POWERING THE FUTURE: GENERATION PLAN UPDATE

CONNECTING • LISTENING • ENGAGING • SERVING

PRESENTED BY:

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January 12, 2023

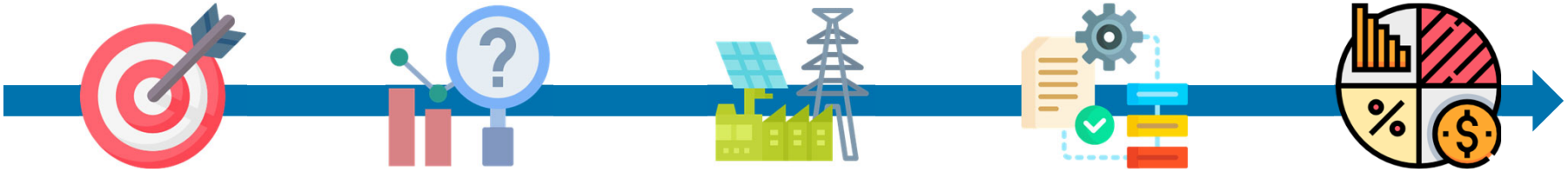
Informational Update

AGENDA

- COMMUNITY PATHWAY TO POWERING THE FUTURE
- GENERATION PLANNING OBJECTIVES
- PREFERRED PORTFOLIOS
- INFLUENTIAL FACTORS
- PATH FORWARD

Resource planning is an ongoing and fluid, iterative process to be updated as market reforms are implemented and technology matures. We intend to update our views annually.

POWER GENERATION RESOURCE PLANNING APPROACH



Identify Planning Objectives

Agree on planning objectives and metrics to measure the performance of the plan against each objective

Develop Market Scenarios

Identify key sources of uncertainty and the potential range of future outcomes, and design internally consistent future scenarios

Develop Resource Portfolios

Design options for future resource plans, based on different future scenarios and priorities

Portfolio Modeling & Analysis

Evaluate the performance of each resource portfolio against each future scenario, stochastic uncertainty, and extreme risk events

Select Preferred Plan

Identify trade-offs from each resource portfolio and select the preferred portfolio

OUR COMMITMENT

HOST COMMUNITY CONVERSATION ON ENERGY SUPPLY

- Gain Rate Advisory Committee (RAC) and community feedback in the generation planning process.
- Achieve the objectives of community Climate Action & Adaptation Plan (CAAP).
- Analyze a comprehensive list of options to gain broad perspectives.
- Initial focus is on transitional needs through 2030, next we will leverage developing technologies to achieve the 2040 and 2050 CAAP goal. This approach progresses towards CAAP goal achievement.

Our goal for this planning cycle is to ensure reliable, affordable, and sustainable energy resources through 2030.

BY THE NUMBERS

LEVERAGING BROAD PERSPECTIVES & EXPERTISE

2,100 MW

Fossil Generation Impacted by 2030

16

Month Process

Held 19 meetings with the RAC to inform, listen, and discuss

9

Diverse Portfolios Developed

Potential generation solutions developed in partnership with the RAC

50

Portfolio Results Analyzed

Across 4 Market Scenarios, 9 Portfolios, and 4 Sensitivities

2

Industry Leading Consultants

- Charles River Associates (CRA)
- Burns & McDonnell

600,000

Touch Points with Customers

A robust, transparent, and engaged approach was utilized with our community to plan our reliable, affordable and sustainable energy future.

PUBLIC OUTREACH & ENGAGEMENT

DIVERSE APPROACH TO LISTENING & CONNECTING

The Powering Our Community's Future engagement strategy focused on continuous awareness and dialogue with the community.

Engagement Summary

- Four open house AM & PM sessions : 59
- Commercial Customers Webinar: 47
- Community Town Hall: 35
- CoSA Council District Community Event: 60
- Virtual Tele-Town Hall: 3,515
- SA Chamber Infrastructure Committee & Public Policy Council Meeting: 20
- Social Media Impressions: 44,098
- Path Forward Webpage: 18,783+
- Paid Media Impressions: 541,970+
- Media News Coverage: 10+
- Toolkit Distribution Shares: 50+
- HOA & Neighborhood Alliances: 409
- University & Colleges Outreach: 6
- Flyers @ CPS Energy Customer Walk-In Centers: 4
- Employee Communications: 3,100+
- Influencer Marketing Impressions: 22,155
- CEO Engage Newsletter: 8,900
- Online Community Calendars: 6
- Community Engagement Outreach: 123
- BoT Meetings Since February Resolution: 9
  - Public Input Speakers: 11
- RAC meetings: 14
  - Public Input Speakers: 14
- Municipal Utilities Committee Updates: 4
- Survey: 1,268 participants

We received feedback from every City Council District in our community.

PLANNING OBJECTIVES

System Reliability & Climate Resiliency
Consistent delivery and ability to cope with extreme events

Environmental Sustainability
Support for community's environmental goals

Affordability
Customers' ability to pay for service

System Flexibility
Ability to respond to changing conditions

Workforce Impact
Employees needed to operate effectively

All objectives are critical to serving our customers and community.

MOST VIABLE PORTFOLIOS
BEST ALIGNED WITH OBJECTIVES

	Blended Portfolio – Maintains Diversity (P2)	Renewable Portfolio – Hard Transition from Gas (P9)
Spruce 1 - Coal	Retires in 2028[1]	Retires in 2028[1]
Spruce 2 - Coal	Convert to Gas in 2027 & Retires in 2065[1]	Convert to Gas in 2028 & Retires in 2035[1]
Braunig/Sommers 1/Sommers 2 - Gas	Retire in 2025/2027/2029[1]	Retire in 2025/2027/2029[1]
Planned Additions by 2030:		
Gas Combined Cycle (MW)	1,380	500
Gas Peaking (MW)	808	0
Wind (MW)	500	2,300
Solar (MW)	1,180	1,180
Short Duration Storage (MW)	1,010	1,860
Long Duration Storage - 2030 (MW)	50	100
Hydrogen (Green) - 2030 (MW)	0	240
Bridge Purchases 2026-2029 (MW)	102 (2026 only)	Range of 304 to 1,562 (per year)

[1] Proposed retirement dates require Board & ERCOT approval.

BLENDED (P2) & RENEWABLE (P9) PORTFOLIOS

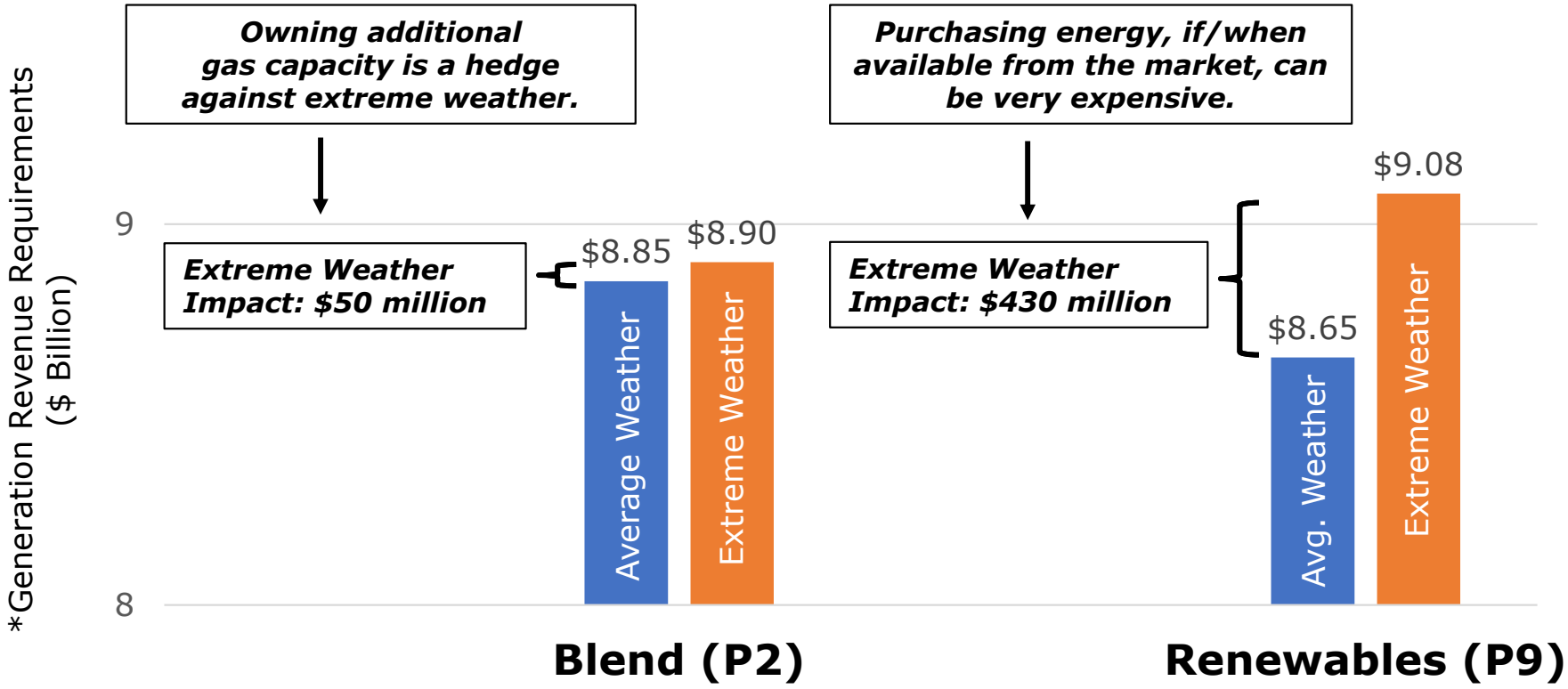
RETIRE COAL & ACHIEVE 2030 CAAP TARGET

	BLEND (P2)	RENEWABLE (P9)
Retire Coal by 2028	✓	✓
Meet 2030 CAAP	✓	✓
Meet 2040 CAAP	Flexibility to utilize technological developments	✓
Additional Renewable & Storage by 2030	2,740 MW (80% increase from today)	5,440 MW (260% increase from today)
Performance in Extreme Weather Conditions	✓	Reliability and financial risks
Controllable Generation Sources	✓	Reliance on non-dispatchable sources and the ERCOT market

Regardless of the portfolio selected, we will respond to an evolving ERCOT market and adapt to leverage new technology.

TOTAL GENERATION COST

IMPACT OF EXTREME WEATHER

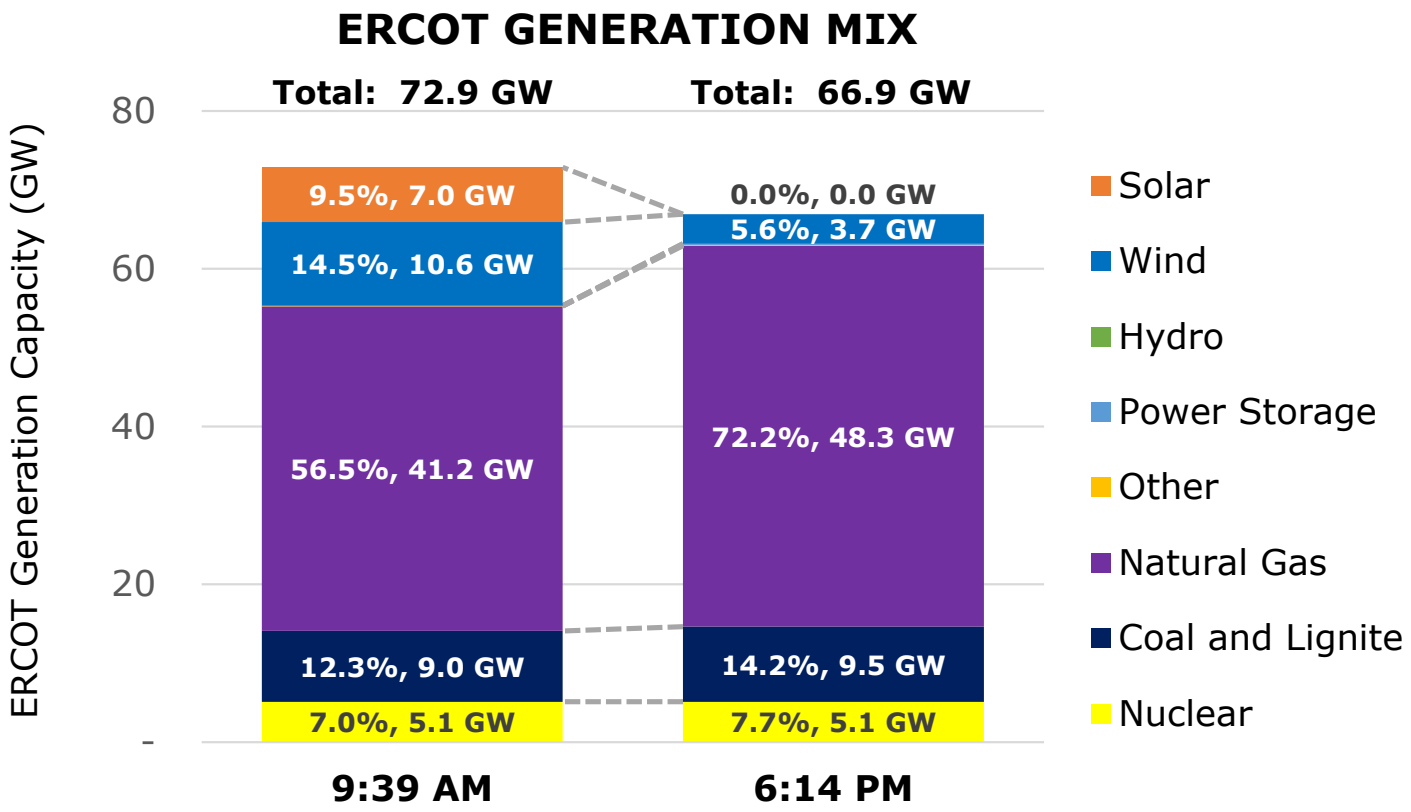


One year of extreme weather can create millions in additional cost.

* 8-year present value from 2023 to 2030; extreme weather is included in one year: 2030.

EXTREME WEATHER RISK

DECEMBER 23, 2022



Controllable gas and coal generation were needed to meet approximately 86% of customer demand when wind and solar production dropped later in the day.

Notes: Data is from ERCOT. Hydro, Power Storage, and Other Generation are 0.2% (or less) each.

Controllable, long-duration resources are needed to manage variability in wind and solar output.

OTHER FACTORS ON OUR PATH FORWARD

- Adequate rate support
- PUC/ERCOT market changes
- State legislative actions
- EPA/TCEQ permitting and rulemakings
- Overcoming supply chain challenges
- Geopolitical impacts on energy markets
- Timely approval of individual plant closures by ERCOT
  - ERCOT will analyze grid reliability with each plant closure
- Timely commercialization of new generation and storage technologies
  - Geothermal, hydrogen storage, large scale/long duration storage, new nuclear technologies
  - Integrated energy management systems, customer partnerships, conservation/STEP, data analytics & utilization, and others

Carbon neutrality requires a coordinated multi-part plan.

BLENDED PORTFOLIO (P2) IS THE RECOMMENDATION TO OUR BOARD

TRANSFORMATIONAL CHANGE WITH FLEXIBILITY

- ✓ Balances reliability with affordability
- ✓ Continues transition to a lower carbon future
- ✓ Retains experienced workforce to support transition
- ✓ Retains a greater degree of fuel diversity to manage cost risk
- ✓ Supports expansion of renewables while providing greater protection from extreme weather risk
- ✓ Aligns with community survey results
- ✓ With majority support, the RAC recommended Blended Portfolio (P2) to our Board

Details on the generation planning analysis can be found at: https://www.cpsenergy.com/rac

The Blended Portfolio (P2) provides reliable, affordable, and sustainable energy resources through 2030 and retains flexibility as energy policy and emerging technologies evolve.

PATHWAY TO 2050

OUR TRANSITION TO NET-ZERO CARBON EMISSIONS

2010 – 2022: Taking Initial Steps

- Early Closure of Deely Coal Plants,
- Wind and Solar Expansion,
- Advanced Metering,
- Conservation/STEP, and
- Endorsed CAAP

2022 – 2030: Accelerating Action

- FlexPower Bundle,
- Conservation/STEP,
- EV Charging Programs, and
- Gen Planning Update with RAC

2030 – 2040: Utilizing New Solutions

2040 – 2050: Our Transition to Net-Zero Carbon Emissions

- R&D Partnerships: EPIcenter, EPRI, and Others,
- Geothermal Energy,
- Hydrogen Storage & Utilization,
- Large-Scale/Long-Duration Storage,
- New Nuclear Technologies,
- Integrated Energy Management Systems,
- Customer Partnerships,
- Conservation/STEP,
- Data Analytics & Utilization, and
- Other Technologies & Partnerships

Pathway to Net-Zero Carbon by 2050

A blend of proven technologies, energy efficiency, and timely commercialization of new generation and storage technologies is our path to net-zero carbon by 2050.

Thank You