

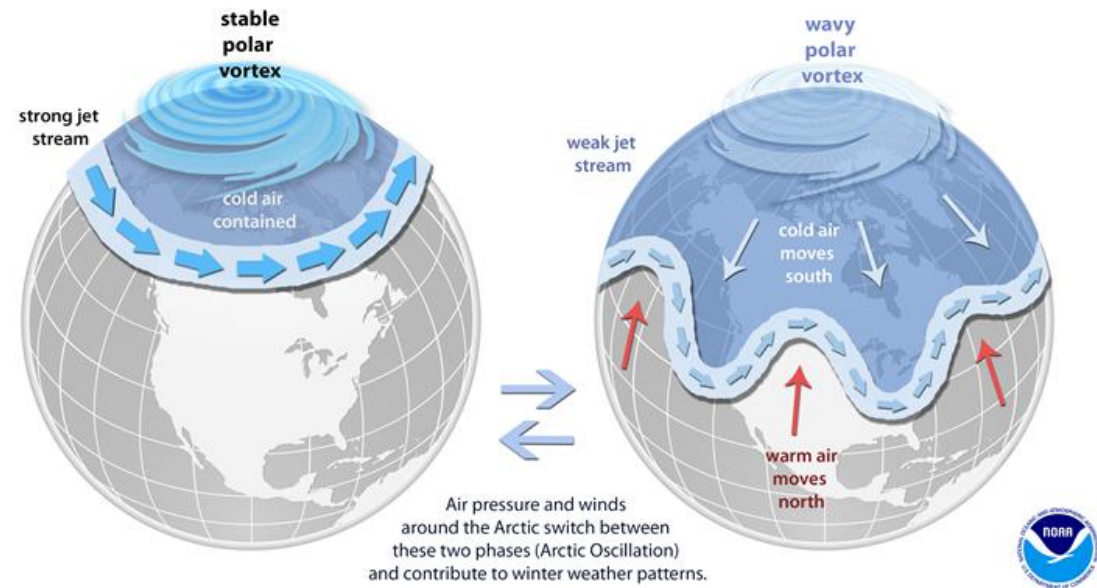
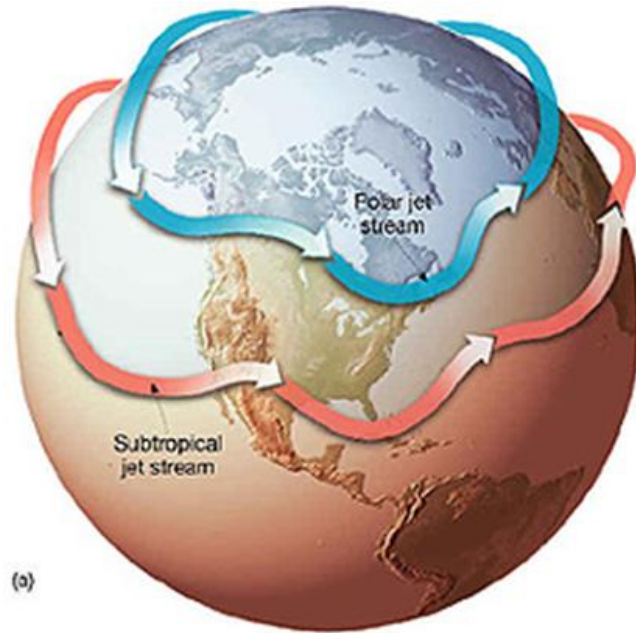
New Realities: A Case for Innovative Customer Centric Rate Designs

Lon Huber – VP Rate Design & Strategic Solutions



New Realities – Extreme Weather Events

2



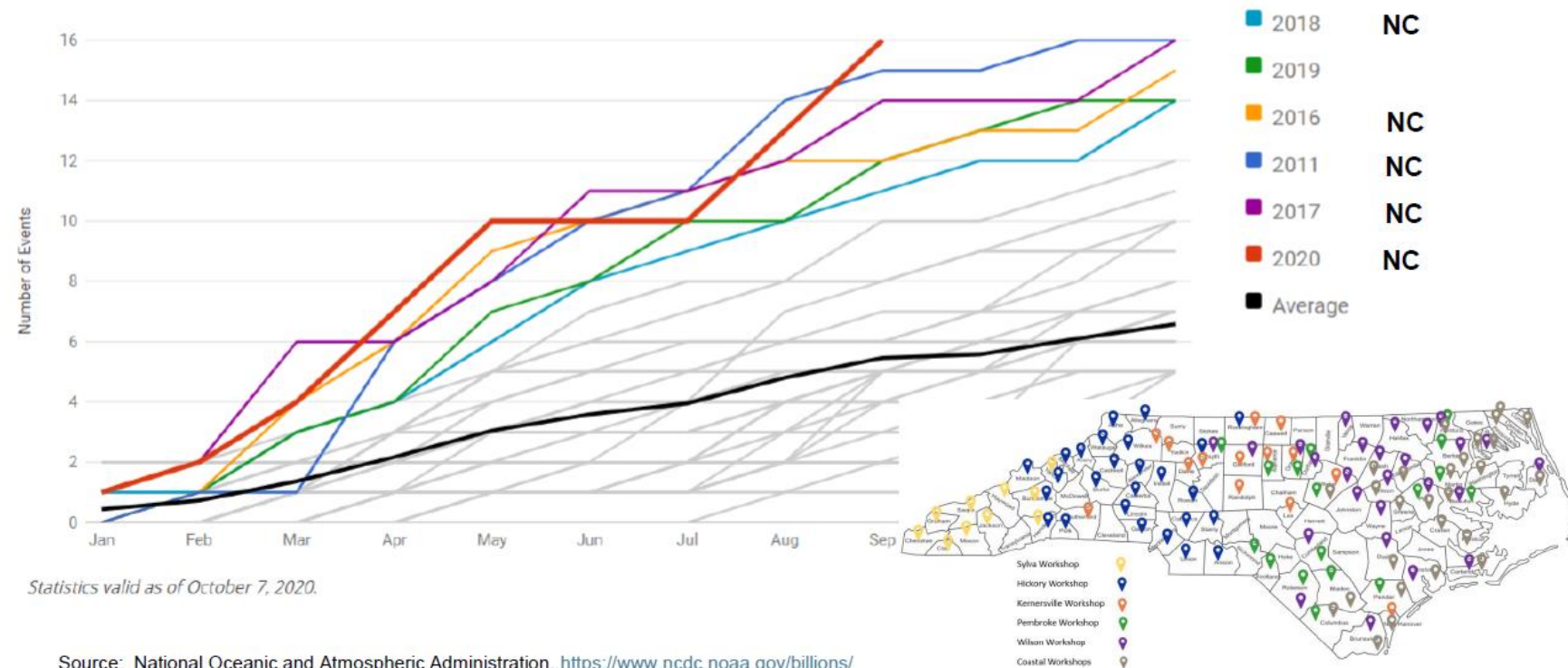
New Realities – Extreme Weather Events

3

Frequency of Billion-Dollar Disaster Events in the U.S.

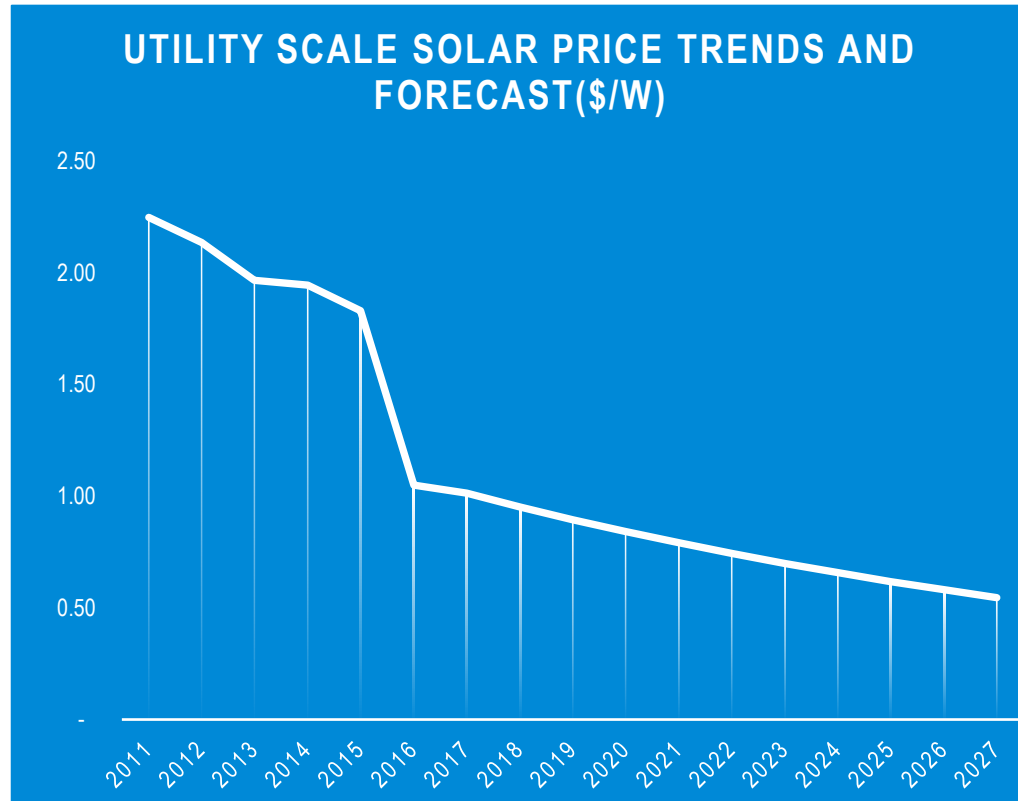
1980-2020 Year-to-Date United States Billion-Dollar Disaster Event Frequency (CPI-Adjusted)

Event statistics are added according to the date on which they ended.

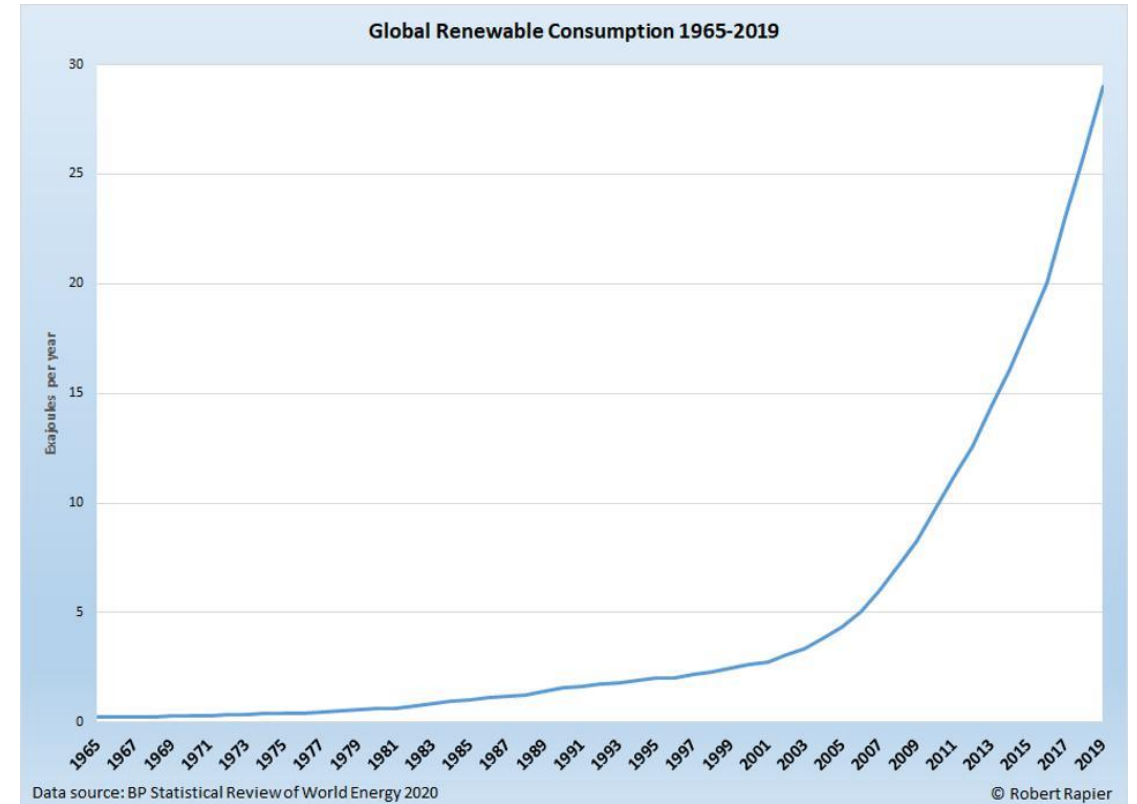


New Realities – Increase in Clean Zero Marginal Cost Resources

4

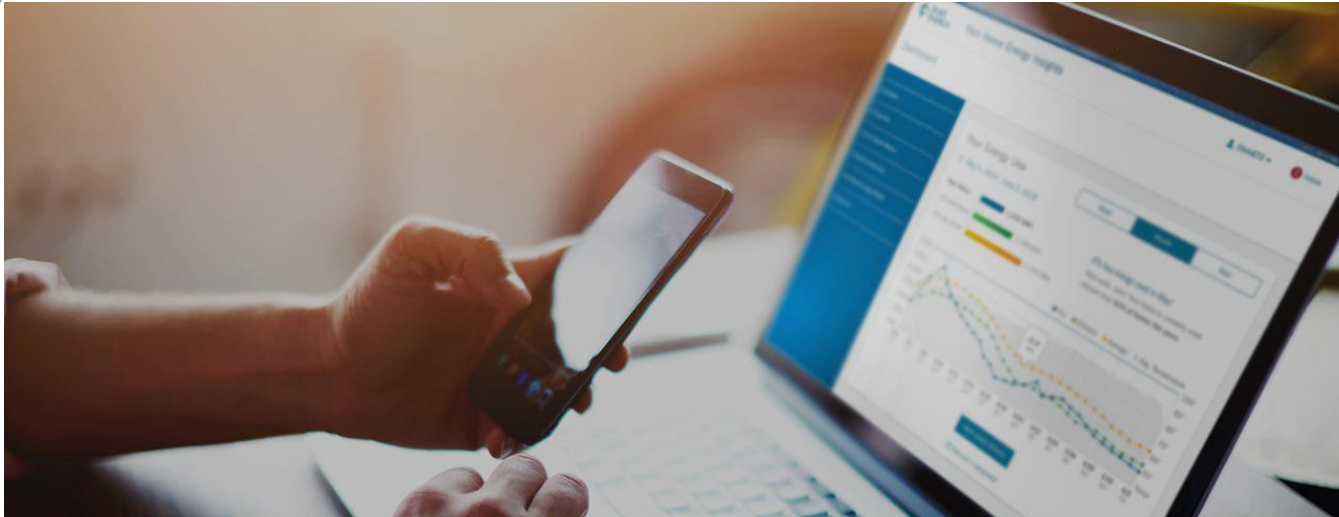


Source: *Guidehouse Research*



New Realities – Maturation of Billing, Metering, Connectivity, and DERs

5



New Realities – Introduction of Electric Vehicles

6



New Realities – A More Complex Grid

7

1. Extreme weather events leading to capacity scarcity
2. Rapidly growing amount of variable and zero marginal cost energy
3. Sophisticated meters and billing systems
4. Transportation electrification

Does this sound like any time before?

New Realities – Changing Cost Structure

Energy

- Unit: kWh
- Examples: fuel, purchased power, net of reagents
- Currently ~20-30% of costs



Expected to **decrease** due to:

- more clean zero marginal cost resources

Customer

- Unit: per customer
- Examples: cost of connection, billing, customer support
- Currently ~20-25% of costs



Expected to **increase modestly** due to:

- increase in distribution costs
- customer expectations of service

Demand (Capacity)

- Unit: kW
- Comprised of generation, transmission, and distribution assets
- Currently ~45-55% of costs
- “Like maintaining a highway with 100 lanes”



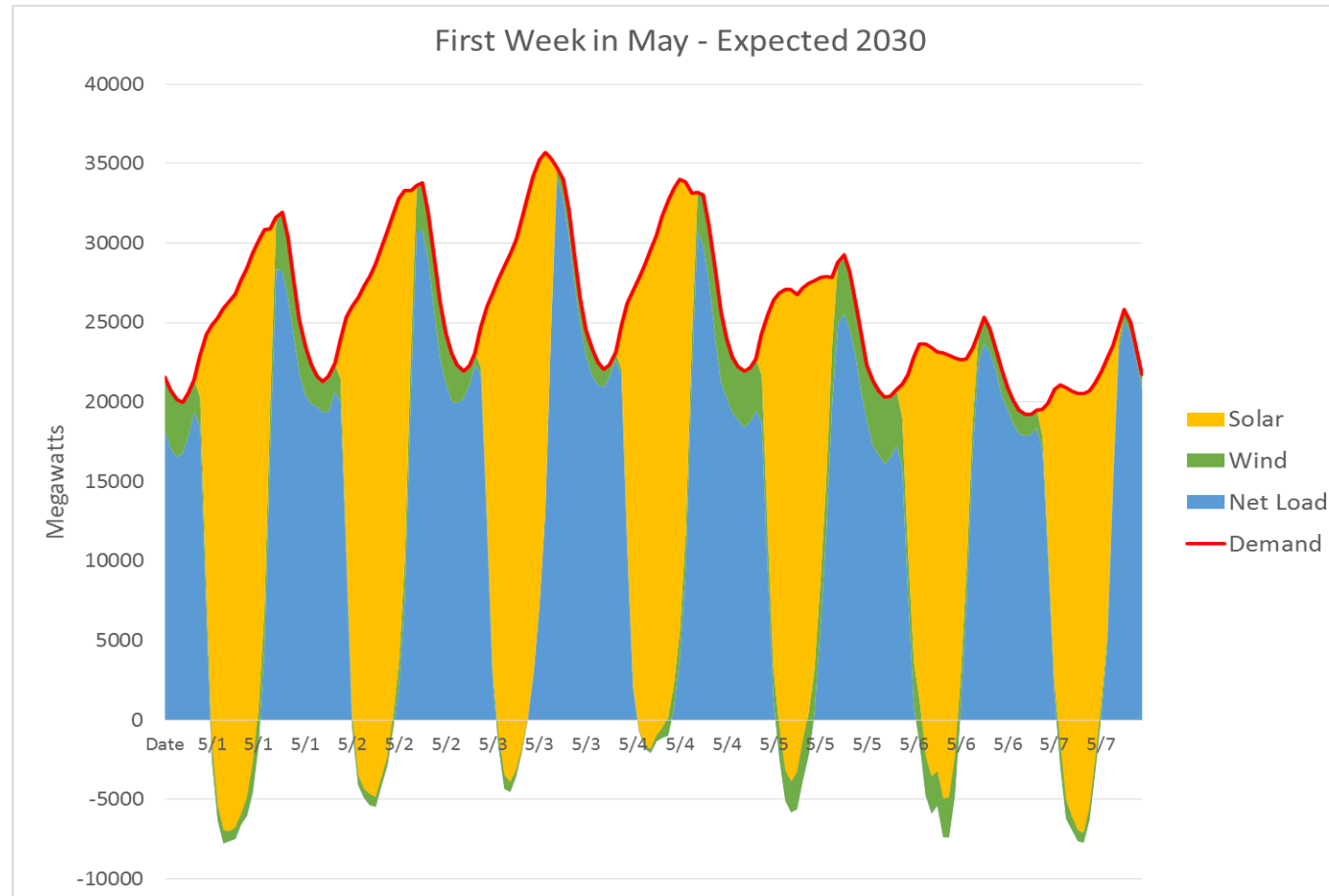
Expected to **increase substantially** due to:

- extreme weather events
- installation of clean zero marginal cost resources

Rate Design Must Evolve

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- What relation does the typical residential rate design have to reality?
 - Is conservation always beneficial?

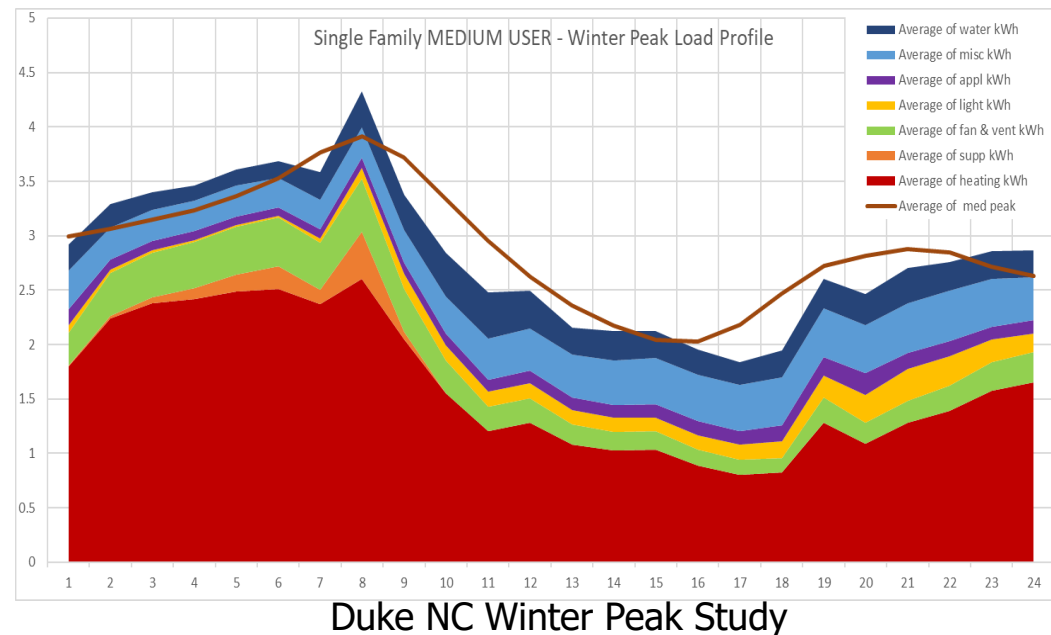


CAISO OASIS data, 2030 IRP
Proposed Reference System
Plan Scenario

Sending the Right Price Signals

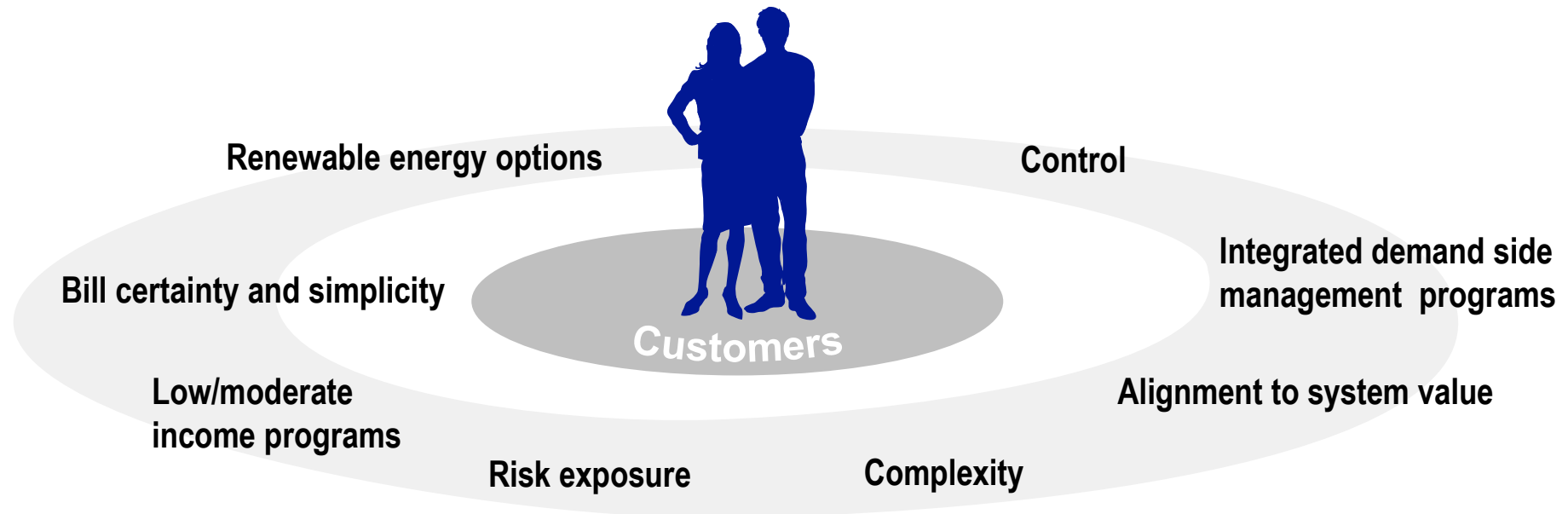
10

- What are the core attributes of the ideal mass market rate design to handle the industry's new realities?
 - Peak focused
 - Dynamic and time varying
 - Reflective of energy costs to avoid penalizing beneficial electrification
 - Aligned to recover embedded costs and while signaling marginal costs



Putting the Customer First – Menu of Accurately Priced Options

11



Putting the Customer First – Provider vs. Customer Managed

12

- What can we learn from other industries?

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Who couldn't use a little free time?

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Bell Atlantic NYNEX Mobile

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91 Washington Ave.
In front of Stop & Shop
203-239-0000

NORWALK, CT
48 Westport Ave. (Rte. 1)
Next to Stew Leonard's
203-840-0021

OLD SAYBROOK, CT
Old Saybrook Shopping Center
Next to Stop & Shop
860-380-1106

ORANGE, CT
116 Post Rd. (Rte. 1)
Next to Sears Shopping Plaza
203-795-6159

STAMFORD, CT
972 High Ridge Rd.
Next to Kirk's
203-968-6116

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Next to Town & Country Liquors
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Per month. Plus taxes & fees.
When you enroll in Auto Pay.

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per line/4 lines
for \$200

Per month. Plus taxes & fees.
When you enroll in Auto Pay.

Plan details

Unlimited 4G LTE data

Premium unlimited 4G LTE data

Unlimited Talk & Text

Unlimited Talk & Text

DVD-quality streaming

HD-quality streaming

Unlimited Mobile Hotspot (600kbps)

Unlimited Mobile Hotspot



Putting the Customer First – Provider vs. Customer Managed

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Deep Dive Opinion Podcasts Library Events Topics ▾

Duke may offer some EV customers 'all you can charge' for just \$19.99/month (restrictions apply)

Duke Energy wants to offer North Carolina residential customers a flat-fee EV charging subscription, in exchange for some control over when the charger is used.

Published Feb. 23, 2022



Robert Walton
Reporter



Same Monthly Bill + Renewable Energy Bonus

The Energy Service Subscription includes a fixed bill for 12 months with no year-end settle-up, regardless of drastic weather changes. Plus, we'll match your electric energy usage with an equal amount of renewable energy for an entire year – at no extra charge.

For a limited time, when you register your smart thermostat in the Energy Service Subscription, you'll get a \$50 gift card!

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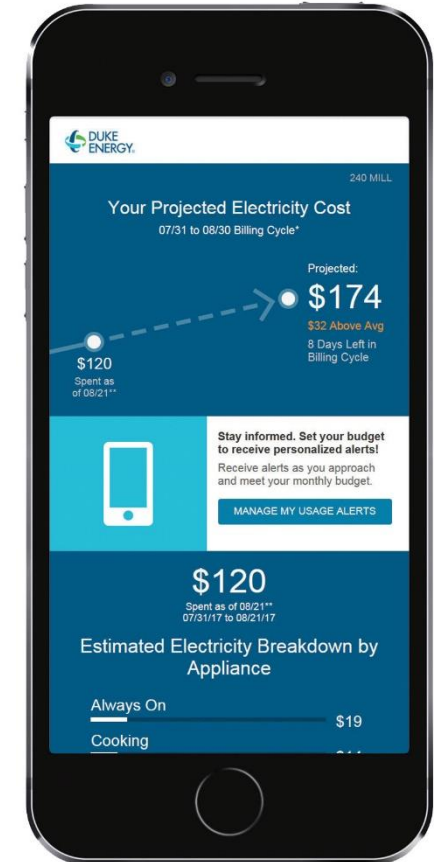


How Duke Energy is Putting the Customer First

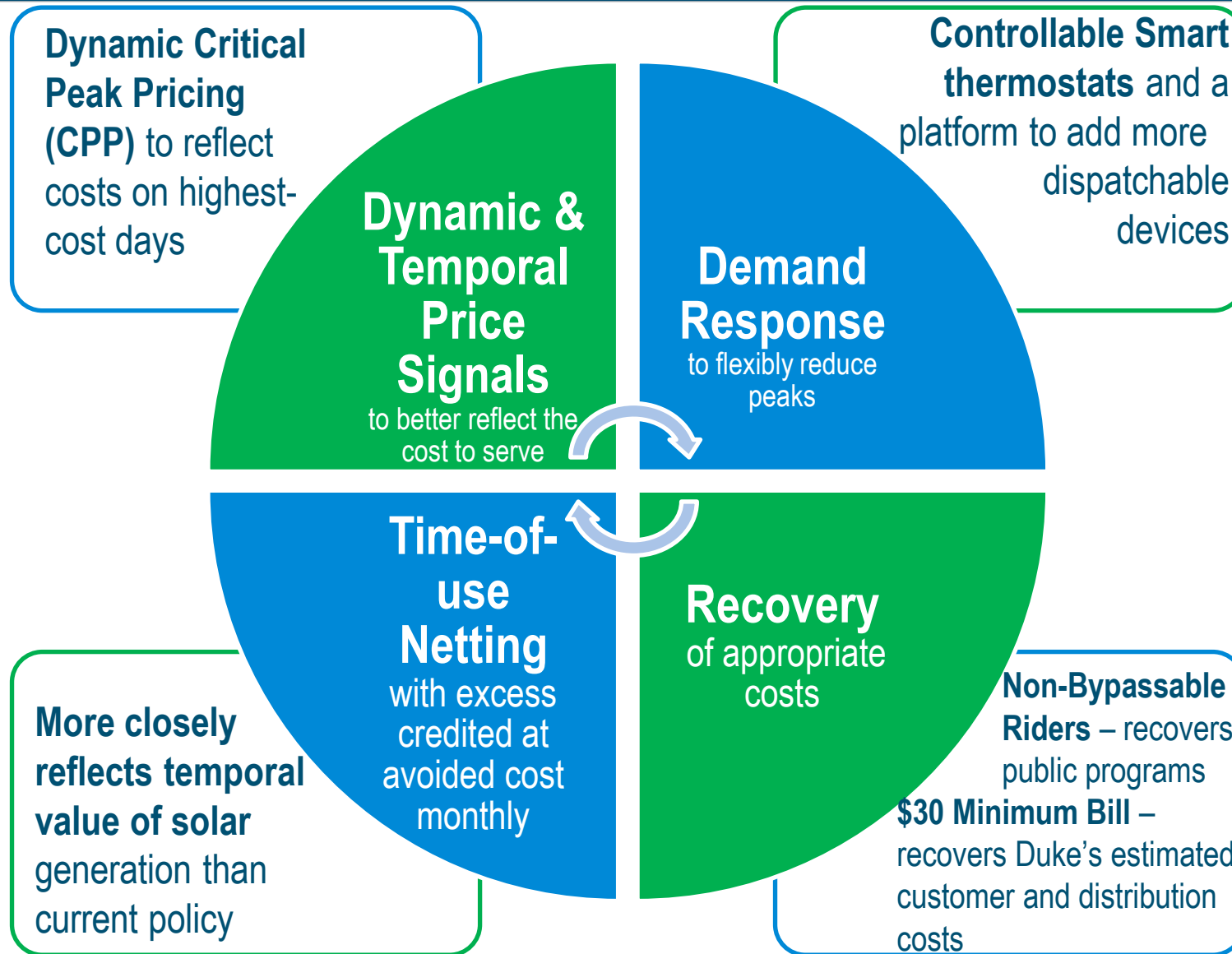
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Duke's efforts are underway:

1. Indiana – Dynamic variable peak pricing
2. Kentucky – Peak time rebates
3. North Carolina – TOU with CPP
4. South Carolina – Solar Choice tariffs + EV credits
5. Florida – Bill certainty with DSM + community solar subscriptions



Key Elements of the Proposed SC/NC Rooftop Solar Settlement





*BUILDING A **SMARTER** ENERGY FUTURESM*