



**SPECIAL MEETING OF THE CPS ENERGY BOARD OF TRUSTEES  
CONVENING AS THE RISK MANAGEMENT COMMITTEE  
TO BE HELD ON NOVEMBER 12, 2024, AT 1:00 P.M.  
LOCATION: CPS ENERGY BOARD ROOM (500 MCCULLOUGH AVE.)**

*At any time during the Board Meeting, the Board may go into an executive session as permitted by the Texas Open Meetings Act, (Chapter 551 of the Texas Government Code) regarding any item on this agenda.*

**AGENDA**

<b>ITEM</b>	<b>TOPIC</b>	<b>ACTION</b>	<b>PRESENTER/ SPONSOR</b>
<b>1</b>	<b>CALL TO ORDER</b>	Execute	Dr. Willis Mackey
<b>2</b>	<b>SAFETY MESSAGE, INVOCATION, &amp; PLEDGE OF ALLEGIANCE</b>	Execute	Ms. Edna Elizalde
<b>3</b>	<b>PUBLIC COMMENT</b> Pre-Registration on Wednesday, November 6, 2024, 5:00 PM – Friday, November 8, 2024, 1:00 PM. Dial (210) 353-4662 or email <a href="mailto:PublicCommentRegistration@CPSEnergy.com">PublicCommentRegistration@CPSEnergy.com</a>	Discuss	Dr. Willis Mackey
<b>CONSENT AGENDA</b>			
<b>4</b>	<b>APPROVAL OF:</b> <ul style="list-style-type: none"> <li>Minutes of the Risk Management Committee (RMC) meeting held on 6/17/2024</li> </ul>	Vote	Dr. Willis Mackey
<b>RISK MANAGEMENT COMMITTEE</b>			
<b>5</b>	<b>ENTERPRISE RISK MANAGEMENT UPDATE</b>	Discuss	Ms. Annamarie Rangel
<b>6</b>	<b>ENERGY TRANSITION</b> (Mr. Bill Kost, Marsh)	Discuss	Dr. Willis Mackey
<b>7</b>	<b>EVOLVE: ARTIFICIAL INTELLIGENCE (AI)</b>	Discuss	Mr. Evan O’Mahoney
<b>8</b>	<b>HORIZON 2050 UPDATE</b>	Discuss	Ms. Elaina Ball
<b>9</b>	<b>COMMITTEE GOVERNANCE REVIEW</b>	Discuss & Vote	Dr. Willis Mackey
<b>CONVENE TO EXECUTIVE SESSION</b>			
<b>10</b>	<b>EXECUTIVE SESSION:</b> A. Attorney-Client Matters (§551.071) & Competitive Matters (§551.086) B. Attorney-Client Matters (§551.071)	Discuss	Dr. Willis Mackey
<b>11</b>	<b>REVIEW OF ACTION ITEMS</b>	Discuss	Dr. Willis Mackey

<b>12</b>	<b>ADJOURNMENT</b>	Execute	Dr. Willis Mackey
<p>If the Board meeting has not adjourned by 4:00 PM, the presiding officer shall entertain a motion to continue the meeting, postpone the remaining items to the next Board meeting date, or recess and reconvene the meeting at a specified date and time.</p>			

Draft for review and approval  
at the November 12, 2024 meeting

**CPS ENERGY**  
**MINUTES OF THE SPECIAL MEETING OF THE BOARD OF TRUSTEES**  
**HELD ON JUNE 17, 2024**

The Special Meeting of the CPS Energy Board of Trustees, convening as the Risk Management Committee, was held on Monday, June 17, 2024, at the CPS Energy Training Center located at 4515 Frank Bryant Lane, San Antonio, Texas.

**I. CALL TO ORDER**

Trustee Dr. Mackey called the meeting to order at 10:30 a.m.

Present were Board members:

Dr. Willis Mackey, Chair  
Ms. Janie Gonzalez (arrived at 11:20 a.m.)  
Dr. Francine Romero  
Mr. John Steen  
Mayor Ron Nirenberg

Also present were:

Mr. Rudy Garza, President & CEO  
Ms. Shanna M. Ramirez, Chief Legal & Ethics Officer, General Counsel & Board Secretary  
Ms. Elaina Ball, Chief Strategy Officer  
Mr. Benny Ethridge, Chief Energy Supply Officer  
Mr. Cory Kuchinsky, Chief Financial Officer & Treasurer  
Ms. DeAnna Hardwick, Chief Customer Strategy Officer  
Ms. Lisa Lewis, Chief Administrative Officer  
Mr. Richard Medina, Chief Energy Delivery Officer  
Mr. Evan O'Mahoney, Chief Information Officer  
CPS Energy staff members

**II. SAFETY MESSAGE, INVOCATION, & PLEDGE OF ALLEGIANCE**

A safety message, invocation, and the Pledge of Allegiance were delivered by Ms. Annamarie Rangel, Director Enterprise Risk Management & Solutions.

**III. PUBLIC COMMENT**

There were no members of the public wishing to provide public comment.

**IV. APPROVAL OF CONSENT AGENDA**

On a motion duly made by Trustee Dr. Romero, seconded by Mayor Nirenberg, and upon affirmative vote by all members present, the following items on the Consent Agenda were unanimously approved:

Draft for review and approval  
at the November 12, 2024 meeting

**A. Minutes of the Risk Management Committee Meeting held on December 11, 2023**

**V. FY2025 ENTERPRISE & INDUSTRY RISKS**

Ms. Annamarie Rangel, Director Enterprise Risk Management & Solutions, presented on the Fiscal Year 2025 enterprise and industry risks. She noted that we were thoughtful and engaged in identifying and assessing the risks. She reviewed the risk landscape within the energy industry and our risk mitigation planning. She concluded by noting that CPS Energy will continue to drive the enterprise risk management focus through collaborative discussions and actions.

The Board of Trustees asked questions and discussed the presentation.

**VI. ERP RISK MANAGEMENT**

Mr. Evan O'Mahoney, Chief Information Officer, presented on our Enterprise Resource Planning (ERP) risks. He noted that we are actively mitigating the risk themes common across ERP programs of similar size and scope, and he reviewed the top risks and mitigation strategies. Finally, he reviewed the governance structure for ERP and the selection for an Independent Verification & Validation (IV&V) partner.

The Board of Trustees asked questions and discussed the presentation.

**VII. FINANCIAL RISK MANAGEMENT**

Mr. Cory Kuchinsky, Chief Financial Officer & Treasurer, presented our financial risks. He discussed that our rates are designed to generate revenue that fully covers our operating expenses, capital investments, and payments to debt holders. He explained the budget planning process includes factoring in costs to address current threats impacting the organization and reviewing budgetary items. He also discussed benchmark data, noting that CPS Energy's credit ratings compare well to other public power utilities. Finally, he noted flexibility with asset acquisition will mitigate future price uncertainty and improve our long-term leverage.

The Board of Trustees asked questions and discussed the presentation.

**VIII. GENERATION PLANNING RISK MANAGEMENT**

Mr. Benjamin Ethridge, Chief Energy Supply Officer, presented on risks related to the Vision 2027 Generation Plan. He noted that we developed the Generation Plan to mitigate external factors. He explained how each action: entering into Power Purchase Agreements, acquiring gas generation, converting Spruce to gas generation, and adding peaking generation will provide benefits that lower risks.

The Board of Trustees asked questions and discussed the presentation.

Draft for review and approval  
at the November 12, 2024 meeting

**IX. EXECUTIVE SESSION**

At approximately 12:35 p.m., Chair Dr. Mackey announced the Board would go into Executive Session, and Ms. Ramirez announced that the required notice had been posted and that the Trustees, with only necessary parties in attendance, would convene into Executive Session, pursuant to the provisions of Chapter 551 of the Texas Government Code, for discussion of a number of posted items, including the following:

- Competitive Matters (§551.086)
- Security Audits & Devices (§551.089) & Confidential Information under the Homeland Security Act (§418.1082(f))
- Attorney-Client Matters (§551.071)

The Board reconvened in open session at 1:31 p.m. The quorum was re-established, and all members were present. Ms. Ramirez reported that only the matters cited above, and no others were discussed, and no votes were taken in Executive Session.

**X. REVIEW ACTION ITEMS**

Ms. Ramirez noted that all action items from previous meetings were closed. She reviewed the new action items.

**XI. ADJOURNMENT**

There being no further business to come before the Board Committee, upon a motion duly made by Mayor Nirenberg and seconded by Trustee Dr. Romero and upon an affirmative vote by all members present, the meeting was unanimously adjourned at 1:36 p.m. by Chair Dr. Mackey.

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Shanna M. Ramirez  
Secretary of the Board



# ENTERPRISE RISK MANAGEMENT UPDATE

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*PRESENTED BY:*

**Annamarie Rangel**  
Director Enterprise Risk Management & Solutions

**November 12, 2024**  
*Informational Update*



# AGENDA

- Utility Risk Landscape
- Utility Emerging Risks
- Integrated and Strategic Planning
- Enterprise Risk Management (ERM) Review
- ERM Focus
- Focused Risk Discussion

**ERM partners with the organization to promote risk awareness and reduce risk exposure.**



# 2024 KEY UTILITY RISK TRENDS

## Utility Risk Trends



Artificial Intelligence



Capital Planning



Climate



Electrification



Resource Planning

**We must follow a reasonable and balanced planning approach that enables affordable and reliable energy, which contributes to the economic stability of our community.**

Source: Deloitte Research Center for Energy & Industrials: 2024 Power and Utilities Industry Outlook



# GARTNER - EMERGING UTILITY RISKS

## 2024: 3<sup>RD</sup> QUARTER



Demographic Filter: Sector - Utilities

An understanding of our total risk landscape requires identification and assessment of current and emerging risks. Through integrated planning, we are taking an enterprise-wide approach to discussing and analyzing risks.

Rank	Risk	Risk Score <sup>1</sup>
1	AI-Enhanced Malicious Attacks	3.88
2	Unsettled Regulatory and Legal Environment	3.87
3	Extreme Heat Consequences	3.84
4	IT Vendor Criticality	3.58
5	Misaligned Organizational Talent Profile	3.50

Source: 3Q24 Gartner Emerging Risk Report

<sup>1</sup>Risk Score = Cube Root (Impact x Inverse Time Frame x Frequency)

# INTEGRATED AND STRATEGIC PLANNING

## SHORT- & LONG-TERM MITIGATION PLANNING



To achieve our integrated and strategic initiatives, we strive for mitigation strategies that are holistic and focus on our vision and mission, while being financially reasonable.

### Key Focus Areas:

- Customer Value
  - Reliability
  - Affordability
- Financials
- Prioritization
- Metrics



**ERM is an integral component of integrated and strategic planning.**

# ENTERPRISE RISK MANAGEMENT REVIEW

## AUDIT ADVISORY ASSESSMENT

**Audit Services partnered with Deloitte to perform a high-level assessment of the ERM Program and Business Area.**

### Identified Strengths:

- ✓ Business area reorganized to report into the Business Strategy Team.
- ✓ Strong understanding of the risk management processes defined within the ERM Program.
- ✓ Strong emphasis on continually enhancing the risk program.

### Recommendations:

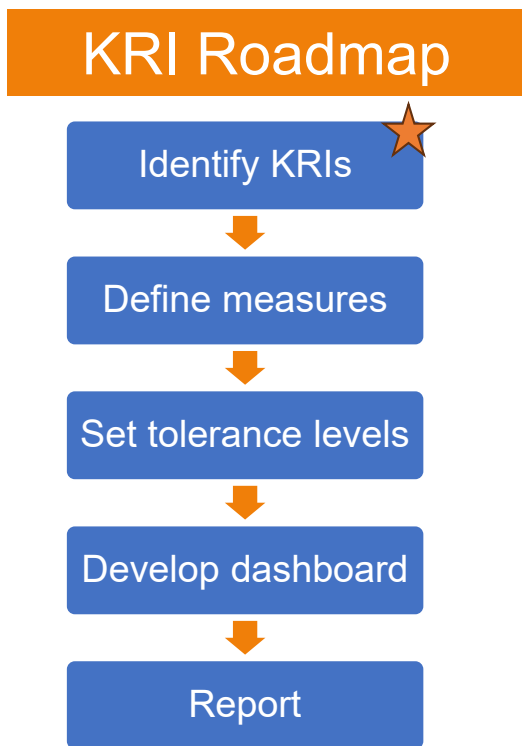
- ✓ Enhance risk awareness, communication, and oversight.
- ✓ Improve risk framework analytics, techniques, and tools.
- ✓ Increase collaboration and partnerships.

**Strategically implementing improvements in alignment with current priorities and resources will assist in further strengthening enterprise risk management.**

# ENTERPRISE RISK MANAGEMENT FOCUS



## CRITICAL INITIATIVES



- Improve risk statements.
- Improve risk mitigations.
- Develop Key Risk Indicators (KRIs).
- Develop and support Enterprise Resource Planning (ERP) Transformation risk management.
- Lead the selection of the Independent Verification and Validation (IV&V) vendor.
- Facilitate risk deep dives.

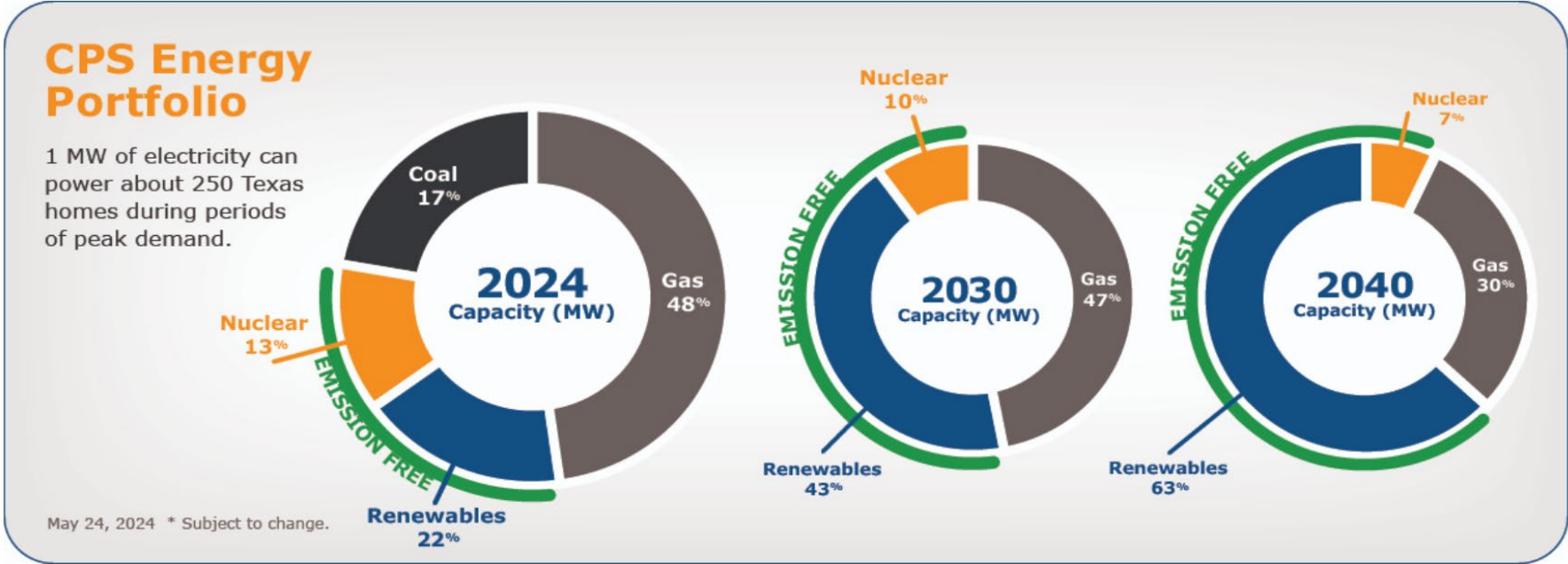
**We will continue to partner and collaborate with the organization to improve enterprise risk awareness, visibility, and exposure.**



# ENERGY TRANSITION

## PATH FORWARD

**We are part of the global move toward sustainability. Renewable energy is a fundamental component of our Power Generation Strategy.**





# APPENDIX

# GLOSSARY / DEFINITIONS



ACRONYM OR WORD	DEFINITION	ACRONYM OR WORD	DEFINITION
AI	Artificial Intelligence	MW	Megawatt
ERM	Enterprise Risk Management		
ERP	Enterprise Resource Planning		
IT	Information Technology		
IV&V	Independent Verification & Validation		
KRI	Key Risk Indicator		



**THANK YOU**

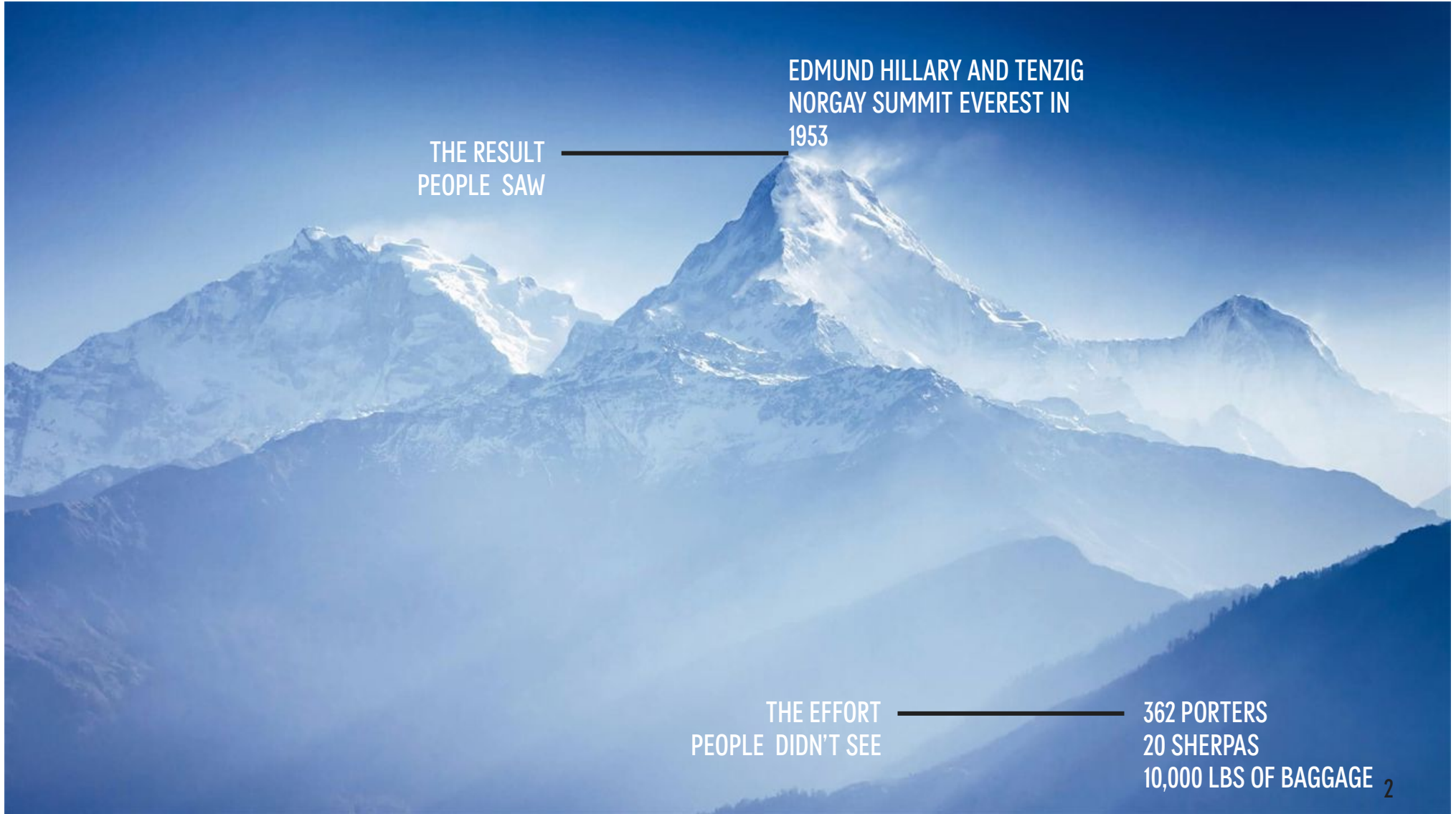


# RISK INSIGHTS FOR THE ENERGY TRANSITION

BILL KOST

ENERGY & POWER  
ADVISORY LEADER






EDMUND HILLARY AND TENZIG  
NORGAY SUMMIT EVEREST IN  
1953

THE RESULT  
PEOPLE SAW

THE EFFORT  
PEOPLE DIDN'T SEE

362 PORTERS  
20 SHERPAS  
10,000 LBS OF BAGGAGE 2



MARIE CURIE'S EFFORTS IN CHEMISTRY AND PHYSICS LED TO CREATION OF AND ADVANCES IN MEDICAL IMAGING.

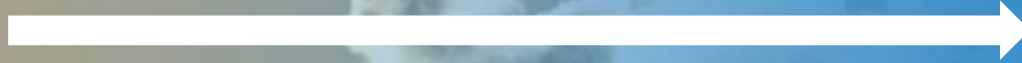
DESPITE UNKNOWN RISKS OF RADIATION AND PERSISTENT DISCRIMINATION AS A WOMAN.



**SOME RISKS ARE KNOWN AND OBVIOUS.  
SOME ARE UNKNOWN OR LESS OBVIOUS.**

**SOME RISKS ARE SILENTLY TOLERATED.  
SOME ARE TOO DIFFICULT TO ADDRESS.**

ENERGY TRANSITION SHIFT  
FROM CARBON-INTENSIVE  
POWER GENERATION



TO RENEWABLE ENERGY

- REDUCE CARBON EMISSIONS
- MITIGATE CLIMATE CHANGE

IN 2022, TX COAL PRODUCED APPROXIMATELY 2.756 T CO<sub>2</sub> PER MWH AND NATURAL GAS PRODUCED APPROXIMATELY 2.309 T CO<sub>2</sub> PER MWH (US EIA FOR STATE DATA).

# WHAT IS RISK?

## SELF-PERFORM?

## CONTRACT OUT?



SITE SELECTION RISK



PROJECT OPERATION RISK



PROJECT DESIGN RISK



PROJECT CONSTRUCTION RISK

## CONTRACT OUT TO O&M PROVIDER



### CPS

- DEBT OBLIGATIONS
- PREMISES LIABILITY
- OPERATIONAL OBLIGATIONS AS DEFINED BY OEM
- RISK OF PHYSICAL LOSS OR DAMAGE
- RISK OF BUSINESS INTERRUPTION

### OEM

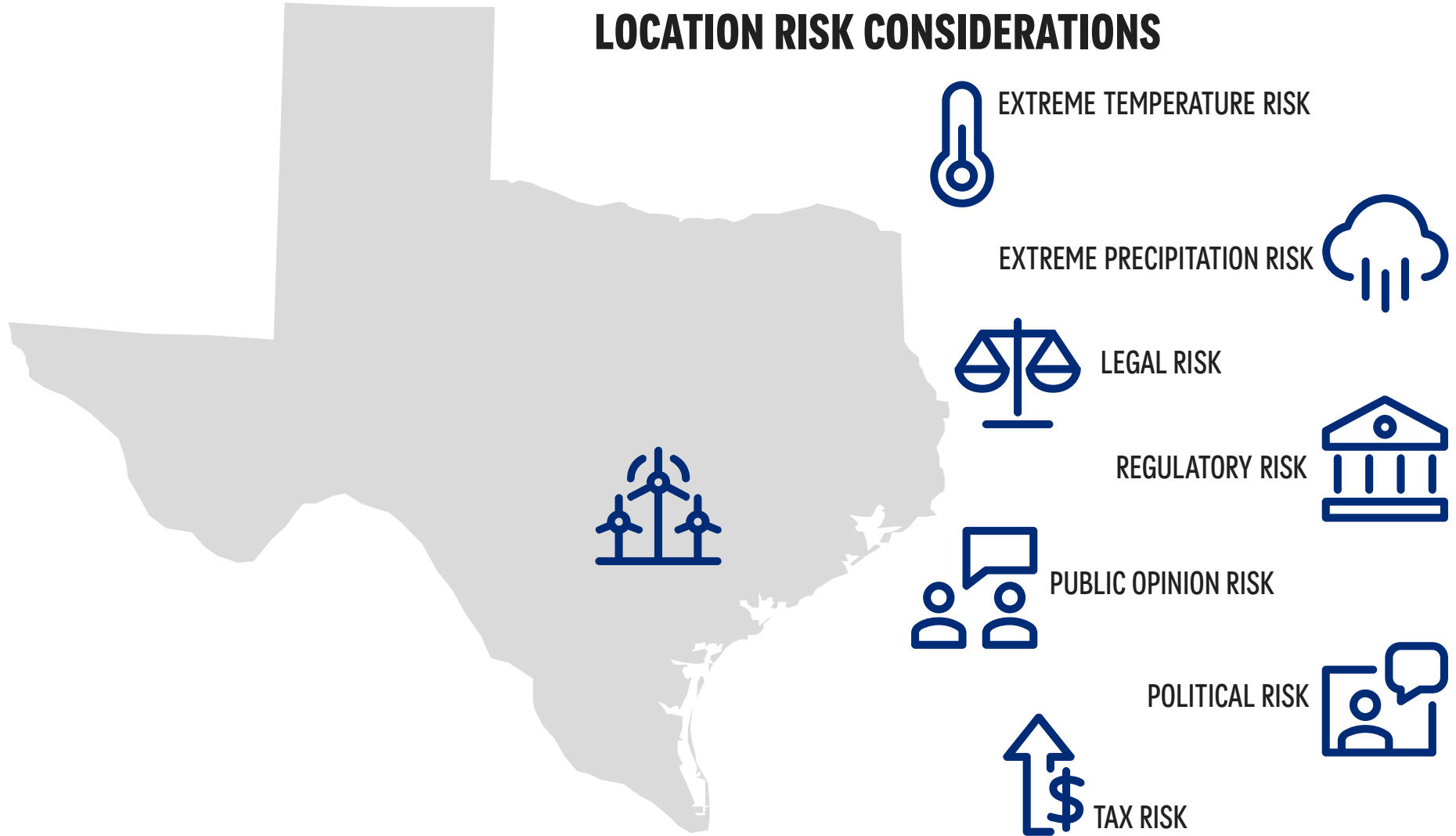
- WARRANTY OBLIGATIONS
- CREDIT/DEFAULT RISK
- REPLACEMENT PARTS AVAILABILITY RISK
- SUPPLY CHAIN RISK

### O&M PROVIDER

- PERFORMANCE OBLIGATIONS
- CREDIT/DEFAULT RISK
- INSURANCE OBLIGATIONS
- SUBCONTRACTOR RISK

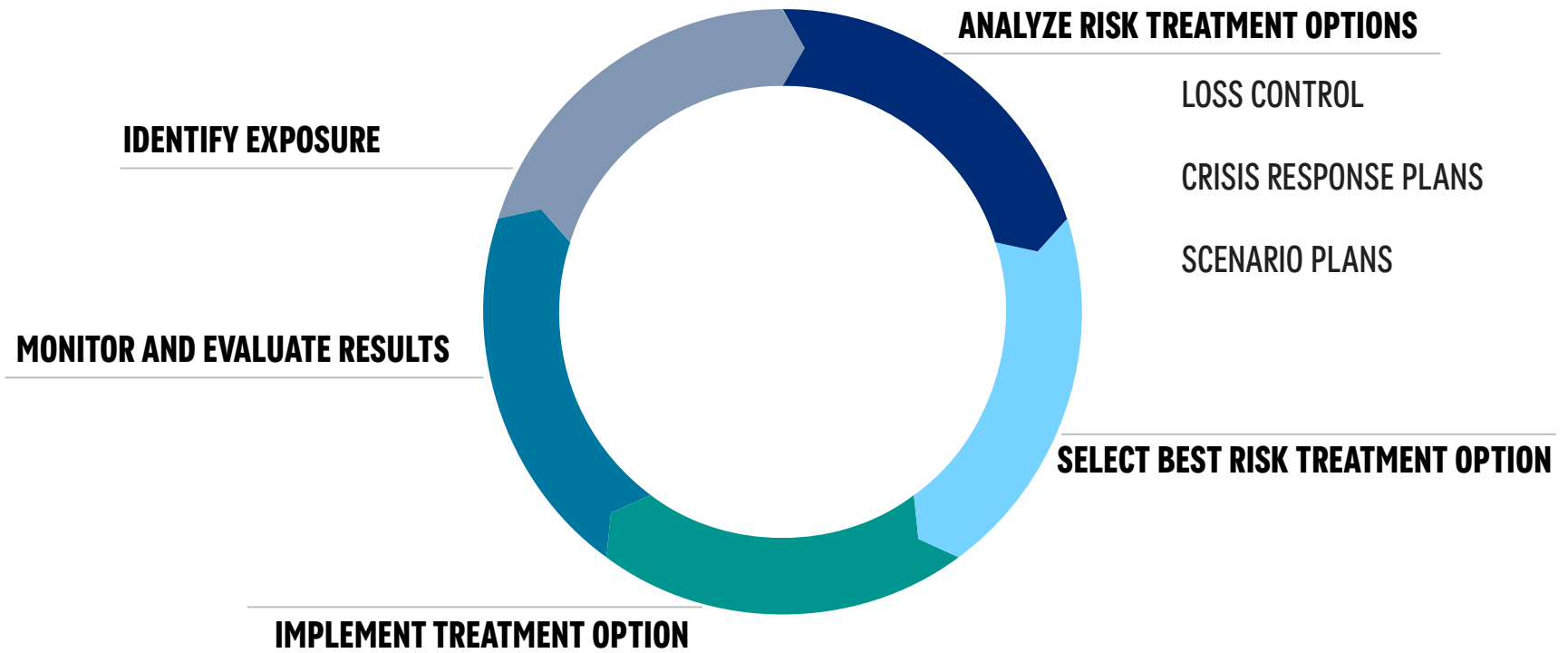


## LOCATION RISK CONSIDERATIONS



# RISK MANAGEMENT

## A 5-STEP PROCESS



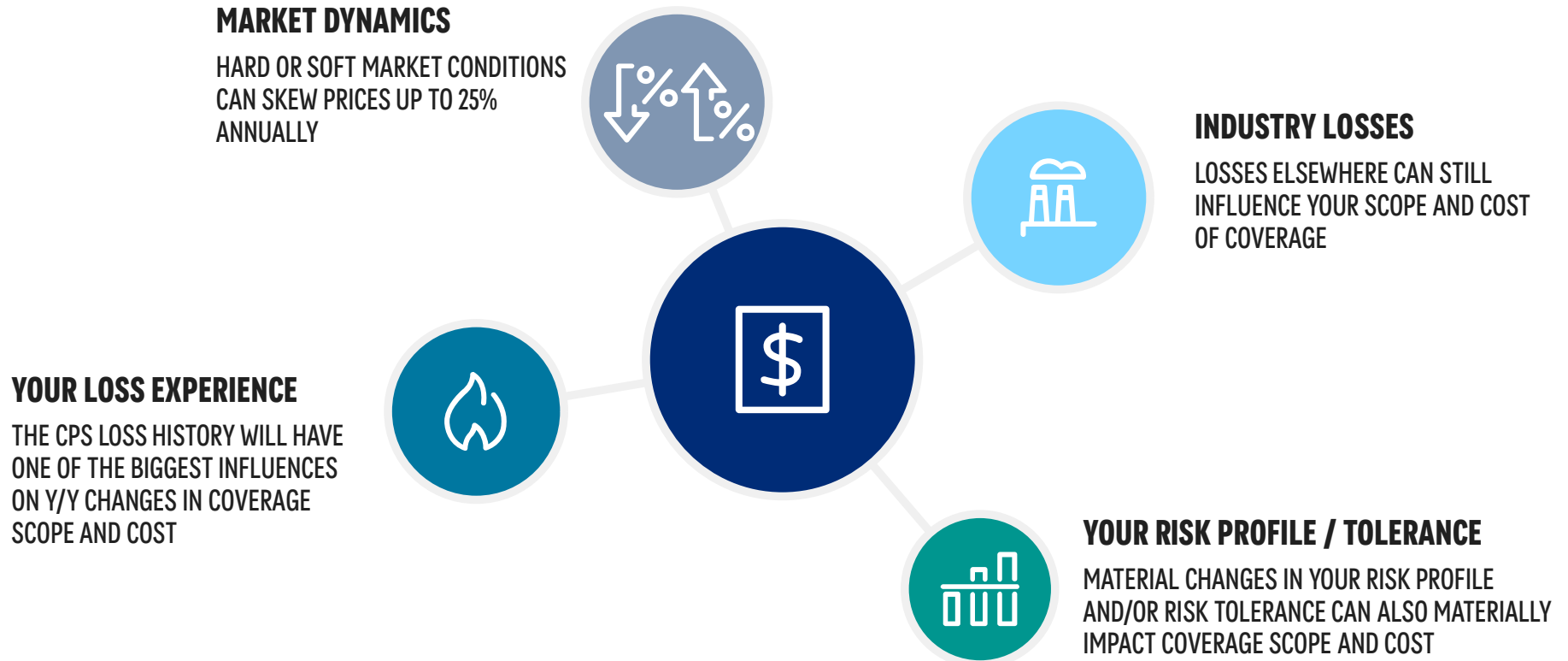
# INSURANCE SNAPSHOT

A QUICK LOOK AT TYPES OF INSURANCE THAT UTILITIES COMMONLY MAINTAIN



# INSURABLE RISKS

## A BRIEF OVERVIEW OF KEY INFLUENCES ON YOUR INSURANCE STRUCTURE AND COST



**RISKS &**

**INSIGHTS**

**CURRENT STATE, TRENDS, AND OUTLOOK**

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
<b>POWER SUPPLY</b>	INCREASING/SHIFTING – GAS, RENEWABLES, AND STORAGE; REDUCING – COAL AND OLDER GAS	RENEWABLES INCREASING & TIED TO TAX INCENTIVES; GAS INCREASING & TIED TO STATE RESILIENCY EFFORTS; BESS DOMINATES ESS; EMERGING GROWTH IN MICROGRIDS	SUPPLY CHAIN AND POLITICAL RISK MAY INFLUENCE GENERATION SUPPLY GROWTH; CAN SUPPLY KEEP PACE WITH OR AHEAD OF DEMAND GROWTH?

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
POWER DEMAND	INCREASING – RESIDENTIAL, INDUSTRIAL, AND DATA	INDUSTRY, MANUFACTURING, DATA, EVS CONTRIBUTE TO DEMAND GROWTH; MINOR REDUCTIONS DUE TO CONSERVATION, EFFICIENCY, AND OLD ASSET RETIREMENT	DEMAND GROWTH MAY OUTPACE SUPPLY GROWTH; ECONOMIC PROSPERITY AND INDUSTRY GROWTH WILL REQUIRE MORE POWER

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
<b>POLITICAL SUPPORT</b>	<b>MIXED ACROSS CITY, STATE, AND FEDERAL</b>	<b>POTENTIAL FOR CONFLICT OR ALIGNMENT ACROSS LOCAL, STATE, AND FEDERAL GOVERNMENT</b>	<b>TEXAS WILL REMAIN PRO-GROWTH AND PRO-BUSINESS, BUT UNCLEAR HOW INFLUENTIAL IT WILL BE ON SUPPORTING OR INHIBITING THE ENERGY TRANSITION</b>



<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
<b>ECONOMIC INCENTIVES</b>	<b>SOFT-LANDING VS. FUTURE RECESSIONS?</b>	<b>REGIONAL GROWTH SHOULD REMAIN POSITIVE, EVEN IN THE FACE OF NATIONAL OR GLOBAL STAGNATION OR DECLINE</b>	<b>RECESSIONS ARE TEMPORARY; ASSET RETIREMENT COMPELS NEW PROJECT GROWTH EVEN WITH STAGNANT DEMAND</b>

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
PEOPLE RISK	AGEING WORKFORCE, LEGACY PLANNING, REMOTE OPERATIONS, & TECH HABITS	POPULATION GROWTH REMAINS POSITIVE	LARGER AND MODERN POPULATION WILL DEMAND ELECTRIFIED TRANSPORTATION AND INFRASTRUCTURE; RISE IN CLIMATE RESILIENT COMMUNITIES

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
PHYSICAL RISK	NATURAL CATASTROPHE, FIRE, EQUIPMENT BREAKDOWN, TECHNOLOGY PERFORMANCE, AND MORE	WEATHER AND CLIMATE VOLATILITY CONTINUES TO INCREASE; SAFETY AND LOSS CONTROL CONTINUE TO REDUCE OTHER LOSSES	NATURAL DISASTERS WILL ALWAYS HAPPEN, BUT THE COMMUNITY IMPACTS DEPEND UPON VULNERABILITY AND RESILIENCY;

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
CONTRACTUAL RISK	BEST PRACTICES, CONTRACTUAL RISK TRANSFER PHILOSOPHY, AND CASE LAW	LITIGATION STRATEGIES CONTINUE EVOLVING; DEEP POCKETS AND INSURANCE REMAIN ON THE HOOK FOR MOST COMPLEX AND CATASTROPHIC CLAIMS	IMPROVEMENTS REMAIN AVAILABLE; CONTRACT RISK TRANSFER WILL REMAIN A VIABLE TOOL; LITIGATION AND TORT REFORM WILL HAVE A ROLE

RISK	CURRENT STATE	TREND	OUTLOOK
INVESTMENT RISK	EQUITY, BONDS, INTEREST RATES, & RISK-ADJUSTED IRR	PE AND INSTITUTIONAL INVESTMENTS INCREASE; STRATEGIC BUYERS DIVERSIFYING PPA COUNTERPARTIES; GOVERNMENT INCENTIVES CONTINUE EVOLVING; INCREASE IN USING RISK-ADJUSTED IRR AS METRIC	INTEREST RATES, MARKET DISTORTIONS, AND CAPITAL GROWTH; INCREASING INVESTMENTS FROM FOREIGN ENTITIES; MICROTRANSACTIONS, DEFI, AND MICROINVESTING MAY HAVE A ROLE TO PLAY

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
INSURANCE MARKET	SOFT OR SOFTENING	SOFT(ER) MARKET ON THE HORIZON; EVOLUTION IN CAPTIVES; INCREASE IN STRATEGIC RISK RETENTION	STRATEGIC USE CASES OF ALTERNATIVE RISK TRANSFER AND INSURANCE ALTERNATIVES

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
PARTNERSHIP RISK	PPP, STRATEGIC PARTNERSHIPS, & TAX EQUITY	GREATER WILLINGNESS TO PARTNER WITH COMPLEMENTARY ENTITIES ACROSS INVESTMENT, DEVELOPMENT, CONSTRUCTION, AND OPERATIONAL ECOSYSTEMS	PARTNERSHIPS AND JVS REMAIN VIABLE; CROSS-INDUSTRY PARTNERSHIPS EMERGING

<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
TECHNICAL RISK	PROTOTYPICAL, EVOLUTIONARY, & PROVEN OPTIONS AT ALL SCALES	AI, BIG DATA, AND INTERNET CONTINUE INCREASING THEIR ROLE IN EVERYDAY OPERATIONS	OEM COUNTERPARTY RISK REMAINS REAL; WORKMANSHIP AND DEFECTS CONTINUE PRESENTING CHALLENGES; CYBER RISK CONTINUES TO EVOLVE



<b>RISK</b>	<b>CURRENT STATE</b>	<b>TREND</b>	<b>OUTLOOK</b>
<b>TECHNOLOGY RISK</b>	SOLAR, WIND, (B)ESS, HYDRO, NUCLEAR, WASTE-TO-X, GEOTHERMAL, CCUS, LNG, RNG, SAF, AND MORE	CCUS INCREASING ITS ROLE; DISTRIBUTED RENEWABLES AND MICROGRIDS GAINING POPULARITY	SMR, HYDROGEN, FUSION, AND FUSION ON THE NEAR HORIZON; ADVANCED SUPERCONDUCTORS AND OTHER ADVANCED MATERIALS COULD DRIVE MASSIVE EFFICIENCY GAINS

# OPPORTUNITIES TO GROW

## HIGHLIGHTING TECHNOLOGIES WITH GROWTH POTENTIAL IN THE CPS PORTFOLIO

HYDROGEN	HYDROELECTRIC	GEOTHERMAL	HEAT PUMPS
<p>TECH: ELECTROLYSIS SEPARATES WATER INTO HYDROGEN AND OXYGEN</p>	<p>TECH: RESERVOIR WATER FLOWS THROUGH TURBINE TO DRIVE GENERATOR</p>	<p>TECH: UNDERGROUND HEAT TRANSFER TO FLUID TO DRIVE POWER CYCLE</p>	<p>TECH: REVERSIBLE REFRIGERATOR</p>
<p>CO2 EMISSIONS PER MWH: 0 – 280 KG</p>	<p>CO2 EMISSIONS PER MWH: 0 - LOW</p>	<p>CO2 EMISSIONS PER MWH: 0 - LOW</p>	<p>CO2 EMISSIONS PER MWH: 70.8 KG</p>
<p>INSTALLATION COST (\$/MW): \$2,000,000</p>	<p>INSTALLATION COST (\$/MW): \$3,241,000</p>	<p>INSTALLATION COST (\$/MW): \$7,143,000 - \$11,112,000</p>	<p>INSTALLATION COST (\$/MWH): \$30.4</p>
<p>IRA ELIGIBLE? YES</p>	<p>IRA ELIGIBLE? YES</p>	<p>IRA ELIGIBLE? YES</p>	<p>IRA ELIGIBLE? YES</p>
<p>TX-SPECIFIC RISKS? NO</p>	<p>TX-SPECIFIC RISKS? DROUGHT</p>	<p>TX-SPECIFIC RISKS? MINERAL VS. SURFACE RIGHTS</p>	<p>TX-SPECIFIC RISKS? NO</p>

# OPPORTUNITIES TO GROW

## HIGHLIGHTING TECHNOLOGIES WITH GROWTH POTENTIAL IN THE CPS PORTFOLIO

LNG	RNG	SAF	WASTE-TO-X
TECH: LIQUIFY NATURAL GAS AT EXTREMELY COLD TEMPS	TECH: BIOGAS THAT HAS BEEN PURIFIED	TECH: UNDERGROUND HEAT TRANSFER TO FLUID TO DRIVE POWER CYCLE	TECH: VARIOUS
CO2 EMISSIONS PER MWH: 751 KG	CO2 EMISSIONS PER MWH: 191 – 220 KG	CO2 EMISSIONS PER MWH: 0 - LOW	CO2 EMISSIONS PER MWH: VARIOUS
INSTALLATION COST (\$/MTPA): \$550,000,000 – \$1,000,000,000+	INSTALLATION COST (\$/MWH): \$225 (IN 2022)	INSTALLATION COST (\$/BPD): \$165,000 (IN 2017)	INSTALLATION COST (\$/MW): VARIOUS
IRA ELIGIBLE? MAYBE RETROFITS ARE ELIGIBLE	IRA ELIGIBLE? YES	IRA ELIGIBLE? YES	IRA ELIGIBLE? YES
TX-SPECIFIC RISKS? MOST GOOD SITES BUILT OR UNDER DEVELOPMENT	TX-SPECIFIC RISKS? NO	TX-SPECIFIC RISKS? NO	TX-SPECIFIC RISKS? NO

# OPPORTUNITIES TO GROW

## HIGHLIGHTING TECHNOLOGIES WITH GROWTH POTENTIAL IN THE CPS PORTFOLIO

CCUS	SMR	FISSION	FUSION
<p>TECH: UNDERGROUND INJECTION</p>	<p>TECH: HEAT FROM FUEL USED TO MAKE STEAM AND DRIVE POWER CYCLE</p>	<p>TECH: HEAT FROM FUEL USED TO MAKE STEAM AND DRIVE POWER CYCLE</p>	<p>TECH: ENERGY FROM FUSION PROCESS USED TO MAKE STEAM TO DRIVE POWER CYCLE</p>
<p>CO2 EMISSIONS PER MWH: VARIOUS, BUT NEGATIVE</p>	<p>CO2 EMISSIONS PER MWH: 0 - LOW</p>	<p>CO2 EMISSIONS PER MWH: 0 - LOW</p>	<p>CO2 EMISSIONS PER MWH: 0-LOW</p>
<p>INSTALLATION COST (\$/MW): \$1,300,000 - \$2,300,000</p>	<p>INSTALLATION COST (\$/MW): \$ 6,471,000 - \$11,836,000</p>	<p>INSTALLATION COST (\$/MW): \$6,471,000 - \$11,836,000</p>	<p>INSTALLATION COST (\$/MW): UNKNOWN</p>
<p>IRA ELIGIBLE? YES</p>	<p>IRA ELIGIBLE? YES</p>	<p>IRA ELIGIBLE? YES</p>	<p>IRA ELIGIBLE? YES</p>
<p>TX-SPECIFIC RISKS? RESERVOIR AVAILABILITY; CO2 USED FOR EOR</p>	<p>TX-SPECIFIC RISKS? NIMBY-ISM</p>	<p>TX-SPECIFIC RISKS? NIMBY-ISM</p>	<p>TX-SPECIFIC RISKS? UNKNOWN</p>



**NAVIGATING THE ENERGY TRANSITION IS HARD.**

**THERE ARE MANY RISKS TO UNDERSTAND AND CONTROL.**

**CPS HAS A PLAN BUT WILL NEED OBJECTIVE METRICS AND PERFORMANCE INDICATORS.**

**CPS HAS OPPORTUNITIES FOR IMPROVEMENT AND TO EXPAND ITS PLAN IN THE COMING YEARS AS PART OF ACHIEVING ITS GOALS.**

**MARSH ADVISORY REMAINS AVAILABLE TO SUPPORT CPS WITH ENTERPRISE RISK MANAGEMENT SOLUTIONS, CONTRACT REVIEW, ESG CONSULTING, CARBON ACCOUNTING, CONSTRUCTION ADVISORY, EDUCATION, AND MORE.**

# GLOSSARY

## TERMS AND ACRONYMS (IN ORDER OF APPEARANCE)

T	TONS (MASS)
CO2	CARBON DIOXIDE
MWH	MEGAWATT-HOUR (POWER)
EIA	US ENERGY INFORMATION ADMINISTRATION
OEM	ORIGINAL EQUIPMENT MANUFACTURER
O&M	OPERATIONS & MAINTENANCE
K&R	KIDNAP & RANSOM INSURANCE
D&O	DIRECTORS & OFFICERS INSURANCE
BTA	BUSINESS TRAVEL ACCIDENT INSURANCE
WC	WORKERS' COMPENSATION INSURANCE
EL	EMPLOYER'S LIABILITY INSURANCE
DIC/DIL	DIFFERENCE-IN-CONDITIONS/DIFFERENCE IN LIMITS INSURANCE
IM	INLAND MARINE INSURANCE

## TERMS AND ACRONYMS (IN ORDER OF APPEARANCE)

STP	STOCK THROUGHPUT INSURANCE
Y/Y	YEAR-OVER-YEAR
BESS	BATTERY ENERGY STORAGE SYSTEM
ESS	ENERGY STORAGE SYSTEM (GENERIC OR TECHNOLOGY-AGNOSTIC)
EV	ELECTRIC VEHICLE
IRR	INTERNAL RATE OF RETURN
PE	PRIVATE EQUITY
PPA	POWER PURCHASE AGREEMENT
DEFI	DECENTRALIZED FINANCE
PPP	PUBLIC-PRIVATE PARTNERSHIPS
JV	JOINT VENTURE
AI	ARTIFICIAL INTELLIGENCE OR AUGMENTED INTELLIGENCE
CCUS	CARBON CAPTURE AND UTILIZATION OR STORAGE



## TERMS AND ACRONYMS (IN ORDER OF APPEARANCE)

SMR	SMALL MODULAR (NUCLEAR) REACTOR
MW	MEGAWATT (ENERGY)
IRA	INFLATION REDUCTION ACT
LNG	LIQUEFIED NATURAL GAS
KG	KILOGRAM
MTPA	MILLION TONS PER ANNUM
RNG	RENEWABLE NATURAL GAS
SAF	SUSTAINABLE AVIATION FUEL
BPD	BARRELS PER DAY (1 BARREL = 42 GALLONS)
EOR	ENHANCED OIL RECOVERY
NIMBY	NOT IN MY BACKYARD



# EVOLVE: ARTIFICIAL INTELLIGENCE (AI)

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*PRESENTED BY:*  
**EVAN O'MAHONEY**  
Chief Information Officer



**November 12, 2024**  
*Informational Update*



# AGENDA

- AI Landscape
- AI Framework & Strategy Development
- Risk Considerations
- GenAI Roadmap & Milestones

Formulating our strategy and establishing governance will mitigate risks and support our ability to capitalize on GenAI opportunities.



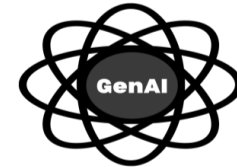
# AI LANDSCAPE

## ALIGNED TO OUR DIGITAL STRATEGY

### Established Use Cases

MACHINE LEARNING | ROBOTIC PROCESS AUTOMATION | EVIDENCED BASED REASONING

- Market Price Forecaster
- Vegetation Management
- Storm Outage Prediction
- Underground Cable Failure Detector
- Cyber Security Detection
- Accounts Payable Automation
- Overloaded Transformer Dashboard



## GenAI

THE ARTIFICIAL  
INTELLIGENCE CONTINUUM

### Leveraging Internal & External Partners to Inform Strategy Development

Artificial Intelligence is actively leveraged as a tool to enhance internal efficiencies and support data-informed decision-making across various operational teams.



# AI FRAMEWORK

## ENSURING DIGITAL GOVERNANCE TO DELIVER VALUE



Generative AI is disruptive and requires a disciplined approach to strategy and framework through which use cases will be prioritized and successfully deployed.



# STRATEGY EXECUTION PROGRESS

## AWARENESS CAMPAIGN



- GenAI Strategy and approach presented in several functional all-hands and leadership meetings.
- Conducted three-day onsite workshops on potential GenAI use cases with Microsoft.
- Regular meetings with change leaders and stakeholders to educate on GenAI use cases, training materials, cyber security and enterprise risks, all of which are contributing as policy inputs.

## PROGRAM ACCELERATORS



- Market research and utility industry adoption identified productivity-focused GenAI use cases.
- IT Virtual Agent: Chat bot for internal IT service desk to address technical support requests.
- Microsoft Copilot: Select pilot to enhance use of Microsoft productivity suite (e.g. Microsoft Office), to include training content development.

## POLICY & GOVERNANCE



- GenAI Policy drafted with input from internal and external subject matter experts, including legal, cyber-security, compliance, people & culture, and industry research organizations.
- ARB 2.0 Development: Incorporation of evaluation process within an updated framework to formalize adoption of GenAI standards and best practices.

## RISKS & OPPORTUNITIES

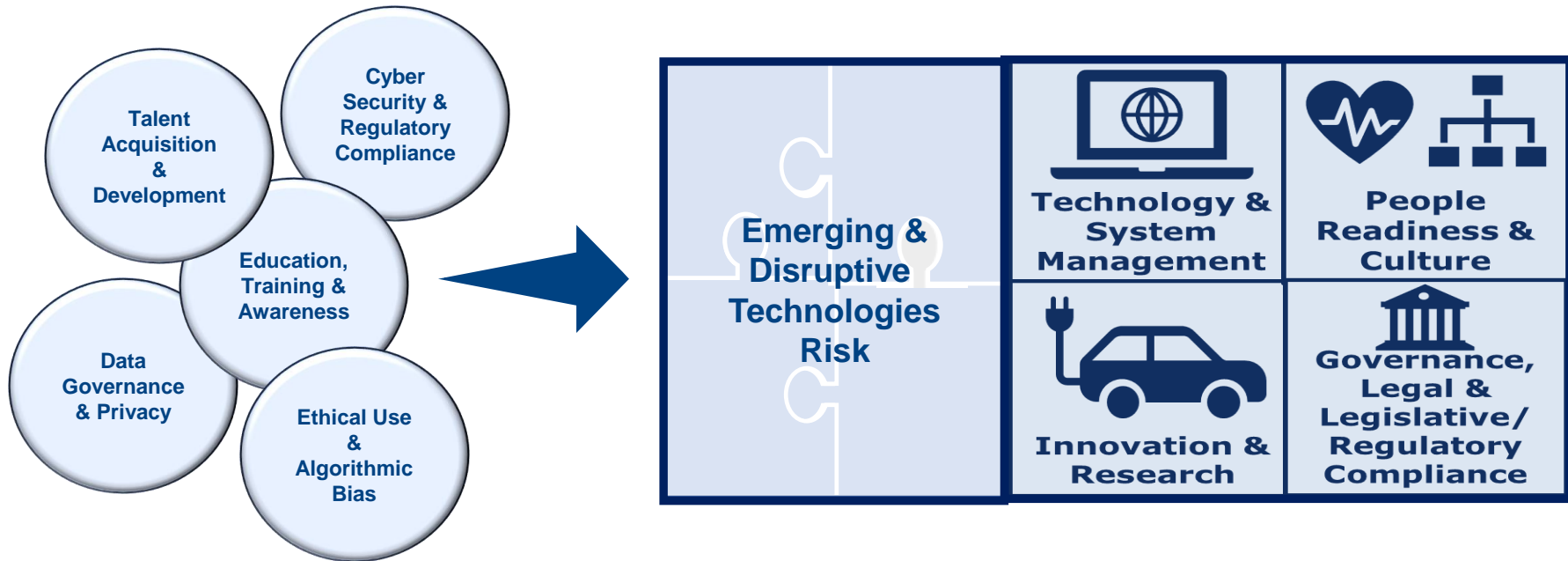


- GenAI Risk Framework: Developing a framework to formalize risk evaluation.
- Embedded GenAI in purchased solutions and platforms remains a challenge to address.
- The next version of the Architecture Review Board (ARB 2.0) is in development and will establish technology standards and best practices for GenAI.

Working groups and external inputs have informed all aspects of our strategy development, including security risk framework, policy creation, and training content development.

# RISK CONSIDERATIONS

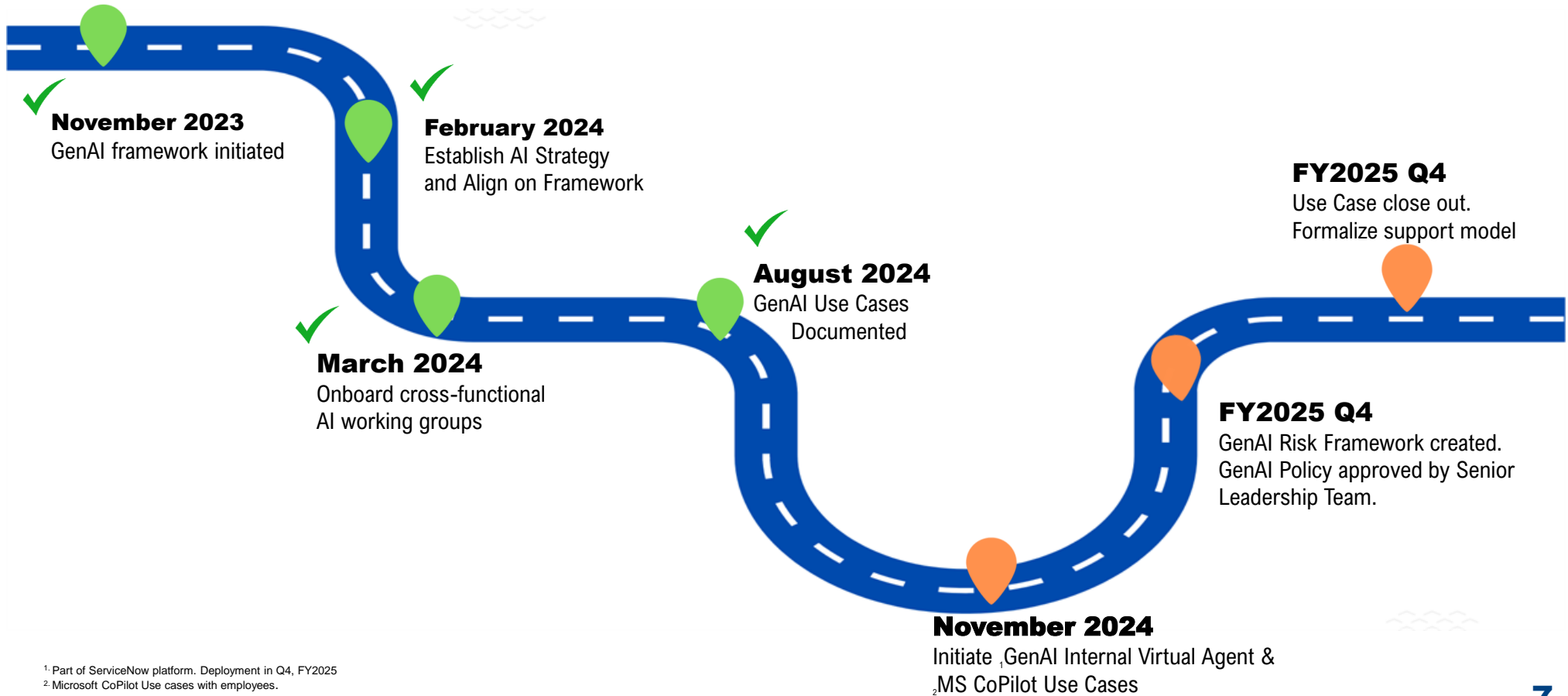
## ALIGNMENT WITH ENTERPRISE RISKS



Leveraging advancements in technology, such as GenAI, can significantly help us deliver value to our customers and community, but risks must be managed effectively.



# GenAI ROADMAP & MILESTONES







**THANK YOU**



# APPENDIX

# GLOSSARY / DEFINITIONS



ACRONYM OR WORD	DEFINITION	ACRONYM OR WORD	DEFINITION
AI	Artificial Intelligence	MS	Microsoft
AI Accelerator	Initiative where AI will be a good fit to achieve CPS Energy vision	Co-Pilot	Microsoft AI Productivity Tool
ARB	Architecture Review Board	T&D	Transmission and Distribution
CAB	Change Advisory Board	EIT	Enterprise Information Technology
COTS	Commercial Off the Shelf Solution	ESMO	Energy Supply and Market Operations
OCR	Optical Character Reader	SME	Subject Matter Expert
SLT	Senior Leadership Team		
T&R	Technology & Resiliency		

# GLOSSARY / DEFINITIONS



ACRONYM OR WORD	DEFINITION	ACRONYM OR WORD	DEFINITION
General AI	Can behave in a human like way across all tasks.	Generative AI GenAI	Used to generate outputs that resembles human created content like text, images, music, computer code and designs
Narrow AI	Designed to perform specific tasks.	Machine Learning	Used to make predictions or decisions leveraging data and algorithms
Statistical Machine Learning	Using statistical techniques to develop models that can learn from data and make predictions or decisions.		
Natural Language Processing	Gives computers the ability to understand, interpret, manipulate, and generate human language that is contextually relevant		
Evidence-based Reasoning	Uses credible and relevant information to support your claims, arguments, or decisions.		

# CPS ENERGY AI CORE TEAM



## AI POLICY TEAM

- Anand Vedapuri - EIT
- Samantha Pixley – EIT
- Jonathan Homer – Integrated Security
- Brandon Pixley – Integrated Security
- Devi Kumar-Nambiar – Legal Services
- Curt Brockmann – Compliance & Ethics
- Bob Stevens – Compliance & Ethics
- Veronica Wycoff – People & Culture
- Kari Meyer – Govt and Reg Affairs & Public Policy
- AnnaMarie Rangel – Enterprise Risk Management & Solutions

## AI ACCELERATOR TEAM

- Anand Vedapuri – EIT
- Samantha Pixley – EIT
- Jonathan Homer – Integrated Security
- Jonathan Tijerina – Corporate Development
- Kevin Pollo – Energy Supply & Market Operations
- Ann Kinnard – Customer Experience
- Christen Waggoner – Customer Experience Operations
- LeeRoy Perez – T&D Engineering & Grid Transformation



# HORIZON 2050 UPDATE

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*PRESENTED BY:*

**Elaina Ball**  
Chief Strategy Officer

**November 12, 2024**  
*Informational Update*



# AGENDA

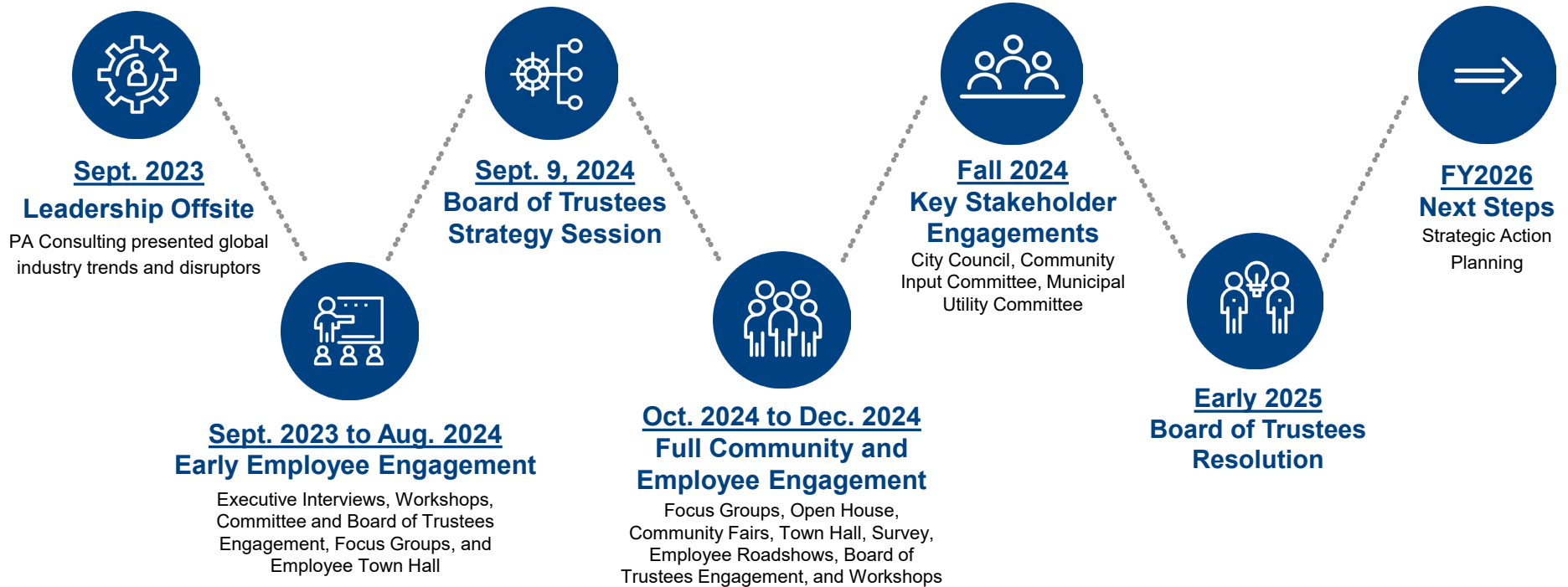
- Stakeholder Engagement Roadmap
- Horizon 2050 Framework
- Stakeholder Feedback to Date
- Feedback Trends
- Horizon 2050 Survey
- Q&A

Horizon 2050 update including preliminary stakeholder feedback.



# STAKEHOLDER ENGAGEMENT

## Strategic Communication Tactics



**Connecting, listening, and engaging to drive our mission forward.**





# HORIZON 2050

STRATEGIC FRAMEWORK





# STAKEHOLDER FEEDBACK TO DATE

**Total Engagement Feedback: 2,307**

- **Horizon 2050 Survey Results**
  - Employees: 1,038
  - Community: 711
- **Additional Focus Groups: 558**

**Our vision statement is liked overall by both the community (87%) and employees (90%).**

TOP 3 GOALS	COMMUNITY	EMPLOYEES
1 <sup>st</sup> Reliability	55%	67%
2 <sup>nd</sup> Competitive Price	20%	11%
3 <sup>rd</sup>	Sustainability 10%	Team/Business Excellence 10%



Horizon 2050 community pop-up at Hardberger Park (top) and Partners in Power event (bottom).



# FEEDBACK TRENDS

## CONSISTENT FINDINGS AS OF 11/4/2024



### ➤ Reliability

- Consistently top priority across stakeholders
- Major event restoration expectations

### ➤ Affordability/Cost

- Consistently the second most important priority among stakeholders
- Some large customers are willing to pay higher rates for higher reliability

### ➤ Increase in partnership, transparency with CPS Energy

- Large customers stressed the capability and skill of our team members
- Seeking more partnership, innovation and even more transparency for their growing power needs
- Desire for more flexibility and options from us



# FEEDBACK TRENDS

CONSISTENT FINDINGS AS OF 11/4/2024



## ➤ Sustainability

- Sustainability is an important but polarizing theme
- Qualitative and quantitative surveys indicate that it is not as important as reliability, cost & service
- Demographic and geographic trends
- Customers seek more tools/tips to conserve energy

## ➤ Other Key Themes

- Safety – strong recommendation to include in Business/Team Excellence
- Innovation/leadership
- Simplify language where possible



# HORIZON 2050 SURVEY



**THANK YOU**

Charter Created: 07/25/2011  
Last Revised: ~~xx/44/xx07/2024~~8

## CPS Energy Board of Trustees

### RISK MANAGEMENT COMMITTEE CHARTER

#### I. Role of the Risk Management Committee

The Risk Management Committee, a standing committee of the CPS Energy Board of Trustees (“Board”), provides oversight to ensure that internal and external enterprise risks that might adversely affect the organization are appropriately identified and mitigatedaddressed.

#### II. Authority

The Risk Management Committee is authorized to consult with and review information from CPS Energy management and other relevant sources ~~in order to~~ become familiar with and provide oversight and guidance concerning CPS Energy’s ~~business enterprise~~ risks and its risk management practices. The kinds of risk to be considered include, but are not limited to, financial risk, ~~fuel source generation~~ diversity, the existing and future regulatory climate, investment risk, and emerging utility risk~~trends for all these types of risks~~. The Committee is authorized to assess review these risks. ~~The Committee is also authorized to~~ and make recommendations concerning any actions within the scope of its responsibility that it feels are necessary to enhance or improve CPS Energy’s risk exposureprofile and/or risk management practices.

#### III. Committee Membership

The Risk Management Committee shall consist of all Board members. Appointment of the Chair of the Committee shall be approved at least biennially by the full Board.

#### IV. Meetings

The Risk Management Committee shall meet at least two (2) times per calendar year. Additional meetings shall be scheduled as considered necessary by the Committee or Committee Chair. All members are expected to attend each meeting. The Committee may invite members of management or others to attend meetings and provide pertinent information, as necessary. The Committee may also conduct meetings in executive session as warranted and as permitted by law. Minutes of meetings will be prepared by staff and approved by the Board at a regularly scheduled Board meeting.

Charter Created: 07/25/2011  
 Last Revised: ~~xx/11/xx07/20218~~

## V. Responsibilities

The Risk Management Committee is tasked with the following responsibilities:

- Ensure the Enterprise Risk Management Program includes standard practices and procedures that allows for the identification, assessment, and mitigation of enterprise risks.
- ~~Meet periodically with management to r~~Review CPS Energy's enterprise risks internal and external risk profile and risk management practices, ~~as well as the effectiveness of the risk program. Matters Documents~~ that may be reviewed include, but are not limited to:
  - Enterprise Risk Register; Strategic and enterprise level risks
  - Risk Mitigation plans; and Program
  - ~~C~~urrent and emerging risk topics impacting CPS Energy's strategy, goals, and objectives.
- Ensure ~~the principal risks to~~ CPS Energy's enterprise risks business are identified, relevant, and managed through appropriate mitigation plans, ~~are in place to manage these risks. The Committee will meet with Enterprise Risk Management & Solutions (ERMS) as needed and evaluate the information provided regarding the effectiveness of the program and the risk mitigations in place.~~
- Recommend potential risk topics to be discussed as Risk Management Committee open and/or executive sessions to the Committee Chair. The Committee Chair will assist in developing the topics for the Risk Management Committee agenda.
- ~~Periodically r~~Review and assess the adequacy of the Risk Management Committee Charter annually, requesting Board approval for proposed changes and approve any necessary changes.
- Confirm annually that all responsibilities outlined in the Charter have been sufficiently fulfilled.

*This Charter of the Risk Management Committee of the CPS Energy Board of Trustees is hereby approved this 7<sup>th</sup> day of November 2018, and updated on this day of 2024.*



*Charter Created: 07/25/2011  
Last Revised: xx/xx/2024*

## **CPS Energy Board of Trustees**

### **RISK MANAGEMENT COMMITTEE CHARTER**

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*Charter Created: 07/25/2011*

*Last Revised: xx/xx/2024*

## **V. Responsibilities**

The Risk Management Committee is tasked with the following responsibilities:

- Ensure the Enterprise Risk Management Program includes standard practices and procedures that allows for the identification, assessment, and mitigation of enterprise risks.
- Review CPS Energy's enterprise risks and risk management practices. Documents that may be reviewed include, but are not limited to:
  - Enterprise Risk Register;
  - risk mitigation plans; and
  - current and emerging risk topics impacting CPS Energy's strategy, goals, and objectives.
- Ensure CPS Energy's enterprise risks are identified, relevant, and managed through appropriate mitigation plans.
- Recommend potential risk topics to be discussed as Risk Management Committee open and/or executive sessions to the Committee Chair. The Committee Chair will assist in developing the topics for the Risk Management Committee agenda.
- Review and assess the adequacy of the Risk Management Committee Charter annually, requesting Board approval for proposed changes.
- Confirm annually that all responsibilities outlined in the Charter have been sufficiently fulfilled.

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