



STRATEGIC UPDATE

PRESENTED BY
Paula Gold-Williams,
President & CEO

March 8, 2018

Informational Update

AGENDA

**THOUGHT
LEADERSHIP /
FLEXIBLE PATH**

2ND ANNUAL FUTURE OF ENERGY SYMPOSIUM

WE HAD:

- Great External Speakers
- Updates from our Sr. Chiefs
- City & State Congressional Guests
- Social Media
- **PRESS CONFERENCE** on Smart City



Ralph Cavanagh
Natural Resources Defense
Council
San Francisco, CA



Dr. Massoud Amin
University of Minnesota
Minneapolis, MN



Clint Vince
Dentons
Washington, D.C.



Dr. Jeffery Addicott
St. Mary's University
San Antonio, TX



Ofir Hason
CYBERGYM
Tel Aviv, Israel

#FutureOfEnergySA



2ND ANNUAL FUTURE OF ENERGY SYMPOSIUM



Paula Gold-Williams kicked off the 2nd Annual Future of Energy Symposium

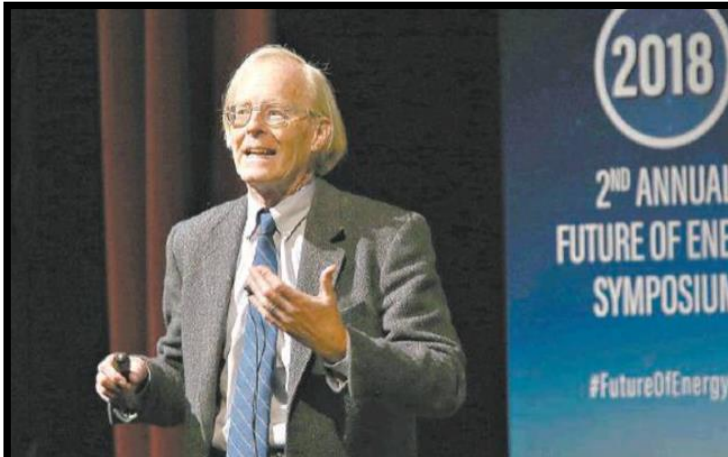


Dr. Cris Eugster hosted a panel on energy & its foundational role for our smart city with guests Dr. Massoud Amin and Clint Vince



Mayor Ron Nirenberg discussed our path for moving our city forward, thru focuses on climate, renewables & other emerging topics.

2ND ANNUAL FUTURE OF ENERGY SYMPOSIUM



Dr. Cavanagh explained how federal policy on home appliances has supported energy conservation. Then he & I discussed how gas is an important value proposition for SA.



"FELECIA TALKS:" Our Chief Customer Engagement Officer (CCEO) explained how the voice of the customer was anchoring our path forward.

DEVELOPING A FLEXIBLE FUTURE



Traditional power plants play an important role in firming up renewables until energy storage reaches utility scale

Now: Renewables and
Traditional Generation



Future: Renewables and
Energy Storage



Currently not
economical.

WHY FLEXIBLE?

Traditional (Historical)

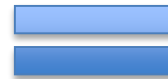
- **Predictable customer load**
- **Predictable customer growth**
- **Consistent generation levels**



40+ Year Baseload Assets
Traditional Power Plants

Flexible (Future)

- **Energy Efficiency**
 - Equipment using less energy
 - Declining use per customer
- **More Potential for Renewables**
 - Intermittency in generation
 - Renewables serving off-peak hours
- **New technologies on the horizon**



Need Ability to Adapt
Flexible Generation Path

FLEX PLAN KEY ASSUMPTIONS



The Flexible Generation Path allows for updates in strategic direction as technologies & customer needs change

WILL CONSIDER & ASSESS:

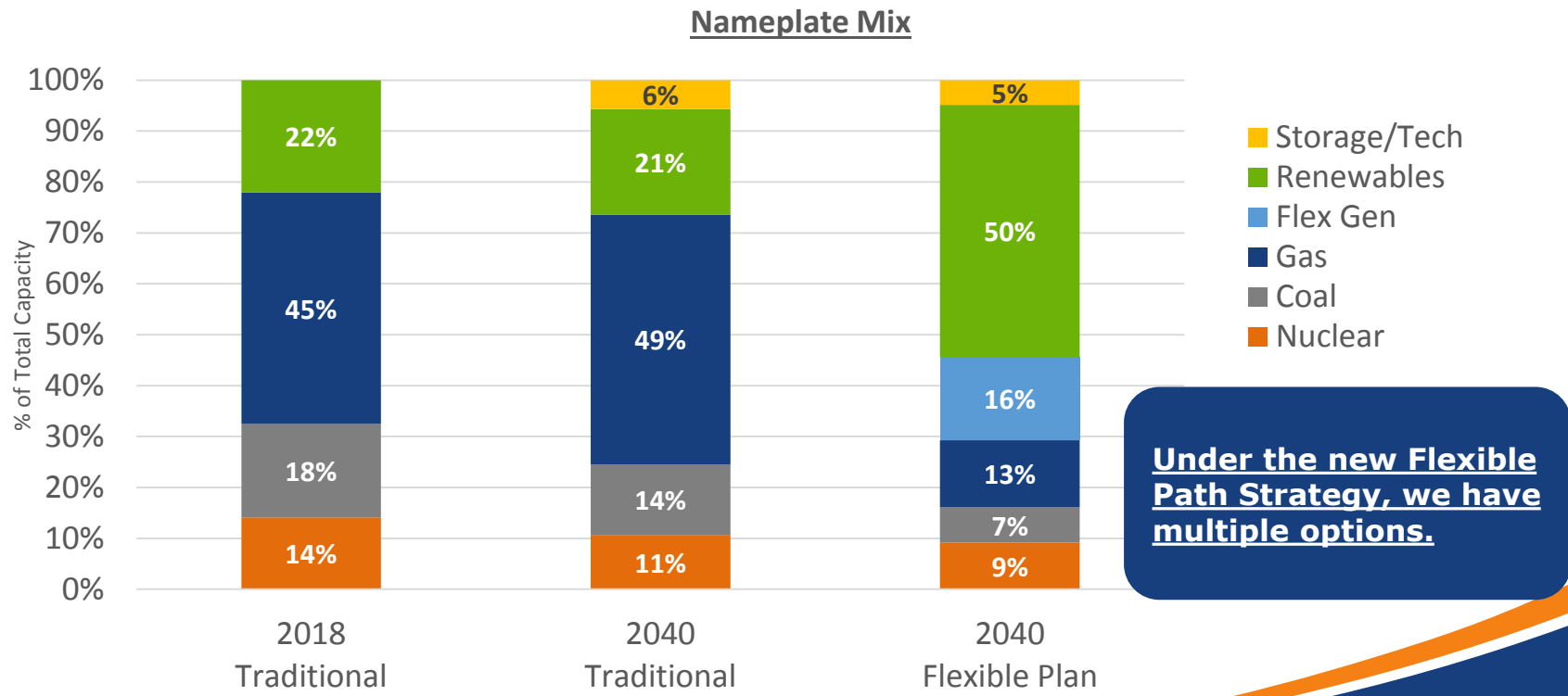
- Moving up shut down of JK Spruce 1 to 2030 from 2047
- Removing the JK Spruce 1 coal unit SCR* from business plan & budget
- Extending life of Combined Cycle plants (AVR & Rio Nogales) additional 8 years
- Adding 4,100 MW of renewables by 2040 (in addition to current 1,600 = 5,700 MW)
- Adding 550 MW of battery storage (duration increased from 1 to 4 hours discharge)
- Including Flexible Generation build in smaller increments to fill remaining load forecast gap
 - **MAJOR CONSIDERATION**: “Price to Beat” based on Natural Gas Combined Cycle (NGCC) - \$ per MWh & capacity factor

* Selective Catalytic Reduction (Reduces NOx)

FLEXIBLE PATH STRATEGY - CAPACITY MIX



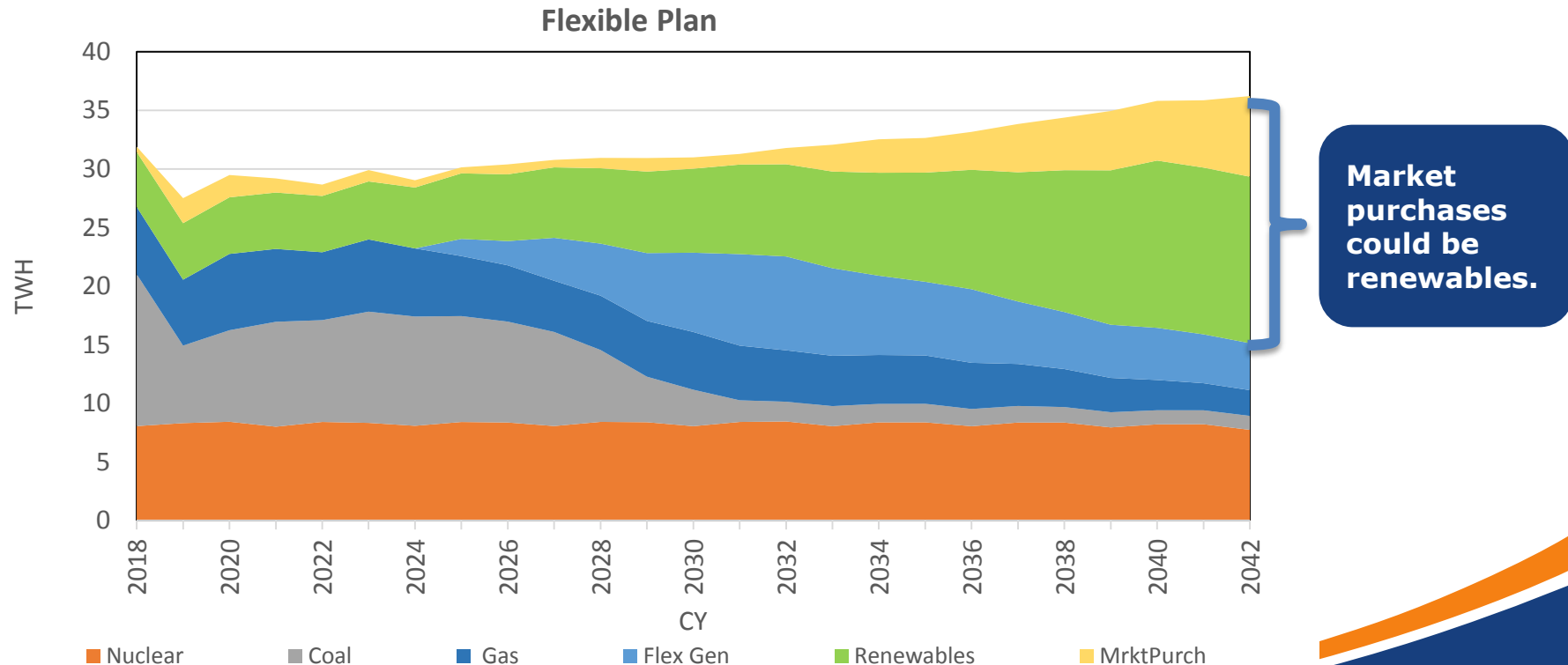
Natural Gas combined cycle provides the baseline pivot within the Flexible Path Strategy. Will adjust our plan when competing technology provides more benefit.



FLEXIBLE PATH STRATEGY – ALL GEN MIX (TWh)



While we're not projecting to be long in generation, especially if Distributed Generation materializes, we will ensure that a balanced portfolio approach is maintained.



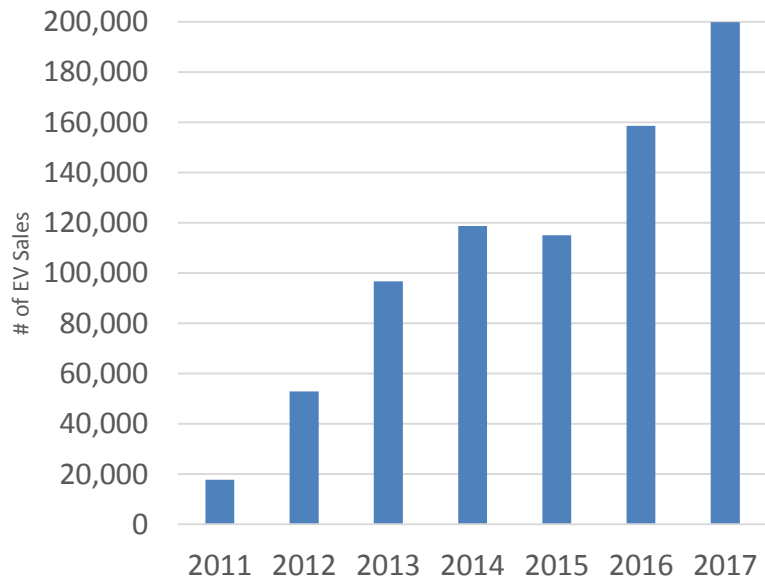
A flexible path strategy with renewable and market purchase options.

ELECTRIC VEHICLES (EVs)



OTHER NEW OPPORTUNITY!

U.S. EV Sales

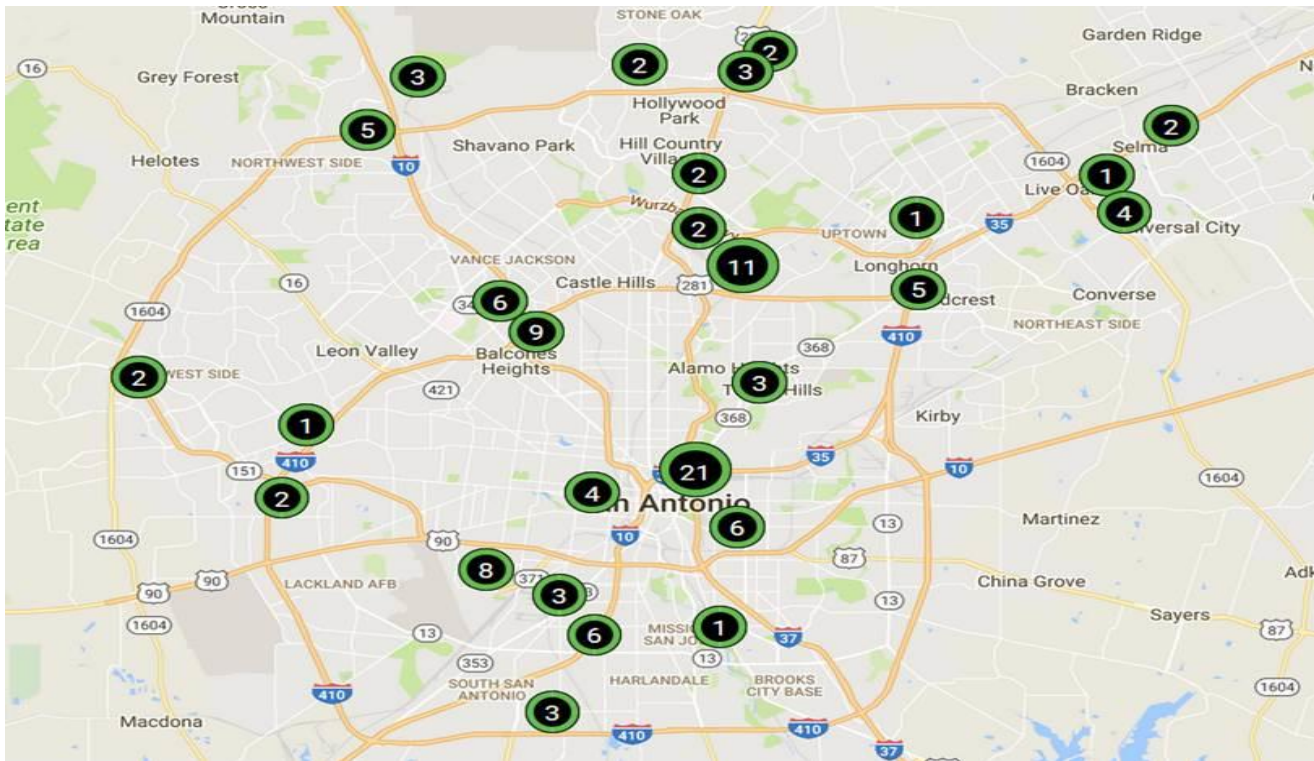


- U.S. EV sales are growing, but are only about 1% of total U.S. vehicle sales.
- EV sales are predicted to be over 50% of new car sales by 2040.

ELECTRIC VEHICLE PILOT NETWORK



146 Charging Stations!



ELECTRIC VEHICLE CHARGING STATION LOCATIONS



City & County

- Libraries
- Public Garages
- County Services
- Community College
- Port SA



Education

- UTSA
- ACCD



Additional Locations

- Hospital & Medical Clinics
- Grocery Stores & Malls
- Entertainment
- Workplace

ELECTRIC VEHICLE CHALLENGES



- Unauthorized commercial EV charging stations are operating in the Greater San Antonio Area, creating the following risks:
 - Customers being charged high rates for use of these stations
 - Creates potential public and employee safety hazards if the interconnection is not set up properly
 - Owners of these stations violate the law by reselling electricity in the area powered by CPS Energy
- CPS Energy is currently developing a framework for installation of charging stations by authorized vendors where they are needed

MORE ROOFLESS SOLAR!

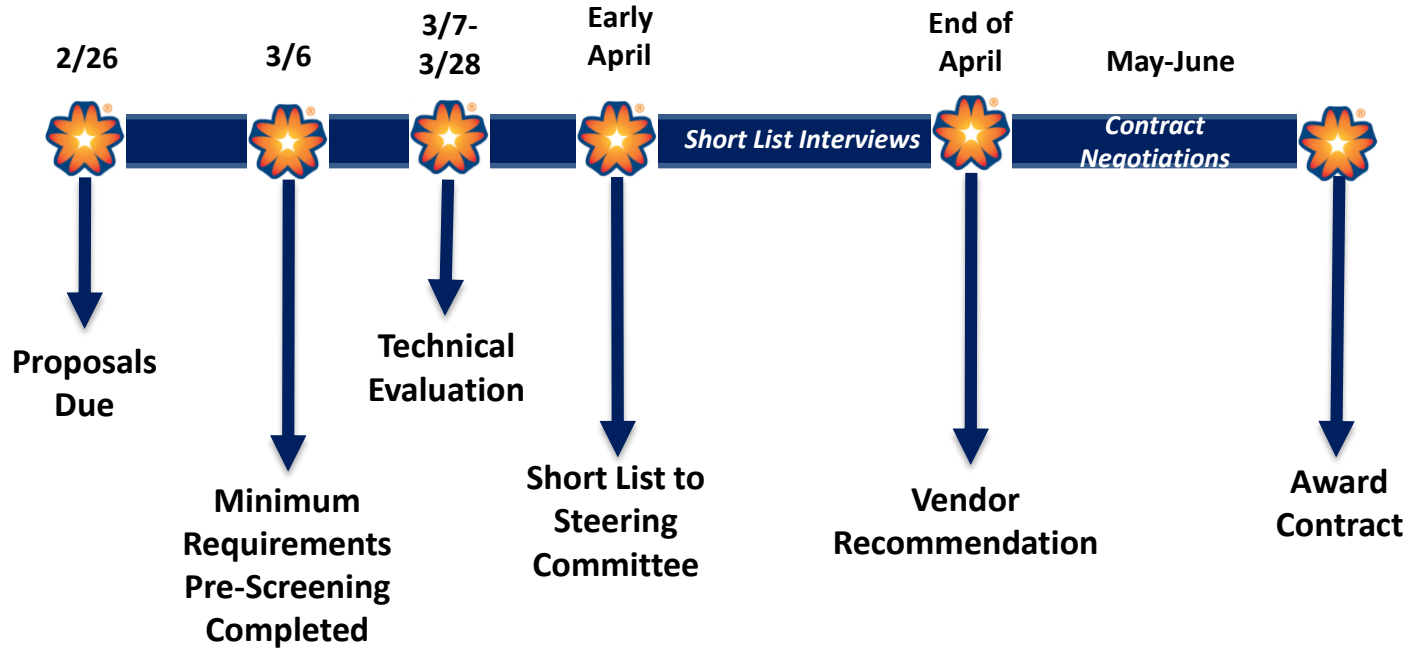


RFP responses received February 26, 2018
Target to award contract by June 2018

- Phase 1 sold out quickly, customer feedback very positive
- Seeking vendor to build up to 5 MW in CPS Energy territory
- Encouraging innovative approaches



TENTATIVE RFP TIMELINE





Thank You