GENERATION PLAN RECOMMENDATIONS

Presented by:
Energy Supply

December 6, 2022

Informational Update

OUR COMMITMENT

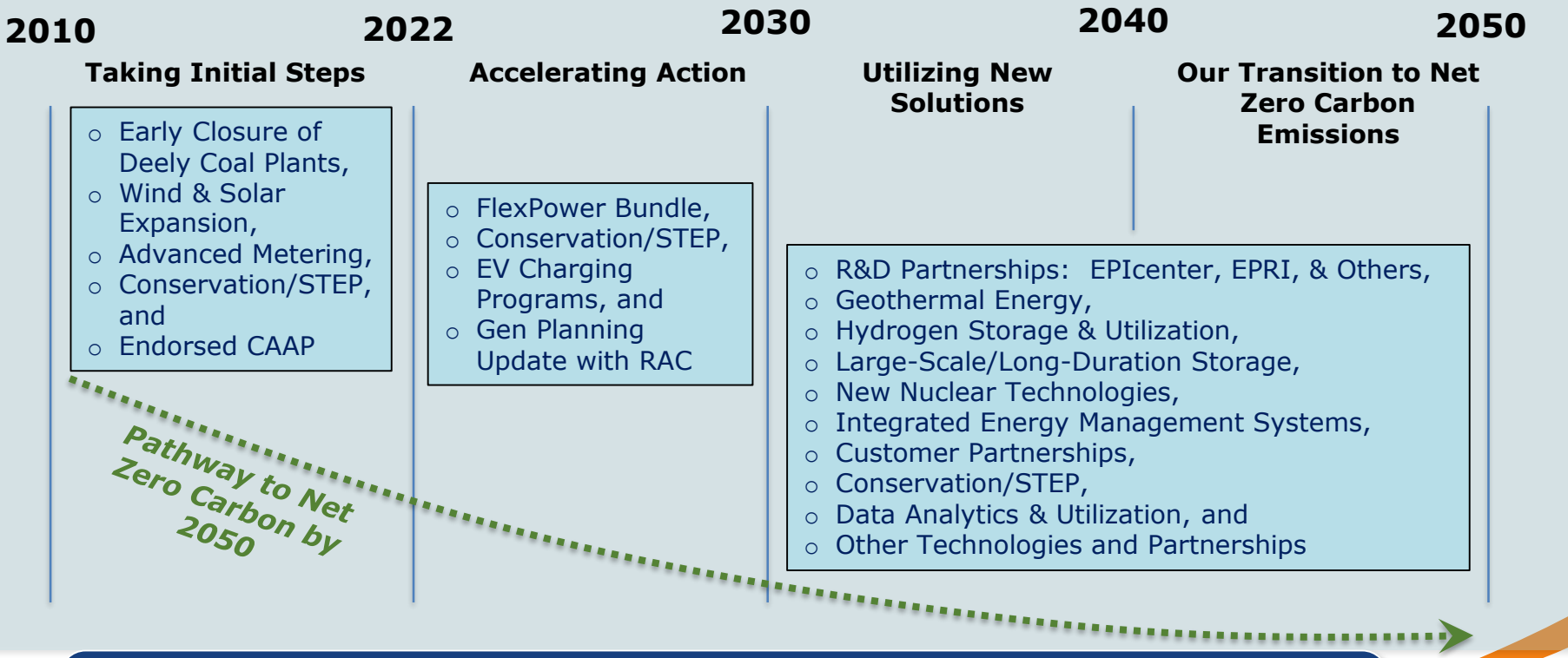
HOST COMMUNITY CONVERSATION ON ENERGY SUPPLY

- Gain Rate Advisory Committee (RAC) and community feedback in the energy planning process
- Achieve the objectives of community Climate Action and 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 2050 CAAP goal

Our goal is to ensure reliable, affordable, and sustainable energy resources through 2030 and present options to the Board by Jan 2023.

PATHWAY TO 2050

OUR TRANSITION TO NET ZERO CARBON EMISSIONS



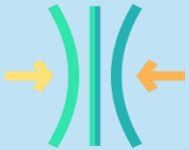
A blend of proven technologies and timely commercialization of new generation and storage technologies is our path to net zero carbon by 2050.

PLANNING OBJECTIVES
IN ORDER OF RAC PRIORITY*

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

Environmental Sustainability
Support for community environmental goals

Affordability
Customers' ability to pay for service



System Flexibility
Ability to respond to changing conditions

Workforce Impact
Employees needed to operate effectively

CPS Energy considers all objectives equally critical to serving our customers.

* CPS Energy Financial Stability was moved to a model requirement based on input from RAC & is not shown

ROBUST PLANNING PROCESS

LEVERAGING BROAD PERSPECTIVES AND EXPERTISE

- Engaged consultants with broad expertise supporting utilities in comprehensive generation resource planning
- Jointly developed 9 portfolios, each with a diverse set of technologies to serve the expected energy demand
- Analyzed 50 data sets, across 4 market scenarios and sensitivities like extreme weather and conservation/STEP
- Detailed feedback/input from the Rate Advisory Committee shaped the planning process
- Focused on near-term ability to replace 2,100 MW of retiring fossil-fuel power plants by 2030
- Further our strategy to reduce carbon intensity

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, often based on different future scenarios and priorities

Portfolio Modeling and Analysis

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

Select Preferred Plan

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

PORTFOLIO METRIC RESULTS

	System Reliability & Climate Resiliency				Environmental Sustainability				Affordability				System Flexibility		Workforce Impact	
	Diversity of Generation Mix	Capacity Head-room	Extreme Weather Exposure		Progress Towards City of SA CAAP Goals				Energy Cost ($/MWh)		Present Value (PV) Revenue Requirements		Market Purchases	Dispatch-ability	CPS Energy Workforce Impact	Local Economic Impact
	Generation Mix (MWh)	Expected Reserve Margin (%)	Rev. Req. Extreme Weather ($Billion)	% Of CPS Energy Consumption That Is Met Through ERCOT Market Purchases	% CO2 Intensity Reduction Relative To 2016 (Ref Scenario)	Emission Intensity (lb CO2/MWh)		% Reduction In Consumption Due To STEP	Reference Scenario Average Cost ($/MWh)	Range In Cost In *All* Scenarios ($/MWh)	Ref Scenario ($Billion)	Range Across *All* Scenarios ($Billion)	% Of CPS Energy Consumption That Is Met Through ERCOT Market Purchases	% Of CPS Energy Capacity That Is Dispatchable	# Of Impacted CPS Energy Generation Employees	Capital Expenditures For New Generation Capacity Built In Greater San Antonio Area ($Millions)
	2030	*2030*	*2030*	*2030*	*2030*	*2030*	*2040*	*2030*	*2023 - 2030*		*2023 – 2030*	*2023 – 2030*	*2030*	*2030*	*2030*	*2023 – 2030*
P1		13.7%	$1.70	1.0%	37%	578	547	9.7%	$58.07	$52-60	$8.58	$7.87-8.58	1%	61%	155	$2,758
P2		15.7%	$2.04	3.1%	44%	518	350	9.7%	$60.04	$55-63	$8.85	$8.19-8.99	4%	57%	170	$2,004
P3		14.5%	$3.26	12.8%	65%	321	161	9.7%	$60.58	$56-63	$8.90	$8.36-8.98	13%	46%	345	$1,310
P4		15.3%	$2.02	6.1%	30%	641	361	9.7%	$59.16	$53-61	$8.72	$7.99-8.72	7%	63%	90	$1,787
P5		15.0%	$3.28	13.5%	65%	325	161	9.7%	$60.47	$55-62	$8.88	$8.23-8.88	13%	46%	355	$866
P6		13.2%	$3.27	19.6%	78%	200	31	9.7%	$65.34	$61-69	$9.54	$9.07-9.68	18%	39%	355	$4,041
P7		13.1%	$3.34	19.7%	78%	202	35	9.7%	$65.96	$61-69	$9.63	$9.14-9.76	18%	39%	355	$4,041
P8		15.4%	$2.79	11.2%	59%	378	160	9.7%	$60.67	$55-62	$8.92	$8.20-8.92	11%	48%	295	$548
P9		14.6%	$2.69	7.9%	60%	371	160	9.7%	$58.64	$54-59	$8.65	$8.04-8.65	9%	46%	295	$548

Nuclear · Geothermal · Coal · Gas · Gas Toll · Wind · Solar · Other · Storage · Hydrogen · Energy Efficiency

Legend: Less Favorable — More Favorable

PORTFOLIO SCORING DETAIL

1. Assigned metric scores per the scale
2. Calculated an average score by Objective
3. Calculated a unweighted total score by Portfolio

Scale

1	2	3	4

Note: Refer to Portfolio Metric Results Scorecard

Portfolios	System Reliability & Climate Resiliency				Environmental Sustainability				Affordability				System Flexibility		Workforce Impact	
	Diver-sity of Genera-tion Mix	Capacity Head-room	Extreme Weather Exposure		Progress Towards City of SA CAAP Goals				Energy Cost ($/MWh)		Present Value (PV) Revenue Requirements		Market Purchases	Dispatchability	CPS Energy Workforce Impact	Local Economic Impact
	Generation Mix (MWh)	Expected Reserve Margin (%)	Rev. Req. Extreme Weather ($Billion)	%of CPS Energy consumption that is met through ERCOT market purchases	%CO2 Intensity Reduction Relative to 2015 (Ref Scenario)	Emission Intensity (lb CO2/MWh)		%reduction in consumption due to STEP	Reference Scenario Average Cost ($/MWh)	Range in Cost in all Scenarios ($/MWh)	Ref Scenario ($Billion)	Range Across all Scenarios ($Billion)	%of CPS Energy consumption that is met through ERCOT market purchases	%of CPS Energy Capacity that is Dispatchable	# of Impacted CPS Energy Generation Employees	Capital expenditures for new generation capacity built in greater San Antonio area ($Millions)
	2030	2030	2030	2030	2030	2030 | 2040		2030	2023 - 2030		2023 – 2030	2023 – 2030	2030	2030	2030	2023 – 2030
P1	1	2	4	4	See Note 1	1	1	4	4	2	See Note 2	2	4	4	3	3
P2	2	4	4	4	See Note 1	2	2	4	2	2	See Note 2	2	4	4	3	3
P3	3	2	1	2	See Note 1	3	3	4	2	2	See Note 2	4	2	2	1	2
P4	2	4	4	3	See Note 1	1	2	4	4	2	See Note 2	2	4	4	4	2
P5	3	4	1	2	See Note 1	3	3	4	2	4	See Note 2	2	2	2	1	1
P6	2	1	1	1	See Note 1	4	4	4	1	2	See Note 2	4	1	1	1	4
P7	2	1	1	1	See Note 1	4	4	4	1	2	See Note 2	4	1	1	1	4
P8	4	4	2	2	See Note 1	3	3	4	2	2	See Note 2	2	2	2	2	1
P9	4	2	2	3	See Note 1	3	3	4	4	4	See Note 2	4	4	2	2	1

Portfolios	System Reliability & Climate Resiliency	Environmental Sustainability	Affordability	System Flexibility	Workforce Impact	Total Score
P1	2.75	2.00	2.67	4.00	3.00	14.42
P2	3.50	2.67	2.00	4.00	3.00	15.17
P3	2.00	3.33	2.67	2.00	1.50	11.50
P4	3.25	2.33	2.67	4.00	3.00	15.25
P5	2.50	3.33	2.67	2.00	1.00	11.50
P6	1.25	4.00	2.33	1.00	2.50	11.08
P7	1.25	4.00	2.33	1.00	2.50	11.08
P8	3.00	3.33	2.00	2.00	1.50	11.83
P9	2.75	3.33	4.00	3.00	1.50	14.58

Notes:

1. % CO2 intensity metric was not used since it is redundant to CO2 intensity in lb/MWh.
2. Reference PV of Revenue Requirements in $B was not used since it is redundant to Reference Average Cost in $/MWh.

PORTFOLIO SELECTION

	Objectives					Total Score
	Reliability & Resiliency	Environmental Sustainability	Affordability	Flexibility	Workforce	
P1	2.75	2.00	2.67	4.00	3.00	**14.42**
P2	3.50	2.67	2.00	4.00	3.00	**15.17**
P3	2.00	3.33	2.67	2.00	1.50	**11.50**
P4	3.25	2.33	2.67	4.00	3.00	**15.25**
P5	2.50	3.33	2.67	2.00	1.00	**11.50**
P6	1.25	4.00	2.33	1.00	2.50	**11.08**
P7	1.25	4.00	2.33	1.00	2.50	**11.08**
P8	3.00	3.33	2.00	2.00	1.50	**11.83**
P9	2.75	3.33	4.00	3.00	1.50	**14.58**

- **P1, P2, P4, & P9 are most aligned with the objectives.**
- **P3, P5, P6, P7, & P8 are least aligned with the objectives.**

ALIGNED PORTFOLIOS

P1, P2, P4, & P9

	System Reliability & Climate Resiliency				Environmental Sustainability				Affordability				System Flexibility		Workforce Impact	
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P9		14.6%	$2.69	7.9%	60%	371	160	9.7%	$58.64	$54-59	$8.65	$8.04-8.65	9%	46%	295	$548

Benefits and risks are examined in the following slides.

Nuclear, Geothermal, Coal, Gas, Gas Toll, Wind, Solar, Other, Storage, Hydrogen, Energy Efficiency

Legend: Less Favorable — More Favorable

P1 – GAS

GAS ADDITIONS

Benefits	Risks
• Higher energy availability in normal and extreme conditions • Reduced market exposure • More dispatchable generation • Includes flexible gas technologies	• Greater risk of natural gas availability issues and price volatility
• One of the lower-cost portfolios; especially in extreme weather • Leveraging Spruce 2 infrastructure with gas conversion	
	• Does not meet CAAP 2030 (+6%) or 2040 targets (+105%)
• Low impact on our workforce • Greater local economic impact	

Reliability & Flexibility | Affordability | Sustainability | Workforce Impact

P2 – BLEND

GAS, SOLAR, WIND & STORAGE ADDITIONS

Benefits	Risks
• Lower risk in extreme weather • Reduced market exposure • More dispatchable generation • Includes flexible gas technologies	• Some risk of natural gas availability and price volatility
• One of the lower-cost portfolios; especially in extreme weather • Leveraging Spruce 2 infrastructure with gas conversion	
• Meets 2030 CAAP target (-5%)	• Does not meet 2040 CAAP target (+31%)
• Reduced impact on our workforce • Greater local economic impact	

Reliability & Flexibility | Affordability | Sustainability | Workforce Impact

P4 – BLEND (RETAINS COAL)

GAS, SOLAR, & STORAGE ADDITIONS

Benefits	Risks
• Retains greater energy security • Lower risk extreme weather • Reduced market exposure • Greater dispatchable generation	
• One of the lower-cost portfolios; especially in extreme weather	• Potential for additional environmental regulations
	• Does not meet CAAP 2030 (+18%) or 2040 (+35%) targets
• Lower impact on our workforce • Greater local economic impact	

Reliability & Flexibility | Affordability | Sustainability | Workforce Impact

P9 – RENEWABLES

WIND, SOLAR, & STORAGE ADDITIONS

Benefits	Risks
• Retains some existing dispatchable gas generation • Retains Spruce 2 infrastructure with gas conversion for 7 years	• Less dispatchable generation • Greater energy availability risk in normal and extreme conditions
• One of the lower-cost portfolios due to lower capital investment	• Higher cost exposure in extreme weather events due to increased market purchases
• Lower carbon intensity • Meets 2030 (-32%) and 2040 (-40%) CAAP targets	
	• High impact on our workforce • Small local economic impact

Reliability & Flexibility Affordability Sustainability Workforce Impact

P2 AND P9 ARE MOST VIABLE

RETIRE COAL AND ACHIEVE 2030 CAAP TARGET

- P2 offers increased reliability, affordability and retains our experienced workforce to support our lower-carbon transition
- P2 will require continuous evolution to meet 2040 CAAP target
- P9 allows us to meet CAAP 2030/2040 without new technology
- P9 challenges our ability to ensure reliability during extreme weather conditions - more prevalent in recent years as disruptive climate events have increased

Regardless of portfolio selected, our plans must respond to evolving ERCOT market and adapt to leverage new technology.

OTHER FACTORS ON OUR PATH FORWARD

- Adequate rate support
- PUC/ERCOT market changes
- State legislative actions
- EPA/TCEQ permitting & rulemakings
- Supply chain risks
- 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.

DISCUSSION