

An aerial photograph of a large concrete dam situated in a deep, rugged canyon. The canyon walls are composed of layered, reddish-brown rock formations. The water in the reservoir behind the dam is a deep blue. The sky is clear and light blue. The text is overlaid on the center of the image.

SRP 2035 Sustainability Goals

Advisory Group Meeting #3

November 17, 2023

Welcome

Bobby Olsen

**Associate General Manager & Chief Planning, Strategy,
and Sustainability Executive**

Safety & Sustainability Minute

Safety & Sustainability Minute

- **Stay alert in your kitchen**
 - Thanksgiving is the #1 day of the year for cooking fires
 - Never leave food unattended
 - Keep a (metal) lid nearby to smother small grease fires
- **Avoid Food Poisoning**
 - **CLEAN:** Wash your hands and surfaces often
 - **SEPARATE:** Don't cross-contaminate
 - **COOK:** Always cook food to the correct temperature
 - **CHILL:** Refrigerate promptly if not eating right away
- **Be festive & sustainable**
 - Buy local produce for your Thanksgiving meal
 - Use cloth napkins and reusable tableware
 - Reduce waste by transforming leftovers into new tasty meals
 - *Soups, casseroles, stir-fried vegetables, etc.*
 - Support local during Black Friday



Welcome Board and Council Observers



Chris Dobson
SRP Vice President



Robert Arnett
SRP Board Member



Mario Herrera
SRP Board Member



Nick Brown
SRP Board Member



Mark Mulligan
SRP Council Member



Rocky Shelton
SRP Council Member

Advisory Group



City of Phoenix



Customer Utility Panel



November 17th Agenda

Time	Topics	Details
8:00-8:30	Gathering time	
8:30-8:45	Welcome	Reflections on previous meeting, meeting logistics, and survey results
8:45-10:30	Customer and Grid Enablement	Review 4.1 Energy Efficiency; 4.2 Demand Response; and 4.3 Electric Transportation Goals
10:30-10:45	Break	
10:45-12:00	Customer and Grid Enablement	Review 4.4 Electric Technologies; 4.5 Grid Enablement
12:00-1:15	Working Lunch	Collect lunch and review 5.1 Customer Sustainability Rating and 5.2 Employee Engagement Goals
1:15-1:30	Wrap-up and Next Steps	Pulse survey and outline of 12/8 meeting



Sustainability at SRP

SRP's focus on sustainability is reflected in our mission statement - SRP serves our customers and communities by providing sustainable, reliable and affordable water and power - and is a core component of our corporate strategy.

On this page:

[SRP 2035 Sustainability Goals](#)

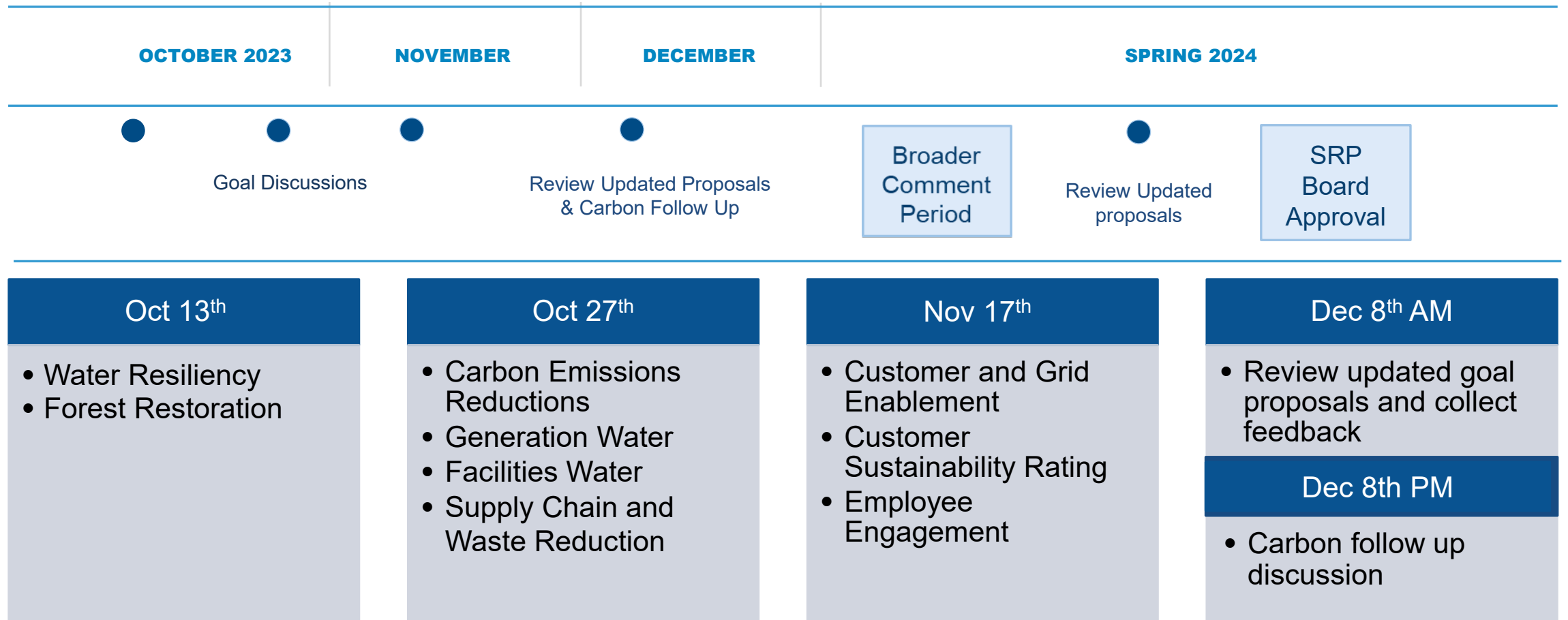
[Progress year over year](#)

[Developing a blueprint for the future](#)

On related pages:

[Goals update process](#)

2035 Sustainability Advisory Group Engagement Schedule



Meeting Objective

Inform



*Sustainability Goal
Progress, New Context
& Lessons Learned*

Listen



Q & A

Refine



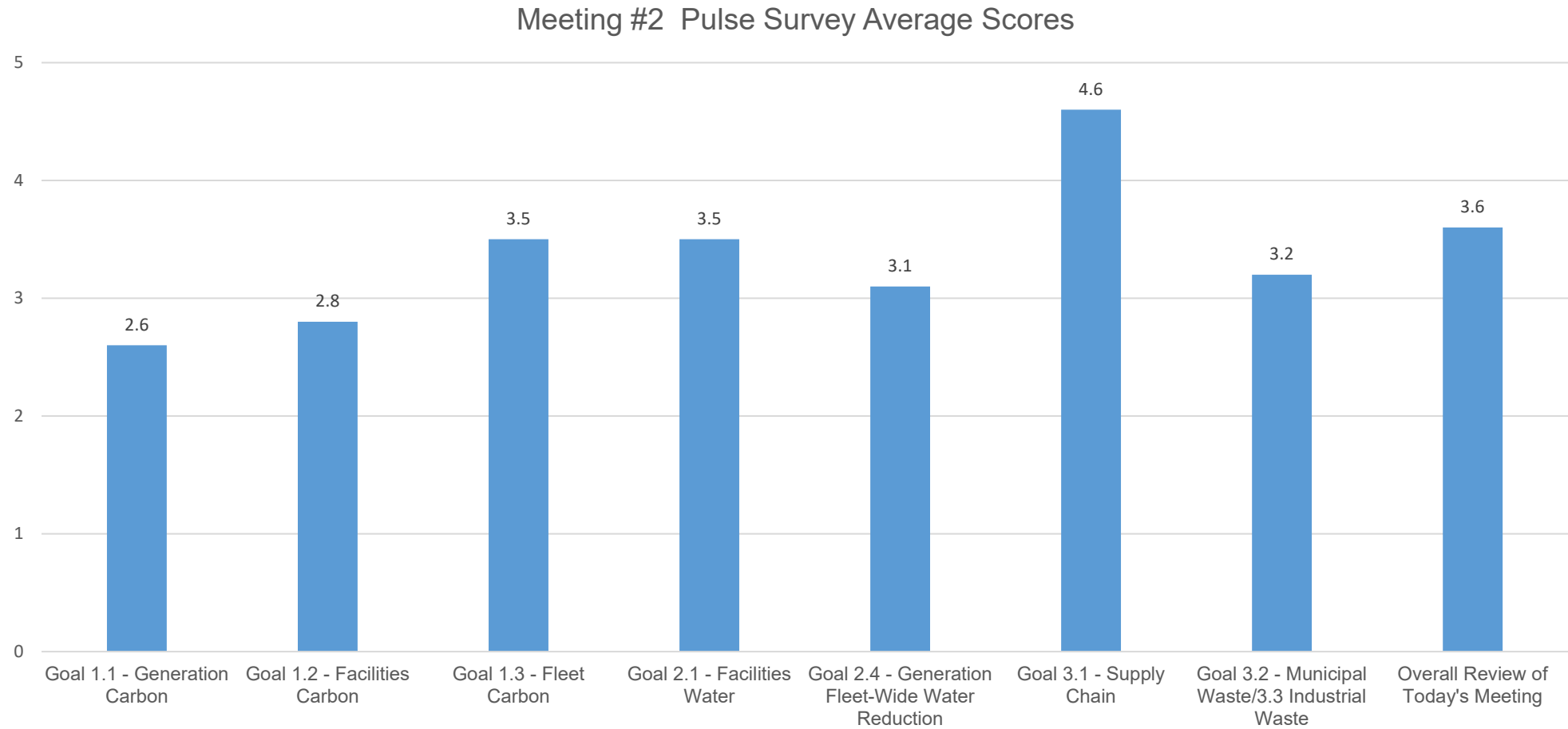
*Sustainability Goal
Recommendations to
the SRP Board*

Meeting Protocol

- Be present
- Active engagement
- Inclusive
- Respectful
- Open and curious
- Chatham House Rule



October 27th Pulse Survey Results



SRP 2035 Goal Owner Discussion Framework

1. Level-set

2. Discuss

3. Update

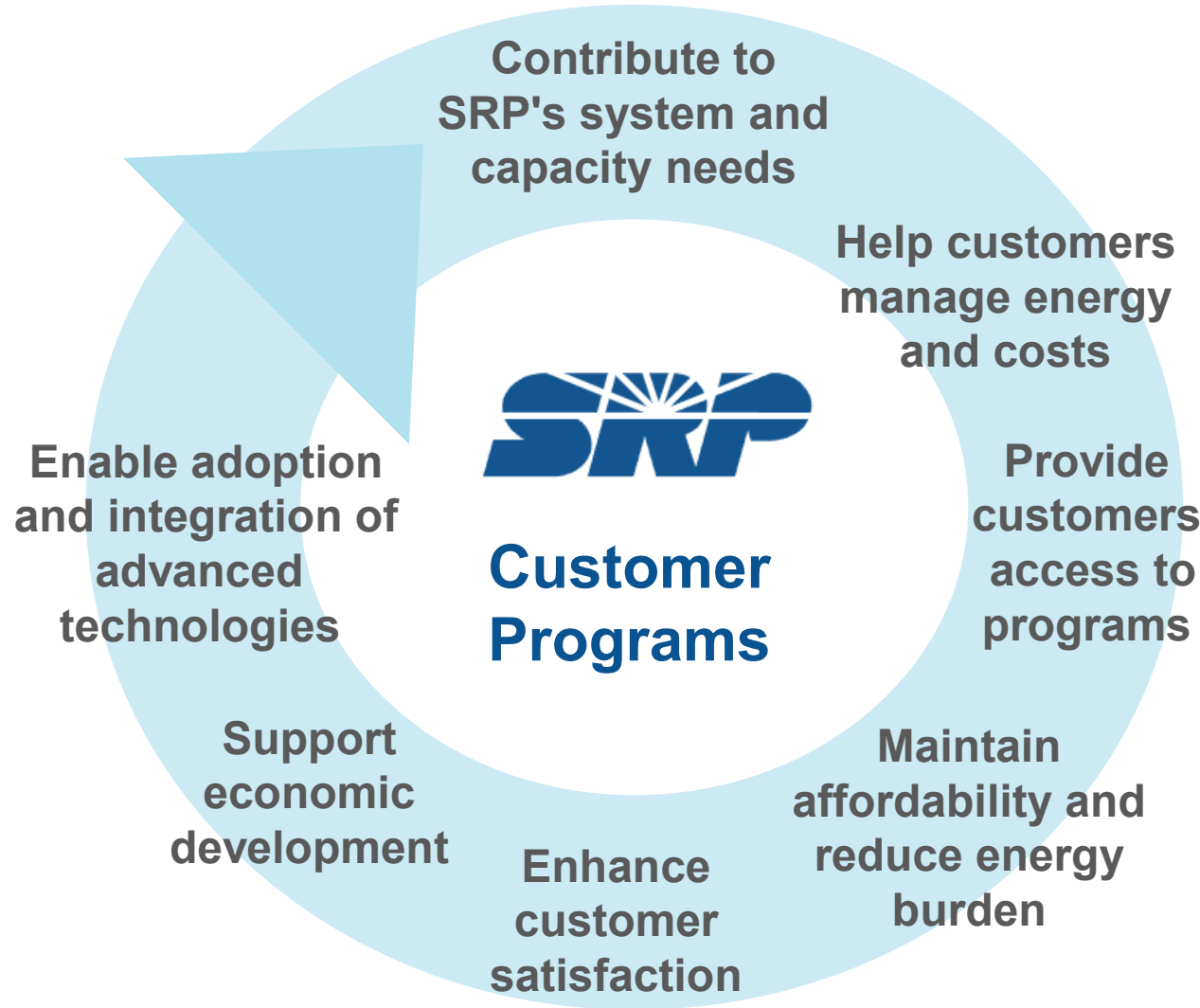
4. Pulse Survey

Customer & Grid Enablement

Dan Dreiling, Director, Customer Programs

Chris Campbell , Senior Director, Distribution & Technology Operations

Role of SRP's Evolving Customer Programs



SRP Offers a Diverse Portfolio of Programs

Residential Energy Efficiency (EE) Programs

Home Energy Assessments

Efficient Home Program

- AC / HP Replacements
- Duct Repairs
- Insulation Upgrades
- Shade Screens / Window Film
- Heat Pump Water Heaters
- Cool Roof
- Energy Audits

ENERGY STAR Homes

Energy Scorecard

Multifamily

SRP Marketplace

Limited Time Offer

Building Energy Codes

M-Power

Business EE Programs

Standard Business Solutions

Custom Business Solutions

Retrocommissioning Solutions

New Construction Solutions

Small Business Solutions

Midstream HVAC Solutions

Automated Benchmarking

Demand Response (DR) Programs

Bring Your Own Thermostat (BYOT)

- Residential
- Multifamily & Small Business

Business Demand Response

- Multiple Product Options
- Custom DR

Electric Technologies (E-Tech)

Forklifts, Scrubbers, Sweepers, Lifts

Custom Electrification

Forklift Charging

Truck Refrigeration Units

Truck Stop Electrification

Transportation Electrification (TE)

Business EV Charging

- Fleet Assessments
- Infrastructure Support
- Level 2 & DCFC

Residential EV Charging

EV Charger Home Install

ENERGY STAR – EV-Ready Communities

EV Community

Drive Electric Drive & Rides

Dealership Kiosks

EV Charging Station Pilot (Phx Zoo)

Flex Charge Managed Charging Pilot

Smart Charge Managed Charging Pilot

TE Activator

Grid Enablement

Solar & Storage Interconnections

EV DCFC Interconnections

Sustainable Energy Offering

Solar Choice

Solar Choice Select

Solar for Nonprofits

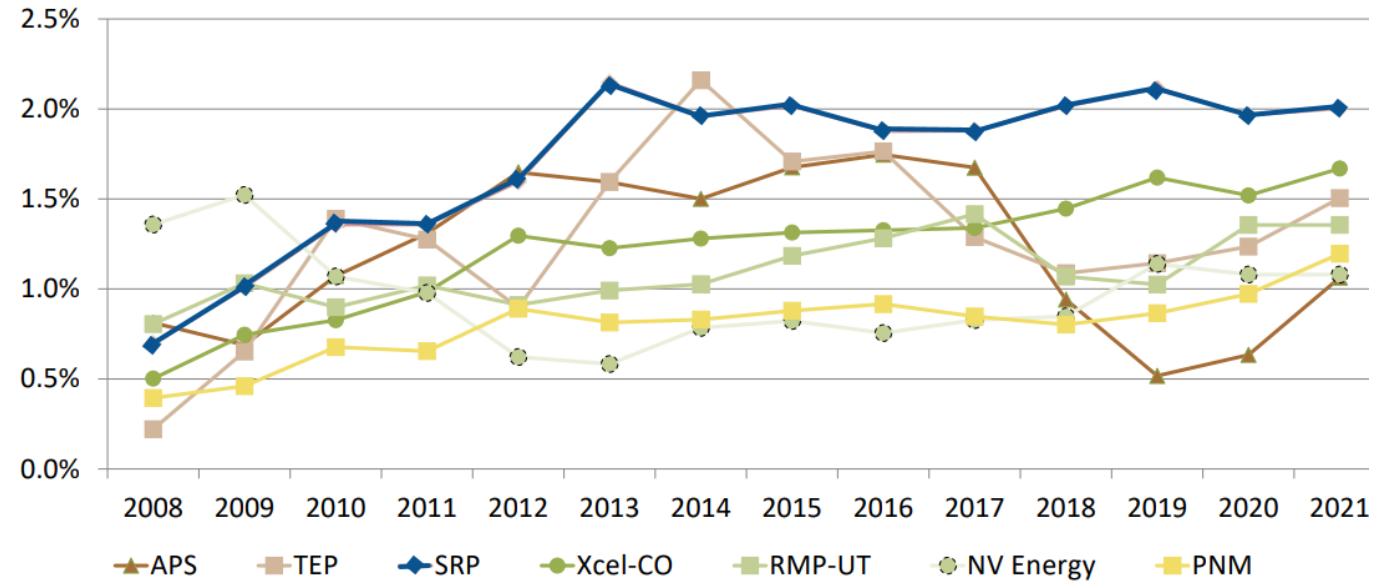
Nationally Recognized EE & DR Programs

Largest EE portfolio in the region and among national public utilities and one of the largest thermostat-based DR programs in the nation

Notable Awards -

- 2023 ENERGY STAR Partner of the Year - Sustained Excellence Award (10th consecutive year)
- 2023 ENERGY STAR Residential New Construction Market Leader Award
- 2023 Program Pacesetter Award by Peak Load Management Association

EE Savings Trend for Major Southwest Utilities



Source: [2022 SWEEP Utility Workshop – Regional Update](#)

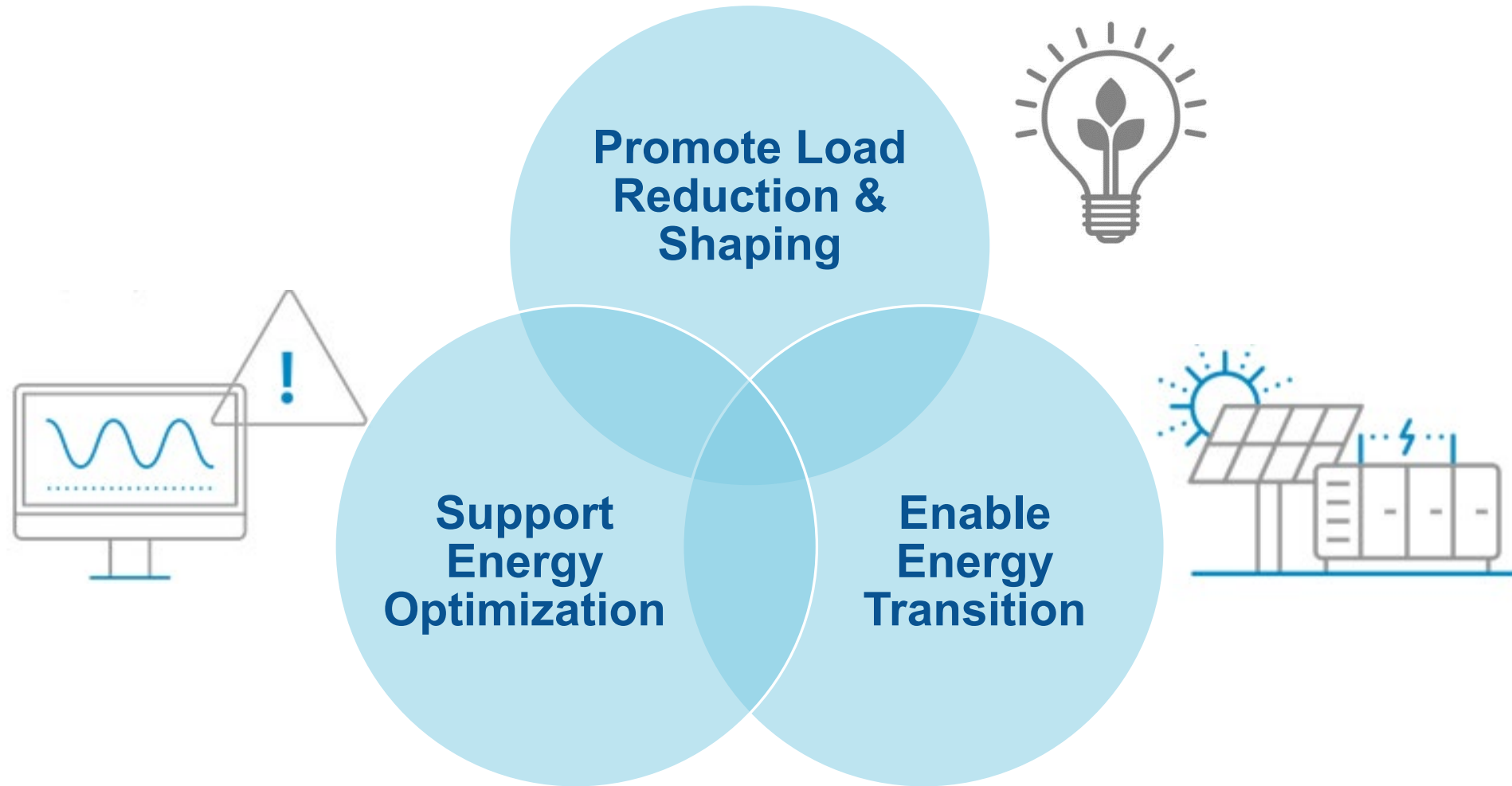
TE and E-Tech Programs Enable Flexibility

Electrification programs provide future opportunities for load management & shaping

- **Transportation Electrification programs** provide incentives for smart EV chargers that allow communication and future managed charging
- Various **EV Managed Charging pilots** underway to evaluate the benefit and scalability of utility management of EV charging
- **E-Tech programs** designed to incent electric equipment that is typically utilized and/or charged off-peak

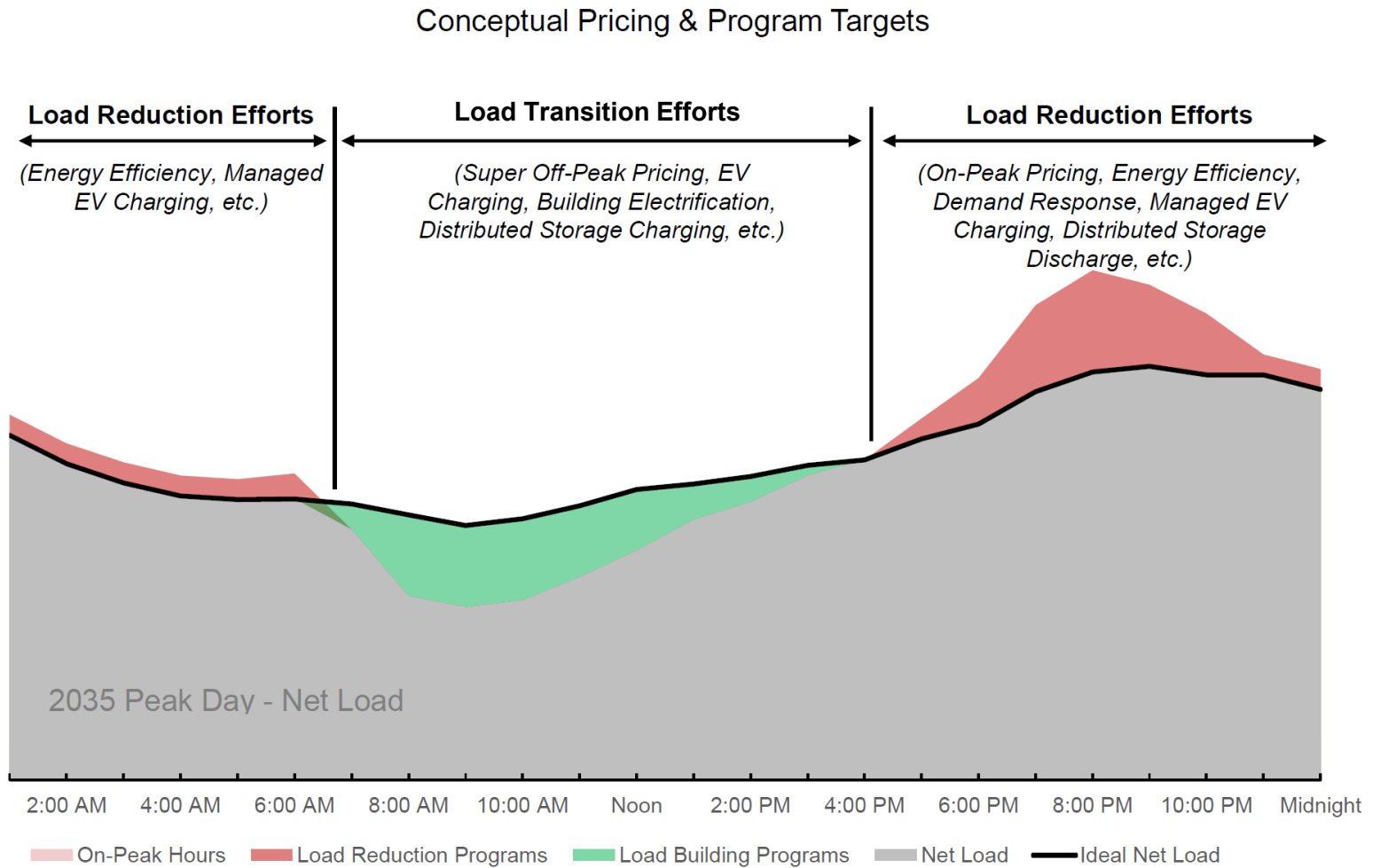


Desired Outcomes of SRP's Evolving Grid



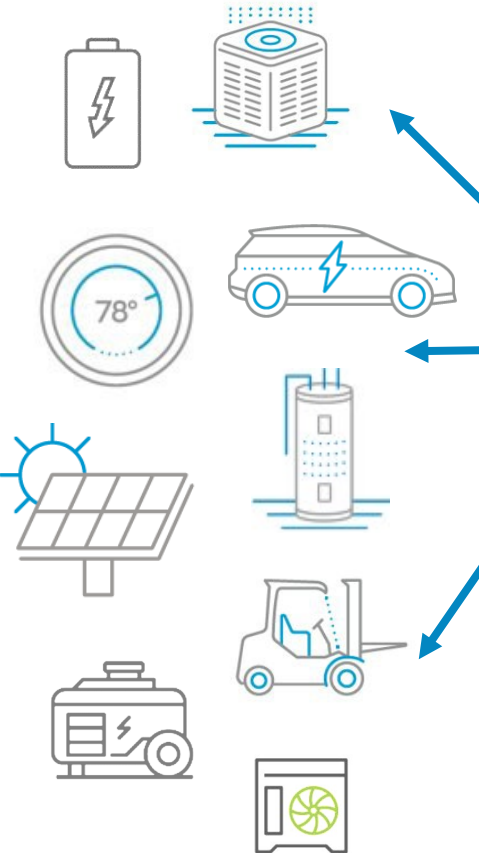
Value of Customer Programs from a System Perspective

- Innovative programs and rate design can help lower and flatten the load shape
- Electrification programs (both passive and active) can reduce operational challenges and help customers benefit from lower carbon, low-cost midday energy



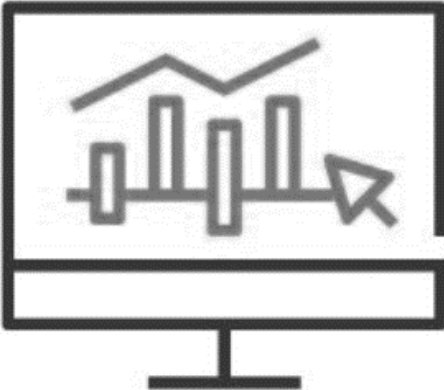
Future Virtual Power Plant (VPP) Solutions

Customer Technologies

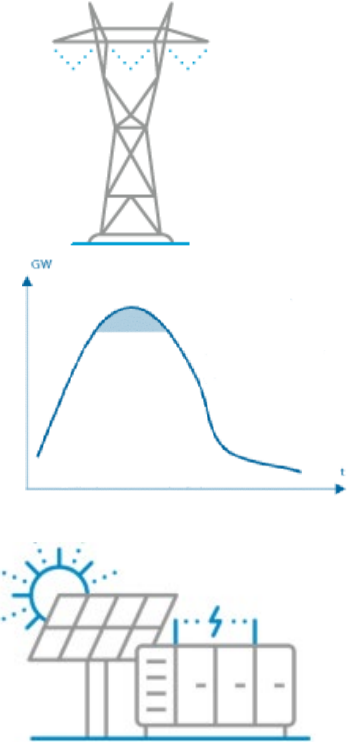


VPP Aggregators
 EnergyHub
 enel x
 Future Market Players

SRP Customer Programs and DERMS Solution



Advanced Grid Operations



Growing market maturity and scale.

- Common software, communication and control standards
- Advancement to high level of operational confidence

Customer & Grid Enablement

4.1 Energy Efficiency

Deliver over 3 million MWh of annual aggregate energy savings

4.2 Demand Response

Deliver at least 300 MW of dispatchable DR and load management programs.

4.3 Transportation Electrification

Support the enablement of 500,000 EVs in SRP's service territory and manage 90% of EV charging through price plans, dispatchable load management, original equipment manufacturer integration, connected smart homes, behavioral and other emerging programs.

4.4 Electric Technologies

Expand portfolio of electric technology (non-EVs) programs to deliver 300,000 megawatt hours of annual aggregate energy impact.

4.5 Grid Enablement

Enable the interconnection of all customer-sided resources, including solar photovoltaic (PV) and battery storage, without technical constraints while ensuring current levels of grid integrity and customer satisfaction.

Load Reduction & Shaping

Energy Transition

Energy Optimization

4.1 Energy Efficiency

Dan Dreiling

Director, Customer Programs

Where have we been?

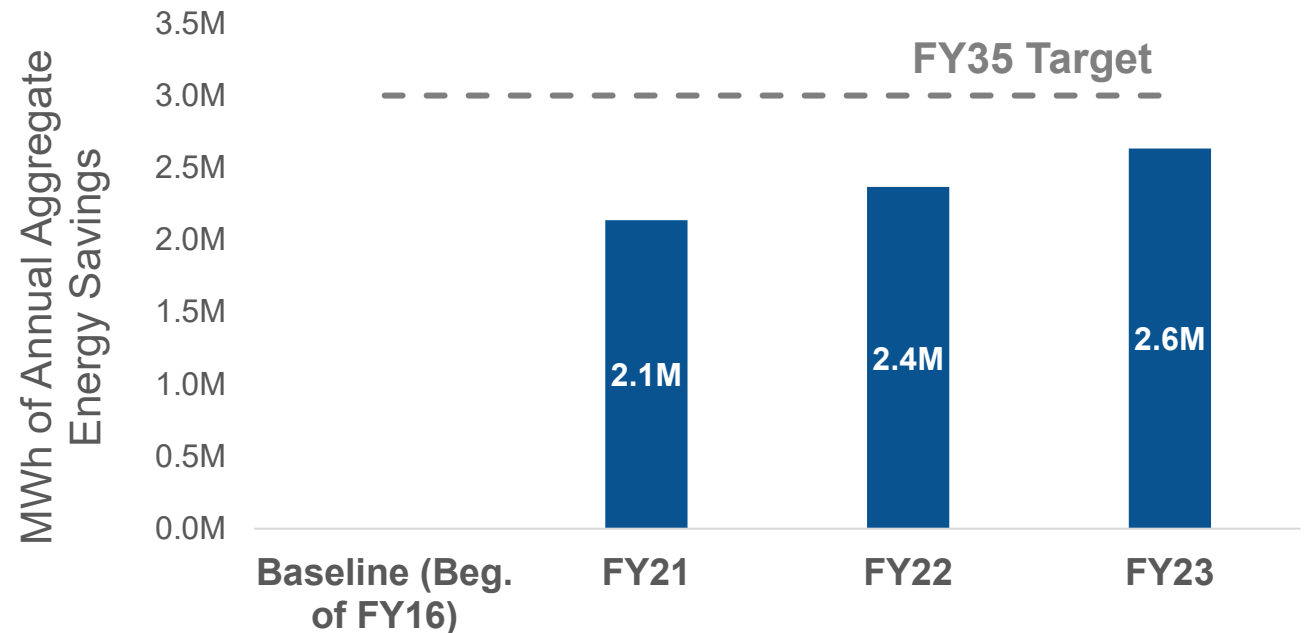
4.1 Energy Efficiency



Deliver over 3 million MWh of annual aggregate energy savings

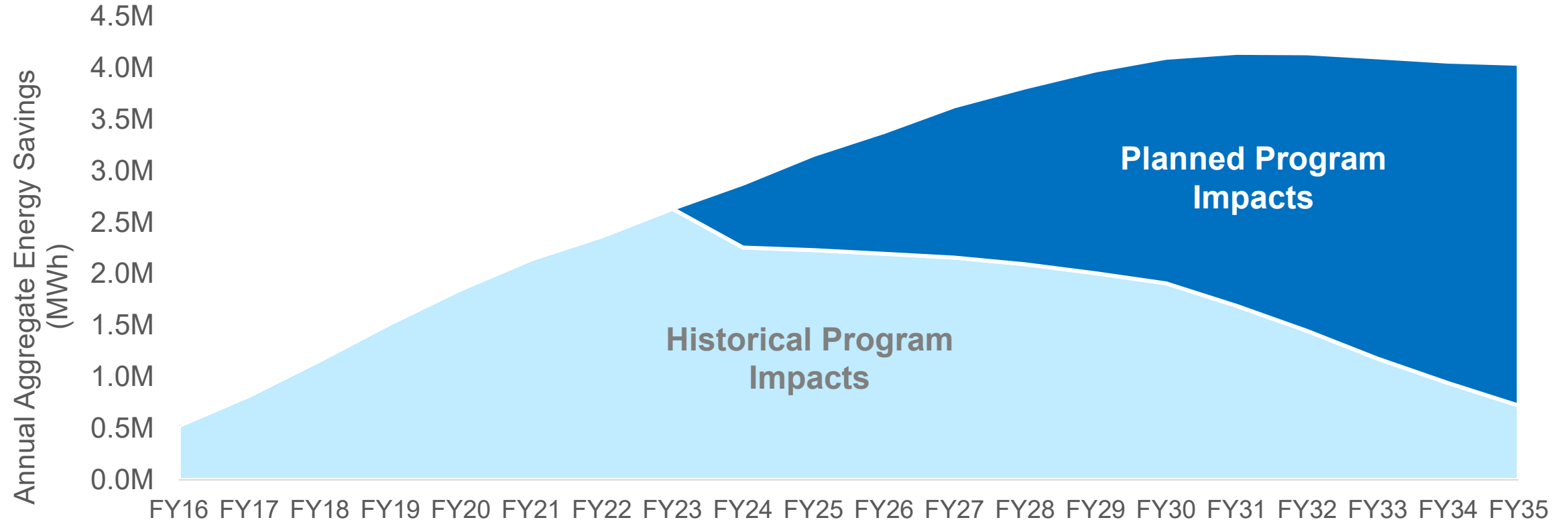
- Projecting to achieve the 2035 goal earlier than anticipated

Progress Over Time



Annual Aggregate Energy Savings Over Time

2035 Annual Aggregate Energy Efficiency Savings Forecast



Where have we been?

4.1 Energy Efficiency



- Increased annual incremental energy savings targets FY23 to FY25 in response to SRP’s need for additional capacity
- Exceeded annual incremental energy savings targets FY21 to FY23

Fiscal Year	Annual Incremental Energy Savings			
	Original Target (MWh)	Annual Target (MWh)	Actuals (MWh)	% of Annual Target
2025	600,000	636,000		
2024	587,500	620,000		
2023	575,000	602,000	616,847	107%
2022*	562,500	540,500	589,671	109%
2021*	550,000	510,000	611,377	120%

* FY21 and FY22 annual targets were lowered due to the COVID-19 pandemic

What has changed and what have we learned?

- Comprehensive portfolio of programs helps meet customer expectations and internal targets
- Savings will be more challenging to generate over time due to codes and standards and maturing market
- Higher interest rates and uncertain economic environment is leading to less investment in larger EE retrofit projects
- Moving forward, crucial to evolve customer programs to help shift when energy is consumed and conserved



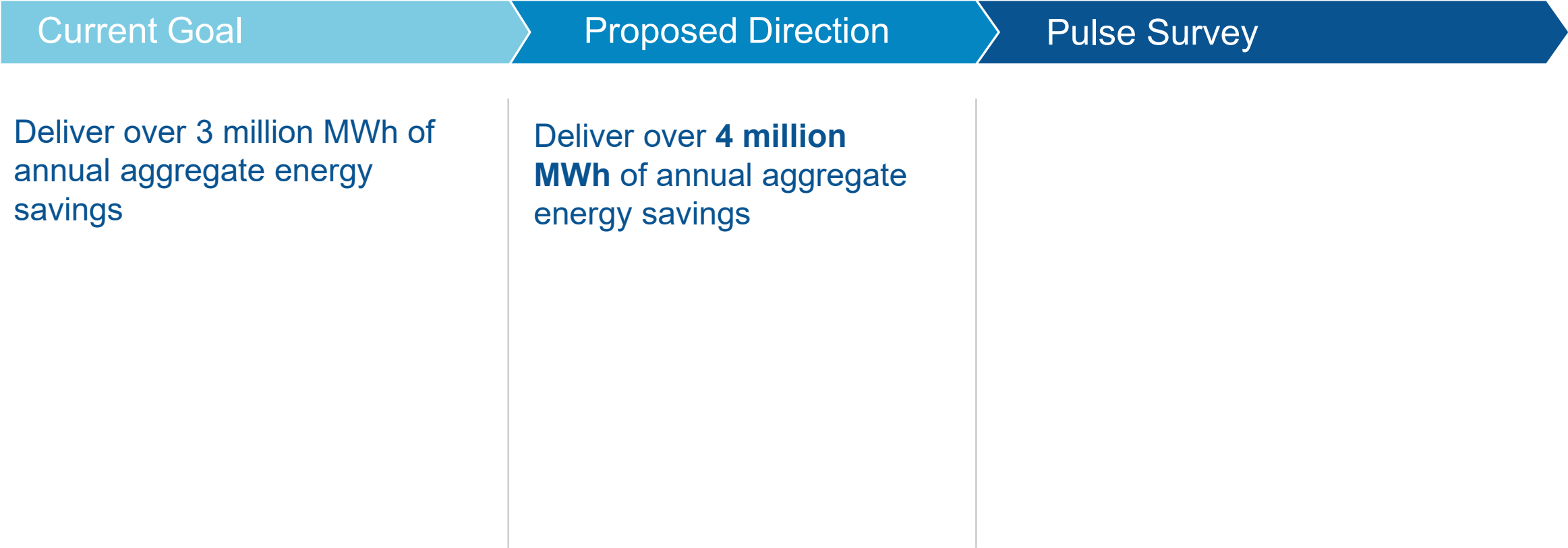
How do we move forward together?

Current Goal: Deliver over 3 million MWh of annual aggregate energy savings

Proposed Direction:

Increase goal to 4 million MWh of annual aggregate energy savings.

Goal 4.1 Energy Efficiency

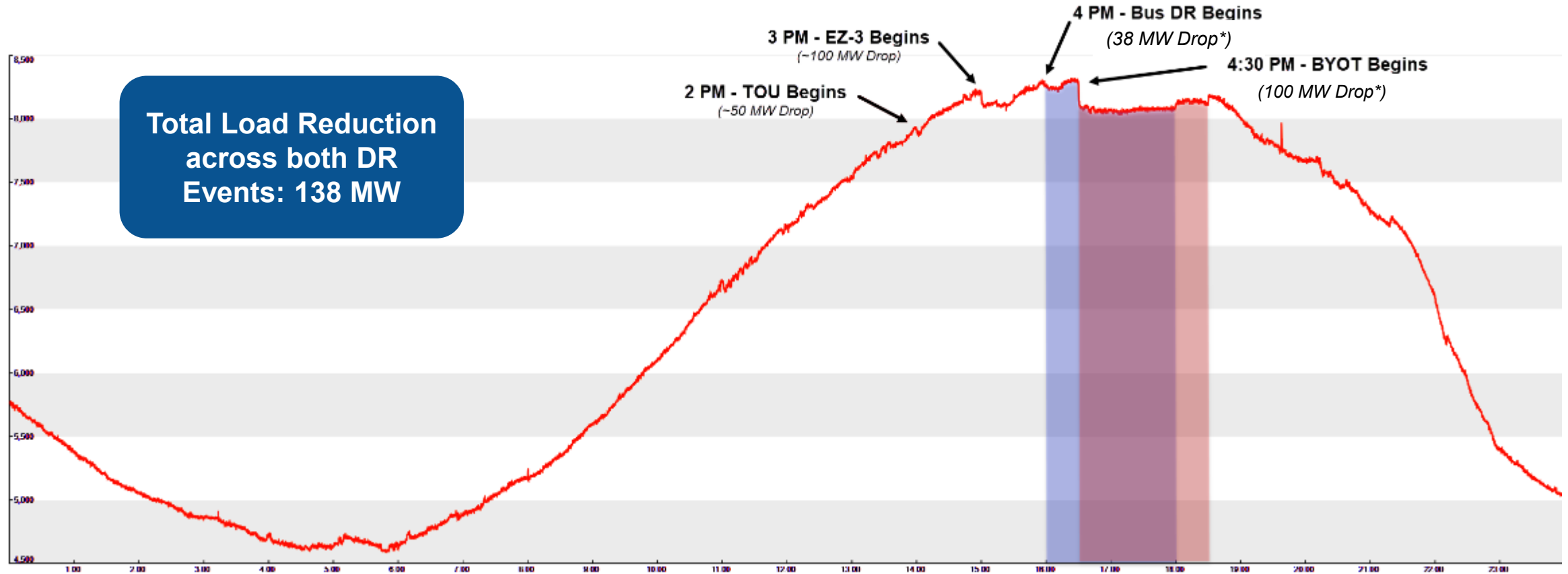


4.2 Demand Response

Dan Dreiling

Director, Customer Programs

Purpose of Demand Response - July 26, 2023 Events



HE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Load	5597	5246	4980	4765	4662	4663	4734	5008	5375	5873	6418	6927	7366	7759	8000	8088	8094	8004	8054	7768	7507	7019	5891	5224
Temp	105	104	104	100	101	98	97	99	101	105	110	111	115	115	117	117	117	114	114	111	109	107	90	91

* Represents average reduction over 2-hour event

Where have we been?

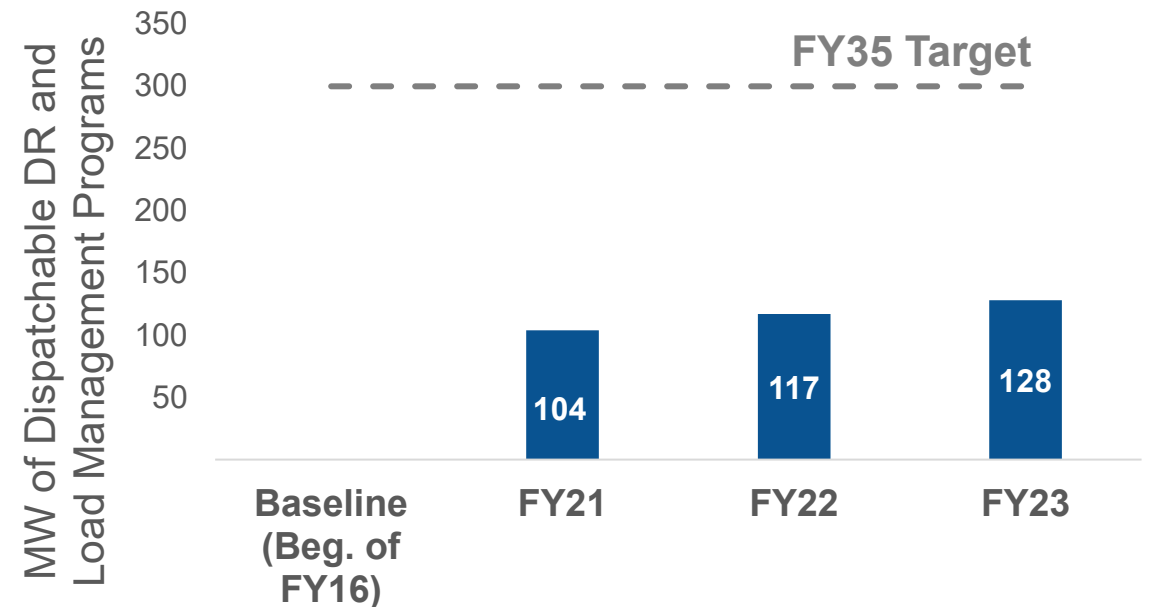
4.2 Demand Response



Deliver at least 300 MW of dispatchable DR and load management programs

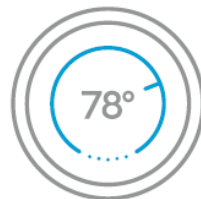
- Subscribed a total of 128 MW of dispatchable DR capacity as of FY23 year-end

Progress Over Time



Where have we been?

4.2 Demand Response



- Launched two new programs – Residential Bring Your Own Thermostat (BYOT) program with currently more than 85,000 smart thermostats enrolled and Business DR program with nearly 700 customer sites participating
- Programs fell short of accelerated annual year-end cumulative target in FY23

Fiscal Year	Cumulative DR Capacity			
	Original Target (MW)	Annual Target (MW)	Actuals (MW)	% of Annual Target
2025	150	165		
2024	137	150		
2023	120	150	128	85%
2022	95	110	117	106%
2021	67	67	104	155%

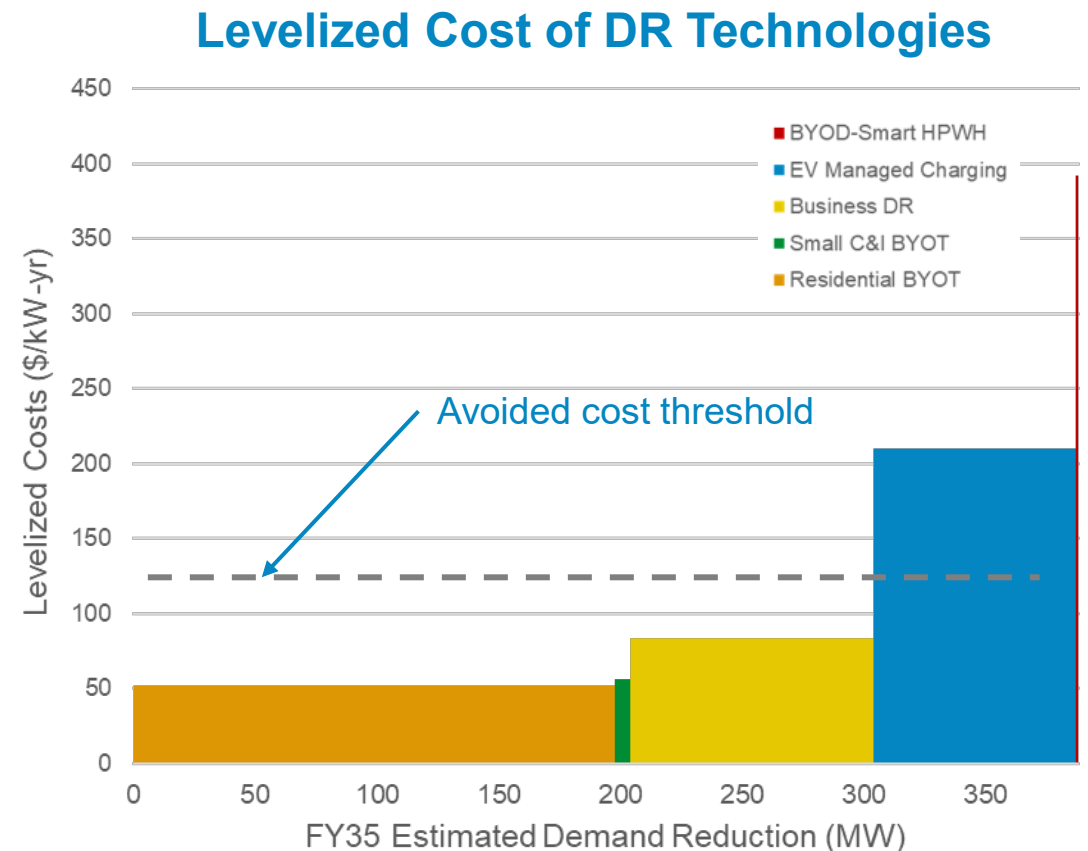
What has changed and what have we learned?

- Creative marketing strategies and event promotions led to strong enrollment in the BYOT program
- Business DR program experienced performance shortfall due to market dynamics and increased production demands on customers
- Refined the Business DR program offerings to meet customers' unique needs and SRP dispatch preferences
- Dispatchable DR capacity has potential to grow but it is limited



Results from DR Roadmap Refresh Show Current 2035 Target Still Feasible

- Numerous technologies explored from thermostats to heat pump water heaters (HPWH) and behind the meter batteries
- BYOT and Business Demand Response program still offer the largest, cost-effective contributions
- EV Managed Charging and HPWH are currently not market-ready and cost-effective
- Results show entire DR portfolio has potential to grow to 304 MW in FY35 based on market readiness of technologies and their cost effectiveness



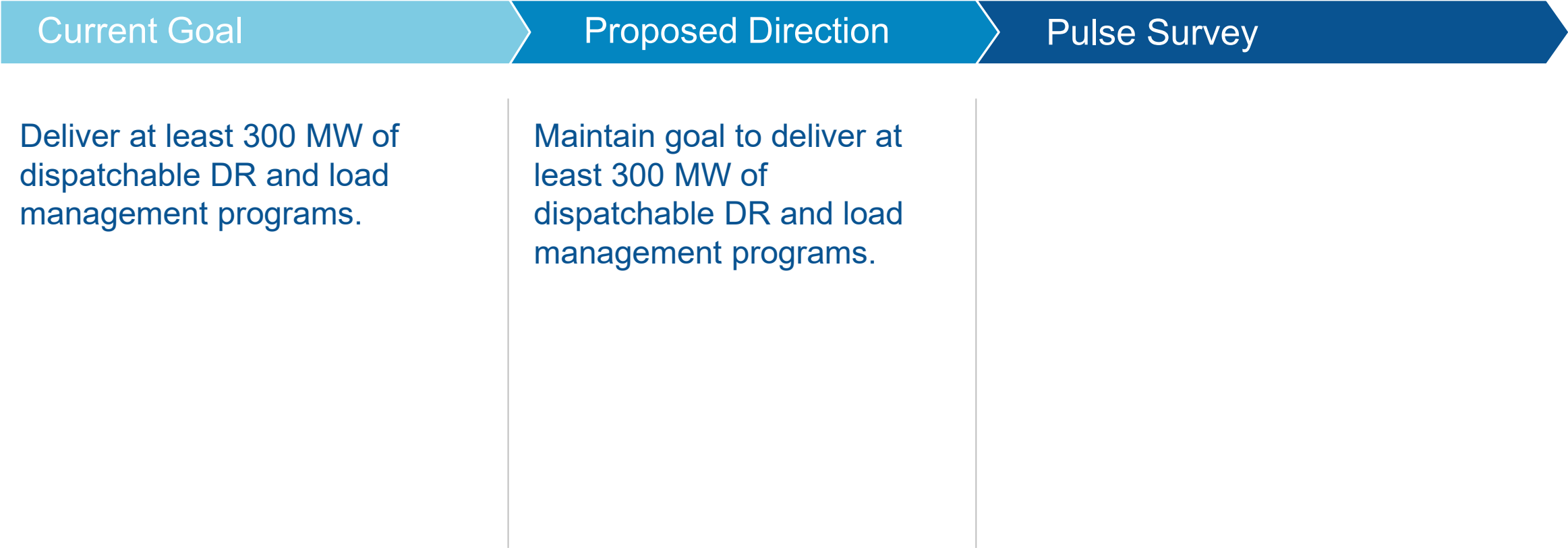
How do we move forward together?

Current Goal: Deliver at least 300 MW of dispatchable DR and load management programs.

Proposed Direction:

Maintain goal of at least 300 MW of dispatchable DR and load management programs.

Goal 4.2 Demand Response



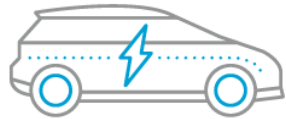
4.3 Transportation Electrification

Dan Dreiling

Director, Customer Programs

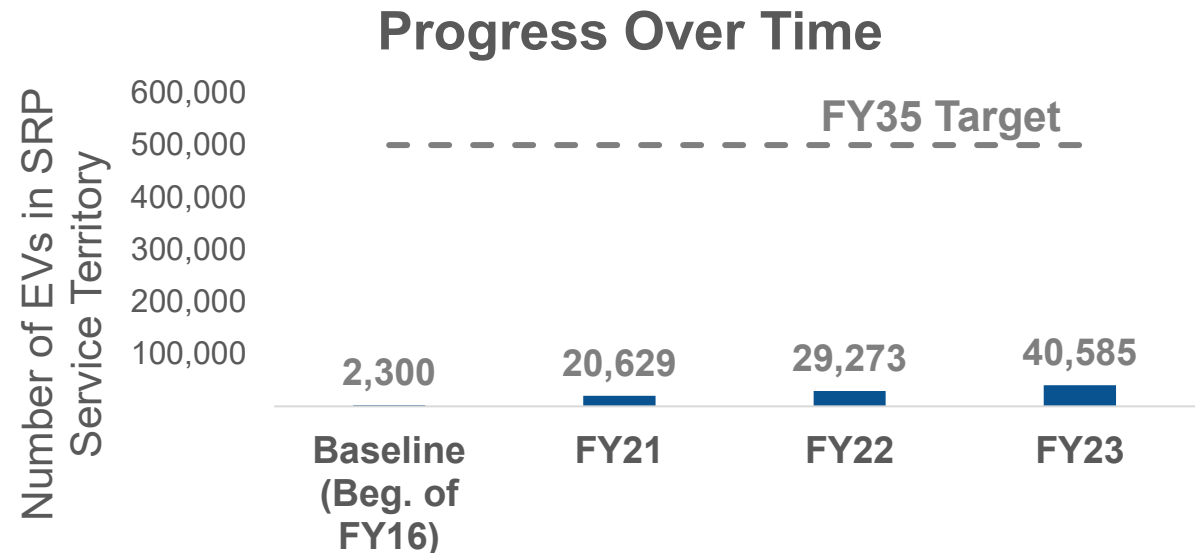
Where have we been?

4.3 Transportation Electrification



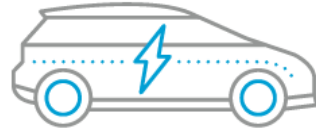
Support the enablement of 500,000 electric vehicles (EVs) in SRP's service territory and manage 90% of EV charging through price plans, dispatchable load management, OEM integration, connected smart homes, behavioral and other emerging programs

- Enabled 40,585 EVs as of FY23 year-end



Where have we been?

4.3 Transportation Electrification



- Annual adoption metrics have been ahead of targets
- Significant SRP activity underway to prepare for growing EV loads
- TE Activator coalition continuous to work together to advance TE across the state

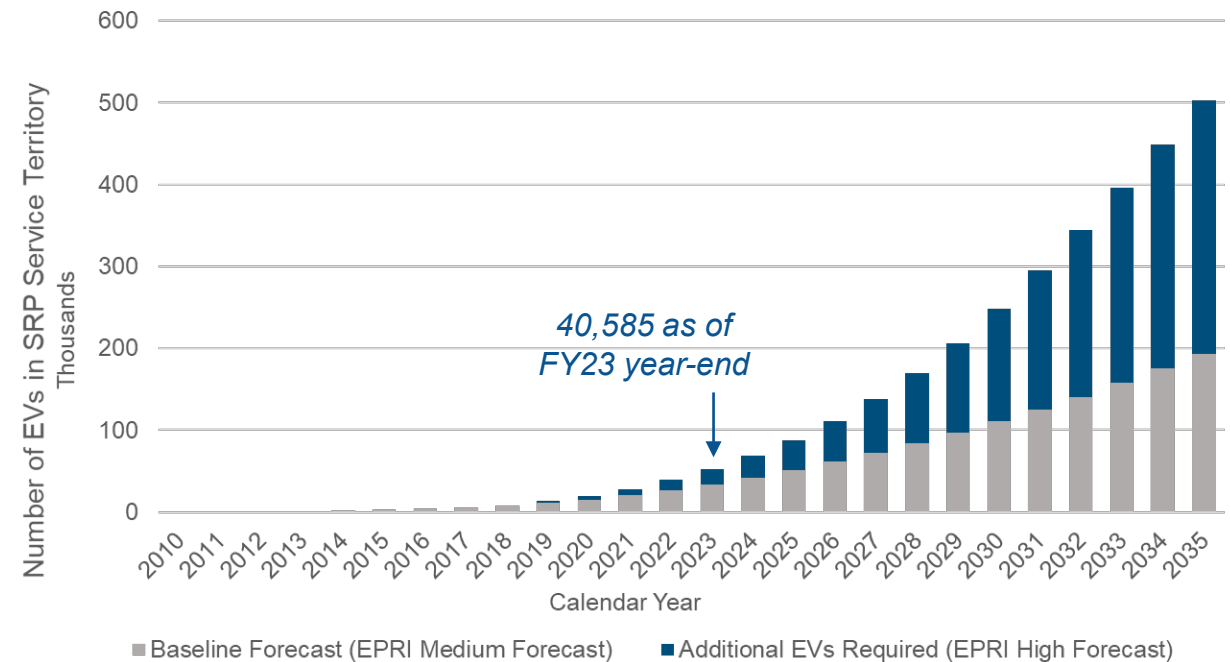
Fiscal Year	EVs in Operation			
	Original Target	Annual Target	Actuals	% of Annual Target
2025	68,800	68,800		
2024	52,600	52,600		
2023	39,000	39,000	40,585	104%
2022*	28,200	23,000	29,273	127%
2021*	19,400	17,000	20,629	121%

* FY21 and FY22 annual targets were lowered due to the COVID-19 pandemic

What has changed and what have we learned?

- Anticipating strong TE adoption given OEM commitments and supportive federal policies
- First half of the goal is mostly market-driven and SRP's role is that of an enabler with the right programs and price plans
- More important to SRP to mitigate grid impacts from growing EV loads
- Need greater time and learning to understand appropriate metric for commercial/fleet managed charging
- EV Managed Charging Roadmap effort will help provide clarity to align internal activities

EVs in SRP Service Territory, EPRI

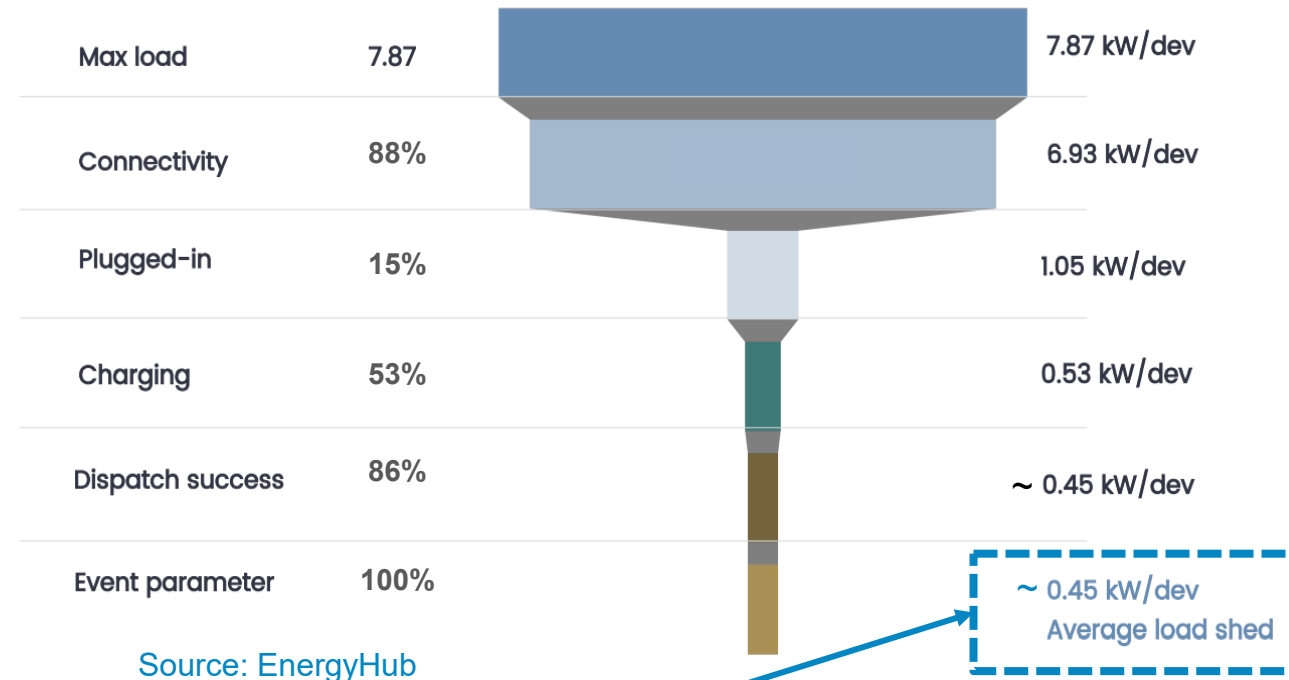


Source: Electric Power Research Institute

Current Constraints to Active Managed Charging

- EV Managed Charging includes both, passive and active charging
 - **Passive managed charging** relies on customer behavior to affect charging patterns
 - **Active managed charging** uses communication signals for direct load control
- Constraints to active managed charging include connectivity risks, vehicle to be plugged-in, charging, and dispatch success

Year 1 Results from Flex Charge Managed Charging Pilot, Demand Response Use Case



*Preliminary year 1 results from Flex Charge Managed Charging Pilot with ~250 participants

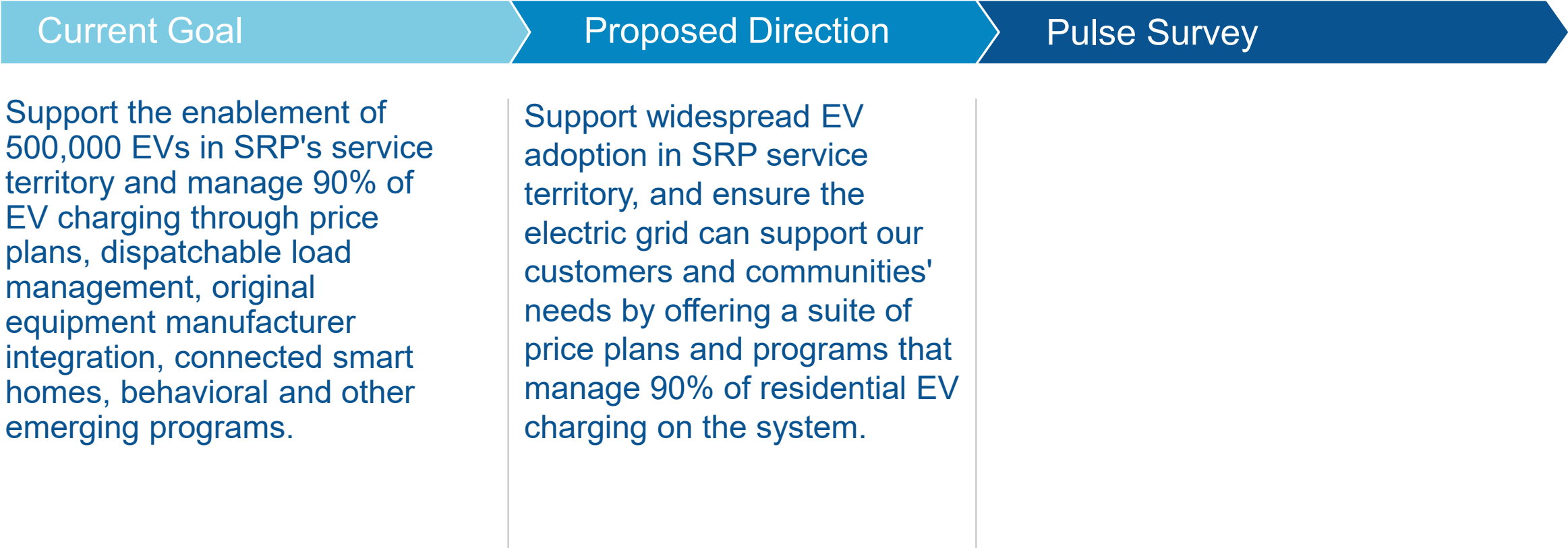
How do we move forward together?

Current Goal: Support the enablement of 500,000 EVs in SRP's service territory and manage 90% of EV charging through price plans, dispatchable load management, original equipment manufacturer integration, connected smart homes, behavioral and other emerging programs.

Proposed Direction:

- Remove specific 500K EVs in operation metric while continuing to enable EVs within SRP service territory
- Focus on managed charging aspect due to greater complexities and learning needed with the commercial sector

Goal 4.3 Transportation Electrification



Break

4.4 Electric Technologies

Dan Dreiling

Director, Customer Programs

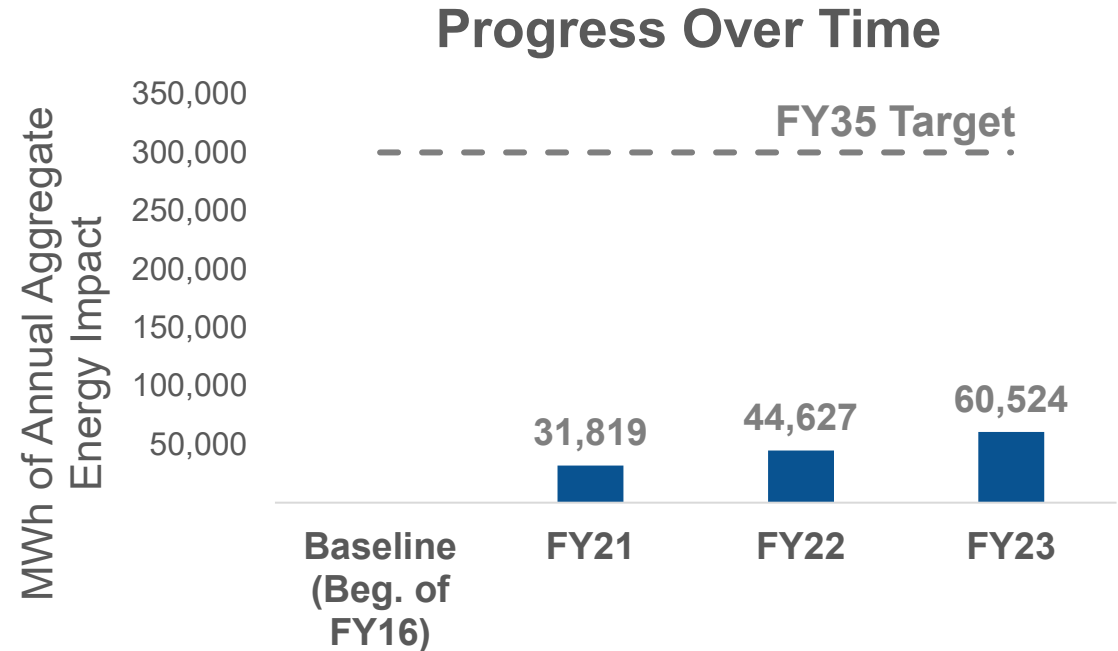
Where have we been?

4.4 Electric Technologies



Expand portfolio of electric technology (non-EVs) programs to deliver 300,000 megawatt hours of annual aggregate energy impact

- Achieved a cumulative aggregate total of 61,000 MWh as of FY23 year-end



Where have we been?

4.4 Electric Technologies



- Exceeded annual incremental energy impact targets FY21 to FY23
- Electrification program provides incentives for forklifts, rapid chargers, scissor lifts, truck refrigeration units, and custom electrification projects

Fiscal Year	Annual Incremental Energy Impact			
	Original Target (in MWh)	Annual Target (in MWh)	Actuals (in MWh)	% of Annual Target
2025	18,000	18,000		
2024	15,300	15,300		
2023	14,000	14,000	15,897	114%
2022	12,000	12,000	12,808	107%
2021	8,400	8,400	11,428	136%

What has changed and what have we learned?

- Driving customer and trade ally engagement is key in E-Tech portfolio
- Focused on developing custom electrification projects to drive market transformation and provide additional customer value
- Moving forward, greater alignment and leveraging of the IRA incentives to allow customers to stack rebates
- Evaluating opportunities to electrify non-EV residential loads (e.g., high efficiency HPs, HPWHs)



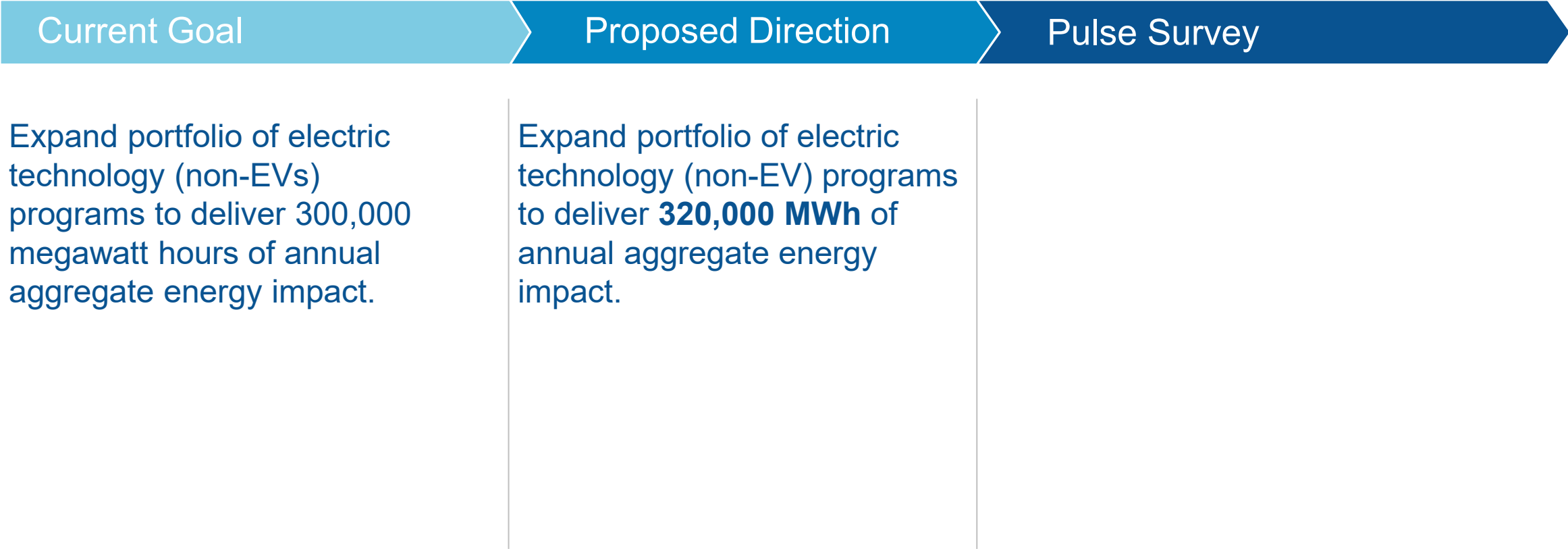
How do we move forward together?

Current Goal: Expand portfolio of electric technology (non-EVs) programs to deliver 300,000 megawatt hours of annual aggregate energy impact.

Proposed Direction:

Increase goal to deliver 320,000 MWh of annual aggregate energy impact

Goal 4.4 Electric Technologies

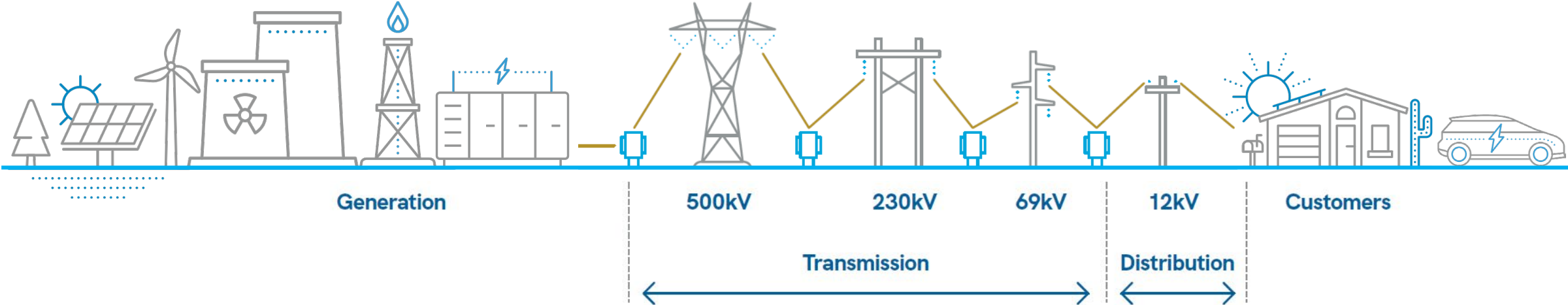


4.5 Grid Enablement

Chris Campbell

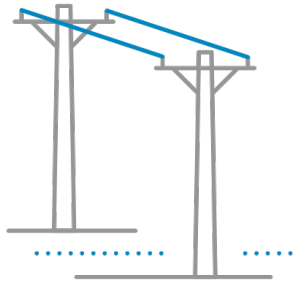
Senior Director, Distribution & Technology Operations

Power System



Where have we been?

4.5 Grid Enablement



Enable the interconnection of all customer-sited resources, including solar photovoltaics (PV) and battery storage, without technical constraints while ensuring current levels of grid integrity and customer satisfaction.

FY23 Progress:

- Enabled 100% of customer distributed energy resources interconnection applications
- 5 years of Distribution Enablement program execution



Distribution Enablement Program Introduction



CUSTOMERS

Enable the interconnection of all customer-sited resources, including solar photovoltaics (PV) and battery storage, without technical constraints while ensuring current levels of grid reliability and customer satisfaction.

Distribution Enablement Strategy Goals

Agile Planning for
Grid Assets

Advanced Grid
Management

Partnering with
Customer Programs

Workforce

Distribution Enablement Roadmap Initiatives

Advanced
Planning

Advanced
Operations

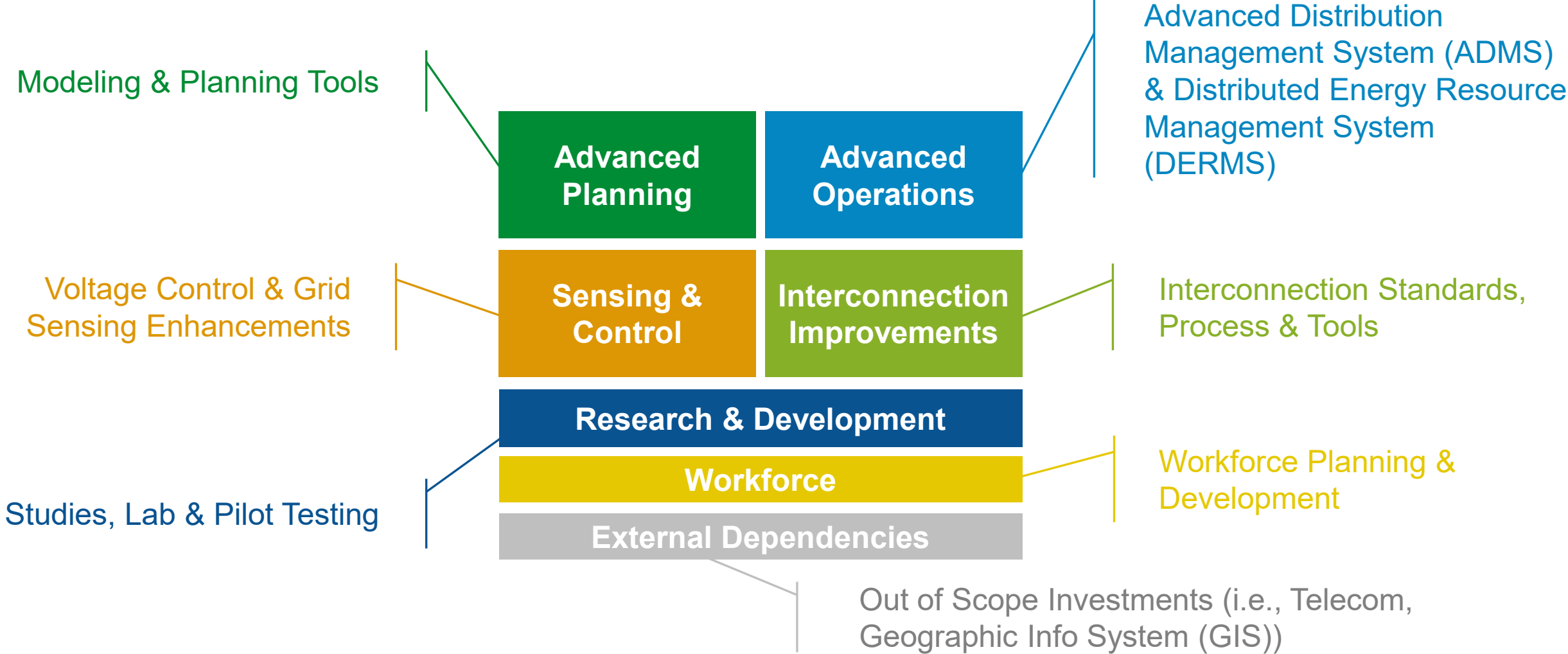
Sensing &
Control

Interconnection
Improvements

Research &
Development

Workforce

Distribution Enablement Initiative Highlights



What has changed and what have we learned?

- **Significant and sustained effort** needed and committed
- **Strong alignment needed** with customer programs and pricing
- **Adapt with agility.** In a rapidly changing landscape, having a flexible strategy is crucial.

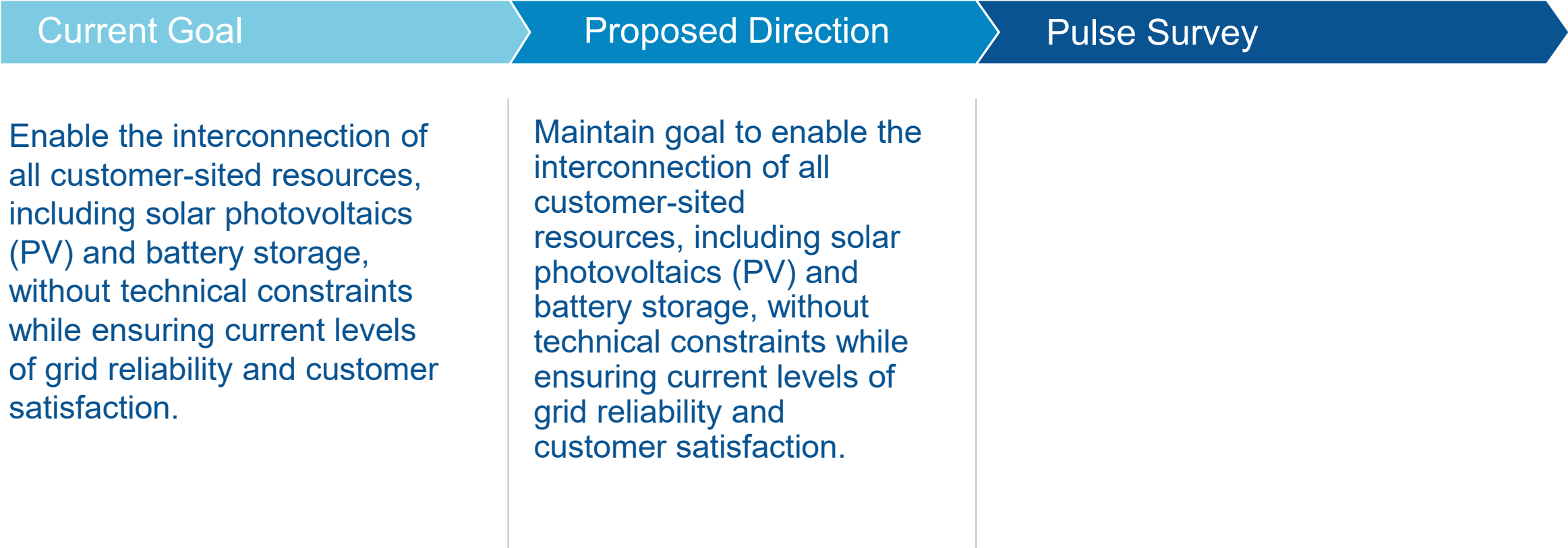


How do we move forward together?

Current Goal: Enable the interconnection of all customer-sited resources, including solar photovoltaics (PV) and battery storage, without technical constraints while ensuring current levels of grid reliability and customer satisfaction.

Proposed Direction: Maintain current goal statement and continue to invest in grid enablement.

Goal 4.5 Grid Enablement



5.1 Customer Sustainability Rating

Elise Gould

Senior Director, Insights, Brand Strategy and Communications

Where have we been?

5.1 Customer Sustainability Rating

Achieve at least 80% of customers who give SRP a positive rating for its sustainability efforts.



SRP Sustainability Index



*The **SRP Sustainability Index** is comprised of 5 attributes derived from selected questions administered twice per year from the SRP Brand Health tracking study.*

What has changed and what have we learned?



- Changing interests and expectations of consumers



- Limitations on key insights to derive from original 5.1 goal



- Changes in consumer views of environmental concerns
- Potential changes in sustainability technology and policy



- Other ranked utilities focus more on customer awareness

How do we move forward together?

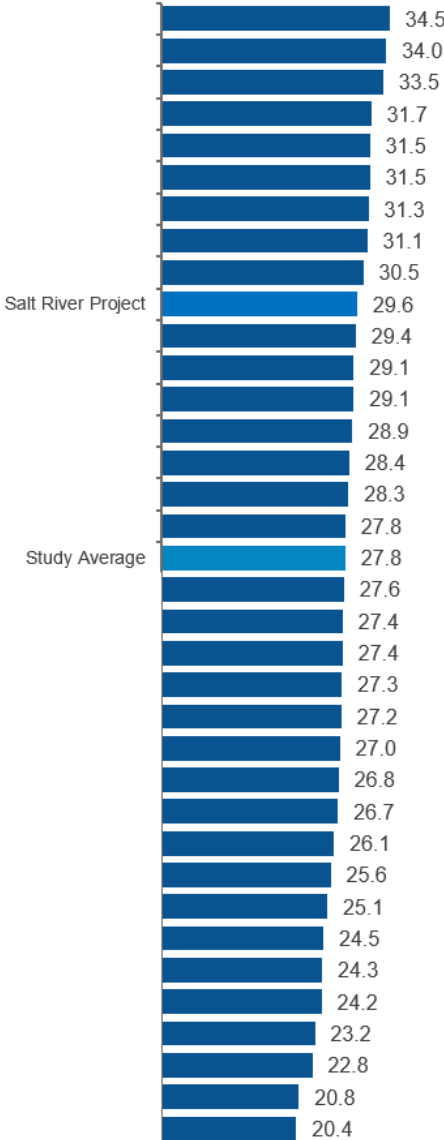
Leverage existing J.D. Power Sustainability Index

- Industry standard conducted by an impartial third-party
- Set goal based on how SRP stacks up versus other utilities
- Maintain above the industry average
- Stretch: Achieve top quartile performance

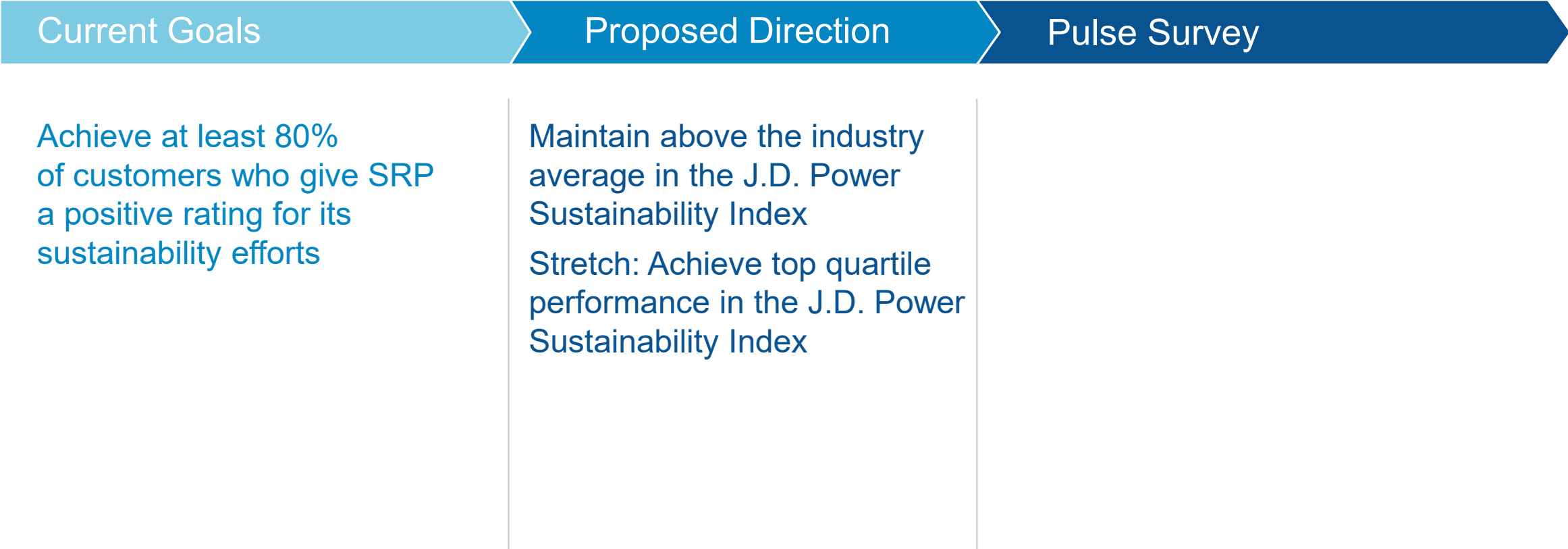
Deep Dive with new J.D. Power Proprietary Sustainability Survey

- Determine what residential and commercial customers value when it comes to sustainability.
- Quantify gaps between customer perceptions on SRP's performance and what they consider important.

J.D. Power Sustainability Index - 2023



Goal 5.1 Customer Sustainability Rating



Lunch

5.2 Sustainability

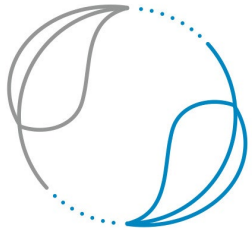
Employee Engagement

Tom Cooper

Senior Director, Future System Assets & Strategy

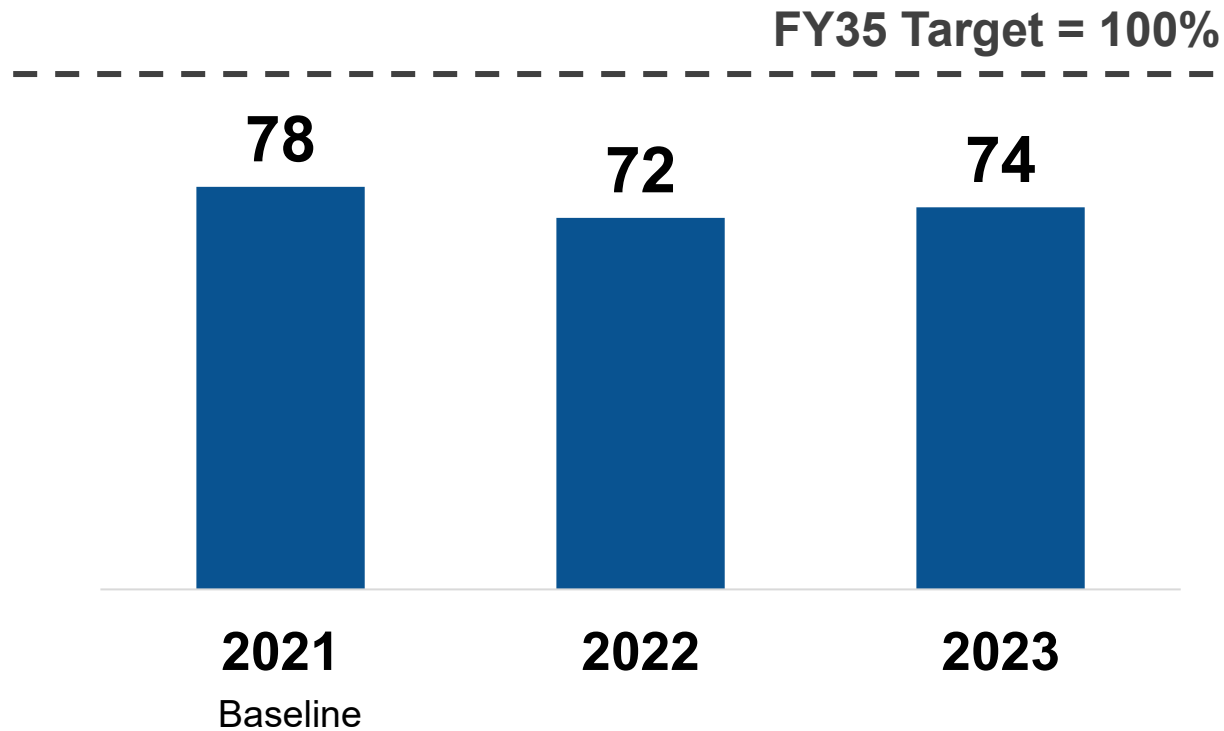
Where have we been?

5.2 Employee Engagement



The Sustainability Employee Index score is curated from a five-question average score based on the percentage of employees that responded favorably to the attribute questions.

Achieve 100% employee engagement in efforts that contribute to SRP's sustainability goals



Progress Made

Interest in sustainability continues to grow

- Green Team membership growth
- Higher participation rates in
 - Sustainability events
 - Programs (*Ride Share, Workplace Charging, Local Roots, ReEnvision Waste*)
- Gamification pilot launch



Employee Sustainability Engagement Challenges



Connecting all employees



Sentiment vs impact



Measuring engagement



Remote/in-person hybrid work

How do we move forward together?

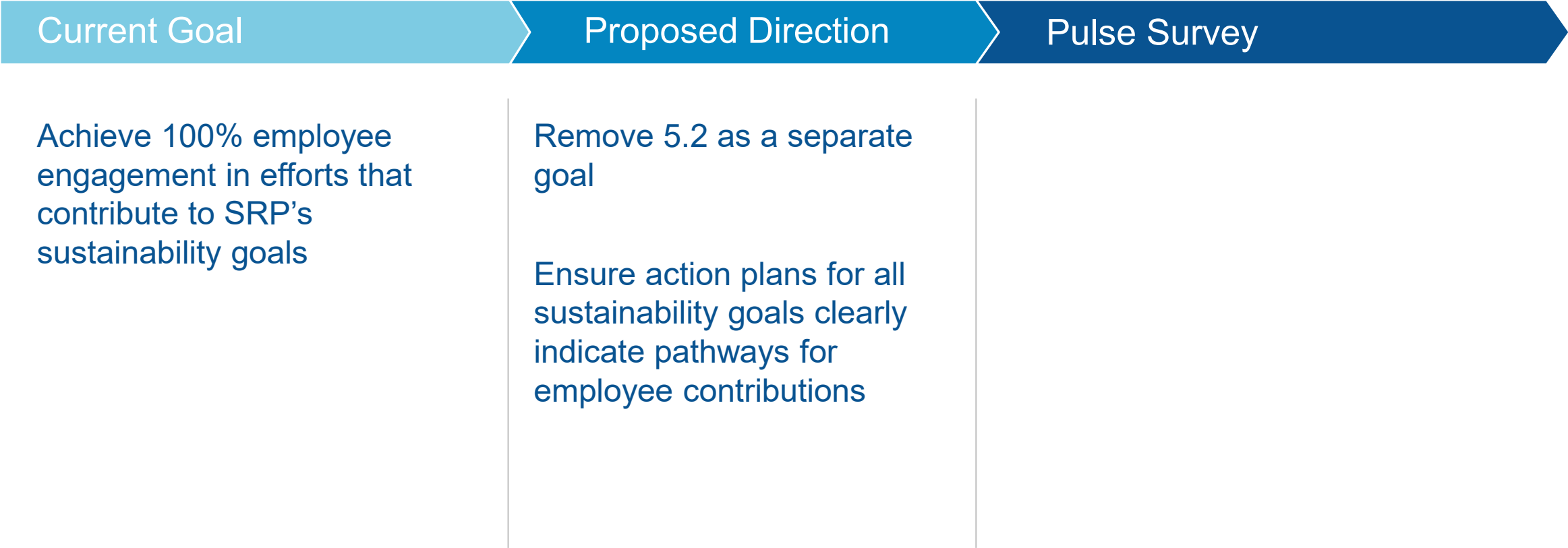
Current Goal: Achieve 100% employee engagement in efforts that contribute to SRP's sustainability goals

Proposed Direction:

Remove 5.2 as a separate goal.

Ensure action plans for all sustainability goals clearly indicate pathways for employee contributions, both direct and indirect

Goal 5.2 Employee Engagement



Closing Poll

Wrap Up and Next Steps

Thank you!

Save the Date!

Meeting #4 (AM)

Review updated goal proposals

Additional Session (PM)

Carbon follow up discussion

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Dec 2023