



A  Sempra Energy utility®

Achieving 100% Renewable Energy in the City of San Diego:

SDG&E's Proposal to Meet the City of San Diego's 100% Renewable Goal



City of San Diego Disclaimer:

The City of San Diego (City) is still evaluating all options, and has not authorized or signed off on SDG&E's proposal. This is an option for City staff and Council to evaluate.

San Diego Gas & Electric Disclaimer:

San Diego Gas & Electric (SDG&E) supports customer choice and offers this proposal for the City to consider in achieving its renewable energy goals.

SDG&E supports the City's 100% renewable energy goals while acknowledging the significant regulatory and market uncertainty currently surrounding resource procurement.



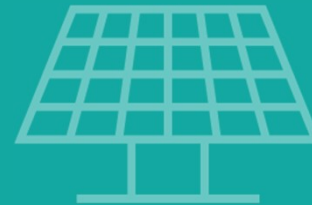
A Sempra Energy utility®

SDG&E's Power Mix

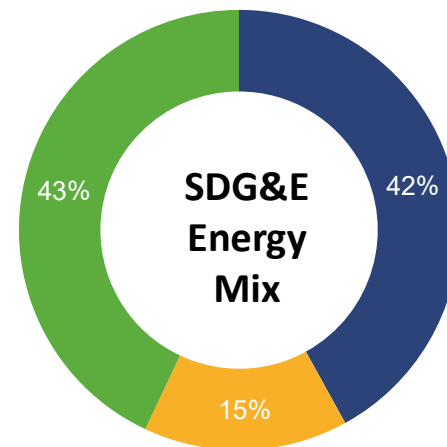
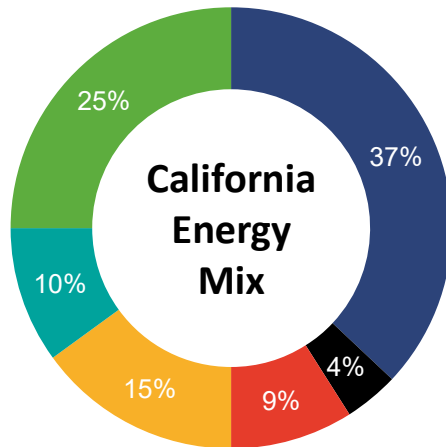
SDG&E has 60 long-term contracts allowing us to have delivered **43% of energy from renewable sources in 2016**



This 43% does not include **113,000 solar or Eco-Choice customers – increasing RPS ~3%**



SDG&E has **no contracts with coal power plants** in our energy portfolio. SDG&E's portfolio uses only renewable energy and low carbon natural gas



● Natural Gas ● Coal ● Nuclear ● Other ● Hydro ● Renewables

SDG&E Proposes to Partner with the City

SDG&E proposes to partner with the City to procure additional renewables to meet the City's Climate Action Plan Goals

- The City of San Diego has a goal to achieve **100 percent renewable energy** by 2035*
- SDG&E's mission is to build America's **cleanest, safest and most reliable energy company**
- The proposal would serve City customers with SDG&E's existing portfolio, include additional renewables to meet 100% of customer demand, and provide the City with local **input** on the resources used to serve its residents

Within the next 5 years, SDG&E expects to provide all customers with roughly 52% renewable energy**



The proposal could add 2,000 MW of new local renewables over time to meet 100% of City customer demand by 2035



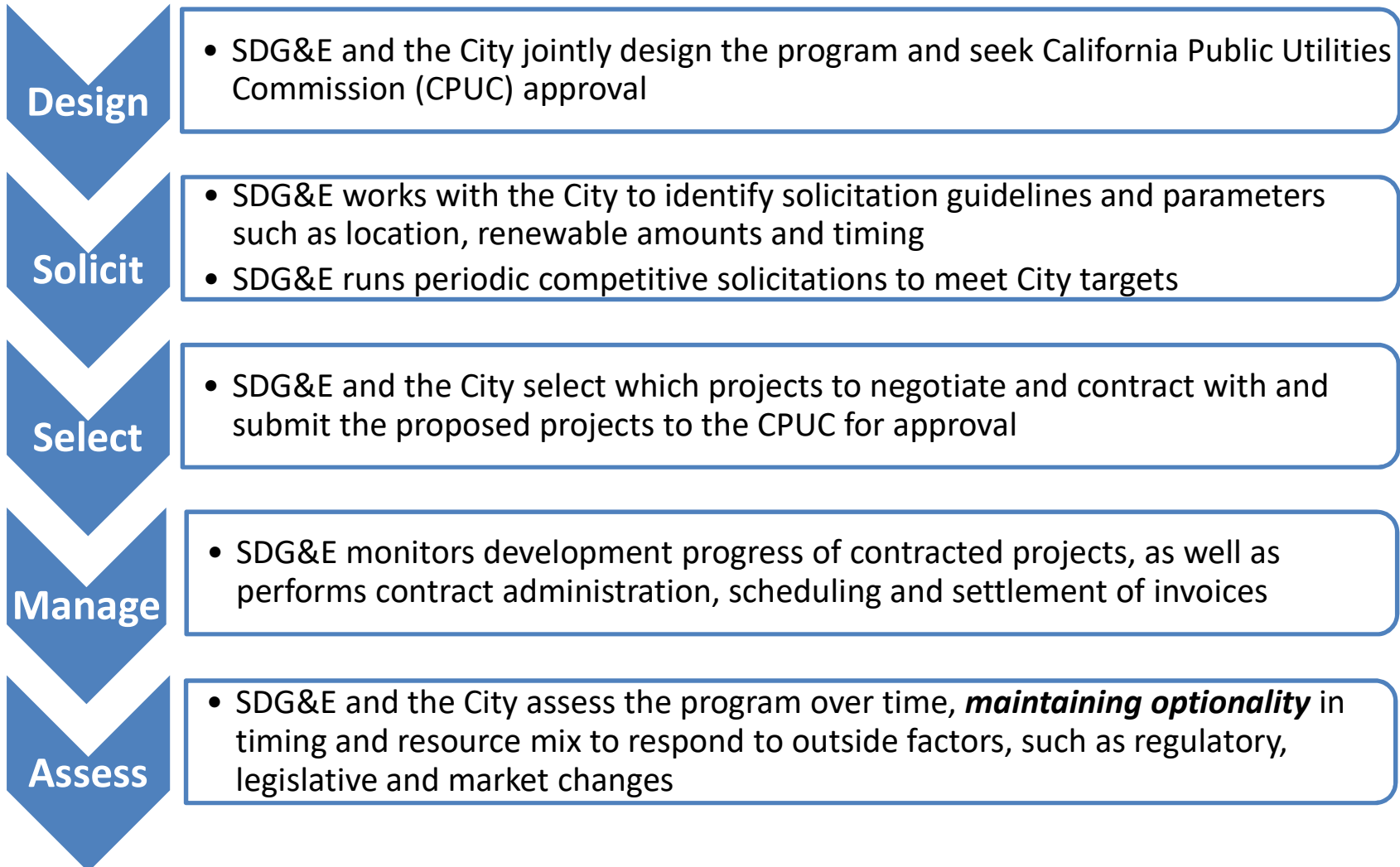
* City of San Diego Climate Action Plan.

** Includes rooftop solar.



The Road to Reaching 100%

Proposed Process





A Sempra Energy utility®

Proposed Milestones



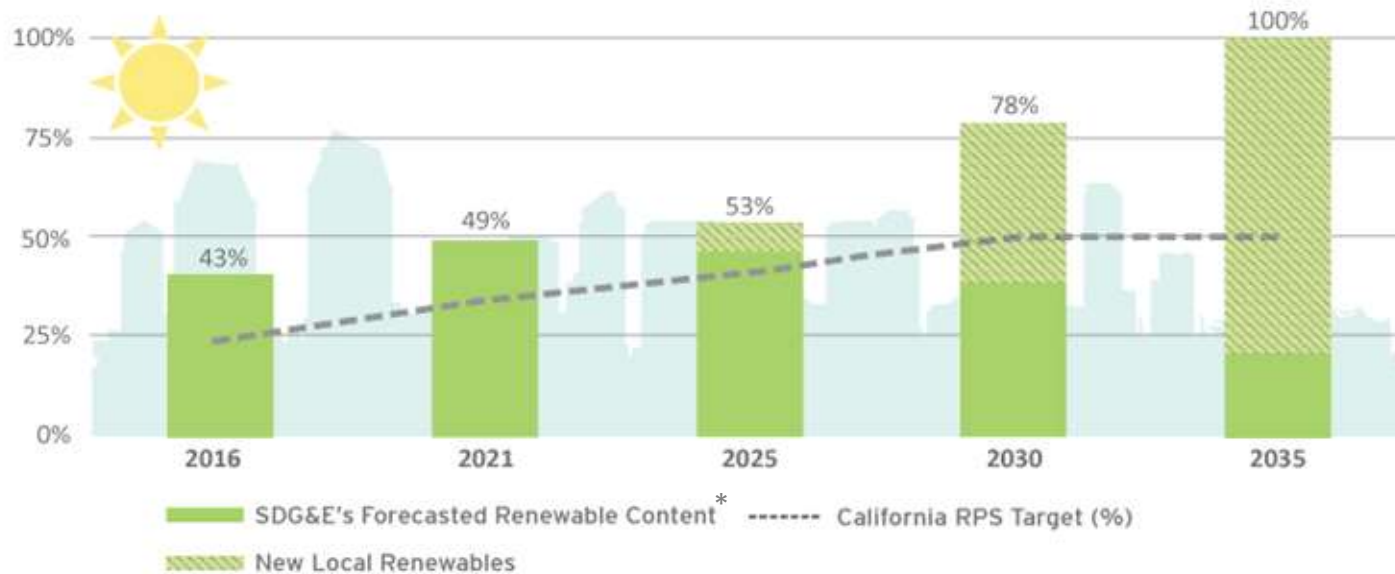
Current Regulatory & Legislative Activities that Could Impact this Road

<p>PCIA Reform Examining cost and portfolios for customers that leave SDG&E service</p>	<p>Integrated Resource Plan Guides procurement planning and timelines for all service providers</p>	<p>Retail Choice Rulemaking Potentially increases customer choice in electric provider with new roles and regulations</p>	<p>Senate Bill 100 Could require state-wide 60% RPS by 2030 and 100% carbon free by 2045</p>
--	--	--	---



What 100% Could Look Like

Illustrative Renewables Portfolio for City Customers



	2016	2021	2025	2030	2035
Current California RPS Target (%) Set by California Legislature	25	35	42	50	50
Energy Provided by SDG&E					
Total New MW of Local Renewables Developed	0	0	250	750	2,000
RPS from City-SDG&E 100% Renewable Partnership (%)	43	49	53	78	100
Energy Provided by SDG&E and Rooftop Solar					
Total renewable resources serving City customers (%)	46	52	57	80	100
Typical Residential Customer Bill Impact **	N/A	\$ -	\$1	\$ 4	\$8

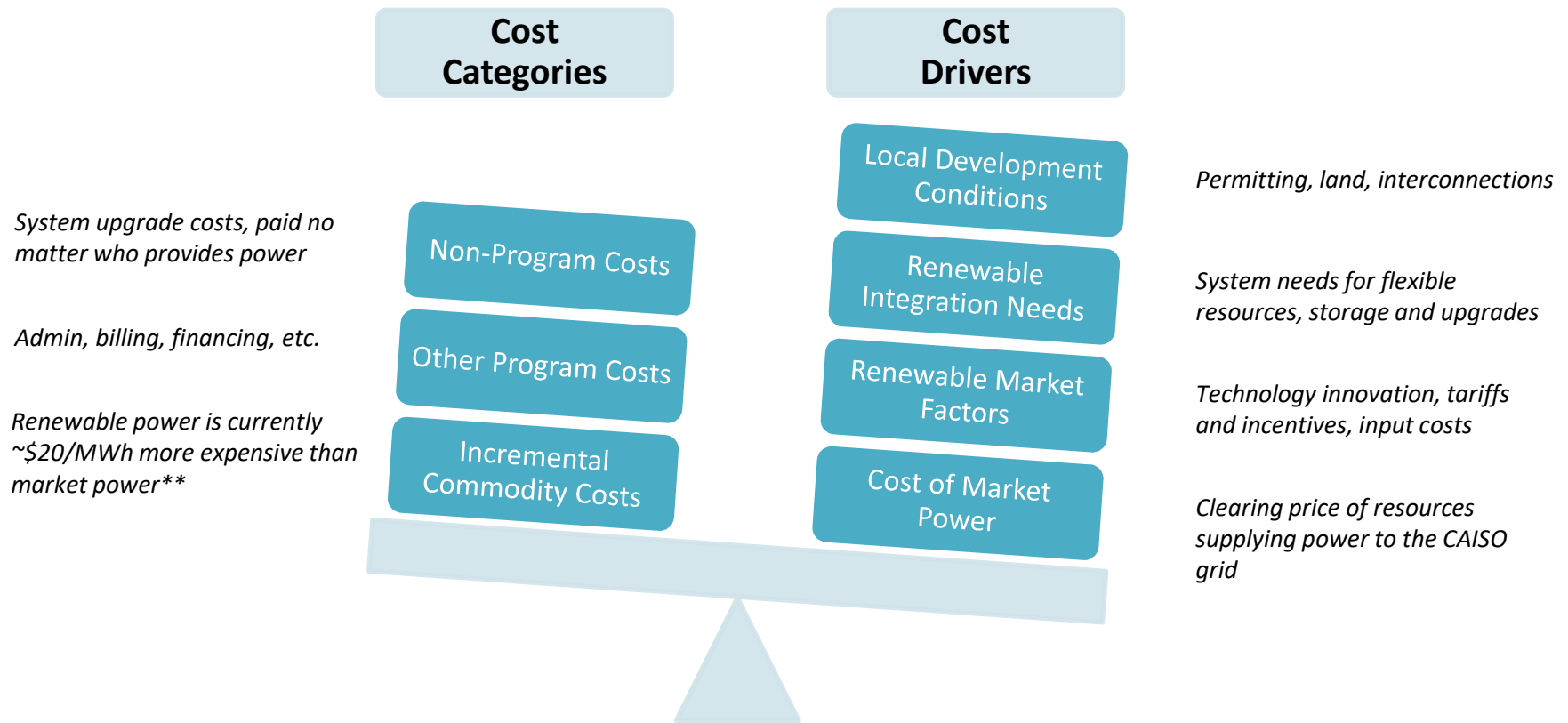
* Forecast is based on current portfolio of projects and does not include an estimate on future renewable procurement.

**A typical City resident's potential monthly bill impact based on today's information. SDG&E does not guarantee portfolio outcomes nor provides a rate forecast.



A Closer Look at Costs and Drivers

While SDG&E cannot provide projected rates for proposed programs due to significant uncertainty in energy markets,* the following are incremental cost drivers



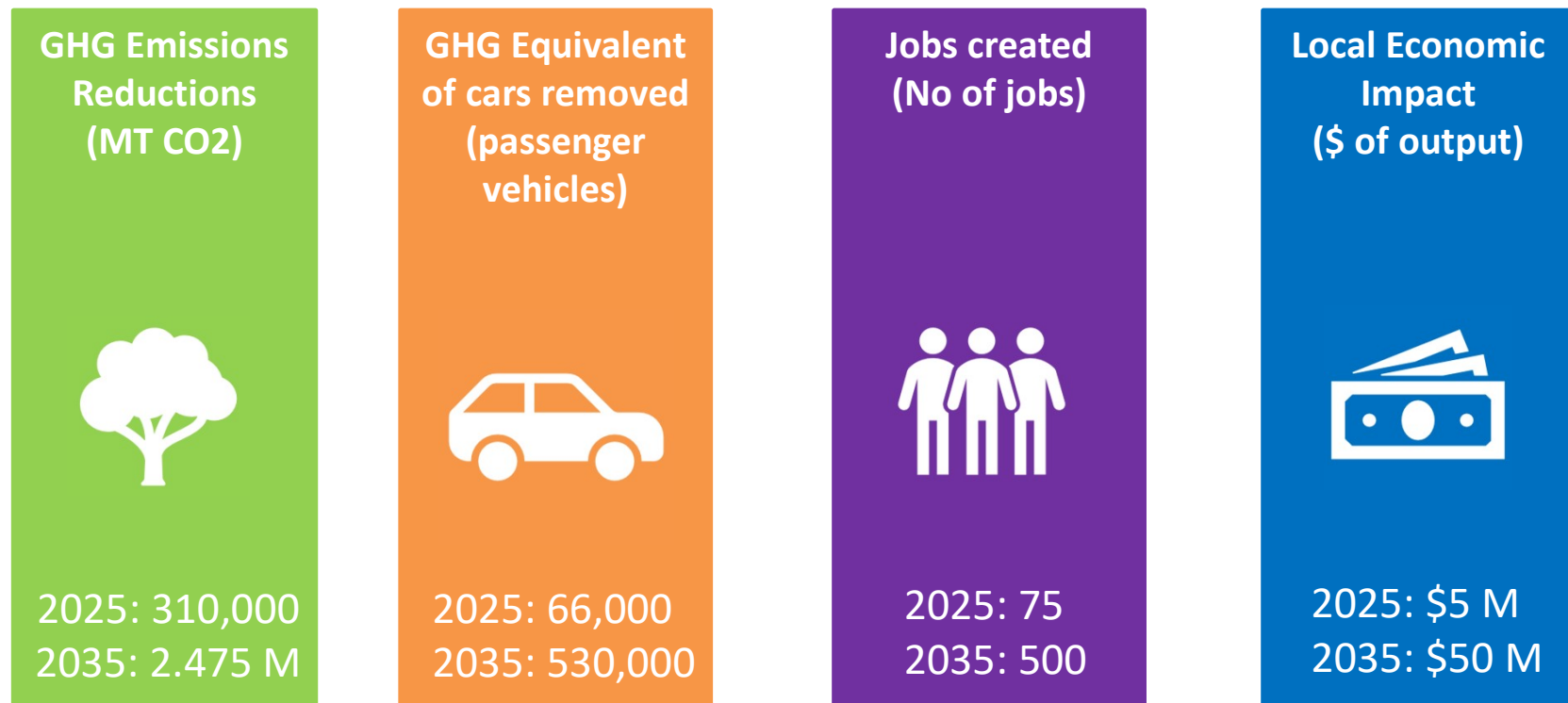
* In addition to significant regulatory uncertainty associated with active CPUC proceedings, market limitations on new generation and geographic and/or electrical system conditions may hinder the ability for the City to achieve 100% renewables at any given time, while ensuring affordability and reliability.

** The incremental cost of renewable power over market power is reflected in the cost of a renewable energy credit (REC).

These incremental costs and drivers are public information and were provided in response to the City Request for Proposal, they reflect factors that may affect program costs.

Potential Outcomes: By the Numbers

Illustrative Annual Outcomes Based Upon Today's Market and Energy Conditions*



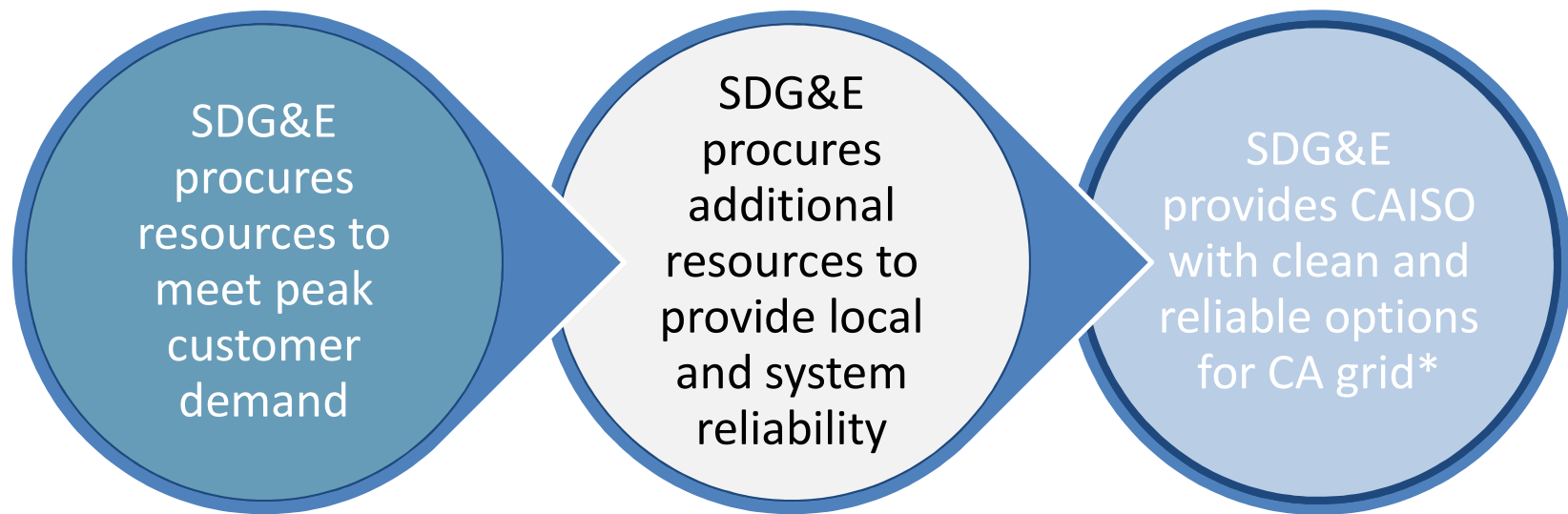
* GHG emission reduction estimates assume a solar facility capacity factor (portion of time that a facility runs per year) range of 31-35% and the 2016 statewide marginal emissions rate of 0.428 MT CO₂/MWh (see ARB Mandatory Reporting Regulation section 95111(b)(1)). Annual emission reductions are translated into equivalent passenger vehicles taken off the road using the EPA Greenhouse Gas Equivalencies Calculator. Jobs created and dollars of local economic output (such as local revenue and local material spend) are estimated on an annual basis, within San Diego and Imperial Counties, using the National Renewable Energy Laboratory's JEDI Model.

Questions?

Appendix

Procurement and the California Grid

In addition to renewable resources for City customer demand, SDG&E must comply with California reliability requirements

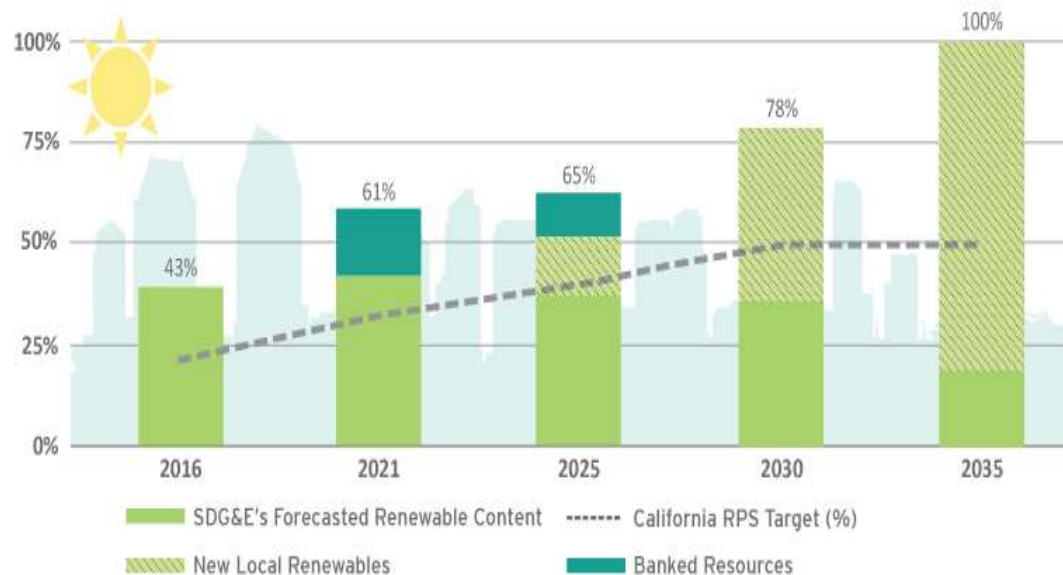


A California grid that provides renewable energy 24 hours a day, 365 days a year is a future vision for the grid that will require new and continued efforts by all Californians

Options on the Road to 100%

The City has options in growing its renewable portfolio

- In addition to new project development, the City could elect to use banked resources which represent past customer investments in renewable power not yet used for compliance
- The figure below *illustrates* the use of banked resources in the short-term for increased RPS at no cost, and signals the City's commitment to long-term development of new renewable projects



Offerings that Complement: Energy Efficiency - New & Proposed



Residential

- Enhanced Benchmarking
- Improved Welcome Experience with Energy Insights
- Expanded Marketplace
- New Financing Pilots
- Strategies to Address Landlord/Tenant Split Incentive



Non-Residential

- Expanded Benchmarking & Audit Tools
- Enhanced Incentives for Bringing Buildings up to Code as Well as Beyond Code
- New Financing Pilots
- Strategies to Address Landlord/Tenant Split Incentive



Municipal

- Expanded Benchmarking, Audit, ZNE and Reach Code Tools & Services
- Enhanced Incentives for Bringing Buildings up to Code as Well as Beyond Code
- New Financing Pilots & Modified OBF Loan Terms
- Tailored EE Offerings to Public Sector Customers



A Sempra Energy utility®

Offerings that Complement: Clean Transportation

3,500
Charging stations

350
Businesses, condos, apartments

POWER YOUR DRIVESM



City of San Diego
✓ 14 locations, 197 total EV chargers



Environmental Benefits
✓ Rate encourages charging when renewables plentiful
✓ Reduce emissions



Economic Benefits
✓ Regional investment
✓ All have no maintenance or operations fees
✓ No one-time payment in disadvantaged communities
✓ EVs have almost no maintenance costs
✓ Reduced charging costs



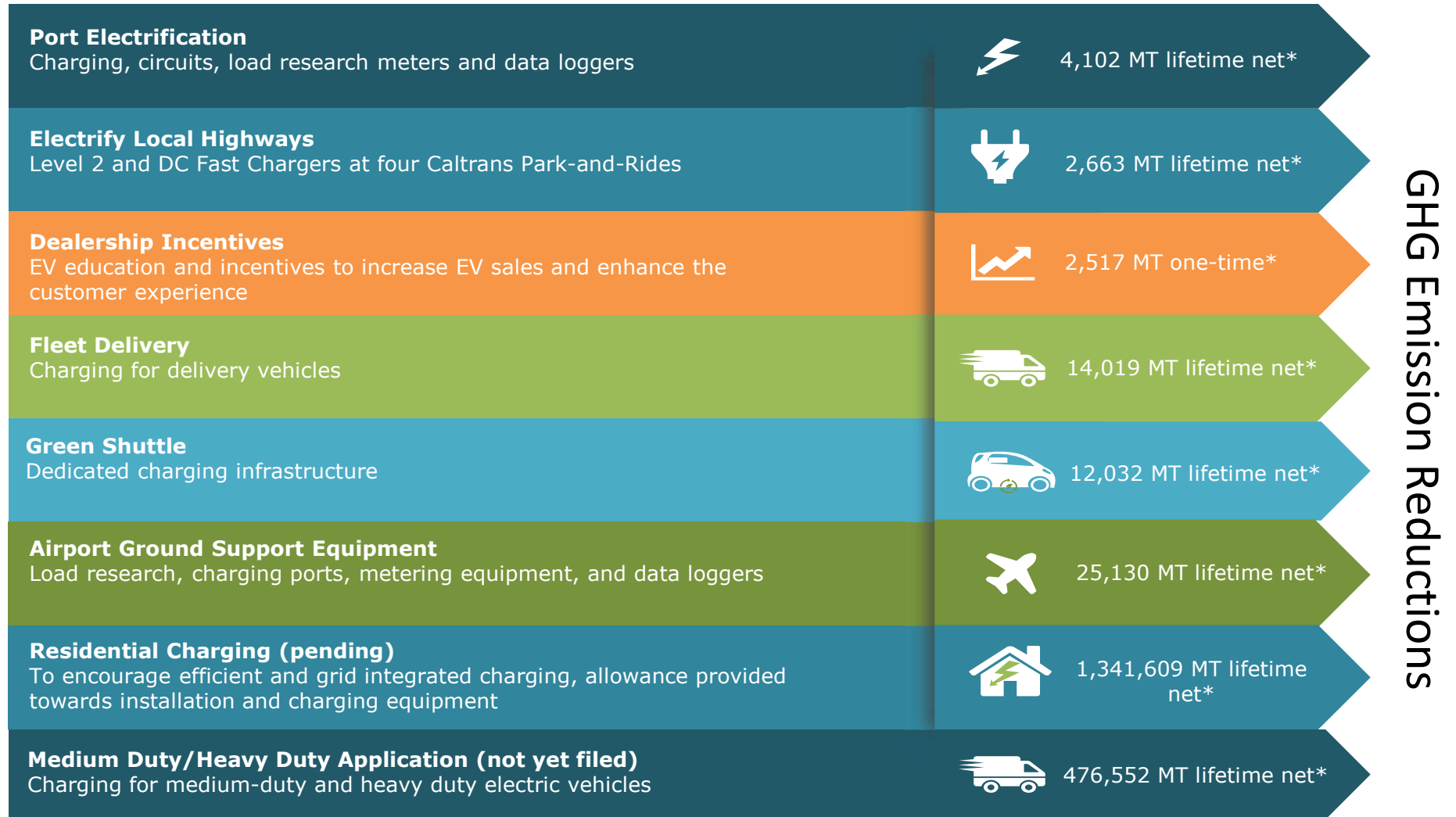
City of San Diego Benefits
✓ Reduced costs
✓ Accelerated installation timelines
✓ Clean, safe, reliable service
✓ Grant partnerships to electrify transportation



Resident Benefits
✓ Access to charging at reduced cost
✓ Education on EV benefits



Offerings that Complement: Current and Future Programs



GHG Emission Reductions

* Metric Tons of CO2 per year.



A Sempra Energy utility®

Offerings that Complement: Energy Storage



SDG&E is working closely with our community and customers to perform a detailed, comprehensive analysis of mission critical operations and electrical infrastructure to support customer goals.



SDG&E can install, own and operate distributed energy resources within its service area.

- ✓ Energy Storage
- ✓ Renewable Generation

Proposed developments beyond current authority of 165 MW may require regulatory approval. Assembly Bill 2868 authorized the CPUC to approve up to an additional 166 MW for SDG&E.



*"Expedited Storage Project"
Escondido – 30 MW / 120 MWh Array*



We work with customers each
step of the way