



# California Customer Choice

**Briefing/Webinar**



**Draft Green Book  
for Public  
Discussion**

**An Evaluation of Regulatory Framework  
Options for an Evolving Electricity Market**

California Public Utilities Commission

**May 3, 2018**





# Logistics

- California Customer Choice **Presentation**
- **Q&A**
  - Send questions throughout the presentation to [customerchoice@cpuc.ca.gov](mailto:customerchoice@cpuc.ca.gov)
- **Presenters**
  - Diane Fellman, Project Lead, Policy & Planning Division
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# California Customer Choice Project

**Problem Statement:** How does increased customer choice occurring in the electric sector impact California's ability to achieve its policy objectives of affordability, decarbonization, and reliability?

**Mission Statement:** Assist the CPUC in making strategic, timely and informed decisions regarding California's current electricity market transformation.

## Study Approach:

- Scope Core Principles and Key Questions
- Establish the problem statement
- Study California's electricity market history
- Research other markets
- Identify lessons learned for California
- Extensive Stakeholder Conversations on the Draft Green Book





# Core Principles of California's Energy Policy

- Ensuring affordable electricity rates
- Achieving decarbonization goals
- Maintaining reliability





# Key Questions

How does California continue to:

- ensure **consumer protections**?
- support development and incorporation of **innovations** driven by customer demand?
- ensure **universal electric service**?
- leverage investment necessary to **finance the evolution of the electric grid**?
- consider the transition of **utility obligations**?
- have **competitively neutral rules** among market participants?
- ensure customers are **informed to participate** at their desired level?
- impact and benefit **local communities**?





## What's the Issue?

- The last time California looked at choice, it had a plan, *however flawed*.
- Now, we are seeing disaggregation of the electricity market through dozens of different decisions and legislative actions, but we do not have a plan.
- If we are not careful, we can drift into another crisis.





# Evolution of CA Electricity Market: Competition to Crisis

## **1976-1986: Qualifying Facilities**

- 5,000 MW of Renewables & 5,000 MW of Cogeneration

## **1993-1999: Deregulation**

- 1993: Yellow and Blue Books:  
CPUC plan for retail and wholesale competition
- 1996: AB 1890 accelerates competition
- 1998: Market opens

## **2000-2001: California's Energy Crisis**

**Post-2001: California had to retrench**





# Post-Crisis Legislative Solutions: Foundation of Today's Grid

- Build conventional power plants
- Renewable procurement targets (RPS)
- Long-term power purchase agreements
- Suspended additional direct access
- Resource adequacy for reliability
- Freeze retail rates to keep bills affordable
- Maintain protections for low-income ratepayers
- Fund public purpose programs
- Community Choice Aggregation created





# Current Policy Shifts Are Reshaping California's Electricity Markets

- **Changing role of the IOUs**
  - Provider of last resort?
  - Grid investment and reliability?
  - Creditworthiness as an investment platform?
  - Public program administration?
  - Decarbonization?
- **Greater choices for customers**
  - Expansion of Community Choice Aggregation
  - Increased Distributed Energy Resources
  - Direct Access at the cap
- **Reliability and procurement disaggregated**





# Electricity Market: Providers

## IOUs

+

## Self-Generators



## CCAs

## Municipal (POUs)





# Supply & Services

### Nuclear



### Hydro



### Natural Gas



Utilities maintain and operate the distribution grid for all types of supply & services

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### Automation



### Energy Efficiency



### Renewables



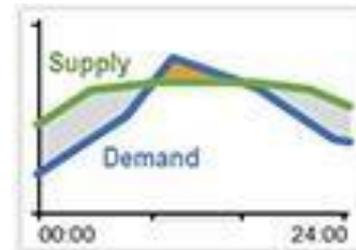
### Electric Vehicles



### Storage



### Demand Response Programs





# Market Assessments

- **New York:** Reforming the Energy Vision (REV) 
- **Illinois:** Municipal Energy Aggregators (MEAs) 
- **Texas:** Deregulation and Competition 
- **Great Britain:** Revenue = Innovation + Inputs + Outputs (RIIO) 





# 2016 Market Features

	California	New York	Illinois	Texas	Great Britain
<b>Average Monthly Residential Consumption</b>	547 kWh	595 kWh	733 kWh	1,156 kWh	316.67 kWh
<b>Average Electricity Rates</b>	17.39 cents/kWh	17.58 cents/kWh	12.54 cents/kWh	10.99 cents/kWh	22.17 cents/kWh
<b>Average Monthly Residential Bill</b>	\$95.20	\$104.58	\$91.83	\$127.10	\$70.01
<b>Decarbonization Goals</b>	2030 GHG reduction target 40% below 1990 levels, renewable electricity procurement goal 50% by 2030, doubling energy efficiency savings from electricity end uses by 2030	2030 GHG emissions reduction 40% below 1990 levels, 50% renewable energy target by 2030, and 600 trillion Btu increase in statewide energy efficiency	Renewable Portfolio Standard goal of 25% by 2025-2026 compliance year	Renewable Portfolio goal of 10,000MW by 2025 (was met in 2009), energy efficiency resource standard: reduce energy use by 0.4% of peak demand, or by the prior year's goals, whichever is greater	2050 GHG reduction 80% below 1990 levels, 15% renewable energy target by 2020, coal phase out by 2025
<b>Target Reserve 13 Margins</b>	15%	18.2%	~16%	13.75%	10.3%





# New York: Select Findings

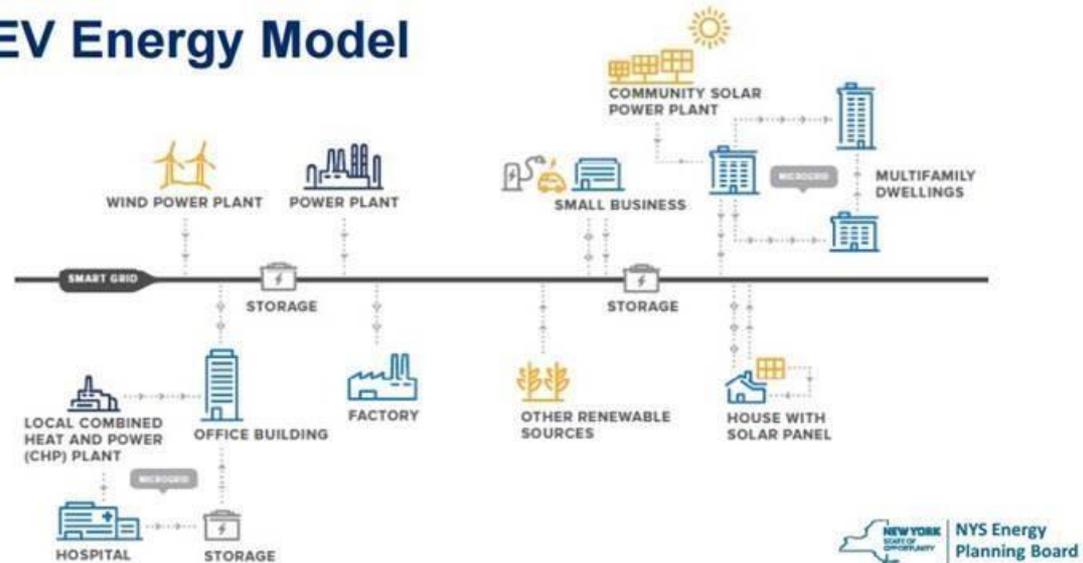
## Procurement

- NYSERDA purchases RECs on LSEs behalf and enters into long-term contracts with generators.
- New York CCAs procure energy and energy services on behalf of its customers from an ESCO

## Consumer Protection

- Uniform Business Practices and the Home Energy Fair Practices Act govern the interactions between utilities, ESCOs, and customers. The PSC adopted aspects of the Uniform Business Practices to DER.

## REV Energy Model



## Utility Role

- As Distribution System Platform Providers, utilities are expected to update their technical capabilities in managing a dynamic distribution grid and to facilitate DER deployment.





# Illinois: Select Findings

## Snapshot of Price Comparison website:

Supplier	Price in cents per kWh	Additional Monthly Fees	Current Monthly Cost			Term (Mo.) Termination Fees	Description
			500 kWh	1000 kWh	1800 kWh		
 <b>Ameren</b> ILLINOIS 1-800-755-5000	Fixed Price 6.167	\$0	\$30.84	\$61.67	\$92.51		This Price to Compare is in effect from October 2017 through May 2018 and uses the supply rate for usage up to 800kWh. See <a href="#">Understanding the Utility's Electric Supply Price</a> for a detailed explanation of the various charges that make up the utility's price, including a new Renewable Energy Adjustment charge.
 <b>Realgy</b> Energy Services 877-300-6747 Illinois ManagedPrice™ - AMEREN <input type="checkbox"/> Compare	Variable Price 6.1870	\$3.75	\$34.69	\$65.62	\$96.56	24 \$50	The Illinois ManagedPrice™ is a variable rate with a 24 Month Term. Realgy Energy Services is a full-service energy marketer providing natural gas and electricity services.
 <b>AMBIT</b> ENERGY (877) 282-6248 Illinois Select Green Term <input type="checkbox"/> Compare	Fixed Price 7.4500	\$0	\$37.25	\$74.50	\$111.75	12 \$0	Illinois Select Green 12 Month Term (Rate Zone 1). Power your energy needs while making the world a cleaner place.

## Market History

- Illinois has a de-regulated market where incumbent utilities offer a “price to beat”
- Municipalities bulk enrolled with retailers; several did not remain as price differential diminished (e.g. Chicago elected to no longer provide MEA service when the price became too high)

## Procurement

- The Illinois Power Authority procures energy and allocates costs to all market participants including the incumbent utilities and retail suppliers.

## Consumer Protections

- Customers could be informed about enrollment options through a state-sponsored website.





# Texas: Select Findings

## Affordability & Customer Choice

- Highly engaged customers benefit from the lowest rates available. Average retail rates have decreased by 63% since 2001. Since 2002, over 90% of customers have switched suppliers.

## Reliability

- Texas maintains grid reliability through wholesale market mechanisms and without a capacity market or central planning. Scarcity pricing is used to incent new build.

## Consumer Protection

- Regulators established templates including electricity facts labels, consumer bill of rights, and terms of services to ensure customer can compare options across retailers.
- Regulators have strict financial, technical, and administrative requirements for retailers.

## Adopted Increase in Texas Wholesale Price Caps 2012-2015



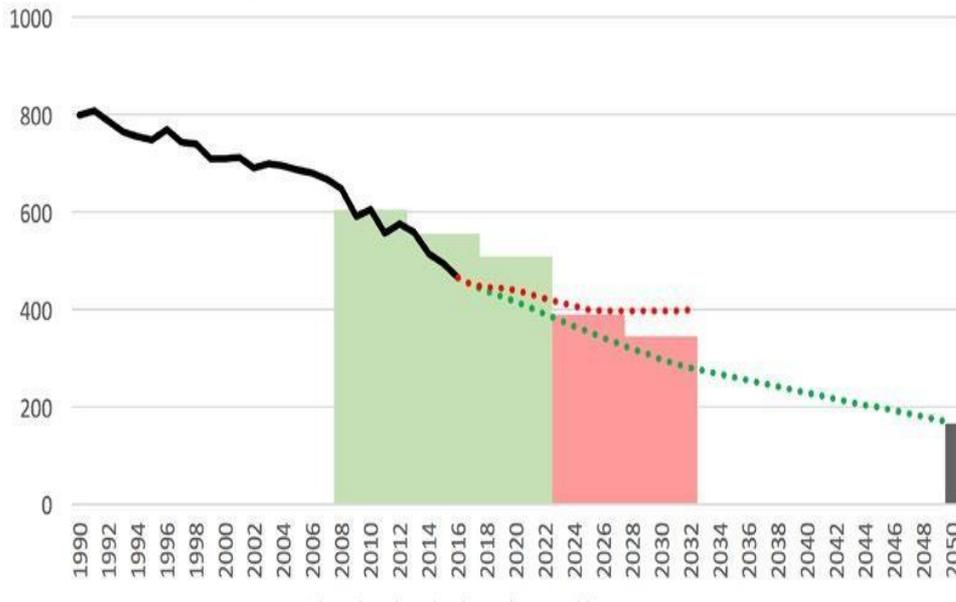
Source: ERCOT, December 2012



# Great Britain: Select Findings

## Decrease in Total GHG Emissions

Million tonnes carbon dioxide equivalent (MtCO<sub>2</sub>e)



Legend:  
■ Legislated carbon budgets (on-track)  
■ Legislated carbon budgets (current shortfall)  
■ 2050 target emissions  
— Outturn GHG emissions  
..... Required path for reductions with least cost to consumers  
..... Expected path for emissions based on current policy

## Decarbonization

- A carbon price floor, emissions performance standard, and contracts for difference help reduce carbon emissions and incentivize renewable build.

## Innovation

- Smart meters are currently being deployed through suppliers.

## Provider of Last Resort

- Ofgem conducts a “Supplier of Last Resort” process where suppliers bid to take over stranded customers.

## Customer Choice

- Community-based energy including aggregators, local projects, and other models, are an emerging trend.





## Observations Across Markets

**None of these markets can act as a “cookie cutter” for the California market.**

**Affordability:** Customer engagement and price transparency are critical to keep rates low where retail competition exists

**Decarbonization:** Climate and environmental policies are significant elements of the energy sector transformation across all markets, except Texas.

**Reliability:** Each market, except Illinois, relies on a wholesale energy market and bilateral contracts to meet demand.





## Next Steps

- **May 3:** Draft Green Book release date
- **June 4:** Public comments due
  - Submit comments to [customerchoice@cpuc.ca.gov](mailto:customerchoice@cpuc.ca.gov)
- **Mid-June:** California Customer Choice *En Banc*
- **Summer 2018:** Final Paper Release





**Thank you!**

**For Additional Information:**

Visit: <http://www.cpuc.ca.gov/customerchoice/>

Contact: [customerchoice@cpuc.ca.gov](mailto:customerchoice@cpuc.ca.gov)

