

Monitoring Report SD-7 Environmental Stewardship

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VP – Sustainability and Environmental Affairs

October 17, 2023

SD-7: Where We've Been

Resolution 6082, October 15, 2015

First issuance as part of Board Policies

Resolution 6289, November 15, 2018

- Long term goal: 20% reduction in carbon intensity from 2010 through 2030.
- Strive towards long-term goal of 50% of retail energy sales supplied from renewable energy sources.

Resolution 6347, November 14, 2019

Major revisions. Revised to form and language of current SD7. Replaced goals of 6289 with net-zero carbon goal.

Resolution 6434, May 20, 2021

Recognizes the scientific consensus on climate change and the contribution of human activity.

Resolution 6525, September 22, 2022

Added interim CO2 reduction metric to recognize North Omaha transition.

Your Energy Partner [™] OPPD Omaha Public Power District		OMAHA PUBLIC POWER DISTRICT Board Policy	Category:	Strategic Direction
		Policy No. and Name: SD-7: Environmental Stewardship	Monitoring Method:	System Management and Nuclear Oversight Committee Board Report
		Date of Approval: October 15, 2015 November 15, 2018 November 14, 2019 May 20, 2021 September 22, 2022	Frequency:	Annually
			Resolution No.:	6082 6289 6347 6434 6525

Managing its interactions with the environment is essential to OPPD's ability to serve customers, create value for stakeholders, and contribute to the well-being of the communities it serves and its employees. The OPPD Board of Directors recognizes the scientific consensus that climate change is occurring and that greenhouse gas emissions, including carbon dioxide, from human activity contribute to climate change impacts.

Therefore, OPPD shall:

- Operate in an environmentally responsible manner and strive for the continuous improvement of its environmental performance.
- Conduct all of its operations (including operations such as building services and transportation) in a manner that strives for the goal of net zero carbon production by 2050.
- Conduct its business in a manner that meets all environmental regulatory standards, and go beyond compliance where practical.
- Be transparent by measuring and reporting its environmental performance on OPPD's website.
- Engage customers and stakeholders to promote energy conservation and efficiency and minimize environmental impact.
- Advocate and educate local, state and federal governments to protect and advance OPPD's environmental interest.

• [By year end 2027, achieve an approximate 3,500,000 ton annual reduction in CO₂ emissions at the North Omaha Station site relative to OPPD's 2013 benchmark of 3,960,179 tons at the station.](#)

SD-7: Therefore, OPPD Shall:



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By year end 2027, achieve an approximate 3,500,000 ton annual reduction in CO₂ emissions at the North Omaha Station site relative to OPPD's 2013 benchmark of 3,960,179 tons at the station.



Operate in an environmentally responsible manner and strive for continuous improvement of its environmental performance.



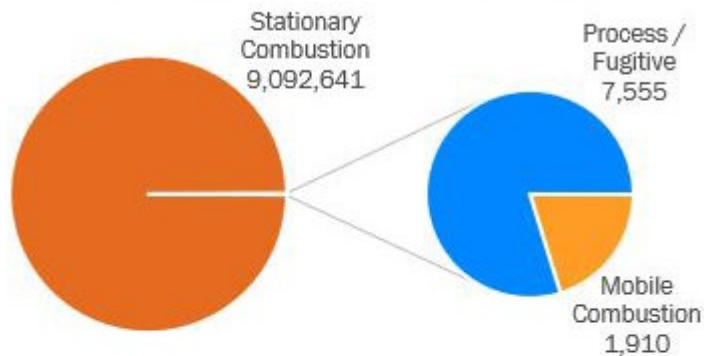
- **Vehicle Fleet: 281 total vehicles** that are all electric, hybrid, or flex fuel (~45% of fleet).
- Now have **9 plug-in hybrid bucket trucks** with another on order.
 - Troubleshooter and streetlight applications.
- **Recycling Highlight:** Large battery replacement project in 2022.

YEAR	2020	2021	2022
Pounds of metal	3,587,134	3,365,606	2,259,014
Gallons of oil	32,676	89,960	41,724
Pounds of batteries	27,456	2,162	30,384
Number of poles	800	500	350

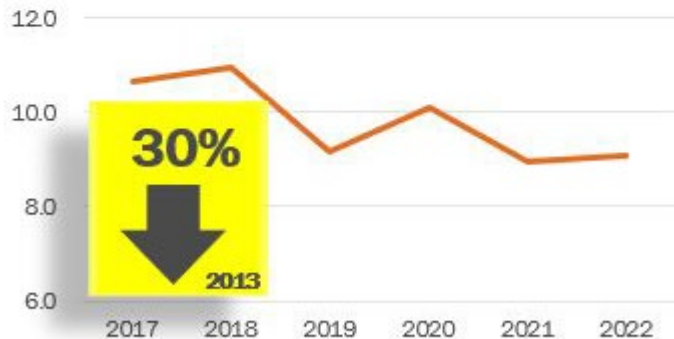


Conduct all operations in a manner that strives for the goal of net zero carbon production by 2050.

9,102,105.8 mt



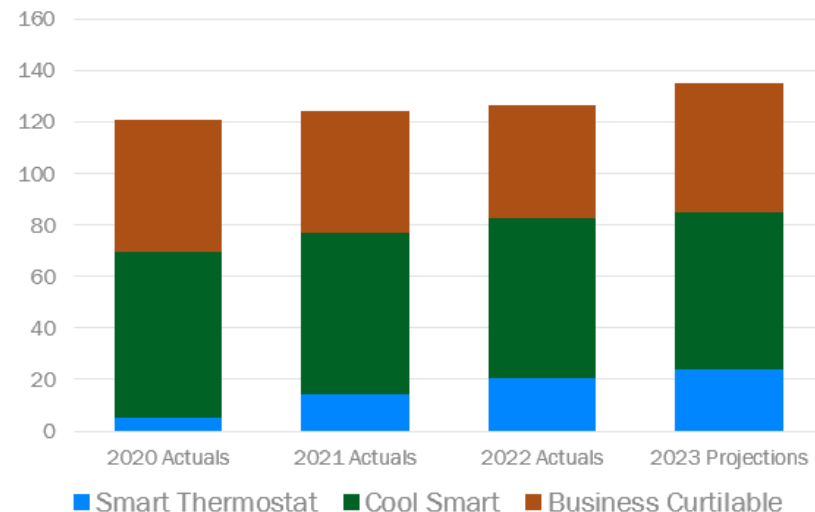
Scope 1 (Million Metric Tons CO2e)



Scope 1

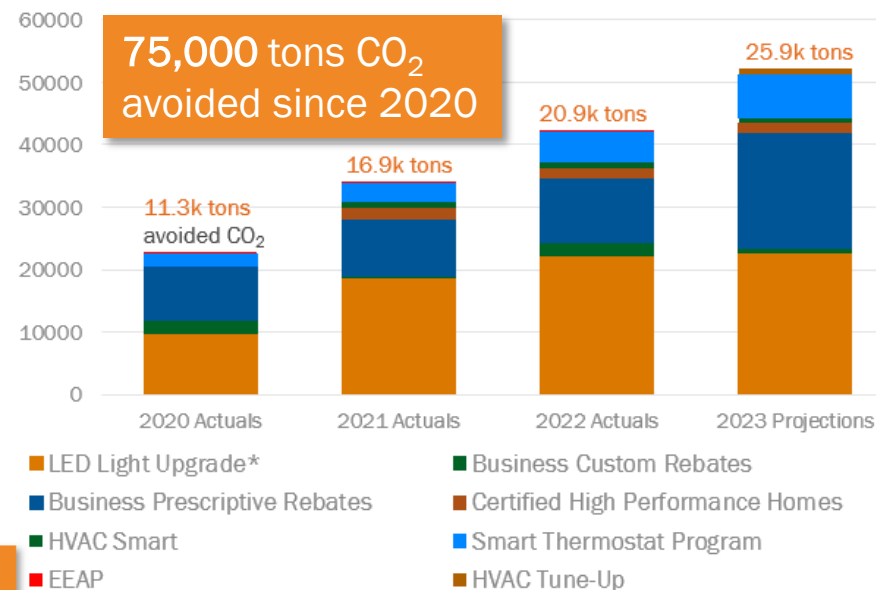
- In 2022, **OPPD's Generation Portfolio** was 36.4% renewable as a percent of retail sales.
- **Near-term generation plan** approved under Resolution 6582 plans for 90% of energy generated from the new resources will be from renewable sources.
- **DSM and EE Portfolio Status:**

Demand Response (MW)



Total Portfolio ~191 MW of DSM.

Energy Efficiency (MWh)



75,000 tons CO₂ avoided since 2020

- LED Light Upgrade*
- Business Custom Rebates
- Business Prescriptive Rebates
- Certified High Performance Homes
- HVAC Smart
- Smart Thermostat Program
- EEAP
- HVAC Tune-Up

*LED Light Upgrade managed by [CS&GI](#)



Conduct its business in a manner that meets all environmental regulatory standards and go beyond compliance where practical.

Compliance

- OPPD's must meet a variety of environmental regulatory requirements, including those of the USEPA, NDEE, USFW, NGP, and the City of Omaha.
- No violations of environmental permits resulting in fines or enforcement actions.
- Robust internal audit program.
- PCB Program (sampling project complete)

Sustainability and Natural Resources

- Prairie in Progress.
- Avian Protection plan update.
- Growing sustainability program with three recent hires



**Prairie in
Progress**



Be transparent by measuring and reporting environmental performance on OPPD's website.



COMMUNITY CONNECT



North Omaha Station (NOS) Extension

In August 2022, OPPD's Board voted to extend current energy asset practices at North Omaha Station

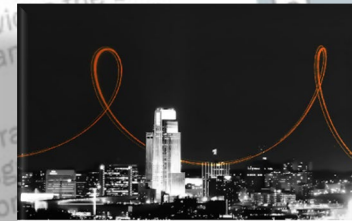
[Read more](#)



Solar Projects

Learn more about the need for utility-scale solar and about our Power with Purpose commitment.

[Read more](#)



Generation

Board okays adding up to 2.5 gigawatts of new generation capacity.

[Read more](#)



Cass-to-Sarpy Transmission Project

OPPD is planning for an approximately 23-mile, 345kV transmission line from Cass to Sarpy County

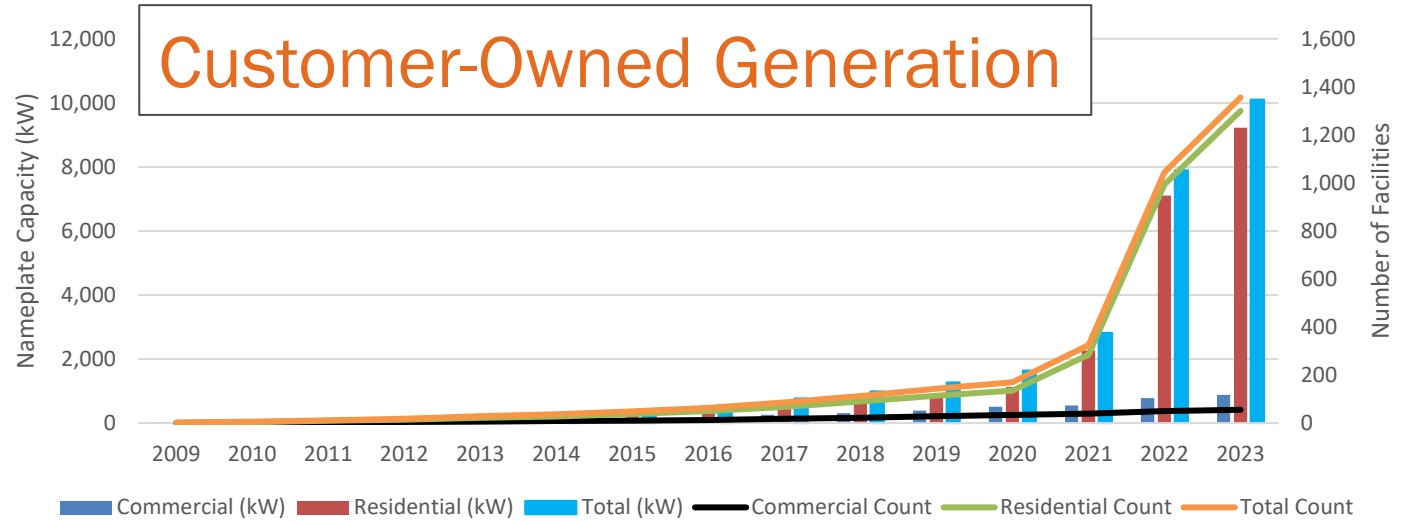
[Read more](#)

- Overall OPPD.com views down 7% due to larger storms in 2021 and 2022.
- The Environmental tab saw a slight increase (~2.5%).
- Environmental tab spikes in January through March due to NOS outreach.



Engage customers and stakeholders to promote energy conservation and efficiency and minimize environmental impact.

- **Customer-Owned Generation** slower growth in 2023
 - 1,349 solar systems now online
 - 10,059 kWAC solar capacity
- **Greener Together Program**
- Energy Education Program (EEP)
 - The EEP reached 600 students in 2022. As of August 2023, the program has already reached 930 students – 1,530 in total!
 - 30 teachers participated in workshops in 2022.
 - 2023 had 28 teachers in one workshop with the next coming in November 2023.



GREENER TOGETHER Program

- ✓ Arboretum Orchard
- ✓ Arboretum Native Grasses

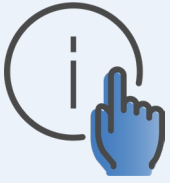
2
Completed

- ✓ Whispering Roots
- ✓ Habitat for Humanity

2
In Progress

- ✓ Florence Futures
- ✓ No More Empty Pots

2
Not Started



Advocate and educate local, state, and federal governments to protect and promote OPPD's environmental impact.

- OPPD's Governmental Affairs team has made numerous (60+) educational/update presentations to local county and city governments.
- OPPD is participating in the Mid-Continent Clean Hydrogen Hub (MCH2) proposal (IIJA).
- Nebraska Planning and Zoning Conference (NPZA) March 2023
- Nebraska Power Association Conference August 2023
- Provided testimony in support of the Climate Action Plan Grant Award-August 2023.
- SOLUS, BRIGHT projects
- Engaged with various IRA/IIJA funding opportunities.
 - Grid Innovation (IIJA), Smart Grid Grant (IIJA), Solar for All (GHG Reduction Fund; IRA), PACE Loan Program



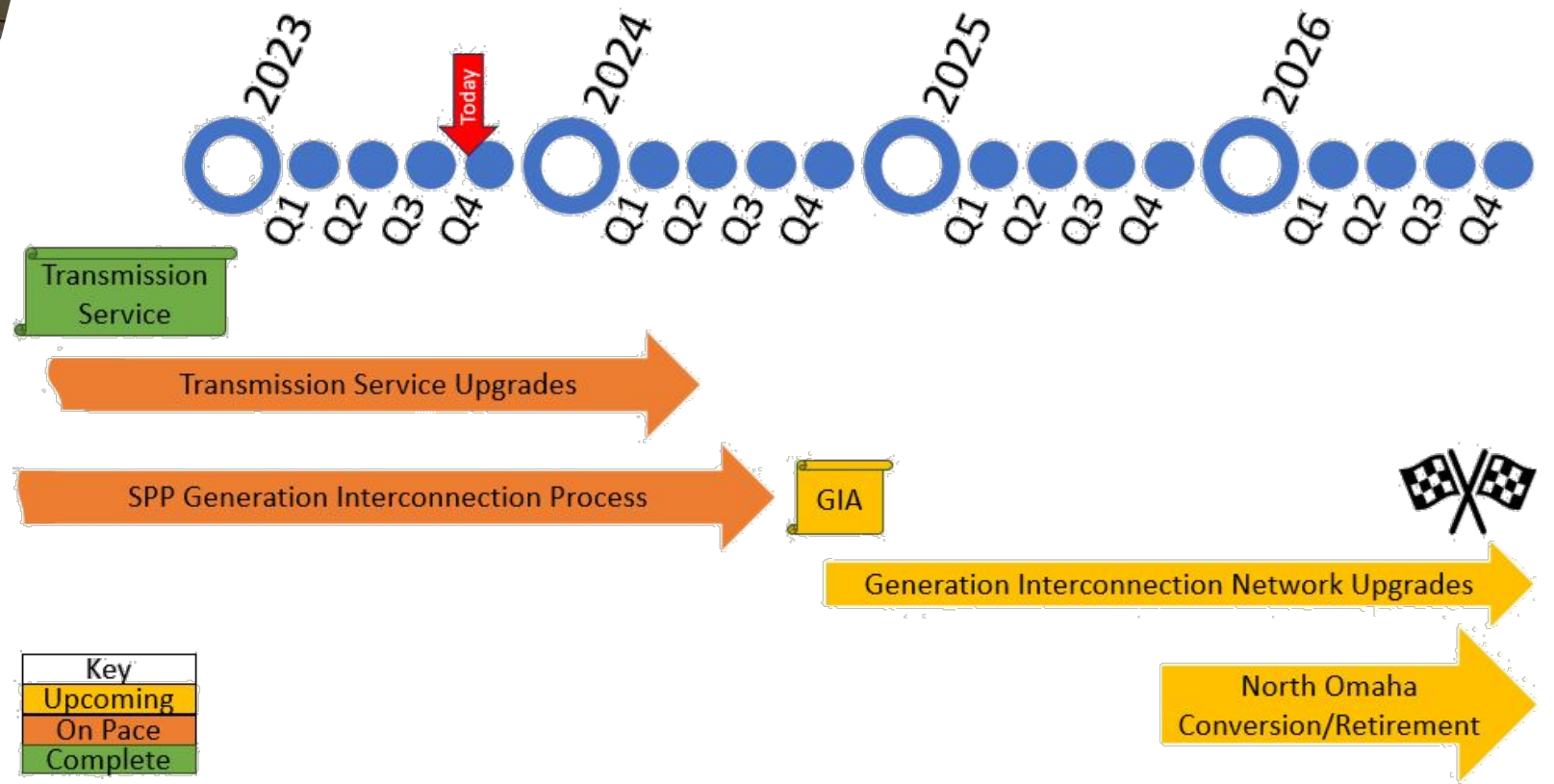
AES/OPPD tour with Saunders County Supervisors, August 2023.



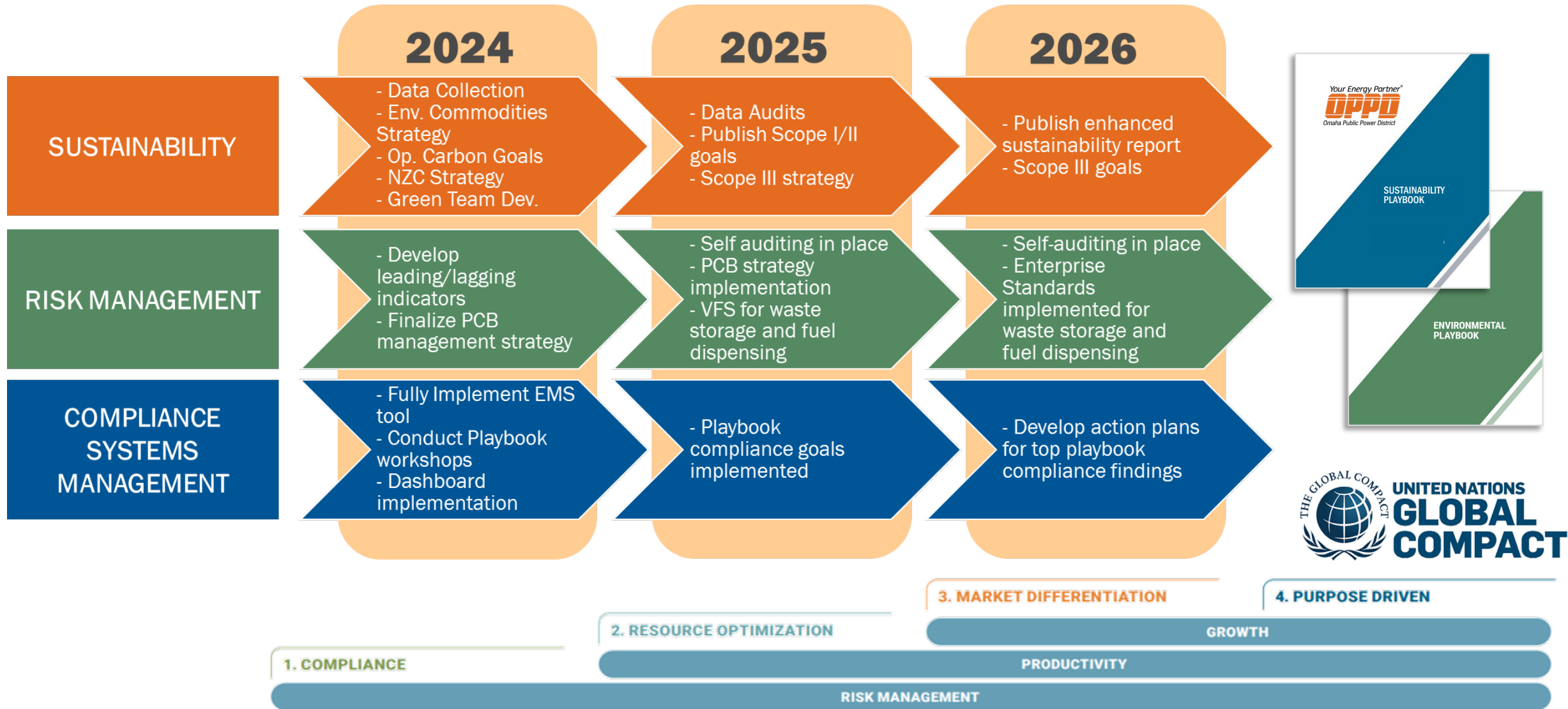
By year end 2027, achieve an approximate 3,500,000 ton annual reduction in CO2 emissions at the North Omaha Station site relative to OPPD's 2013 benchmark of 3,960,179 tons at the station.



- August 2022 Resolution 6518 update



Looking Forward – Sustainability at OPPD

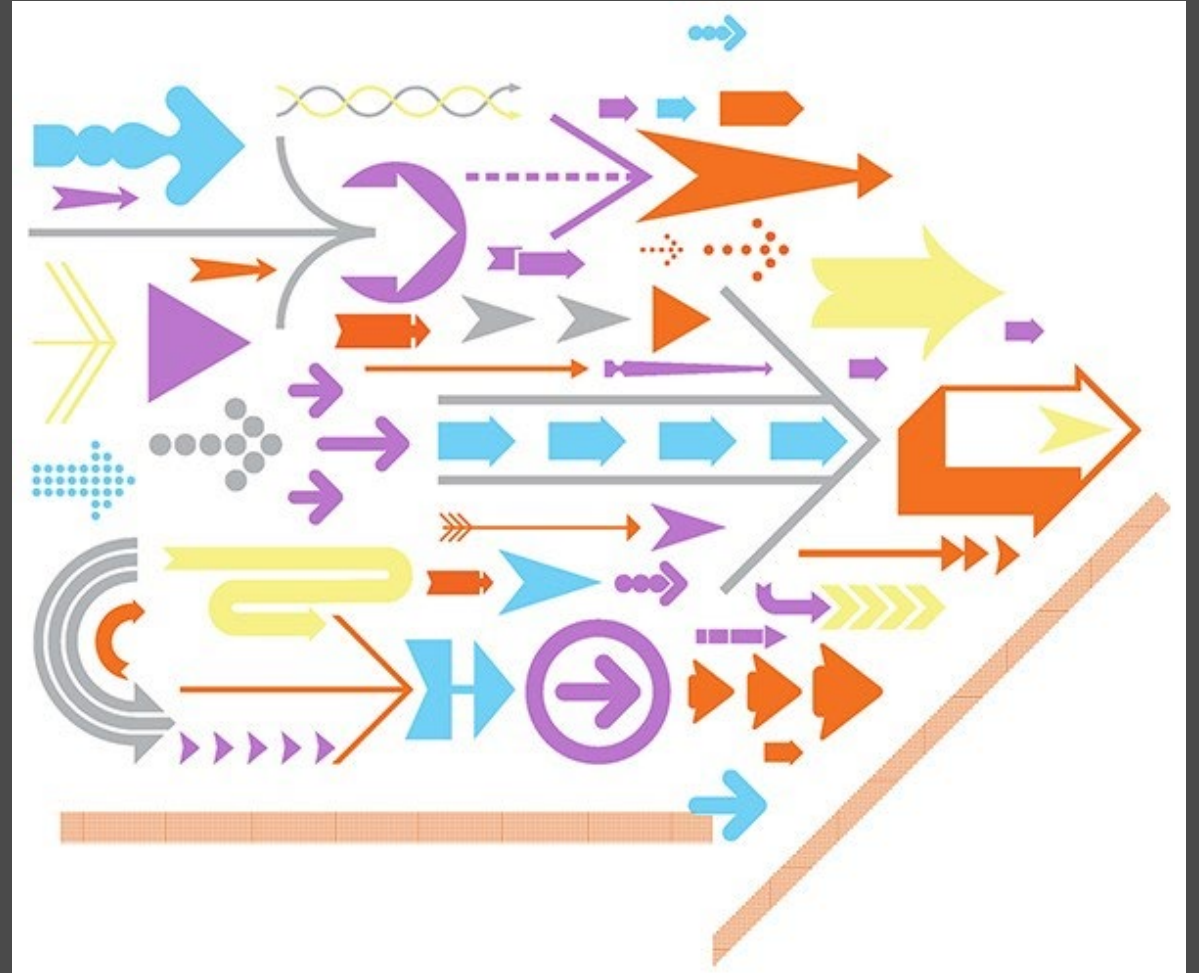


Recommendation

The System Management Committee has reviewed and accepted this Monitoring Report for SD-7 and recommends that the Board find OPPD to be sufficiently in compliance with Board Policy SD-7.

Any reflections on

**what has been
accomplished, challenges
and/or strategic
implications?**



Appendix



Environmental Responsibility and Performance: **OPPD's Fleet**

- In total, 281 total vehicles that are all electric, hybrid, or flex fuel (~45% of fleet)
 - Passenger car fleet is now 100% hybrid or fully electrified
 - 20 hybrid SUVs
 - First hybrid pickup in service (F-150).
 - 9 plug-in hybrid bucket trucks with 1 more on order.
- Equipment fleet now includes:
 - 41 all electric forklifts, yard carts, and man-lifts
- SmartFleet Technology installed on 900+ units.



Environmental Responsibility and Performance: 2022 Category Recycling



OPPD focuses on finding avenues for recycling:

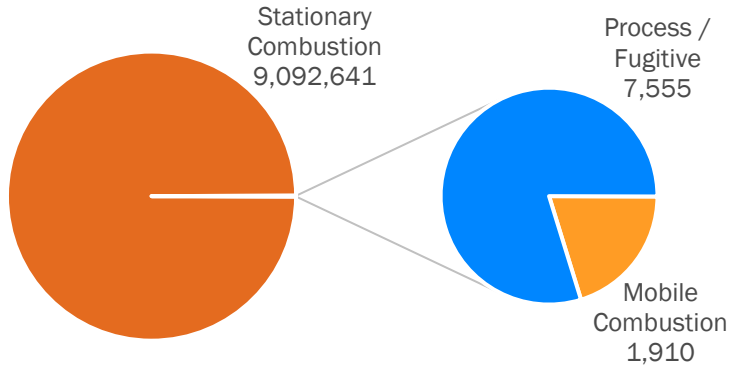
- **Batteries** – **30,384 lbs.**
- **Metal** – 2,259,014 lbs.
- **Oil** – 41,724 gallons
- **Utility Poles** – 350+ poles
- **Recycling materials** returned nearly \$1.3M back to OPPD.
- ~28% of fly ash recycled
- Recycled over 28,000 more pound of batteries (vs. 2021)

YEAR	2020	2021	2022
Pounds of metal	3,587,134	3,365,606	2,259,014
Gallons of oil	32,676	89,960	41,724
Pounds of batteries	27,456	2,162	30,384
Number of poles	800	500	350

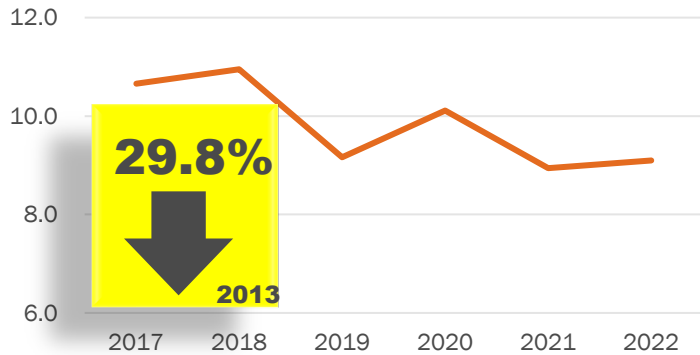
Net Zero Carbon Production Goal by 2050: 2022 Greenhouse Gas Inventory



9,102,105.8 mt

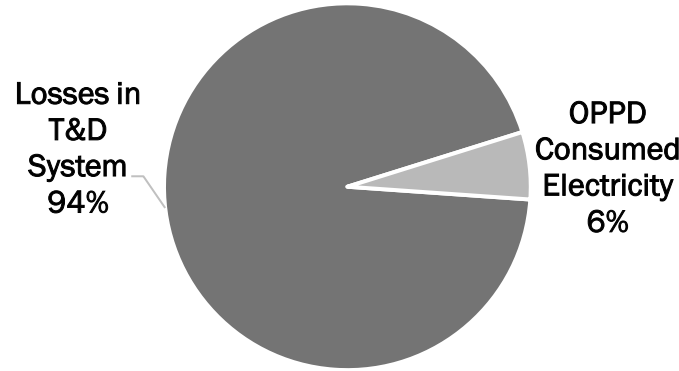


Scope 1 (Million Metric Tons CO2e)

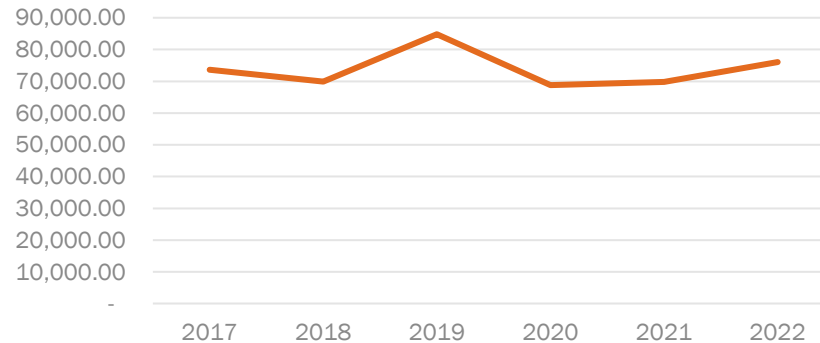


Scope 1

76,094.4 mt

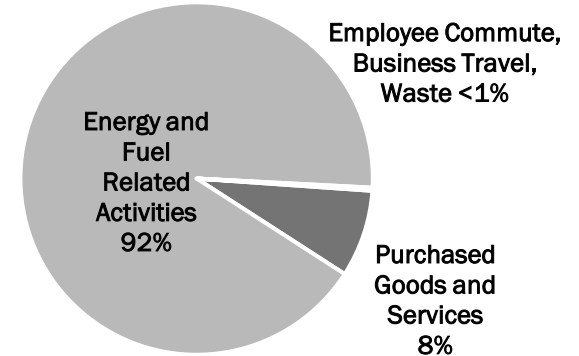


Scope 2 (Metric Tons CO2e Market Based)

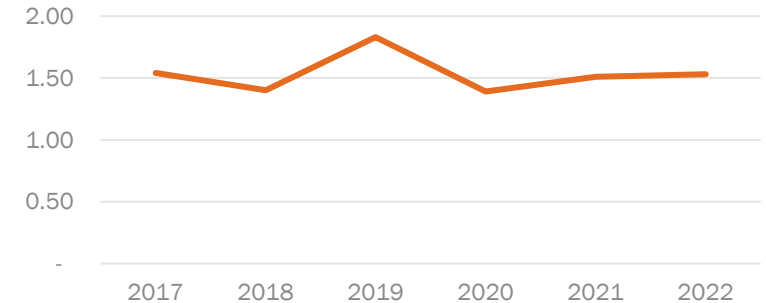


Scope 2

1,533,851.2 mt

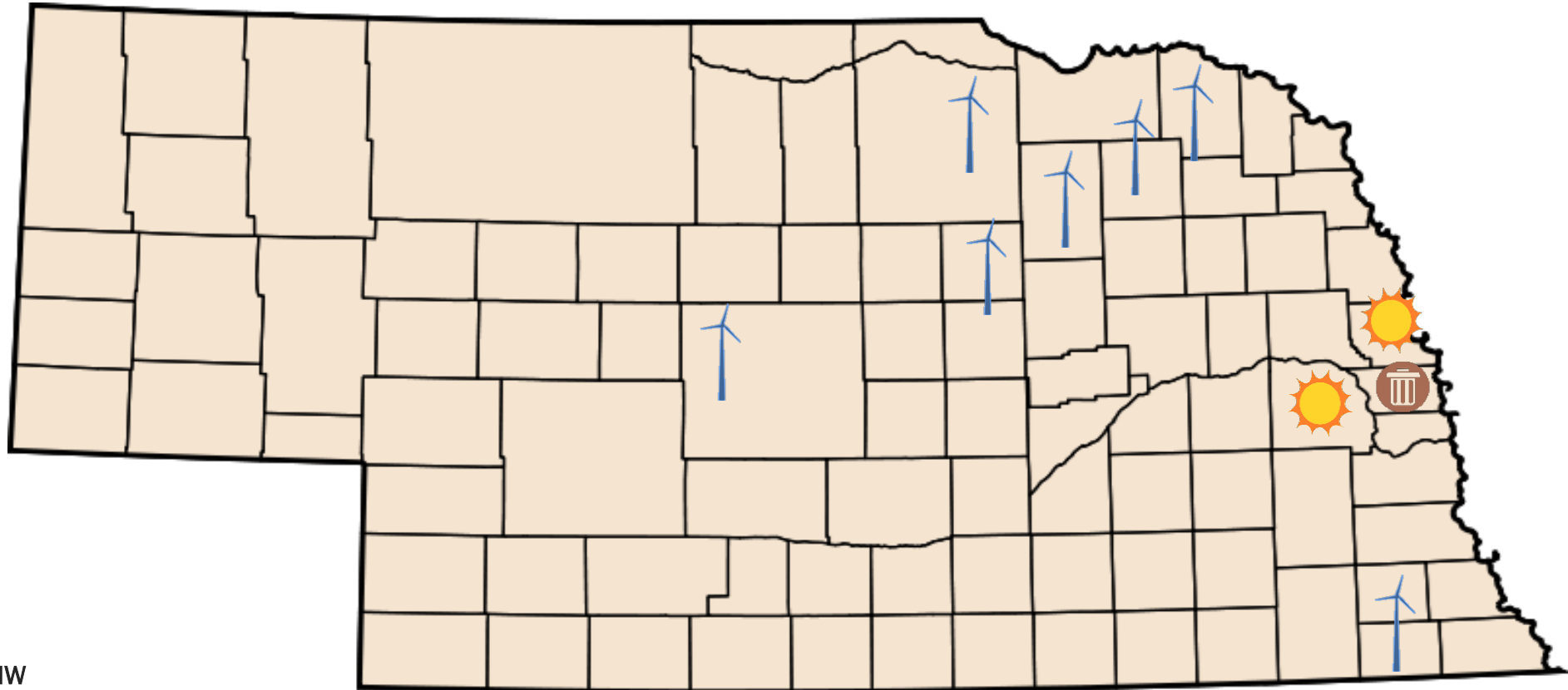


Scope 3 (Million Metric Tons CO2e Market Based)



Scope 3


OPPD's Renewable Portfolio



 **HYDRO** - 79.7MW

 **WIND FARMS** - 972MW

- Ainsworth (10MW)
- Broken Bow I (18MW)
- Broken Bow II (43.9MW)
- Petersburg (40.5MW)
- Elkhorn Ridge (25MW)
- Crofton Bluffs (13.6MW)
- Prairie Breeze (200.6MW)
- Flat Water (60MW)
- Grand Prairie (400MW)
- Sholes (160MW)

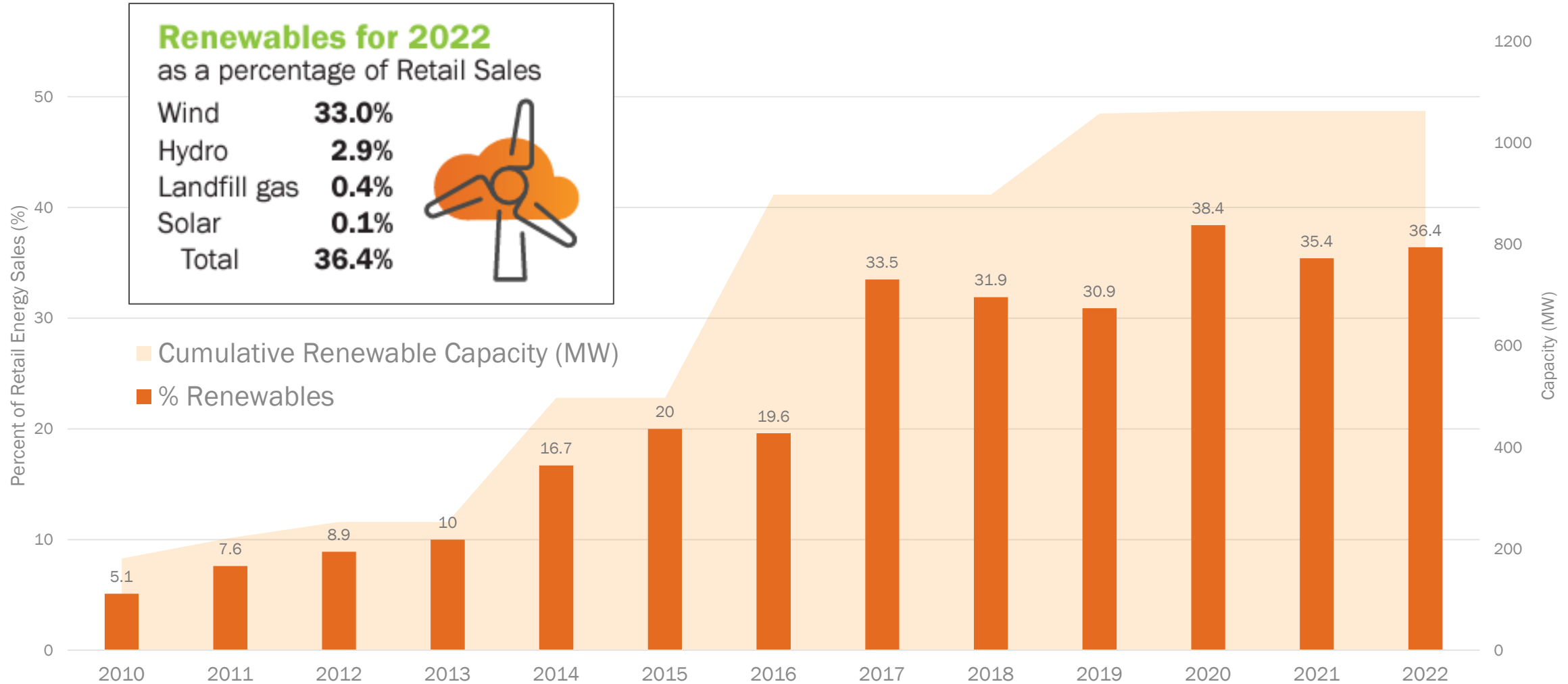
 **UTILITY-SCALE SOLAR*** - 5MW
Fort Calhoun Solar (5MW)

 **LANDFILL GAS** - 6.3MW
Elk City Station (6.3MW)

Installed Capacity: 1062.75 MW nameplate

*Planned Addition for 2024: Platteview Solar (81MW)

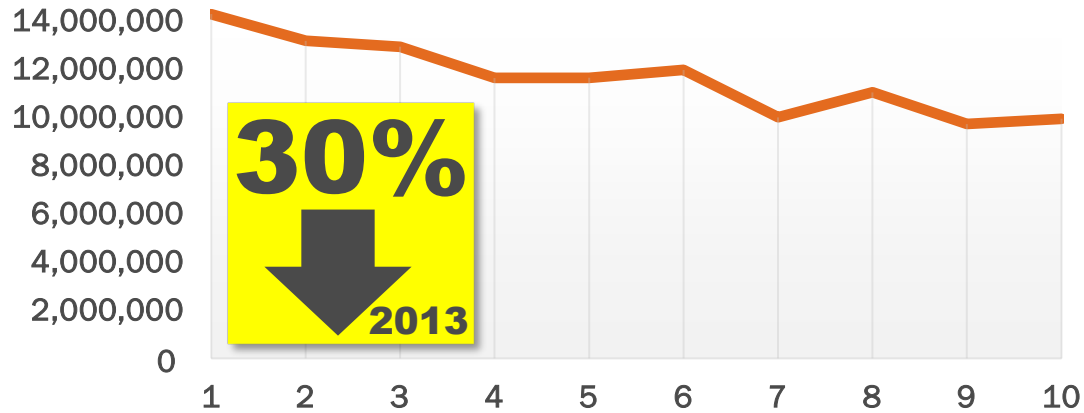
Environmental Responsibility and Performance: OPPD Renewables Over Time



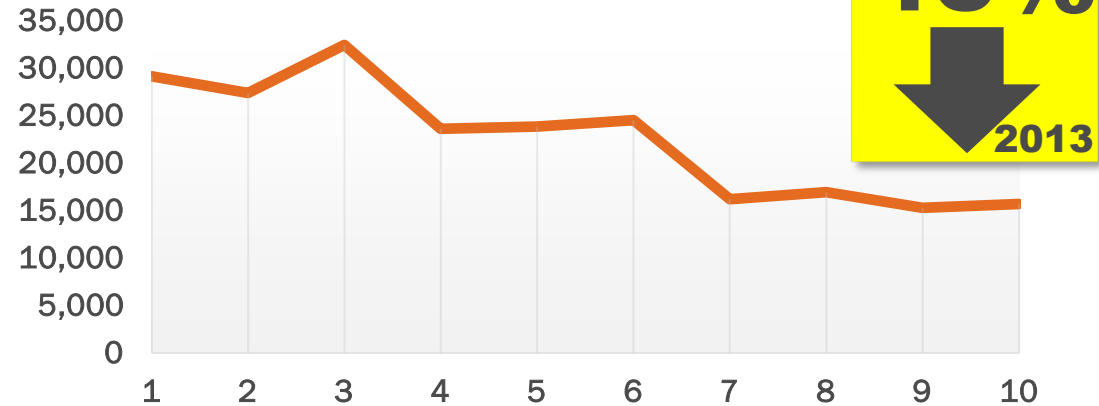
Net Zero Carbon Production Goal by 2050: Annual Emissions



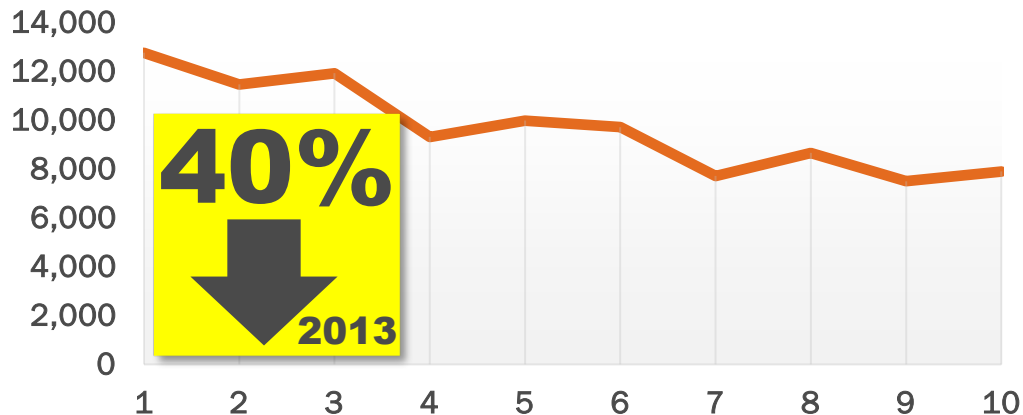
CO2 (Tons)



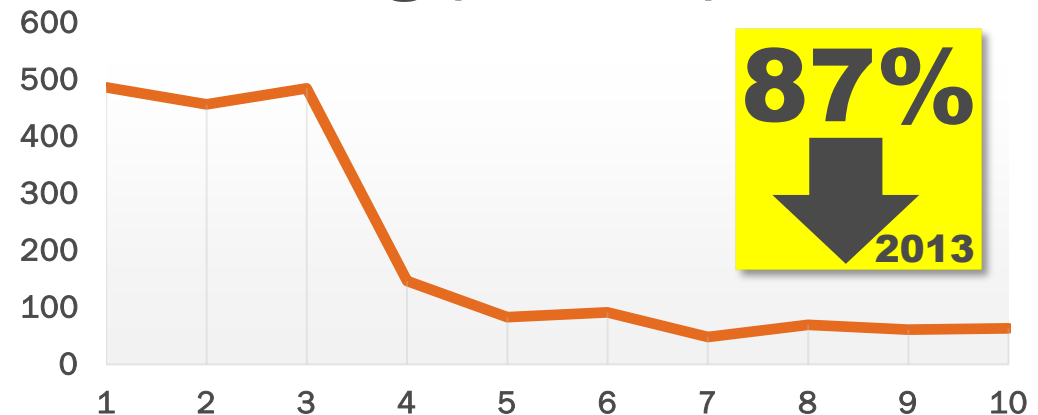
SO2 (Tons)



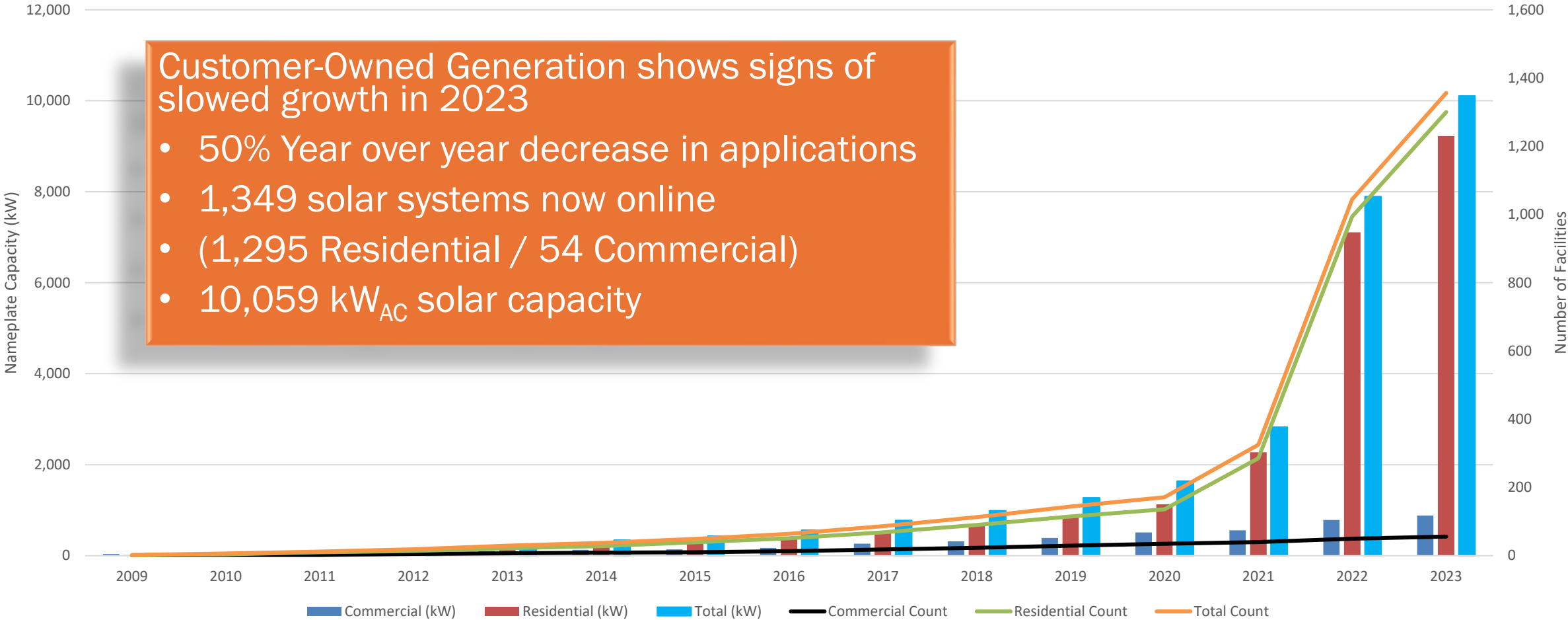
NOx (Tons)



Hg (Pounds)



Customer & Stakeholder Engagement: Growth in Customer-Owned Generation (100 kW or Less)





Since May 2022

2023 Project Picks

➤ Florence Futures | \$59,430

This project focuses on green improvements in the neighborhoods which surround OPPD’s North Omaha Station – which is a coal-fired power plant near the Mormon Bridge. The improvements include updating long-neglected bus shelters, installing bike infrastructure, and beautification to increase walkability.

➤ No More Empty Pots | \$85,102

This project focuses on installing solar panels at the No More Empty Pots Food Hub completing the initial vision of the project to demonstrate sustainability and stewardship through education and practice, reducing energy costs and reinvesting those funds in people.

- ✓ Arboretum Orchard
- ✓ Arboretum Native Grasses

- ✓ Whispering Roots
- ✓ Habitat for Humanity

- ✓ Florence Futures
- ✓ No More Empty Pots

2022 + 2023
**Project
Status**

2
Completed

2
In Progress

2
Not Started

Customer & Stakeholder Engagement: Energy Education Program's Growth



The EEP reached 600 students in 2022. As of August 2023, the program has already reached 930 students – 1,530 in total!



Year One had a total of 30 teachers participate in workshops. Year Two already has 28 in one workshop with the next coming in November 2023.

Advanced Feasibility Studies

Pathways to Decarbonization 2021 results provide long-term directional **WHAT**. Advanced technical studies are required to understand the **HOW** and to answer additional detailed questions:

- Advanced Supply-Side Resource Feasibility Studies
 - Existing resource transition planning
 - The primary focus in 2023 has been on Near Term Generation
 - A study of current assets and facilities at key nodes to identify future potential site options and transition strategies is planned to kick off in 2024.
 - Hybrid vs Standalone resources
 - Phase 1 of this work was completed as part of the Near-Term Generation effort. Any additional efforts on this topic will be worked on an as needed basis to support specific projects.
 - Interregional & Regional Transmission Studies
 - OPPD participated in a concept development study for an interregional, multi-state High Voltage Direct Current (HVDC) transmission line which concluded earlier this year
 - The purpose of this study was to evaluate the integration of additional renewable energy (wind and solar) into the grid and the benefits of increased interregional transfer capability and time diversity of both renewable energy and customer load across multiple regions.
- Advanced Demand-Side Resource Feasibility Studies
 - Distributed resource potential and planning
 - There are many efforts around the company that continue in this space in Product Developing and Marketing, Distributed Device Strategy, and Energy Portfolio Planning.
 - A specific commissioned study is not budgeted in 2024.
 - Integrated Distribution Plan
 - Study to inform how electrification, demand side management (DSM), distributed energy resources (DERs) and grid device modernization technologies will impact the distribution system
 - Budget being developed to kick off the Integrated Distribution Plan in 2024.

Hydrogen Hub



- OPPD is participating in the Mid-Continent Clean Hydrogen Hub (MCH2) proposal
- MCH2 is a joint proposal from Nebraska, Iowa, and Missouri with a goal to utilize combined natural resources and innovative optimization tools to establish a renewable clean hydrogen hub.
- MCH2 enables a clean hydrogen ecosystem that has supply and demand across the tri-state region
- Application is currently in review with the Department of Energy as part of the Hydrogen Hubs Funding Opportunity (DE-FOA-0002779)
- Awards are expected late Q3 or early Q4 2023

EPRI LCRI

- Electric Power Research Institute (EPRI) Low Carbon Resources Initiative (LCRI)
 - OPPD continues its participation in this initiative focusing on accelerating and demonstrating low and zero carbon energy technologies
 - A few highlights of the many activities occurring include
 - Economy-wide Net-Zero modeling
 - Renewable fuels current state assessment
 - Hydrogen blending in combustion turbines and reciprocating engine demonstrations and research



EPRI EVs2Scale

- OPPD is participating in the EPRI EVs2Scale Initiative
- Supporting carbon reduction includes designing, building, and operating an efficient, integrated grid that is net-zero and ready for renewables, including the infrastructure to support electric vehicles.
- The EVs2Scale initiative works to align critical stakeholders as more consumers buy electric vehicles.
- Our participation provides valuable collaboration and coordination with other utilities, vehicle manufacturers, fleet operators, charging providers, and federal agencies.



EPRI Climate READi



- OPPD is participating in the EPRI Climate Resilience and Adaptation Initiative (READi)
- Extreme weather events and climate patterns highlight the need for preparation to maintain the resilience of our system.
- Climate READi provides climate data and guidance as well as assesses the vulnerability of systems and equipment.
- It also supports planning and prioritization strategies that OPPD can use to shape where it needs to invest to ensure reliability and resilience.
- OPPD has advisors from Utility Operations and Systems Transformation supporting this work.