

CITY OF MINNEAPOLIS

Xcel Energy's proposed 2015-2030 Integrated Resource Plan

Presentation to IGR Committee

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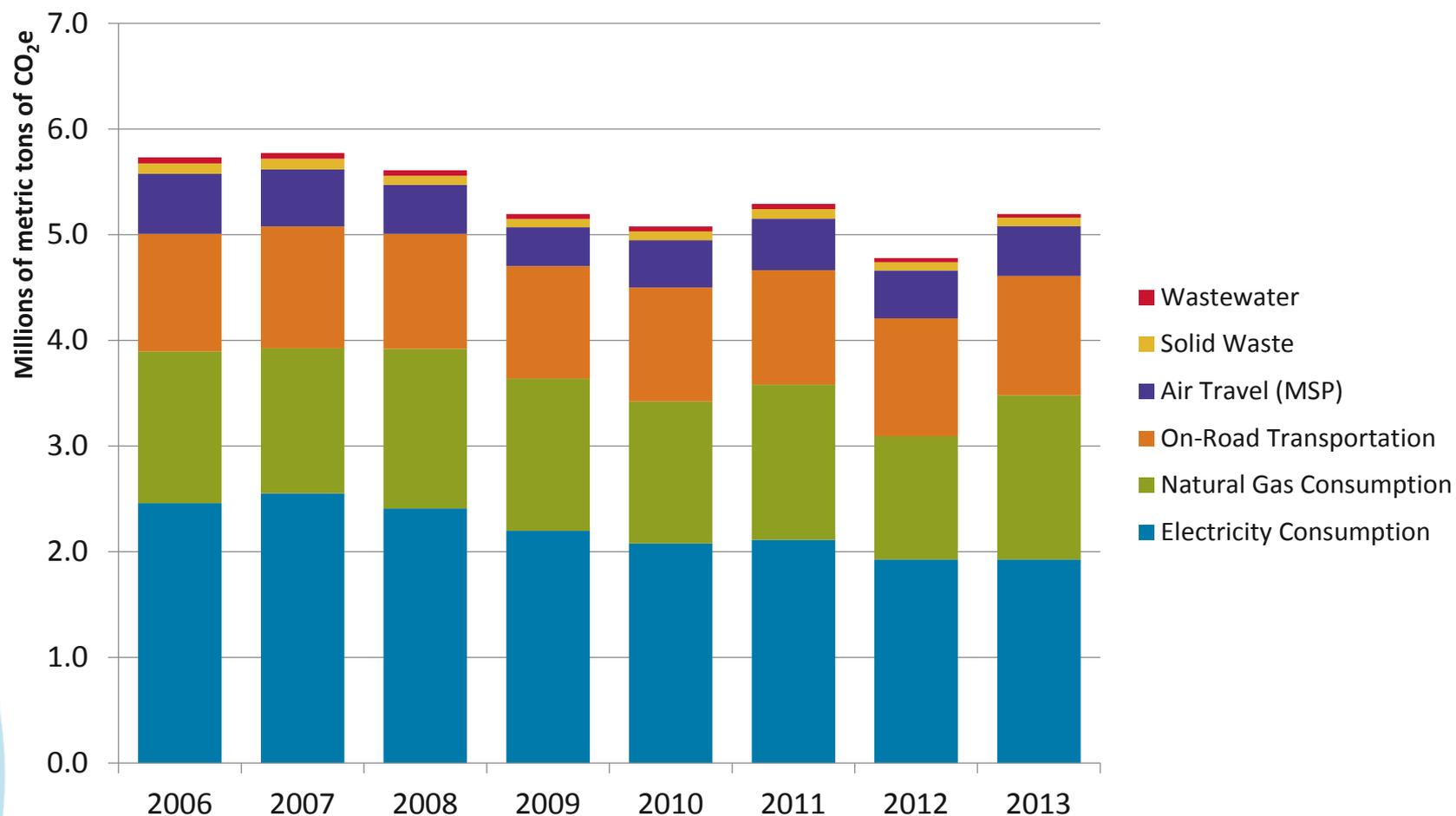
What is Integrated Resource Planning?

- A long-term (15 year) planning tool used by electric utilities to ensure it can meet customer needs in a reliable and low-cost manner
- It must be “integrated”: utilities must use supply and demand-side resources
- Must be filed every two years by statute
- Final plan is approved by the Public Utilities Commission (PUC)

Xcel Energy has filed a 2015-2030 Resource Plan

- This plan will have an impact on Climate Action and Clean Energy Partnership goals
- Energy Pathways Study: City must stay engaged in state regulatory processes to pursue climate action goals
- Energy and Climate Policy Positions (adopted August 21st) identified Resource Plan as important issue for engagement

Minneapolis greenhouse gas emissions



Major issues in Resource Planning for Xcel Energy '15-'30

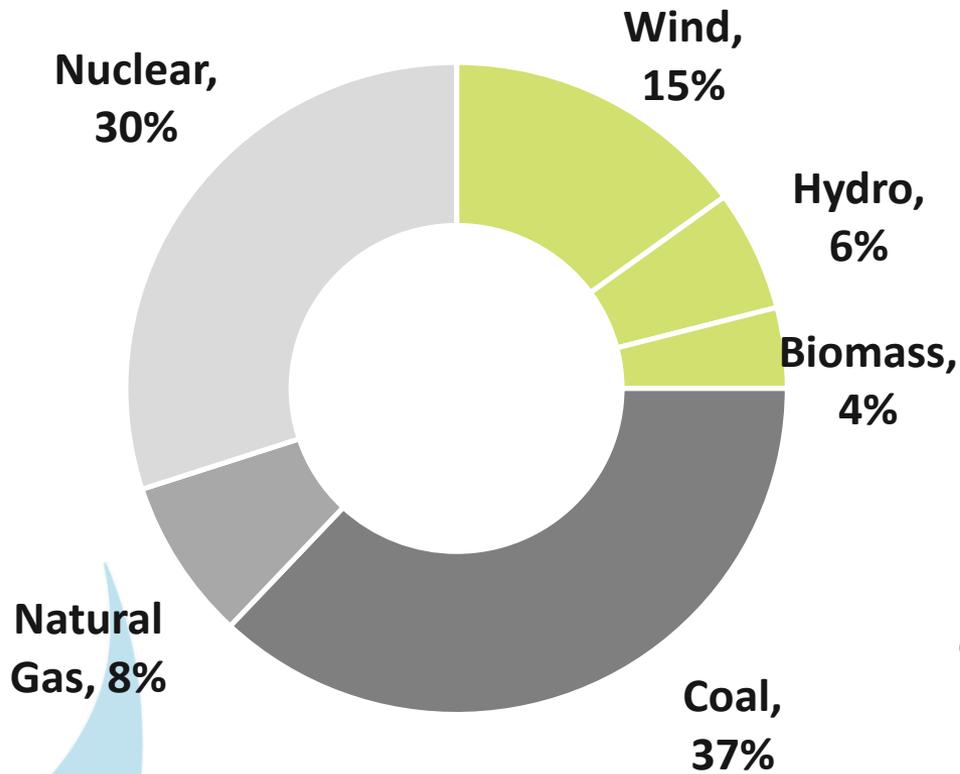
- Energy resource mix and greenhouse gas impacts
- The future of the Sherburne County Generating Station Units 1 and 2 (Sherco)
- Goals for energy efficiency (demand side management) at the service territory level
- Rate impacts
- Public health impacts

Alternative Resource Plans

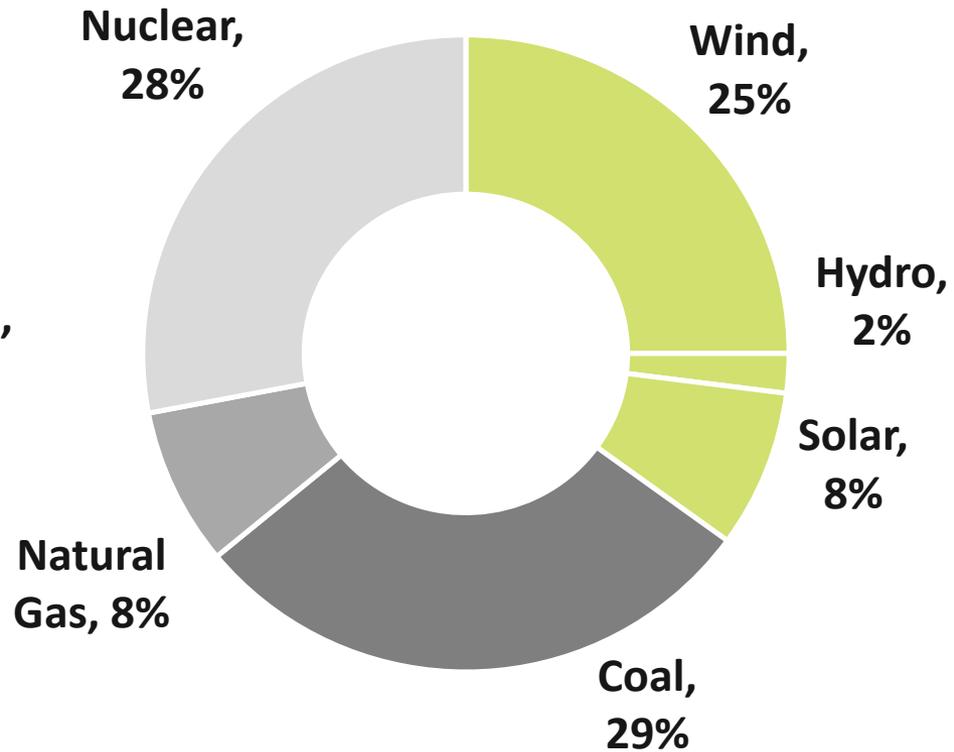
- Two entities have also filed Resource Plans that the Commission must consider:
 - MN Department of Commerce, Division of Energy Resources
 - Clean Energy Organizations
- These plans differ in their treatment of Sherco Units, energy efficiency goals and modeled costs
- Minneapolis comments reference information from these plans

Proposed energy mix

2015



2030



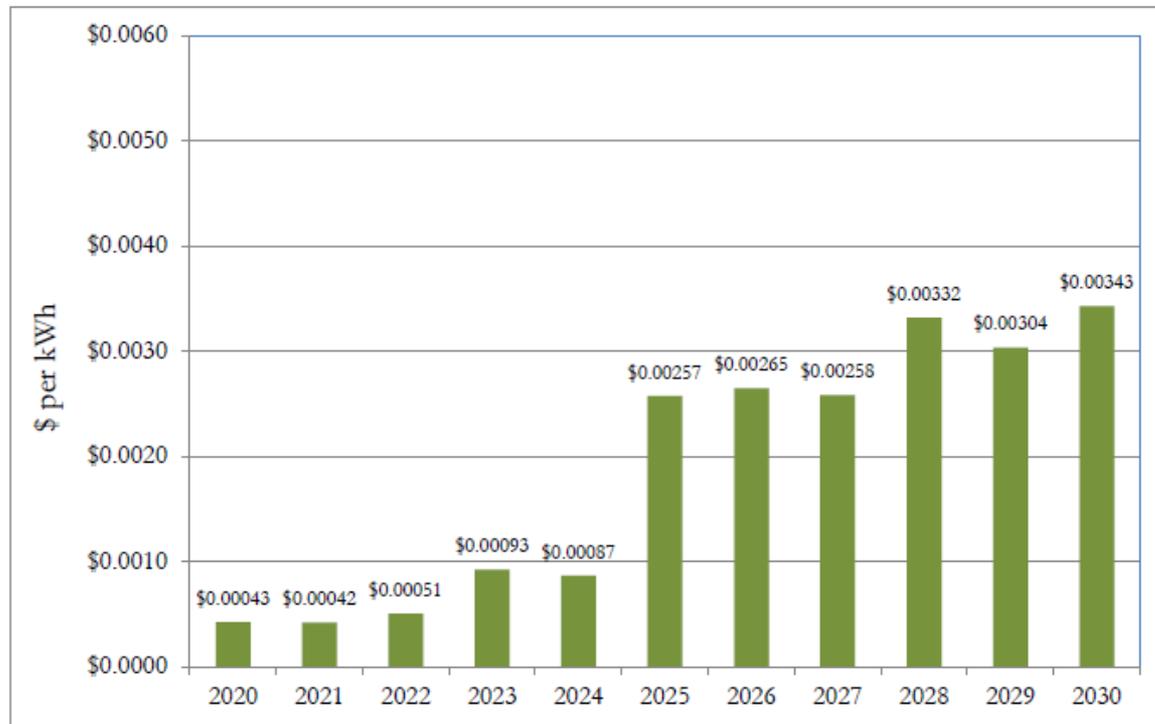
Proposed energy efficiency goals

Year	GWh	% Savings
2016-2021	444	1.5%
2022-2030	393	1.3%

Goal in state law is 1.5% for electric utilities

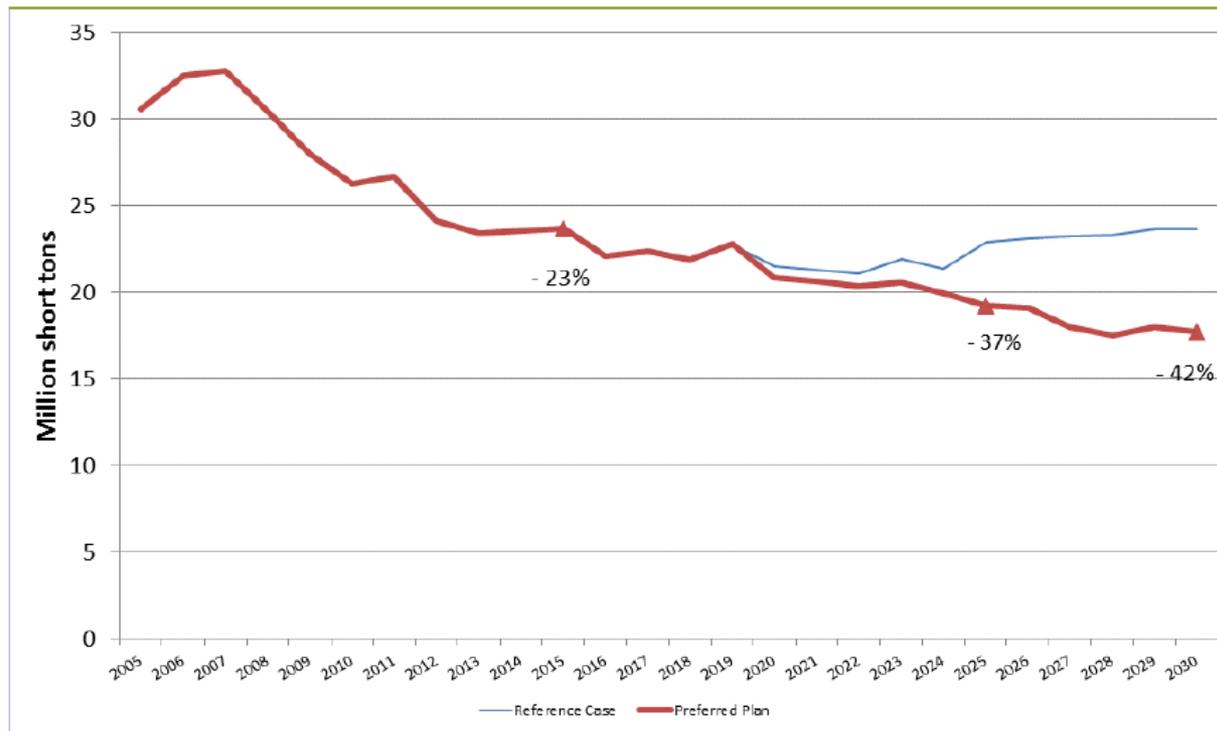
Rate impacts

Figure 2: Incremental Rate Impact of Preferred Resource Plan
State of Minnesota – All Customers



Total greenhouse gas emissions

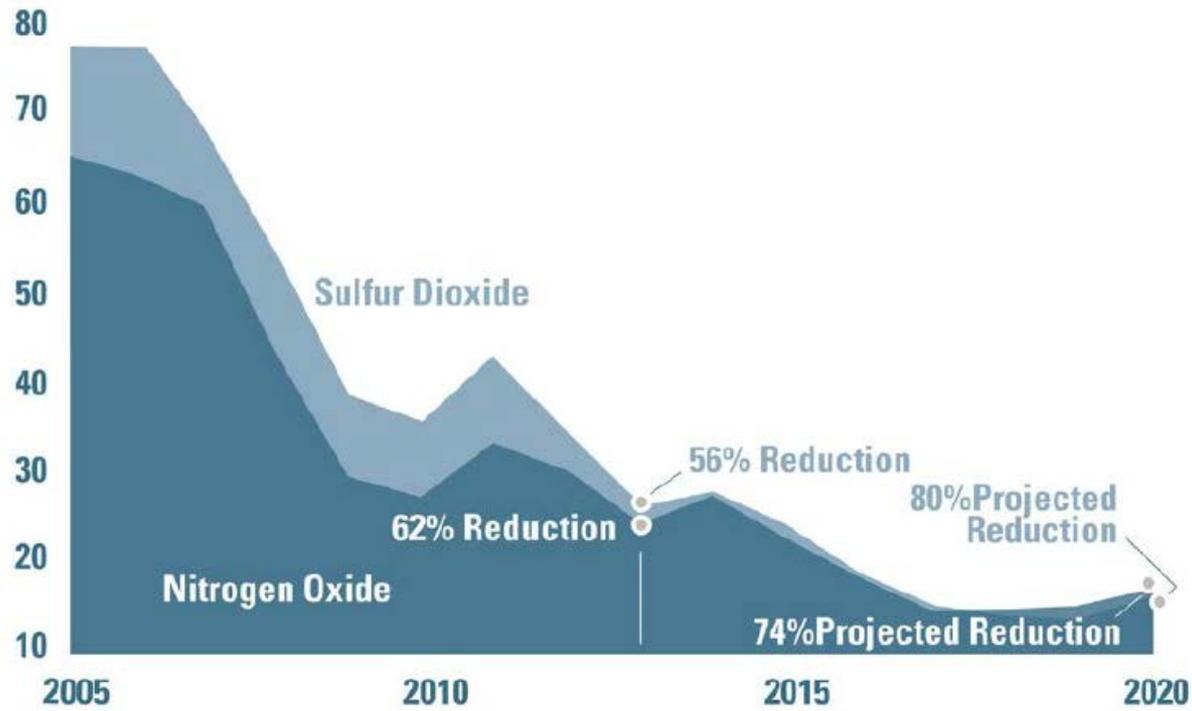
Figure 4: NSP CO₂ emissions from owned and purchased power, under Reference Case and Preferred Plan



Note: Chart shows CO₂ emissions from 2005 to 2030 (actual emissions for 2005 through 2013, forecast emissions for 2014 through 2030). Percentage reductions are relative to 2005.

Criteria pollutants

Figure 8: NSP Emissions of NO_x and SO_2 2005 to 2020



Minneapolis comments

The City and Xcel Energy will continue to work collaboratively to pursue State and City goals for greenhouse gas emissions reduction and demand side management savings. **Adopting an energy savings goal above 1.5 percent may be appropriate.**



Minneapolis comments

A final resource plan with carbon intensities at or below those identified in the Preferred Plan for 2025 is necessary for the City to meet its medium-term greenhouse gas reduction goal. **Greater reductions may be possible.**



Minneapolis comments

The adopted 2016-2030 Resource Plan should provide certainty about the timing of repowering or retirement of Sherco Units 1 and 2.



Minneapolis comments

Xcel may be underestimating the impact of, and customer demands for, distributed resources like rooftop solar and community solar gardens.



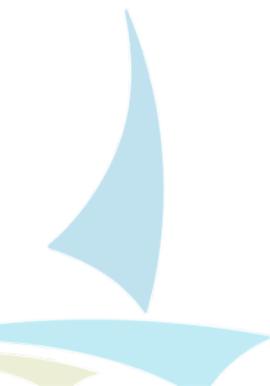
Minneapolis comments

Energy customers are increasingly seeking access to additional options for clean, renewable, affordable and reliable energy. Xcel Energy should respond to this demand proactively.



Minneapolis comments

We encourage Xcel Energy, the Commission and the Department of Commerce to continue to look beyond 2030, and plan for deep greenhouse gas emissions reductions.



Comment deadline

October 2nd, 4:30 pm

Comment to the PUC:

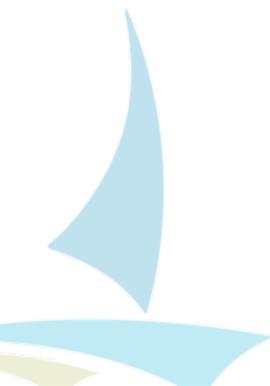
Mn.gov/puc → “Speak Up” link



Resource additions

Table 2: Preferred Plan Expansion Plan

Resource	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Resource	Total
Small Solar	18	18	14	13	13	13	16	19	23	28	33	40	48	58	69	83	Small Solar	506
Large Solar	-	-	187	-	-	-	-	-	-	100	400	300	200	500	-	200	Large Solar	1,887
Wind	-	-	-	-	-	600	-	-	200	-	600	-	400	-	-	-	Wind	1,800
CT	-	-	-	-	-	-	-	-	-	-	876	438	219	219	-	-	CT	1,752
CC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CC	-



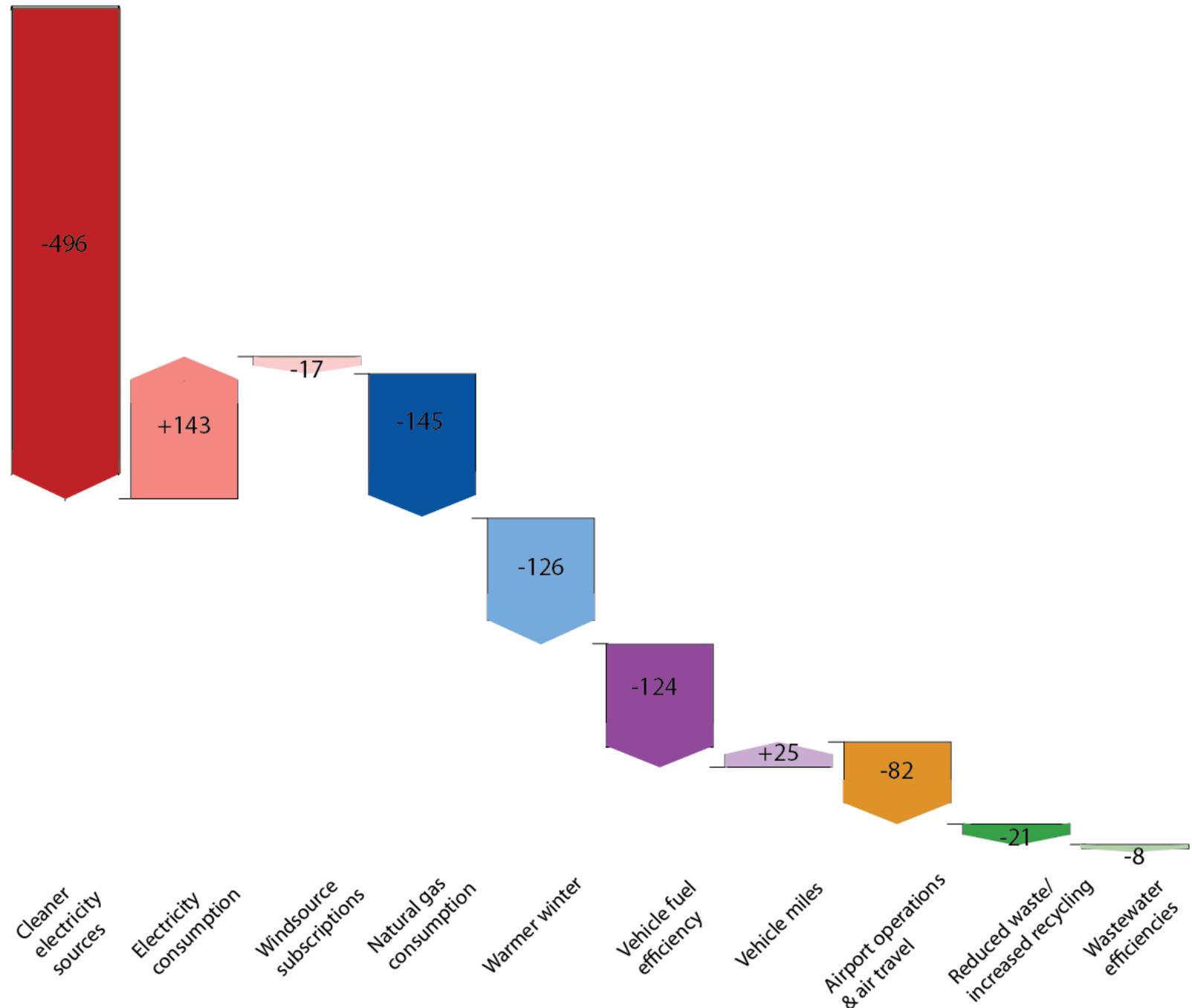
Dept. of Commerce Recommends

- File another IRP in 2017
- Convert Sherco 1 to gas in 2025 (assuming no reliability issues)

Clean Energy Plan	DOC Plan	Xcel Preferred Plan
• Retire Sherco 1 in 2021	• Convert Sherco 1 in 2025 (to NG)	• Sherco 1 through 2030
• Retire Sherco 2 in 2024	• Sherco 2 through 2030	• Sherco 2 through 2030
• 2,500 MW Wind	• 1,900 MW Wind	• 2,500 MW Wind
• 1,700 MW Large Solar	• 1,000 MW Large Solar	• 1,700 MW Large Solar
• 1.7% EE (2015-2021)	• 1.5% EE (2015-2021)	• 1.5% EE (2015-2021)
• 1.5% EE (2022-2029)	• 1.5% EE (2022-2029)	• 1.3% EE (2022-2029)
• 2,750 MW Peaking NG	• 1,750 MW Peaking NG • 560 MW CC NG	• 1,750 MW Peaking NG

2006
5.8 mmt CO₂e

2012
4.9 mmt CO₂e



All figures in kilotons unless otherwise indicated