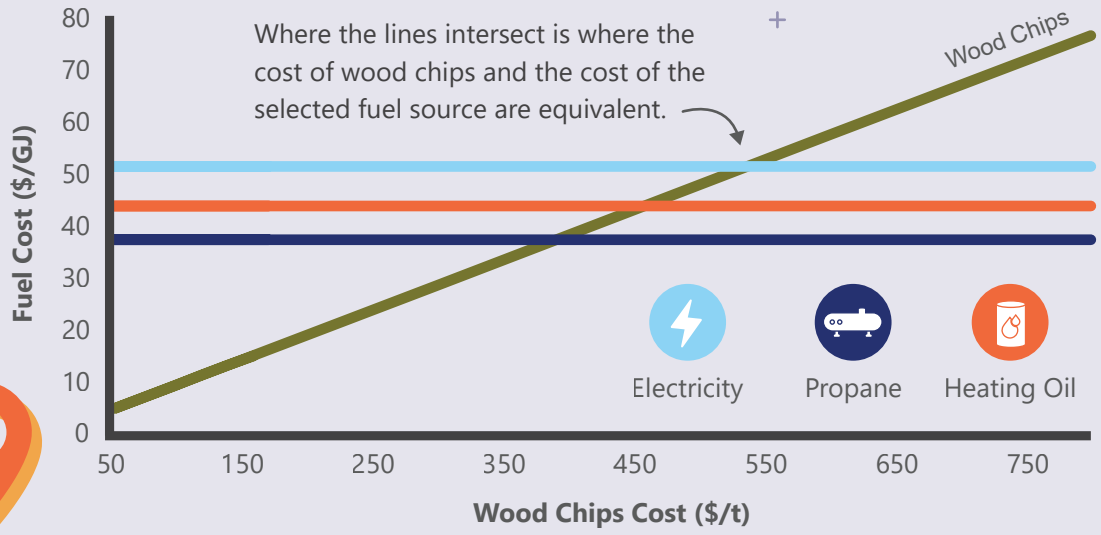
Hall Lake Renewable Energy Opportunities

Based on community engagement, the following two renewable energy recommendations have been made for Hall Lake.

Biomass District Energy Heating System

An analysis of the required wood feedstock pricing was completed to understand requirements for a biomass heating system to be financially viable to heat buildings in Hall Lake.

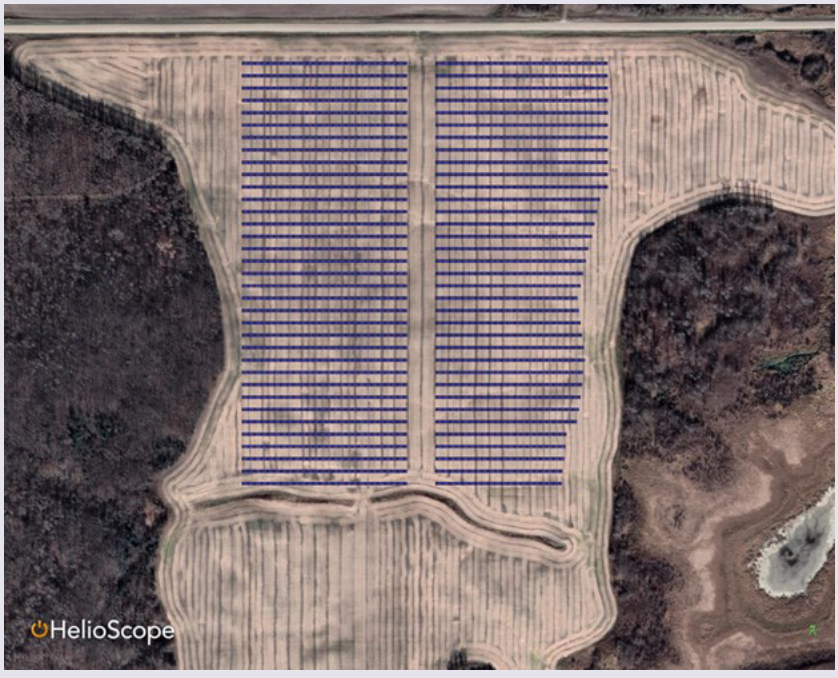
Based on an initial review, a clear parcel of land next to the Sally Ross School was identified as a potential location for a biomass district energy heating system.



Utility-Scale Ground-Mounted Solar Panels

If all six communities were to invest in one location for a larger-scale project on Band-owned land, it's recommended that land in Little Red River be considered due to its higher solar potential and larger unshaded land space.

The project will use a raised mounting system to enable solar and food farming on the same lot. The total installed capacity of the proposed system is 13,800 kW. The annual electricity output is approximately 17,920,467 kWh.



Impact of CEP Implementation

The Business-As-Recommended (BAR) forecast incorporates recommended actions into the baseline Business-As-Usual (BAU) forecast to understand how the recommended actions may impact Hall Lake's future energy usage. The forecast includes the three action categories modelled separately for residential and community uses.

The modelling suggests these actions would result in a **45% reduction of energy used by 2050** compared to the BAU scenario.

Energy Actions Modelled

Energy Conservation · Energy Efficiency · Renewable Energy

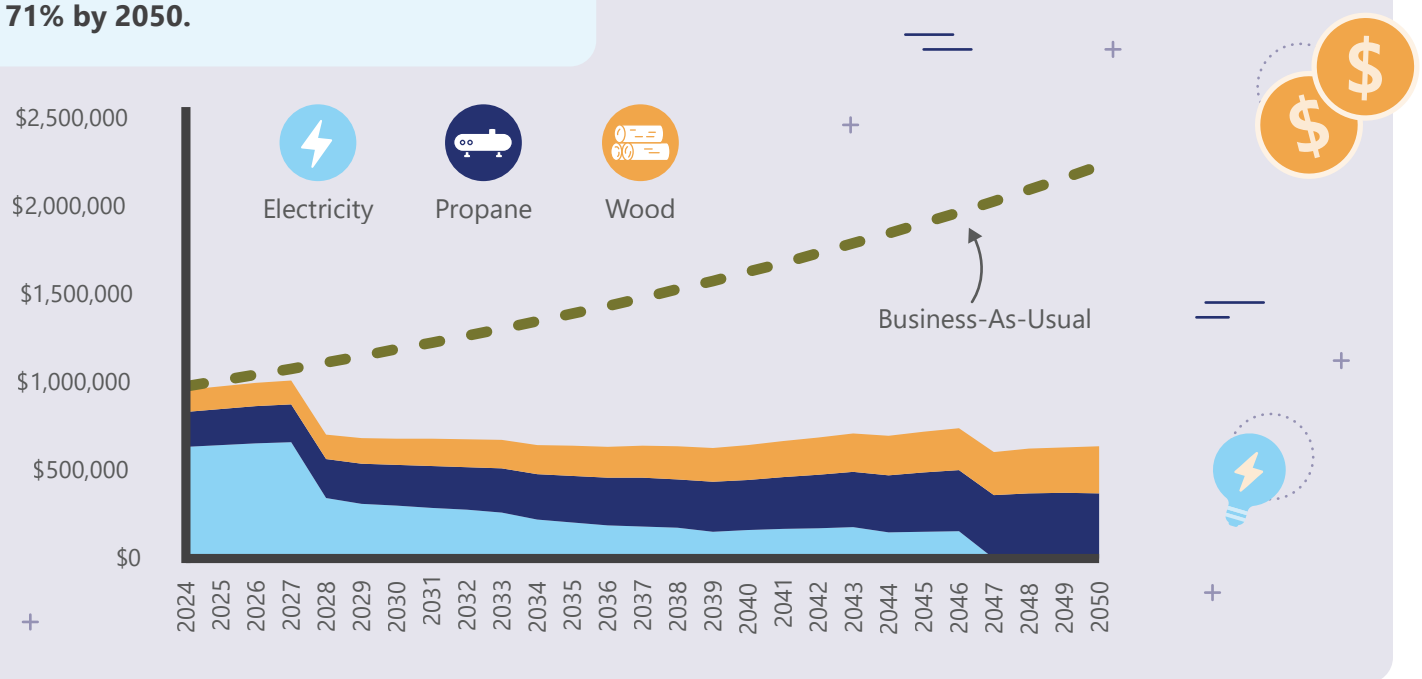
Residential

- Home energy conservation
- Home retrofits
- Higher-efficiency new homes
- Switching to higher-efficiency heating
- New solar panels on existing homes

Community

- Band-owned community buildings' energy conservation
- Building retrofits
- Higher-efficiency new buildings
- Switching to higher-efficiency heating
- New solar panels on existing buildings
- Large-scale project shared by all six communities

The modelled actions are associated with a cost reduction of approximately 71% by 2050.



Next Steps

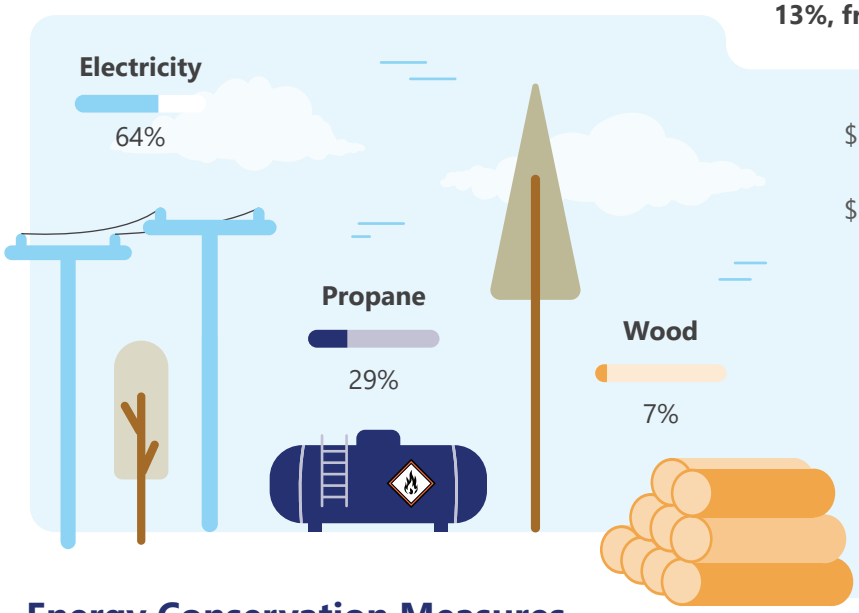
- Each action has an associated business case and work plan outlined to take further action
- The Pithesowiskotew Team have started connecting with potential partners and applying for relevant grant funding applications to maintain momentum for community energy action
- If given the opportunity through sustained employment, this Team of Leaders will be able to continue to answer the energy needs for the community

Grandmothers Bay
Community Energy Profile

An energy baseline and forecast were created to understand Grandmothers Bay's total energy usage and costs. This helps understand what Grandmothers Bay's main energy sources are and how energy costs can be reduced through clean energy conservation, energy efficiency retrofits, and the use of renewable energy.

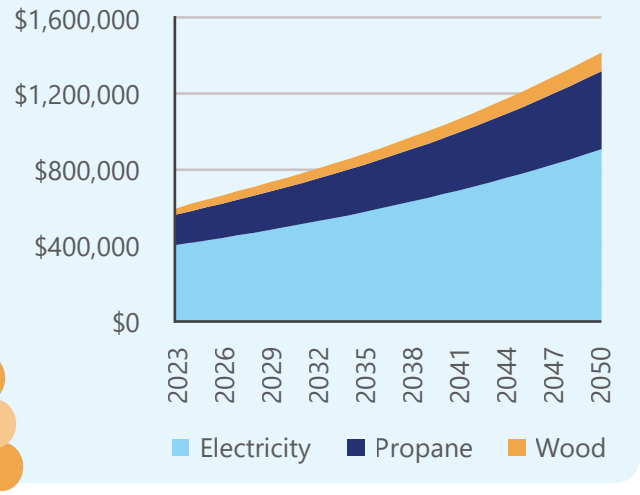
Future Energy Costs

By the year 2050, energy costs in Grandmothers Bay are expected to rise to $1.4 million.



Future Energy Usage

By the year 2050, energy usage in Grandmothers Bay is expected to increase by approximately 13%, from 16,000 GJ to 18,000 GJ.



Energy Conservation Measures

Setting heat to 20°C
Reduces energy costs by $170 - $225 per year

Reduce lighting by 50%
Reduces energy costs by $110 - $220 per year

Hang clothes to dry half the time
Reduces energy costs by $25 - $98 per year

Reduce TV, computer, and radio use by 50%
Reduces energy costs by $70 - $145 per year

Reduce oven use by 50%
Reduces energy costs by $50 - $120 per year

Energy Efficiency Measures

Air sealing retrofits
Reduces energy costs by $790 - $1,290 per year

Improving roof insulation
Reduces energy costs by $100 - $800 per year

Upgrading heating systems
Reduces energy costs by $230 - $330 per year

Reducing hot water usage
Reduces energy costs by $460 - $500 per year

Insulating exterior walls
Reduces energy costs by $120 - $625 per year

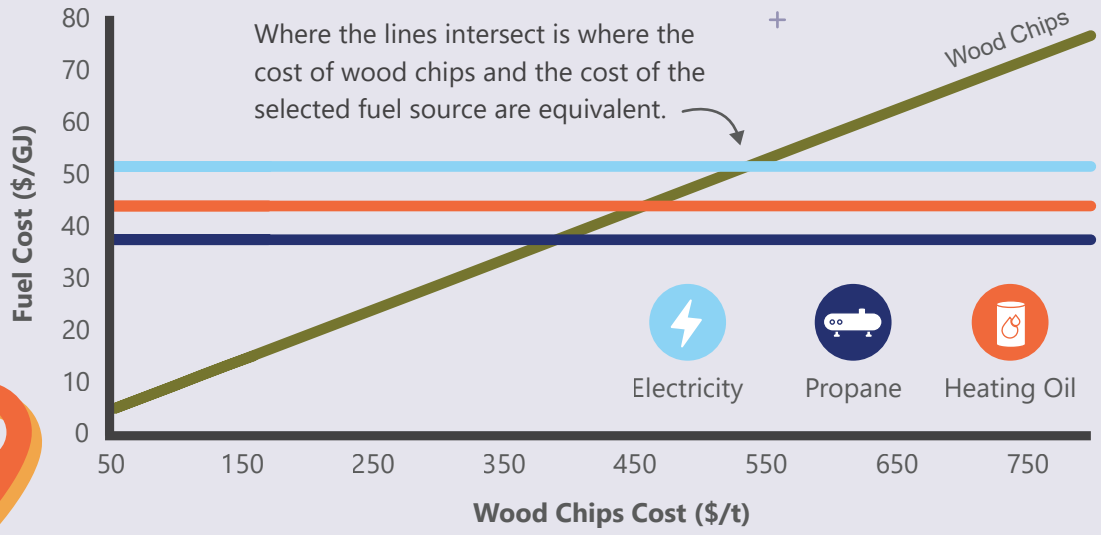
Grandmothers Bay Renewable Energy Opportunities

Based on community engagement, the following two renewable energy recommendations have been made for Grandmothers Bay.

Biomass District Energy Heating System

An analysis of the required wood feedstock pricing was completed to understand requirements for a biomass heating system to be financially viable to heat buildings in Hall Lake.

Based on an initial review, a clear parcel of land next to the ICFS and Nurses Residences was identified as a potential location for a biomass district energy heating system.



Community Building Solar

Grandmothers Bay's Nihithow Awasis School was used as a possible site for rooftop solar. The project team used data from the community's energy baseline to estimate that the school uses approximately 152,000 kWh of electricity annually.

This would require an upfront investment of $322,700 for a 99.6 kW system, which would see a return on investment within 25 years if it were 33% grant-funded. However, the community would need to receive a grant worth 59% to produce electricity for the same rate as SaskPower's current standard commercial rate.

Impact of CEP Implementation

The Business-As-Recommended (BAR) forecast incorporates recommended actions into the baseline Business-As-Usual (BAU) forecast to understand how the recommended actions may impact Grandmothers Bay's future energy usage. The forecast includes the three action categories modelled separately for residential and community uses.

The modelling suggests these actions would result in a **75% reduction of energy used by 2050** compared to the BAU scenario.

Energy Actions Modelled

Energy Conservation · Energy Efficiency · Renewable Energy

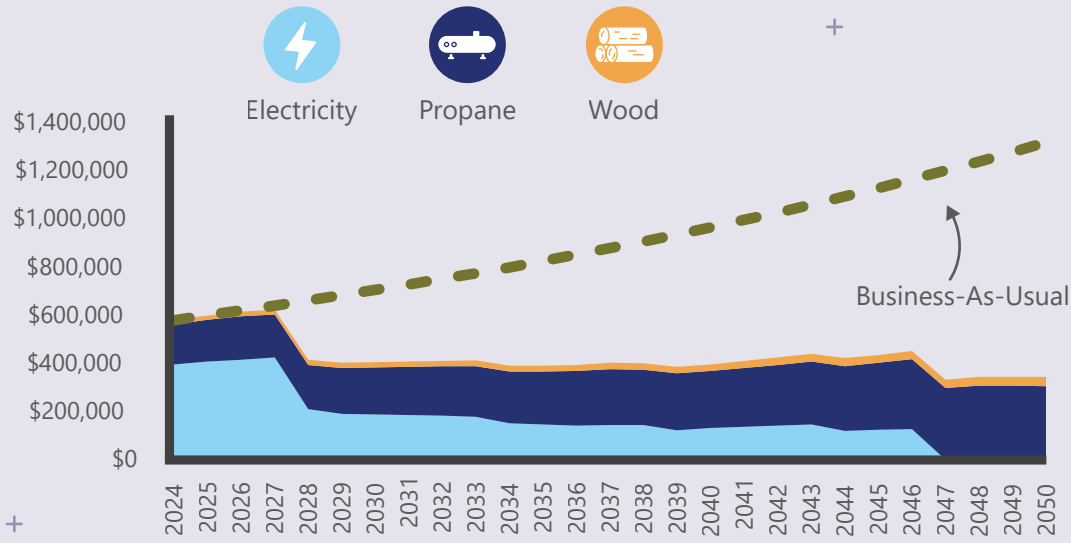
Residential

- Home energy conservation
- Home retrofits
- Higher-efficiency new homes
- Switching to higher-efficiency heating
- New solar panels on existing homes

Community

- Band-owned community buildings' energy conservation
- Building retrofits
- Higher-efficiency new buildings
- Switching to higher-efficiency heating
- New solar panels on existing buildings
- Utility-scale project – shared by all six communities

The modelled actions are associated with a cost reduction of approximately 41% by 2050.



Next Steps

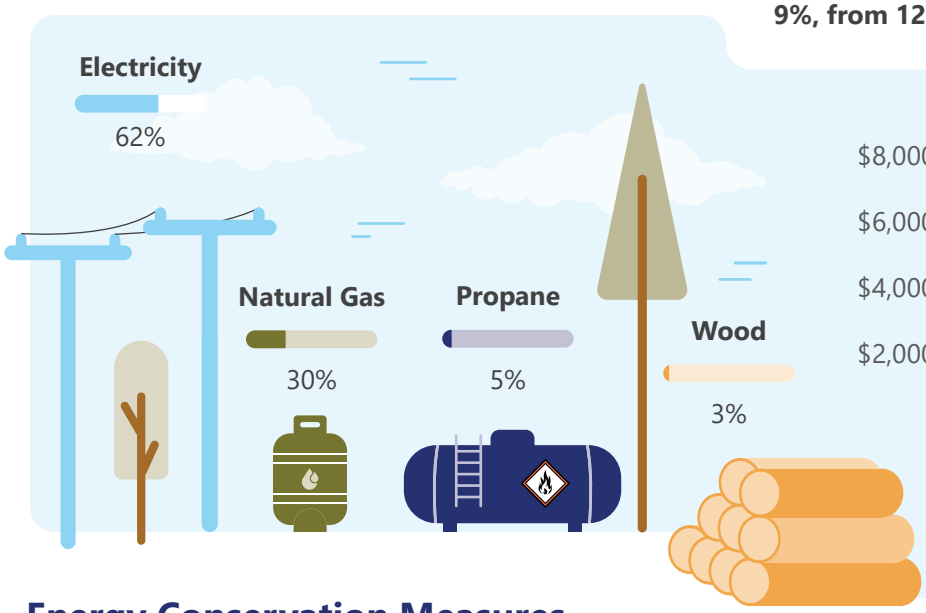
- Each action has an associated business case and work plan outlined to take further action
- The Pithesowiskotew Team have started connecting with potential partners and applying for relevant grant funding applications to maintain momentum for community energy action
- If given the opportunity through sustained employment, this Team of Leaders will be able to continue to answer the energy needs for the community

La Ronge
Community Energy Profile

An energy baseline and forecast were created to understand La Ronge's total energy usage and costs. This helps understand what La Ronge's main energy sources are and how energy costs can be reduced through clean energy conservation, energy efficiency retrofits, and the use of renewable energy.

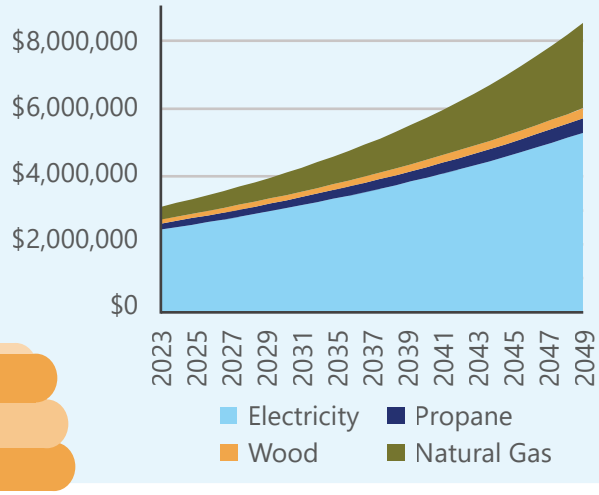
Future Energy Costs

By the year 2050, energy costs in La Ronge are expected to rise to $8.5 million.



Future Energy Usage

By the year 2050, energy usage in La Ronge is expected to increase by approximately 9%, from 129,000 GJ to 147,000 GJ.



Energy Conservation Measures

Setting heat to 20°C
Reduces energy costs by $45 - $215 per year

Reduce lighting by 50%
Reduces energy costs by $110 per year

Hang clothes to dry half the time
Reduces energy costs by $25 - $75 per year

Reduce TV, computer, and radio use by 50%
Reduces energy costs by $72 per year

Reduce oven use by 50%
Reduces energy costs by $50 - $70 per year

Energy Efficiency Measures

Air sealing retrofits
Reduces energy costs by $175 - $1,290 per year

Improving roof insulation
Reduces energy costs by $20 - $800 per year

Upgrading heating systems
Reduces energy costs by $230 - $330 per year

Reducing hot water usage
Reduces energy costs by $460 - $500 per year

Insulating exterior walls
Reduces energy costs by $25 - $625 per year

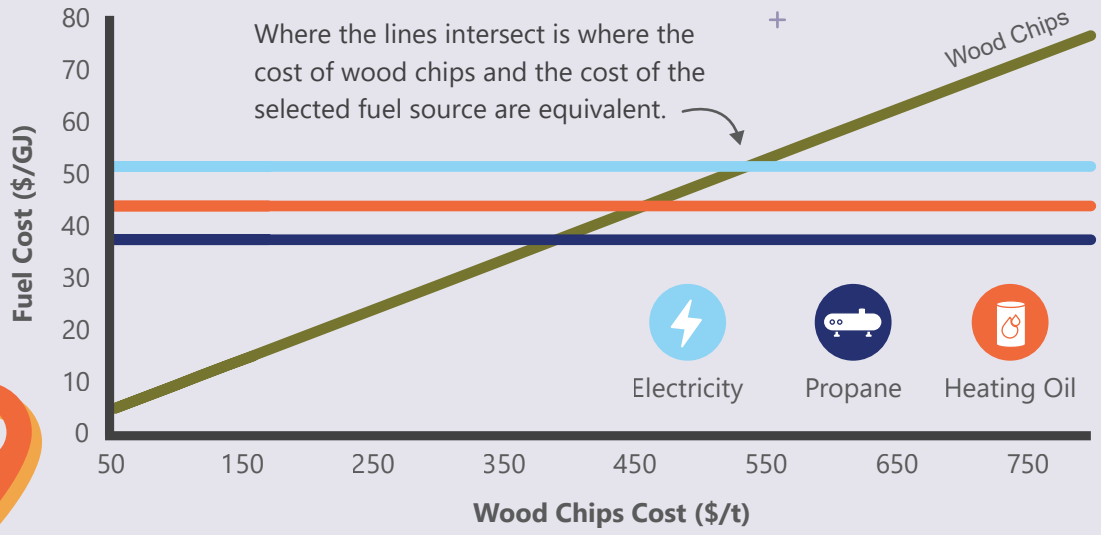
La Ronge Renewable Energy Opportunities

Based on community engagement, the following two renewable energy recommendations have been made for La Ronge.

Biomass District Energy Heating System

An analysis of the required wood feedstock pricing was completed to understand requirements for a biomass heating system to be financially viable to heat buildings in La Ronge.

Based on an initial review, a clear parcel of land on Frances Roberts Street was identified as a potential location for a biomass district energy heating system.



Community Building Solar

The Jonas Roberts Memorial Community Centre (JRMCC), is estimated to use approximately 267,000 kWh of electricity annually. Installation of a 99.6 kW solar PV system was determined to have an electricity output of 89,749 kWh, with 99.8% of electricity consumed within the month it was produced.

This would require an upfront investment of $322,700 for a 99.6 kW system, which would see a return on investment within 25 years if it were 33% grant-funded. However, the community would need to receive a grant worth 65% to produce electricity for the same rate as SaskPower's current standard commercial rate.

Impact of CEP Implementation

The Business-As-Recommended (BAR) forecast incorporates recommended actions into the baseline Business-As-Usual (BAU) forecast to understand how the recommended actions may impact La Ronge's future energy usage. The forecast includes the three action categories modelled separately for residential and community uses.

The modelling suggests these actions would result in a **63% reduction of energy used by 2050** compared to the BAU scenario.

Energy Actions Modelled

Energy Conservation · Energy Efficiency · Renewable Energy

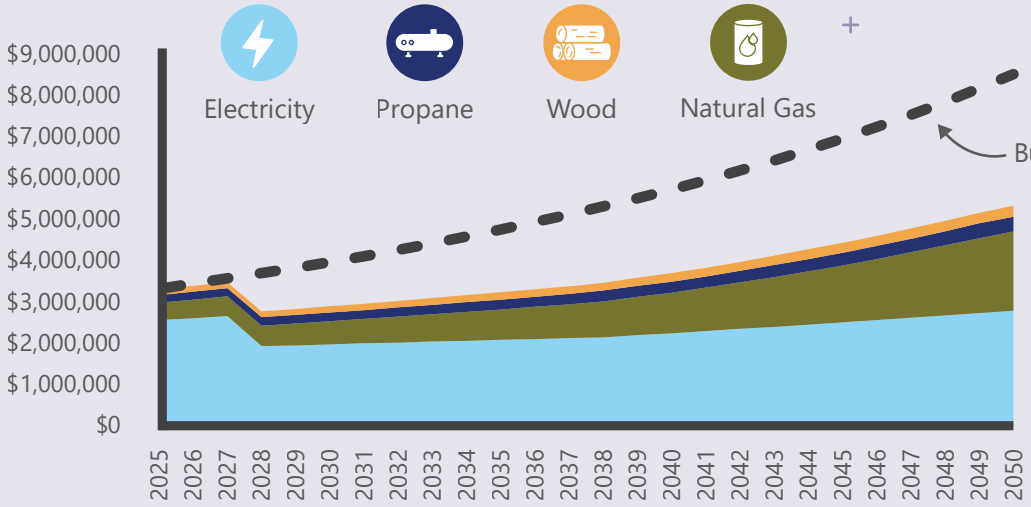
Residential

- Home energy conservation
- Home retrofits
- Higher-efficiency new homes
- Switching to higher-efficiency heating
- New solar panels on existing homes

Community

- Band-owned community buildings' energy conservation
- Building retrofits
- Higher-efficiency new buildings
- Switching to higher-efficiency heating
- New solar panels on existing buildings
- Utility-scale project – shared by all six communities

The modelled actions are associated with a cost reduction of approximately 37% by 2050



Next Steps

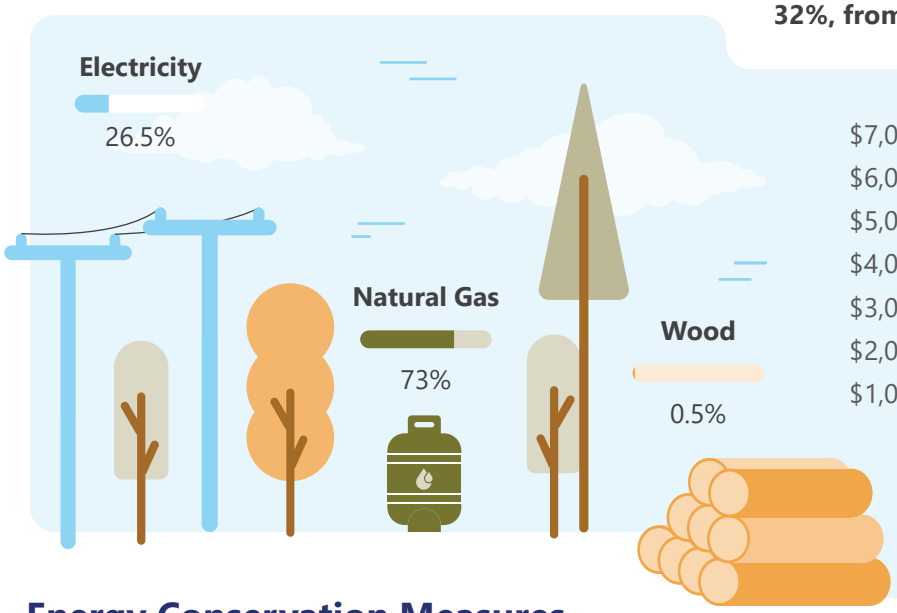
- Each action has an associated business case and work plan outlined to take further action
- The Pithesowiskotew Team have started connecting with potential partners and applying for relevant grant funding applications to maintain momentum for community energy action
- If given the opportunity through sustained employment, this Team of Leaders will be able to continue to answer the energy needs for the community

Little Red River
Community Energy Profile

An energy baseline and forecast were created to understand Little Red River's total energy usage and costs. This helps understand what Little Red River's main energy sources are and how energy costs can be reduced through clean energy conservation, energy efficiency retrofits, and the use of renewable energy.

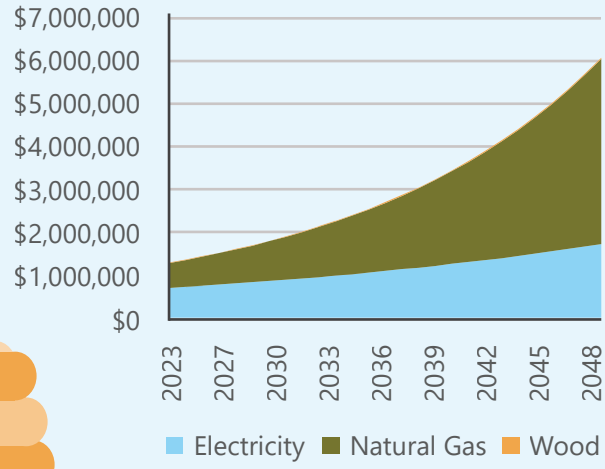
Future Energy Costs

By the year 2050, energy costs in Little Red River are expected to rise to $6.9 million.



Future Energy Usage

By the year 2050, energy usage in Little Red River is expected to increase by approximately 32%, from 103,000 GJ to 136,000 GJ.



Energy Conservation Measures

Setting heat to 20°C
Reduces energy costs by $40 - $215 per year

Reduce lighting by 50%
Reduces energy costs by $110 per year

Hang clothes to dry half the time
Reduces energy costs by $25 - $75 per year

Reduce TV, computer, and radio use by 50%
Reduces energy costs by $75 per year

Reduce oven use by 50%
Reduces energy costs by $50 - $70 per year

Energy Efficiency Measures

Air sealing retrofits
Reduces energy costs by $175 - $1,290 per year

Improving roof insulation
Reduces energy costs by $20 - $1,290 per year

Upgrading heating systems
Reduces energy costs by $230 - $330 per year

Reducing hot water usage
Reduces energy costs by $460 - $500 per year

Insulating exterior walls
Reduces energy costs by $25 - $800 per year

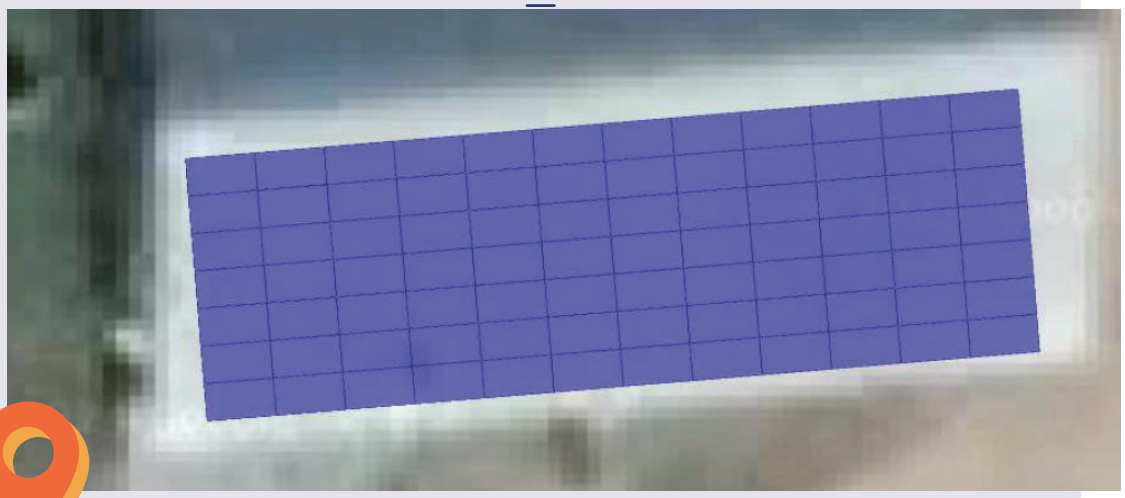
Little Red River Renewable Energy Opportunities

Based on community engagement, the following two renewable energy recommendations have been made for Little Red River.

Install Solar on Community Buildings

As an initial project example, installing a solar PV system on Little Red River's Garage was modelled.

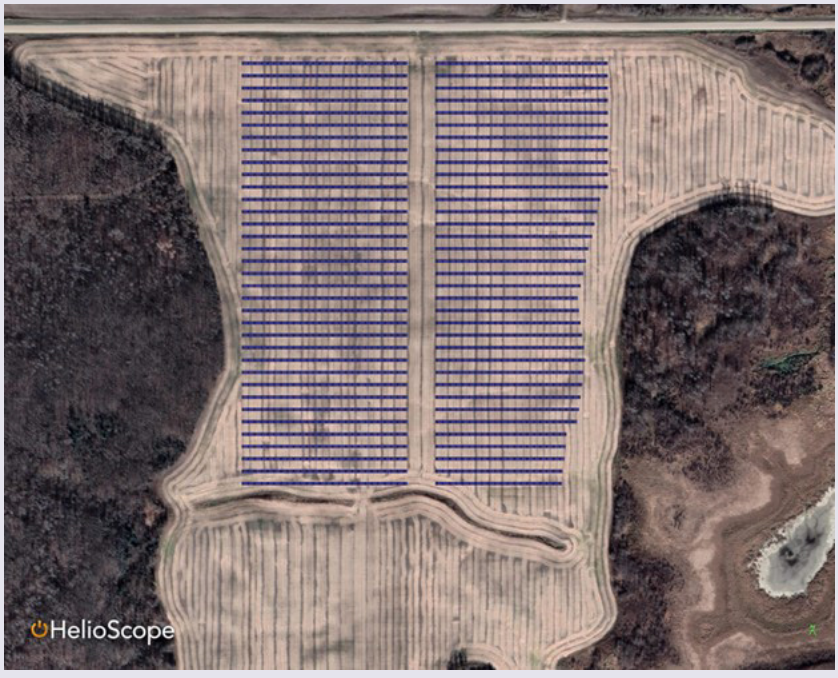
This would require an upfront investment of $112,900 for a 33 kW system, which would see a return on investment within 25 years if it were 22% grant-funded. However, the community would need to receive a grant worth 45% to produce electricity for the same rate as SaskPower's current standard commercial rate.



Utility-Scale Ground-Mounted Solar Panels

If all six communities were to invest in one location for a larger-scale project on Band-owned land, it's recommended that land in Little Red River be considered due to its higher solar potential and larger unshaded land space.

The project will use a raised mounting system to enable solar and food farming on the same lot. The total installed capacity of the proposed system is 13,800 kW. The annual electricity output is approximately 17,920,467 kWh.



Impact of CEP Implementation

The Business-As-Recommended (BAR) forecast incorporates recommended actions into the baseline Business-As-Usual (BAU) forecast to understand how the recommended actions may impact Little Red River's future energy usage. The forecast includes the three action categories modelled separately for residential and community uses.

The modelling suggests these actions would result in a **29% reduction of energy used by 2050** compared to the BAU scenario.

Energy Actions Modelled

Energy Conservation · Energy Efficiency · Renewable Energy

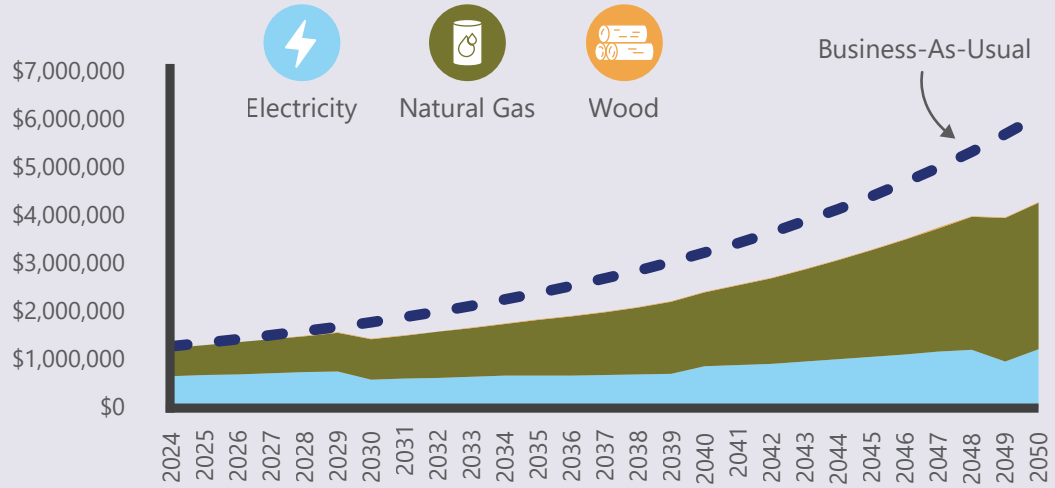
Residential

- Home energy conservation
- Home retrofits
- Higher-efficiency new homes
- Switching to higher-efficiency heating
- New solar panels on existing homes

Community

- Band-owned community buildings' energy conservation
- Building retrofits
- Higher-efficiency new buildings
- Switching to higher-efficiency heating
- New solar panels on existing buildings
- Utility-scale project – shared by all six communities

The modelled actions are associated with a cost reduction of approximately 29% by 2050.



Next Steps

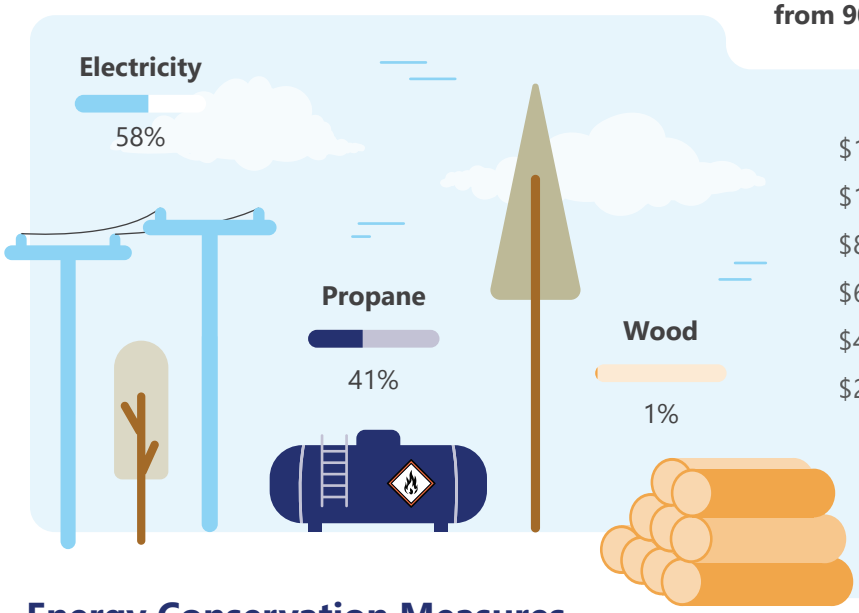
- Each action has an associated business case and work plan outlined to take further action
- The Pithesowiskotew Team have started connecting with potential partners and applying for relevant grant funding applications to maintain momentum for community energy action
- If given the opportunity through sustained employment, this Team of Leaders will be able to continue to answer the energy needs for the community

Stanley Mission
Community Energy Profile

An energy baseline and forecast were created to understand Stanley Mission's total energy usage and costs. This helps understand what Stanley Mission's main energy sources are and how energy costs can be reduced through clean energy conservation, energy efficiency retrofits, and the use of renewable energy.

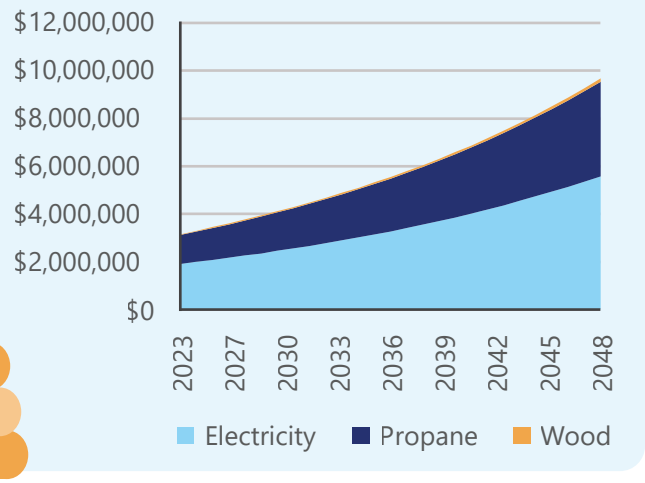
Future Energy Costs

By the year 2050, energy costs in Stanley Mission are expected to rise to $9.7 million.



Future Energy Usage

By the year 2050, energy usage in Stanley Mission is expected to increase by approximately 52%, from 90,000 GJ to 136,000 GJ.



Energy Conservation Measures

Setting heat to 20°C
Reduces energy costs by $170 - $225 per year

Reduce lighting by 50%
Reduces energy costs by $110 - $220 per year

Hang clothes to dry half the time
Reduces energy costs by $25 - $98 per year

Reduce TV, computer, and radio use by 50%
Reduces energy costs by $70 - $145 per year

Reduce oven use by 50%
Reduces energy costs by $50 - $120 per year

Energy Efficiency Measures

Air sealing retrofits
Reduces energy costs by $790 - $1,290 per year

Improving roof insulation
Reduces energy costs by $100 - $1,290 per year

Upgrading heating systems
Reduces energy costs by $230 - $330 per year

Reducing hot water usage
Reduces energy costs by $460 - $500 per year

Insulating exterior walls
Reduces energy costs by $120 - $800 per year

Stanley Mission Renewable Energy Opportunities

Based on community engagement, the following two renewable energy recommendations have been made for Stanley Mission.

Install Solar on Community Buildings

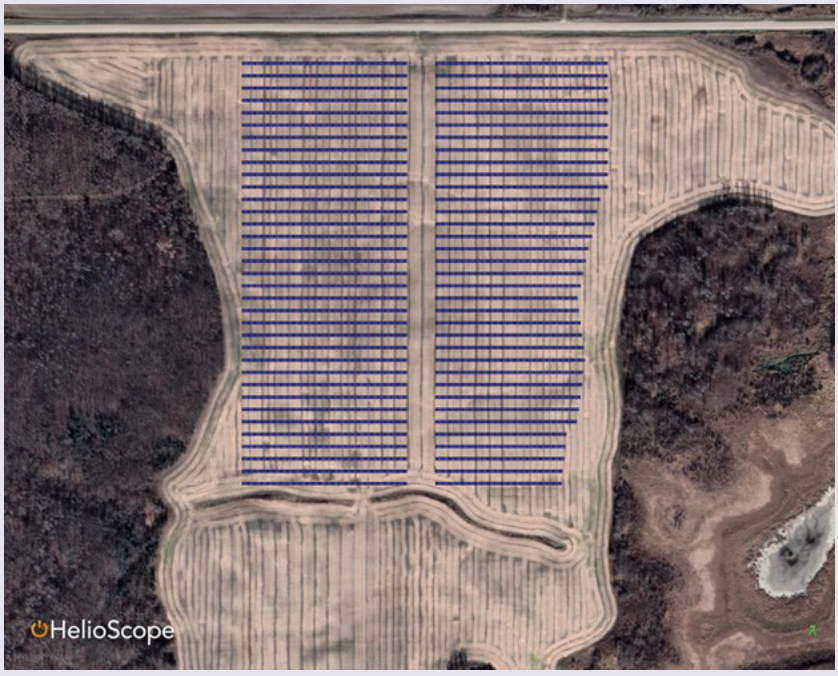
As an initial project example, installing a solar PV system on Stanley Mission's Elementary School was modelled.

This would require an upfront investment of $322,700 for a 99.6 kW system, which would see a return on investment within 25 years if it were 26% grant-funded. However, the community would need to receive a grant worth 61% to produce electricity for the same rate as SaskPower's current standard commercial rate.

Utility-Scale Ground-Mounted Solar Panels

If all six communities were to invest in one location for a larger-scale project on Band-owned land, it's recommended that land in Little Red River be considered due to its higher solar potential and larger unshaded land space.

The project will use a raised mounting system to enable solar and food farming on the same lot. The total installed capacity of the proposed system is 13,800 kW. The annual electricity output is approximately 17,920,467 kWh.



Impact of CEP Implementation

The Business-As-Recommended (BAR) forecast incorporates recommended actions into the baseline Business-As-Usual (BAU) forecast to understand how the recommended actions may impact Stanley Mission's future energy usage. The forecast includes the three action categories modelled separately for residential and community uses.

The modelling suggests these actions would result in a **55% reduction of energy used by 2050** compared to the BAU scenario.

Energy Actions Modelled

Energy Conservation · Energy Efficiency · Renewable Energy

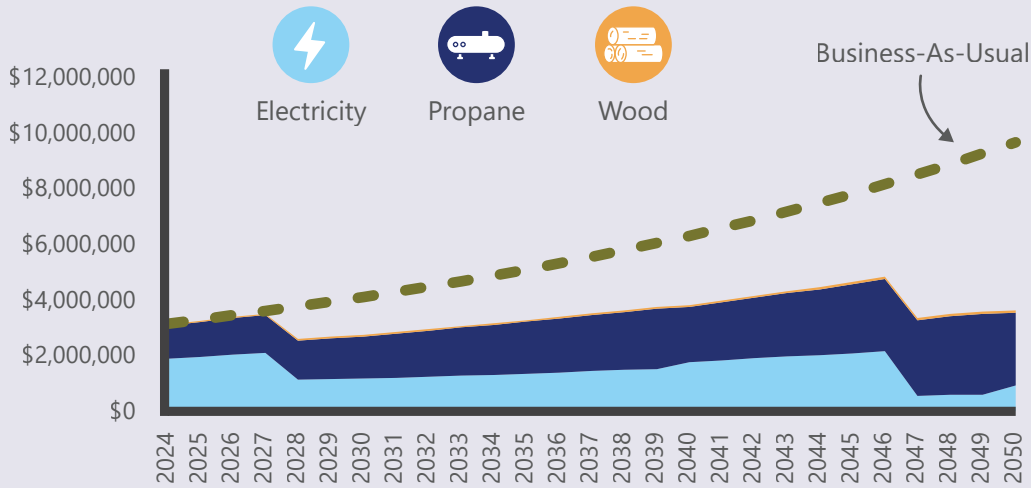
Residential

- Home energy conservation
- Home retrofits
- Higher-efficiency new homes
- Switching to higher-efficiency heating
- New solar panels on existing homes

Community

- Band-owned community buildings' energy conservation
- Building retrofits
- Higher-efficiency new buildings
- Switching to higher-efficiency heating
- New solar panels on existing buildings
- Utility-scale project – shared by all six communities

The modelled actions are associated with a cost reduction of approximately 63% by 2050.



Next Steps

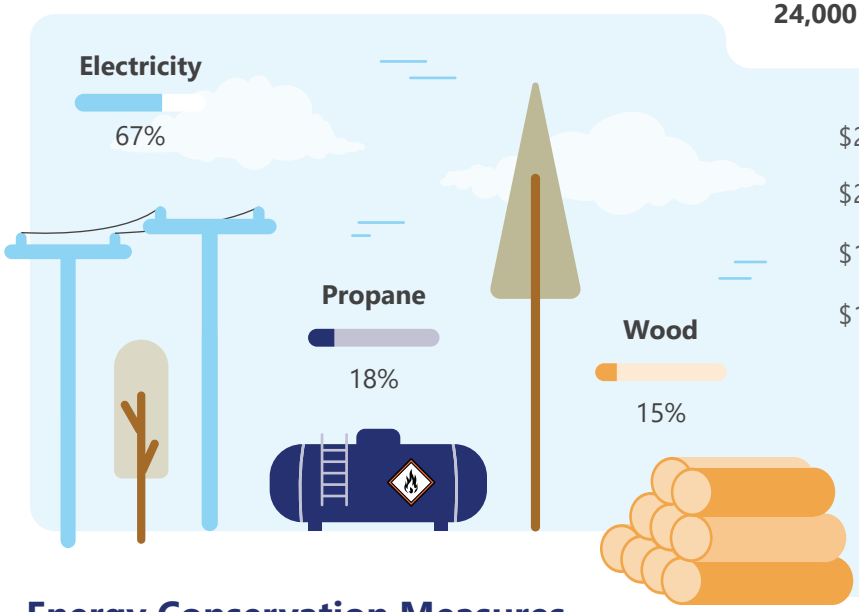
- Each action has an associated business case and work plan outlined to take further action
- The Pithesowiskotew Team have started connecting with potential partners and applying for relevant grant funding applications to maintain momentum for community energy action
- If given the opportunity through sustained employment, this Team of Leaders will be able to continue to answer the energy needs for the community

Sucker River
Community Energy Profile

An energy baseline and forecast were created to understand Sucker River's total energy usage and costs. This helps understand what Sucker River's main energy sources are and how energy costs can be reduced through clean energy conservation, energy efficiency retrofits, and the use of renewable energy.

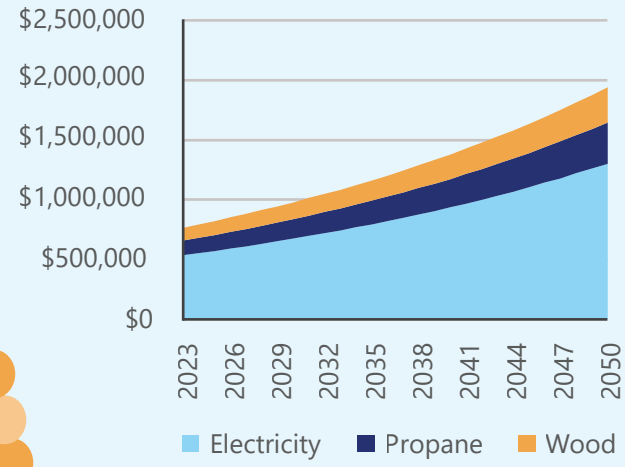
Future Energy Costs

By the year 2050, energy costs in Sucker River are expected to rise to $1.9 million.



Future Energy Usage

By the year 2050, energy usage in Sucker River is expected to increase by approximately 22%, from 24,000 GJ to 29,000 GJ.



Energy Conservation Measures

Setting heat to 20°C
Reduces energy costs by $170 - $225 per year

Reduce lighting by 50%
Reduces energy costs by $110 - $220 per year

Hang clothes to dry half the time
Reduces energy costs by $25 - $98 per year

Reduce TV, computer, and radio use by 50%
Reduces energy costs by $70 - $145 per year

Reduce oven use by 50%
Reduces energy costs by $50 - $120 per year

Energy Efficiency Measures

Air sealing retrofits
Reduces energy costs by $790 - $1,290 per year

Improving roof insulation
Reduces energy costs by $100 - $1,290 per year

Upgrading heating systems
Reduces energy costs by $230 - $330 per year

Reducing hot water usage
Reduces energy costs by $460 - $500 per year

Insulating exterior walls
Reduces energy costs by $120 - $800 per year

Sucker River Renewable Energy Opportunities

Based on community engagement, the following two renewable energy recommendations have been made for Sucker River.

Install Solar on Community Buildings

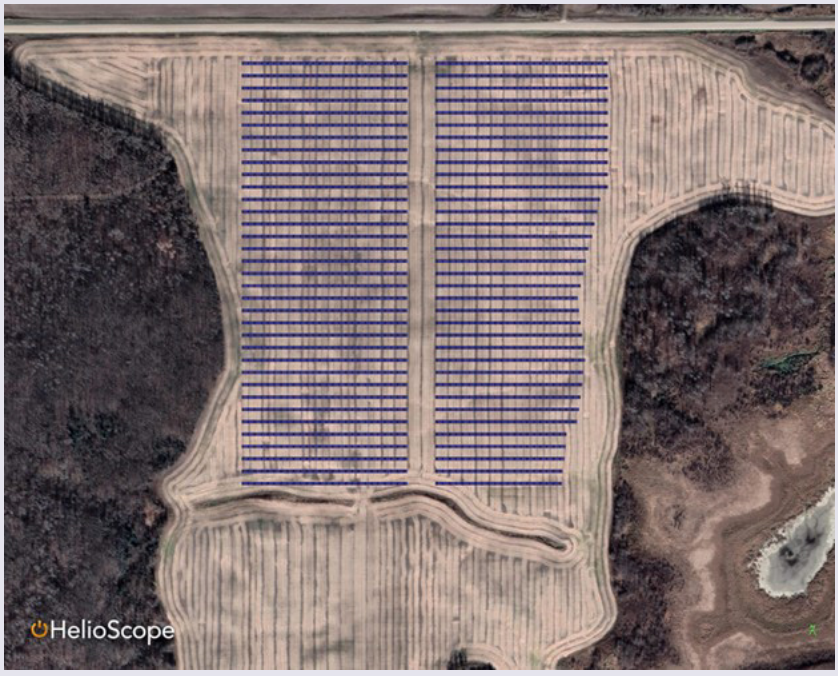
As an initial project example, installing a solar PV system on Sucker River's Community Hall was modelled.

This would require an upfront investment of $98,100 for a 29.2 kW system, which would see a return on investment within 25 years if it were 47% grant-funded. However, the community would need to receive a grant worth % to produce electricity for the same rate as SaskPower's current standard commercial rate.

Utility-Scale Ground-Mounted Solar Panels

If all six communities were to invest in one location for a larger-scale project on Band-owned land, it's recommended that land in Little Red River be considered due to its higher solar potential and larger unshaded land space.

The project will use a raised mounting system to enable solar and food farming on the same lot. The total installed capacity of the proposed system is 13,800 kW. The annual electricity output is approximately 17,920,467 kWh.



Impact of CEP Implementation

The Business-As-Recommended (BAR) forecast incorporates recommended actions into the baseline Business-As-Usual (BAU) forecast to understand how the recommended actions may impact Sucker River's future energy usage. The forecast includes the three action categories modelled separately for residential and community uses.

The modelling suggests these actions would result in a **59% reduction of energy used by 2050** compared to the BAU scenario.

Energy Actions Modelled

Energy Conservation · Energy Efficiency · Renewable Energy

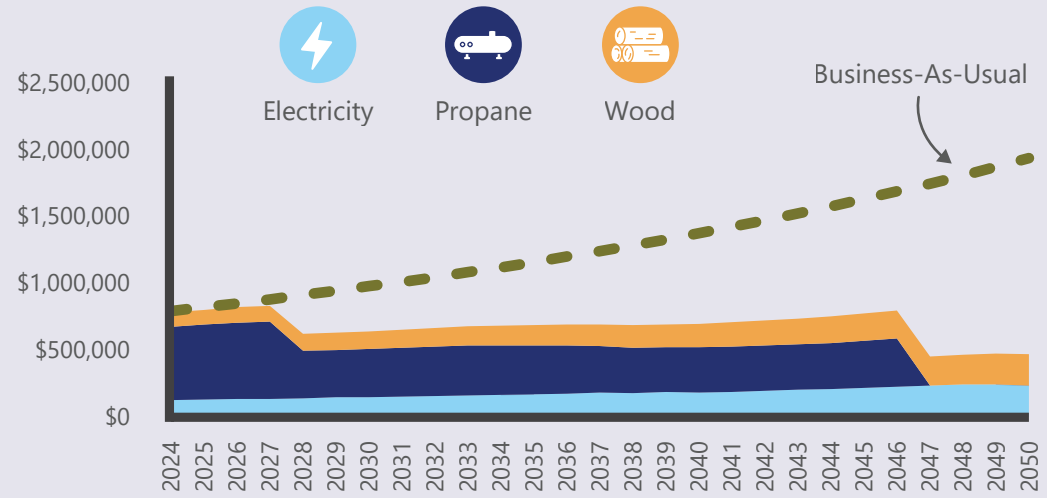
Residential

- Home energy conservation
- Home retrofits
- Higher-efficiency new homes
- Switching to higher-efficiency heating
- New solar panels on existing homes

Community

- Band-owned community buildings' energy conservation
- Building retrofits
- Higher-efficiency new buildings
- Switching to higher-efficiency heating
- New solar panels on existing buildings
- Utility-scale project – shared by all six communities

The modelled actions are associated with a cost reduction of approximately 75% by 2050.



Next Steps

- Each action has an associated business case and work plan outlined to take further action
- The Pithesowiskotew Team have started connecting with potential partners and applying for relevant grant funding applications to maintain momentum for community energy action
- If given the opportunity through sustained employment, this Team of Leaders will be able to continue to answer the energy needs for the community