

1 Q. In Schedule 1, at page 7, lines 14-15, Hydro states that “A 2019 survey indicated that  
2 approximately 60% of utilities fund EV programs either solely through customer rates or through  
3 a combination of rate payer recovery and government funding.” Please provide Hydro’s  
4 information, or if it does not have direct information then its understanding, as to how the other  
5 40% (approximately) of utilities canvassed by the referenced survey fund EV programs.

6

7

8 A. Please refer to IIC-NLH-035, Attachment 1 for additional information from the 2019 electric  
9 vehicle programs survey that was referenced with respect to the cost recovery approach used  
10 by other utilities.

# Results of the 2019 E Source Utility DER and Electrification Benchmark



**E Source**

**Steve Day**  
Associate Analyst, Customer Energy Solutions

**Laura Ruff Agard**  
Senior Analyst, Market Research

Web conference

# E Source Distributed Energy Resource Strategy Service

The Distributed Energy Resource Strategy Service covers pilots, programs, rates, and market research for:

- Electrification
- Electric vehicles
- Behind-the-meter battery storage
- Green pricing programs and green tariffs
- Rooftop solar
- Community solar
- Microgrids
- Grid-edge/smart cities



# 2020 DER research themes

Major research projects:

- What large commercial customers really want from their utility around distributed energy resources (DERs), electric vehicles (EVs), electrification, and carbon reduction.
- For decarbonization, getting ahead of politics and learning how to set carbon goals. How do utilities transition to carbon-based goals? What's the transition plan, value, and role for gas utilities?

Relevant working groups:



# New and upcoming research:

## Available Now:

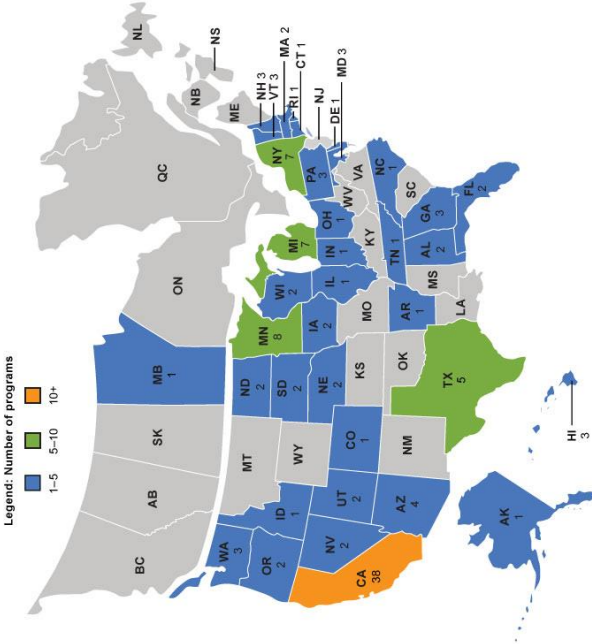
- [The Electrification Framework That Benefits Customers, the Grid, and the Planet: An E Source White Paper](#) (Hot off the press!)
- [Who Benefits from Beneficial Electrification? \(Blog\)](#)
- [EV Pilots and Programs: A Catalog of Current and Recent Utility EV Initiatives](#)
- Your 2019 State-Level DER Customer Insights Report (Handed out at the DER Working Group Meeting; also available for download)
- [DER Insights Center](#) (DER and electrification customer insights platform)
- [DER Resource Center](#) (Updated monthly)

## Upcoming:

- Catalog of utility community solar programs and pilots
- EV time-of-use rates—insights from utilities, customers, and E Source research



# EV pilot and program information from our catalogue of EV initiatives

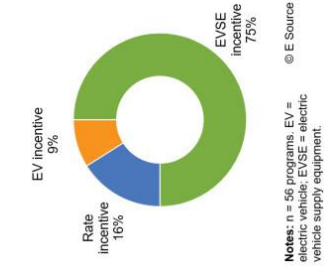


© E Source; data from utility websites and the US Department of Energy



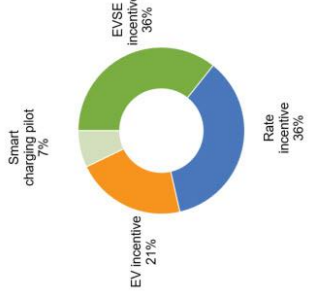
© E Source

## Commercial incentives



Notes: n = 56 programs. EV = electric vehicle; EVSE = electric vehicle supply equipment.  
© E Source

## Residential incentives



Notes: n = 70 programs. EV = electric vehicle; EVSE = electric vehicle supply equipment.  
© E Source



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# Today's agenda

Survey methodology

Overall utility DER strategy

Building electrification

Electric vehicles and charging equipment

Expanding your knowledge and staying on top of the industry

# Survey methodology





# 2019 DER and Electrification Benchmark Survey

- 30 utility participants
- Conducted in March 2019
- Survey focus was electric vehicles (EV) and building electrification
- Topics covered:
  - Anticipated types of impacts and their magnitude
  - Pilots and programs
  - Education and communication efforts
  - Innovation-related efforts
  - Support for nonresidential customers



# 2019 Residential Customer DER and Electrification Survey

- 7,496 residential respondents in US and Canada
- Conducted in July 2019
- 2019 data is now available for download (DER members only)
  - [State- and Province-Level Insights from the 2019 DER Residential Customer Market Research](#)

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The cover features a green background with a blue banner at the top containing a power button icon. The title 'Alabama Customer Insights' is in large white font, followed by the subtitle 'Highlights from the 2019 DER Residential Customer Market Research'. The E Source logo is in the bottom right corner, and the date 'November 2019' is in the top right corner.

**Alabama Customer Insights**  
Highlights from the 2019 DER Residential Customer Market Research

**Courtney Welch**  
Associate Director

**Rachel Cooper**  
Associate Director

**Laura Ruff Agard**  
Senior Analyst

**Sarah Baker**  
Analyst

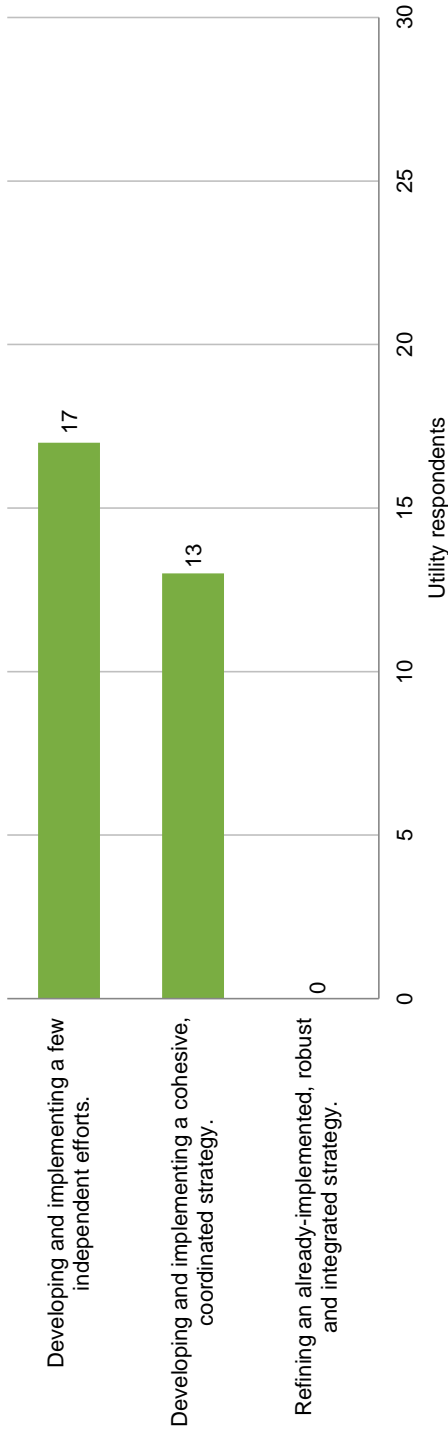
**E Source**

November 2019

# Overall utility DER strategy

# Utility status in developing and implementing a DER strategy

Utilities that are currently ...

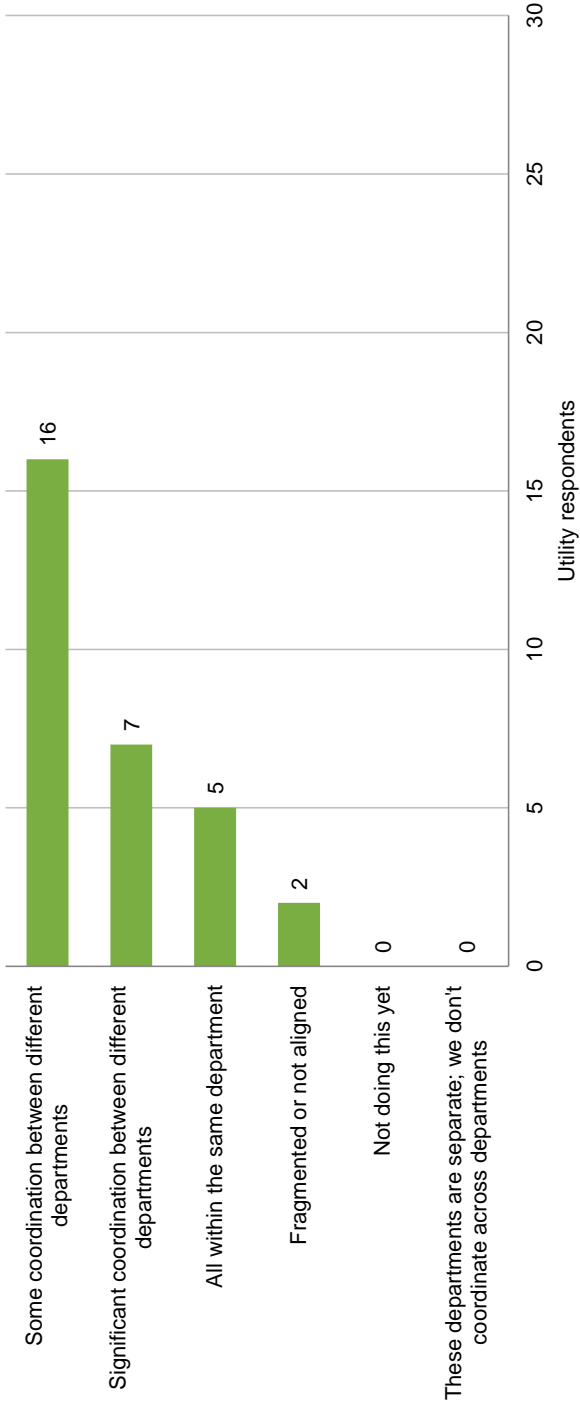


Base: All utility respondents (n = 30 utilities). Question: S1\_1.

© E Source (2019 DER and Electrification Benchmark Survey)



# Internal organization structure and coordination across EE, DR, EV, and DER programs



Base: All utility respondents (n = 30 utilities). Question: S2\_2.

© E Source (2019 DER and Electrification Benchmark Survey)



# What does your utility already include or is considering including in its current or planned DER strategy work?

Please select all that apply.

- A. Electric vehicles
- B. Behind-the-meter battery storage
- C. Energy efficiency
- D. Electrification
- E. Behind-the-meter solar
- F. Community Solar
- G. Green Pricing
- H. All of the above



# Top 10 technologies included in DER strategy

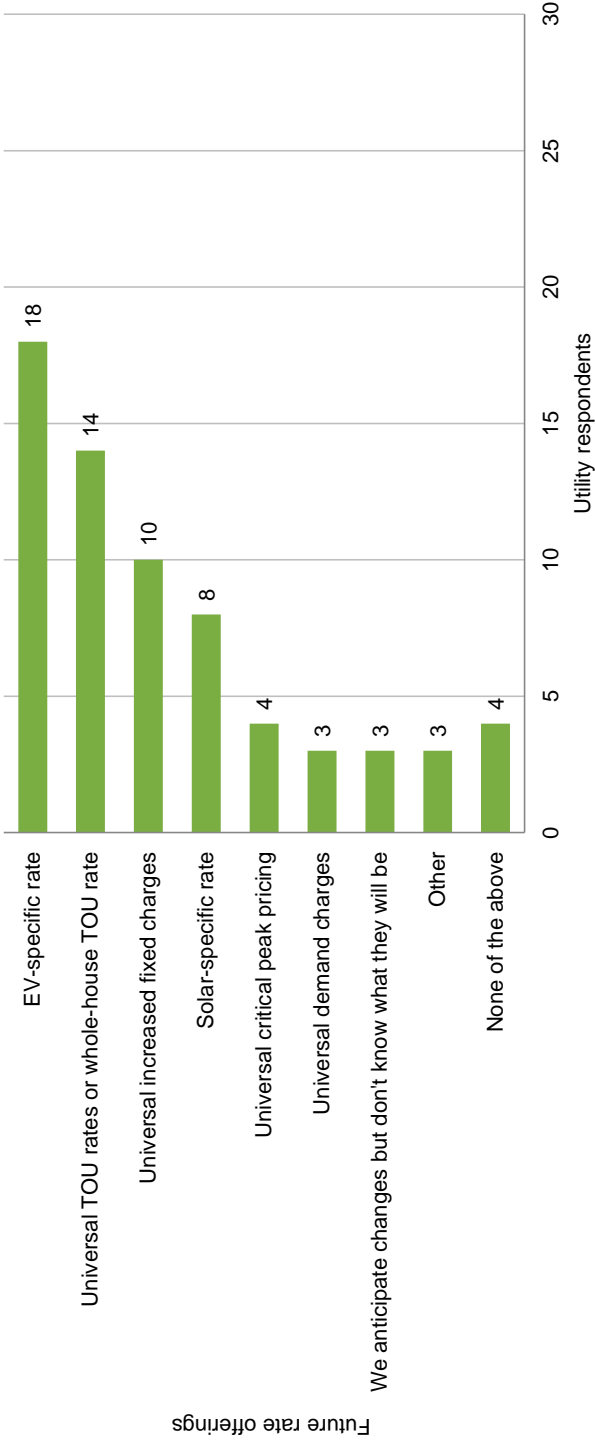
	Utility respondents
Energy efficiency	27
Behind-the-meter solar	23
Electric vehicle charging infrastructure	22
Demand response	21
Community solar	21
Behind-the-meter battery storage	21
Electric vehicles	20
Electrification	20
Distribution-grid battery storage	20
Smart home devices or facility energy management systems	19

Base: All utility respondents (n = 30 utilities). Question: S1\_3. © E Source (2019 DER and Electrification Benchmark Survey)





# Anticipated residential rate-related changes



Base: All utility respondents (n = 30 utilities). Question: S1\_7. Note: TOU = time of use.

© E Source (2019 DER and Electrification Benchmark

# Building electrification



**What term or phrase are you using externally for promotional materials and messaging to describe building electrification?**

- A. Clean Power
- B. Decarbonization
- C. Electrification
- D. Fuel Switching
- E. Other
- F. None, we don't externally promote building electrification.

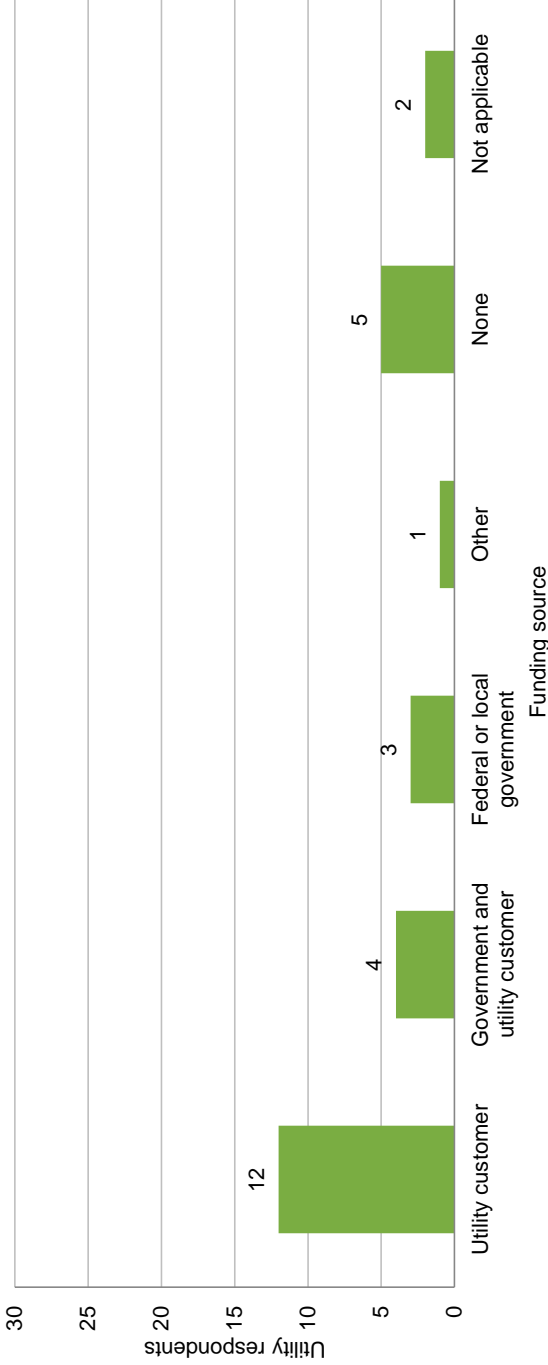


Clean  
Decarbonization  
Electrification  
None  
Beneficial  
Fuel-switching  
Power

# What is the source of your funding for building-electrification efforts?

- A. Utility customers
- B. Government and utility customers
- C. Federal and/or local government
- D. Other
- E. Not applicable
- F. None

# Source of funding for building-electrification efforts

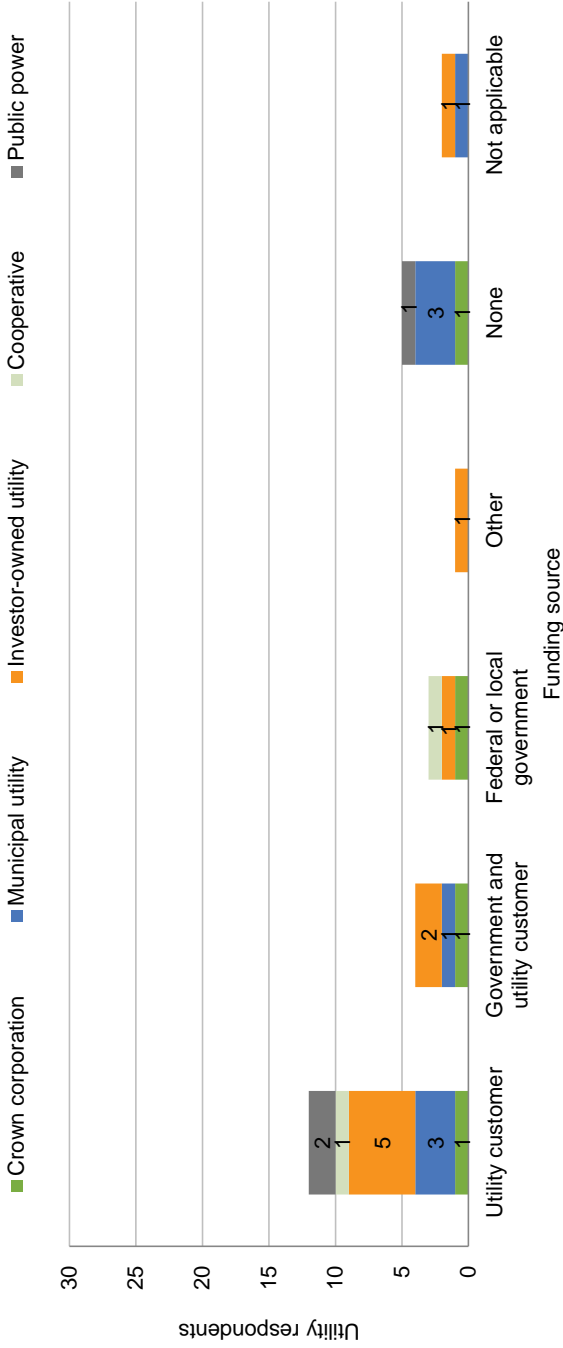


Base: Utilities providing data (n = 27 utilities). Question: S2\_4c.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



# Source of funding for building-electrification efforts



Base: Utilities providing data (n = 27 utilities). Question: S2\_4c.

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# Top 4 reasons utilities promote all-electric technologies



- Increase utility revenue
- Position utility as a trusted adviser
- Carbon reduction or environmental objectives
- Policy- or legislative-driven objectives





## Why do customers think their utility promotes building-electrification?

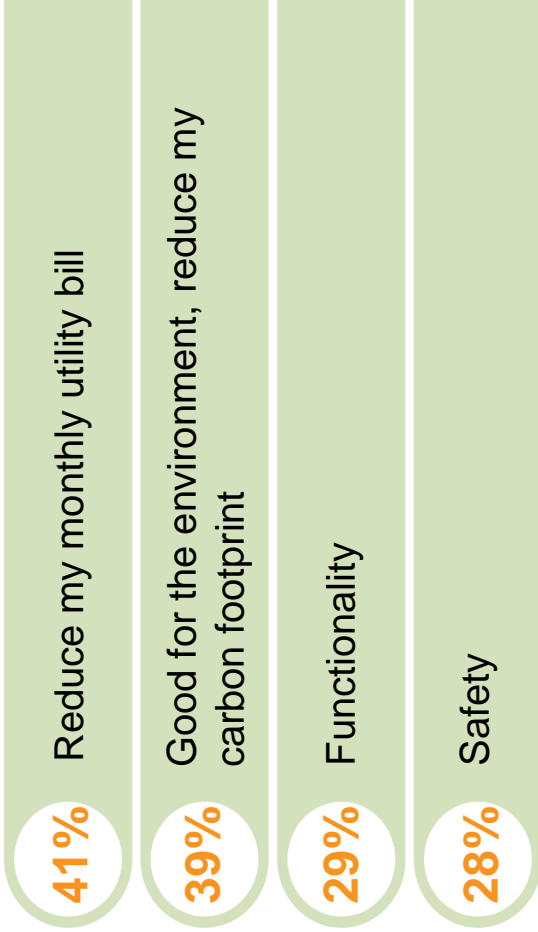
- A. Increase utility revenue
- B. Reduce carbon
- C. Other environmental objectives
- D. Increase its customers' energy usage
- E. Avoid safety concerns i.e. with natural gas pipelines

# Top 4 reasons utilities promote all-electric technologies



- Increase utility revenue
- Position utility as a trusted adviser
- Carbon reduction or environmental objectives
- Policy- or legislative-driven objectives
- Increase utility revenue
- Reduce carbon or other environmental objectives
- Increase its customers' energy use
- Avoid safety concerns with natural gas pipelines

# Top 4 reasons customers would consider switching to all-electric

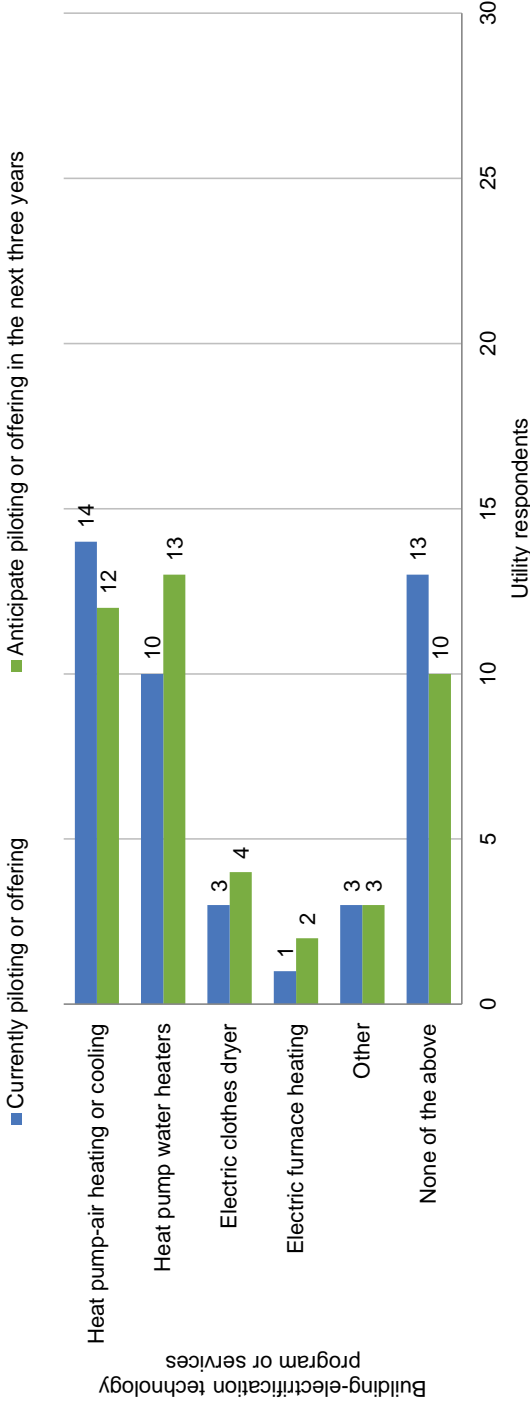


Base: North American respondents (n = 7,496).  
Question: S6\_3.

© E Source (2019 Residential Customer  
DER and Electrification Survey)



# Residential building-electrification programs or services utilities are currently offering

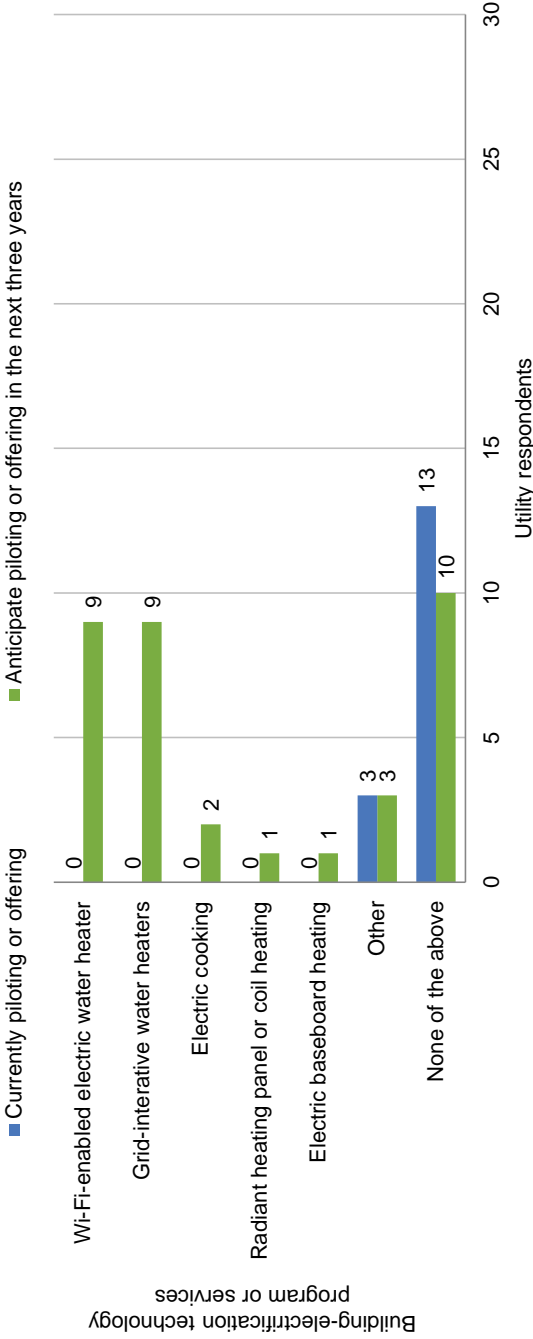


Base: All utility respondents (n = 30 utilities). Questions: S4\_7 and S4\_8.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



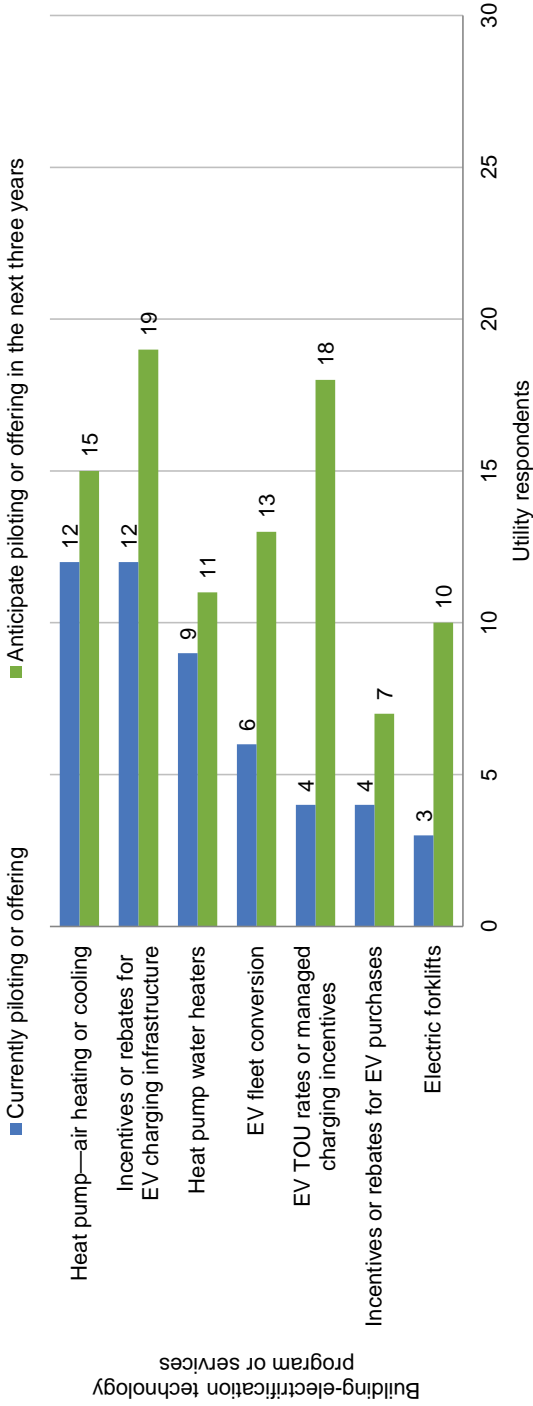
# Residential building-electrification programs or services utilities anticipate offering



Base: All utility respondents (n = 30 utilities). Questions: S4\_7 and S4\_8.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)

# Current and anticipated utility building-electrification offerings for nonresidential customers

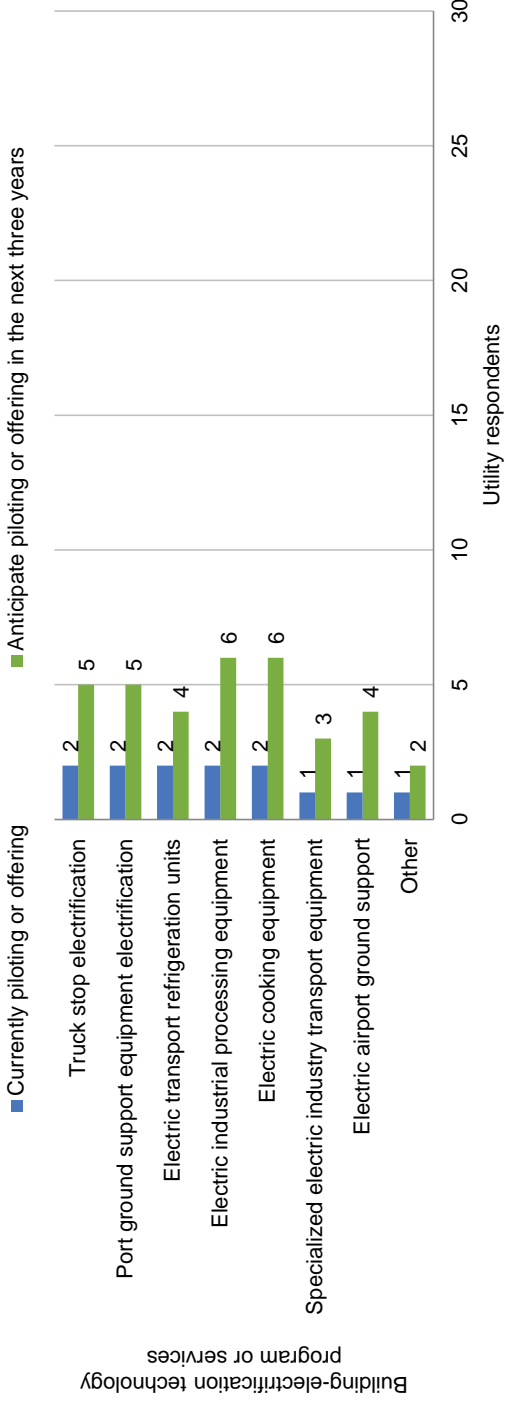


**Base:** All utility respondents (n = 30 utilities). **Questions:** S5\_4 and S4\_8.  
**Note:** EV = electric vehicle; TOU = time of use.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



# Current and anticipated utility building electrification offering for nonresidential customers



Base: All utility respondents (n = 30 utilities). Questions: S5\_4 and S4\_8.

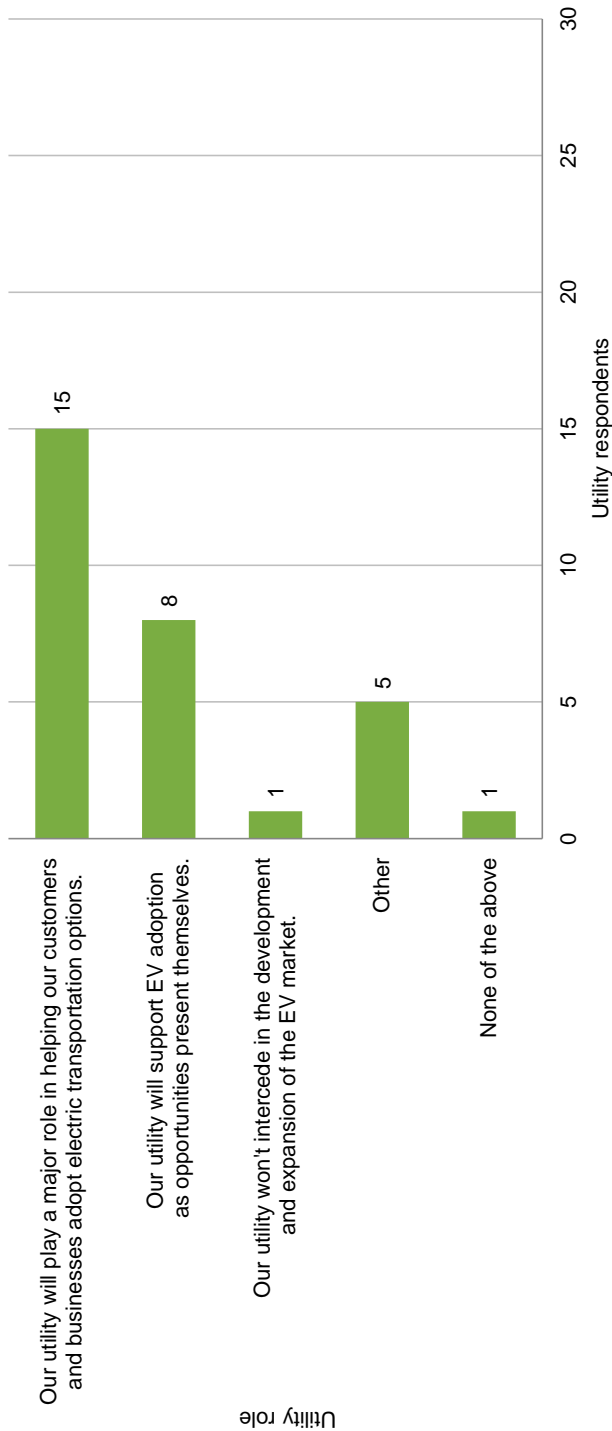
© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



# Electric vehicles and charging equipment



# Utility role in EV adoption



**Base:** All utility respondents (n = 30 utilities). **Question:** S3\_1.  
**Note:** EV = electric vehicle.

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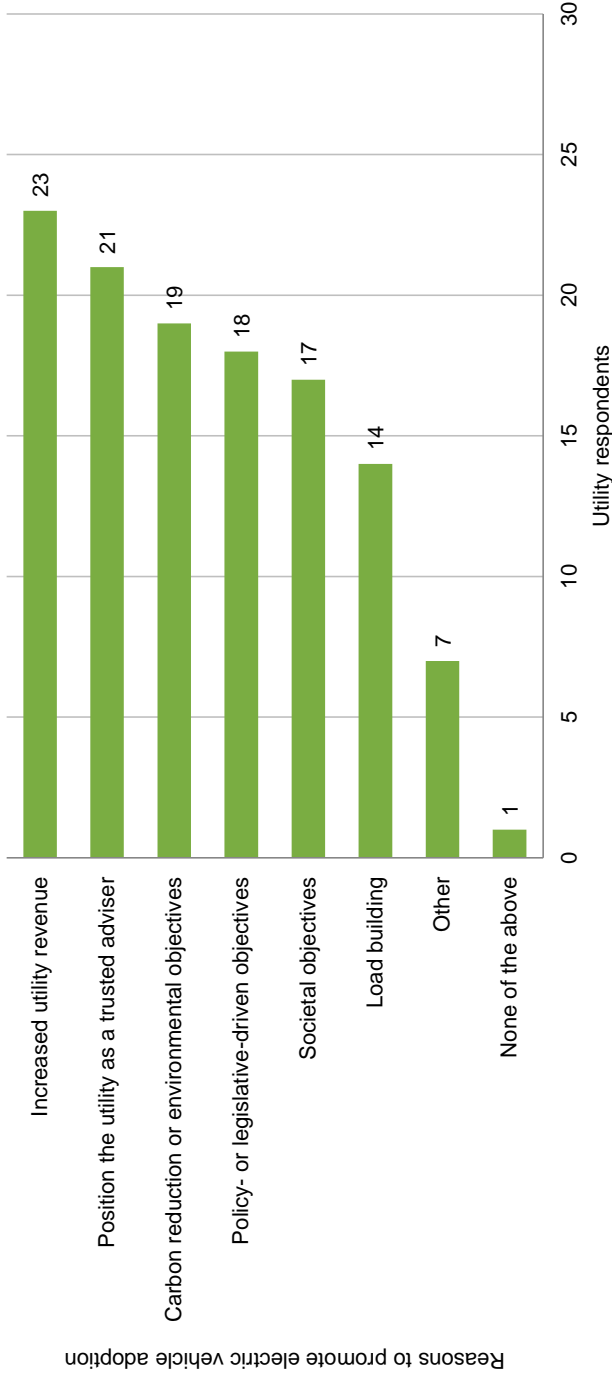


# Why is your utility or why may your utility promote EV adoption?

- (A) Reduce carbon or environmental objectives
- (B) Increased utility revenue
- (C) Load building
- (D) Policy- or legislative-driven objectives, for example reduce carbon output X% by year Y
- (E) Position the utility as a trusted adviser
- (F) Societal objectives
- (G) Other
- (H) None of the above



# Reasons utilities promote EV adoption

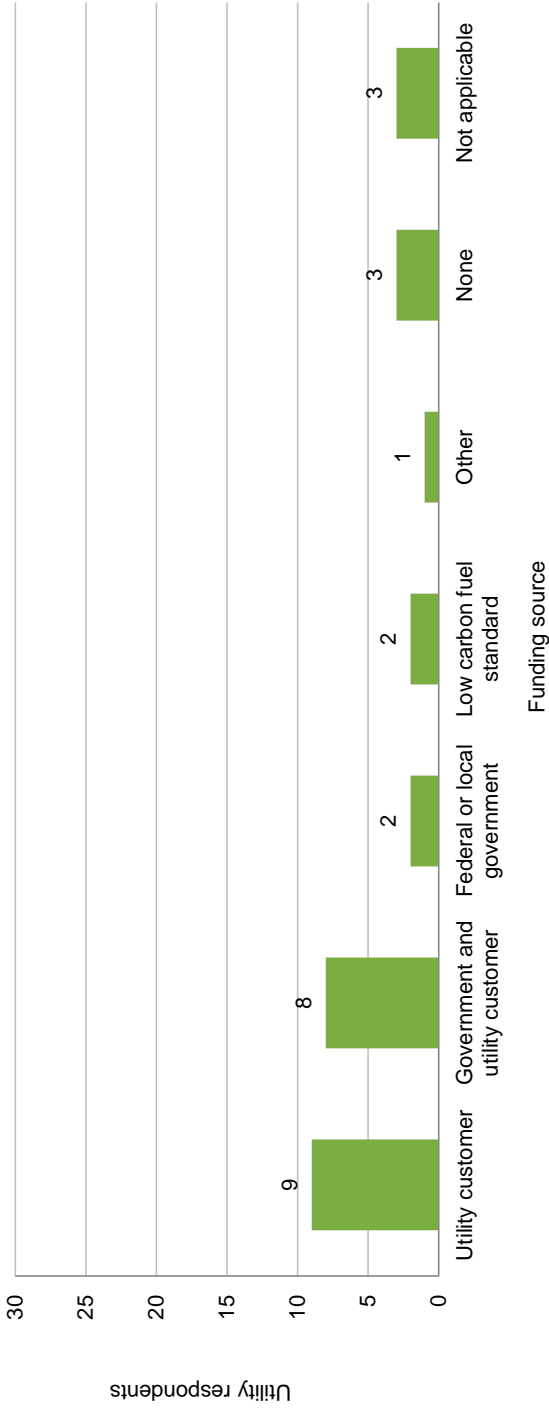


Base: All utility respondents (n = 30 utilities). Question: S3\_2.

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# Source of funding for EV efforts

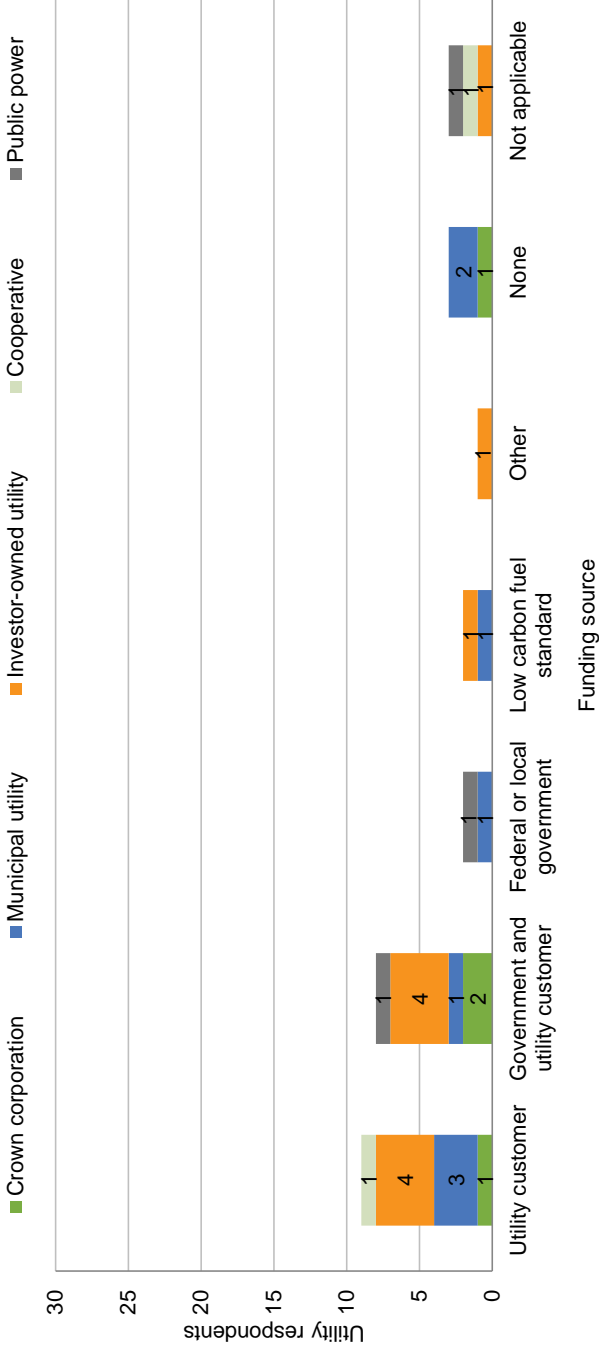


Base: Utilities providing data (n = 28 utilities). Question: S2\_4b.

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# Source of funding for EV efforts

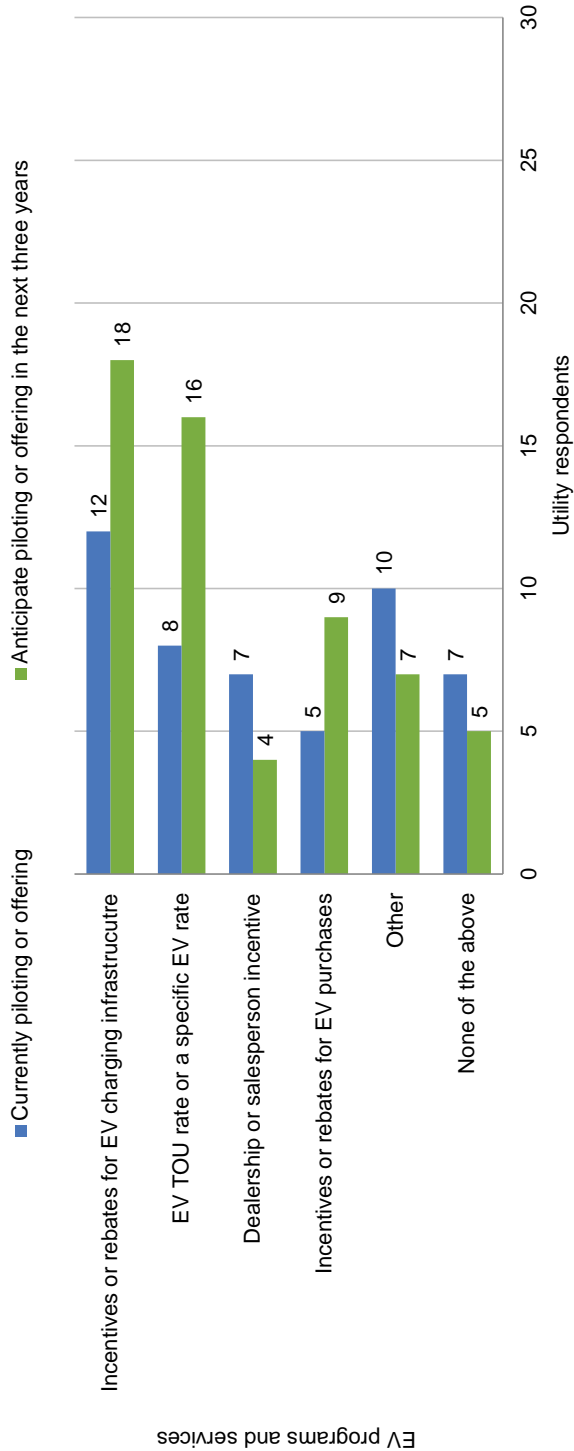


Base: Utilities providing data (n = 28 utilities). Question: S2\_4b.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



# EV program offerings for residential customers



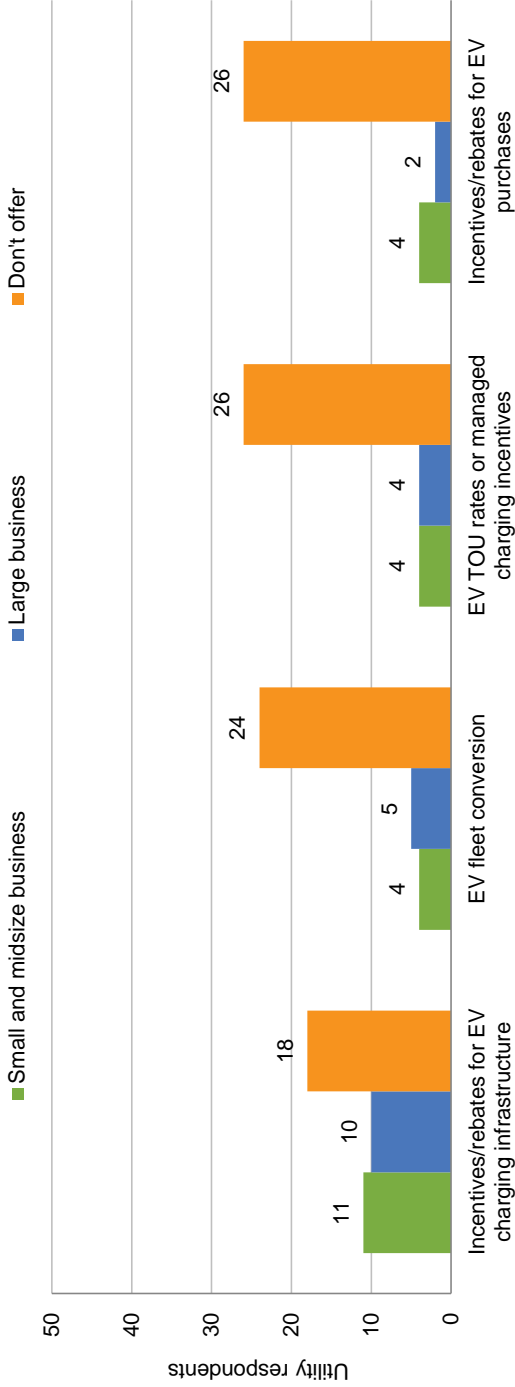
EV programs and services

Base: All utility respondents (n = 30 utilities). Question: S3\_4 and S3\_5.  
 Notes: EV = electric vehicle. TOU = time of use.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)

# EV program offerings for nonresidential customers

While utilities don't offer many nonresidential EV programs now ...



Base: All utility respondents (n = 30 utilities). Question: S5\_4.

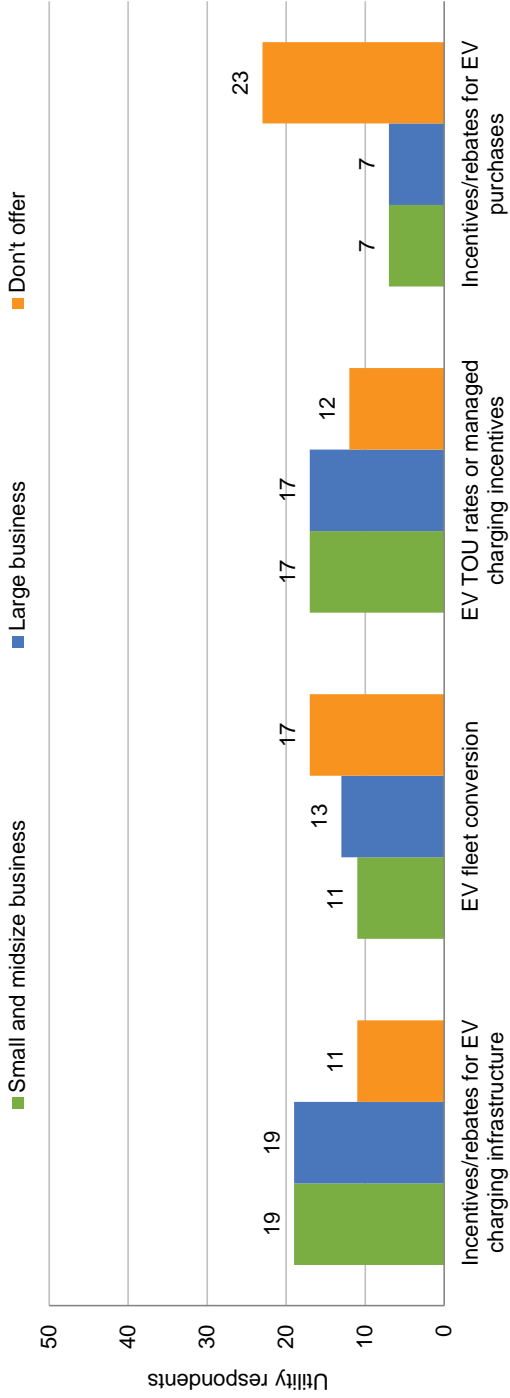
Note: EV = electric vehicle; TOU = time of use.

© E Source (2019 Utility DER and Electrification Benchmark Survey)



# Planned EV programs for nonresidential customers

... many utilities plan to offer EV programs in the next three years.



Base: All utility respondents (n = 30 utilities). Question: S5\_5.

Note: EV = electric vehicle; TOU = time of use.

© E Source (2019 Utility DER and Electrification Benchmark Survey)



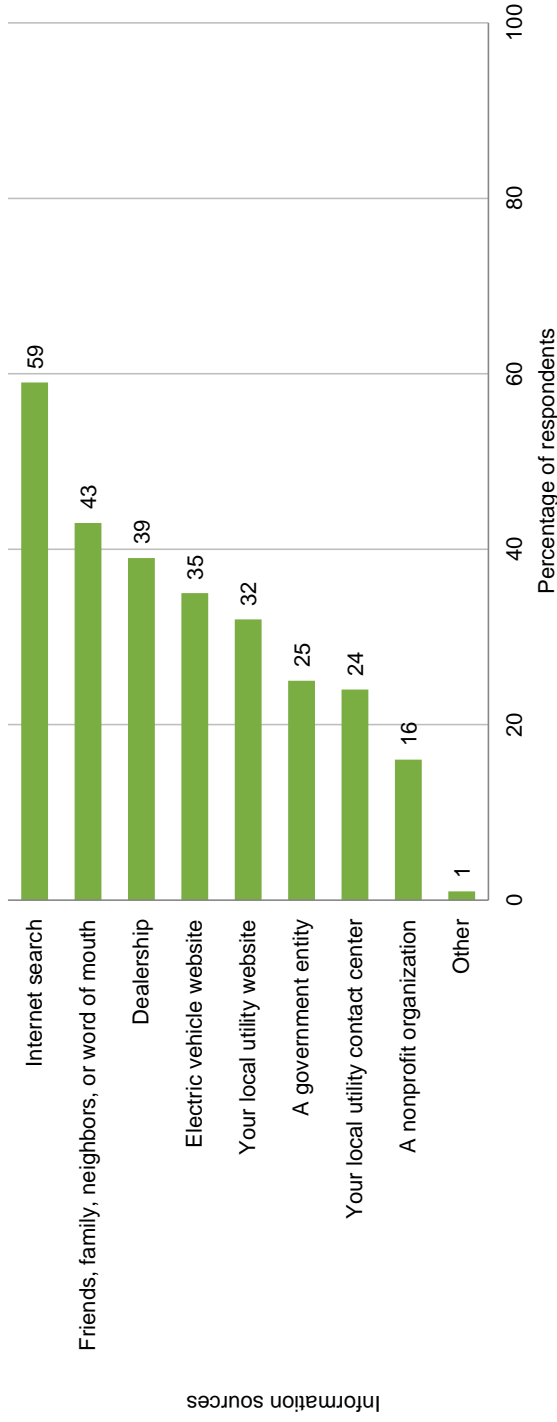


# Imagine you are a customer. Where would you go to find information about EVs before purchasing one?

- (A) Internet search
- (B) Friends, family, neighbors, or word of mouth
- (C) Dealership
- (D) EV website
- (E) Your local utility website
- (F) A government entity
- (G) Your local utility contact center
- (I) Other



# Over half of customers search for EV information on the internet

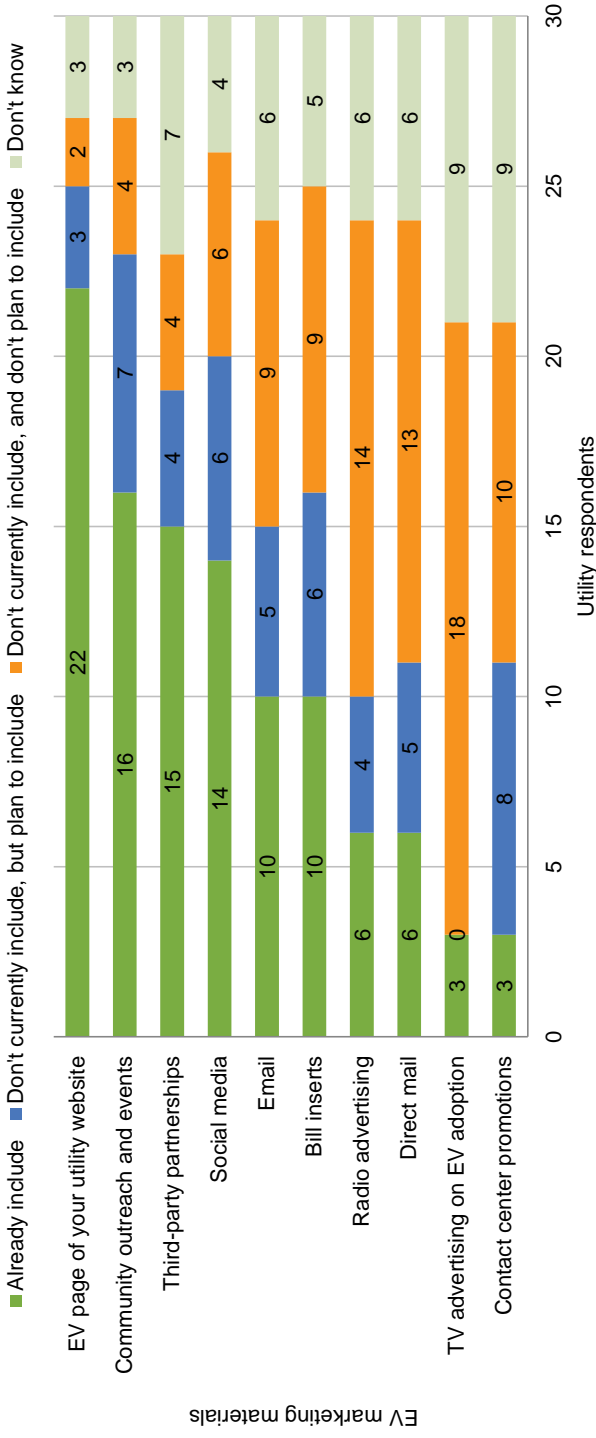


Base: North American respondents with an EV or interest in one (n = 1,027). Question: S5\_1.

© E Source (2019 Residential Customer DER and Electrification Survey)



# Utility EV marketing campaigns

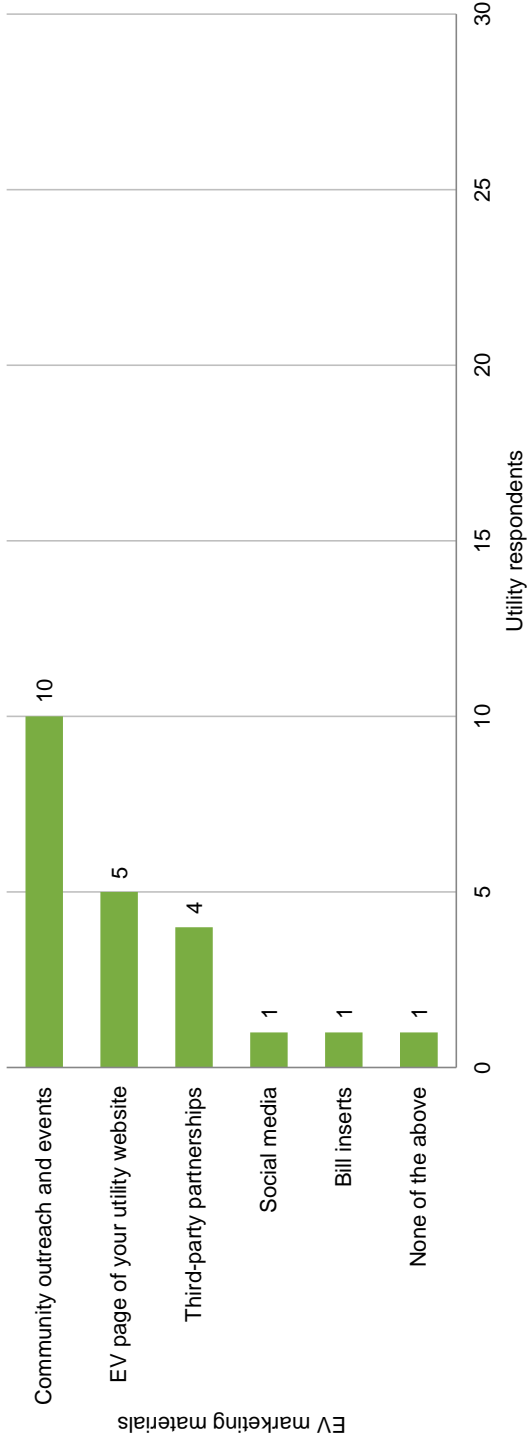


Base: All utility respondents (n = 30 utilities). Question: S3\_6.  
 Note: EV = electric vehicle.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



# Most effective materials for generating customer engagement around EVs

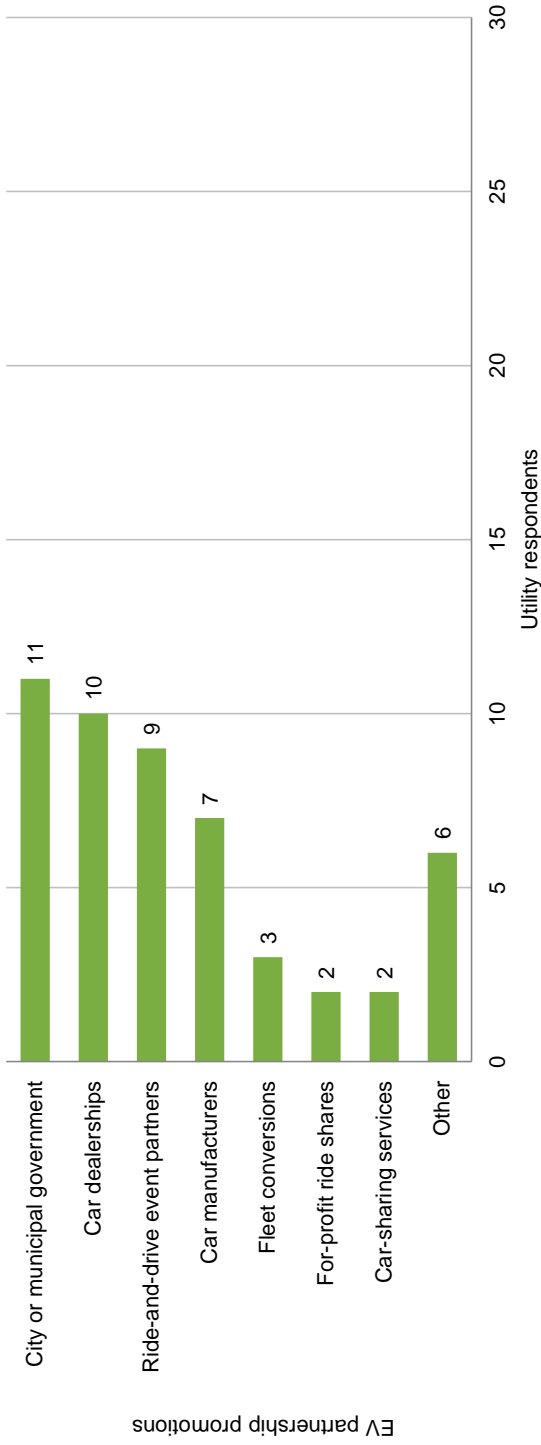


**Base:** Utility respondents that have an EV marketing campaign (n = 22 utilities). **Question:** S3\_7.  
**Note:** EV = electric vehicle.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)



# Promoting EVs through partnerships



Base: Utilities with third-party EV marketing partnerships (n = 15 utilities). Question: S3\_8.

Note: EV = electric vehicle.

© E Source (2019 E Source Utility DER and Electrification Benchmark Survey)

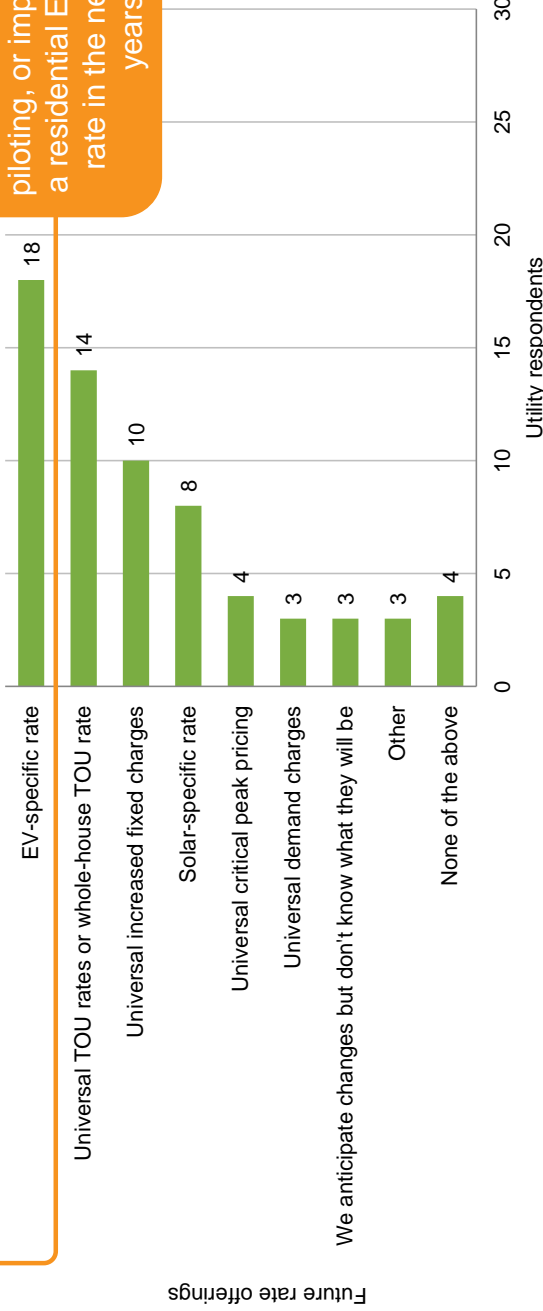
## What is your utility's approach EV time-of-use (TOU) rates?

- A. We offer an EV TOU rate and plan to continue to offer this rate
- B. We offer an EV TOU rate but plan to switch to a whole home TOU rate
- C. We had an EV TOU rate but switched to a whole home TOU rate
- D. We anticipate offering an EV TOU rate in the next three years
- E. We do not plan to offer EV TOU rate
- F. None of the above
- G. Don't know



# Anticipated residential rate-related changes

18 of 30 utilities anticipate proposing, piloting, or implementing a residential EV-specific rate in the next three years.

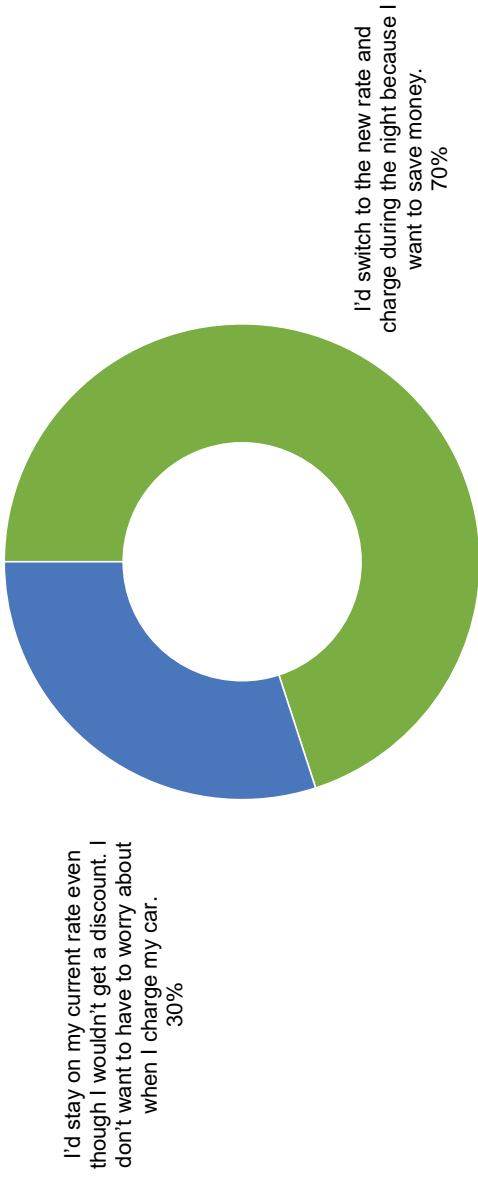


Base: All utility respondents (n = 30 utilities). Question: S1\_7.

Note: EV = electric vehicle; TOU = time of use.

© E Source (2019 DER and Electrification Benchmark Survey)

# Customer interest in EV TOU rate



I'd stay on my current rate even though I wouldn't get a discount. I don't want to have to worry about when I charge my car.  
30%

I'd switch to the new rate and charge during the night because I want to save money.  
70%

**Base:** North American respondents without an EV or those who have an EV but aren't on TOU rates (n = 7,311). **Question:** S5\_11.  
**Notes:** EV = electric vehicle; TOU = time of use.

© E Source (2019 Residential Customer DER and Electrification Survey)





**Expanding your  
knowledge and  
staying on top of the  
industry**

# Recent and upcoming web conferences

## Recent

- [Utilities' Role in EV Adoption](#)
- [Meet the DER Insights Center](#)
- [Why and How You Should Pursue Beneficial Electrification](#)

## Upcoming

- [Results of the 2019 E Source Utility DER and Electrification Benchmark](#)
  - November 20, 2019
- [Designing Incentives and Technology Roadmaps for Beneficial Electrification](#)
  - December 3, 2019
- [DERs and Electrification: Business Customer Insights](#)
  - December 11, 2019

# Develop a DER peer network

Networking



Peer sharing call topics:

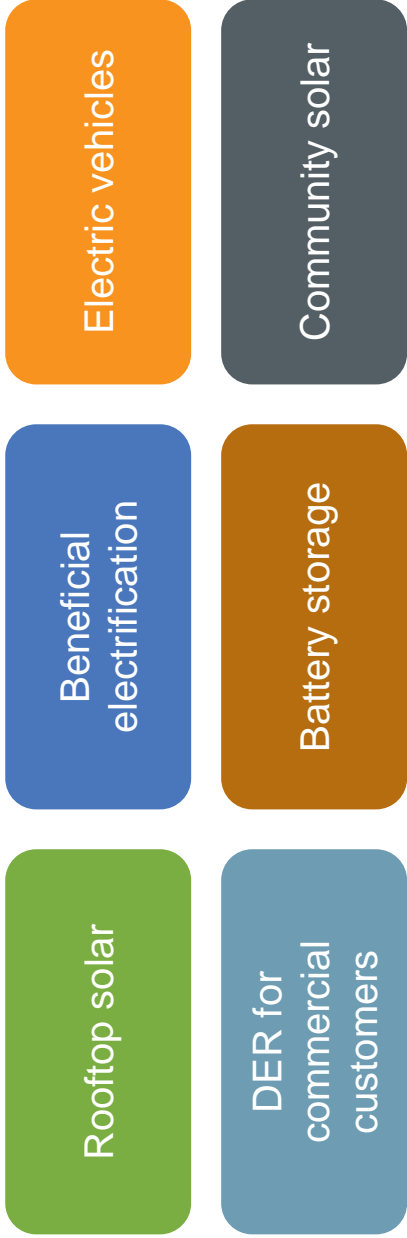
- DERs for large commercial customers
- Electric vehicles
- Electrification/decarbonization
- Rooftop solar for residential customers
- Community solar
- Battery storage
- Integrating DER and demand-side management in solutions and org structures

Check out our [events calendar](#) for information on upcoming calls



---

# Set up a custom DER presentation, staff meeting session, or lunch and learn



# Check out our residential customer data

Insights from the 2019 Residential Customer DER and Electrification survey available online to members of the DER service

- [State- and Province-Level Insights from the 2019 DER Residential Customer Market Research](#)

Interested in discovering more? [Schedule a one-on-one with us](#) where we can:

- Review the data that is specific to your region
- Discuss key insights
- Provide advice and best practices from our E Source Distributed Energy Resource Strategy Service

# Thank you! Questions?



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