The Bright Future of the Electric Utility Industry

Jay Stein

Senior Fellow, E Source
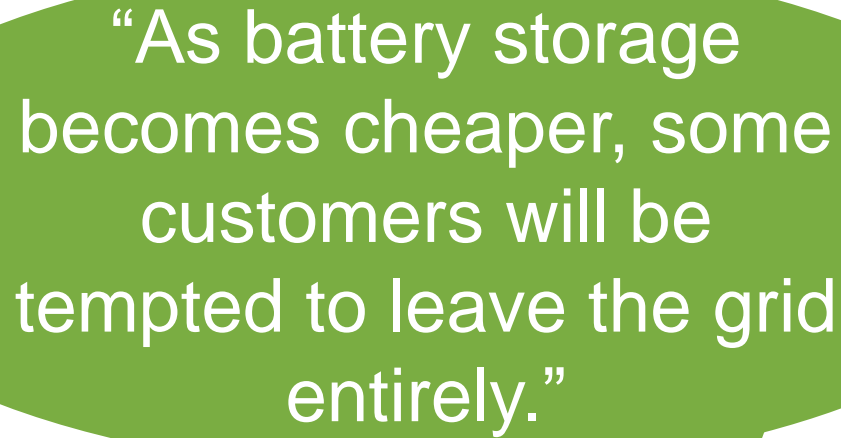
2018 Utility Energy Forum

"You could actually go, if you want, completely off-grid. You can take your solar panels, charge the battery packs, and that's all you use."

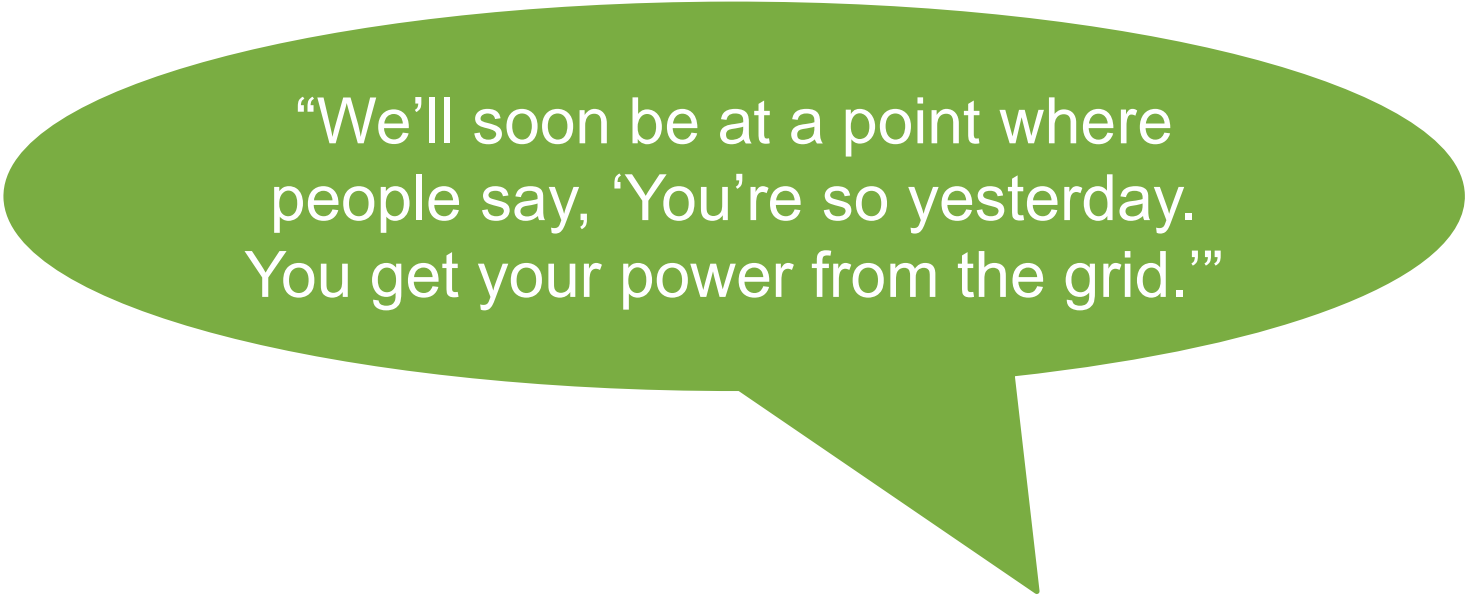—**Elon Musk**

Source: Steve Jurvetson/
Wikimedia Commons

"As battery storage becomes cheaper, some customers will be tempted to leave the grid entirely."

—Jacques Leslie, "Utilities Grapple with Rooftop Solar and the New Energy Landscape," *Yale Environment 360*

"Some customers, particularly in the sunny West and high-cost Northeast, already realize that 'they don't need the power industry at all,'"

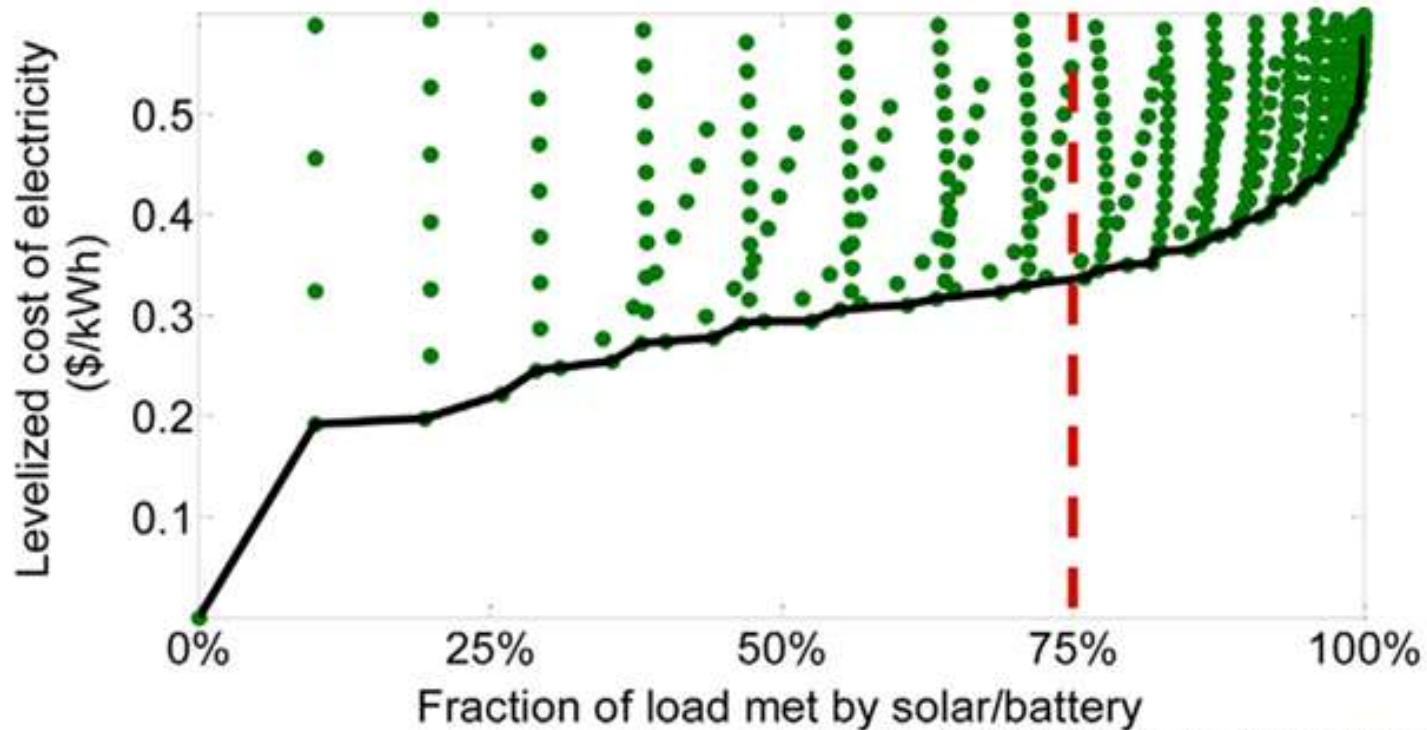—David Crane, quoted in "Why the U.S. Power Grid's Days Are Numbered," *Bloomberg Businessweek*

"We'll soon be at a point where people say, 'You're so yesterday. You get your power from the grid.'"

—Philipp Schröder, Head of Operations and Marketing at Sonnenbatterie, quoted in "A World Turned Upside Down," *The Economist*

Courtesy: iStock

Why Grid Defection Is So Rare
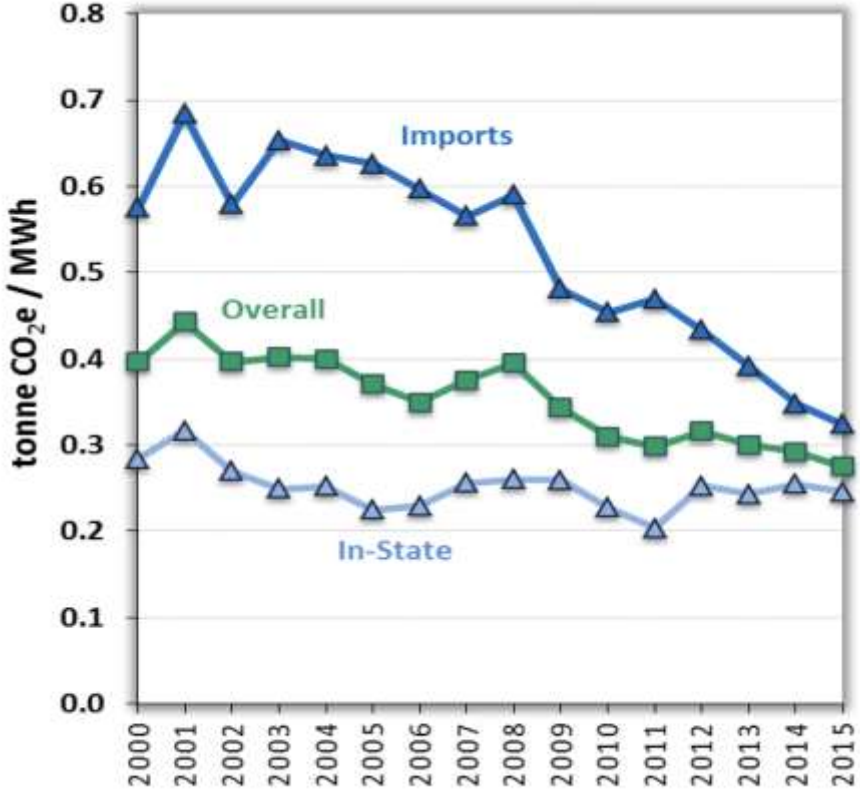

Courtesy: Eric Hittinger and Jawad Siddiqui

No Grid Equals No Solar

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California's Getting Less Intense

Source: California Air Resources Board

SCE's Pathway to Electrification

SOUTHERN CALIFORNIA EDISON
Energy for What's Ahead®

GHG EMISSIONS REDUCTION PATHWAY TO 2030

Million Metric Tons of CO2

2015 TOTAL 440 MMT

Electric Power
84 (2015) → ↓56 → 28 (2030)

Transportation
169 (2015) → ↓58 → 111 (2030)

Residential/Commercial
49 (2015) → ↓12 → 37 (2030)

Industrial
103 (2015) → ↓30 → 73 (2030)

Agricultural
35 (2015) → ↓11 → 24 (2030)

↓168

CAP AND TRADE OFFSETS 12

2030 TOTAL 260 MMT
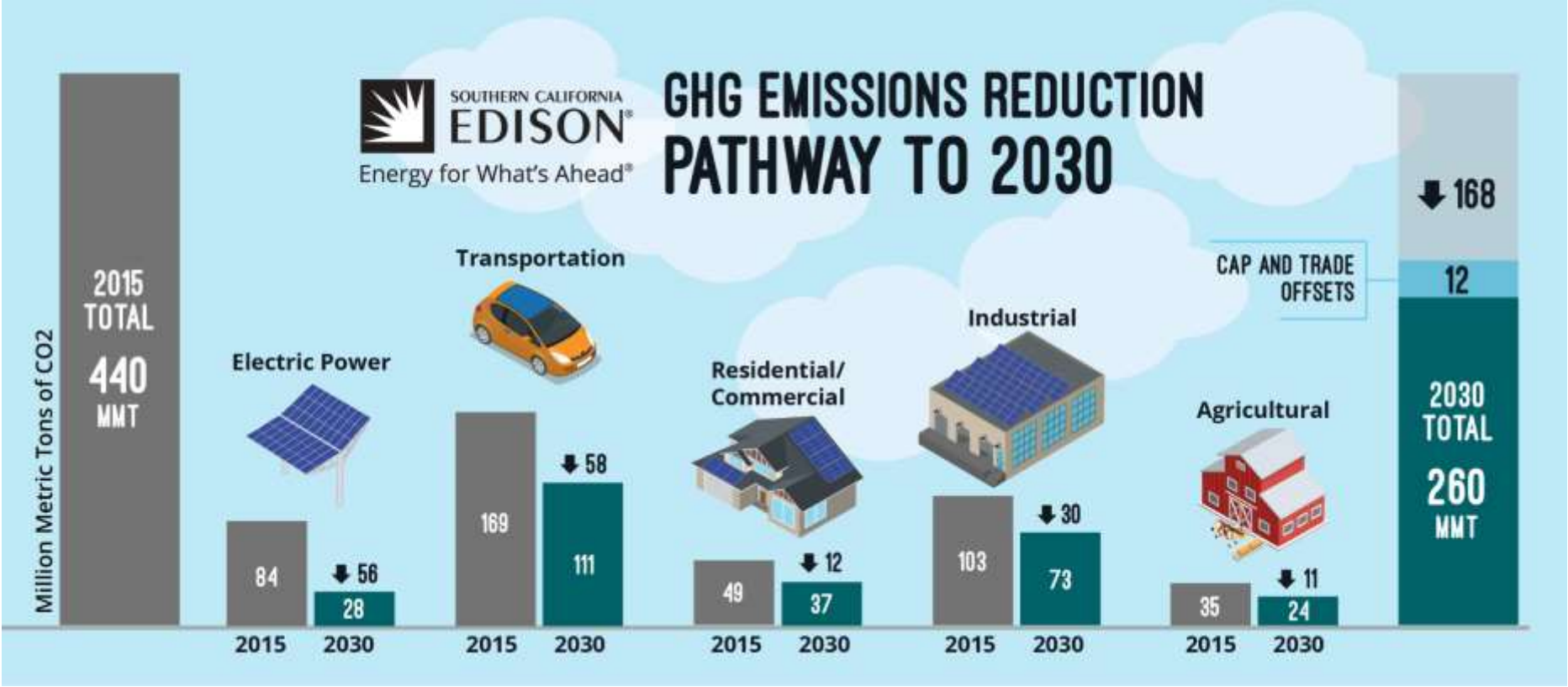
Reasons to Support Electrification

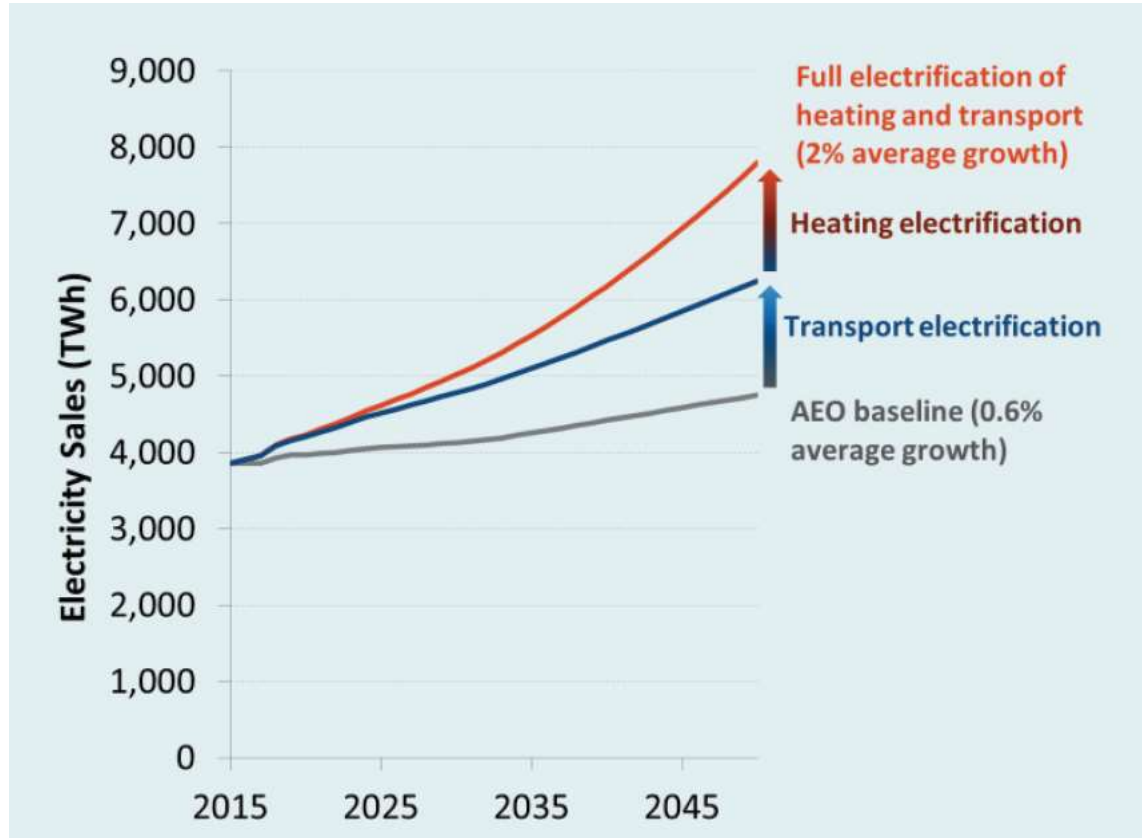Revitalize the electric utility industry

Revitalize public opinion of the electric utility industry
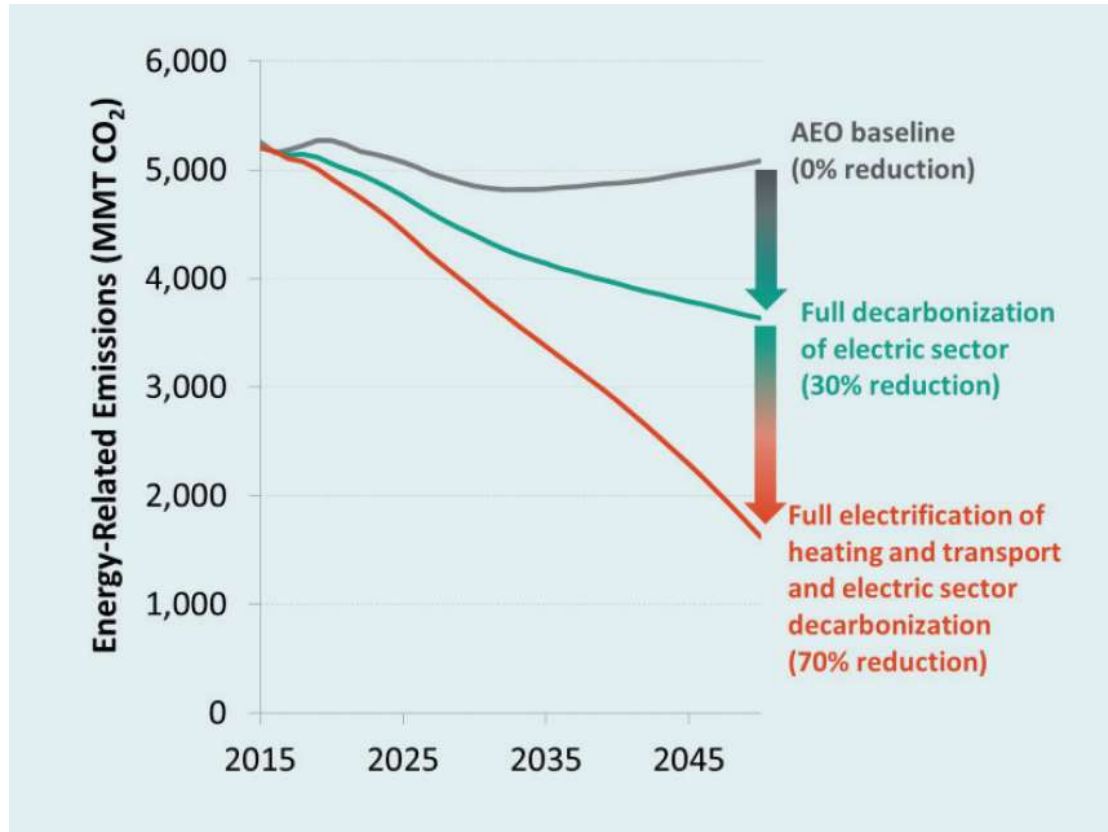
Sales Go Up

Courtesy: The Brattle Group

Carbon Dioxide Goes Down

Courtesy: The Brattle Group

"If you're not part of the solution, you're part of the problem."

—Eldridge Cleaver

So, Nothing's Perfect

Operating costs

Infrastructure costs

Equipment availability

Capital costs

Customer expectations

Customer convenience

Building codes

Regulations

EV Market Update

Courtesy: Rayukk

Go After Low-Hanging Fruit

Source: David Whelan

All-Electric New Home in Sacramento Is Cheaper to Own, Operate, and Maintain

Item	Gassified	All-electric	Incremental cost
Heating	Furnace	ASHP	**$25**
Water heating	Tankless	HPWH	**$4**
Cooking	Stovetop & oven	Induction	**$1,056**
Drying	Gas	Resistance	**$290**
Infrastructure	Pipes	Panel and circuits	**$950**
Total			**$163**

© E Source; data from LBNL report citing Mullen-Trento et al.

Make Good Use of the Gas Grid

Win Over Customers
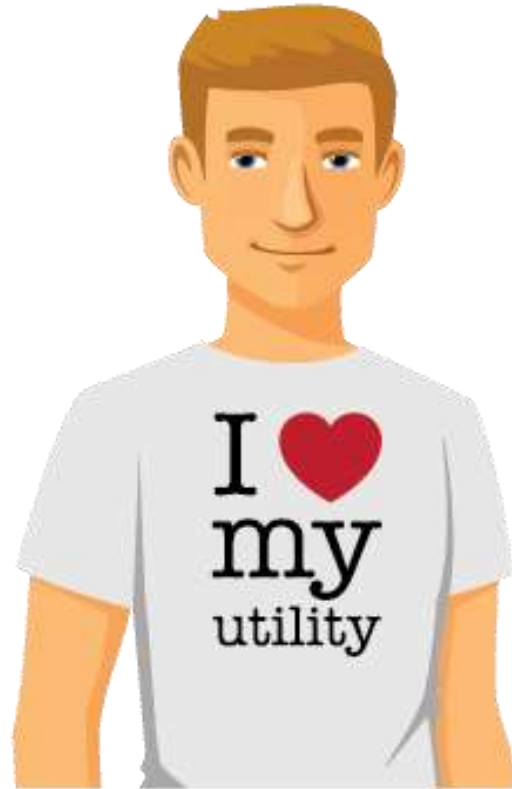
Public Approval: There's a Silver Lining

29% Federal government

44% Electric & natural gas utilities

75% Computer industry

89% Solar power
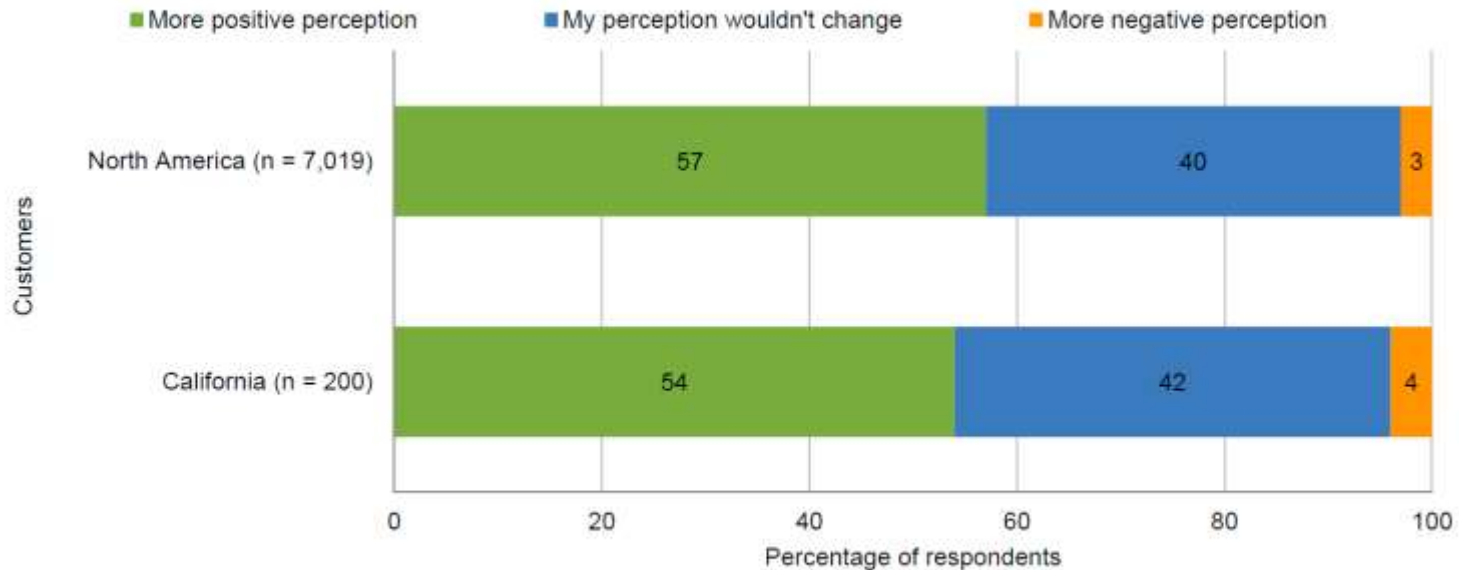
© E Source; data from Gallup and the Pew Research Center

Customers Care About Utilities & Solar

We asked customers how their perception of their utility would change if they knew of actions their utility was taking related to solar, such as providing informational resources to help customers learn more about solar.
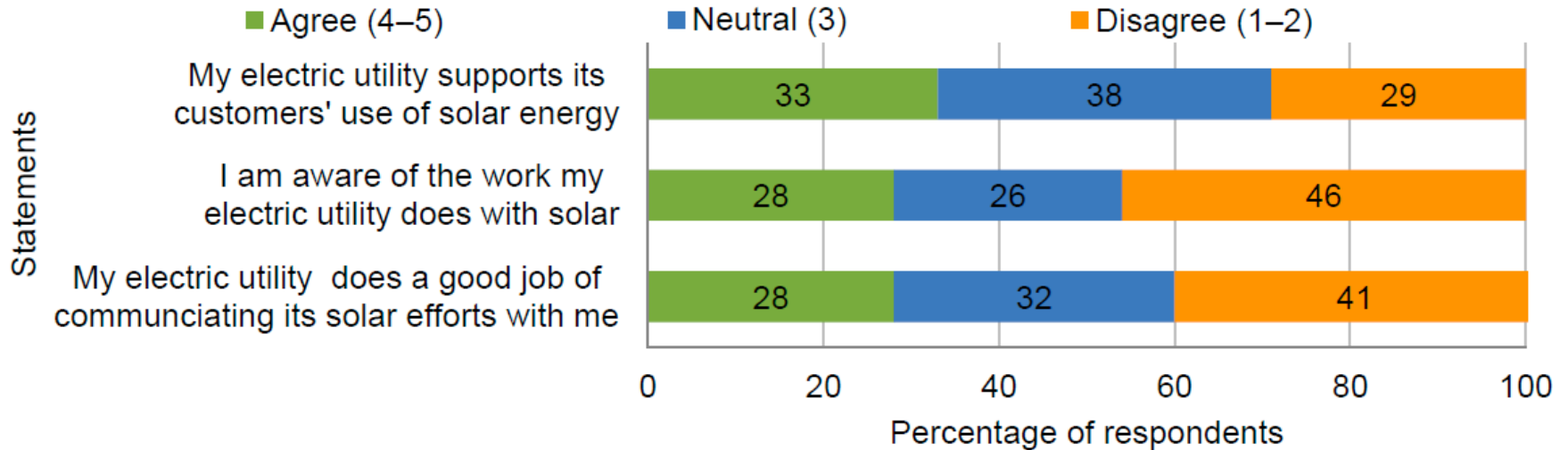

■ More positive perception   ■ My perception wouldn't change   ■ More negative perception

Customers	More positive perception	My perception wouldn't change	More negative perception
North America (n = 7,019)	57	40	3
California (n = 200)	54	42	4

Percentage of respondents (0–100)

Base: All respondents (n varies as shown in chart. **Question S6_3_5:** How would your perception of your utility change if you were aware of the following actions it is taking related to solar? [Providing informational resources to help customers learn more about solar]. **Note:** Percentages may not add to 100 due to rounding.

© E Source (Residential Solar Education and Communications Study 2017)

They're Not Getting Your Message

California customers

Legend: Agree (4–5) | Neutral (3) | Disagree (1–2)

Statement	Agree (4–5)	Neutral (3)	Disagree (1–2)
My electric utility supports its customers' use of solar energy	33	38	29
I am aware of the work my electric utility does with solar	28	26	46
My electric utility does a good job of communicating its solar efforts with me	28	32	41

Percentage of respondents

Base: California respondents (n = 200). **Question S6_2:** On a scale of 1 to 5, where 1 means completely disagree and 5 means completely agree, please indicate the extent to which you agree or disagree with the following statements. **Note:** Percentages may not add to 100 due to rounding.

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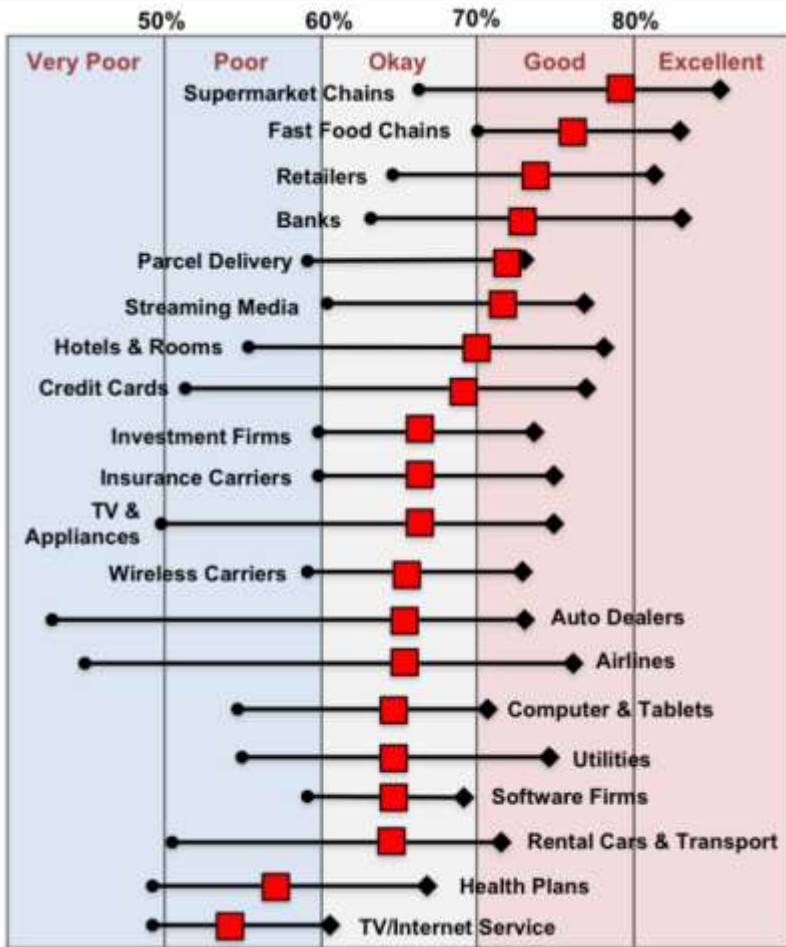
2018 Temkin Experience Ratings

Customer experience benchmark of 318 companies across 20 industries.

Based on a survey of 10,000 U.S. consumers.

TEMKIN Ratings
TemkinRatings.com

To-Do List

❑ Win over customers

❑ Take credit for what you do

❑ Advocate for new regulatory and rate structures

❑ Build market share in the transportation sector

❑ Go after electrification in buildings and industry

❑ Don't let up on efficiency

❑ Keep up the good work

It's the Opportunity of a Lifetime

For More Information

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