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# Beneficial Electrification: Selected State Policy Trends and Issues

Electrify NC Summit

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## 3 Takeaways

- Beneficial Electrification is not just about load growth
- Co-ops can lead on BE implementation
- Revisit existing policies that may be posing barriers (e.g. EE policy, rate design, incentive programs)

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# ***Beneficial* Electrification (BE) - Three Conditions**



1. Saves Customers  
Money Over Long-Term



2. Reduces Environmental  
Impacts



3. Enables Better Grid  
Management

- **Not just about load growth!**
- **Opportunities for co-ops to lead the way**



## Beneficial of Space

By Jessica Shipley, Jim Lazar, David  
Part of the *Electrification*



## Beneficial of Water

By David Farnsworth, Jim Lazar,  
Part of the *Electrification*



## Beneficial of Trans

By David Farnsworth, Jessica  
Part of the *Electrification*



## Beneficial Electrification

Ensuring Electrification in the Public Interest

By David Farnsworth, Jessica Shipley, Jim Lazar, and Nancy Seidman

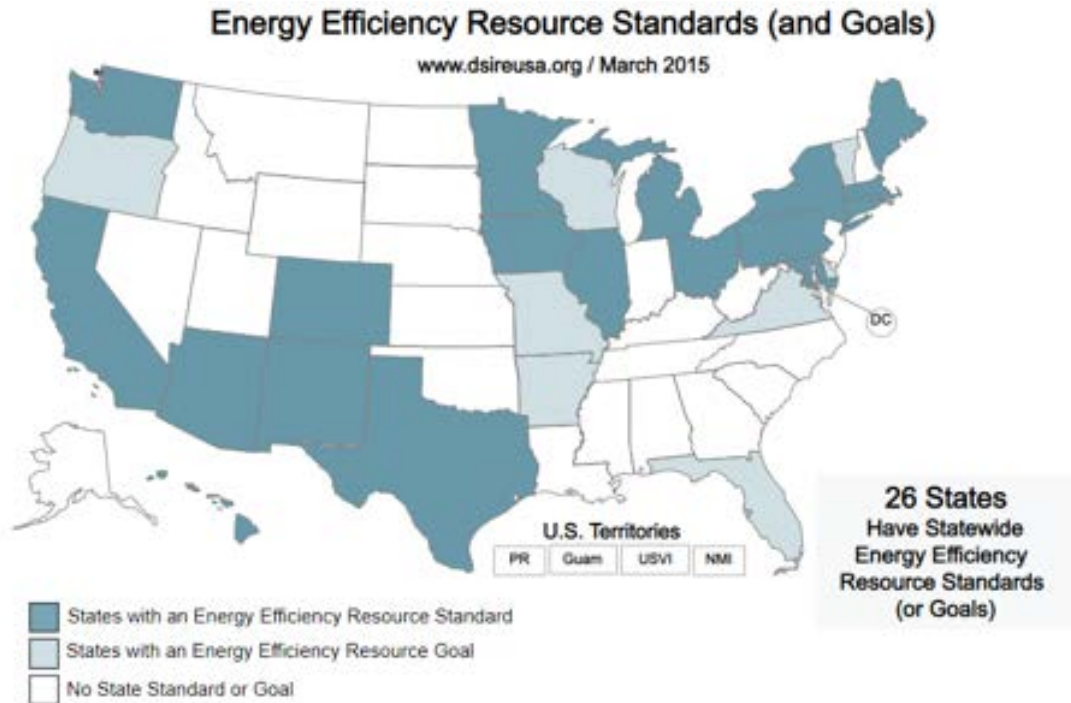


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# Implementation Issues Across States

- Energy Efficiency Policies
- Buildings
  - Incentive Program Design
- Transportation
  - Rate Design

# Energy Efficiency Resource Standards



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# BE for Buildings Incentive Programs

- Run by utilities, states, and third-parties
- May enable or obstruct beneficial electrification



Multi-zone ductless  
heat pump

- Tend to reward switching to a more efficient appliance that uses the ***same fuel***
- Many explicitly disallow **fuel switching**
- Programs may be working at cross-purposes to BE



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## Rate Design

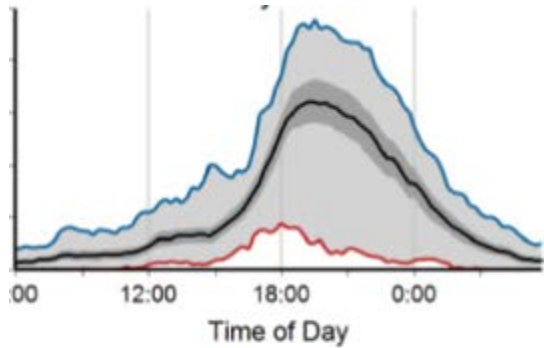
Make the choices the customer makes to minimize their **own bill** consistent with the choices they would make to minimize **system costs.**

→ Shift usage to lower-cost and lower-emission hours.

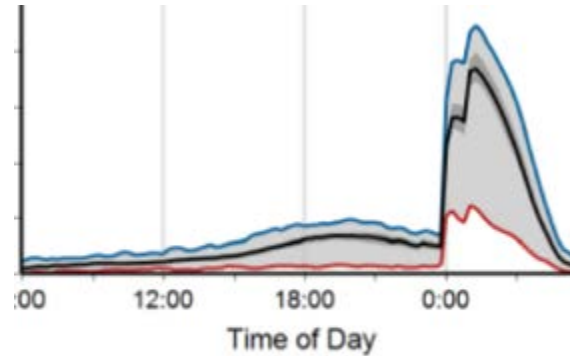


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# Price Can Influence When Customers Use Energy



Dallas/Ft Worth  
(standard rates)



San Diego  
(time-of-use rates)

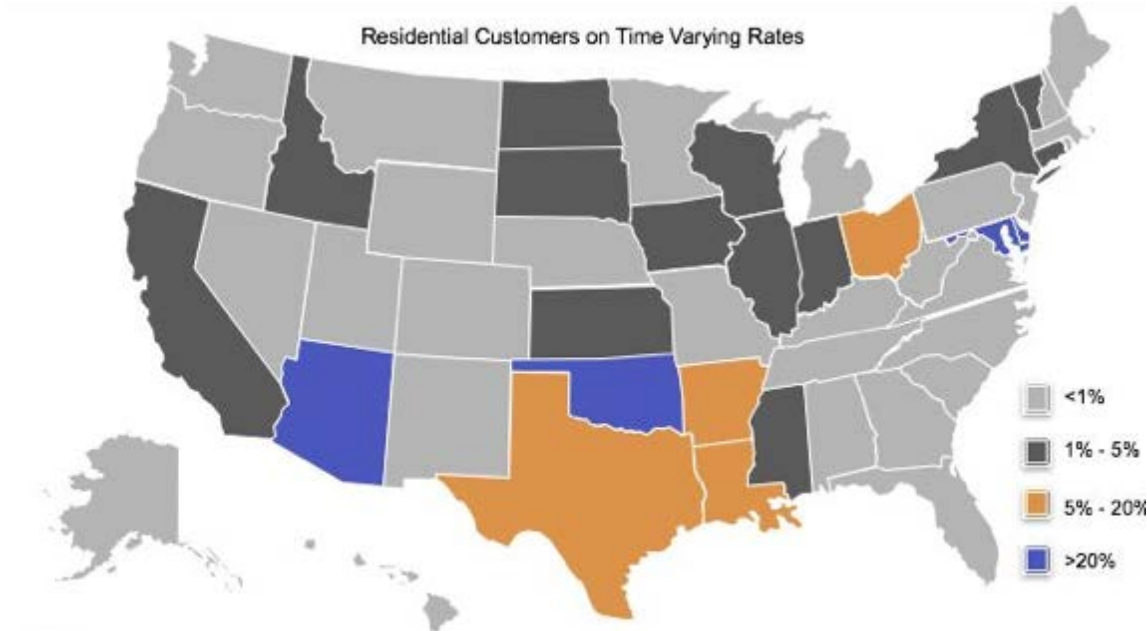
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# Rate Designs That Encourage Off-Peak Charging of EVs

(and other electrical end uses)

- Well-designed Time of Use Prices (TOU)
- Critical Peak Price (CPP)
- Peak Time Rebates
- Transparent Real Time Prices (RTP)

# Residential Customers on Time Varying Rates



Source: U.S. Energy Information Administration Form EIA-861 released November 2017 with annual data for 2016

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## Example TOU Rate:

<b>City of Tallahassee, Florida</b>	
<b>Customer Charge</b>	<b>\$7.59</b>
<b>Off-Peak</b>	<b>\$.06</b>
<b>On-Peak</b>	<b>\$.215</b>

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# TOU and Inclining Block Rates Have Very Different Impacts on EVs

<b>Inclining Block Rate</b>	
Customer Charge	\$5.00
First 500 kWh	\$0.08
Additional kWh	<b>\$0.15</b>

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# TOU and Inclining Block Rates Have Very Different Impacts on EVs

TOU Rate	
Customer Charge	\$5.00
Off-Peak	<b>\$0.08</b>
On-Peak	\$0.15

# TOU and Inclining Block Rates Have Very Different Impacts on EVs

TOU Rate		Inclining Block Rate	
Customer Charge	\$5.00	Customer Charge	\$5.00
Off-Peak	<b>\$0.08</b>	First 500 kWh	\$0.08
On-Peak	\$0.15	Additional kWh	<b>\$0.15</b>

- TOU rate provides an incentive to charge off-peak
- EV users are likely to be larger-than-average users
- Inclining block rate will mean charging at the higher block rate(s)

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# Key Elements of TOU Rates: Fort Collins, Colorado

	Summer	Winter
Customer Charge	\$6.16	\$6.16
Off-Peak	\$.066	\$.065
On-Peak	\$.235	\$.211
Tier Charge All Usage Over 700 kWh	+.017	+.017



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# Rate Design

- A whole other host of issues for commercial, public, and fast charging – not covering that today!

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# Beneficial Electrification Resources from RAP

- [Beneficial Electrification: Ensuring Electrification in the Public Interest](#)
- [Utilities Can Get a “LEG” Up with Beneficial Electrification—But Regulators Also Have to be Ready](#)
- [Beneficial Electrification: A Growth Opportunity](#)
- [Beneficial Electrification: A Key to Better Grid Management](#)
- [Environmentally Beneficial Electrification: The Dawn of Emissions Efficiency \(Electricity Journal\)](#)

# About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at [raponline.org](https://raponline.org)

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