

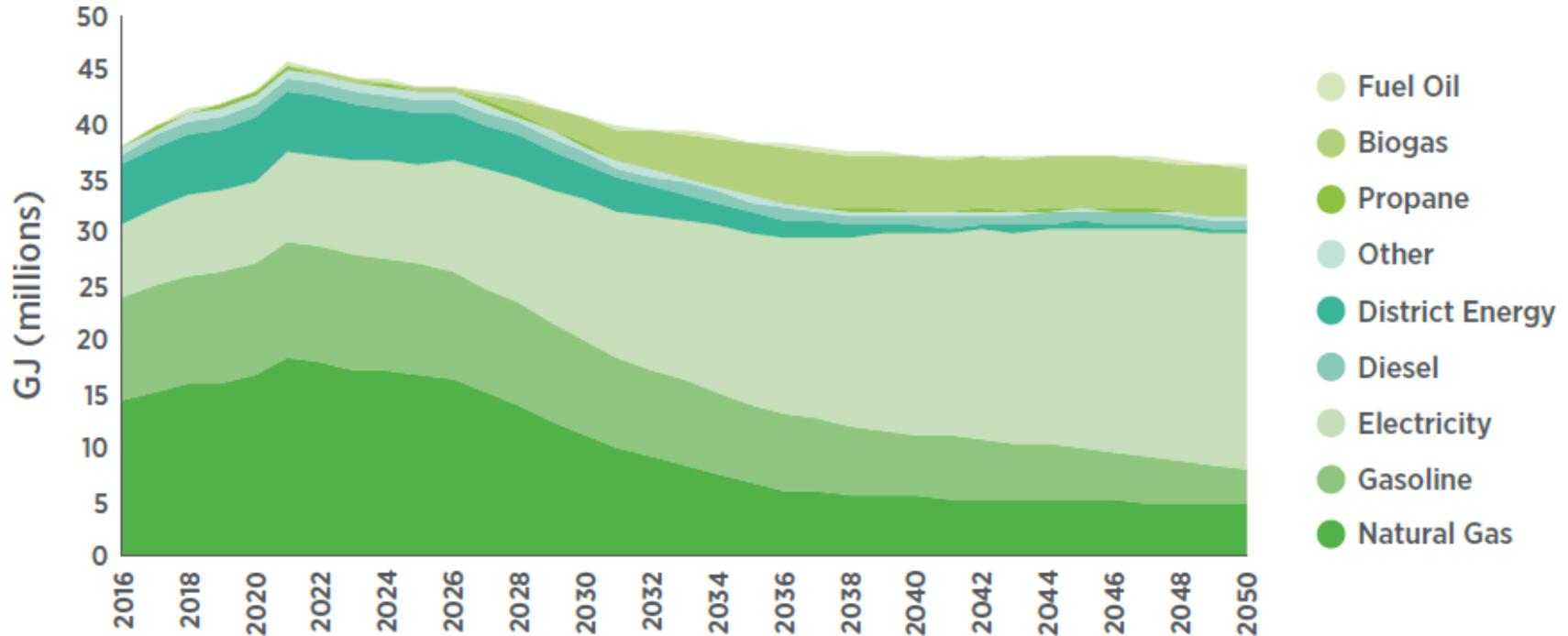


Alternative Currents

An Implementation Plan for
Saskatoon's Renewable
and Low-Emission
Energy Transition

November 2022 EUCS Meeting

Energy Use in Saskatoon



Energy by Fuel Type, from Baseline Year to Target Year (LEC)

Current and Future Grid Intensity

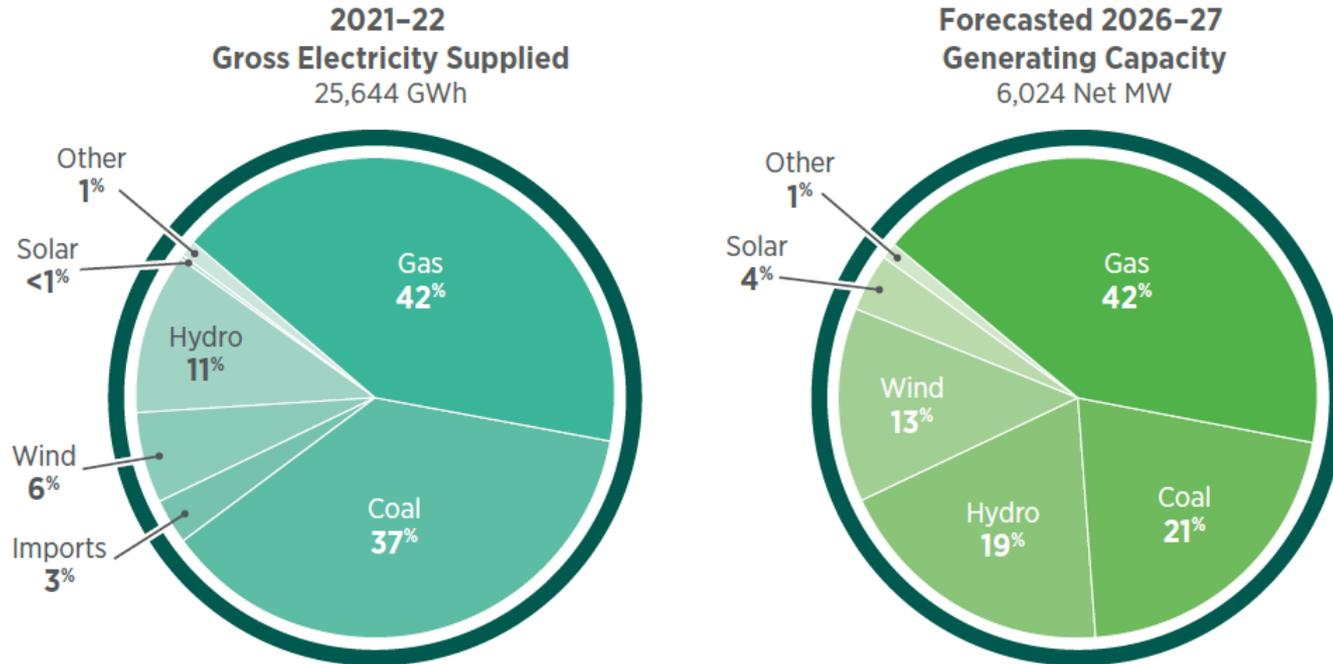


Figure 4: Saskatchewan's Most Recently Reported Power Mix and Forecasted 2026-27 Generating Capacity⁶

What is Alternative Currents?

Low Emissions Community Actions

29 – Solar PV on municipal buildings

30 – Solar PV systems on Municipal Lands

34 – Solar PV utility-scale within or adjacent to city boundaries

31 – Increase landfill gas capture from the Saskatoon Landfill

35 – CHP facility at St. Paul's Hospital

36 – Implement District Energy Systems

37 – Construct a hydropower plant at the weir

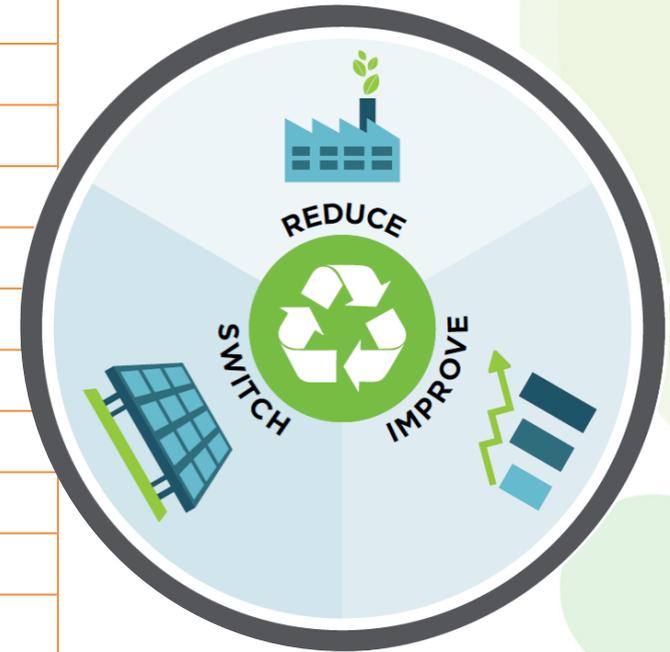
38 – Install renewable energy storage over time

39 – Procure renewable electricity from a third-party producer

40 – Procure renewable natural gas from third party producers

32 – Encourage/mandate solar PV on residential buildings

33 – Encourage/mandate solar PV on ICI buildings



Initiatives and Prioritizing Factors

1. Greenhouse gas emissions reduced
2. Marginal abatement cost
3. Cost of living
4. Co-benefits
5. Public and industry preference
6. State-of-readiness

Public Engagement

Out of the reasons provided for why renewable energy is important respondents identified the following as being the most important:



1. Reducing greenhouse gas emissions (75%)
2. Caring for the environment (75%)
3. Climate change resiliency (68%)
4. Long-term energy savings (56%)
5. Job creation and economic growth (53%)
6. Renewable energy is not important to me (6%)

Actions & Initiatives – Leading by Example

LEC 34 Install new solar PV utility-scale facilities within or adjacent to city boundaries

34.1 Install ~1MW generation capacity of ground-mount solar PV at the Wastewater Treatment Plant

34.2 Install additional site solar PV to meet remaining MW targets

34.3 Agrivoltaics pilot

34.4 Alternatives to meet GHG targets



LEC 39 Procure renewable electricity from a third-party producer

39.1 Procure renewable energy over time to meet targets

39.2 RPO opportunity with SaskPower

39.3 Alternatives to meet GHG targets

Actions & Initiatives – Investor, Regulator and Encourager

Regulator

32.6 Net metering and power producer updates

32.7 Solar access and orientation review

32.8 Solar administration review and update

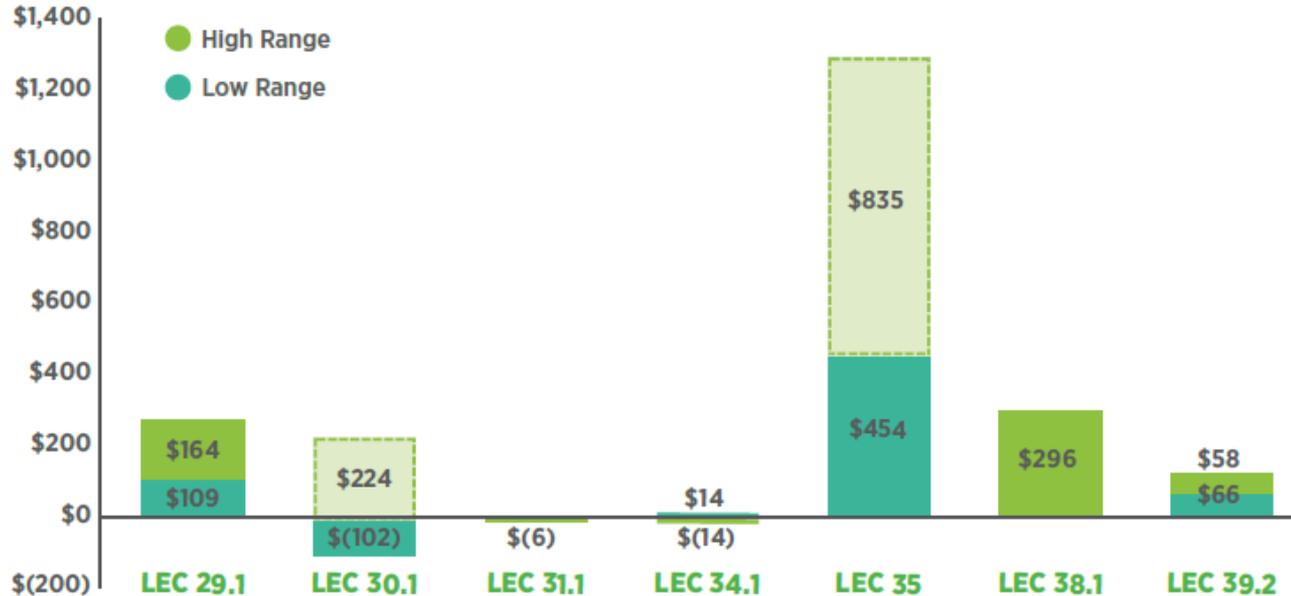
32.9 Include renewable energy in park development standards

32.10 Additional regulator programming to meet GHG targets



Costing Initiatives: Implementor

Project Costs per tCO₂e Reduced

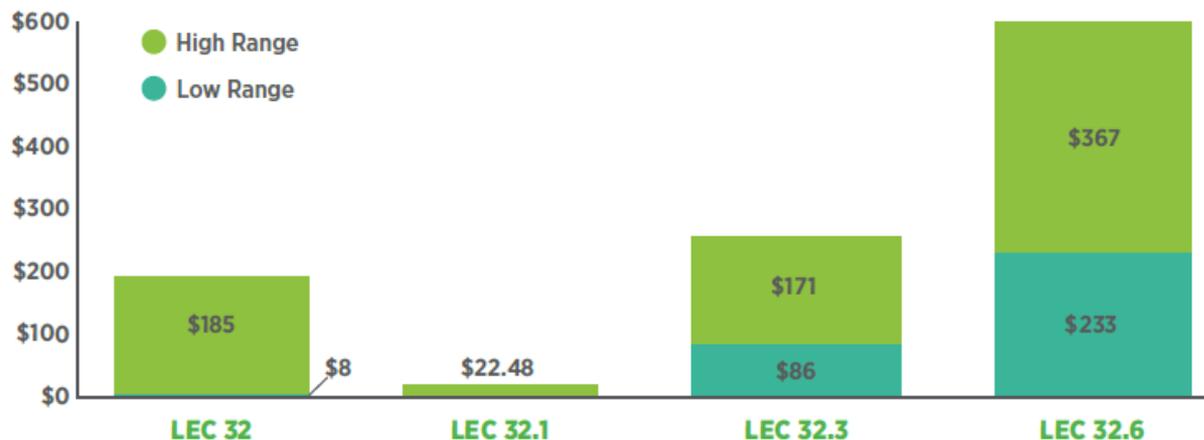


- 29.1** Install 1-1.5 MW generation capacity of solar PV on up to 10 municipal rooftops
- 30.1** Install 2.2 MW generation capacity of ground-mount solar PV at Dundonald Solar Farm
- 31.1** Landfill gas expansion
- 34.1** Install -1 MW generation capacity of ground-mount solar PV at the Wastewater Treatment Plant
- 35** (related) CHP facility at Shaw & Lakewood
- 38.1** Install renewable energy storage over time to meet targets (Dundonald example)
- 39.2** RPO opportunity with SaskPower

Known Marginal Abatement Costs for Implementor Initiatives

Costing Initiatives: Investor, Regulator, and Encourager

Community Project Costs per tCO₂e Reduced



- 32** Install residential solar capacity (Costs to resident)
- 32.1** Home Energy Loan Program (HELP) (costs to City)
- 32.3** Residential rebates for renewable energy generation
- 32.6** Net metering and power producer updates (SL&P revenue loss)

Known Marginal Abatement Costs for Investor, Regulator, Encourager Initiatives

Moving Forward

**Alternative
Currents**

Actions

Initiatives

Phases

- P1** Initiation
- P2** Development
- P3** Implementation
- P4** Operations

Thank you!

Learn more by visiting
saskatoon.ca/renewable-and-low-emissions-energy

