



Wholesale Electricity Portfolio Plan



BART Board of Directors
March 9, 2017



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District Electricity Facts

- District uses about 400,000 MWh every year, slightly more than the City of Alameda, making it one of the largest users in Northern CA.
- District electricity costs are about \$41 million per year.
- Electricity is the 2nd largest cost after labor.
- District buys wholesale electricity directly under CA Public Utility Code 701.8, including renewables as of January 2016 (under SB 502).
- District has wide latitude in designing its electricity supply portfolio.
- Electricity demand profile follows ridership patterns (peak usage during morning and evening commutes, and special events).



District Electricity Facts

- From 1972 to 1995, District bought both electricity supply and delivery services from PG&E.
- Since 1995, District has built its own portfolio, while still receiving delivery services from PG&E.
- How does the District compare with PG&E?

Factor	District	PG&E (Large Customer)	Comparison
Costs (2017)	10.3 ¢/kWh	12.6 ¢/kWh	District is 18% lower
Carbon Content	97 lbs CO ₂ e/MWh	435 lbs CO ₂ e/MWh	District is 78% cleaner
Renewable* (%)	2% (2017)	>30% (2017) → (50% by 2030)	District lags far behind

*Defined in CA state Renewable Portfolio Standard (RPS) law.



District Electricity Facts

Zero Carbon Sources

Large Hydro



Solar



Wind

Small Hydro



Biomass

Renewable Portfolio Standard Sources

Geothermal



Conventional Sources



Natural Gas



Coal

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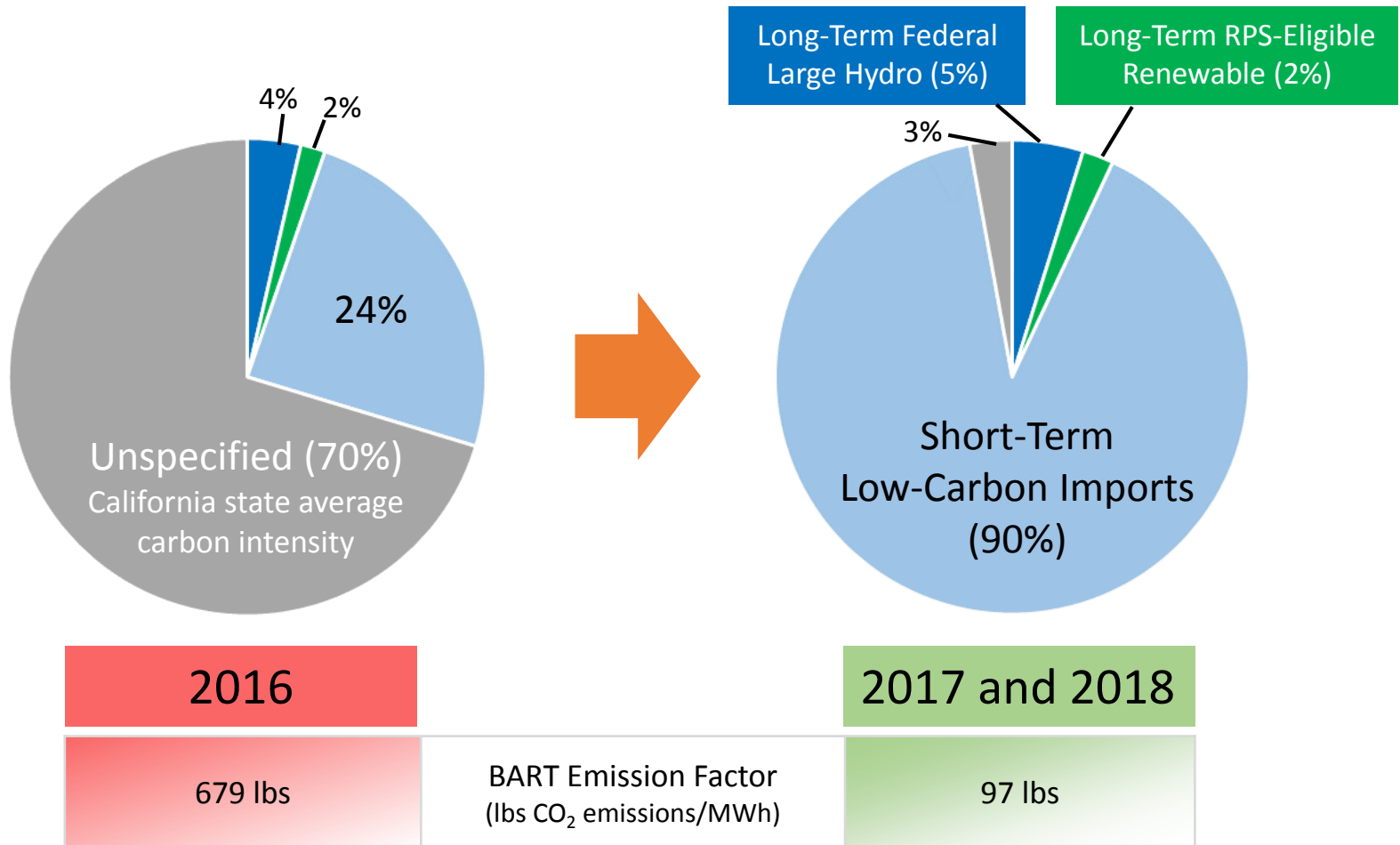


Wholesale Electricity Objectives

High Level Objective	“On the Ground” Objectives and Metrics
Support low and stable District operating costs	<ul style="list-style-type: none">• Maintain long-term cost advantage over PG&E.• Maintain costs within Short Range Transit Plan (SRTTP) projections.
Maximize use of low-carbon, zero-carbon and renewable electricity sources	<ul style="list-style-type: none">• Exceed current state Renewable Portfolio Standard (RPS) of 50% by 2030.<ul style="list-style-type: none">• Meet or exceed 90% RPS by 2040.• Continue meeting balance of needs with low- and zero-carbon sources.



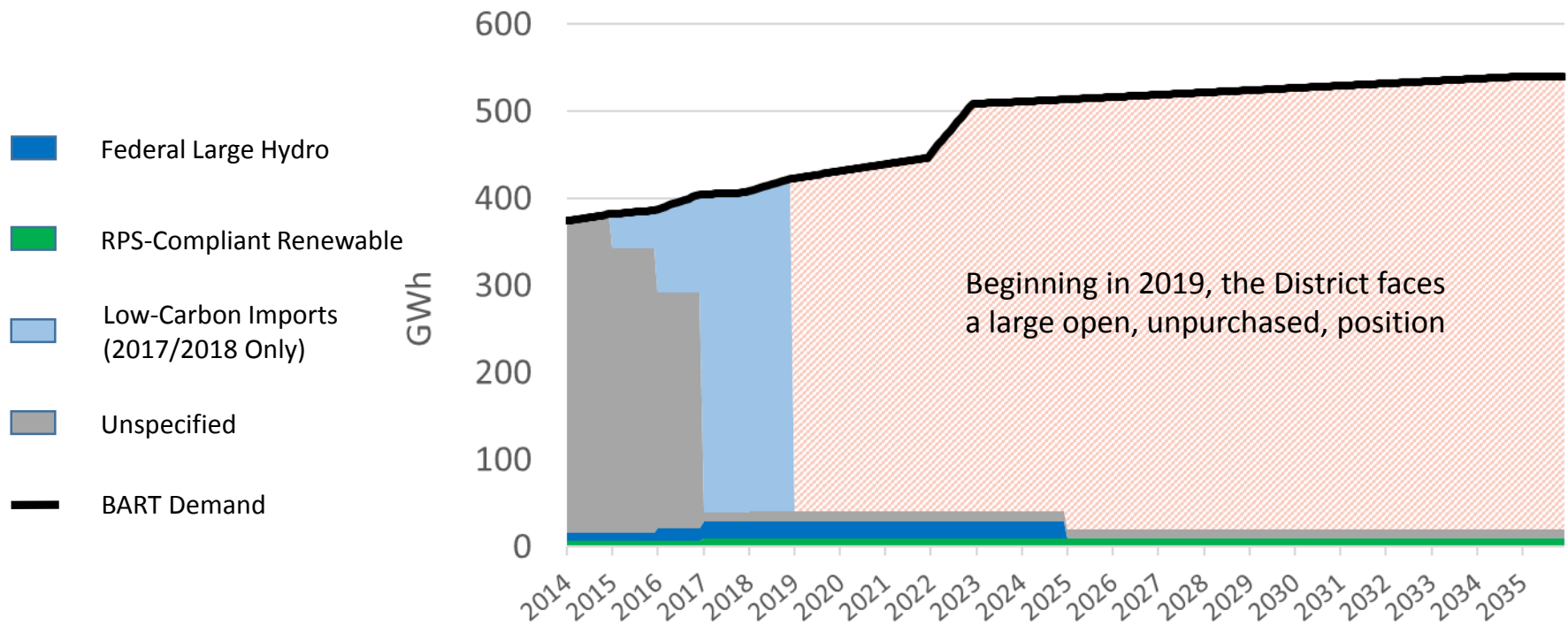
Recent Achievements





District Electricity Portfolio

Managing Risks: In order to meet the first Electricity Policy Objective of low and stable operating costs, the District must act soon to buy Electricity for 2019 and beyond.





Why Renewable RFP?

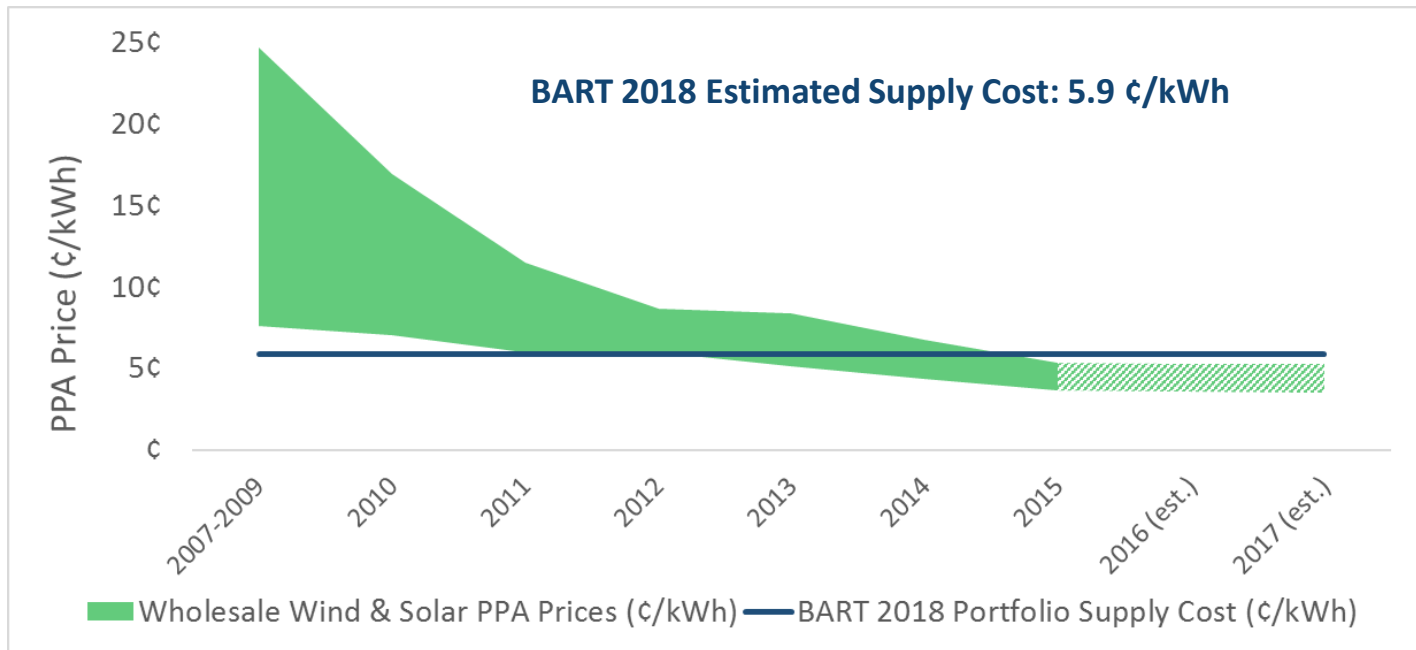
- Building a supply portfolio to meet District objectives requires a balanced approach and understanding of the strengths and weaknesses of various sources.

	Source	Current Low Cost	Long-Term Fixed Cost	Low or Zero GHG Emissions	RPS-Qualified Renewable
RPS Compliant	Solar	✓	✓	✓	✓
	Wind	✓	✓	✓	✓
	Other renewables Small Hydro Geothermal Biomass	?	✓	✓	✓
Not RPS	Specified low- and zero-carbon	✓	✗	✓	✗
	Conventional/ Gas power	✓	✗	✗	✗



Why Renewable RFP?

- RPS-eligible renewable electricity costs have fallen enough that the District may be able to buy long-term renewables at or below its current electricity portfolio supply cost (around 5.9 ¢/kWh for 2018).
 - Supply costs do not include delivery costs of approximately 4.6 ¢/kWh (total: 10.5 ¢/kWh in 2018)



1) Source: National Renewable Electricity Lab (through 2015); estimated for 2016 and 2017.



Next Steps - Timing

- Policy brought to Standing Committee Meeting April 18, 2017; Board Meeting April 27, 2017.
- District expects to release a Request for Proposals (RFP) for renewable supply by May 2017.
- Timing for a renewable RFP is favorable:
 1. Aligns with declining renewable project costs.
 2. Takes advantage of upcoming expiration of federal wind and solar tax credits.



Next Steps – RFP Details

- RFP objectives:
 - Solicit proposals to lock in favorable prices for renewable electricity to coincide with the District’s open portfolio position in 2019 and beyond.
 - Solicit proposals with terms from 10 to 30 years, with flexible online date.
 - Solicit proposals from all qualifying renewable technologies.
- Proposals will be evaluated based on portfolio fit; cost-effectiveness; and alignment with Wholesale Electricity Policy Objectives.
- District may sign zero, one or multiple contracts under this RFP.
- Balance of 2019+ Electricity needs that are not contracted through this RFP will be filled with medium-term purchases of low- and zero-carbon Electricity and through future RFPs.