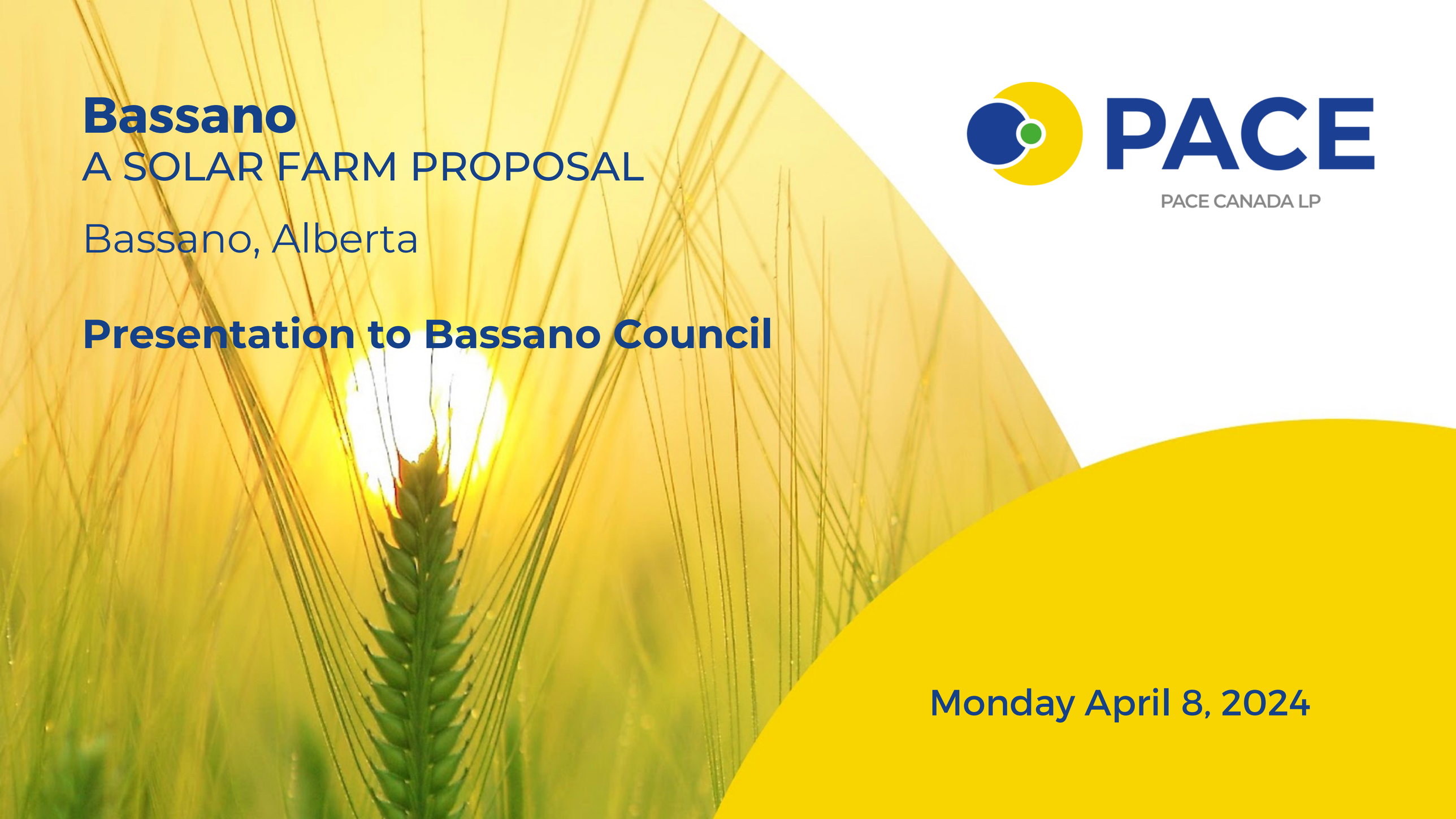

Bassano
A SOLAR FARM PROPOSAL

Bassano, Alberta

Presentation to Bassano Council

PACE

PACE CANADA LP

Monday April 8, 2024

Land Acknowledgement

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As we gather here today, I would like to respectfully acknowledge that we are in Treaty 7 Territory and a traditional meeting ground and home for the Blackfoot Confederacy, the Tsuut’ina, the Stoney, Ochethi Sakowin, the Métis, and many other people who make these great lands their home.

I want to acknowledge these people who are with us today and have gone before us. They bring a rich and beautiful culture from which we can learn. Their presence continues to enrich our Alberta communities. We pay our respect and reaffirm our relationship with one another.

Project Details

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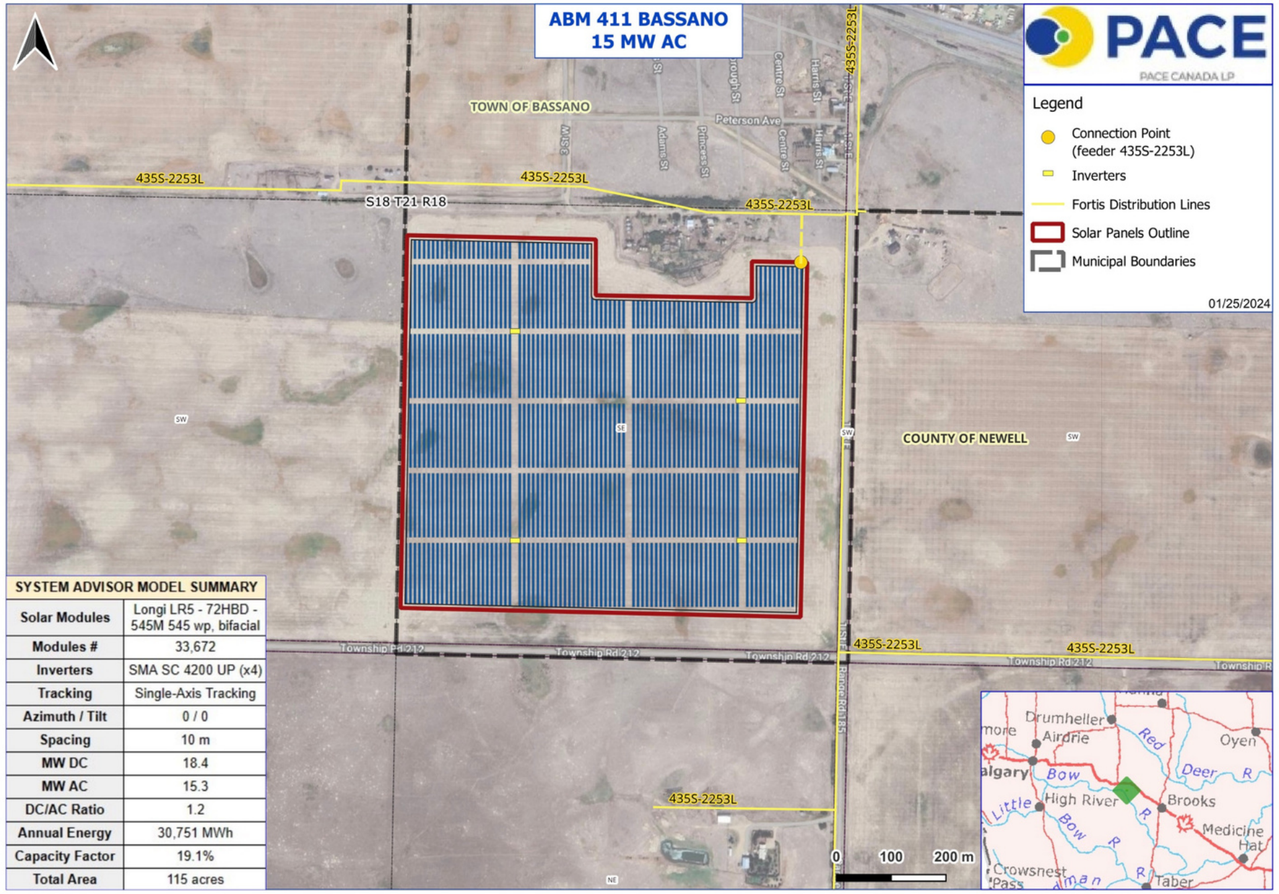
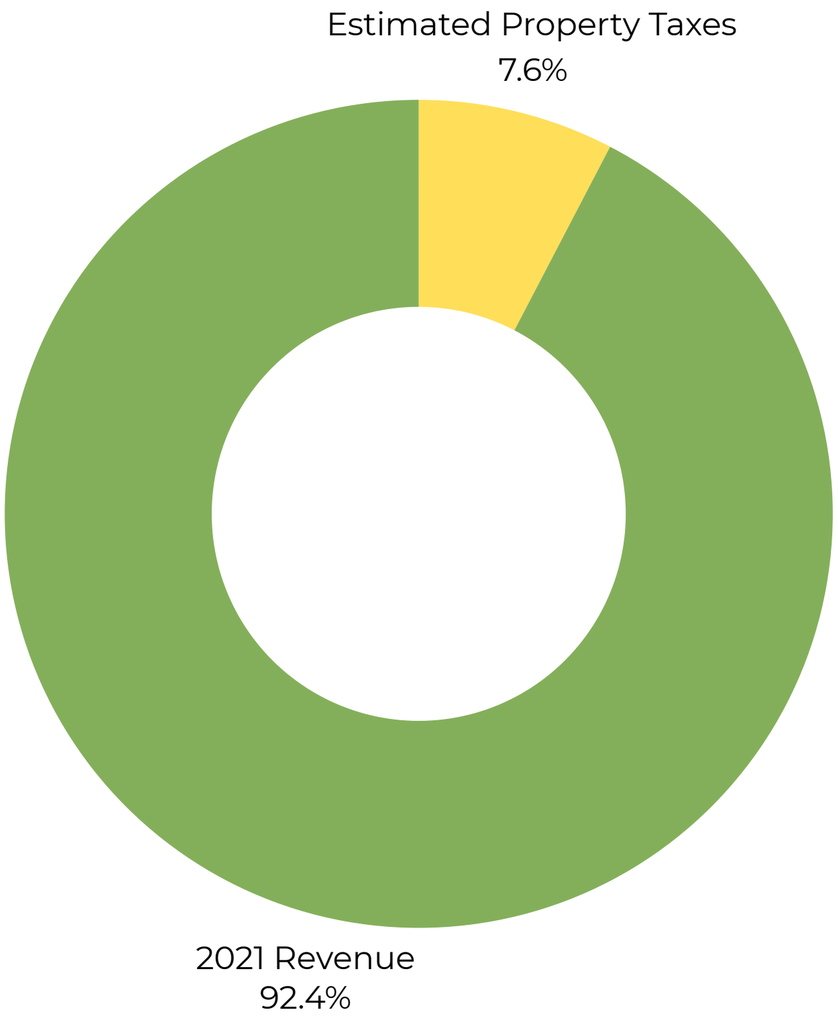


SYSTEM ADVISOR MODEL SUMMARY	
Solar Modules	Longi LR5 - 72HBD - 545M 545 wp, bifacial
Modules #	33,672
Inverters	SMA SC 4200 UP (x4)
Tracking	Single-Axis Tracking
Azimuth / Tilt	0 / 0
Spacing	10 m
MW DC	18.4
MW AC	15.3
DC/AC Ratio	1.2
Annual Energy	30,751 MWh
Capacity Factor	19.1%
Total Area	115 acres

- 15 Mega Watts Alternating Current
- 115 acres
- 33,672 bi-facial solar panels
- Single axis trackers
- 4 SMA SC 4200 UP Inverters
- Fortis Bassano 435S/25 kv

Solar Benefits
Economic



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Significant contributions to the municipal tax base every year.

- Estimated property taxes for the proposed solar farm is $286,000. This represents approximately 7.6% of Bassano's current revenue (2021).

Solar Benefits
Economic

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PACE solar farms generate non-traditional revenue for struggling farmers.

- Close to half of Canadian farmers are over 55 and looking to make succession plans, but the large majority don’t have anyone lined-up to take over.
- Farm debt has doubled since 2000 and in 2022 stood at $106 B.
- Canadian farming is in jeopardy, and we need innovative revenue solutions to protect the livelihood of our farmers and future food production in Canada.

Solar Benefits
Economic

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PACE's project will generate approximately 100 temporary construction jobs over a 10-12 month period and contribute to the multiplier effect.

- Local hiring strategy
- Multiplier effect and benefits to the local economy.

Solar Benefits
Economic

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The project will generate 2 full-time equivalent operation and maintenance positions.

- Local hiring strategy

Solar Benefits
Environmental

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PACE's solar farms play a critical role in helping Canada achieve its goal of a net zero electrical grid by 2035.

- The Bassano solar farm will reduce carbon emissions by 14,700 tonnes every year AND 382,000 tonnes over the 30 year initial life time of the project.
- It will generate enough energy to power 2,800 homes.

Solar Benefits
Environmental

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PACE solar farms allow for continued agricultural activities through the practice of agrivoltaics.

- The Government of Alberta and the Alberta Utilities Commission supports the practice of agrivoltaics on Alberta’s farmland.

Solar Benefits
Environmental

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PACE solar farms improve soil health. PACE is conducting industry-leading research to develop best practices that:

- Reduced soil erosion
- Reduced soil disturbance
- Create and rejuvenate habitat
- Facilitate groundwater recharge
- Increase overall biodiversity
- Increase food production and nutrient value

Solar Benefits
Environmental

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PACE solar farms increase biodiversity. We are conducting industry-leading research to develop best practices to:

- Increase perennial vegetation, increase carbon stores.
- Increase vegetation to improve soil health and soil structure.
- When site is used primarily for grazing, the lack of soil disturbance may increase wildlife access i.e. passerines (perching birds and song birds) small mammals and predators.
- Passive sequestration of carbon.

Solar Benefits
Community Benefits Agreement

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PACE agrees to donate $20k per year to support community initiatives and programs.

- Arts and culture in Caroline
- School programs in Youngstown
- Hockey program in Brooks
- Economic development initiatives

*Solar generation at Bassano recreational facilities as a sustainable approach to CBA.

Questions?

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Appendices

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Common Stakeholder Concerns

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Public Involvement Program

- Glint & Glare
- Noise
- View impact
- Property devaluation
- Fire and safety
- Clean-up costs - Decommissioning
- Use of agricultural lands
- Disbelief in the efficacy of renewable energy

Requried Studies

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AUC
Alberta Utilities Commission

- Solar Glare Hazard Assessment
- Noise Impact Assessment
- Environmental Assessment

Agricultural Lands

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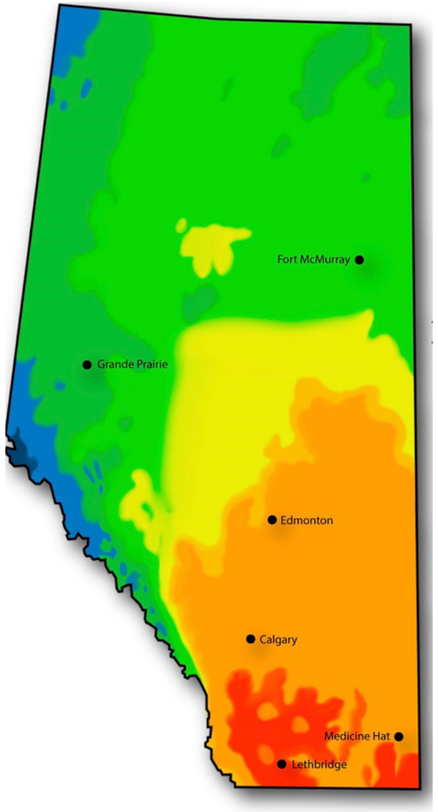
Agricultural Lands

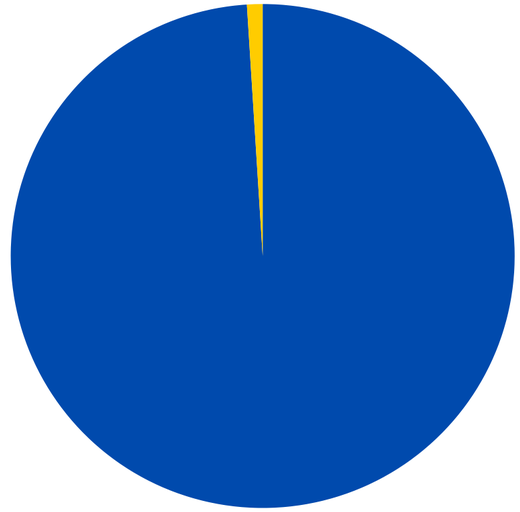
1400 kWh solar energy / kW-yr

1350 kWh solar energy / kW-yr



Alberta's Agricultural lands - 49.2 million acres in 2021

Land needed for renewables to achieve 'net zero' by 2035 (0.8%)



The real cause for the loss of agr. lands in AB: Alberta:

- Urban expansion
- Rural residential subdivisions
- Oil and gas

Land use planning hub. (March 19, 2021). From farm to garden. https://landusehub.ca/urban-agriculture.
Jamil, U.; Bonnington, A.; Pearce, J.M. The Agrivoltaic Potential of Canada. Sustainability 2023, 15, 3228. https://doi.org/10.3390/su15043228
Hastings, Sara,. Ishaque, Simon & L'hermie, Guillaume. October 2023. School of Public Policy. Farms, or solar farms? University of Calgary. Retrieved, https://www.policyschool.ca/wp-content/uploads/2023/10/EE-TRENDS-SOLAR-OCT.pdf

Land Suitability Rating System

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100% of the land is Class 4 with severe agricultural limitations.

Farm Plan for Agrivoltaic Sites

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- PACE partners with Agrivoltaics Canada and colleges and universities to promote Agrivoltaics on our solar farm sites.
- PACE develops a 7-year Farm Plan for all of our Agrivoltaic sites.
- Soil samples and analysis are taken prior to construction that exceeds the new requirements of the Alberta Utilities Commission.
- We develop suitable crop rotations and support farmers in transitioning to organic products which is typically a three year process.
- PACE has hired two Agrologists to develop Farm Plan Developments.
- PACE has hired a senior wildlife biologist and soil scientist to become our first Sustainable Development Advisor.

Clean-up Costs

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The AUC requires developers to provide details on how they will ensure funds are available to cover the clean-up cost at the end of the project's lifetime.

- PACE begins investing in a fund through a central bank in year one on a per megawatt basis.
- The clean-up fund is built into the landowner lease agreement, where the landowner is named beneficiary should PACE become insolvent.
- The equipment has a salvage value of 25% of its cost.
- The total clean-up costs, including a surplus, will be reached by year 9 and account for inflation increases.

Emergency Response Plan (ERP)

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PACE develops a site-specific Emergency Response Plan and engages local fire authorities to gather feedback and ensure a mutual understanding and agreement of the ERP should a fire incident or injury occur.

Levelized Cost of Energy

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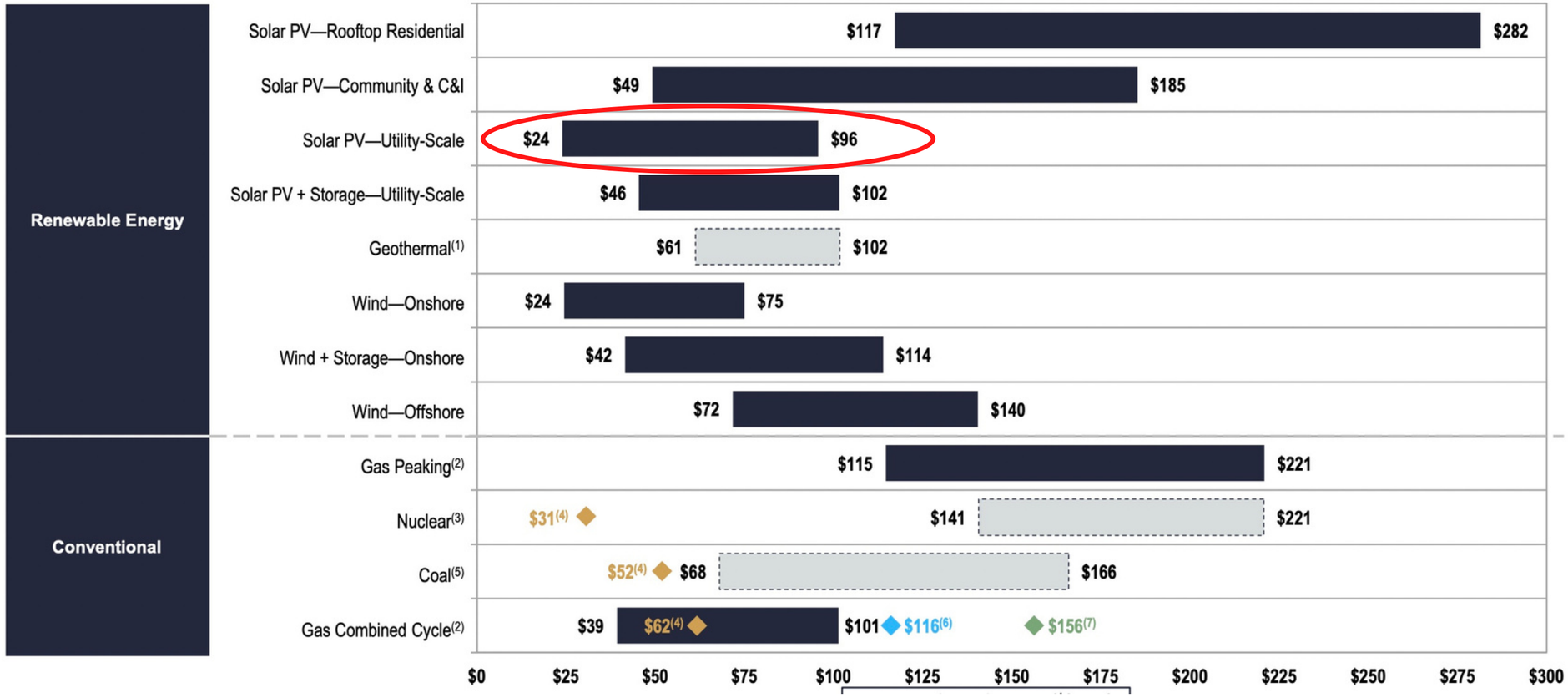
Levelized Cost of Energy Comparison—Unsubsidized Analysis

Selected renewable energy generation technologies are cost-competitive with conventional generation technologies under certain circumstances



Lazard's Levelized Cost of Energy. April 2023. Version 16. https://www.lazard.com/research-insights/2023-levelized-cost-of-energyplus/

Lifecycle GHG Emissions by Energy Type

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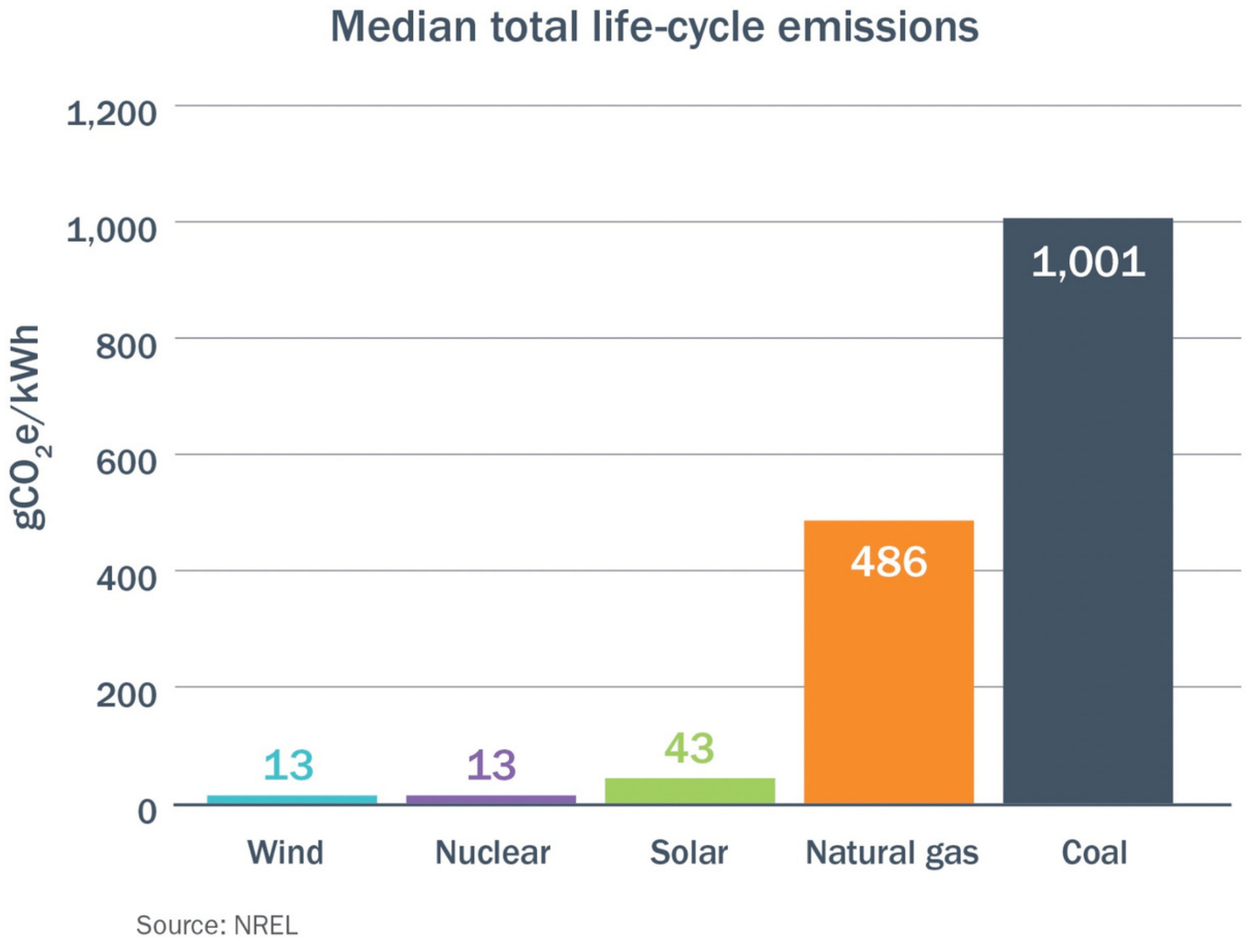
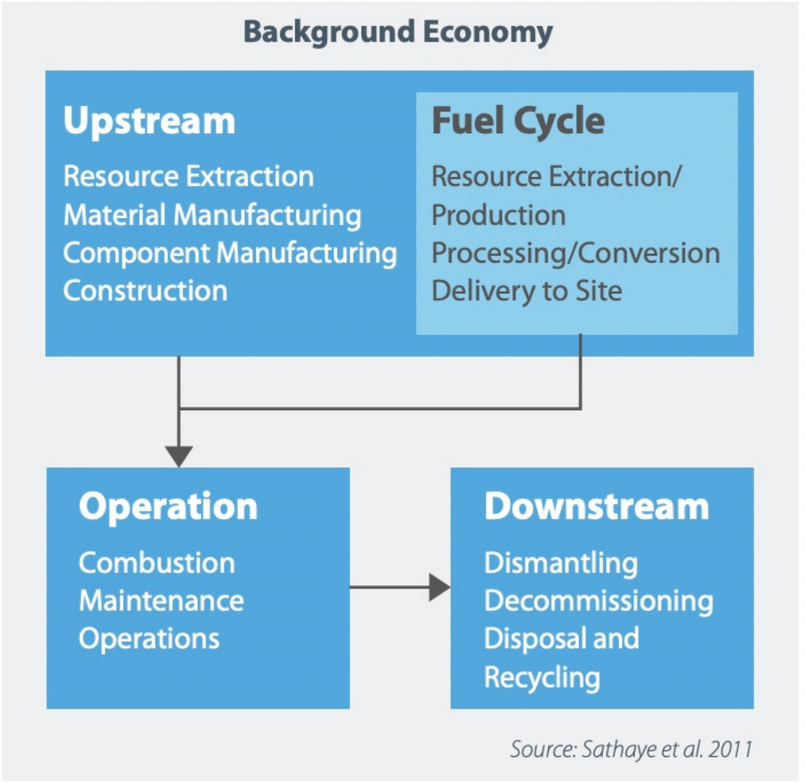


Source: NREL

Figure 1. Generalized life cycle stages for energy technologies



Source: Sathaye et al. 2011

National Renewable Energy Laboratory. 2019. Life Cycle Greenhouse Gas Emissions from Electricity Generation. https://www.nrel.gov/docs/fy21osti/80580.pdf

How solar and wind effect the cost of electricity

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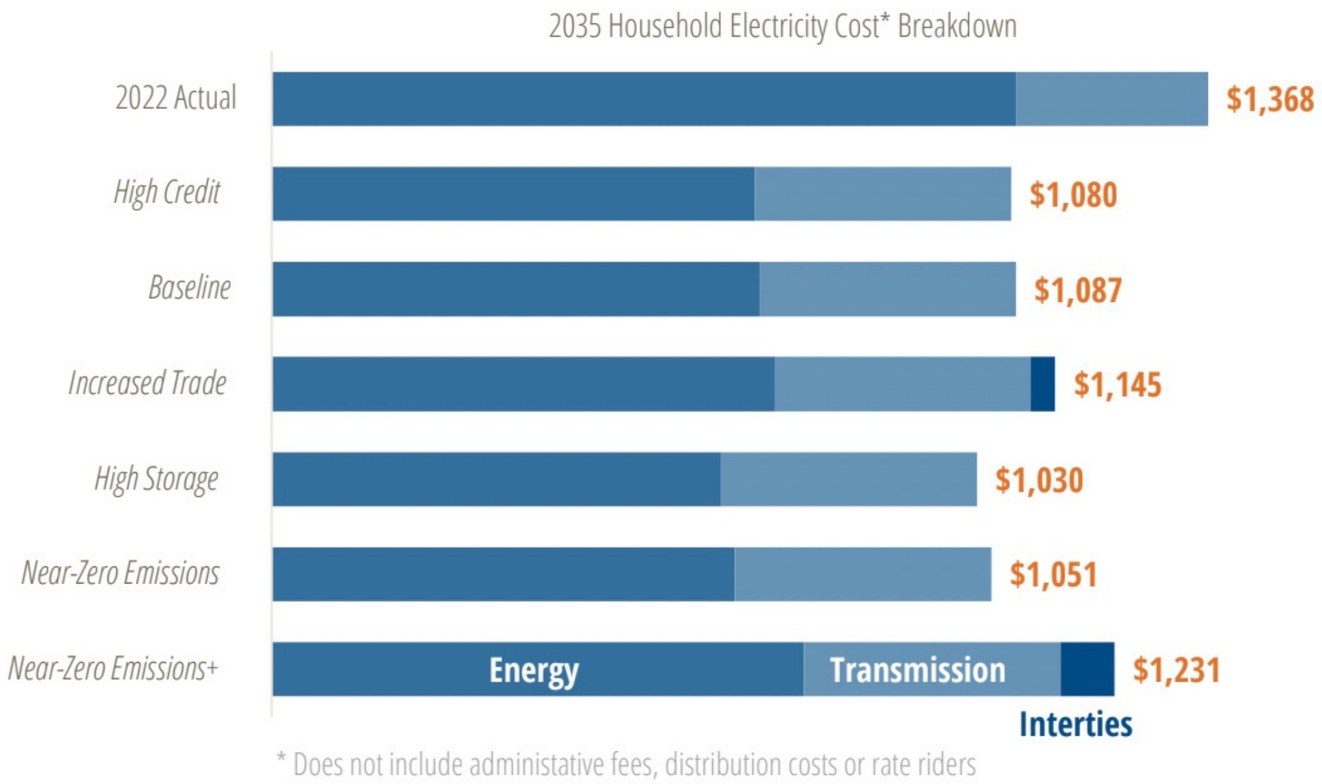

Figure 16. Contributing factors in 2035 household cost estimates by scenario

The rapid expansion of solar and wind energy in Alberta will offset the cost of maintaining and expanding transmission infrastructure. The cost of electricity will be cheaper for consumer households in 2035 than it was in 2022.

Pembina Institute. June 29, 2023. Will Noel and Binnu Jeyakumar. Zeroing In Pathways to an affordable net-zero grid in Alberta. Retrieved from https://www.pembina.org/pub/zeroing-in

Property Values

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A complex issue which can depend on several factors:

- Size of the solar farm.
- Proximity of homes.
- Local real estate market.
- Community attitudes towards renewable energy.

Research findings are mixed:

- No negative impact on property values.
- Other studies show a slight decline in property values ranging from 1% to 2.5% on the high-end.
- In general, the closer the homes are to the solar farm, the more significant the potential impact on property values.

Some factors can offset negative impacts

- Providing economic benefits to the community, such as job creation or lower energy costs may offset any negative impact on property values.

Contact Information

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