

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

SRP 2035 Sustainability Goals

Advisory Group Meeting #2

October 27, 2023

Welcome

Bobby Olsen

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

Safety & Sustainability Minute

Safety & Sustainability Minute

- **Have fun and stay safe**
 - Be cautious crossing the street and don't assume all cars will stop
 - Stay on well-lit streets
 - Remove any tripping hazards from your walkway
 - Keep pets safely indoors or secured on a leash
- **Have an eek-o-friendly Halloween!**
 - DIY or purchase a used Halloween costume
 - Donate your Halloween costume afterwards
 - Use an LED or solar-powered flashlight
 - Buy local pumpkins and reduce waste by roasting seeds and donating leftovers to a local farm for animal feed
 - Donate leftover candy to a local food bank



Welcome Board and Council Observers



Chris Dobson
SRP District 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

October 27th Agenda

| Time | Topics | Details |
|-------------|--------------------------------------|---|
| 8:00-8:30 | Gather | |
| 8:30-9:00 | Welcome & Meeting Overview | Survey results, reflections on meeting #1, aspirations for today's discussion |
| 9:00-10:20 | Generation Carbon | Review and discuss goal 1.1 |
| 10:20-10:30 | Break | |
| 10:30-11:00 | Generation Water | Review and discuss goal 2.4 |
| 11:00-12:00 | Facilities & Fleet Goals | Review and discuss goals 1.2, 2.1 and 1.3 |
| | Working Lunch | |
| 12:00-1:15 | Supply Chain & Waste Reduction Goals | Collect lunch, review and discuss goals 3.1, 3.2, and 3.3 |
| 1:15-1:30 | Wrap-up and Next Steps | Survey overall meeting and outline of following meetings |



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](#)

Welcome Our Facilitator



Kim Hartmann, Ed.D.
KCH Solutions LLC

Meeting Objective

Inform



*Sustainability Goal
Progress, New Context
& Lessons Learned*

Listen



Q & A

Refine



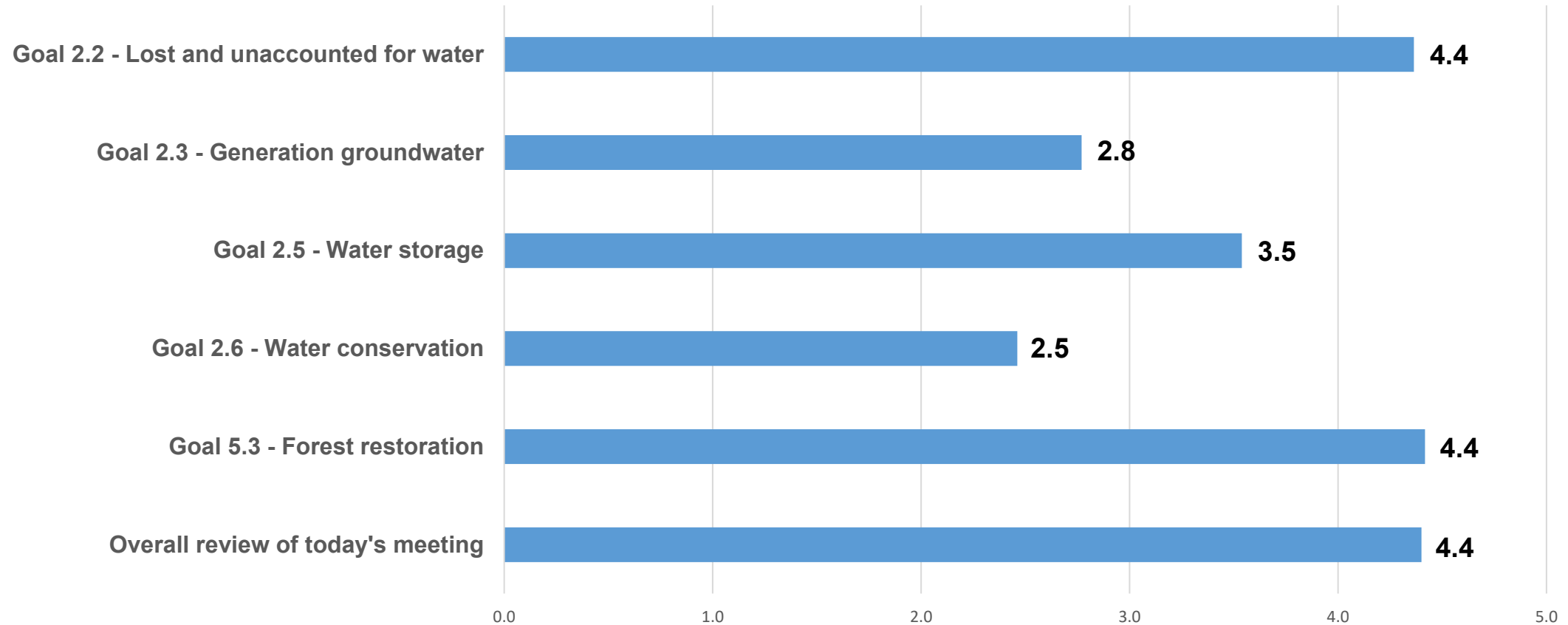
*Sustainability Goal
Recommendations to
the SRP Board*

Meeting Protocol

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



October 13th Pulse Survey Results



Advisory Group



Customer Utility Panel



SRP 2035 Goal Owner Discussion Framework

1. Level-set

2. Discuss

3. Update

4. Pulse Survey

1.1 Generation Carbon

Angie Bond-Simpson

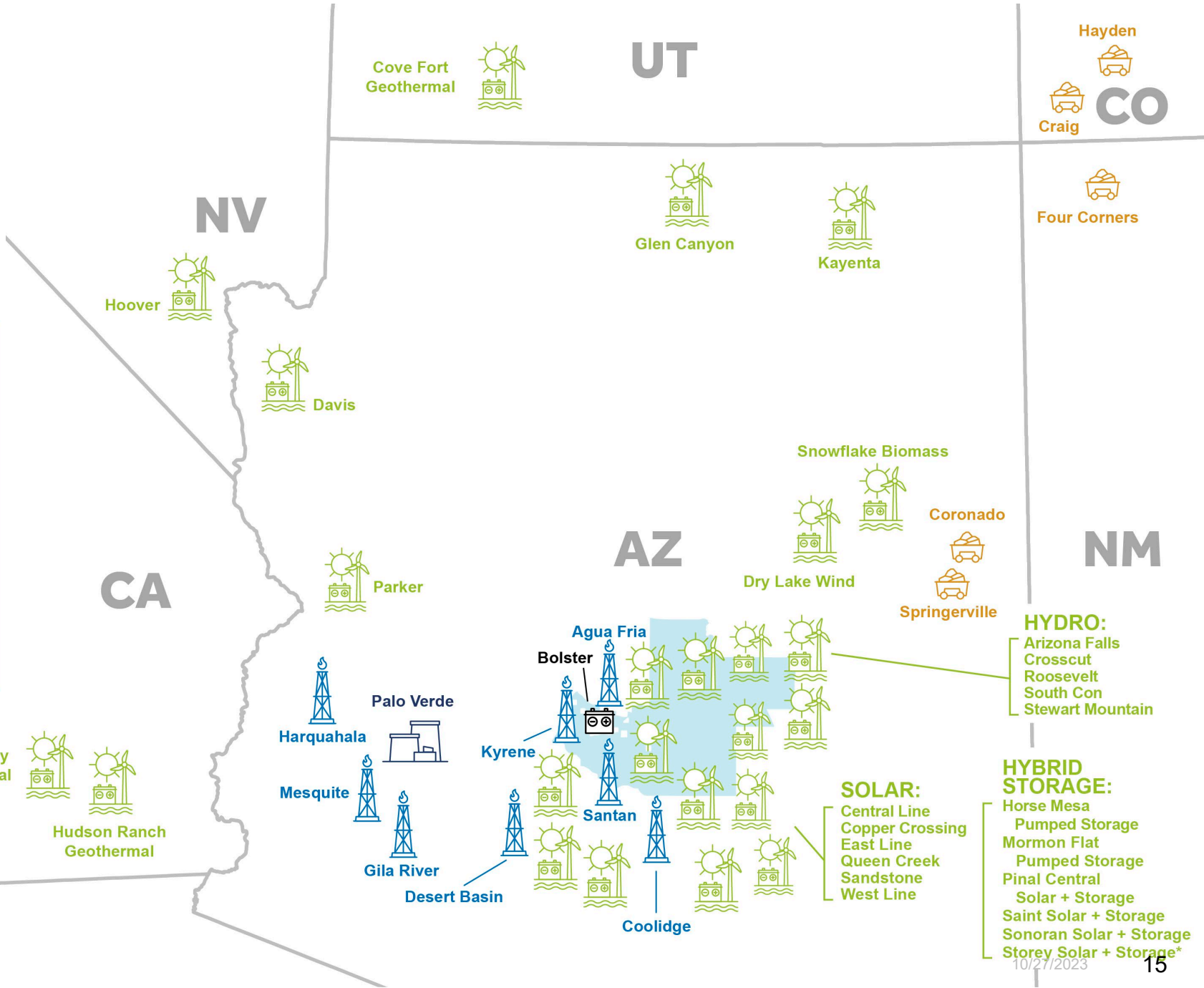
Senior Director, Resource Management

Where Does SRP Power Come From?

LEGEND

- Coal
- Natural Gas
- Nuclear
- Renewable
Solar, Storage, Wind, Hydro, Geothermal and Biomass
- Standalone Battery

**Map locations and size are not precise, nor to scale*

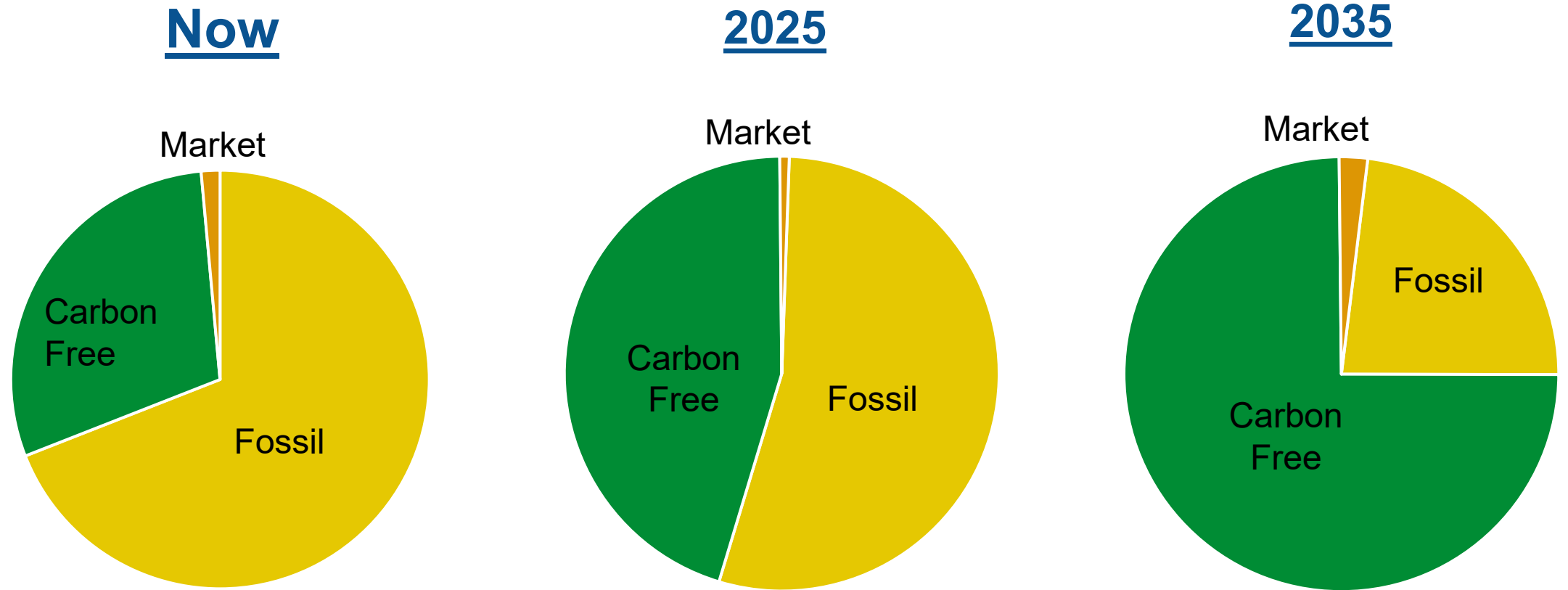


- HYDRO:**
- Arizona Falls
 - Crosscut
 - Roosevelt
 - South Con
 - Stewart Mountain

- SOLAR:**
- Central Line
 - Copper Crossing
 - East Line
 - Queen Creek
 - Sandstone
 - West Line

- HYBRID STORAGE:**
- Horse Mesa
 - Pumped Storage
 - Mormon Flat
 - Pumped Storage
 - Pinal Central
 - Solar + Storage
 - Saint Solar + Storage
 - Sonoran Solar + Storage
 - Storey Solar + Storage*

Transformational Change in SRP's Energy Mix

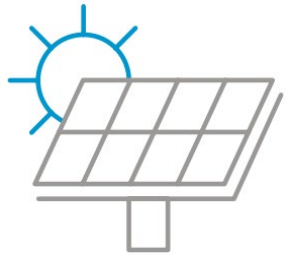


Key Takeaway: About 75% of energy needs will be met without carbon emissions by 2035

Based on fiscal year 2023 planning load and resource projections. Energy mix may change based on load growth and resource mix.

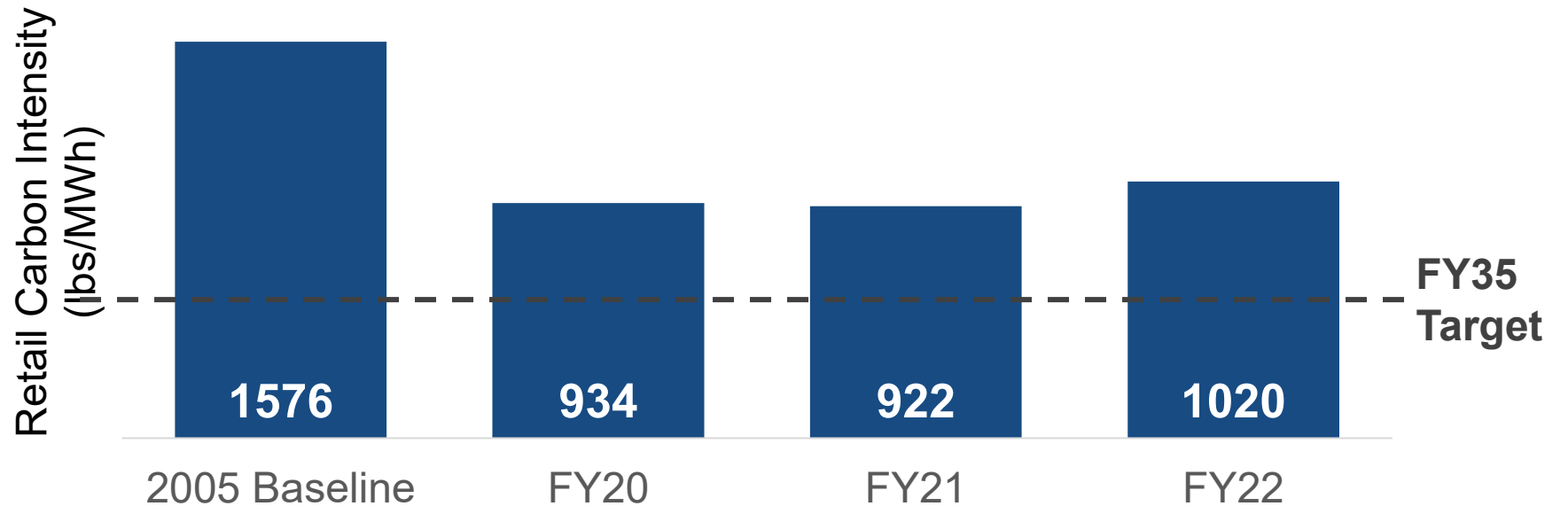
Where have we been?

1.1 Generation Carbon



Reduce the amount of CO2 emitted by generation (per MWh) by 65% from 2005 levels—FY50 target: 90% intensity reduction from 2005.

Progress Over Time



What We Have Accomplished

SRP's Steps Toward Goal Achievement

- Reduce coal
- Increase carbon free resources
- Develop long-lead carbon free resources
- Advance emerging technology
- Plan even more holistically



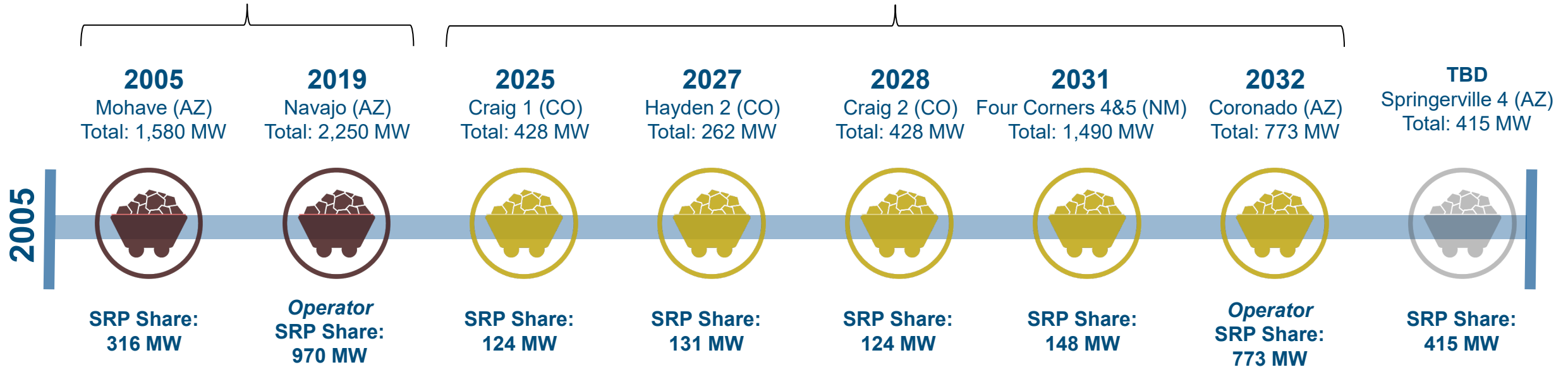
SRP's Steps Toward Goal Achievement

Reduce coal

ISP Action #8

~ 1,300 MW Retired

~ 1,300 MW Announced



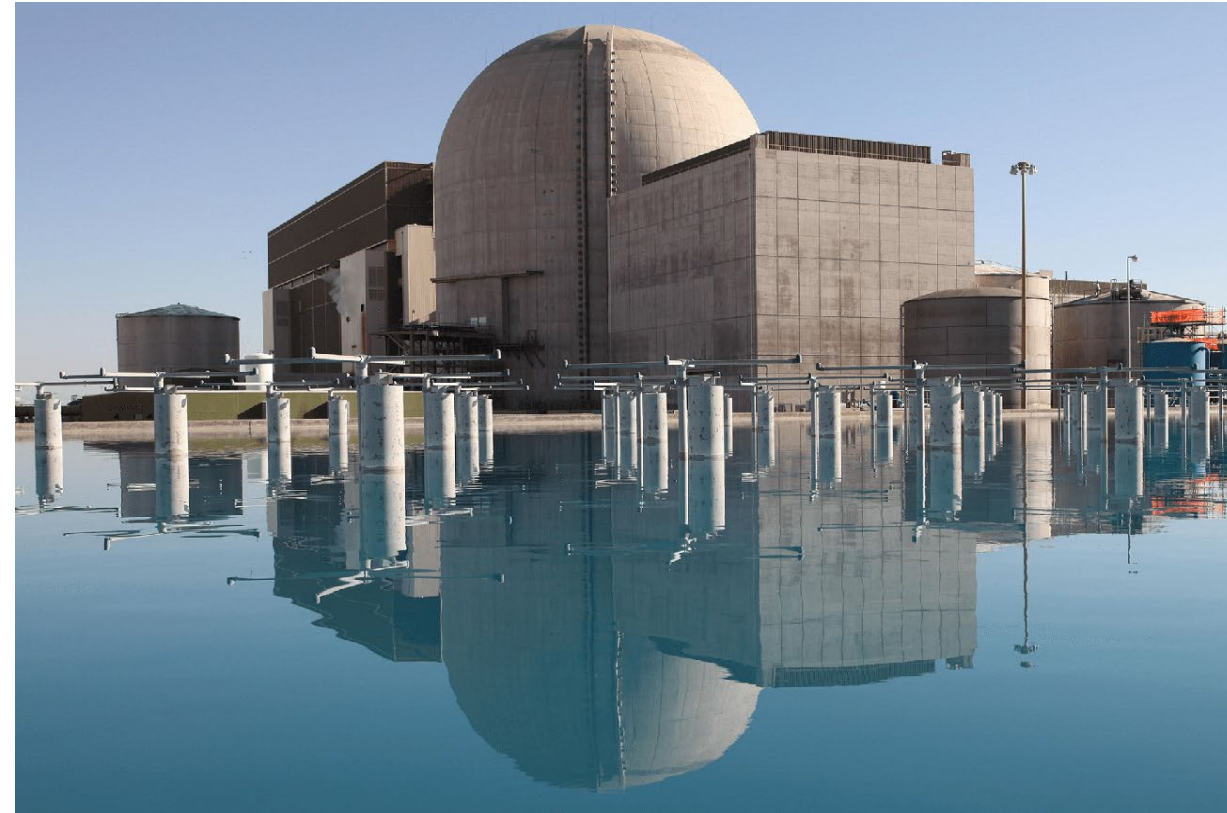
SRP's Steps Toward Goal Achievement

Increase carbon free resources

Palo Verde Nuclear Generating Station

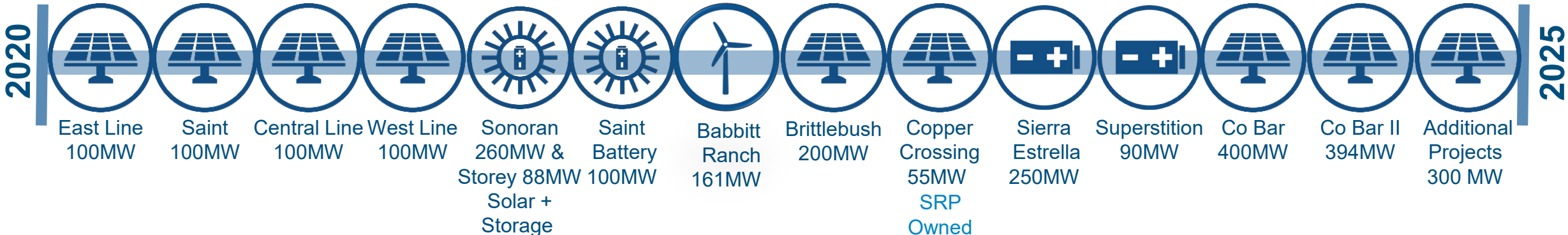
- +104 MW, January 2023
- +10 MW, January 2024

With this purchase, SRP increases the carbon-free energy delivered to our customers by up to 1,000,000 MWh each year, over 2.5% of our annual retail electricity.



SRP's Steps Toward Goal Achievement

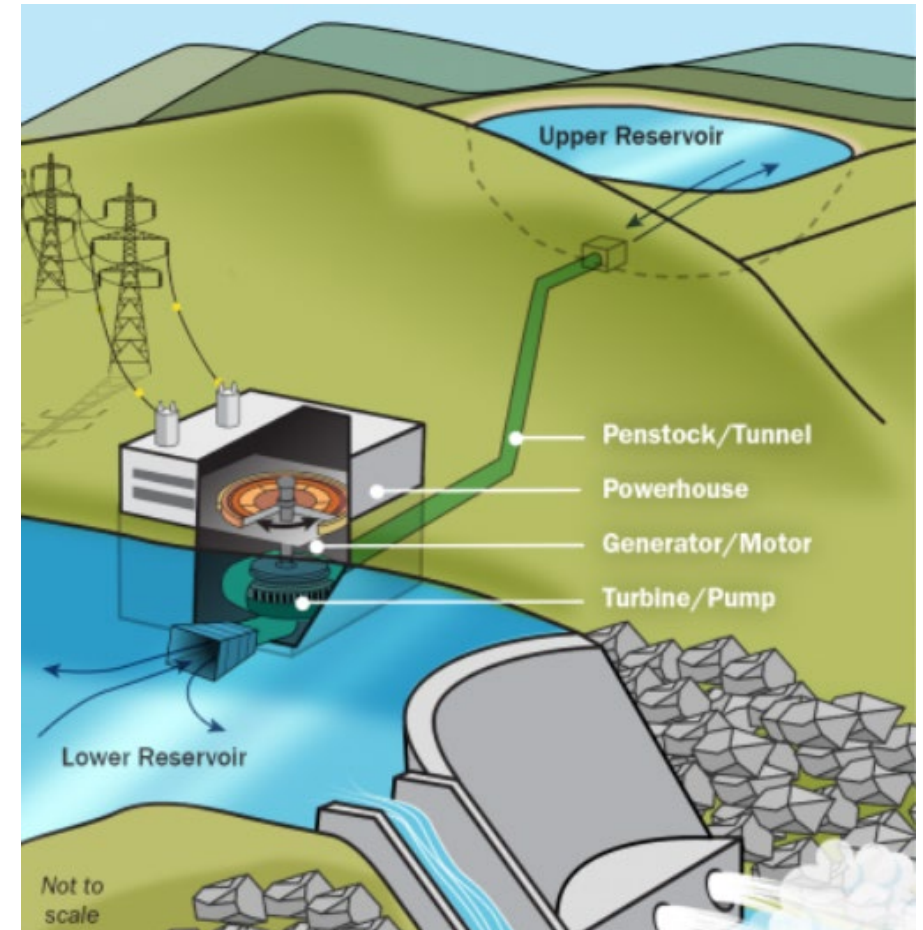
Increase carbon free resources



SRP's Steps Toward Goal Achievement

Develop long-lead carbon free resources

- Initiated early development of a Pumped Hydro Storage Project
- Up to 2,000 MW 10-hour duration
- Provides resource diversity
- Proven technology
- Long asset life



SRP's Steps Toward Goal Achievement

Advance emerging technology

- Issued Long duration storage RFP Sept 2022
 - 5-20 MW, 8-12 hour duration
 - Target 2025 online date
- Two finalists selected
 - CMBlu: 5 MW, 10-hour duration
 - Second project in negotiations
- Issued non-inverter based storage RFI Oct 2023



Developers of thermal, mechanical, and chemical energy storage.
Source: EPRI

SRP's Steps Toward Goal Achievement

Plan even more holistically

Energy Investments

Invest in renewable resources and storage to manage fuel consumption, and drive carbon and water reductions.

Capacity Investments

Invest in firm generation, including natural gas, to support reliability and manage affordability, while also supporting advancement of emerging firm technologies.

Proactive Transmission

Proactively plan to expand transmission infrastructure to enable generator interconnections and load growth.

Distribution Innovation

Ensure distribution grid readiness to maintain reliability and enable customer innovations to drive carbon reductions.



Strategic Investment & Reinforcement of Existing Assets

Reinforce and maximize value of existing infrastructure with strategic investments to manage affordability, and ensure future performance, grid security and resilience.

Evolution of Customer Programs & Pricing

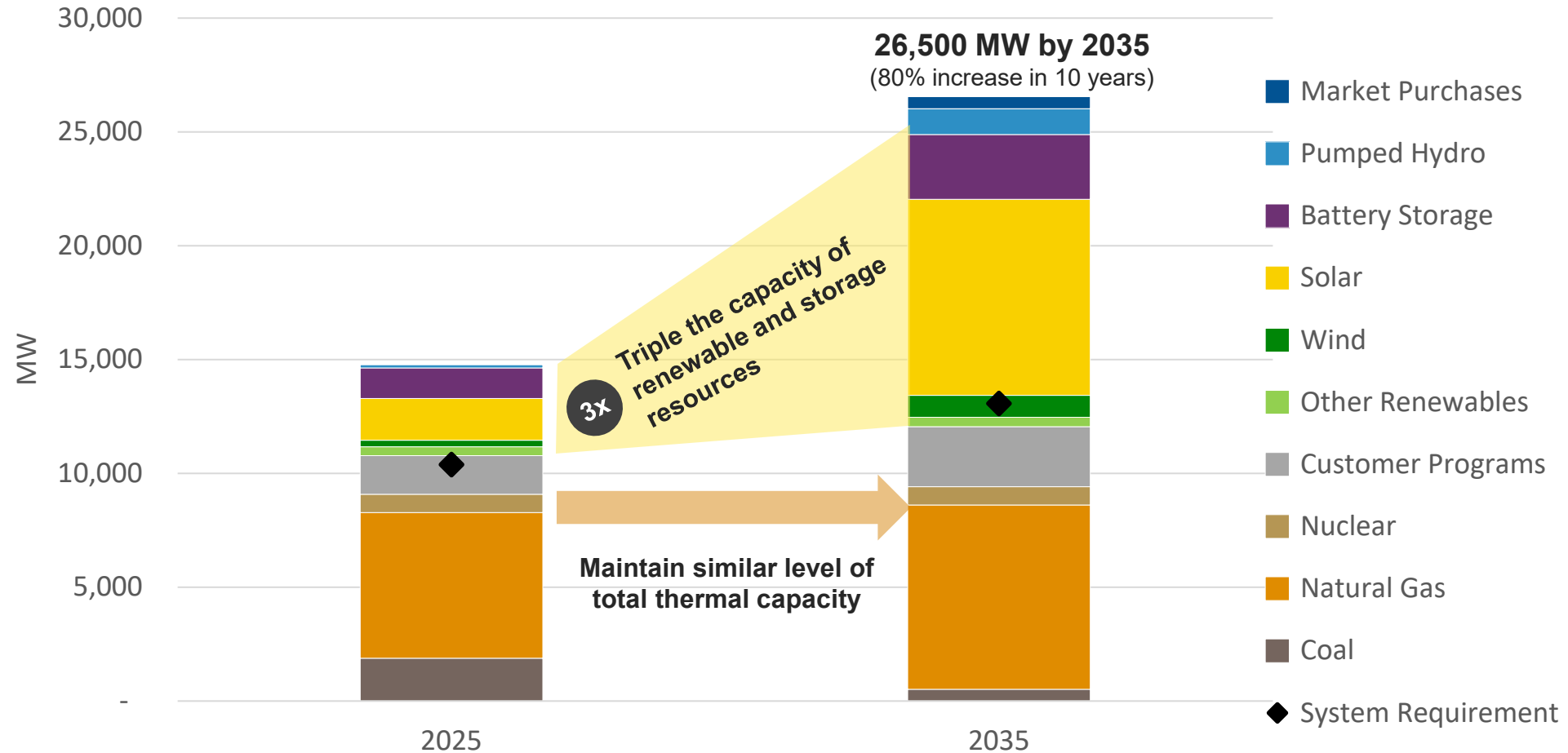
Evolve pricing and customer programs to improve economy-wide carbon reductions and pace infrastructure development, while recognizing customers' diverse needs.

Partnerships & Suppliers

Explore partnerships, supply chain and development solutions that manage cost and availability to meet the pace of transformation.

SRP's Steps Toward Goal Achievement

Plan even more holistically: ISP Balanced System Plan



**Any thoughts or
clarifying questions on
our accomplishments
to date?**

Considerations

Will the amount and pace of construction be feasible?

Will the energy transition be “cheap”?

Will emerging technology be ready?

What We Have Learned

Execution Risk is Real

Status of the 9 renewable energy projects under development:

- 903 MW on schedule or delayed less than 6 months
- 555 MW delayed more than 6 months
- 600 MW delayed more than 12 months
- 200 MW canceled

Further delays likely and SRP is working diligently with developers to minimize delays

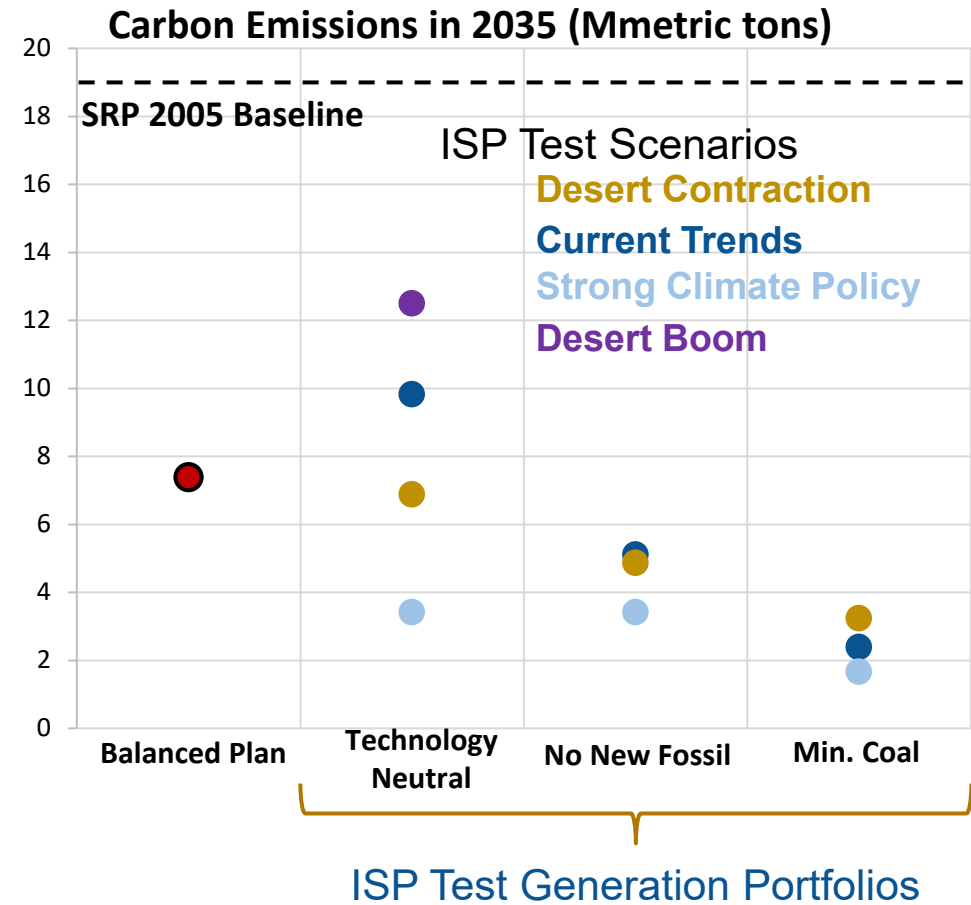
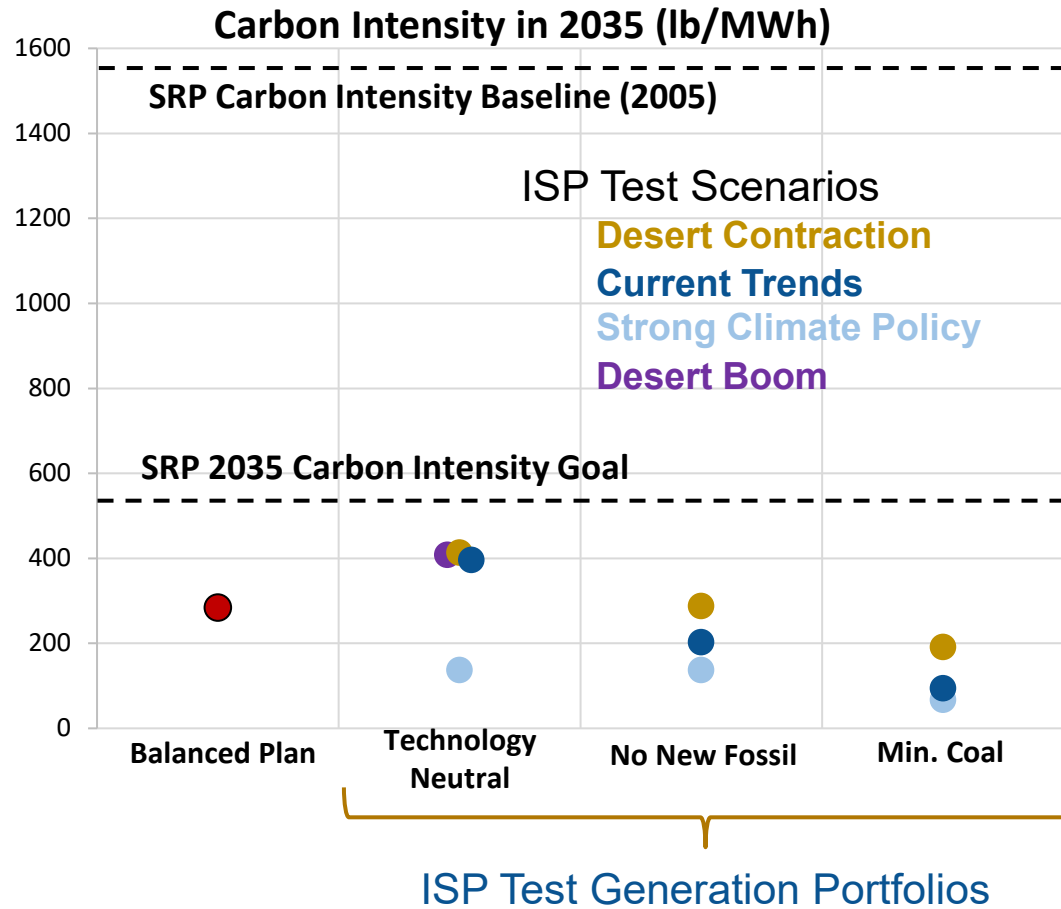


ISP Results: System Investments Needed at a Rapid Pace

- New renewables **combined with** firm capacity are part of a least-cost portfolio, even under a wide range of gas price and technology cost sensitivities.
- SRP will need to **double** if not **triple** resource capacity in the **next decade** to serve customers while achieving reliability and sustainability goals. This is an unprecedented pace.
- Without **new firm generation capacity**, the system cannot satisfy reliability requirements under a high load growth scenario.
- **Hundreds of miles** of new or upgraded transmission lines and nearly double the number of 500/230 kV transformers could be needed relative to today. Location matters.
- SRP will need to **evolve programs and price plans** to shift consumer behavior, and further educate customers on when to consume and when to conserve energy.

Lower Carbon Goal May Be Within Reach

As illustrated by ISP Analysis Results



Residential Customers ask for Consideration of Cost

66%

Rated
Positively

Most customers reacted positively to SRP's proposed path forward, and a quarter felt it was excellent. A majority agreed the plan should be prioritized by SRP



Top factors: affordability & bill impacts

- In each quantitative phase of research, **affordability surpassed reliability slightly in importance.**
- Those with **limited incomes put greater emphasis on affordability.**
- When choosing a future energy system customer selections revealed **monthly bill impact as the top driver of preference.**



Customer understanding and openness to change

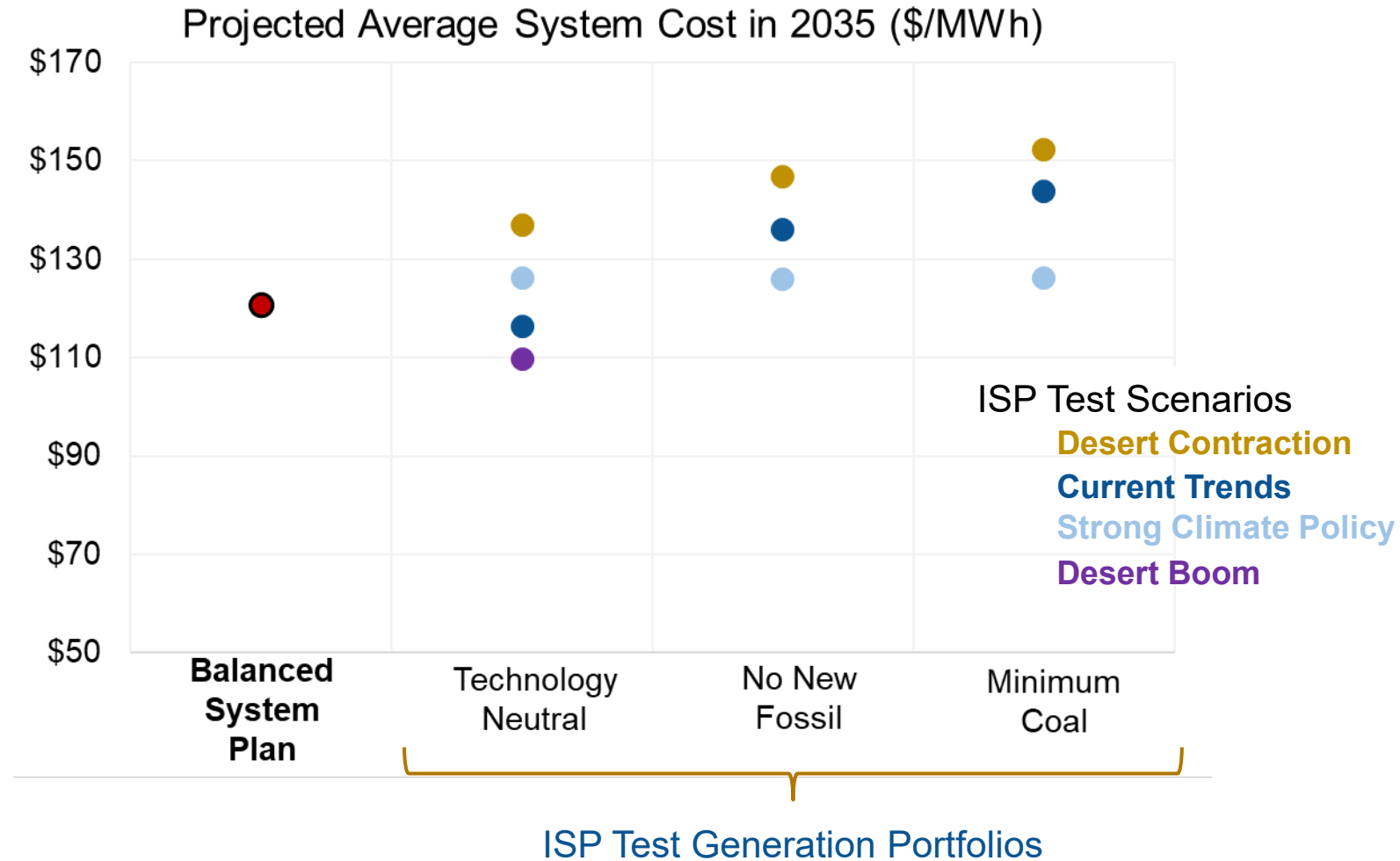
- Customers recognized that **challenges are interrelated** and pose **risks to sustainability, the economy, and overall quality of life.**
- In general, **lower-cost plans were more preferred.**
- Customers recognized the need for and expressed interest in SRP's investment in sustainable energy, but they **do not want to bear the cost of that investment.**

Cost Considerations

As illustrated by ISP Analysis Results

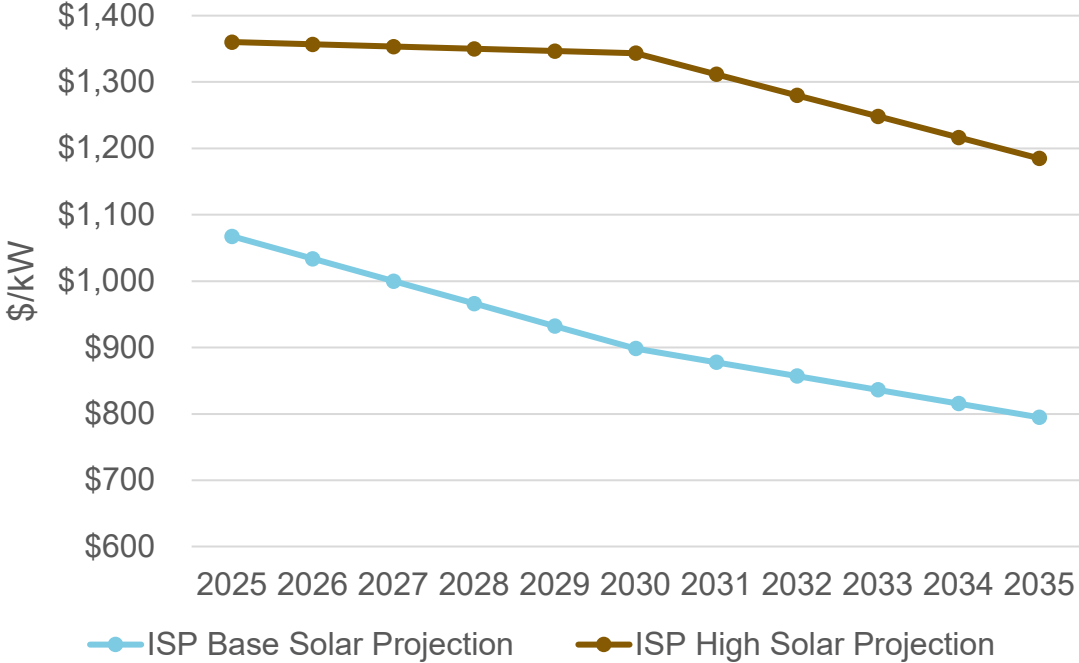
- Range of system cost affected by factors out of SRP's control
- For every \$/MWh increase, roughly equivalent to \$54M

Key Takeaway: Managing costs requires careful consideration and availability of infrastructure options

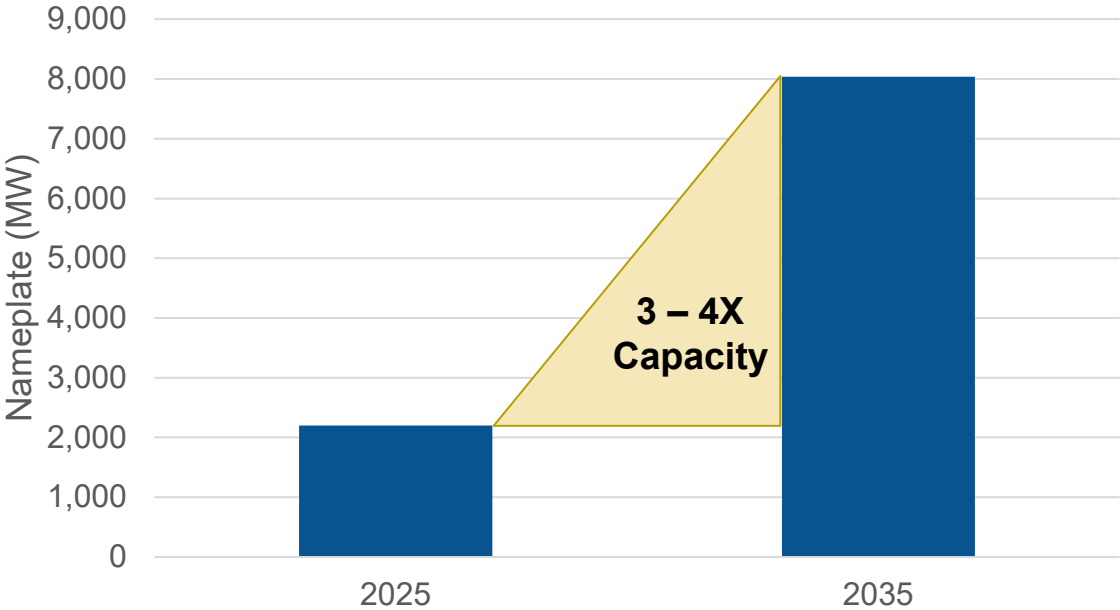


Characterizing Cost Risk: Solar Example

Solar Price Forecasts



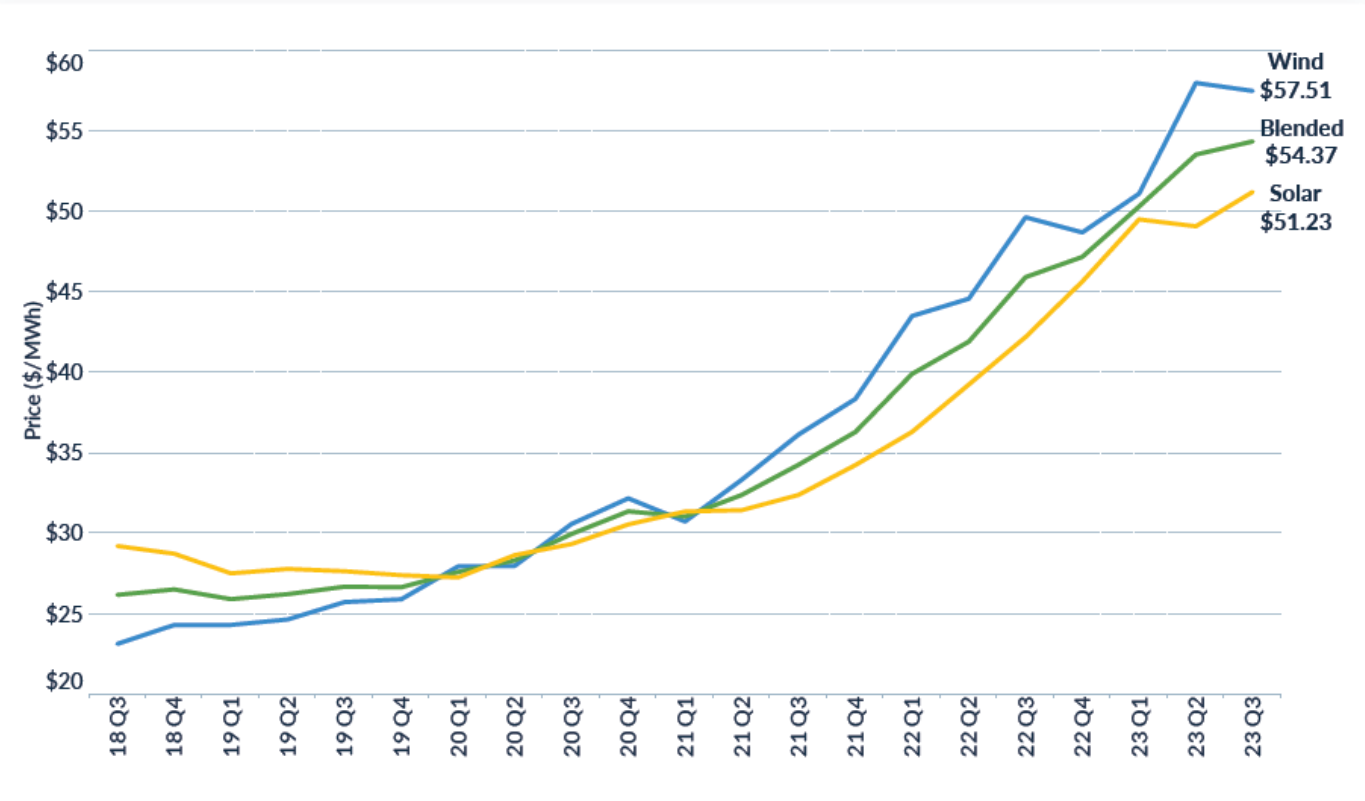
SRP Balanced System Plan
Solar Capacity Online



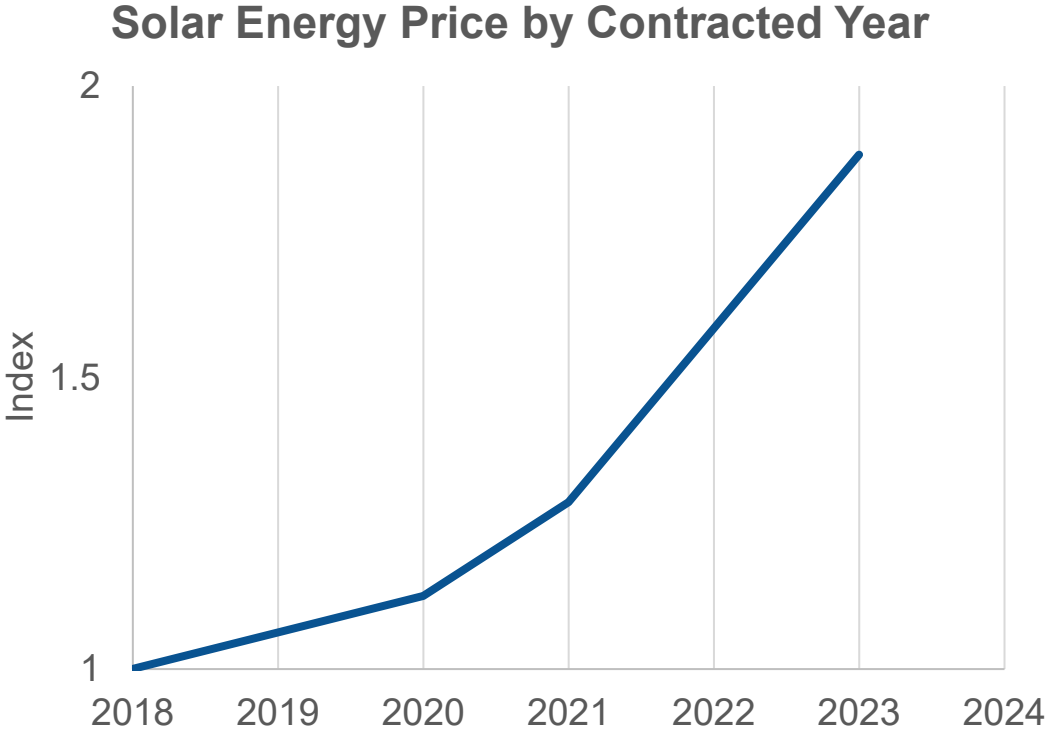
Key Takeaway: If solar costs follow the high forecast, SRP customers will spend an additional \$2 billion to add 6,000 MW of solar

Solar PPA Prices Continue to Rise

LevelTen National Data

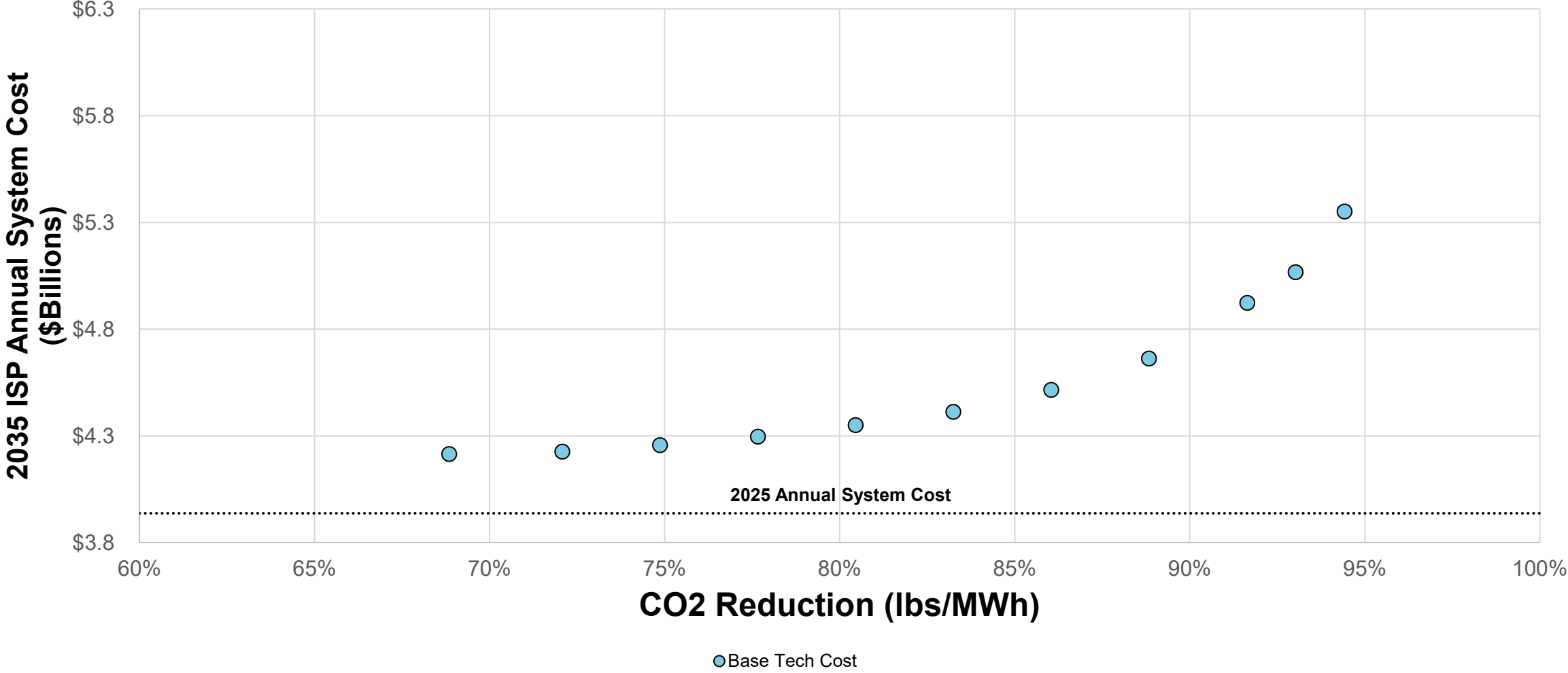


SRP Data

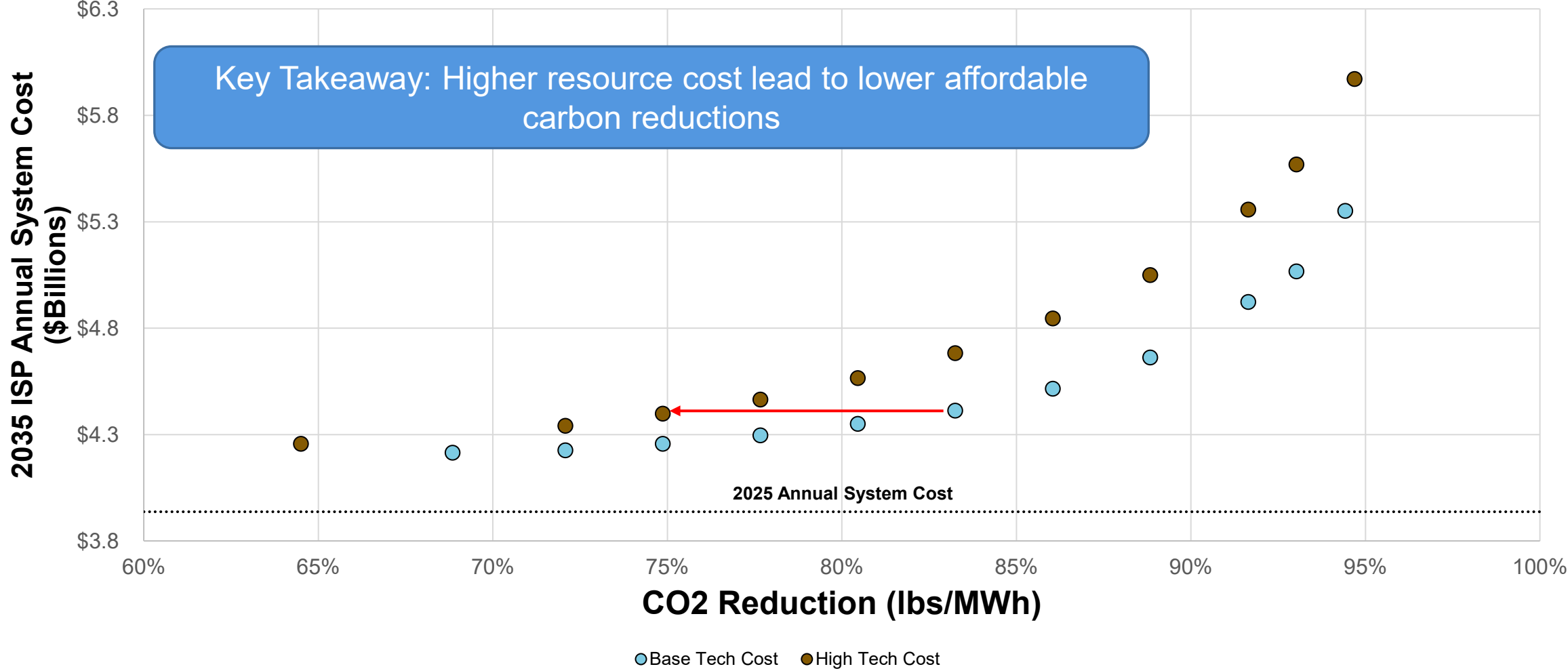


Key Takeaway: Solar PPA prices have increased by approximately 100% since 2018; SRP has observed the same trend over last several RFPs

Finding Balance



Finding Balance



How do we move forward together?

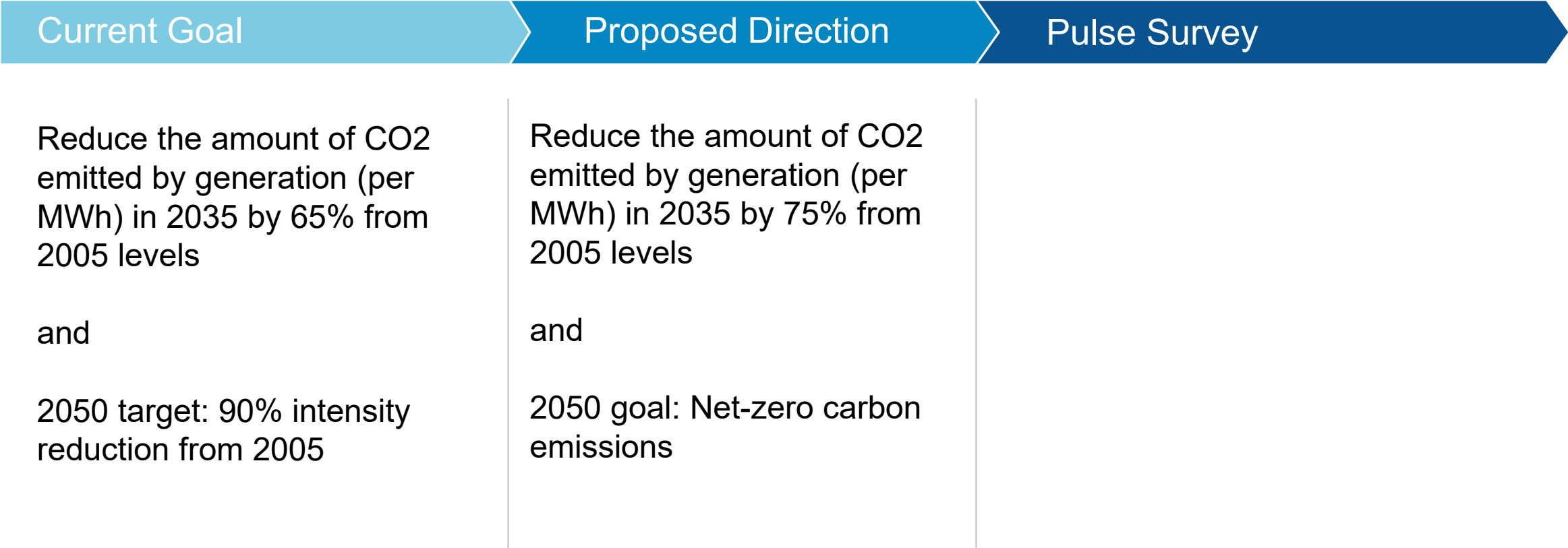
Current Goal: Reduce the amount of CO2 emitted by generation (per MWh) by 65% from 2005 levels — 2050 target: 90% intensity reduction from 2005

Proposed Direction:

Reduce the amount of CO2 emitted by generation (per MWh) in 2035 by 75% from 2005 levels

2050 goal: Net-zero carbon emissions

Goal 1.1 Generation Carbon



Break

2.4 Generation Fleet-Wide Water Reduction

Kyle Tilghman

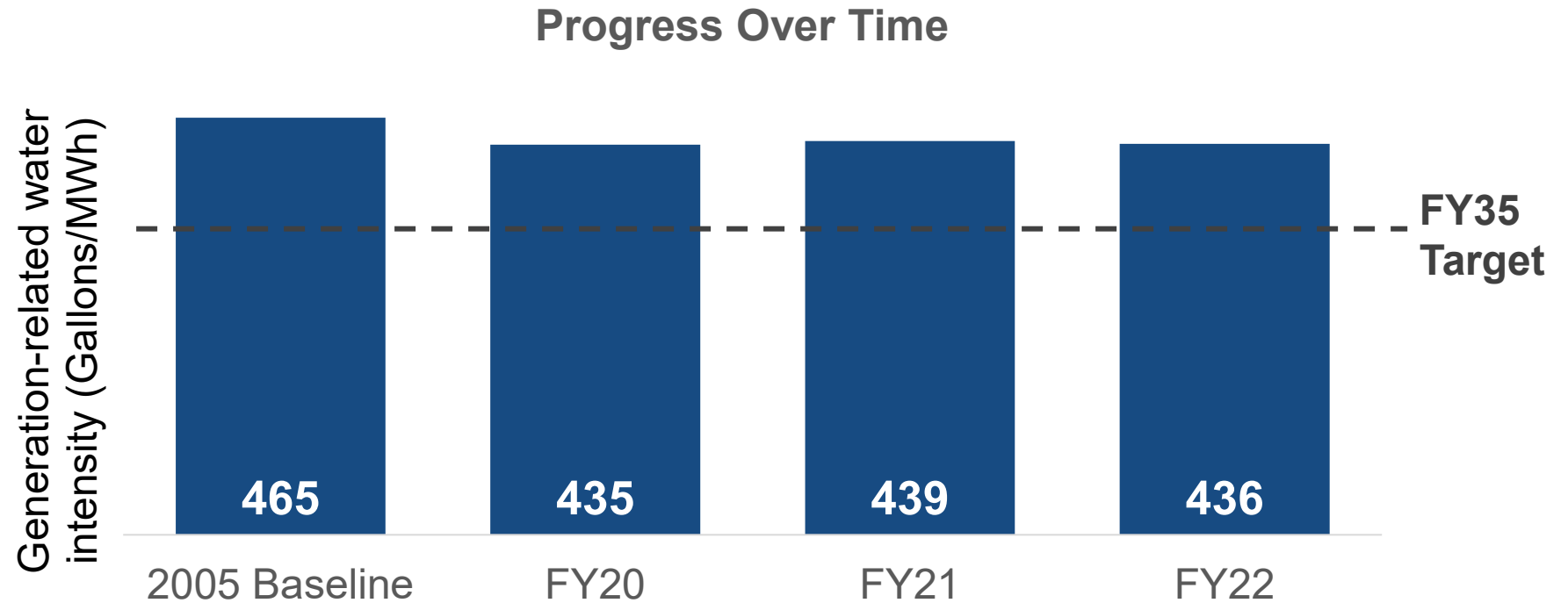
Director, Water Strategy

Where have we been?

2.4 Generation Water



Achieve 20% reduction in generation-related water use intensity across all water types by 2035.



What has changed and what have we learned?

- Retirement of Navajo Generating Station
- Development and on-boarding of solar facilities
- Installed lower water use generation resources
- Implement turbine upgrades at Gila River and Santan
- SRP joined the Energy Imbalance Market (EIM)



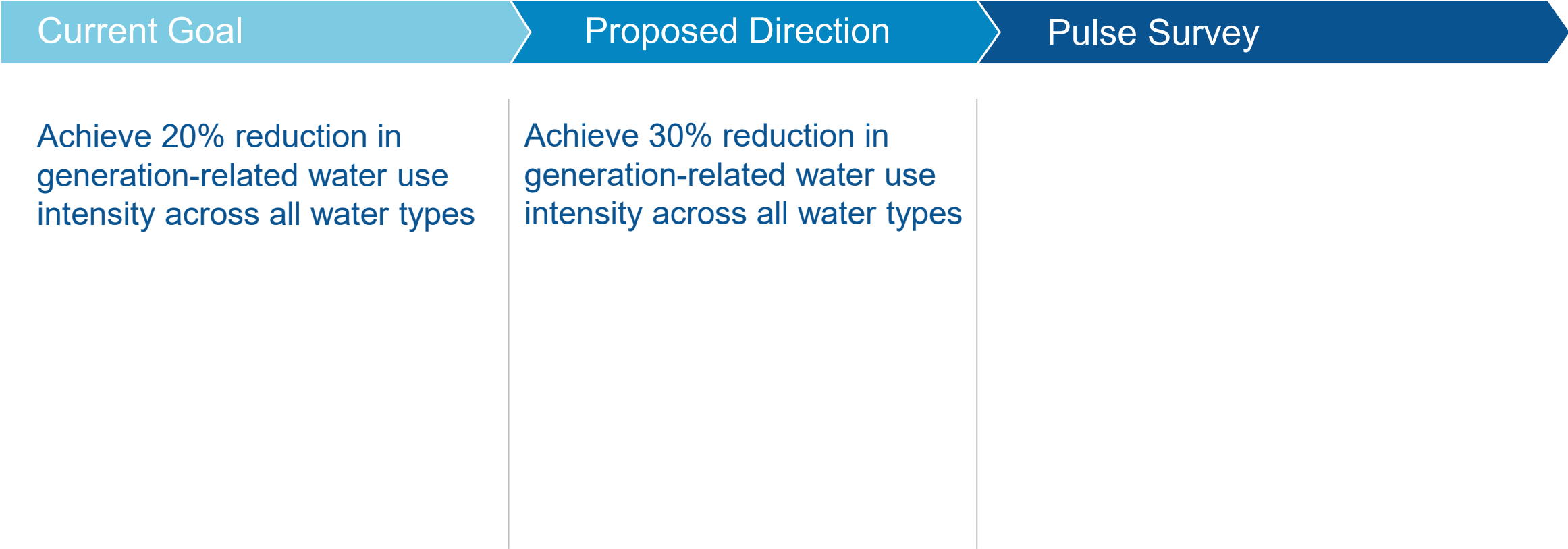
How do we move forward together?

Current Goal: Achieve 20% reduction in generation-related water use intensity across all water types by 2035.

Proposed Direction:

Achieve 30% reduction in generation-related water use intensity across all water types.

Goal 2.4 Generation Fleet-Wide Water Reduction



1.2 Facilities Carbon

2.1 Facilities Water

Brian Heath

Senior Director, Facilities and MCM Services

Where have we been?

2019

Goal Development

- 1.2 - Facilities carbon reduction by 30%
- 2.1 - Facilities water reduction by 45%

Data and Systems

- Very manual data collection process
- Input on large spreadsheet

Culture and People

- Engage Facilities teams

Energy and Water Efficiency

- Operating without a predetermined plan

2023

Goal Progress

- 1.2 – Reduced facilities carbon by ~27%
- 2.1 – Reduced facilities water by ~10%

Data and Systems

- Slightly more automated
- Data is visible on dashboard

Culture and People

- Enhanced Facilities involvement
- Engage internal clients
- Working to engage with external community
- Created an internal governance team

Energy and Water Efficiency

- Incorporating sustainability components into project designs
- Developed Sustainability Guidelines
- Developed Landscape Standards
- Advanced use of controls, timers, sub-meters, building automation systems

What has changed and what have we learned?

Improvements

- Data Maturity
- Shift in Facilities Attention

Disruptive Factors and/or Constraints

- Pandemic - Shift in use of buildings
- Portfolio
 - Added new buildings, offboarding sites, hybrid work, and large-scale modernization projects



How do we move forward together?

Moving Forward

- Keep existing reduction goals already in place, but refine processes
 - Refrigerant collection process, data processes, and automation
- Understand project impacts by collecting and analyzing data

Contribute to Broader Community

- Industry Peer Meetings
- Facilities Services Sustainability Brown-Bag Sessions

Internal Facilities Services Sustainability Governance Team

- Working to continuously improve sustainability processes
- Help keep projects moving forward
- Specific support to implement goal achievement



Facilities Goals 1.2 and 2.1

| Current Goal | Proposed Direction | Pulse Survey |
|---|------------------------------------|--------------|
| <p>1.2: Reduce carbon emissions from facilities by 30% on a mass basis.</p> | <p>1.2: Maintain current goal.</p> | |
| <p>2.1: Reduce water use at SRP facilities by 45% on a mass basis.</p> | <p>2.1: Maintain current goal.</p> | |

1.3 Fleet Carbon

Kate Kochenderfer

Senior Director, Supply Chain, Transportation and Flight Services

SRP Fleet Overview



2,443 Fleet Assets

- 83 Retired Retained Assets
- 264 Assets On order
- 10.1% Electrified



\$108M depreciated fleet value

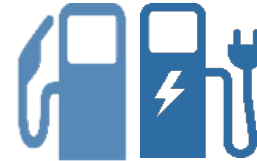
- 7.9 years average fleet age



91 personnel

- Maintenance Operations
- Fleet Engineering Operations

6 Garage locations



1.66M Gallons of Fuel

- 32.5M lbs. of CO2

| | | |
|-------------|-----|----------|
| Bio Diesel | 48% | 963k gal |
| Diesel | 13% | 89k gal |
| Unleaded | 39% | 611k gal |
| Electricity | | 59.6 MWh |



40,390 Repair Actions



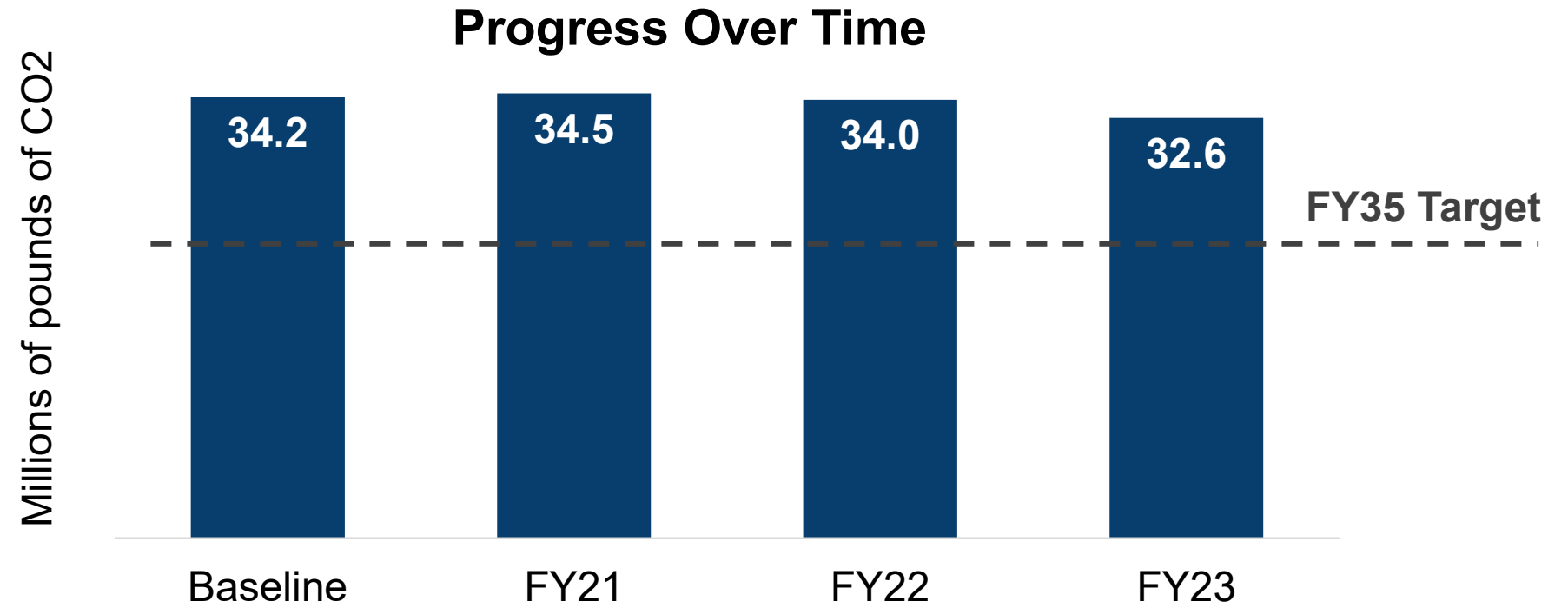
16.8 Million Miles Driven

Where have we been?

1.3 Fleet Carbon



Reduce carbon emissions from fleet by 30% on a mass basis



What has changed and what have we learned?

- **Vehicle Availability**
 - Pandemic
 - Supply Chain Disruption
- **Addition of EV/Hybrid to Fleet**
 - 220 Electric/Hybrid Fleet Assets
 - 35 Electrified Vehicles on Order
- **Usage**
 - Growth of Service Territory
 - Keeping older Vehicles longer
 - Telematics Deployment



How do we move forward together?

Current Goal: Reduce carbon emissions from fleet by 30% on a mass basis

Proposed Direction:

Maintain current goal with a greater focus on driver awareness and on electrifying medium-size fleet trucks.

myGeotab Telematics Portal

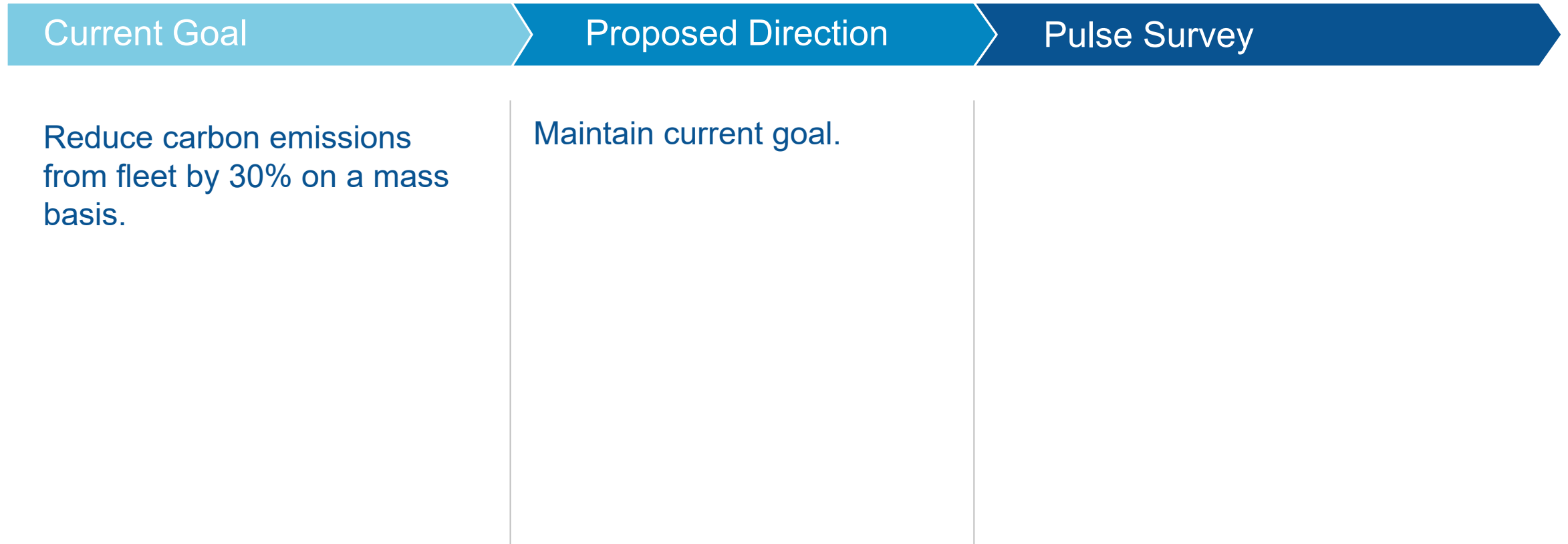


SUSTAINABILITY

- Utilization Data
- Electrification Potential
- Fuel Use / CO2 Output
- Idle Reporting



Goal 1.3 Fleet Carbon Reduction



Lunch

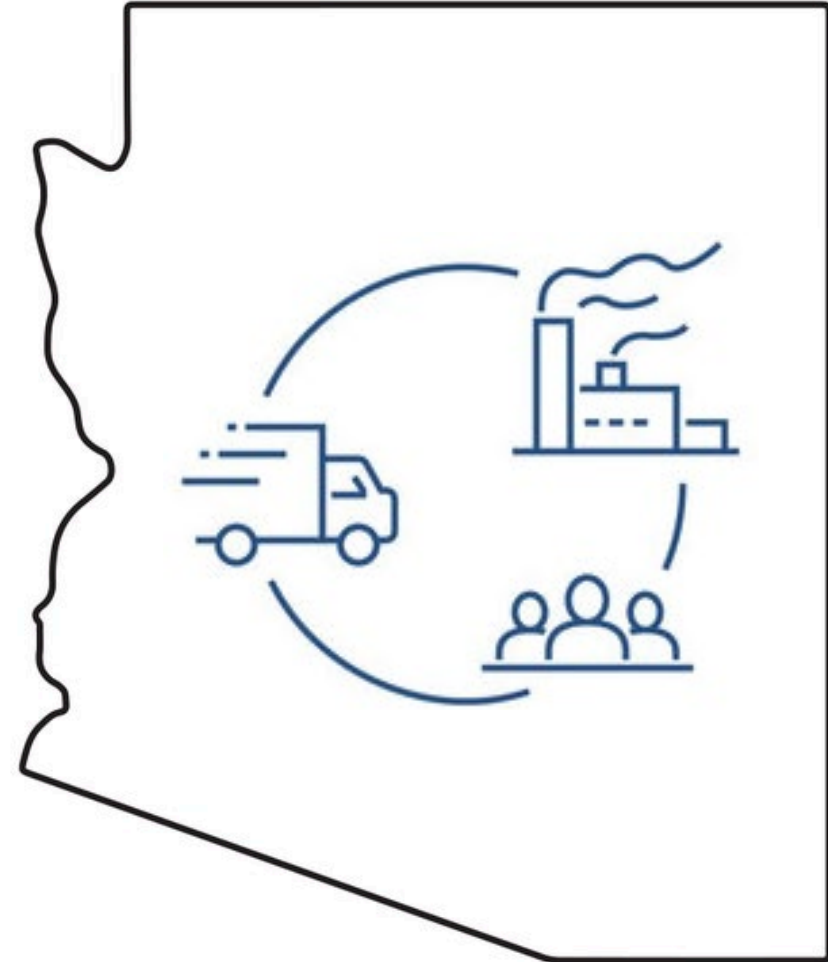
3.1 Supply Chain

Kate Kochenderfer

Senior Director, Supply Chain, Transportation and Flight Services

SRP Supply Chain Overview

- **~\$2 billion** POs issued for goods and services
- **32,200** Purchase Orders created
- **56,160** annual deliveries
- **\$241M** Spend with Diverse Suppliers
- **\$397M** Spend with Local Suppliers

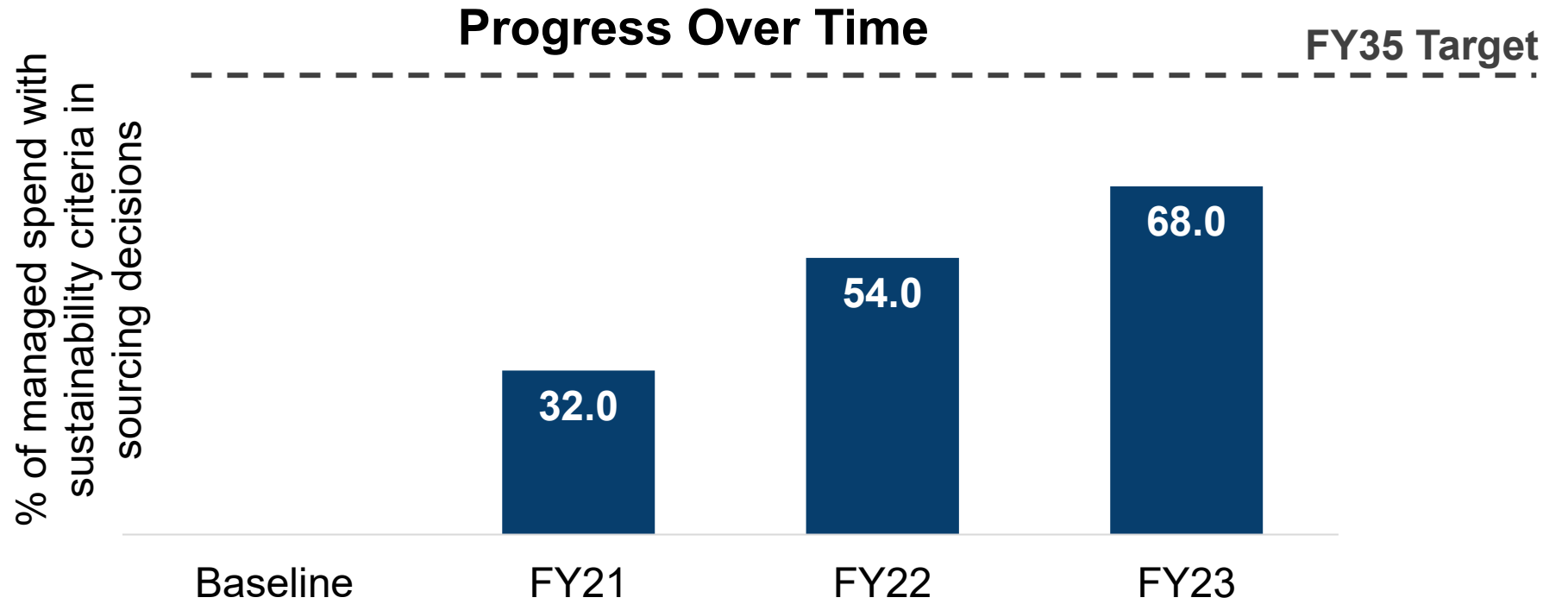


Where have we been?

3.1 Supply Chain



Incorporate Sustainability criteria into sourcing decisions for 100% of managed spend



What has changed and what have we learned?

- **Circular Supply Chain**
- **Supply Chain Disruption**
- **Supplier Relationships**
 - Supplier Onboarding
 - Supplier Diversity
- **Technology**



How do we move forward together?

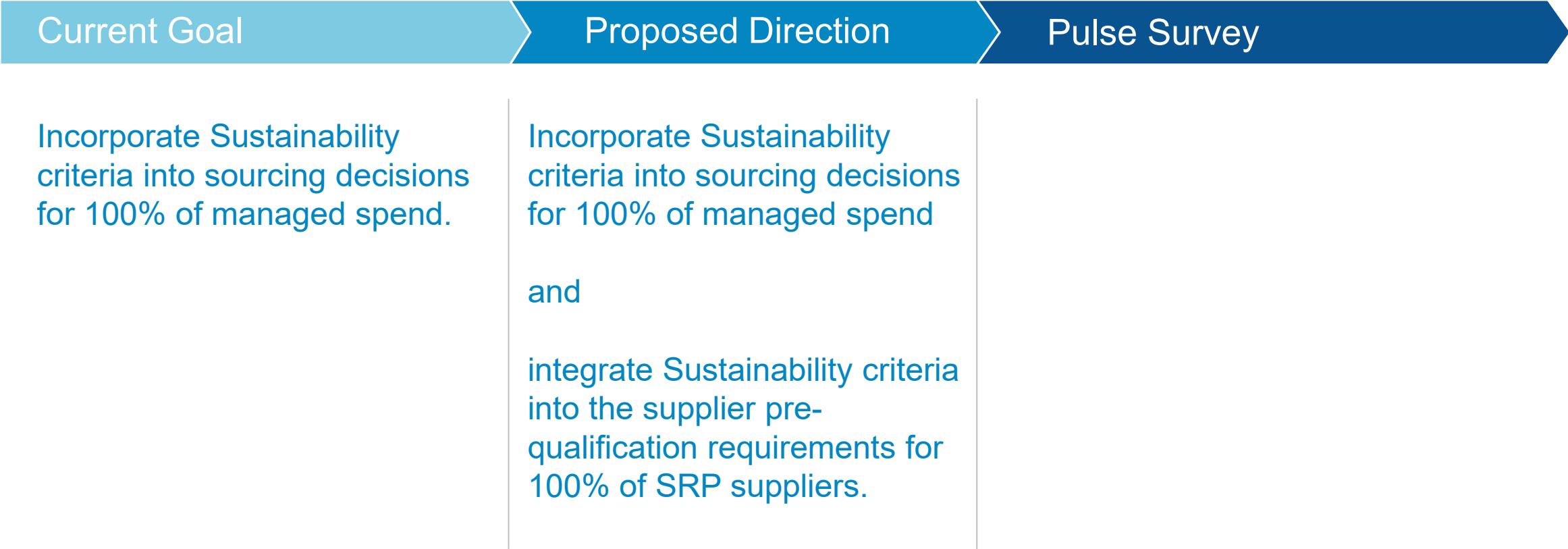
Current Goal: Incorporate Sustainability criteria into sourcing decisions for 100% of managed spend

Proposed Direction:

Expand Supply Chain goal to focus on gathering supplier sustainability information for 100% of suppliers during onboarding/pre-qualification.

- **Formal RFPs**—Purchasing will continue to incorporate sustainability criteria into all formal RFPs.
- **Supplier Showcase in 2024**—SRP, other local utilities and large suppliers to host small, local, women, and diverse businesses to learn about doing business with utilities, including focus on sustainability.
- **Internal Training and Communication**—Internal education and communication for business areas across SRP.
- Publish SRP's **Supplier Code of Conduct** including a declaration of our commitment to environmental sustainability and expectations of our business partners (suppliers).
- **Technology**—Continue to work on enhancing technology solutions to provide better tracking and reporting of supply chain practices, including sustainability of our suppliers.

Goal 3.1 Supply Chain



3.2 Municipal Waste

3.3 Industrial Waste

Kate Kochenderfer

Senior Director, Supply Chain, Transportation and Flight Services

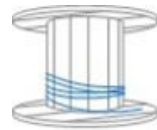
Where have we been?

3.2 Municipal Waste



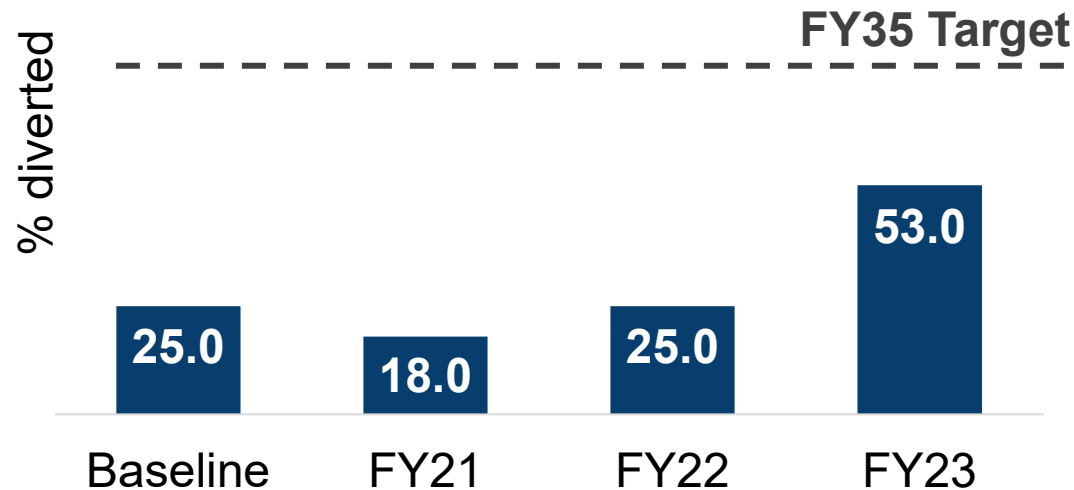
Divert 75% of Municipal Solid Waste – 2050 target: Divert 100% of Municipal Solid Waste

3.3 Industrial Waste

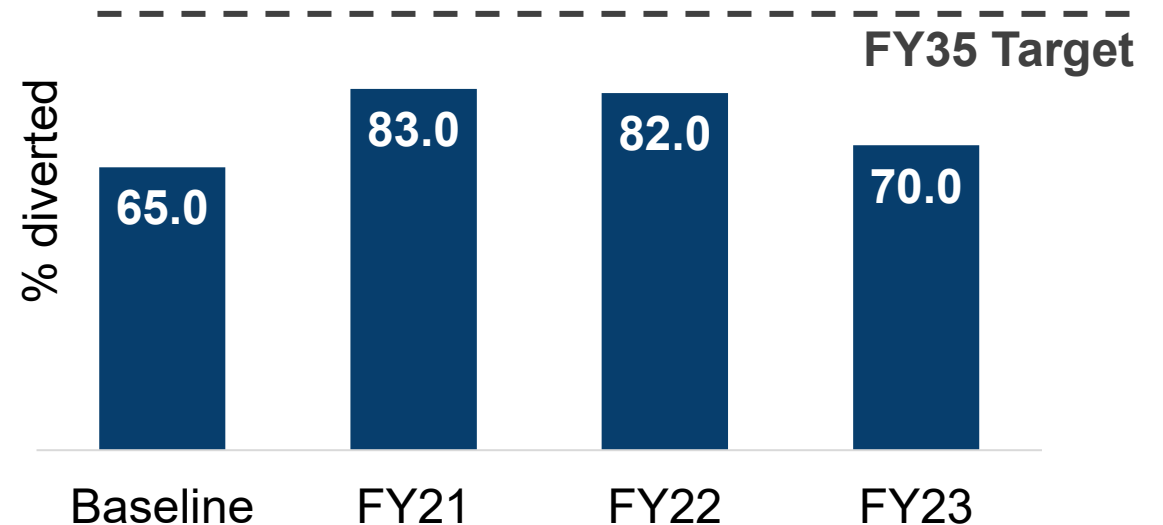


Divert 95% of non-hazardous Industrial Solid Waste sent to Investment Recovery

3.2 - Progress Over Time



3.3 - Progress Over Time



SRP Supply Chain Sustainable Solutions Overview

- Disposition of all retired and unused assets
- Develop ReEnvision Waste and Circular Supply Chain Strategies
- Shred cable to reclaim copper and aluminum
- Refurbish warehouse material
- Waste and shredded paper contracts
- Monitor bins at all sites and field



What has changed and what have we learned?

Supply Chain Constraints

- Increased focus on refurbishment of materials
- Shifting diversion opportunities to reuse vs. recycle

Change Management

- Back to basics campaign
- Simplification for office bin labeling and field signage
- Stakeholder training for industrial waste diversion is a large undertaking

Data Model Improvement

- Simplified and revamped waste categories
- Combined waste data inputs for reporting efficiency

How do we move forward together?

Current Goal: 3.2 - Divert 75% of Municipal Solid Waste – 2050 target: Divert 100% of Municipal Solid Waste

Current Goal: 3.3 - Divert 95% of non-hazardous Industrial Solid Waste sent to Investment Recovery

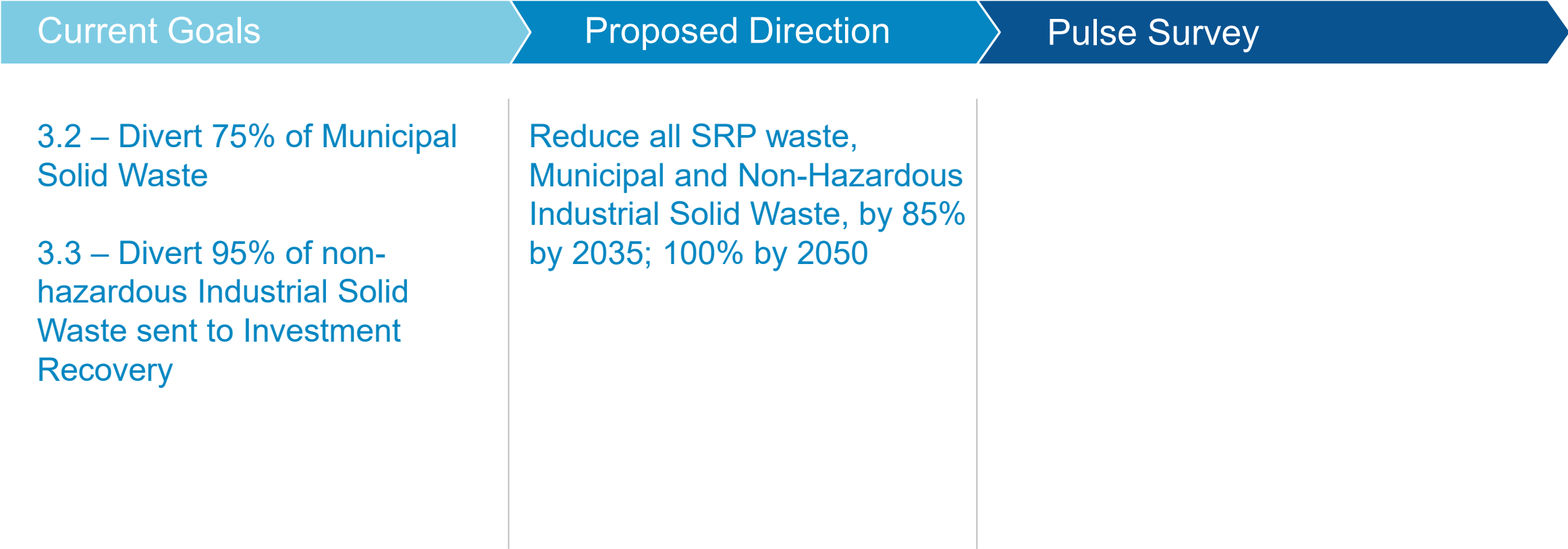
Proposed Direction:

Combine Waste Goals into one overall Waste reduction focused goal for the entire company.



<https://video.snapstream.net/Play/91vWvTMAGUv8JsntvprFf8?accessToken=t8otniyrysnn>

Goal 3.2 & 3.3 Waste Goals



Closing Polls

Wrap Up and Next Steps

Thank you!

Save the Date!

**2035 SUSTAINABILITY
ADVISORY GROUP**

Meeting #3

*Customer and Grid Enablement
Customer Sustainability Rating
Employee Engagement*

17

Nov
2023