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Drivers of Transformation



New market participants in the value chain



Rapidly declining cost of technology → more accessible adoption



Ambitious policies



Transition to greater dependency on electricity

- Unlike the monopoly position that PG&E was comfortably in during the 80's, market trends today put the utility in an energy landscape that is increasingly competitive and customer centric.
- The new conditions present both opportunities and threats that PG&E should consider in planning how to best approach and position itself for the future.

PG&E's Approach

The purpose of the Market Framework initiative is to develop a set of tools to track competitive trends in the market and provide proactive guidance on strategic actions...



Indicators

A list of external threats and opportunities with projected values to anticipate what the competitive landscape will look like



Decision Guide

A process that takes in information from the indicators and suggests business model changes given the conditions



Actions

Given suggested business model changes, what are specific actions PG&E should take to achieve desired outcomes

My Role

	Indicator	Measure					△ Financial Metrics			Details	_	
o principal and a second secon	Bundled Load Annual Bundled Electric Sales - GWh (% of Total System Electric Sales)	36,534 (46%)	31,115 (36%)	-5,419 (-10%)	≡↓	— ↑		•	•	Bundled sales continue to decline, increasing procurement risk and potentially shifting cost to bundled customers		
	BTM Solar PV Adoption Cumulative#of Customers (% of Consumption)	487,400 (7%)	1,468,600 (14%)	+981,200 (+7%)	- ↓	- ↑	•	•	•	Solar adoption continues to grow, threatening sustainability and increasing risk if significant NEM reform is not accomplished	L	Ma
	BTM Storage Adoption Cumulative# of Customers (Installed Capacity - MW)	9,400 (123)	148,316 (986)	+138,916 (+863)	- \	= ↑	•	•	•	Increased BTM storage adoption may lead to lower sustainability if costs are shifted to other customers	d electric	
	Residential Grid Defection % of customers for whom physical cord cutting is economically feasible	0%	<1%	+ <1%	- ↓	- ↓	•	•	0	GD may be economically feasible to a small group of customers by late 2020s. Could foreshadow manifestation of looming threat	sumption	
	Municipalization # of customers and % of total system sales vs. 2018 baseline	352	105-236k (2-4%)	+105-315k (+2-5%)	=+	- ↑		•		Municipalization represents an erosion of PG&E's market position in a core function, lowering sustainability		
	3P Grid Ownership Cumulativeforegone T&D revenues 2019-2030 (\$MM)	\$8-\$12	\$135- \$190	+\$127- \$178	- ↓	− ↓		•		Ownership of grid assets by third parties supplants PG&E in core delivery function, lowering sustainability	d)	7
	Building Electrification (BE) Annual BE Electric Sales (GWh) % of Annual System Electric Sales	36 0.1%	2,435 3%	+2,399 (+2.9%)	- ↑	- ↑		•	•	Increased sales reduce rates and improve sustainability	ition	
	EV Adoption # of Light Duty Electric Vehicles (% of Total System Electric Sales)	253,000 (1%)	1,974,280 (30%)	+1,694,280 (+29%)	= 1	= ↑		•		Increased sales reduce rates and improve sustainability	ms.	(
Status Quo	Multi-customer Microgrid Cumulative addressable market 2019-2030 – (Revenue, 2019 \$MM)	\$28*	\$735	+\$707		= 1				Growing opportunity to capture value associated with microgrids could drive improved sustainability and reduce risk profile	iles RQ	(
	Public EV Charging Stations Cumulative addressable market 2019-2030 – (Capex, 2019 \$MM)	\$130*	\$1,100 - \$2,200	+\$970 - \$2,070		=1				Growing opportunity to build public EV charging stations could increase sustainability and reducerisk	sales from	
	FTM Storage Cumulative addressable market 2019-2030 – (Capex, 2019 SMM)	\$130*	\$2,100	+\$1,970		= 1				Rapidly growing opportunity to capture value associated with FTM storage could drive improved sustainability and reduce risk	ic sales enides	
	Value of Data Annual addressable market of data monetization – (Revenue, 2019 SMM)	\$20- \$165*	\$50-\$350	+\$30-\$185						Growing opportunity to capture value of PG&E's data could be a new source of revenue and subsequently improve sustainability	ic sales or public elvice	7
(ey	ey for Size Impact and Financial Metrics: Assuming the status qua, positive impact on the success metric by $\geq 1.5\%$ No drange 12 Revenue change of \$100M 18 Assuming the status qua, negative impact on the success metric between 1.5% and +1.5% Revenue change of <\$100M 23 Revenue change of \$5100M 18 Assuming the status qua, negative impact on the success metric between 1.5% and +1.5% Assuming the status qua, negative impact on the success metric between 1.5% and +1.5% Assuming the status qua, negative impact on the success metric by $\geq 1.5\%$											(

Indicator Dashboard

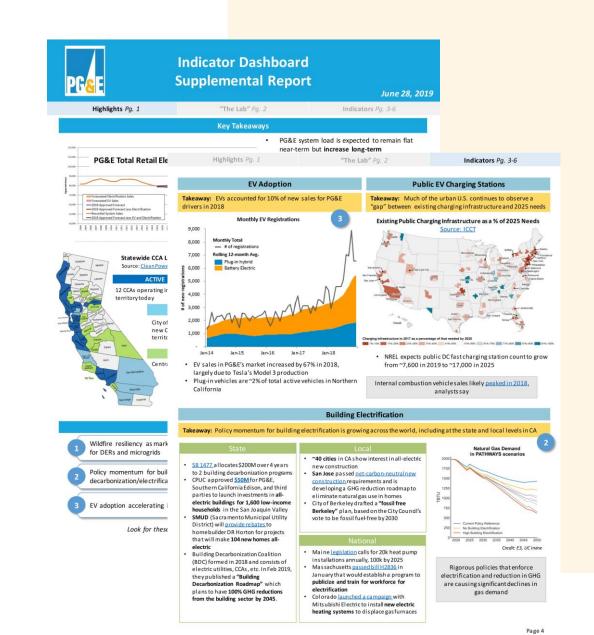
A dashboard that lists each indicator and their various projected measures.

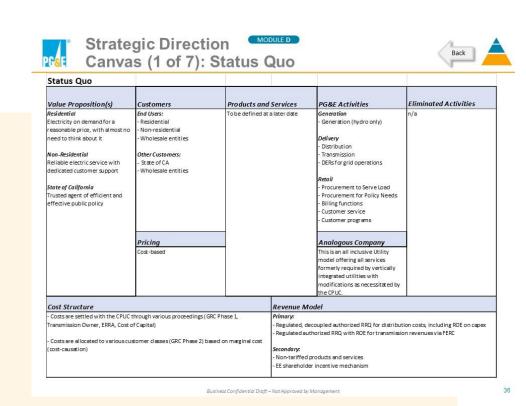
 Produced after individual understanding of the indicators and implementing feedback from team members

Supplemental Report

This 6 page report serves to give more context on the indicators and other significant activities in the landscape that is not covered in the dashboard

Designed report and completed various sections after thorough research of notable industry updates and trends





Business Model Canvas

A framework used to concisely communicate the potential business models

Assessed existing approach and formulated new framework to better structure and capture the business models

- Allowed team to achieve ambitious deadlines by spearheading the first iteration of these materials
- Indicator dashboard and supplemental report will be presented to SVP, Sr. Director, and Directors to inform strategic decision making beginning in the second half of 2019