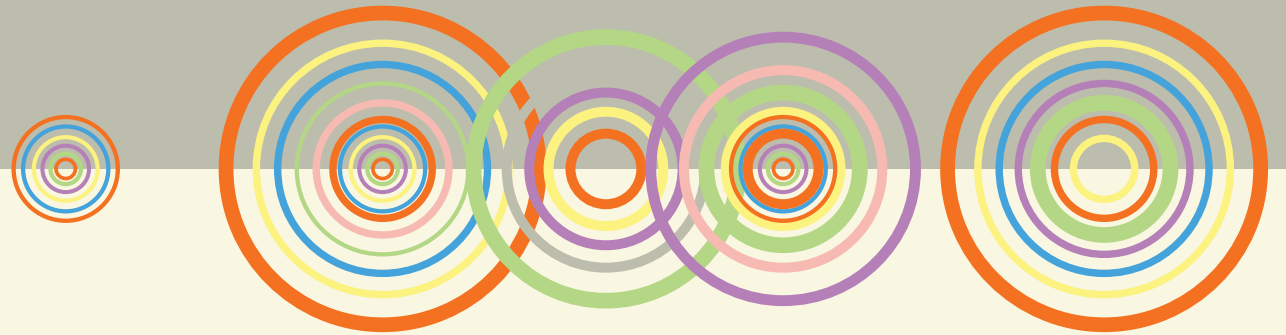


➤ 06.16.26 ➤

INTEGRATED SYSTEM PLAN (ISP) UPDATE



Shannon Coleman
Director - Energy Portfolio Planning



INTEGRATED SYSTEM PLAN (ISP)

WHAT IT IS

- ▶ A report – published every five years – that guides how OPPD will optimize our energy portfolio to provide affordable, reliable and environmentally sensitive energy services
- ▶ Transition from an Integrated Resource Plan to an Integrated System Plan that integrates generation supply, grid delivery and customer solutions into macro-level portfolio recommendations
- ▶ Provides guidance for the transition of North Omaha Station

WHAT IT IS NOT

- ▶ Not a prescriptive generation plan with absolute requirements
- ▶ Does not determine future siting for generation and grid facilities
- ▶ Does not prescribe specific future demand-side management or distributed energy resource programs



ISP STAKEHOLDER WORKSHOP TIMELINE

ISP 101 INTRODUCTION	DATA INPUTS/ SCENARIO DEVELOPMENT	INITIAL MODELING RESULTS	FINAL MODELING RESULTS
<p>March 24, 2026 Time 5 p.m.</p>	<p>May 14, 2026 Time 5 p.m.</p>	<p>September 2026* TBD</p>	<p>November 2026* TBD</p>
<p>Workshop #1 ISP 101 INTRODUCTION</p> <p>Duration: 1 Hour IAP2 Level: Inform/Consult</p> <p>Overview of integrated system planning: objectives, approach, and stakeholder engagement plan. Discussion of modeling scenarios.</p> <p><i>Recording will be available online.</i></p>	<p>Workshop #2 DATA INPUTS AND SCENARIO DEVELOPMENT</p> <p>Duration: 1 Hour IAP2 Level: Inform/Involve</p> <p>Discussion and feedback on technology performance, costs, assumptions, and modeling scenarios. Deep dive into modeling construct.</p> <p><i>Recording will be available online.</i></p>	<p>Workshop #3 INITIAL MODELING RESULTS</p> <p>Duration: 1 Hour IAP2 Level: Inform/Consult</p> <p>Review initial results of capacity expansion modeling, reliability modeling, production cost modeling, and risk analysis.</p> <p><i>Recording will be available online.</i></p>	<p>Workshop #4 FINAL MODELING RESULTS</p> <p>Duration: 1 Hour IAP2 Level: Inform</p> <p>Review final results of capacity expansion modeling, reliability modeling, production cost modeling, and risk analysis. Present final report for comment.</p> <p><i>Recording will be available online.</i></p>

*Anticipated dates

» **MODELING FRAMEWORK**

REGULATORY FRAMEWORK

FEDERAL



U.S. DEPARTMENT
of ENERGY



FERC

NERC
NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION



REGIONAL



STATE



Nebraska State
Statute - Chapter 70

Nebraska
POWER
Review Board



LOCAL



Board of Directors
Board Strategic Directives



OPPD's
customer-owners

INTEGRATED MODELING FRAMEWORK

Analysis will identify integrated least-cost portfolios that meet reliability needs and clean energy policy targets

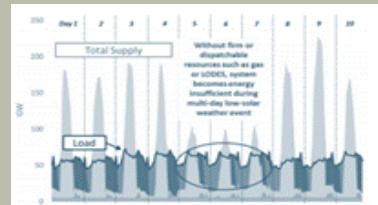
INPUTS

- Demand (load) forecast*
- Existing resource capacity + conversion options
- New resource potential + costs
- New customer solution potential + costs*
- Fixed and variable costs
- Transmission limits + expansion options*
- Emissions limits
- Policy constraints

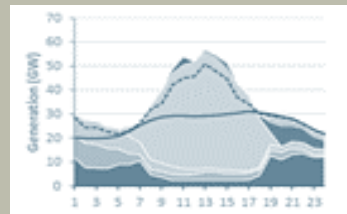
E3

Modeling Objectives: Reliability, Affordability & Environmental Sensitivity

Reliability Analysis (RECAP)

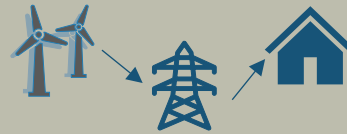


Portfolio Optimization (PLEXOS LT)

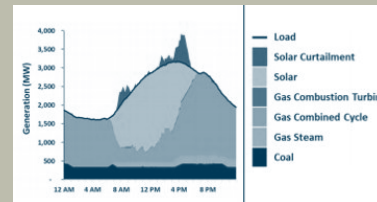


OPPD

Transmission and Distribution Study (PSSE/TARA*/LoadSEER*)



Production Cost Modeling Analysis (AURORA)



OUTPUTS

- Resource retirements
- Resource conversions
- Resource additions
- System hourly dispatch
- OPPD generation costs
- Net market costs
- Emissions
- System reliability
- Grid expansion & modernization plans*
- North Omaha Station transition plan*

*Added or enhanced since OPPD's 2021 Integrated Resource Plan

➤ **RESOURCE OPTIONS & SCENARIOS**

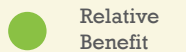
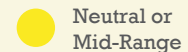
CANDIDATE RESOURCE ATTRIBUTES



	Capital Cost**	Capacity Accreditation	Energy Generation	Emissions	Operational Flexibility	Technology Risk	Timing (utility scale)
Supply Side	Coal	●	●	●	●	●	●
	Coal w/Carbon Capture*	●	●	●	●	●	●
	Combustion Turbine	●	●	●	●	●	●
	Combined Cycle	●	●	●	●	●	●
	Combined Cycle w/Carbon Capture	●	●	●	●	●	●
	Recip. Internal Combustion Engine	●	●	●	●	●	●
	Hydrogen/Renewable Fuel	●	●	●	●	●	●
	Solar	●	●	●	●	●	●
	Wind	●	●	●	●	●	●
	Battery Storage	●	●	●	●	●	●
	Long Duration Energy Storage	●	●	●	●	●	●
	Small Modular Reactor	●	●	●	●	●	●
	Advanced Nuclear	●	●	●	●	●	●
	Demand Side	Distributed Solar	●	●	●	●	●
Distributed Battery Storage		●	●	●	●	●	●
Behind-the-Meter Gas Generation		●	●	●	●	●	●
Demand Side Management (EE/DR)		●	●	●	●	●	●

* List of resources is illustrative of range of resources, not all-inclusive. Blue = Emerging technology.

**Not indicative of the total net cost of the resource on an energy basis, including O&M Cost, Fuel Cost, and Market Revenue.



KEY QUESTIONS

The ISP will analyze scenarios that address the following questions related to the primary drivers:



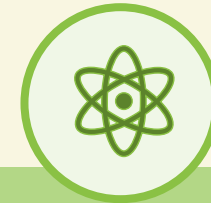
POLICY

What are the tradeoffs of moving faster or slower to achieve the net-zero carbon target?



DEMAND

How does load growth impact the level and type of resources needed?



TECHNOLOGY

How does the maturity, availability, and cost of generating technologies impact portfolio expansion?

PROPOSED SCENARIO LEVELS

The scenario levels represent the specific narratives for each of the different futures represented by the key scenario drivers

SCENARIO LEVELS		
EMISSIONS TARGET	LOAD FORECAST	TECHNOLOGY AVAILABILITY
Reference (no target)	Moderate Growth	Mature Only
Net-zero by 2050 Straight Line	High Growth	Mature + Nuclear
Net-zero by 2050 Moderated Pace	Low Growth	Mature + Emerging (All Options)

PROPOSED SCENARIOS

SCENARIOS	EMISSIONS TARGET: NET-ZERO BY 2050	LOAD FORECAST	TECHNOLOGY AVAILABILITY
Reference Scenario	No Policy	Moderate Growth	Mature Only
Net-Zero Low Load Growth	Straight line	Low Growth	Mature Only
Moderated Net-Zero Low Load Growth	Moderated Pace	Low Growth	Mature Only
Net-Zero Moderate Load Growth	Straight line	Moderate Growth	Mature Only
Moderated Net-Zero Moderate Load Growth	Moderated Pace	Moderate Growth	Mature Only
Net Zero High Load Growth	Straight line	High Growth	Mature Only
Moderated Net-Zero High Load Growth	Moderated Pace	High Growth	Mature Only
Nuclear Future	Straight line	Moderate Growth	Mature + Nuclear
Emerging Technology	Straight line	Moderate Growth	Mature + Emerging (All Options)

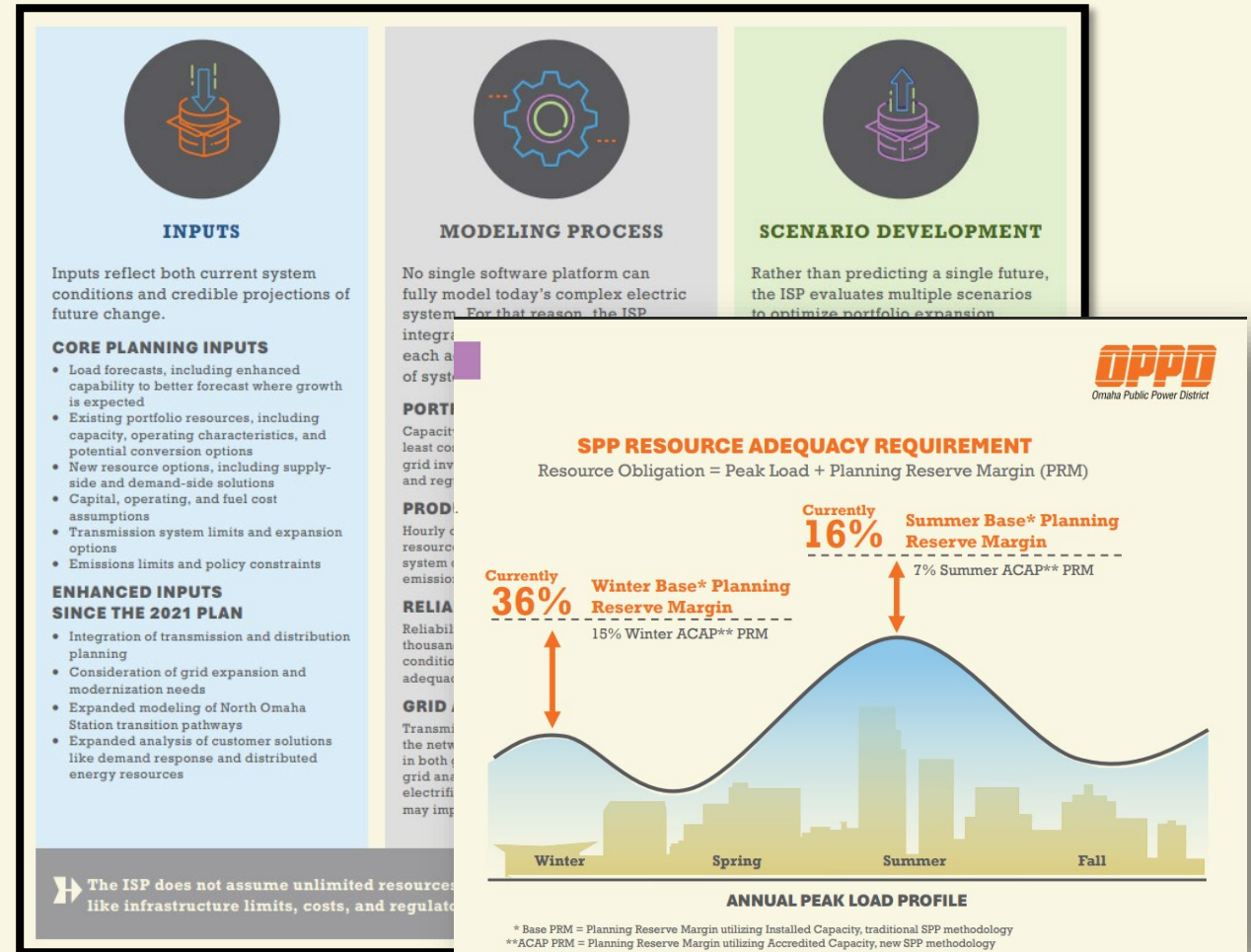
Sensitivity analysis will look at impacts of varying fuel cost, technology cost, and resource adequacy attributes.

» **STAKEHOLDER ENGAGEMENT**

HOW WE REACHED CUSTOMERS

- **Multi-channel** outreach across OPPD platforms
- ~ **2,400** OPPD CommunityConnect (OCC) page visits
- **320+** workshop views/downloads
- **10,000+** social media impressions
- **Channels:** social media, newsletters*, 1:1 outreach*, Lunch and Learns, Board meetings, Speakers Bureau, internal comms

*Engagement among Account Managers, Government Relations, Economic Development, Environmental, Community Outreach and Advocacy Solutions contacts, as well as OCC subscribers and TheWire subscribers



WHO PARTICIPATED AND HOW

ISP 101 INTRODUCTION

March 24, 2026
5 p.m.

- **Attendance**
75 attendees (150+ registrations)
- **Workshop Feedback**
Engagement on real-time survey questions, plus 7 questions and comments re: large load users (data centers), types of generation (i.e. solar) and the ISP process
- **Post-Workshop Survey Feedback**
All submissions ranked “clarity of ISP information” and “role in the process” as satisfied or extremely satisfied
- **Polling Insights**
51 external attendees participated in the live polling representing residential customers (15), local governments (2), commercial/industrial customers (4) and various advocacy/special-interest groups and organizations (15+)

DATA INPUTS/ SCENARIO DEVELOPMENT

May 14, 2026
Time 5 p.m.

- **Attendance**
64 attendees (120+ total registrations)
- **Workshop Feedback**
20 questions and comments spanning batteries, natural gas, nuclear, hydrogen, and modeling drivers
- **Post-Workshop Survey Feedback**
Participants found the webinar helpful and well-presented, with clear information and a meaningful look at OPPD's planning
- **Polling Insight**
40 external attendees participated in live polling representing residential customers (13), local governments (3), commercial/industrial customers (2), and various advocacy/special-interest groups and organizations (20+)

FEEDBACK THEMES FROM ENGAGED PARTICIPANTS

Integrated System Plan Workshop 1 and 2 Feedback

Themes most often cited:

- Transition of North Omaha Station/environmental justice concerns
- Interest in battery storage and distributed energy resources
- Support for demand-side management and energy efficiency
- Mixed views on natural gas
- Select interest in nuclear options

Key note about feedback:

- Stakeholder feedback solicited during and after ISP workshops #1 & #2
- Feedback considered for the resource technology and future scenarios used in the modeling
- Themes reflect perspective of highly engaged participants, not full population of customers reached.

CONTINUING THE CONVERSATION

HOW TO ENGAGE

- Visit [OPPDCommunityConnect.com/ISP](https://oppdcommunityconnect.com/ISP) to learn more about the process, leave comments and ask questions
- Registration for our next workshop anticipated to be in **September** will open soon

Workshop recordings and executive summaries can be found at
oppdcommunityconnect.com/ISP