

STATE OF THE MARKET

REBA

Renewable Energy Buyers Alliance

REBA *Connect:*
VIRTUAL MEMBER SUMMIT
2020

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Thank you to all our REBA members!

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Freeport-McMoRan	CustomerFirst Renewables
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Acknowledgements

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Third Party Data Sources

CDP
Electric Reliability Council of Texas
Energy Information Administration
National Renewable Energy
Laboratory
RE100
Science Based Targets
S&P Global

Agenda

The Buyers Journey

US Market Overview and Key Trends

Unlocking Future Procurement Options

Leadership Trends

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The Buyers Journey

From planning to action

TRANSPARENCY

- Accounting for your carbon footprint
- Mapping your energy consumption

COMMITMENT

- Setting carbon reduction targets
- Pledging to clean energy goals

ACTION

- Pursuing goals with RECs, PPAs, project ownership and more
- Restarting the process for supply chain, 24/7 renewables, etc.

FEEDBACK LOOP

The Buyers Journey

From planning to action

TRANSPARENCY

- Accounting for your carbon footprint
- Mapping your energy consumption

COMMITMENT

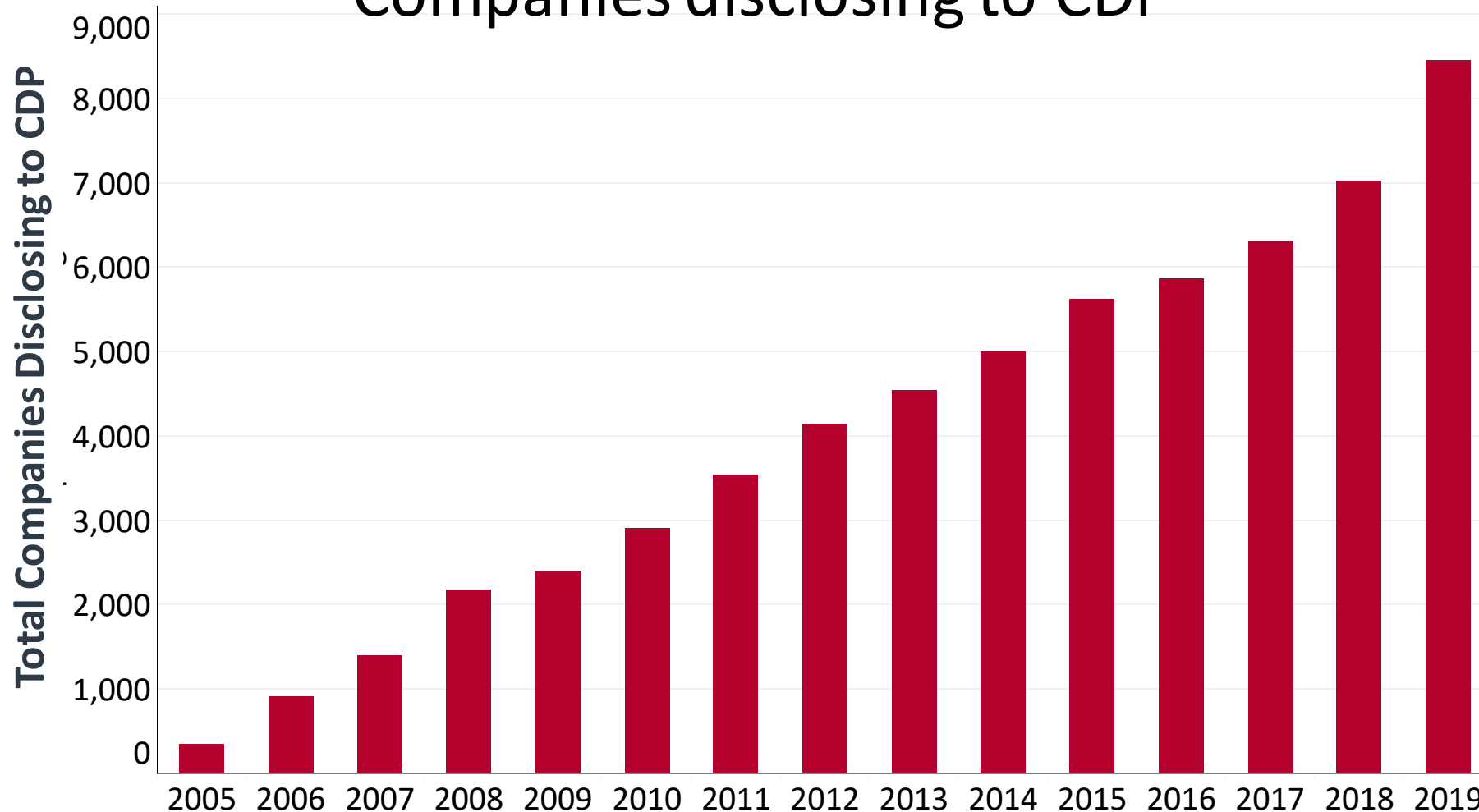
ACTION

FEEDBACK LOOP

The Buyers Journey – Transparency

Reporting is a key first step to managing a path forward

Companies disclosing to CDP



Source: <https://www.cdp.net/en/companies/companies-scores>



The Buyers Journey

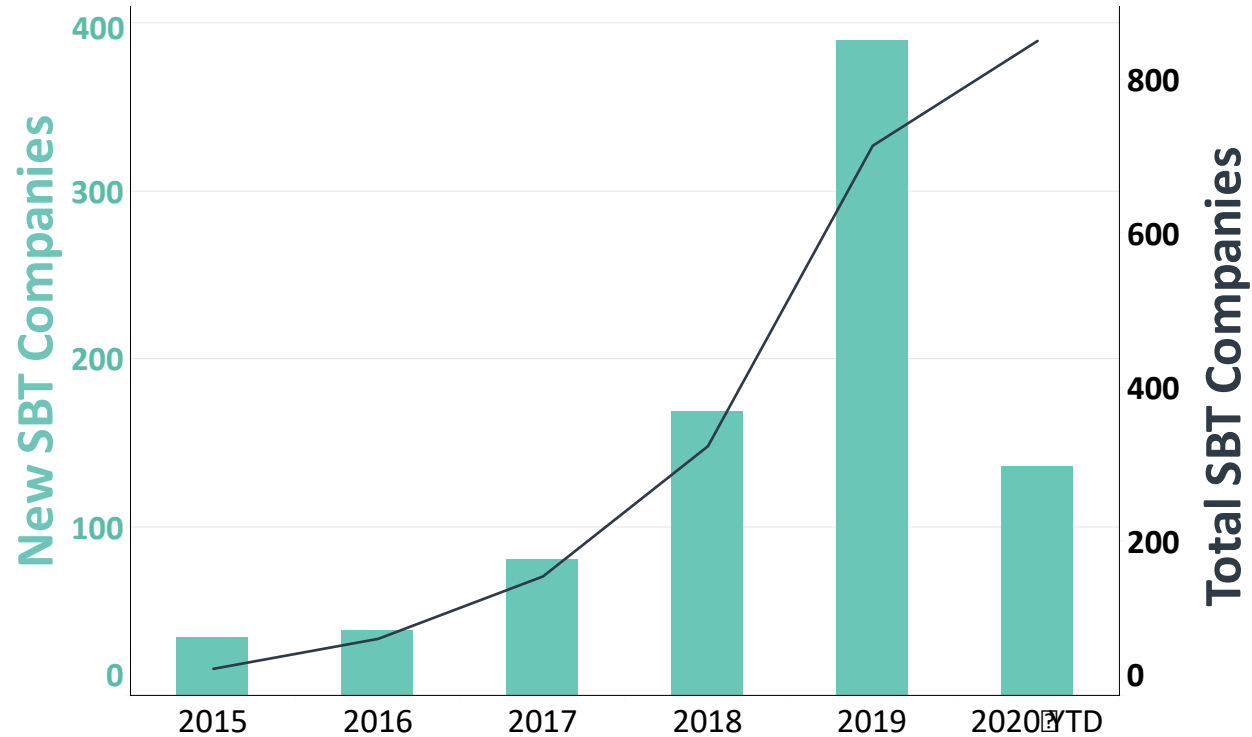
From planning to action



The Buyers Journey – Commitments

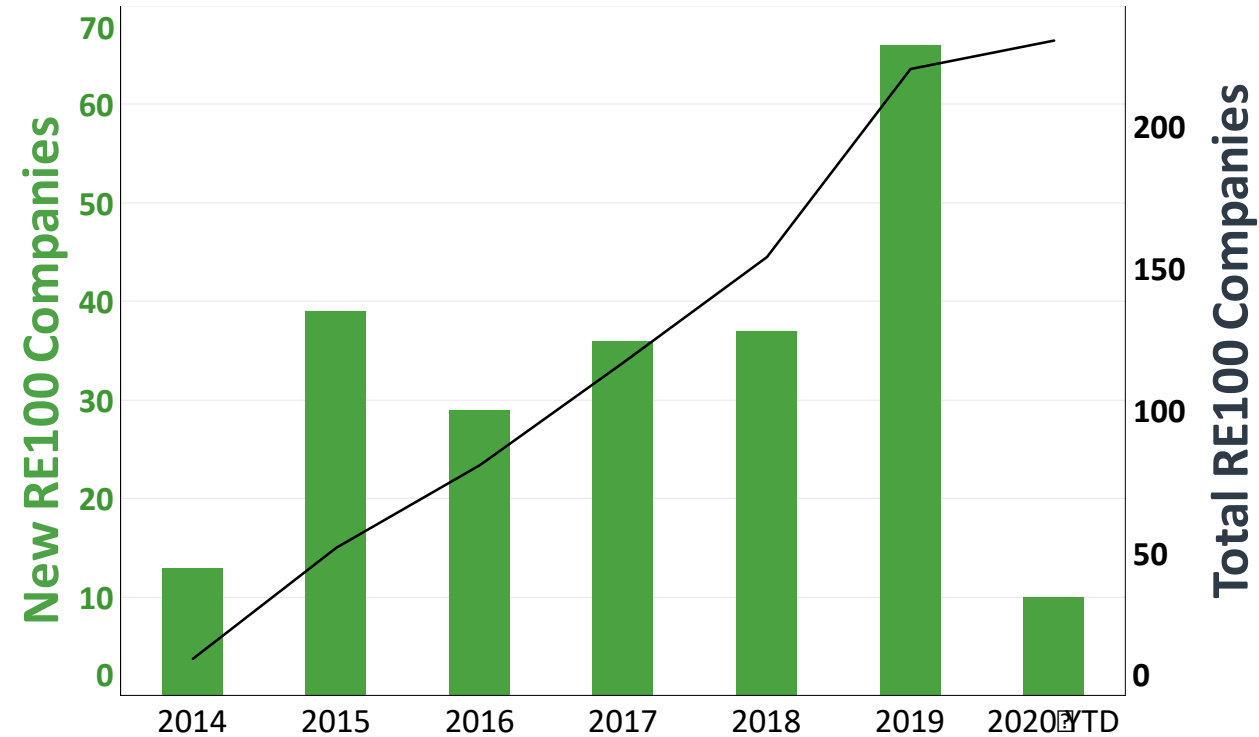
Increases in goal setting with both an emissions and energy focus

Science Based Targets Companies



Source: <https://sciencebasedtargets.org/companies-taking-action/#>

RE100 Companies



Source: <http://there100.org/companies>



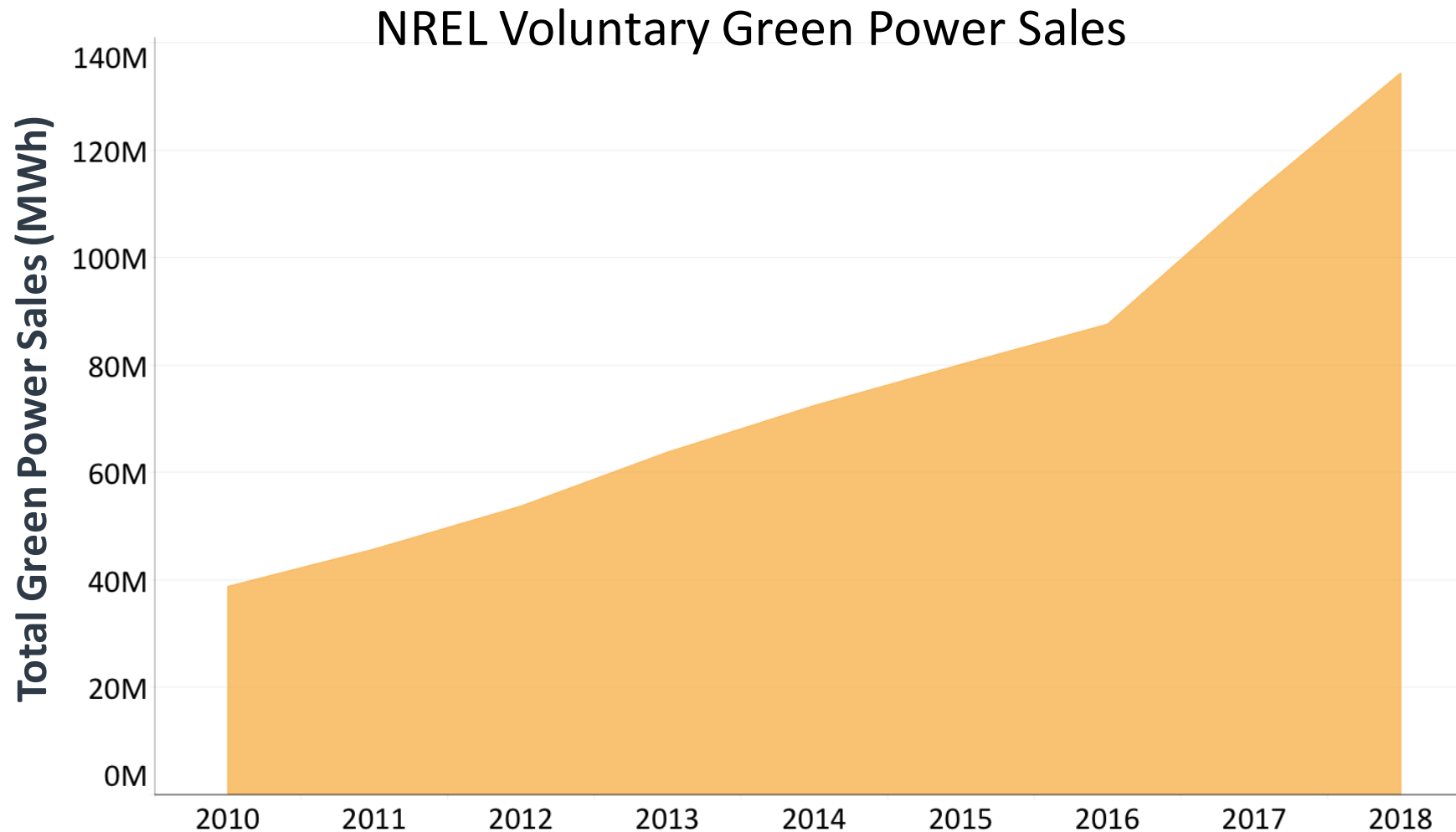
The Buyers Journey

From planning to action



The Buyers Journey – Action

Consistent growth in voluntary market sales



Source: <https://www.nrel.gov/docs/fy20osti/74862.pdf>



Agenda

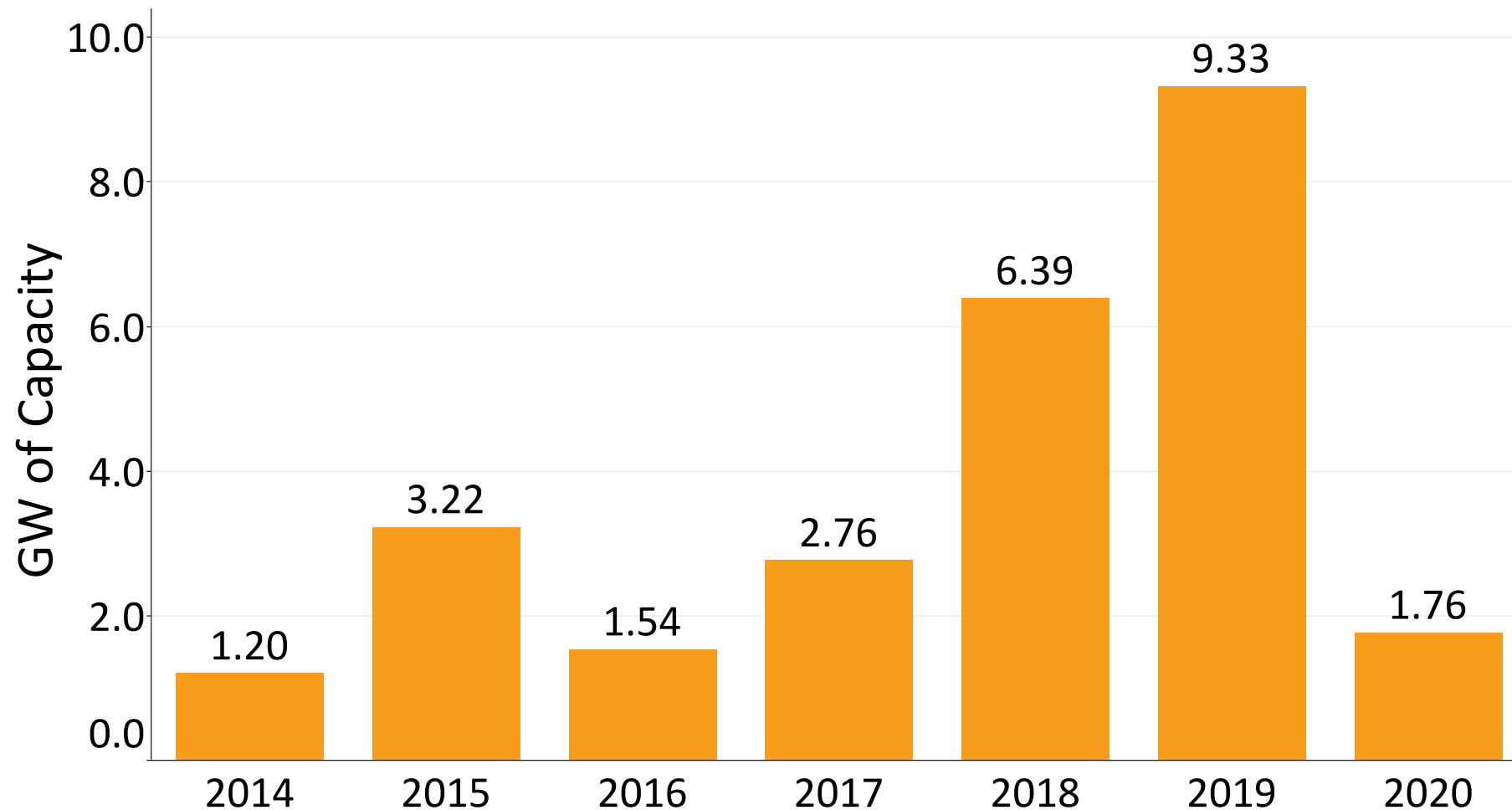
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Announced Corporate Renewable Deals in the U.S.

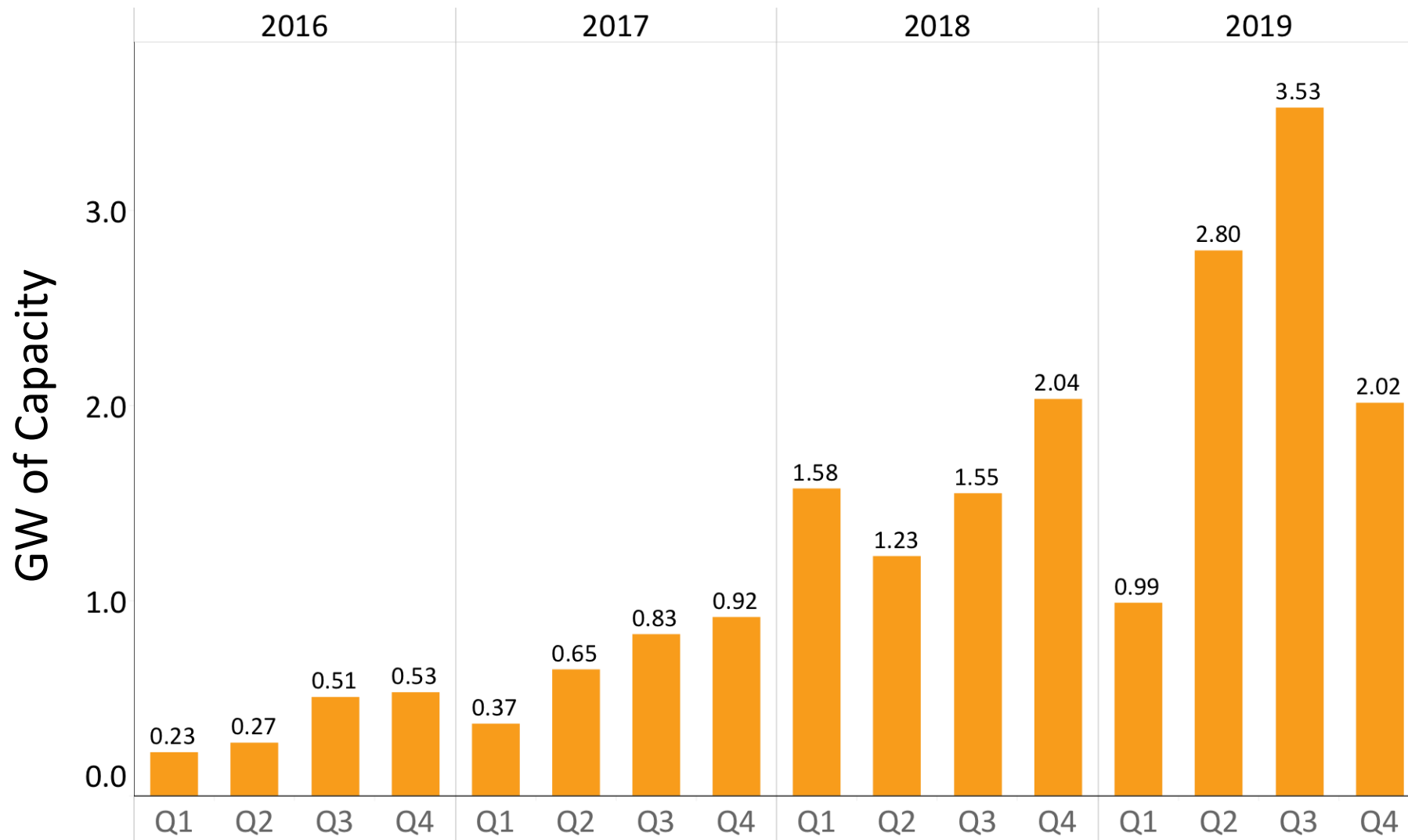


Over 26GW announced in the last 10 years

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Announced Corporate Renewable Deals in the U.S. by Quarter

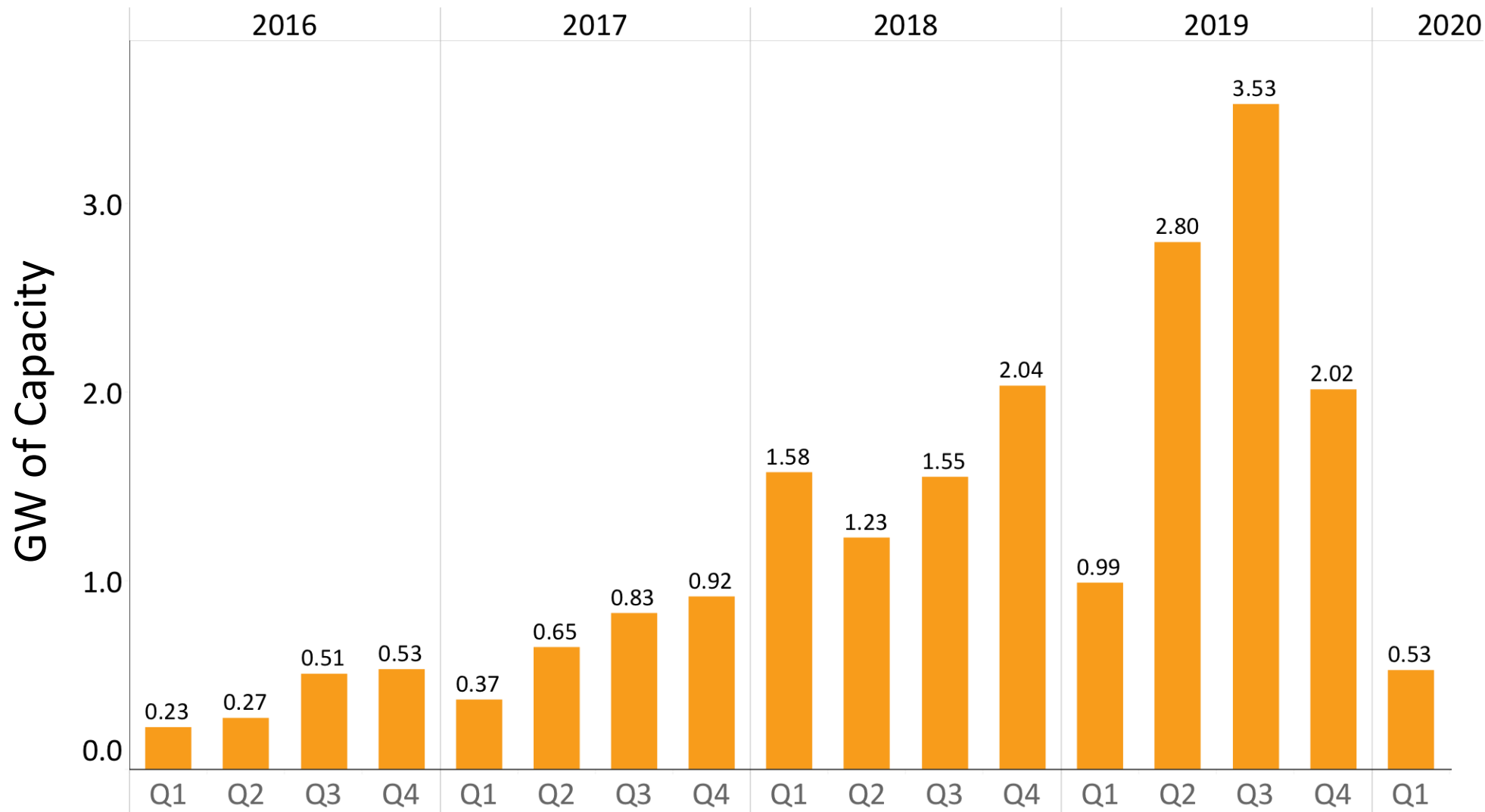


Over 15GW announced in the last 2 calendar years

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Announced Corporate Renewable Deals in the U.S. by Quarter

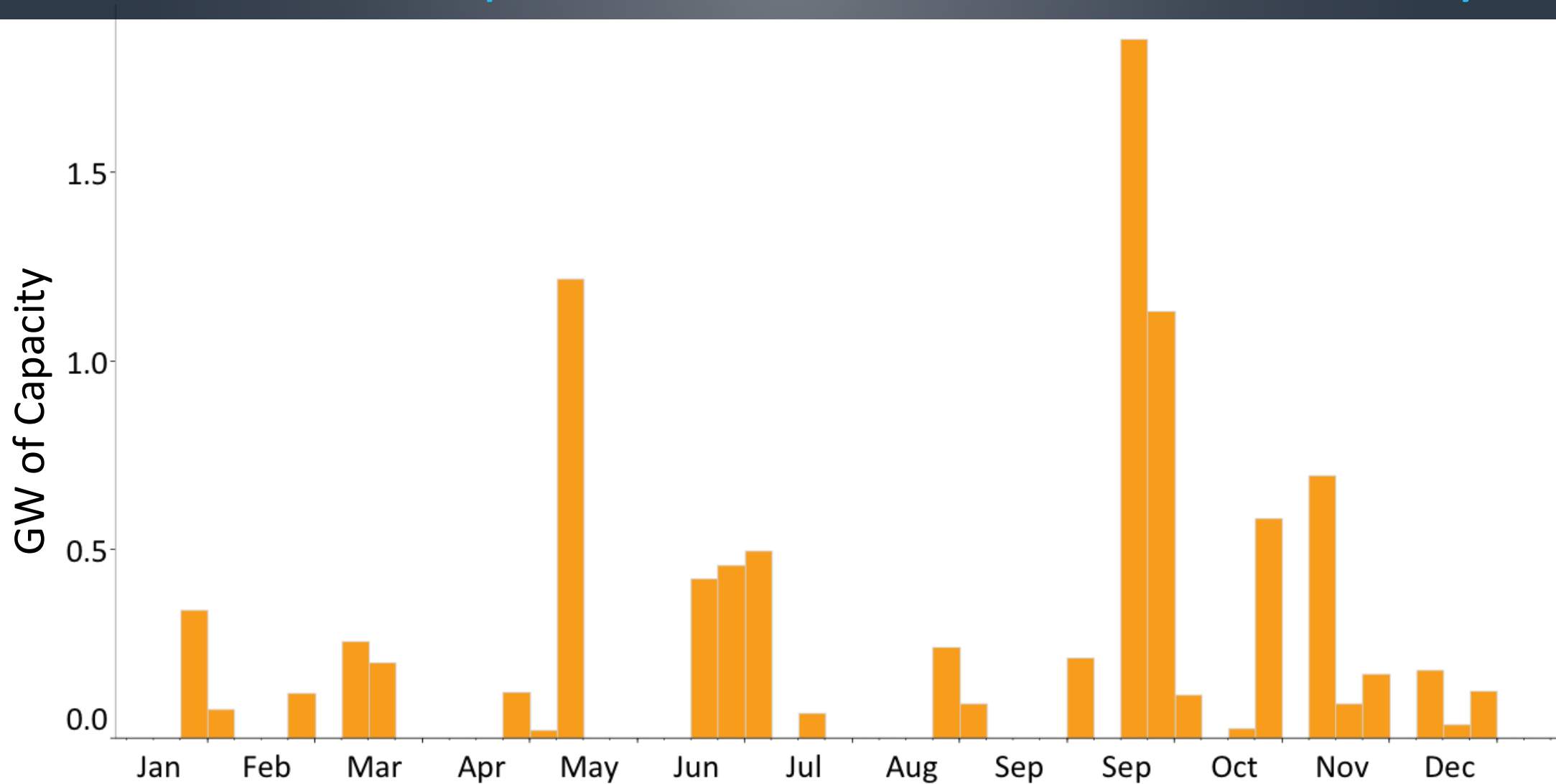


Q1 2020 is down for a few reasons

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



2019 Announced Corporate Renewable Deals in the U.S. by Week

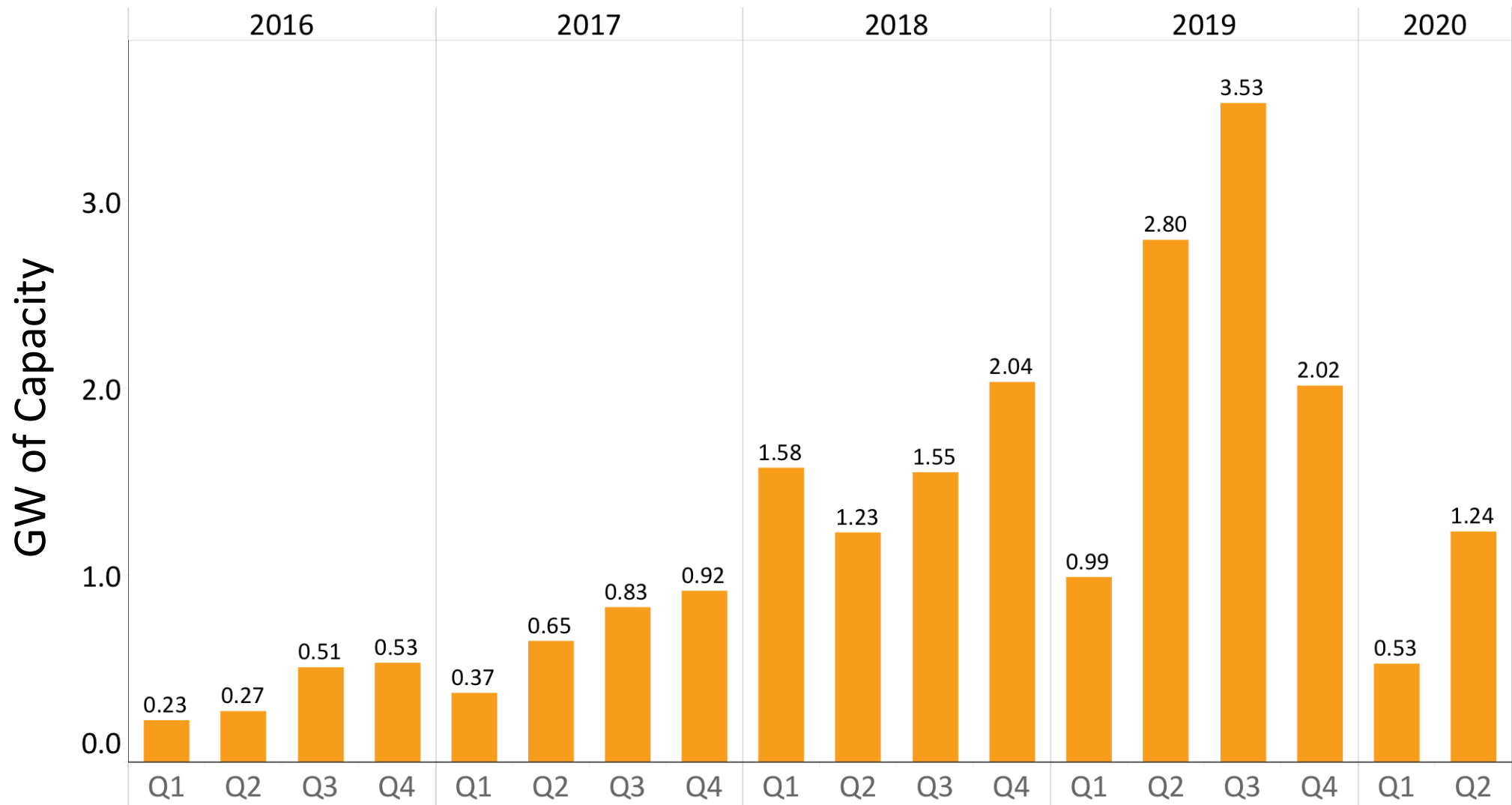


~3 GWs announced within 8 days in September

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Announced Corporate Renewable Deals in the U.S. by Quarter

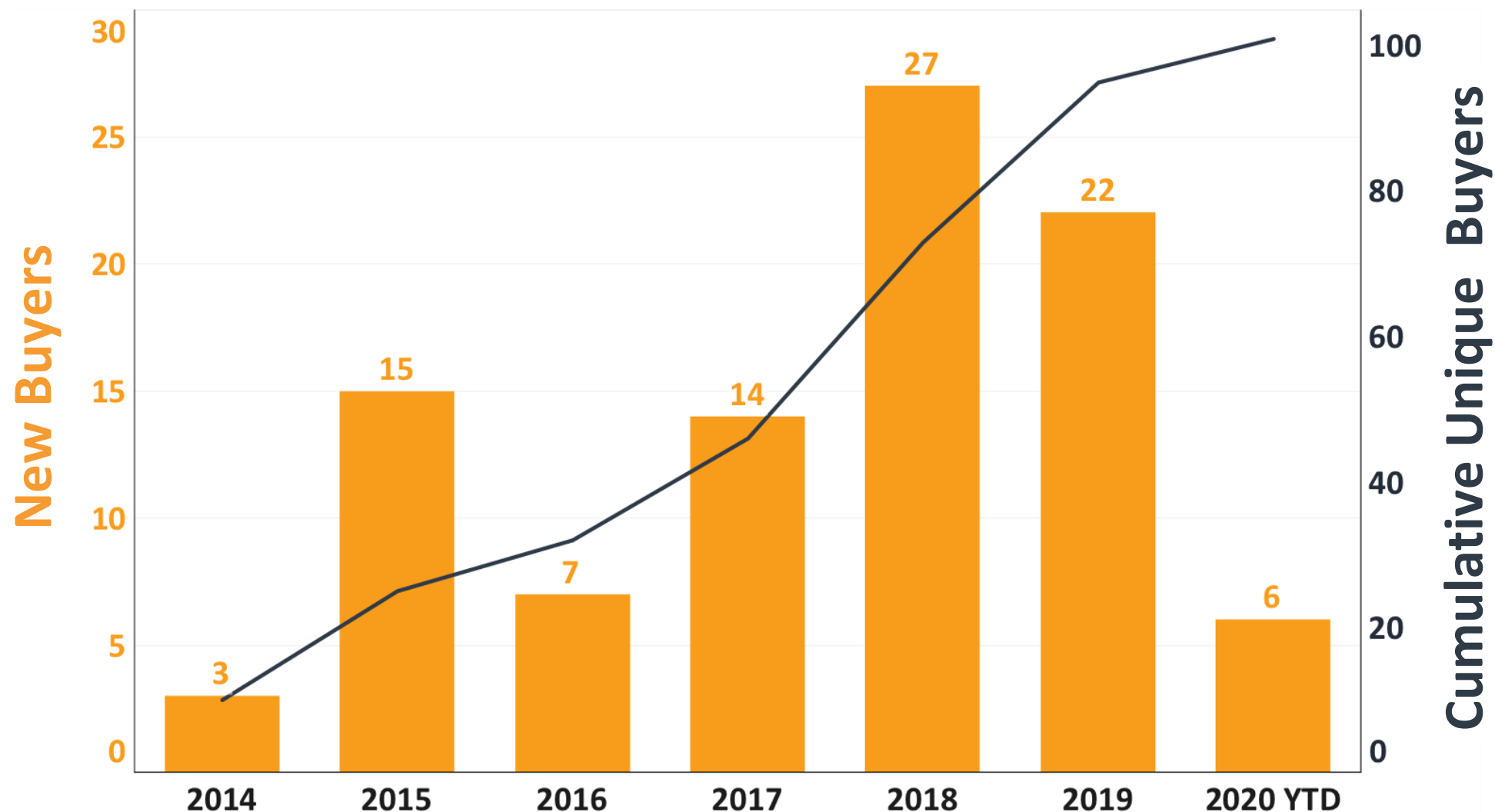


Q2 2020 to date has already surpassed Q2 2018

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Market Expansion: New Buyers

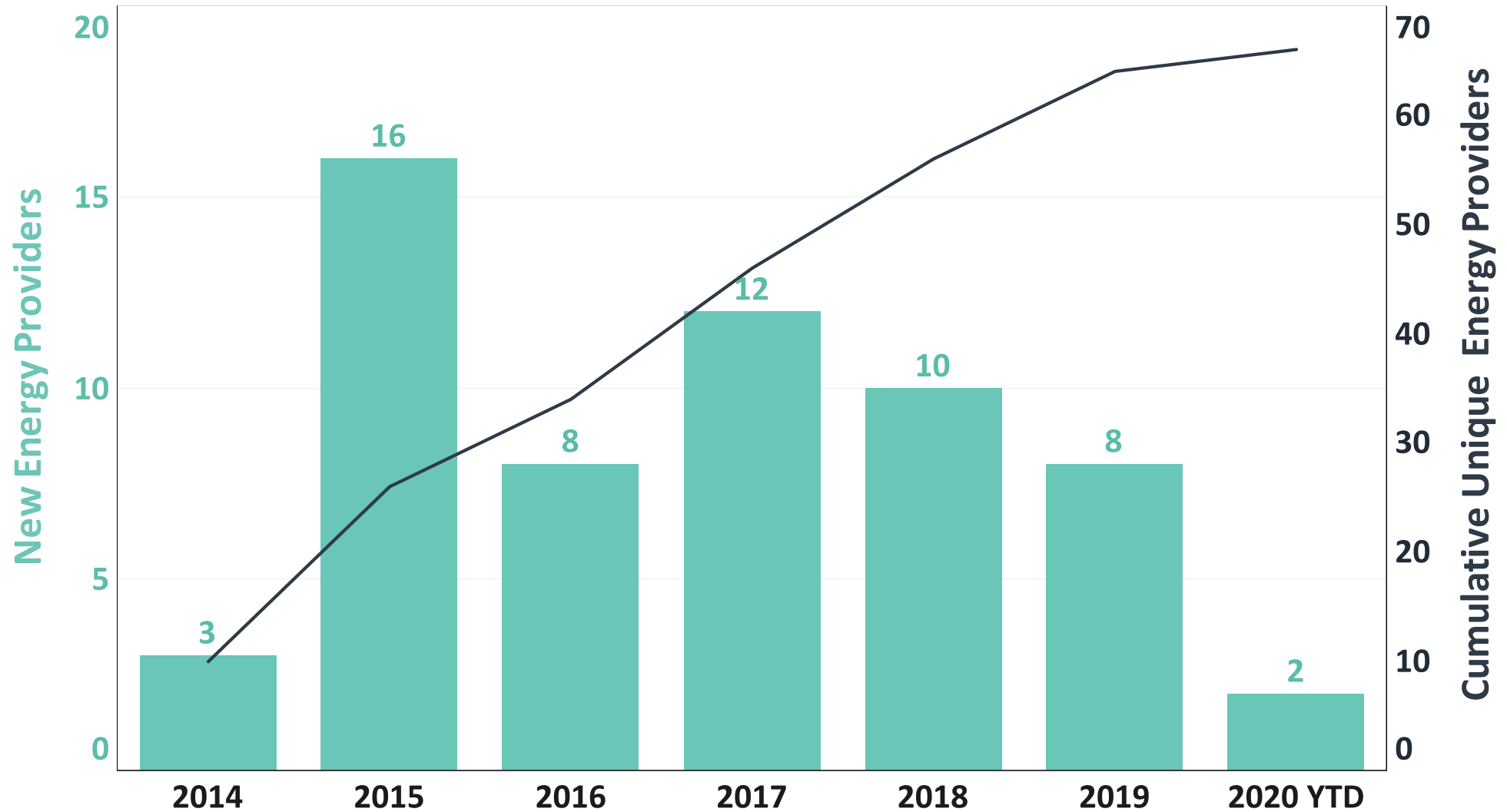


Over 100 companies have transacted in utility-scale renewable energy market since 2008

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence. Copyright © 2020.



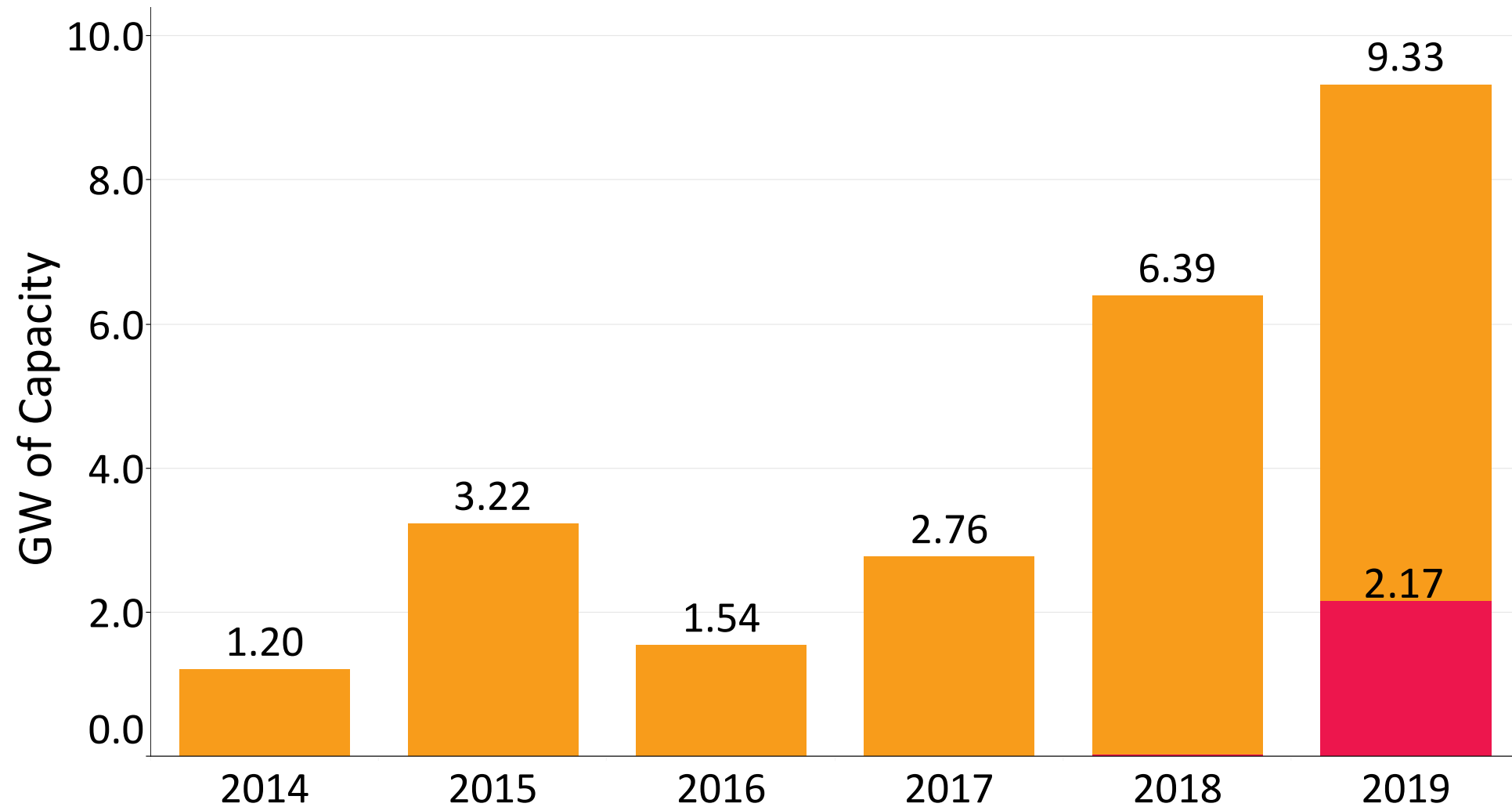
Market Expansion: New Energy Providers



As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Increase In Unknown Deal Counterparties



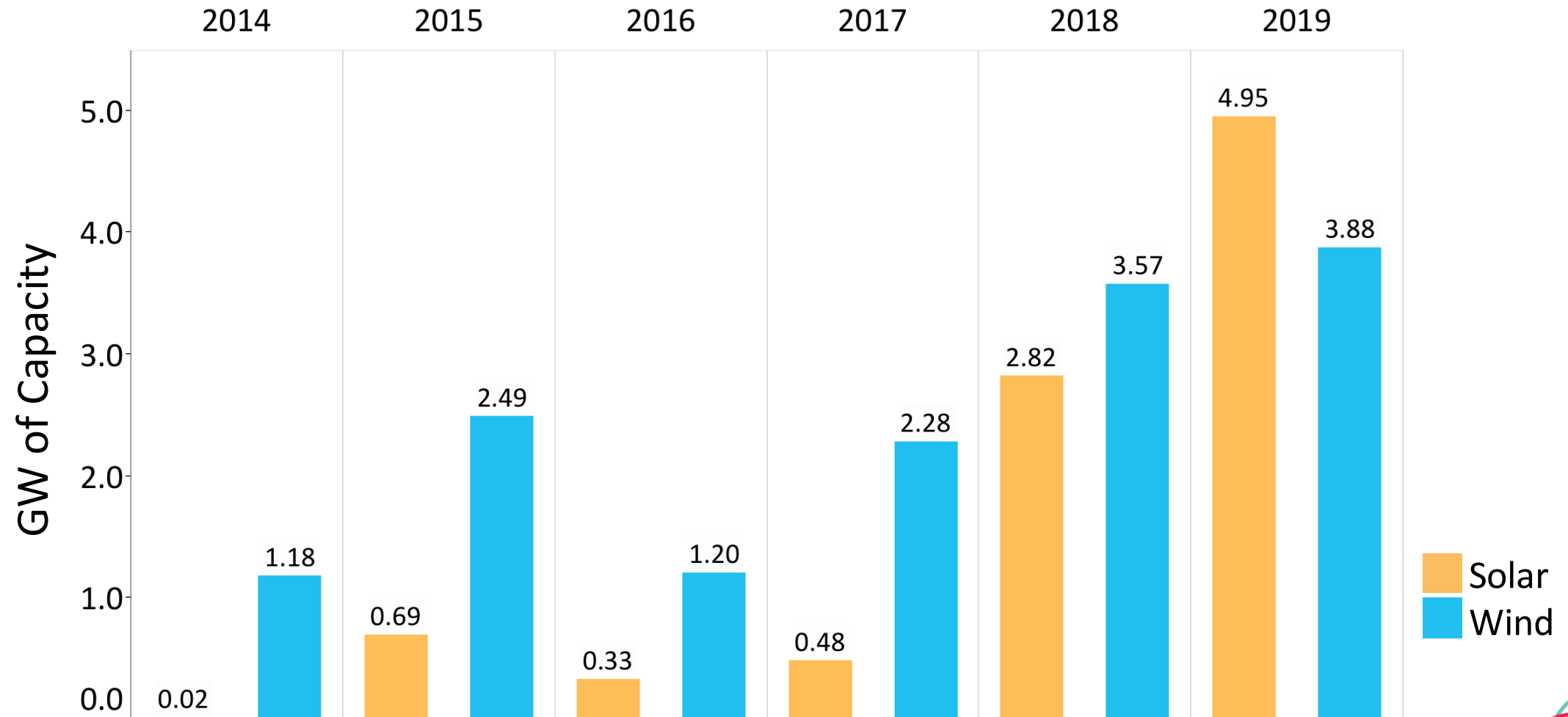
In 2019, 2+ GWs from ~12 announced deals did not make energy provider public

As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Technology Evolution

** This does not include ~800 MWs of deals in which the technology is not known*

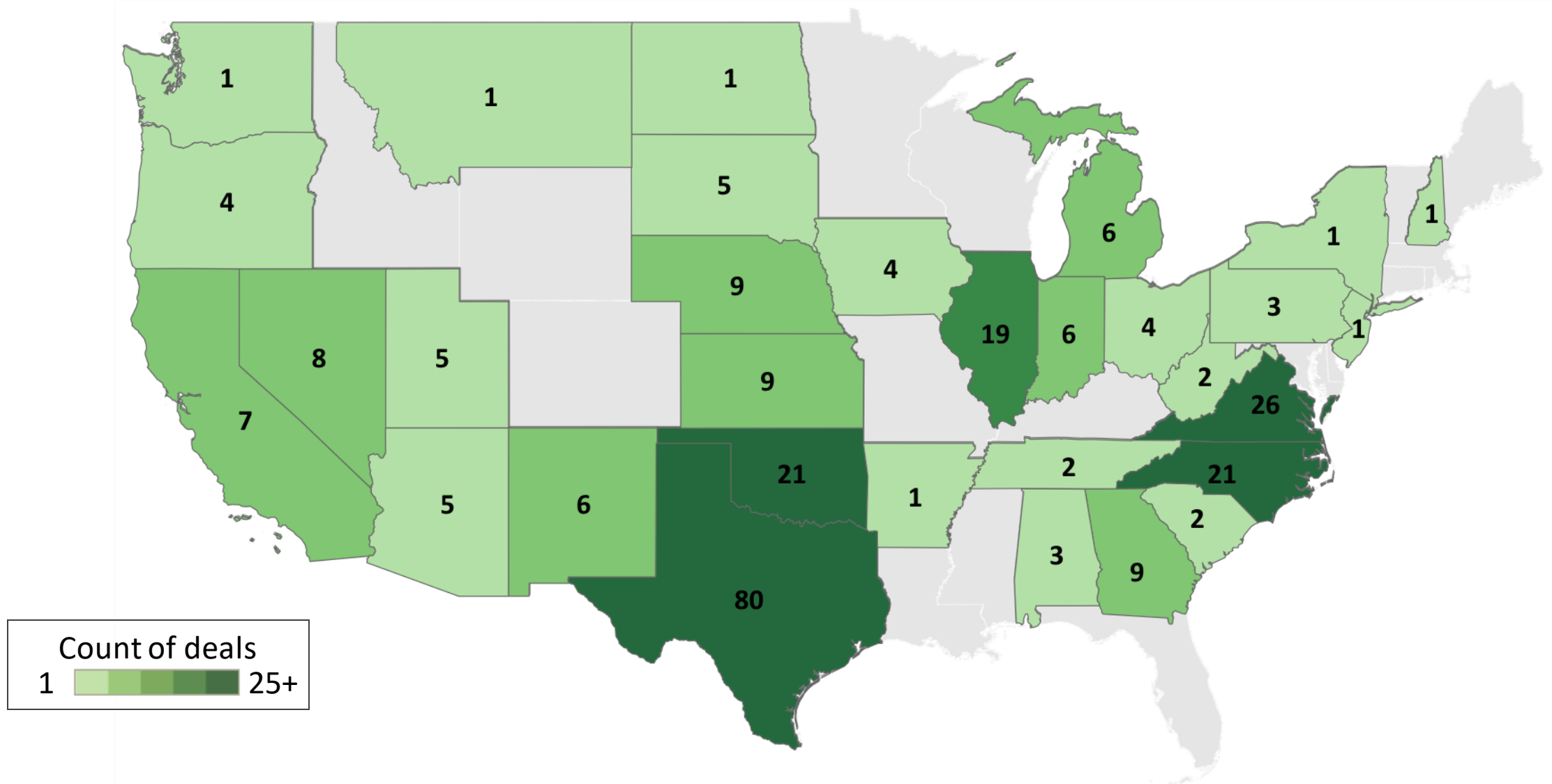


At least 2.5 GW of ~5 GW of solar announced in 2019 was in ERCOT

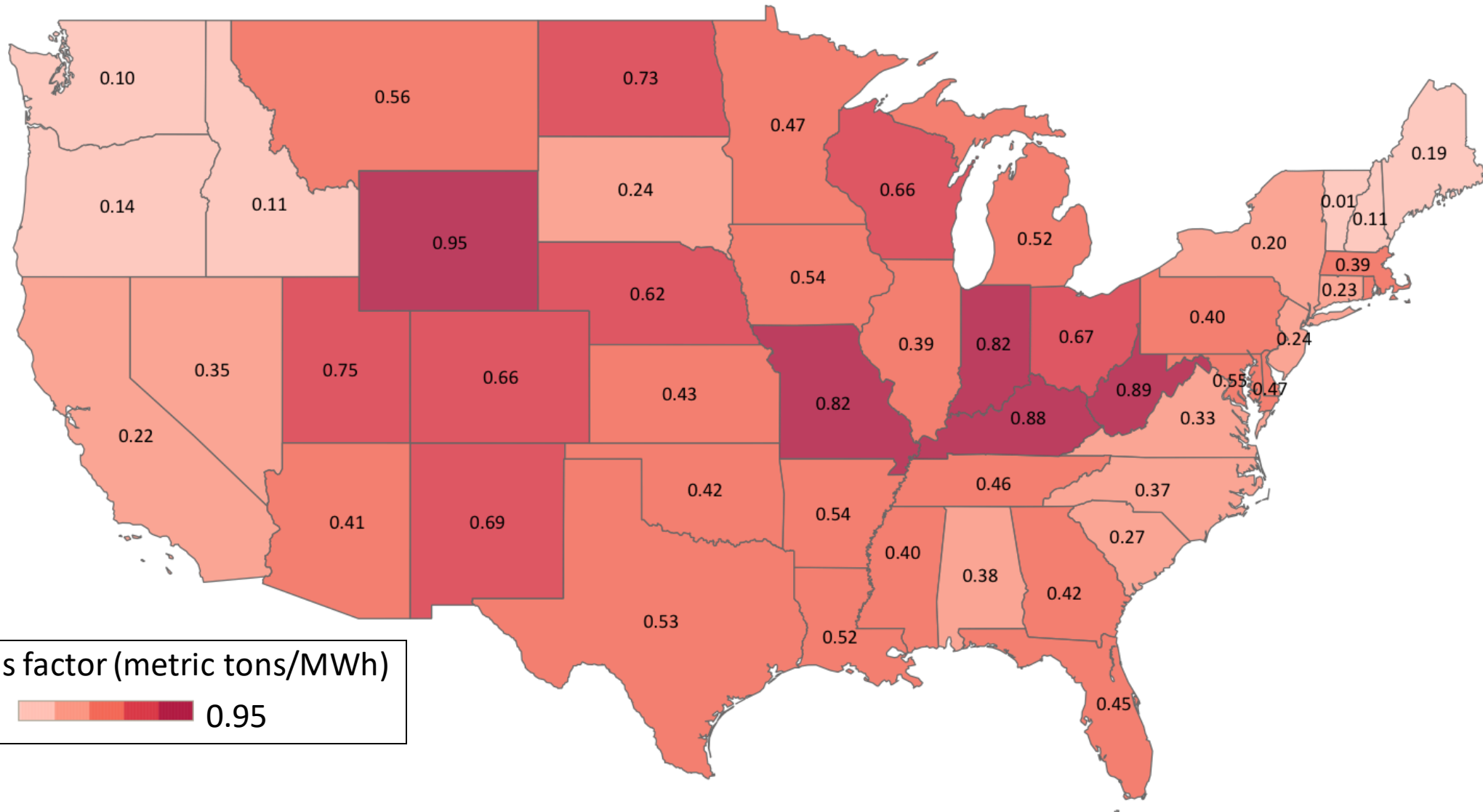
As of April 24, 2020. Publicly announced contracted capacity of corporate Power Purchase Agreements, Green Power Purchases, Green Tariffs, and Outright Project Ownership in the US, 2015-2020 by quarter. Excludes on-site generation (e.g., rooftop solar PV) and deals with operating plants. (#) indicates number of deals each year by individual companies. Copyright 2020 Renewable Energy Buyers Alliance. Produced in part using data from S&P Global Market Intelligence, Copyright © 2020.



Where are Corporates Signing Deals? – Until 2020YTD



CO₂ Emission Factors From Electric Power



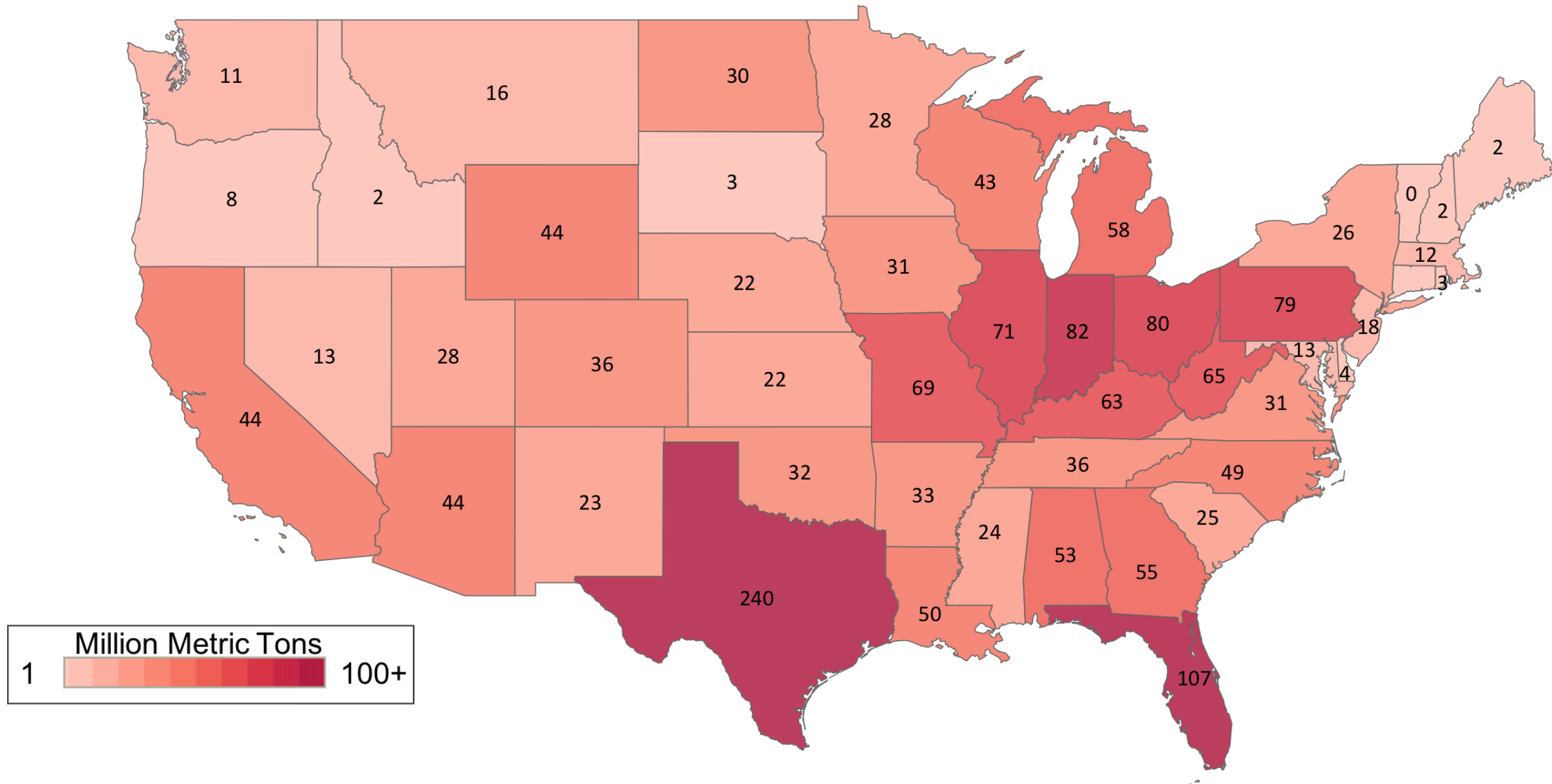
Emissions factor (metric tons/MWh)

0.01 0.95

Source: 2017 Total Electric Industry Power Data – EIA.com



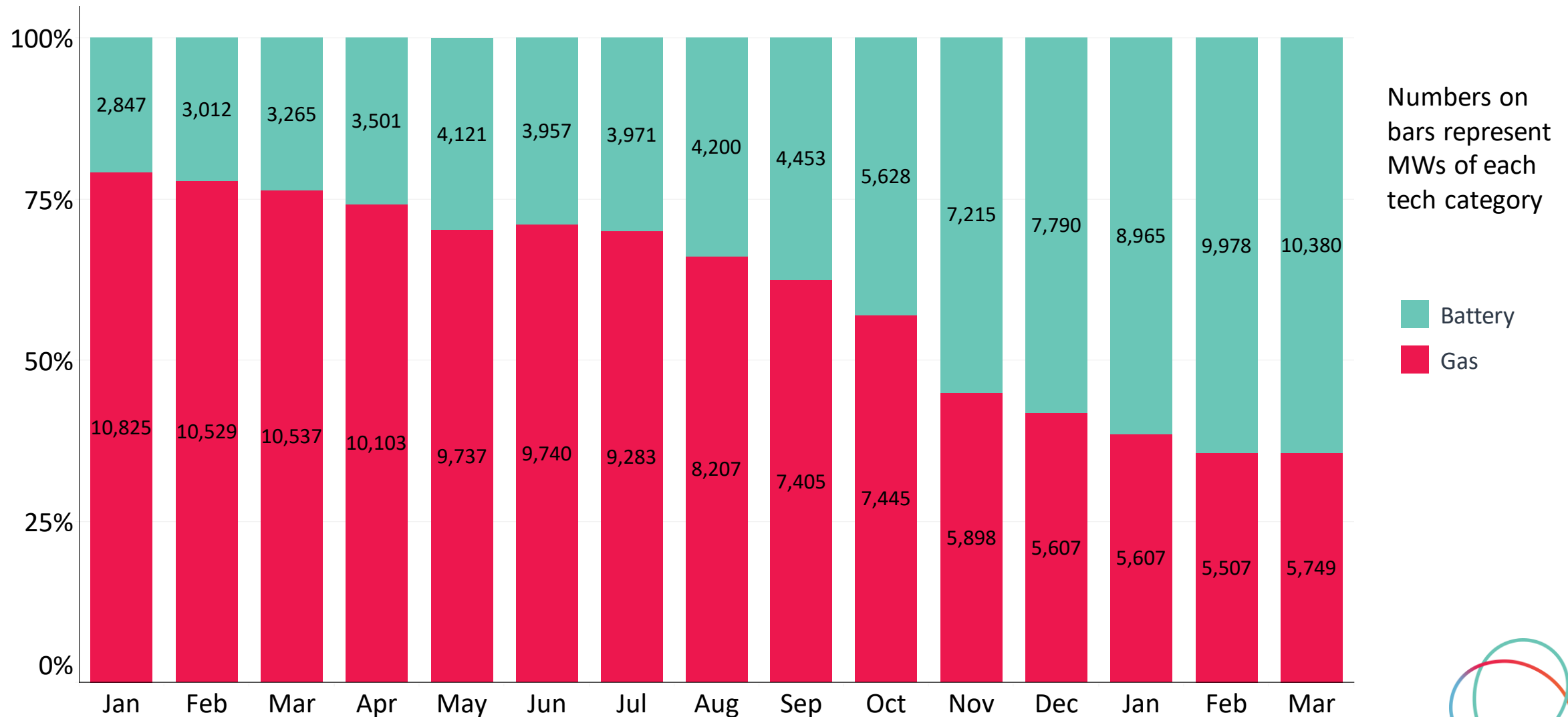
CO₂ Emissions From Electric Power



Source: 2017 Total Electric Industry Power Data – EIA.com



Battery Capacity in the ERCOT Interconnection Queue Now Exceeds Gas Capacity



Source: <http://mis.ercot.com/misapp/GetReports.do?reportTypeId=15933&reportTitle=GIS%20Report&showHTMLView=&mimicKey>



Agenda

The Buyers Journey

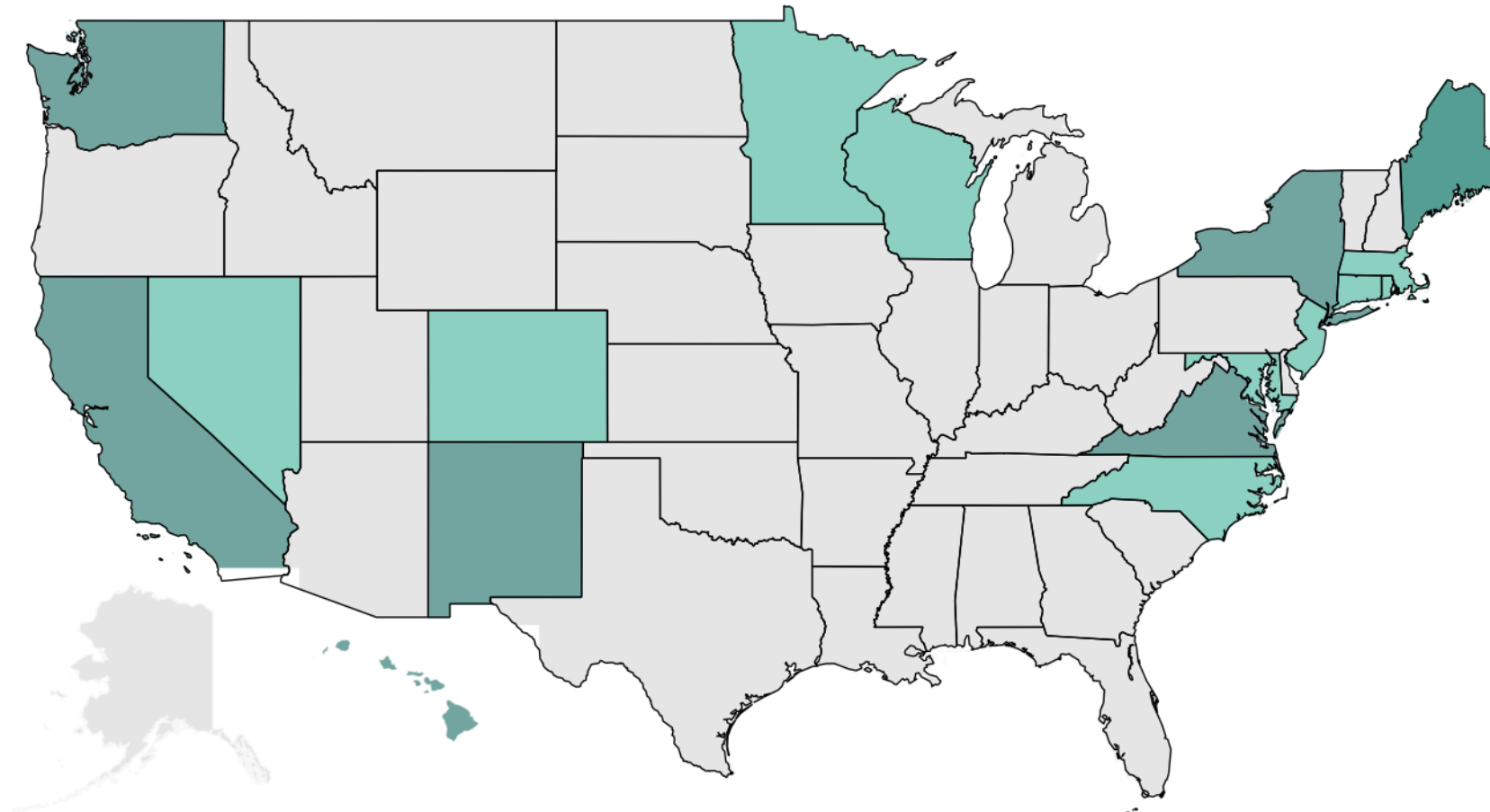
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Leadership Trends

Pathway 1: Greening the Grid for All

States Driving Decarbonization

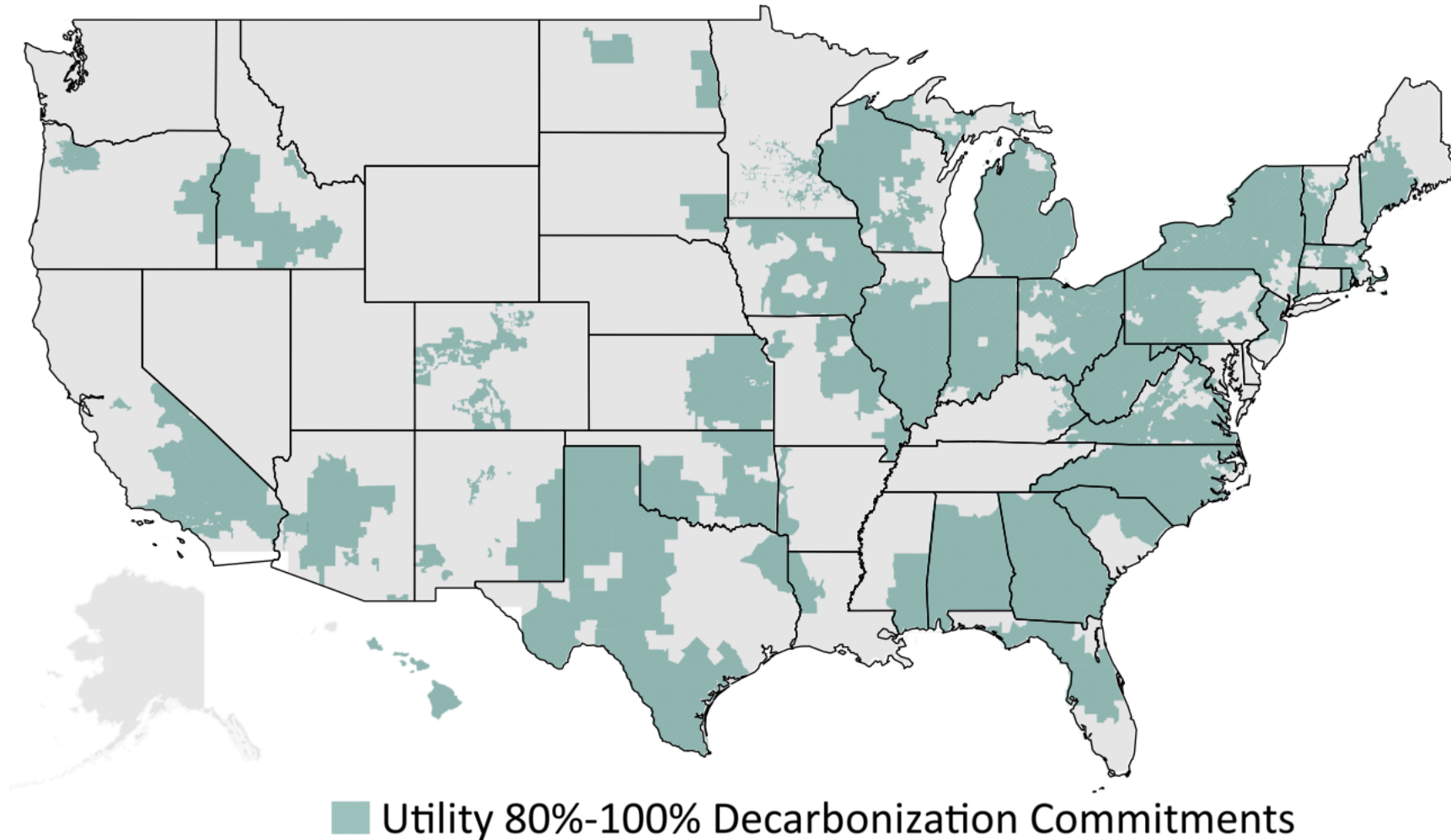


- 100% Renewable Portfolio Standard or Clean Energy Standard
- 100% Carbon-Free Executive Order or Goal

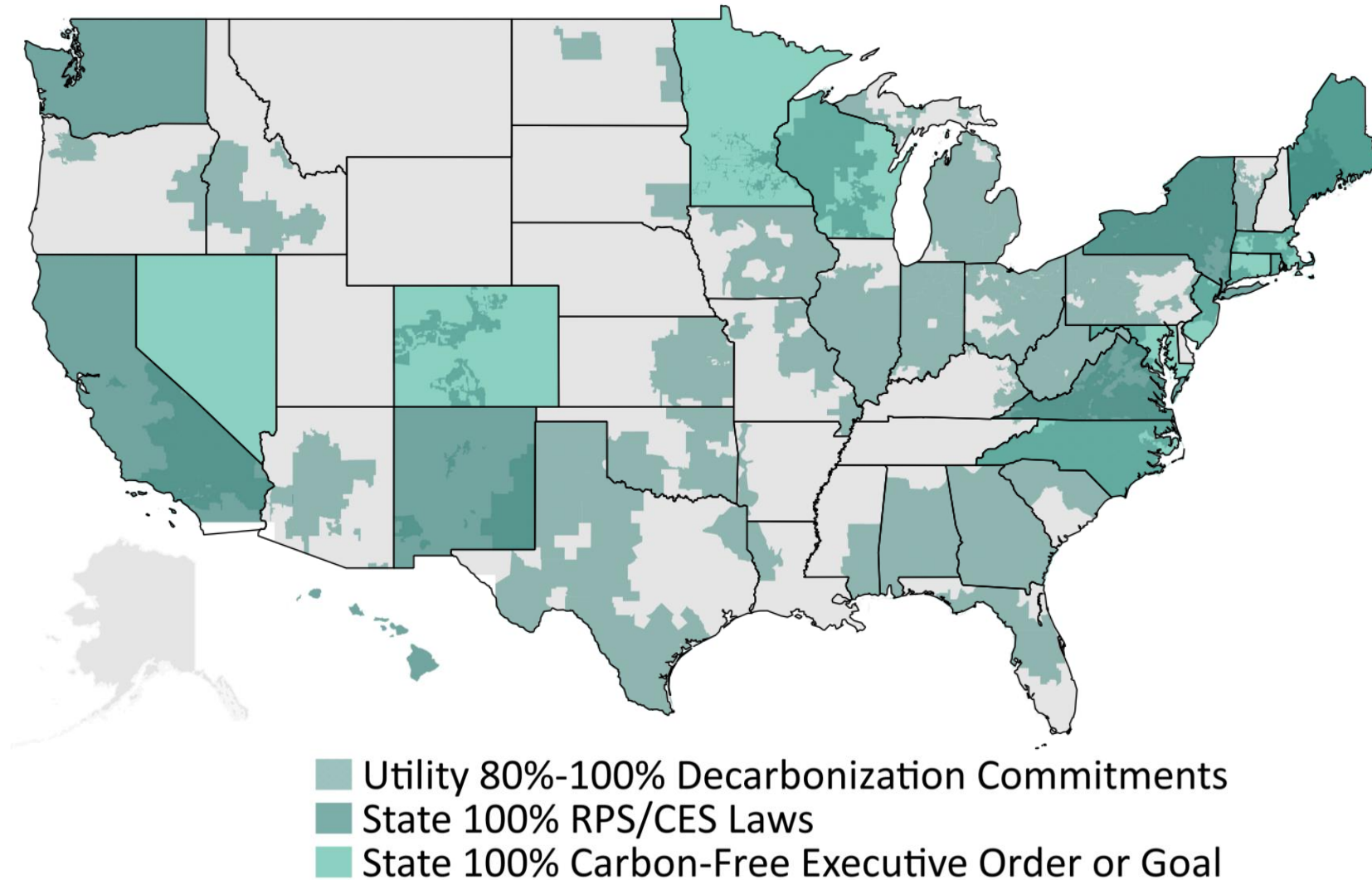


Pathway 1: Greening the Grid for All

Utilities Setting Decarbonization Commitments



Pathway 1: Where is the Grid Greening for All?



Pathway 2: Increase and Improve Customer Options

RTO Expansion

ISO/RTO Growth before 1996



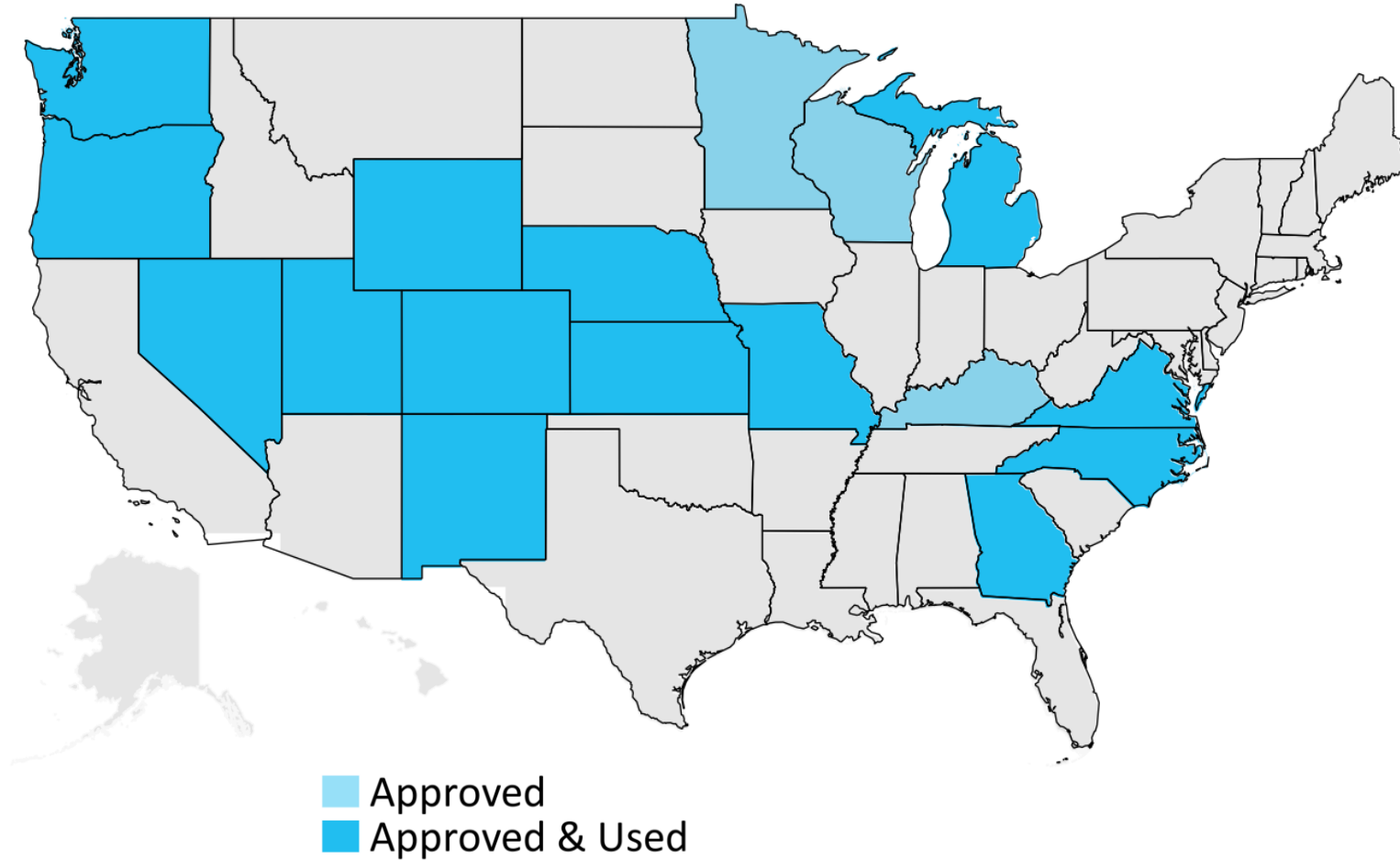
ISO/RTO Growth Today



Source: isorto.org

Pathway 2: Increase and Improve Customer Options

States with Green Tariffs Approved and Used

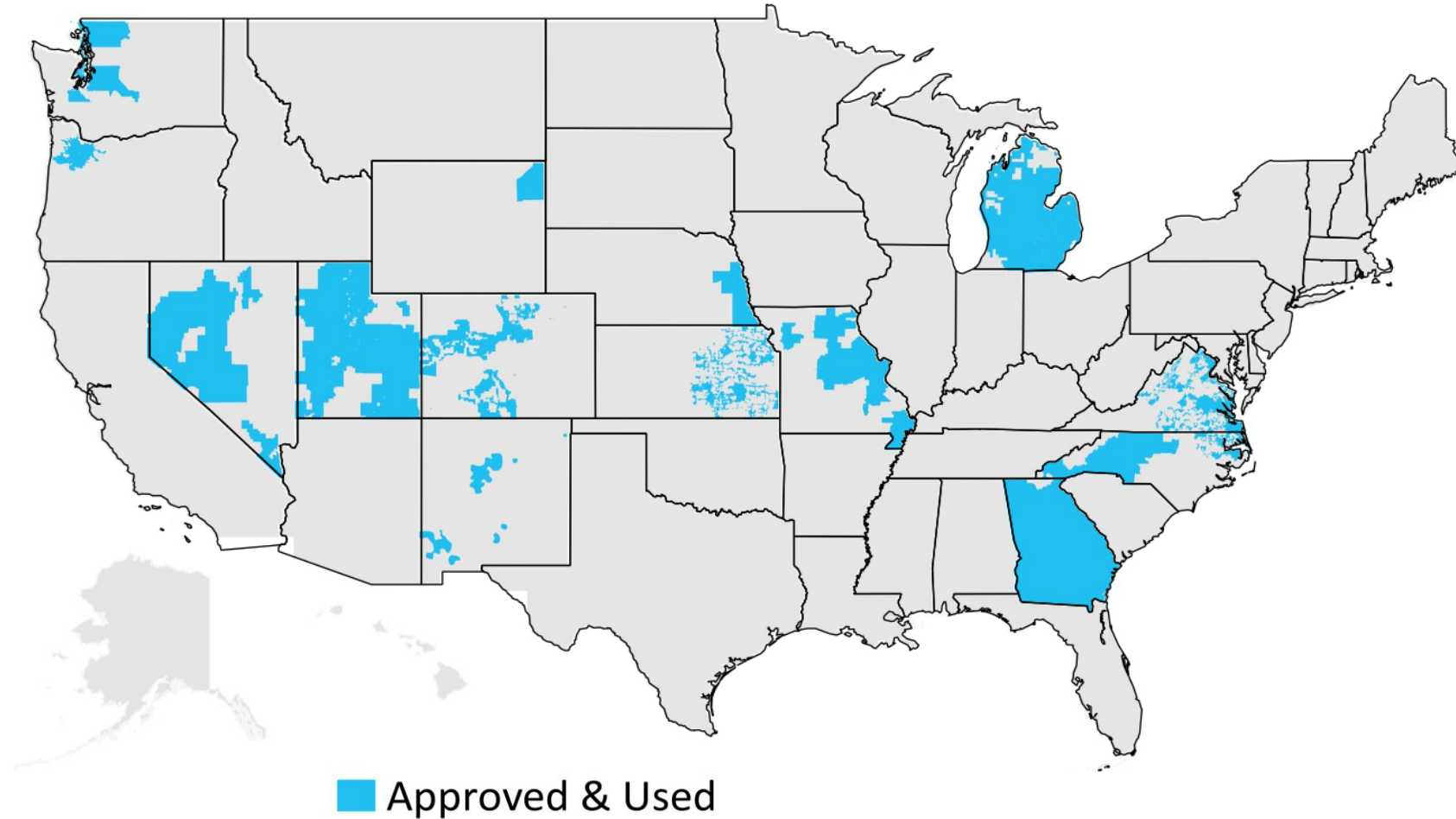


17 states have green tariffs available, 14 have active C&I customers

Data from REBA Green Tariff tracking and only includes deals that involve build of new generation and corporate commitments



Utility Territories with Approved Green Tariffs Used by Corporates



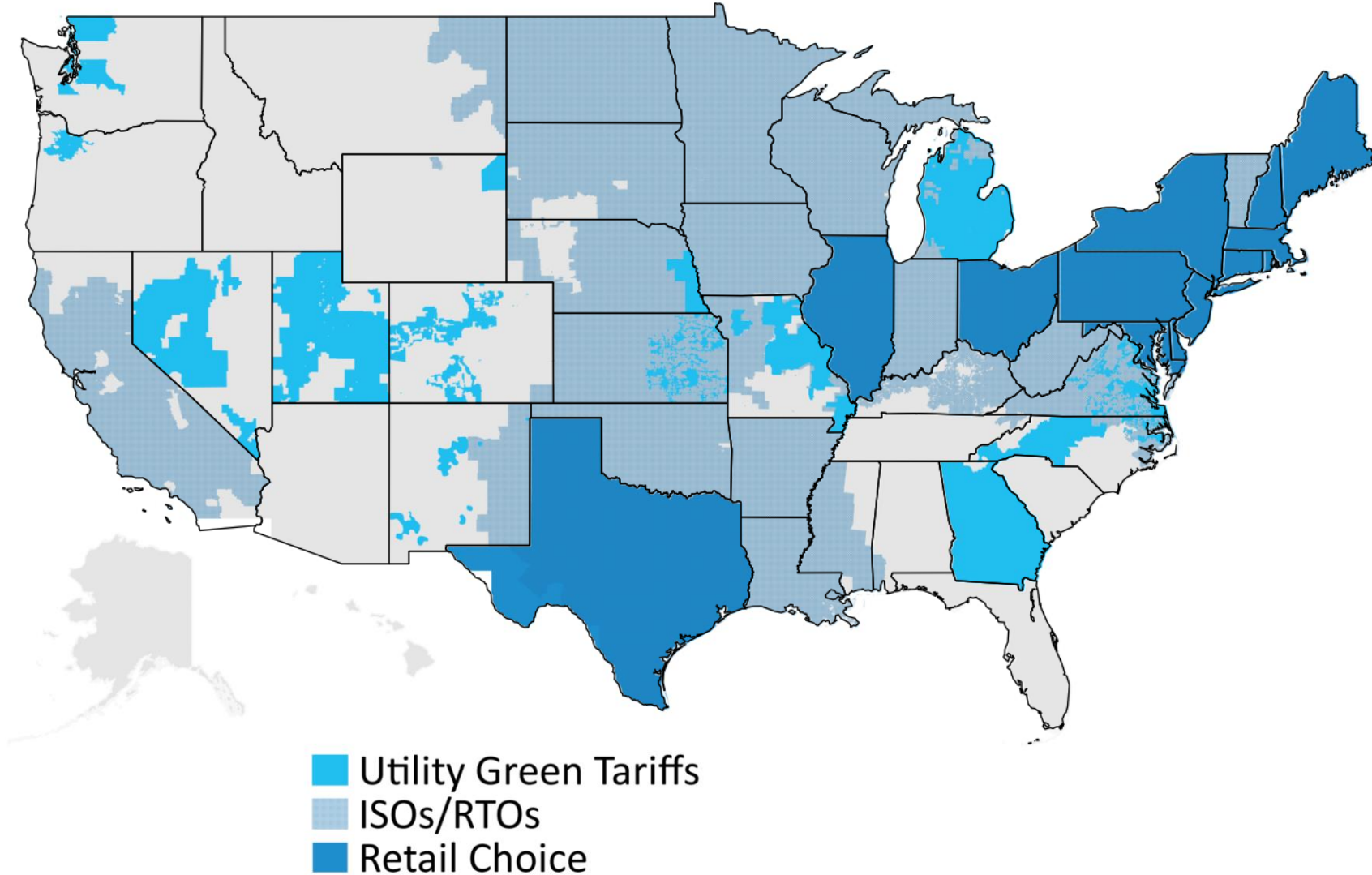
Narrowing deployed green tariffs to utility service territories further highlights their limited availability

Data from REBA Green Tariff tracking and only includes deals that involve build of new generation and corporate commitments

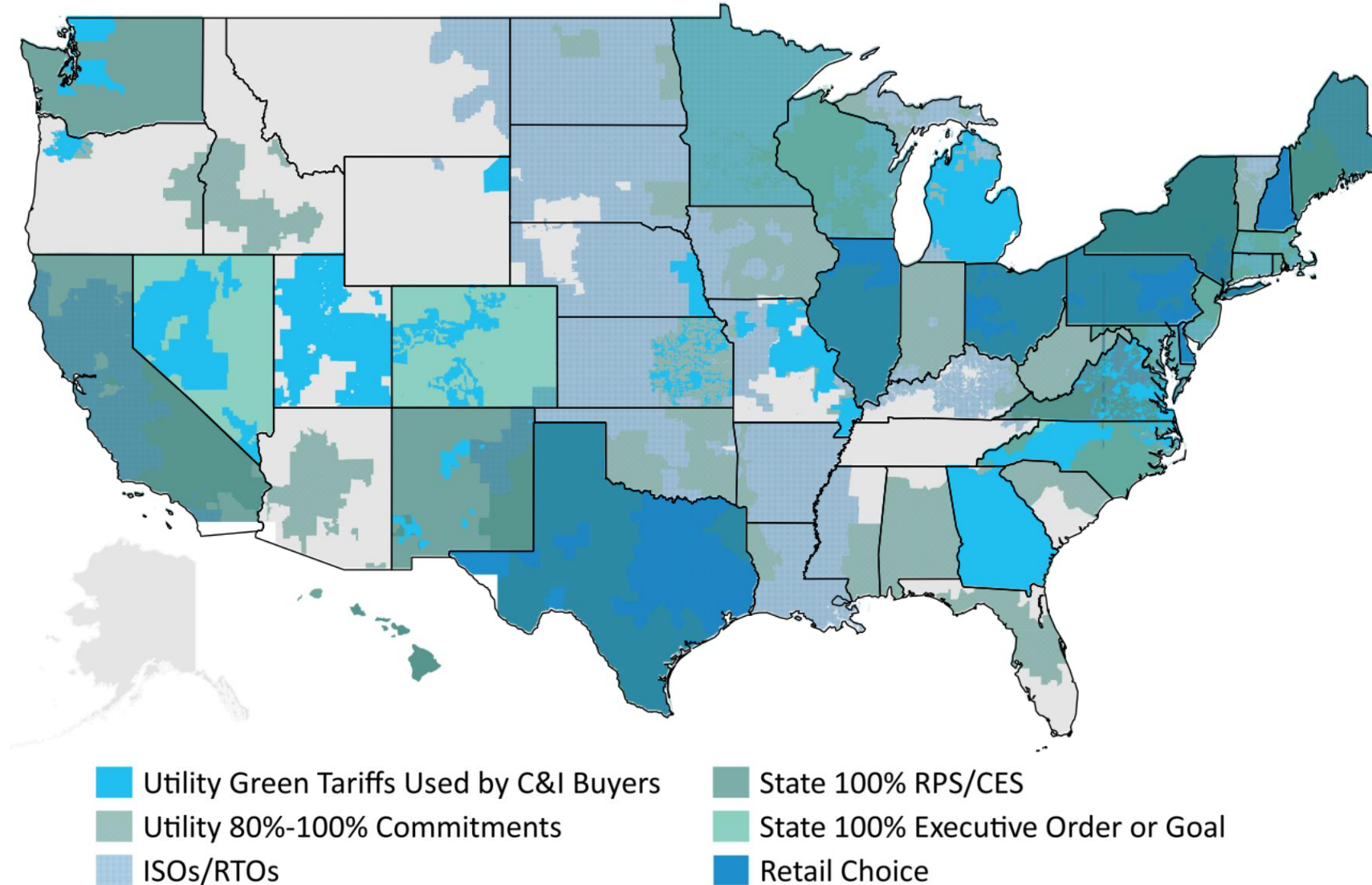


Pathway 2: Increase and Improve Customer Options

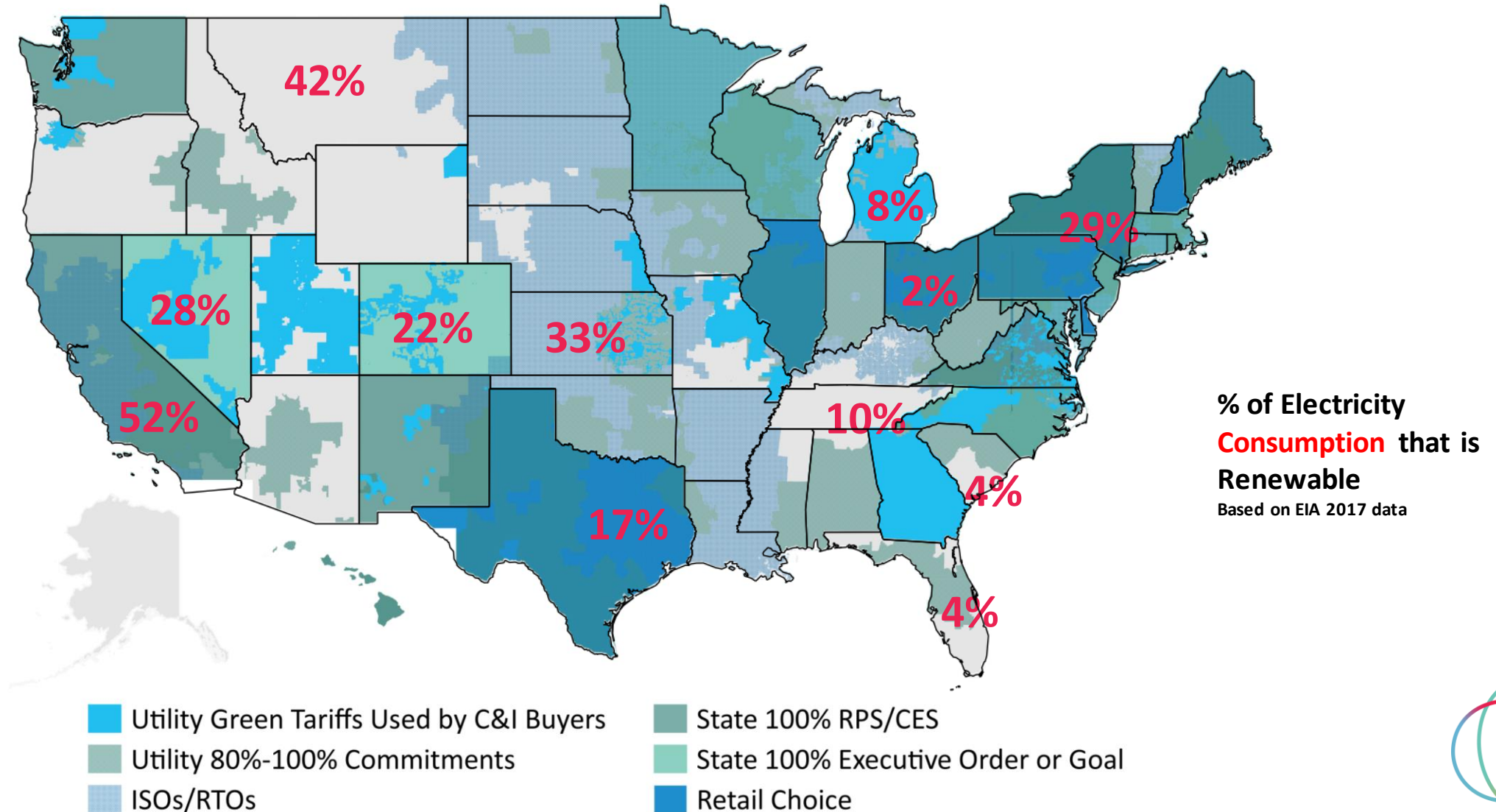
Where do customers have options?



Bringing It All Together...



Bringing It All Together...



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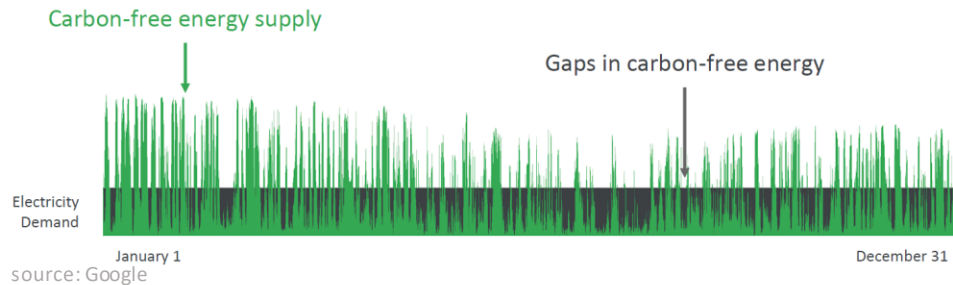
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Leadership Trends

Trends Where Large Energy Consumers Want to Lead

1

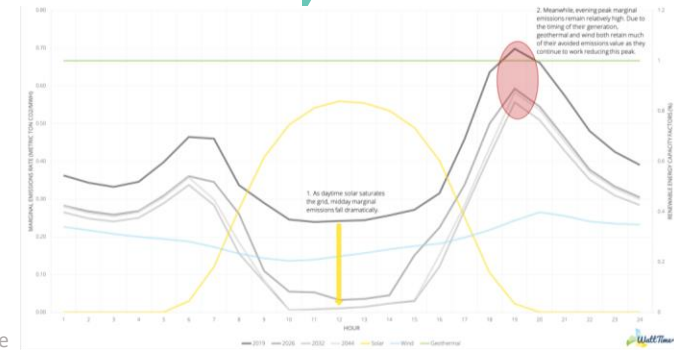
Transitioning from 100% RE goals to 24-7/365 zero carbon



2

New/Additional Projects

Material Impact Projects



3

Policy & Regulatory Engagement



4

More International Procurement



5

Focus on Supply Chain Partners



6

Impact Beyond Carbon



Thank you!

REBA

