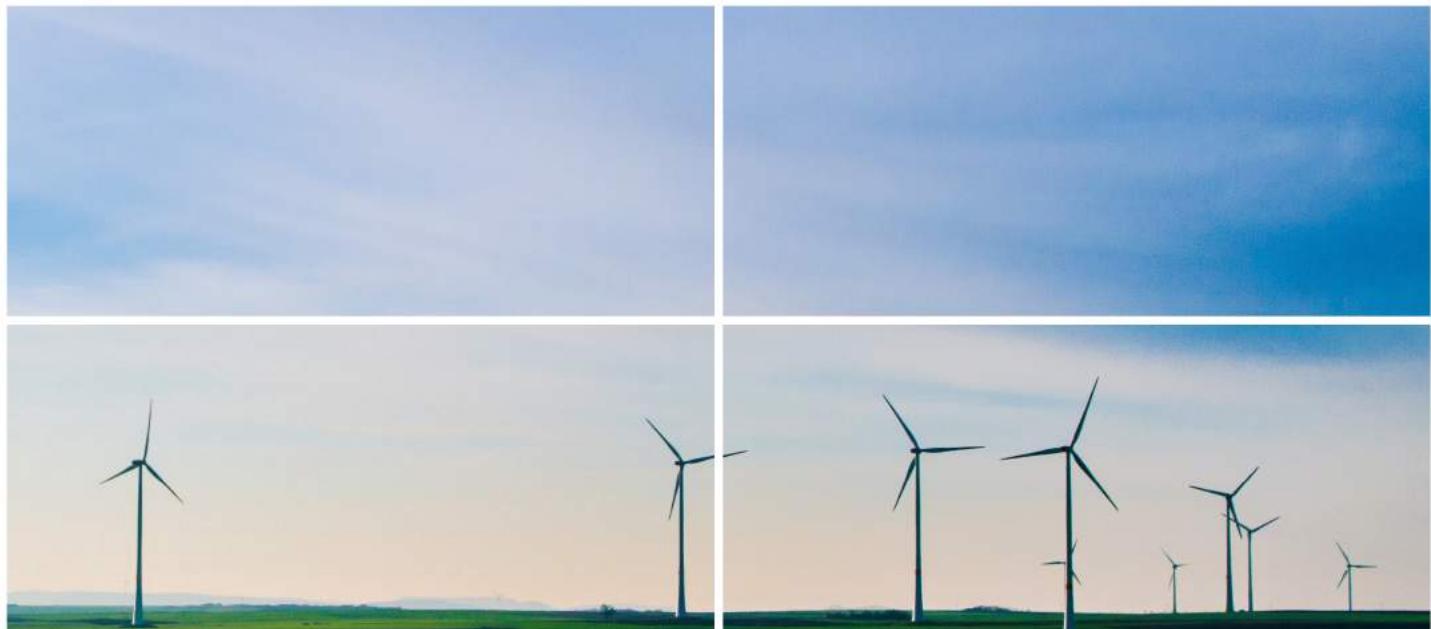


CORPORATE RENEWABLE ENERGY PROCUREMENT:

A Snapshot of Key Trends, Strategies and Practices in 2016



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ABOUT THE CORPORATE ECO FORUM: The Corporate Eco Forum (CEF) is an invitation-only membership organization comprised of Fortune and Global 500 companies from 18 industries with combined revenues of over \$3 trillion. CEF's mission is to help accelerate sustainable business innovation by creating a neutral "safe space" for influential business leaders to strategize and exchange best-practice insights. Participants are exclusively top-level executives, including chief sustainability officers, chief financial officers, and chief technology officers, and other VP-level executives with responsibilities affecting the supply chain. CEF publishes experience-based research and industry reports, and provides a number of networking opportunities—including an annual meeting for members only.



ABOUT WORLD WILDLIFE FUND: WWF is an organization dedicated to stopping the degradation of the planet's natural environment and building a future in which humans live in harmony with nature. In our work with business, WWF advances this mission through innovative partnerships that combine unique collaborations, high-level policy engagement, and initiatives to make business and industry more sustainable. WWF co-facilitates the Corporate Renewable Energy Buyers' Principles, a group of large companies seeking greater access to renewable energy. To scale renewable energy use, we bring together corporate energy buyers and utilities to advance solutions that aim to deploy more renewable energy in a way that meets the changing needs of both utilities and their customers.

Executive Summary

This briefing on corporate renewable energy (RE) procurement trends and strategies, implementation practices, and policy and state engagement priorities is based on an in-depth survey of 37 [Corporate Eco Forum](#) (CEF) members and [Renewable Energy Buyers' Principles](#) signatories, representing 9 sectors, with combined revenues exceeding \$1 trillion. All survey respondents are active corporate players in the current RE market. However, these results only offer a snapshot of corporate practices and priorities given ever-changing RE market conditions.

Highlights:

- **Majority of Renewable Energy (RE) Procured Through Renewable Energy Credits (RECs) and Physical Power Purchase Agreements (PPAs).** Companies surveyed are leveraging a range of instruments — indirect and direct forms of procurement — to procure RE, but unbundled renewable energy credits (RECs) and physical power purchase agreements (PPAs) account for the majority of their overall procurement.
- **Greenhouse Gas (GHG) Targets a Key Driver.** Greenhouse gas (GHG) emissions reduction targets are a key driver of RE procurement at companies that do not have an RE target.
- **RE Targets Increasingly Ambitious.** More than half of companies surveyed have set an RE target. Of those with an RE target, approximately half are targeting 100 percent RE.
- **RE Targets Aim to Mitigate Climate Impact and Reduce Costs.** The top three motivations driving companies to set an RE target include: (1) mitigate climate impact, (2) reduce energy procurement costs, and (3) demonstrate corporate leadership.
- **Time-Bound RE Targets On the Rise.** More companies are setting time-bound RE share targets than ever before, meaning they have pledged to meet their RE target by a specific year. Forty-three percent of companies surveyed have a time-bound RE target. Of these targets, more than 80 percent of are over the short-term (between 2016-2025).
- **Wind is Top RE Source.** Companies surveyed are procuring more wind energy than any other RE source, accounting for more than half of overall procurement. Solar photovoltaic (PV) is the second most widely used RE source, accounting for nearly a quarter of overall procurement.
- **Wind Energy Delivers Shortest Payback Period.** Companies surveyed are recovering their investments in wind energy in fewer than six years. In addition, the payback period for Solar photovoltaic (PV) has sharply declined and is now one of the most financially attractive RE sources.
- **Increasing Access to Offsite PPAs a Top Policy Priority.** Respondents consistently ranked access to offsite PPAs as the top policy priority overall, followed by expanding utility green tariffs.
- **Majority of RE Procurement is Offsite.** Almost three-quarters of respondents are procuring RE offsite and nearly all respondents are using it for internal consumption purposes vs. selling excess RE back to the grid.
- **Top Execs Driving RE Procurement.** Respondents report that C-suite executives, Group Presidents, and Vice Presidents are setting the strategic direction when it comes to target setting, policies, and projects.

Overview

Background

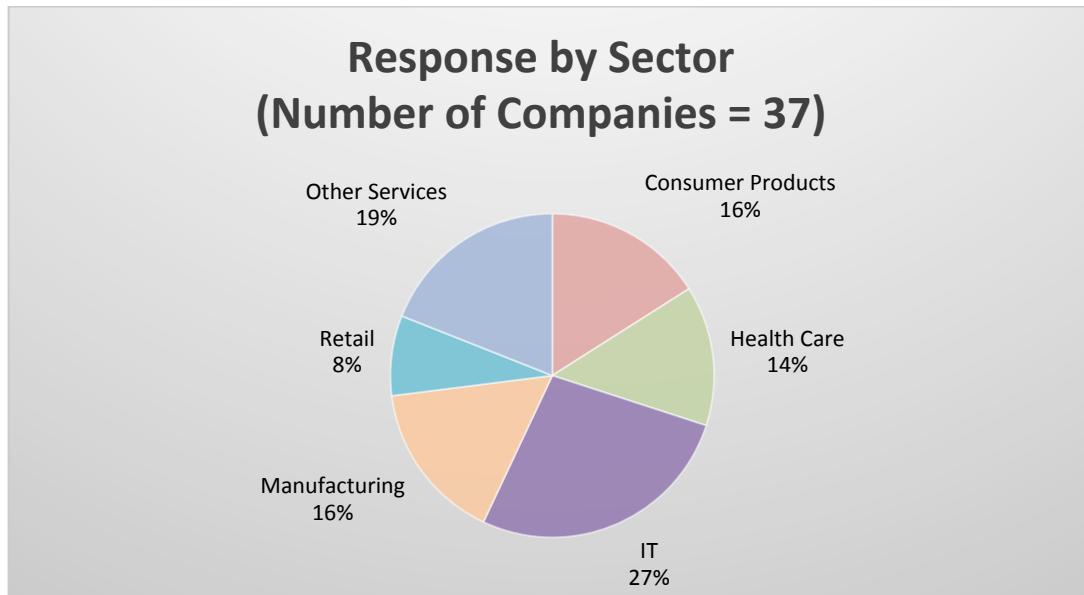
- In 2015, the Corporate Eco Forum (CEF) conducted a members-only survey of RE procurement and shared the anonymized results across its membership. At the request of its members, CEF is updating the 2015 findings in collaboration with the World Wildlife Fund (WWF) to expand on last year's results with the addition of data from signatories of the Buyers' Principles initiative.
- The 2016 survey used the same questions from 2015 on renewable energy (RE) procurement strategy and approaches, and expanded its scope to include energy policy-related questions given the important role federal- and state-level policy plays in accelerating corporate RE procurement.

Survey Participation

- Findings in this briefing are based on a survey of Corporate Eco Forum (CEF) member companies and participants in the World Wildlife Fund- and World Resources Institute-led Corporate Renewable Energy Buyers' Principles Initiative. The survey was conducted over a three-month period (April – June 2016).
- Thirty-seven companies representing nine sectors participated in the survey, with combined revenues exceeding \$1 trillion.

Response by Sector

- Sectors analyzed in this briefing include Consumer Products, Healthcare, IT, Manufacturing (MFG), Retail, and Other Services. This briefing builds on the sectoral analysis in the 2015 briefing by adding Healthcare and Retail.
- Sectors with fewer than three respondents were grouped into “Other Services” — a mixture of companies in financial services, logistics, construction, and entertainment.



Survey Methodology and Caveats

- Not all respondents answered all questions, and in a small handful of cases, there were questions about data quality or consistency. Where possible, reviewers from the CEF/WWF team attempted to verify certain responses directly with respondents or by checking publicly available information or records.
- Since respondents to this survey self-selected, represent a relatively small sample size, and are from a group that may be more likely to be sourcing renewable energy than other companies, the results from this survey should not be considered representative of the broader corporate population.
- In some instances throughout this briefing, comparisons are drawn between the findings from this year and from the 2015 survey. Partly as a result of the point in the previous bullet, comparisons are not necessarily statistically significant, but rather are intended to represent interesting anecdotes that may highlight broader trends (but further investigation would need to confirm).
- In addition to the survey itself, the CEF team conducted an extensive review of publicly available literature related to renewable energy in the private sector, particularly industry reports, analyses, surveys, and policy reviews published within the past two years. The survey results were compared with findings from the literature to identify similarities, discrepancies, and potentially new insights.
- After completing this analysis and literature review, the briefing was shared with select internal and external reviewers, including survey participants, for feedback. We would like to thank these anonymous reviewers for their time and valuable comments.

List of Acronyms

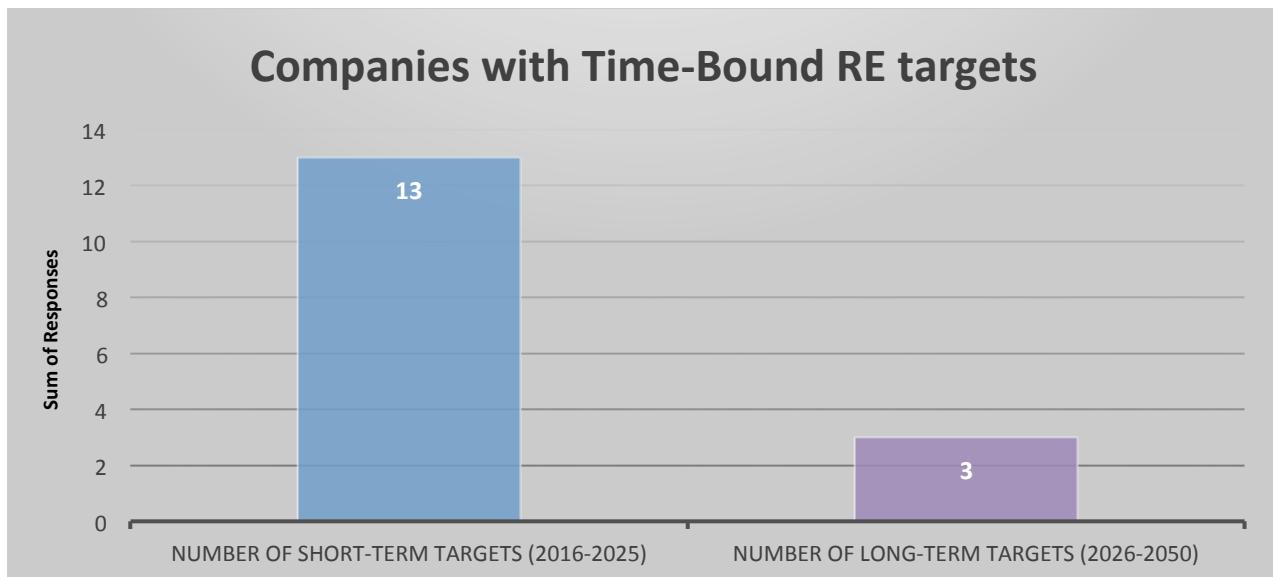
BRC	Business Renewables Center	PPA	Power Purchase Agreement
BSR	Business for Social Responsibility	PV	Photovoltaic
CDP	Carbon Disclosure Project	RE	Renewable Energy
CEF	Corporate Eco Forum	REC	Renewable Energy Credit
CHP	Combined Heat and Power	RMI	Rocky Mountain Institute
GHG	Greenhouse Gas	WRI	World Resources Institute
IT	Information Technology	WWF	World Wildlife Fund
MFG	Manufacturing		

Procurement Trends

Averages Across Respondent Group

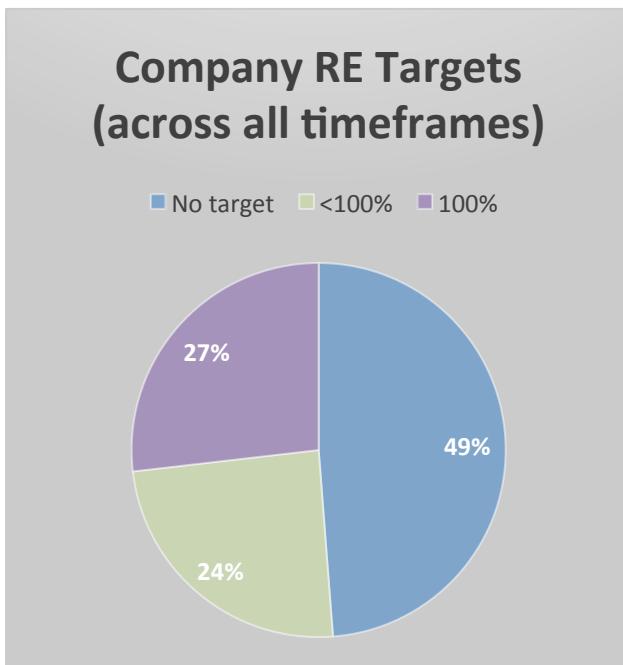
1.1 Number of Companies with Time-Bound RE Targets

Survey Question: What is your enterprise-level target for renewable energy share of total energy mix, and by what year are you planning to meet it?



Key findings:¹

- The respondents were split, with more than half having an **RE target**, and the other having **no RE target** at all.
- Among respondents with RE targets, **13** have **short-term** (defined as through 2025) targets, and **3** have **long-term** (defined as the period 2026-2050) targets.
- The average short-term RE share target among respondents is 49 percent.
- More than a quarter of respondents (27 percent overall) have a target of 100 percent (over any time horizon).
- Slightly less than a quarter (24 percent overall) have a target between 0-99 percent (over any time horizon).

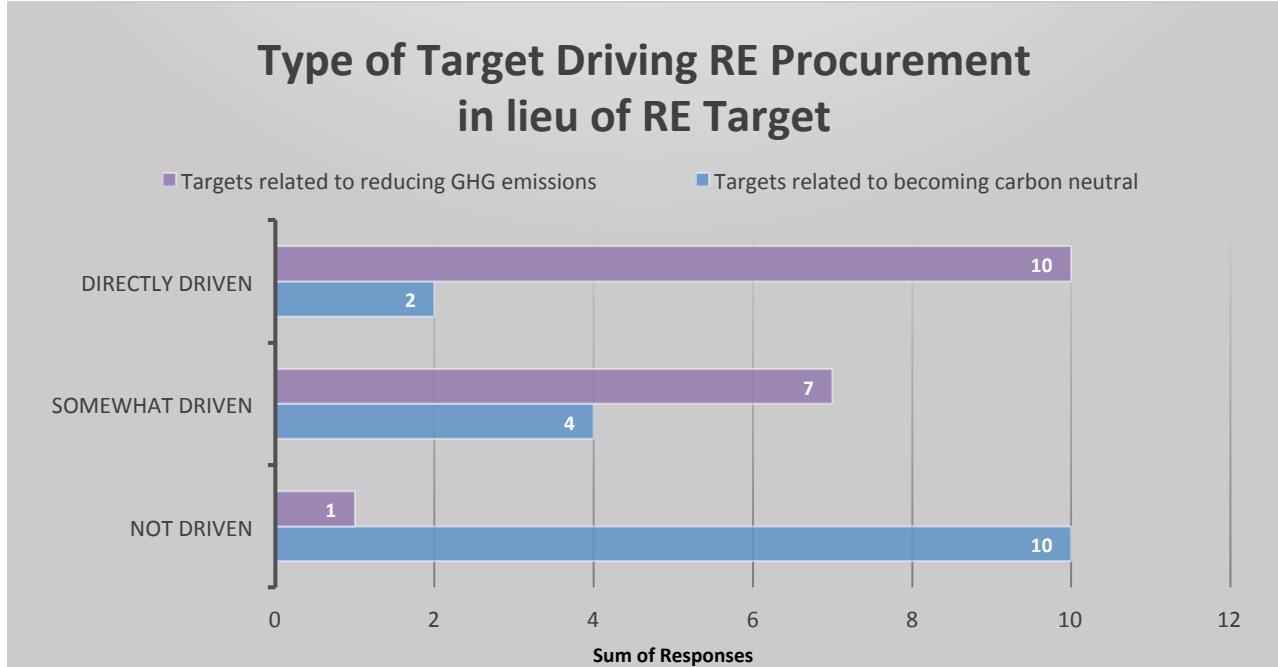


¹ Methodological note: due to variance among responses, only targets with an accompanying target date were included in the first chart. Targets without dates (e.g., 100% target with no target year) were included in the second chart. Responses were only considered when given as a relative value (e.g., a percentage), since absolute values (e.g., 500 MW) provide no frame of reference. Responses that were based on REC purchases were not included. A small handful of responses included two targets and years — a short-term and a long-term target; in these cases, these were counted as two distinct targets, which led to a couple of firms being double counted, although no targets were double counted.

1.2 Type of Target Driving RE Procurement in lieu of RE Target

The CEF/WWF survey asked how many companies have an RE target in the previous question: 51 percent of companies surveyed have an RE target. Since RE targets are likely driving RE procurement decisions at more than half of companies surveyed in some capacity, CEF/WWF wanted to determine what role GHG emissions and/or carbon neutrality targets have in driving RE procurement at companies that do not have an RE target. The chart below is based on responses from companies that do not have an RE target.

Survey Question: To what extent are your efforts to procure RE driven by the following:

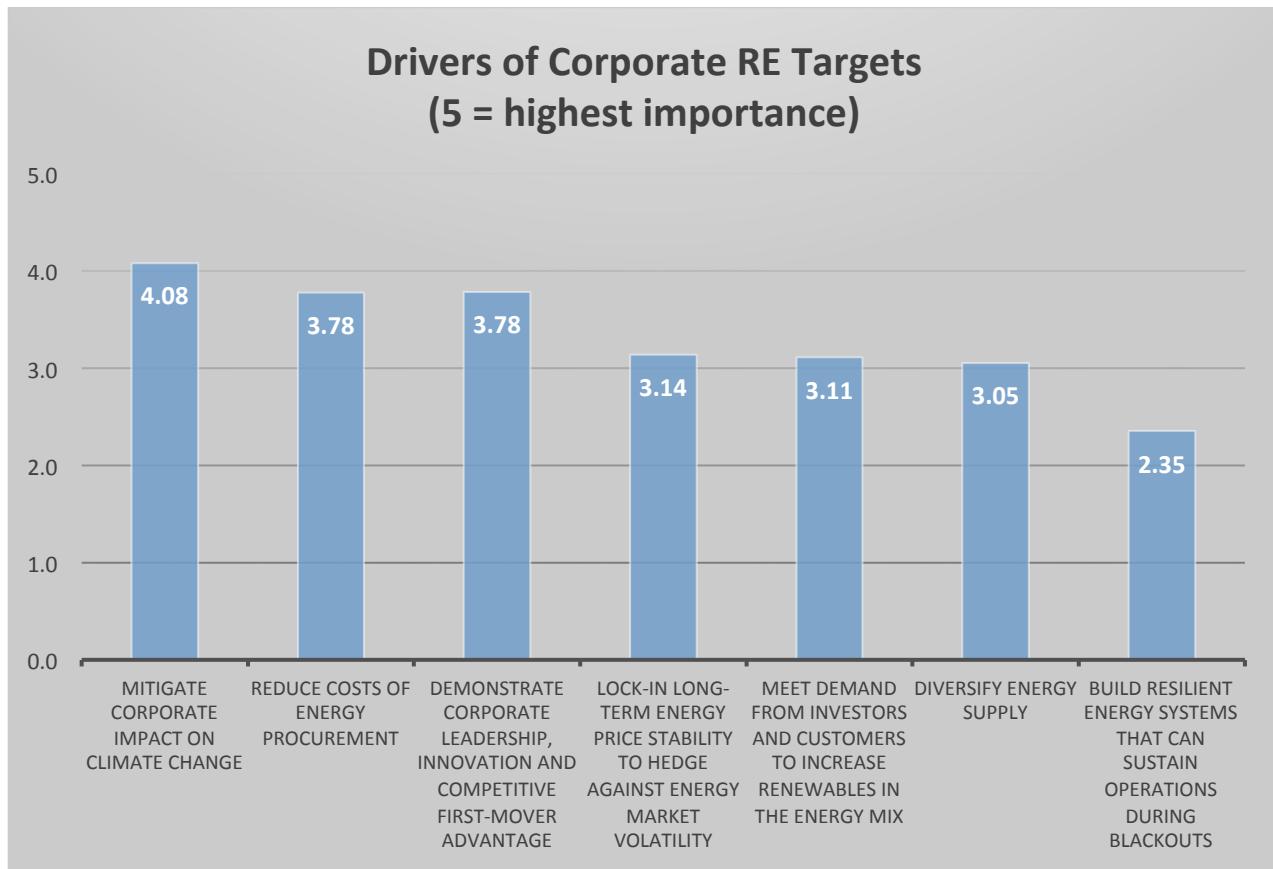


Key findings:

- **GHG emissions reduction targets** are playing a key role in driving RE procurement decisions at companies that do not have an RE target.
- Targets related to **carbon neutrality** are playing a much smaller role in driving RE procurement at companies that do not have an RE target.
- The definition of carbon neutrality is still up for debate. It could be defined as either achieving net-zero emissions (covers all GHG emissions including carbon dioxide), or more literally, as reducing carbon footprint (only covers carbon dioxide emissions) to zero. Whereas, GHG emissions reduction targets generally aim to reduce a percentage (less than 100 percent) of total GHG emissions.

1.3 Drivers of Corporate RE Targets

Survey Question: How important is each of the following motivations in setting your enterprise-level targets for renewable energy?

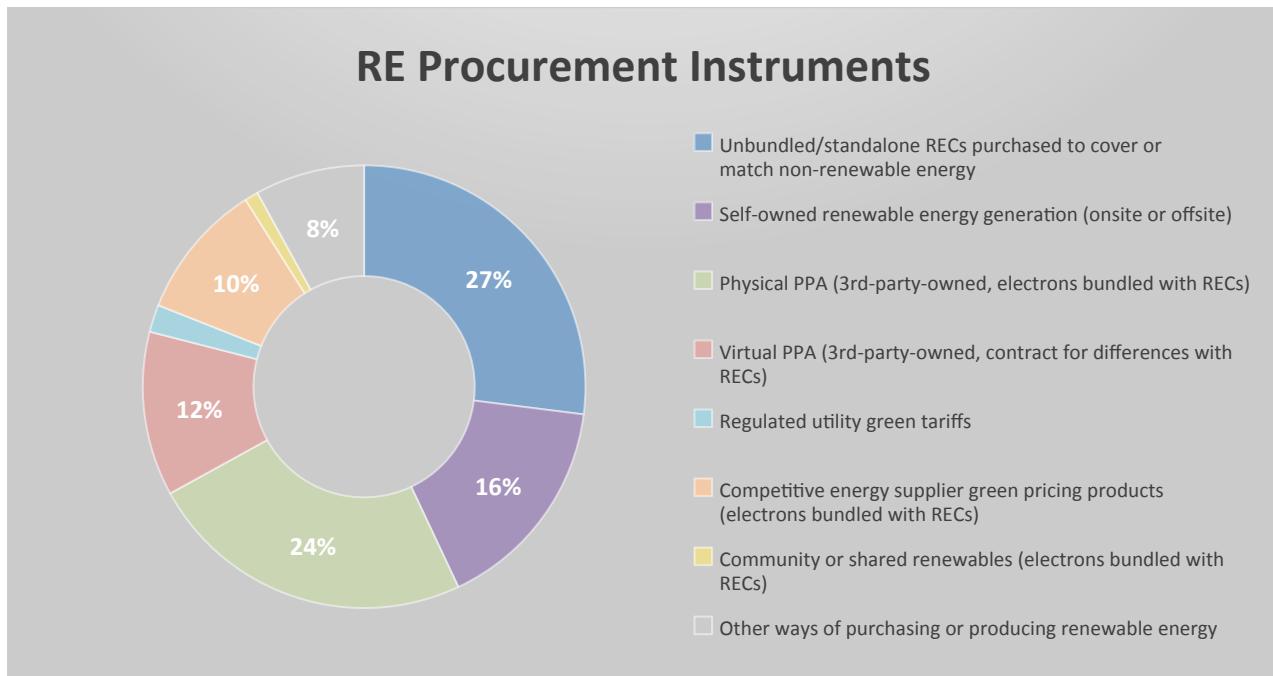


Key findings:

- On average, respondents report that **mitigating their corporate impact on climate change** was the **most important motivation** behind setting enterprise-level targets for renewable energy.
 - Although the 2016 survey did not explore this driver in more depth, one can speculate that companies might want to mitigate their climate impact for any number of reasons, ranging from reducing regulatory, reputational, operational, or other competitive risks to taking advantage of emerging opportunities, such as new, lower-cost energy sources.
- Reducing the costs for energy procurement** is the **second-most important driver**, tied with **demonstrating corporate leadership**. This reflects the trend of more corporates moving toward direct forms of renewable energy procurement and away from strictly unbundled REC-only purchases at a cost premium, which is identified in our analysis of RE Procurement Instruments.
- These drivers remained stable year-over-year, with the same rank ordering reported in the 2015 survey.

1.4 RE Procurement Instruments

Survey Question: In 2016, of your total procurement of renewable energy, roughly what percentage is likely to be from:

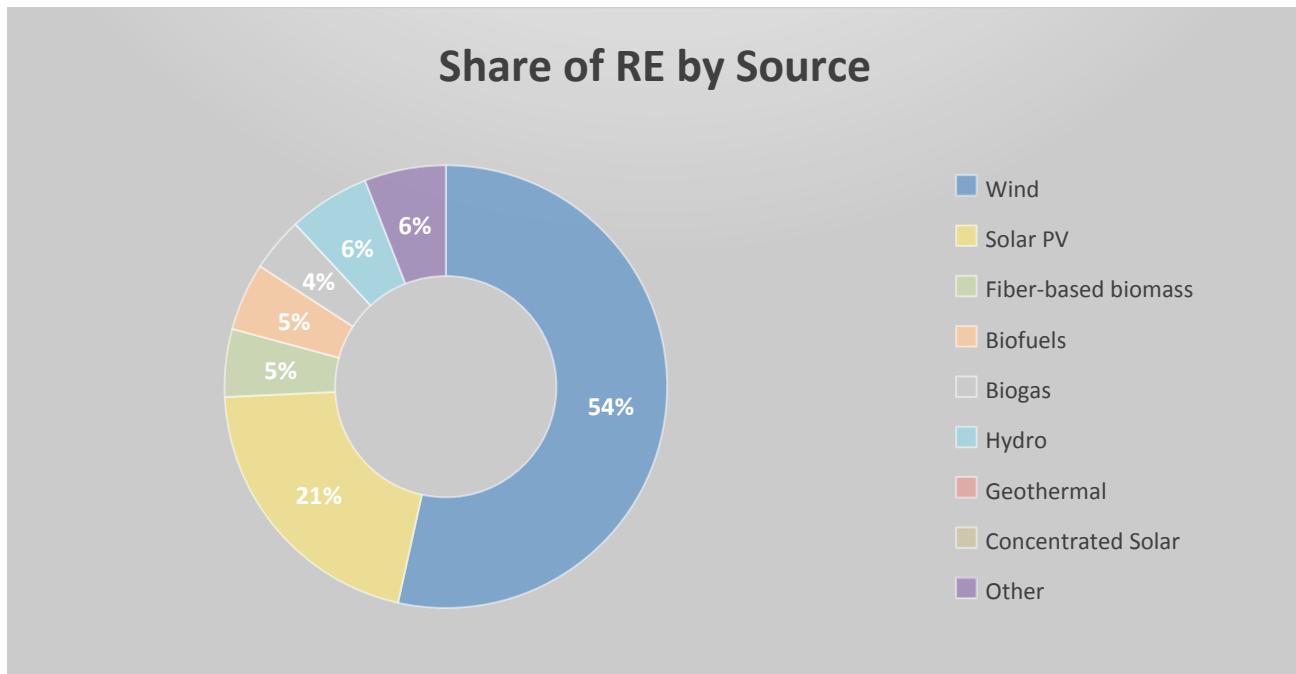


Key findings:

- **Unbundled renewable energy credits (RECs) and physical power purchase agreements (PPAs)** are the top instruments used across the respondent group, followed by self-owned generation.
- Although unbundled RECs account for more than a quarter of overall procurement, surveyed companies appear to be moving toward **more direct forms of procurement** — such as physical and virtual power purchase agreements (PPAs), self-owned generation and utility green tariffs — compared to the 2015 survey.
- **Utility green tariffs** in regulated utility states are an emerging procurement approach compared to the 2015 survey (2% vs. 0.4%), but still very low because not many companies have signed deals with regulated utilities.
- The share of unbundled REC purchases remained roughly equivalent from 2015 to 2016 (25% vs. 27%).

1.5 Share of RE by Source

Survey Question: In 2016, of your total procurement of renewable energy, roughly what percentage is likely to be from:

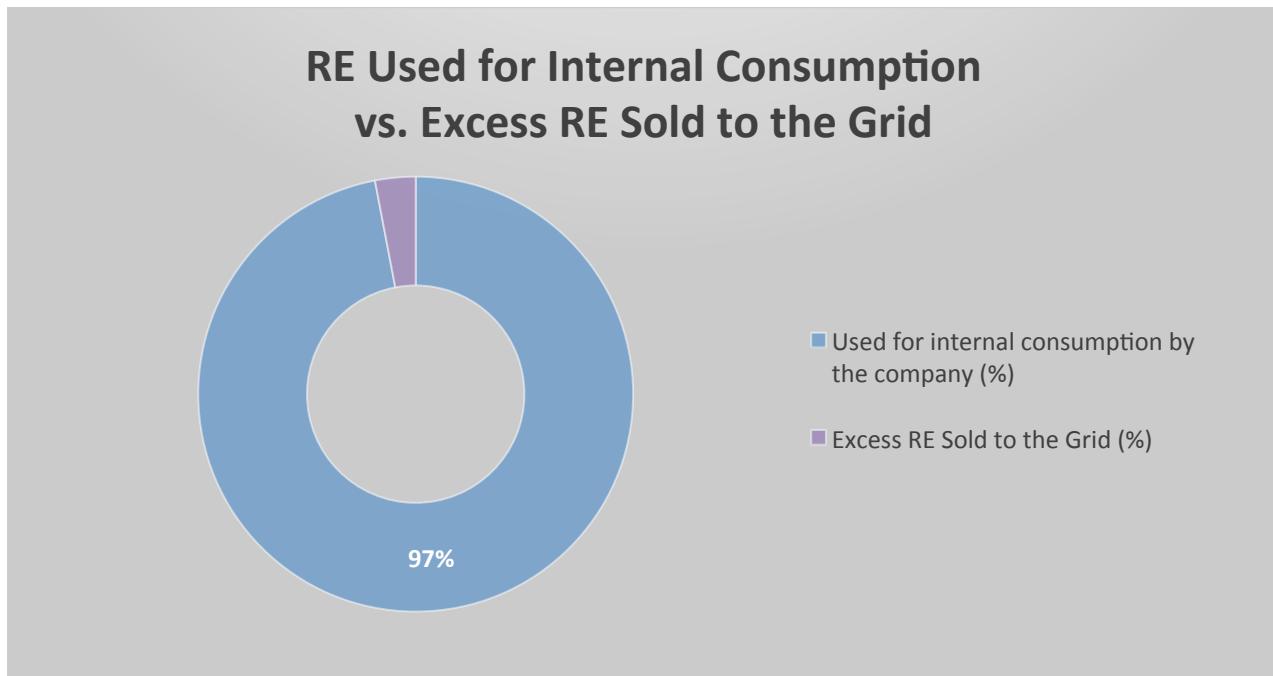


Key findings:

- **Wind energy** clearly leads the way, accounting for **more than half of RE procurement** across the respondent group.
- **Solar photovoltaic (PV)** is the second most widely used RE source.
- "Other" RE sources — such as renewably powered CHP (Combined Heat and Power) and fuel cells — are also being used across the respondent group.

1.6 RE Used for Internal Consumption vs. Excess RE Sold to the Grid

Survey Question: In 2016, of your total electricity produced by renewables, roughly what percentage is likely to be:

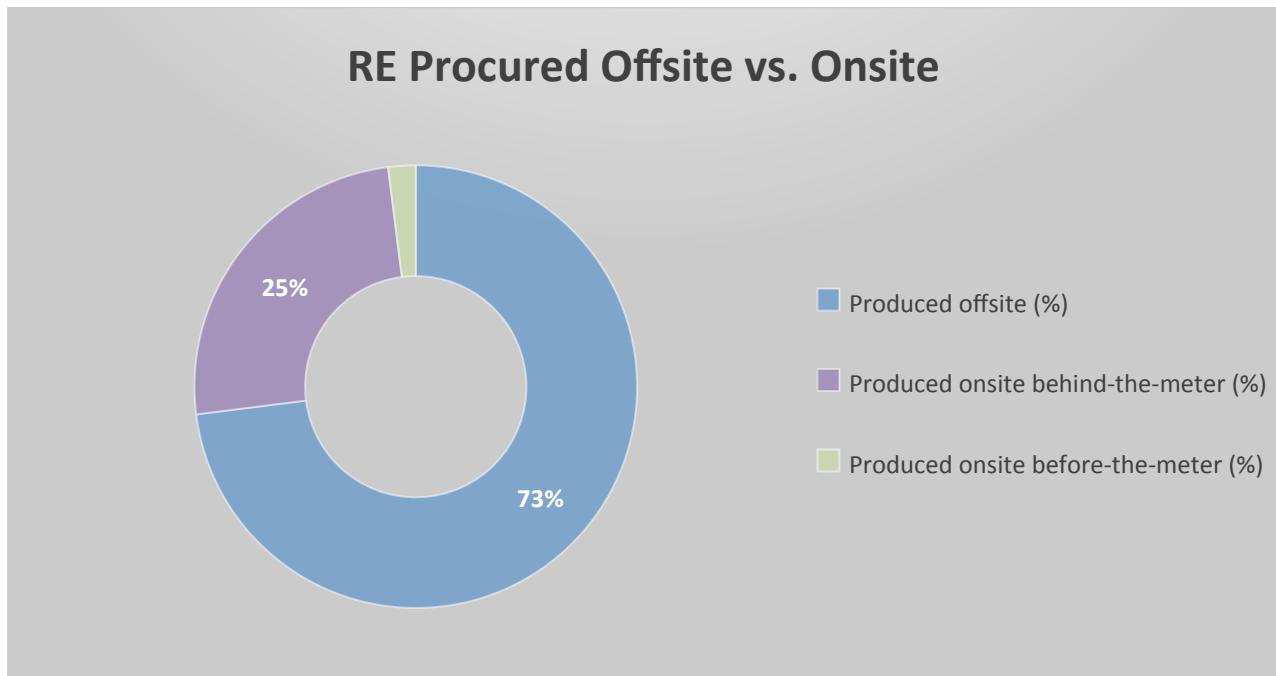


Key findings:

- Almost all respondents indicate that RE is used exclusively for **internal consumption** purposes.
- A **small percentage** of companies are **selling excess electricity** generated onsite back to the grid, perhaps to take advantage of policy incentives such as net metering and feed-in tariffs.

1.7 RE Procured Offsite vs. Onsite

Survey Question: In 2016, of your total procurement of renewable energy, roughly what percentage is likely to be:

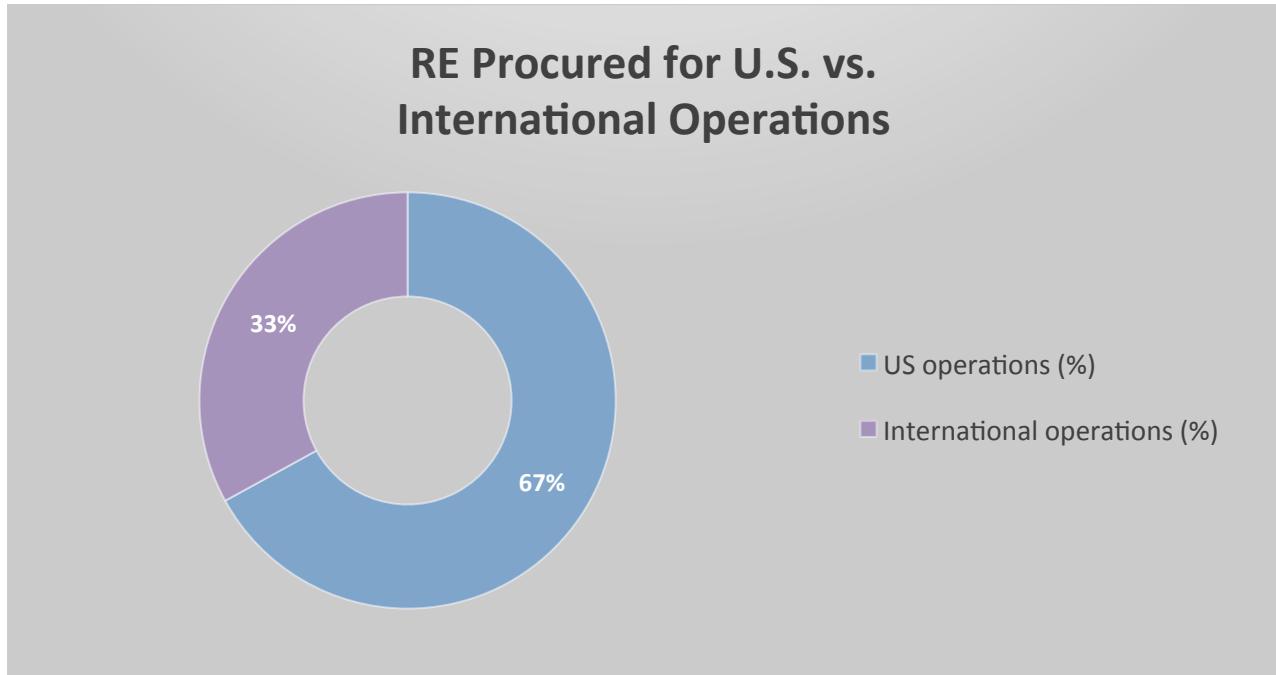


Key findings:

- Most respondents are procuring RE **offsite**. This correlates with the **expanded use of PPAs, wind being the primary source of RE**, and the need for greater scale to deliver against more aggressive targets than can be met with onsite RE sources.
- A **quarter of companies** are procuring RE **onsite behind-the-meter**.
- A small slice of companies report RE projects that are onsite but on the utility side of the meter ("before the meter").

1.8 RE Procured for U.S. vs. International Operations

Survey Question: In 2016, of your total procurement of renewable energy, roughly what percentage is likely to be for:



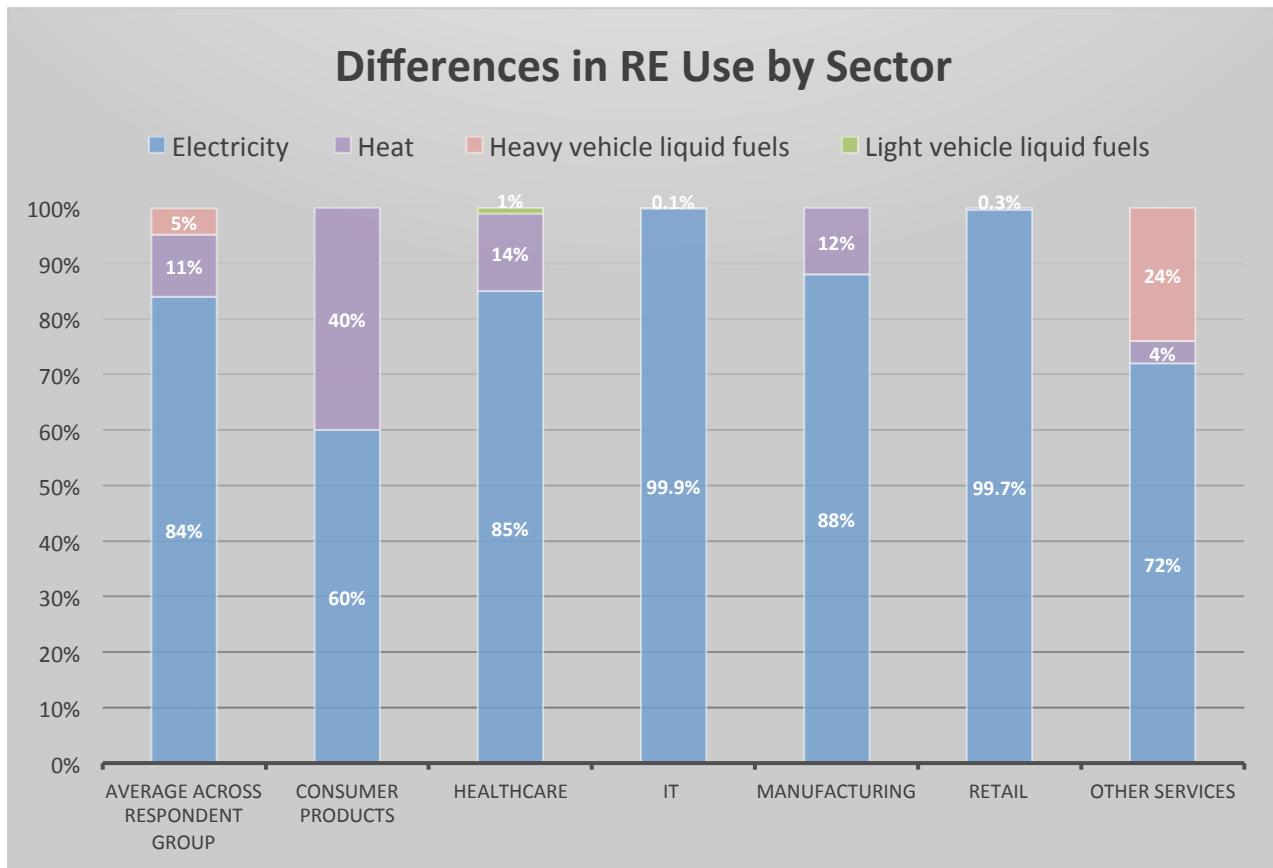
Key findings:

- **More than two-thirds of respondents** are procuring RE for **U.S. operations**.
- Global targets may be the driving force behind international procurement activities, given that **81%** of respondents are **multinational companies**.

Differences by Industry Sector

2.1 Differences in RE Use by Sector

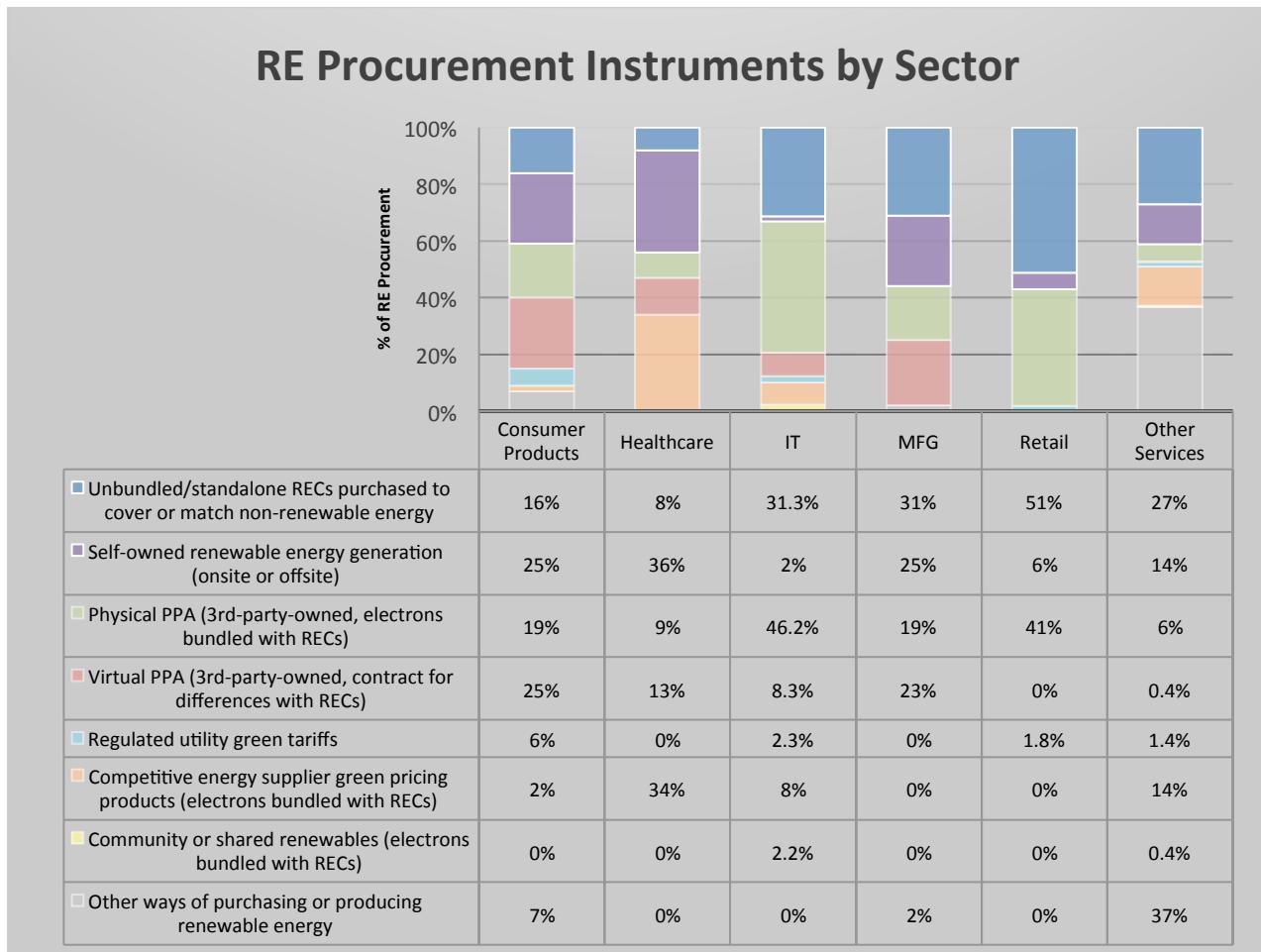
Survey Question: In 2016, of your total procurement of renewable energy, roughly what percentage is likely to be for:



Key findings:

- Well over half of RE procured is used for **electricity** in all sectors examined.
- **Heat** accounts for a significant portion of RE use in **Consumer Products**, more than participating manufacturing companies. Healthcare companies also reported more renewable energy for heat than manufacturing companies.
- **RE fuels for heavy vehicles** are primarily used in Other Services, given their application in logistics and transportation. RE fuels for light vehicles account for a small percentage (1 percent) of RE use in the Healthcare sector.

2.2 RE Procurement Instruments by Sector



Key findings:

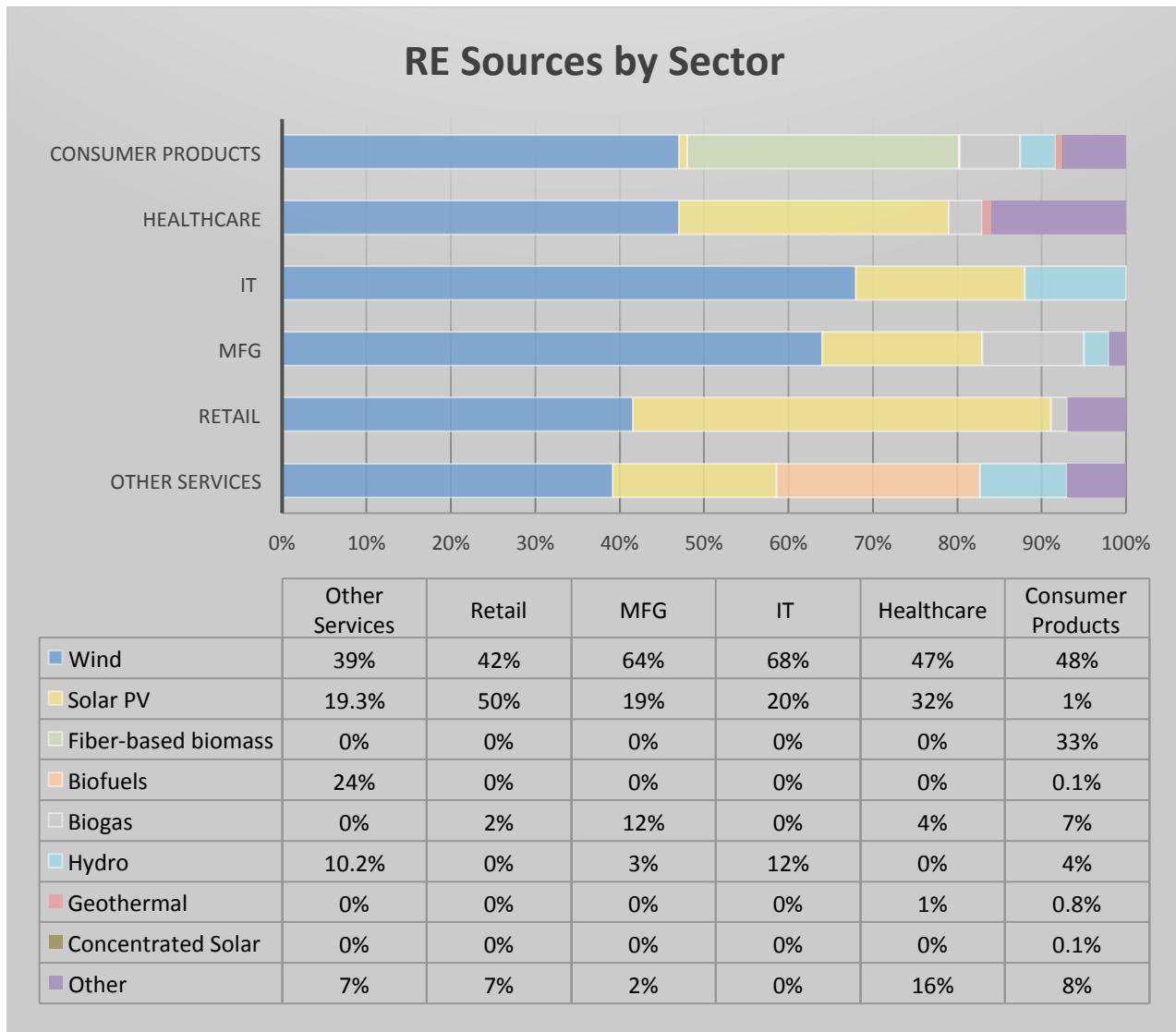
- Physical PPAs** are the primary instruments used by IT and Retail.
- Unbundled RECs** are heavily used to purchase RE in the Retail sector, but their use is evident in all examined sectors, particularly IT, Manufacturing (MFG), and Other Services.
- Onsite and offsite **self-owned renewables** are most prominent in Health Care, Consumer Products, and Manufacturing.
- Virtual PPAs** are playing an important role in Consumer Products and Manufacturing.
- Utility Green Tariffs** are being used by Consumer Products the most, followed by IT, Retail and Other Services companies located in regulated states. However, this procurement type represents a low overall share since green tariff offerings are still limited. Green tariffs are expected to grow over the next 12 months, as some utilities are expressing more interest in meeting customer demand for renewable energy.²
- Competitive energy supplier **green pricing products** are most prominent in the Health Care sector, representing more than a third of their total RE purchases.
- Community or shared renewables** are the least popular instrument used to purchase RE across all examined sectors. Companies are somewhat limited in their use of this procurement instrument, as only 14 states and the District of Columbia have shared renewables policies in place and procurement volumes have been restricted in most programs.³

² World Resources Institute, "EMERGING GREEN TARIFFS IN U.S. REGULATED ELECTRICITY MARKETS,"

<http://buyersprinciples.org/resource/emerging-green-tariffs-in-u-s-regulated-electricity-markets/>

³ Vote Solar, "USA Shared Energy Map," <http://sharedrenewables.org/community-energy-projects/>, (2016).

2.3 RE Sources by Sector

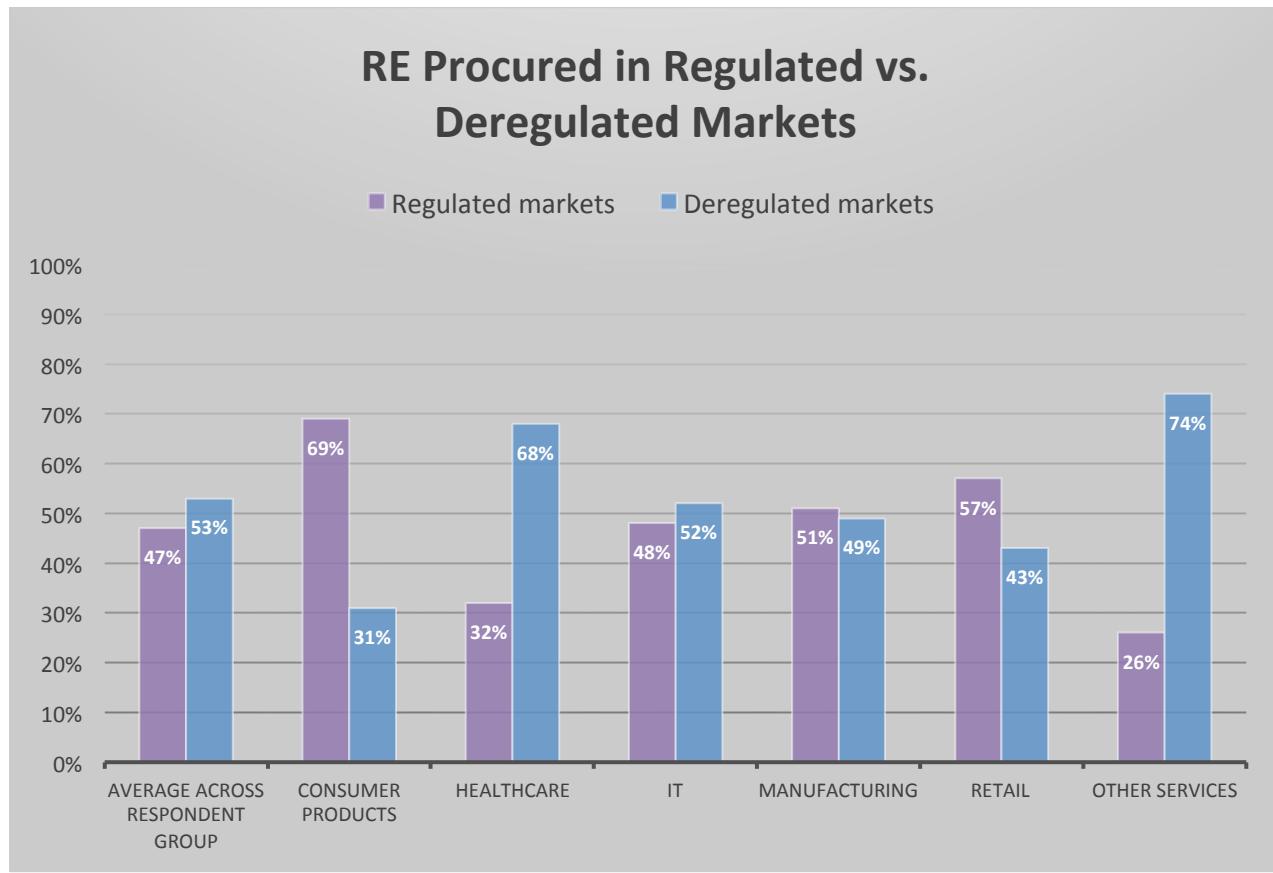


Key findings:

- **Wind** accounts for more than a third of total RE procurement across all examined sectors, making it the most prevalent RE source overall, particularly in IT and Manufacturing. This is consistent with the 2015 survey findings; although wind represented a slightly lower overall share as a result of increased Solar PV use, compared to last year.
- **Solar PV** is the second most prevalent RE source across examined sectors, accounting for the greatest share of total procurement in Retail.
- The Consumer Products sector — the top consumer of solar in the 2015 survey — now consumes the least amount of solar. In addition, the IT sector — the smallest consumer of solar in the 2015 survey — increased its solar consumption from 1 percent in 2015 to 20 percent in 2016. Fluctuations may be the result of our expanded and more diverse respondent group, as well as new ambitious targets in the IT sector and the increasing cost-competitiveness of solar.
- Consumer Products has the most diversified RE portfolio, and is the only sector using fiber-based biomass.
- "Other" RE sources — such as renewably powered CHP and fuel cells — are being used in almost all examined sectors, excluding IT.
- Biofuels represent nearly a quarter of Other Services total RE mix, given their role in logistics and transportation.

2.4 RE Procured in Regulated vs. Deregulated Markets

Survey Question: In 2016, of your total procurement of electricity for US operations, roughly what percentage is likely to be in:



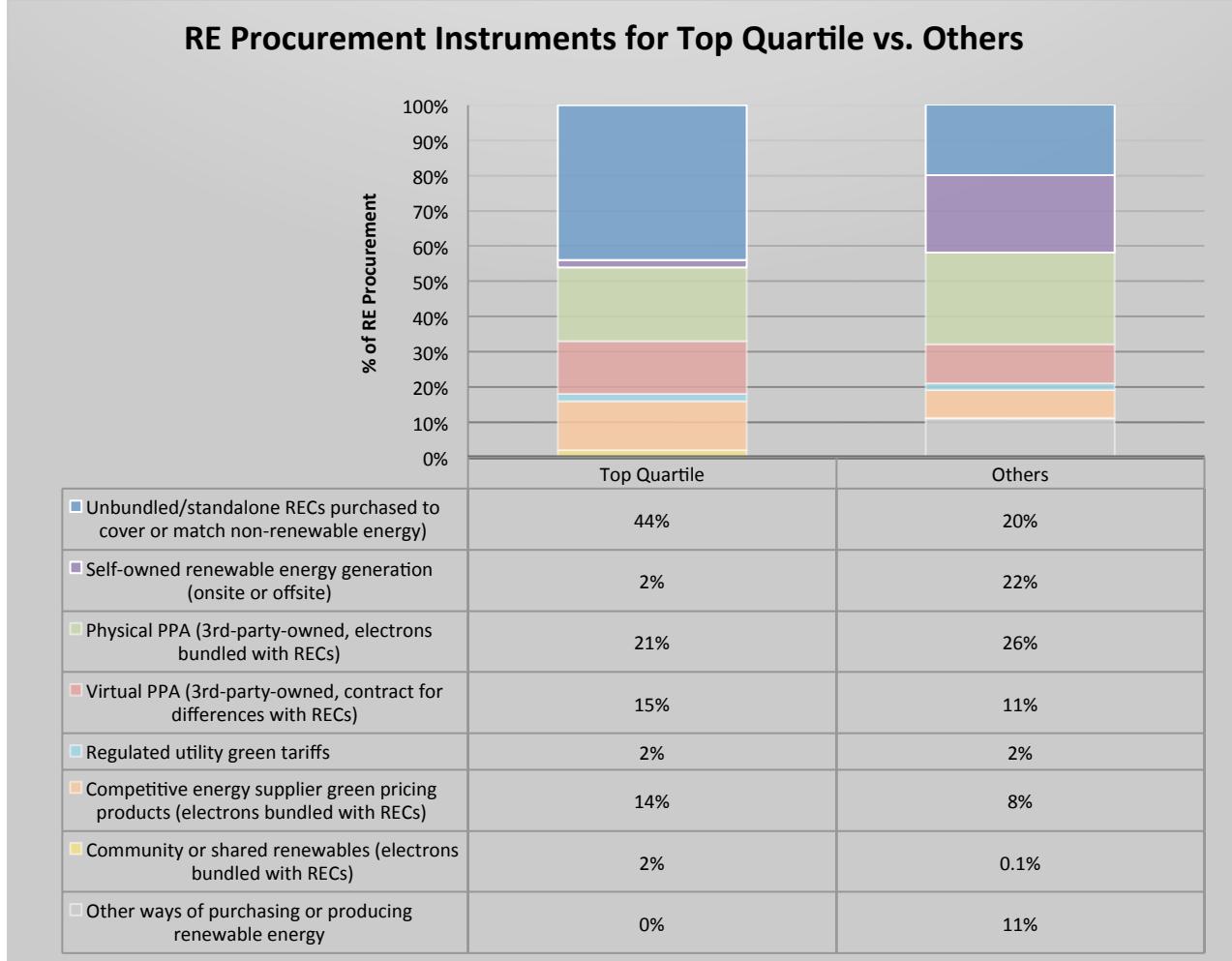
Key findings:

- The **Consumer Products** sector is procuring the most renewable energy in **regulated markets**, followed by Retail.
- **Other Services** is procuring the most renewable energy in **deregulated markets**, followed by Health Care.
- Manufacturing and Other Services significantly increased RE procurement in deregulated markets, compared to the 2015 survey.

Differences by RE Share of Total Energy Mix

In this section, we analyze differences in procurement strategies at companies surveyed according to their RE share, which is the percentage share of a company's total energy consumption derived from renewable energy. This RE metric placed companies into two separate groups: "top quartile" and "others." Companies in the top quartile group — respondents that placed among the top 25 percent in terms of RE share — are procuring at least 43 percent of their energy from renewables, while companies in the "others" group — those among the remaining 75 percent of respondents — are procuring less than 43 percent of their energy from renewables. The purpose of this section is to identify whether procurement strategies at top quartile companies differ from those deployed by companies with lower RE shares.

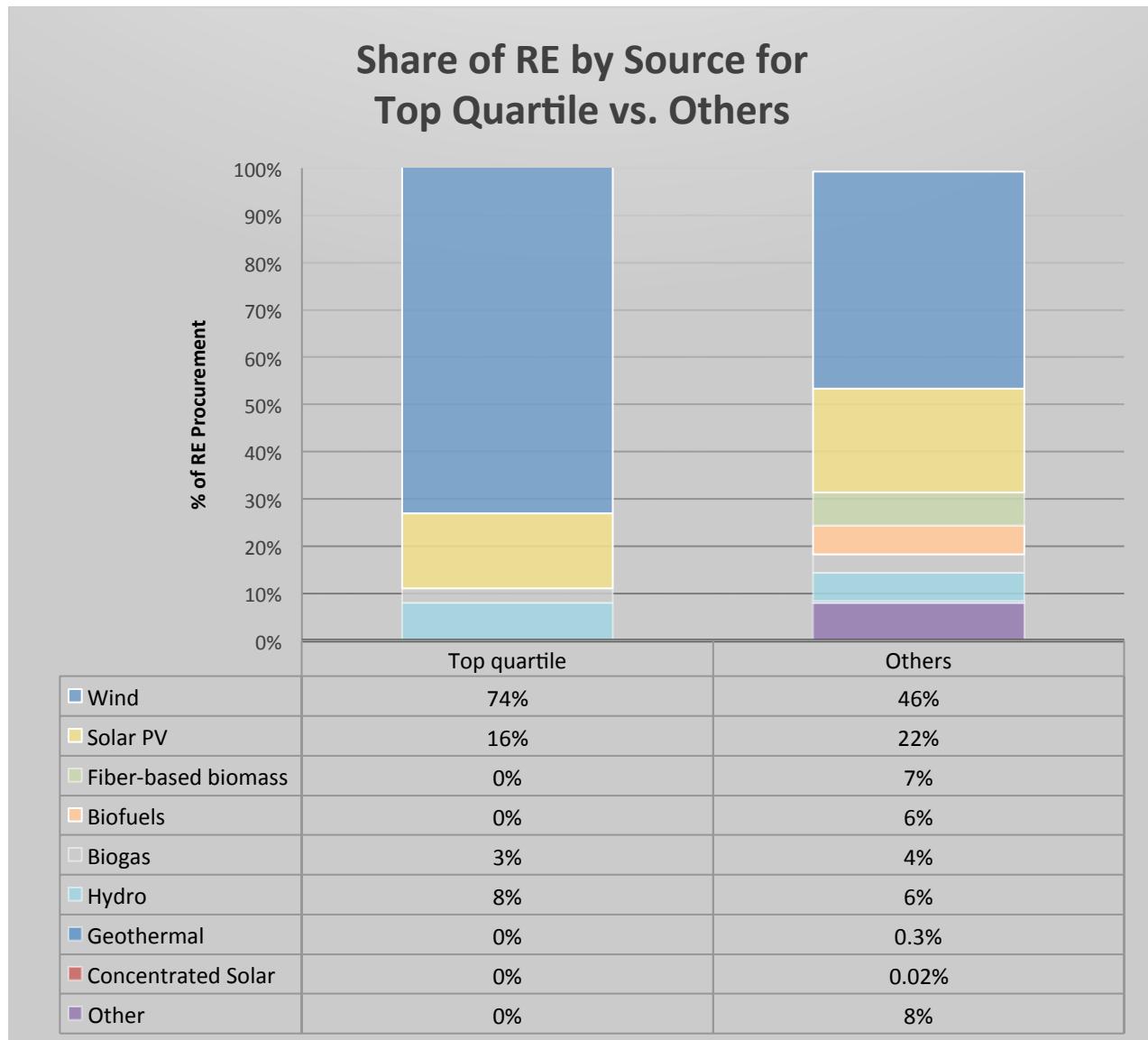
3.1 RE Procurement Instruments for Top Quartile vs. Others



Key Findings:

- **Unbundled RECs** account for nearly half of **top quartile** companies' total RE procurement, followed by **Physical PPAs**. This is roughly equivalent to the share of unbundled RECs reported in the 2015 survey.
- Companies with **lower RE shares** are procuring two-thirds of their total RE using a mix of physical PPAs, self-owned generation, and unbundled RECs. This is also consistent with the 2015 survey.
- The greatest disparity between the two groups lies in their use of RECs and self-owned generation — with top quartile companies using self-owned generation the least.
- Shared renewables, green tariffs, and self-owned generation are used very little by the top quartile.

3.2 Share of RE by Source for Top Quartile vs. Others

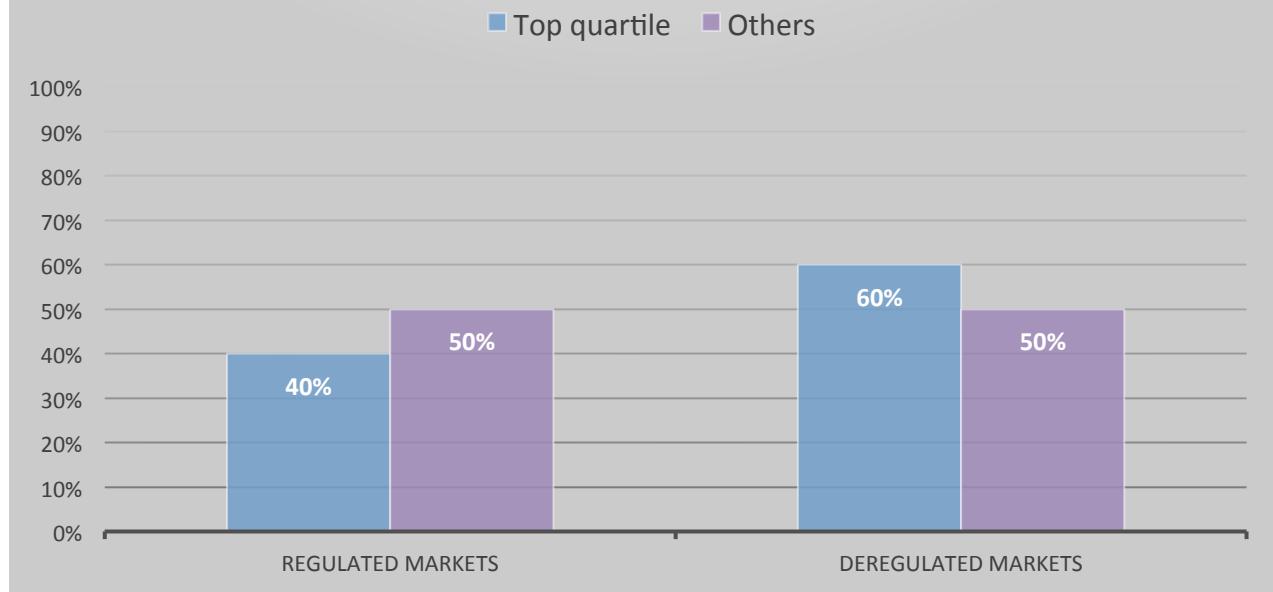


Key Findings:

- Wind and solar PV are the **dominant RE sources** across both groups.
- However, companies in the **top quartile** procure much **more wind than others**. Top quartile companies are more likely to set RE targets and as a result, may need greater amounts of cost-effective RE, which is often best met with wind in the current market.
- Companies in the top quartile depend on a combination of wind, solar PV, hydro, and biogas to meet their goals, while companies with lower RE shares rely on a greater diversity of RE sources.

3.3 RE Procurement in Regulated vs. Deregulated Markets

RE Procured in Regulated vs. Deregulated Markets



Key Findings:

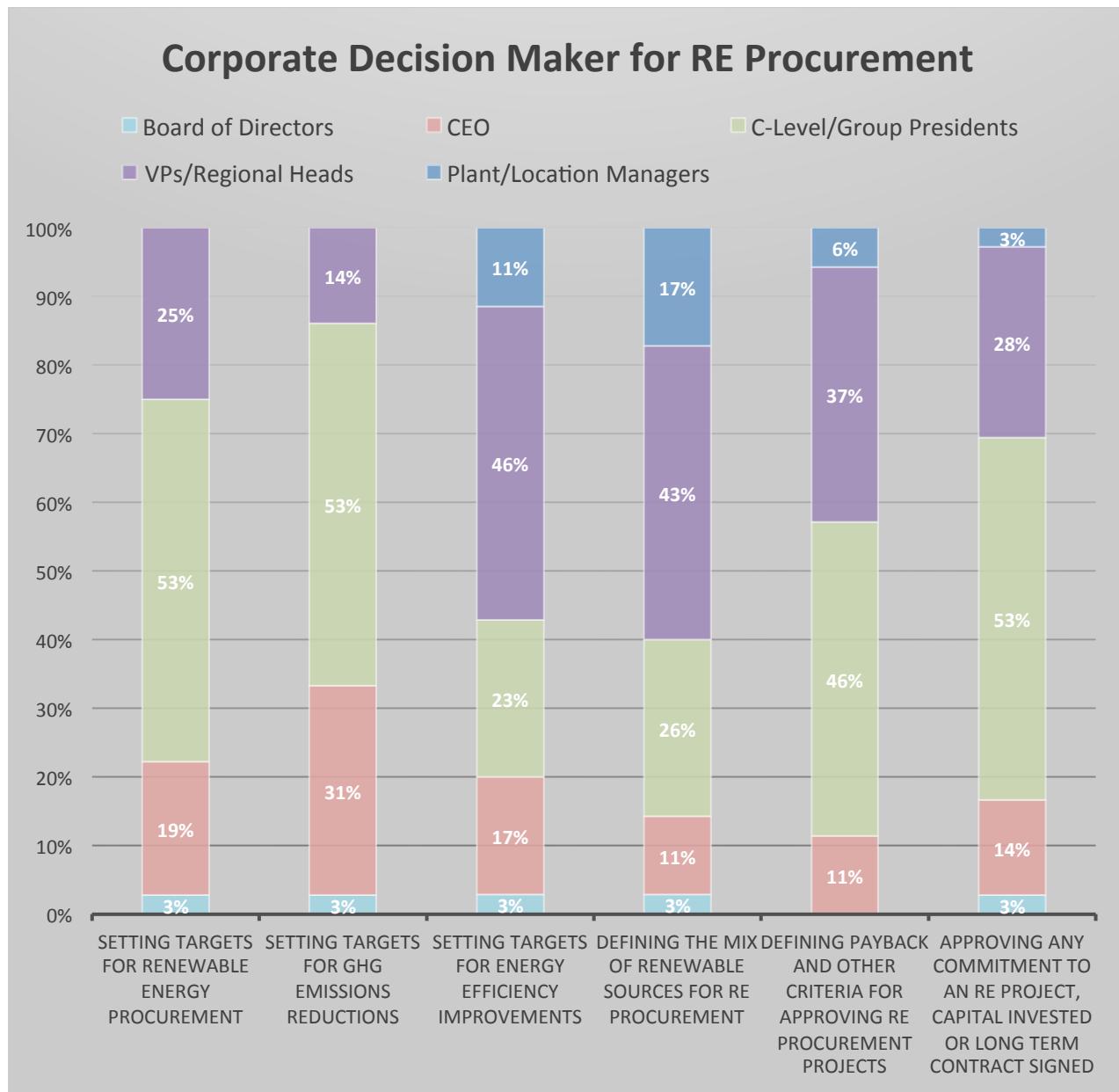
- Companies in the **top quartile** are procuring a majority of their renewable energy in **deregulated markets** — retail choice and access to wholesale markets enables these companies to procure larger amounts of renewable energy.
- Companies with lower RE shares are evenly split between both market types.

Procurement and Implementation Strategies

Averages Across Respondent Group

4.1 Corporate Decision Maker for RE Procurement

Survey Question: Currently, who in your company is ultimately responsible for decisions related to the following?

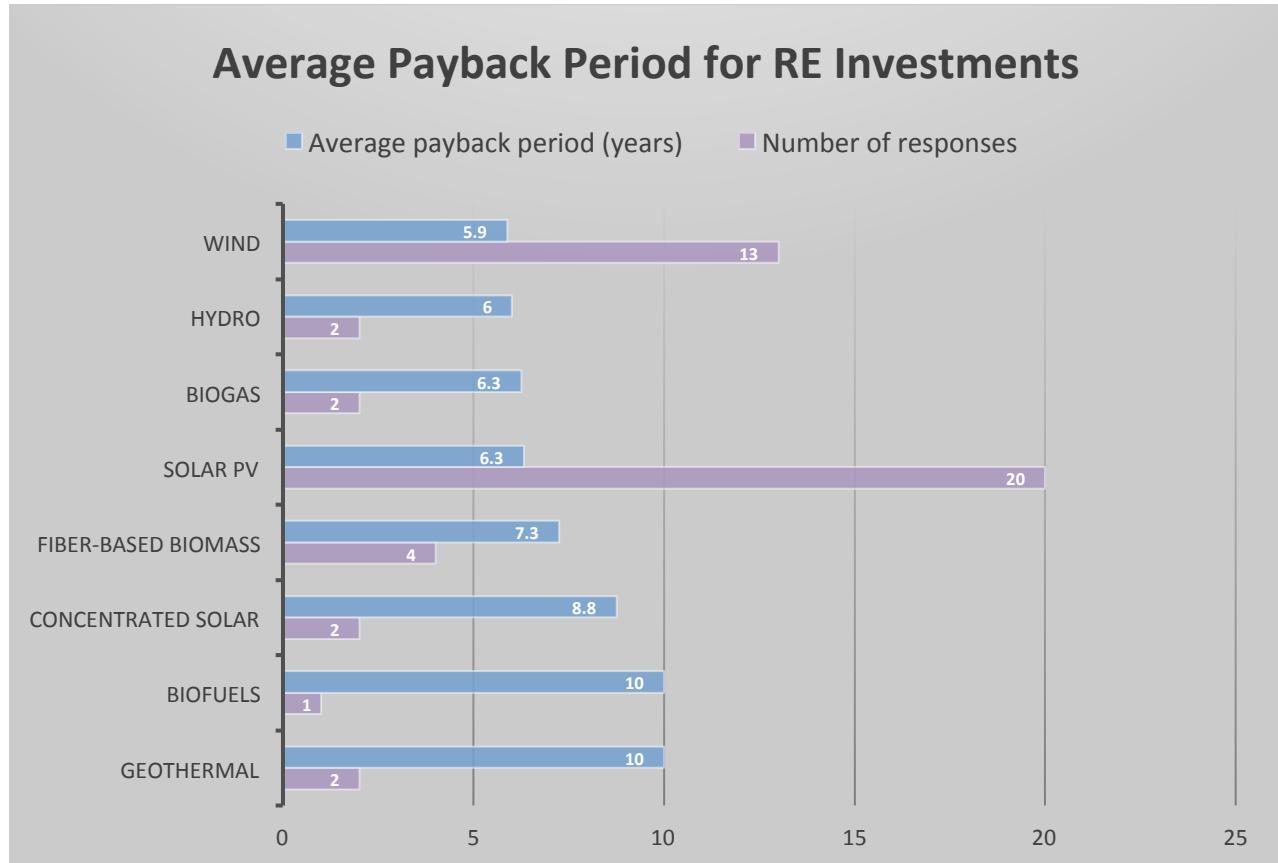


Key findings:

- Across all companies and sectors surveyed, respondents indicated that it is largely **vice-presidents/regional heads** and **group presidents/C-suite** members that are **setting the strategic direction** when it comes to renewable energy targets, policies, and projects.
- This is consistent with the 2015 survey, although this year respondents indicated that **CEOs are more involved**.
- Respondents report that top leadership is most involved in setting targets for GHG emissions, and least involved in defining the mix of renewable sources for procurement.

4.2 Average Payback Period for RE Investments

Survey Question: What are the approximate payback periods (in years) that you are currently seeing from investments in the following renewable sources?

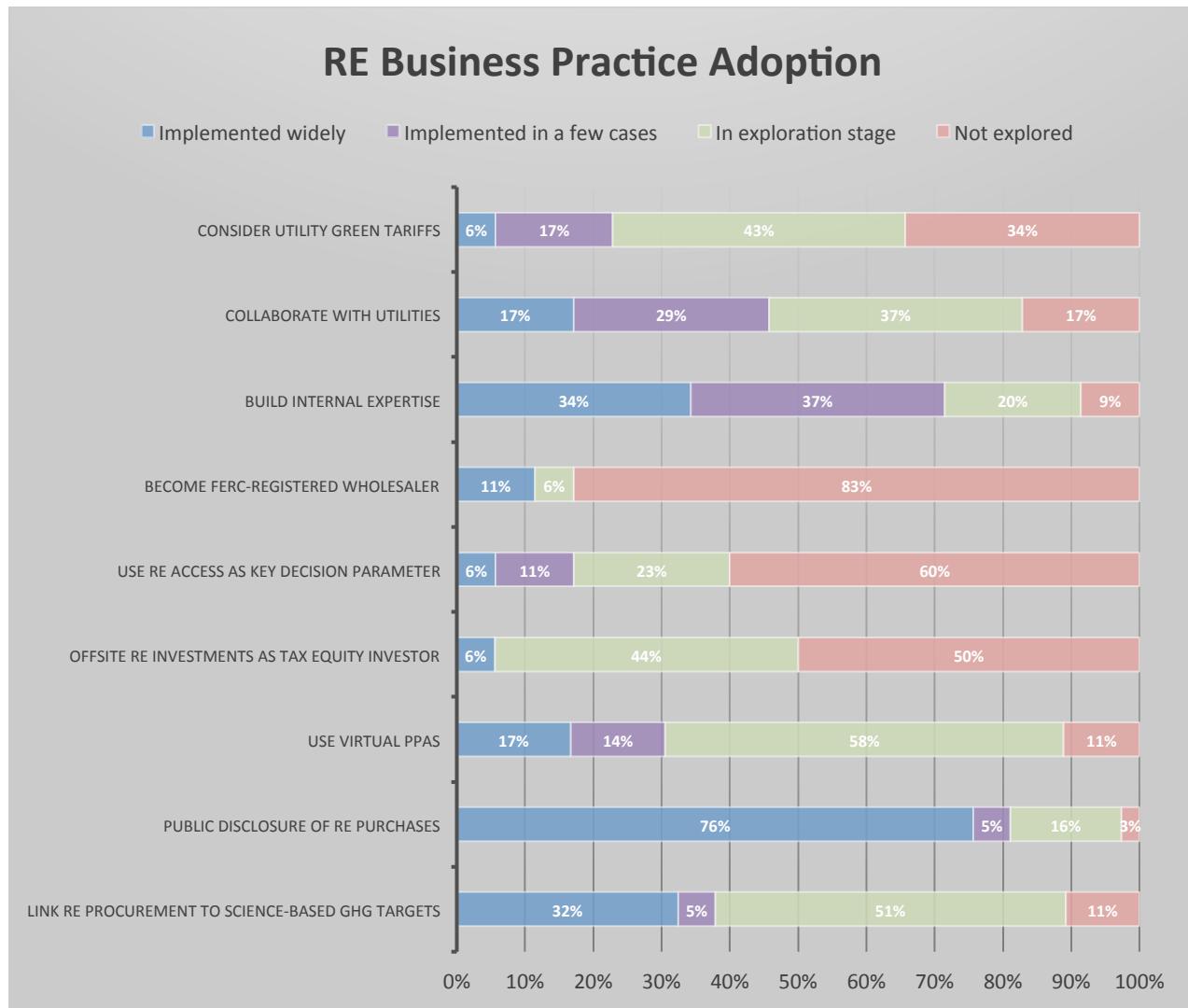


Key findings:

- Averaged across companies and sectors, respondents report that **wind- and hydro-based energy sources** are delivering the **shortest payback** periods (5.9 and 6 years, respectively).
- **Solar PV** is not far behind, with an average payback period of **6.3 years**.
- Wind and solar PV are the most common sources invested in, with all other renewable sources combined just equaling the amount of wind procured.
- Although there were very few respondents who reported payback periods for biofuels or geothermal, these two sources appear to have the longest payback period, with both being at least 10 years.
- Compared with the 2015 survey, solar PV has made the most significant change. In the 2015 survey, solar PV was reported as having an average payback of around 10 years, giving it the longest payback of all source types. In the 2016 reported data, it jumped to having one of the shortest payback periods. Although this is an industry trend, we urge caution before jumping to conclusions given the limitations in our data.
- In the 2015 survey, biomass, biofuels, and biogas were aggregated into one source type, and respondents reported it as having the shortest payback period by a wide margin. In the 2016 survey, respondents indicate that the individual bioenergy sources have payback periods toward the middle or bottom of the pack.
- Geothermal stayed consistent year-over-year as having a roughly 10-year payback period.

4.3 RE Business Practice Adoption

Survey Question: To what extent has your company adopted the following business practices related to renewable energy procurement?



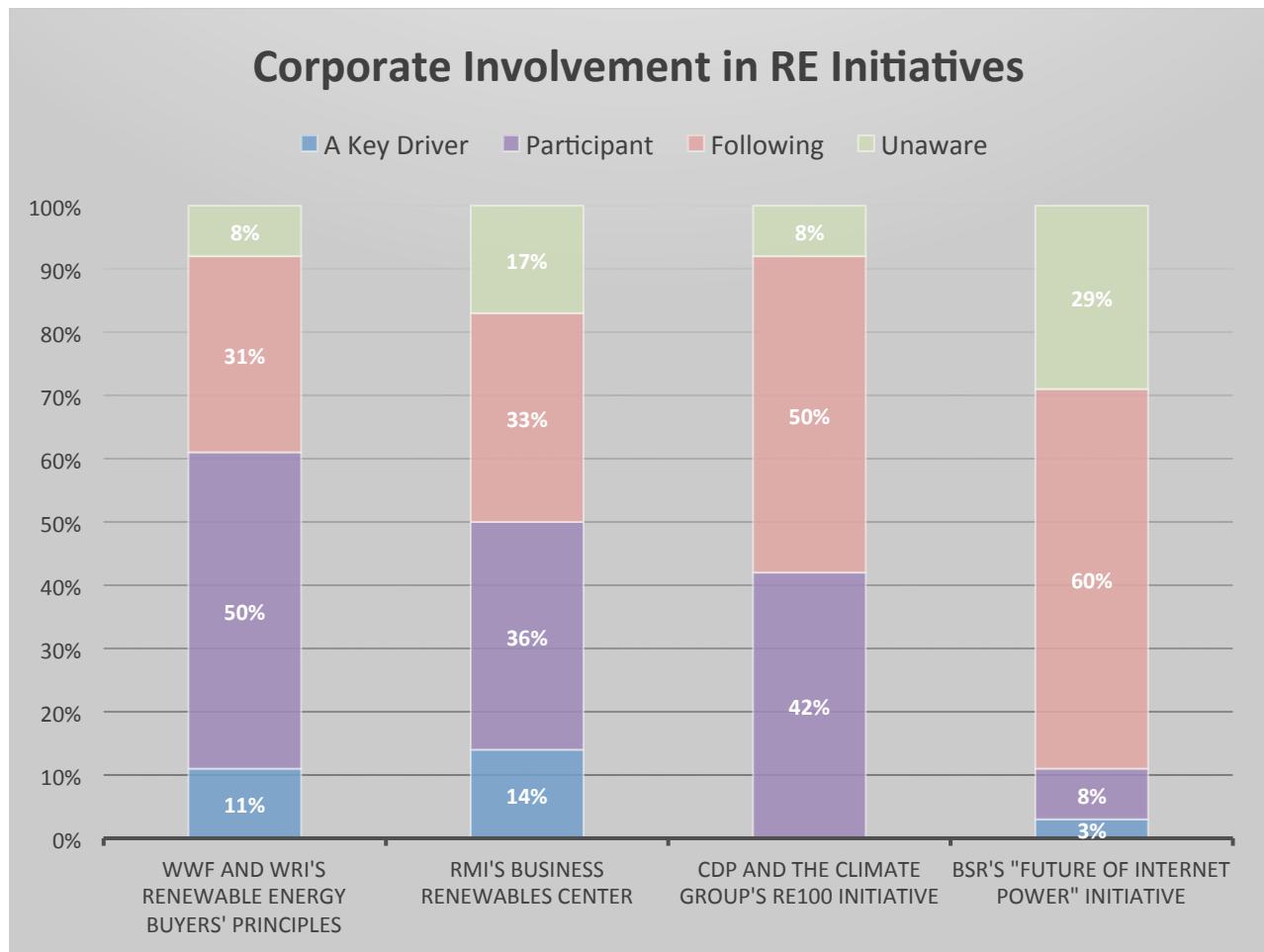
Key findings:

- **Public disclosure** of RE purchases is by far the **most widely implemented business practice**, followed by **building internal expertise** and linking RE procurement to **science-based GHG targets**. This may be because these practices have fewer internal obstacles, require fewer resources, and are more widely known and accepted. In other words, these practices may represent the low-hanging fruit of the renewable energy business practice spectrum.
- Respondents seem to be the **least interested** in becoming a **FERC-registered wholesaler**. There could be many reasons for this, including the fact that nearly all respondents are using the energy they generate for their own operations (and therefore do not have surplus energy to sell); that doing so might entail expanding into functions and areas that lie outside the core competencies of the surveyed firms; that they might operate in states without favorable regulatory regimes; or simply that the surveyed firms were unaware of this particular approach.

4.4 Corporate Involvement in RE Initiatives

- We identified four major NGO-led collaborative initiatives to raise awareness about opportunities, reduce complexity, and expand access to affordable renewable options. We asked survey respondents about their knowledge/participation in the following:
 - RE Buyer's Principles (WWF/WRI)
 - Business Renewables Center (RMI/WWF)
 - RE100 Initiative (Climate Group/CDP)
 - Future of Internet Power Initiative (BSR)

Survey Question: Please indicate the extent to which your company is involved with the following RE initiatives:⁴



Key findings:

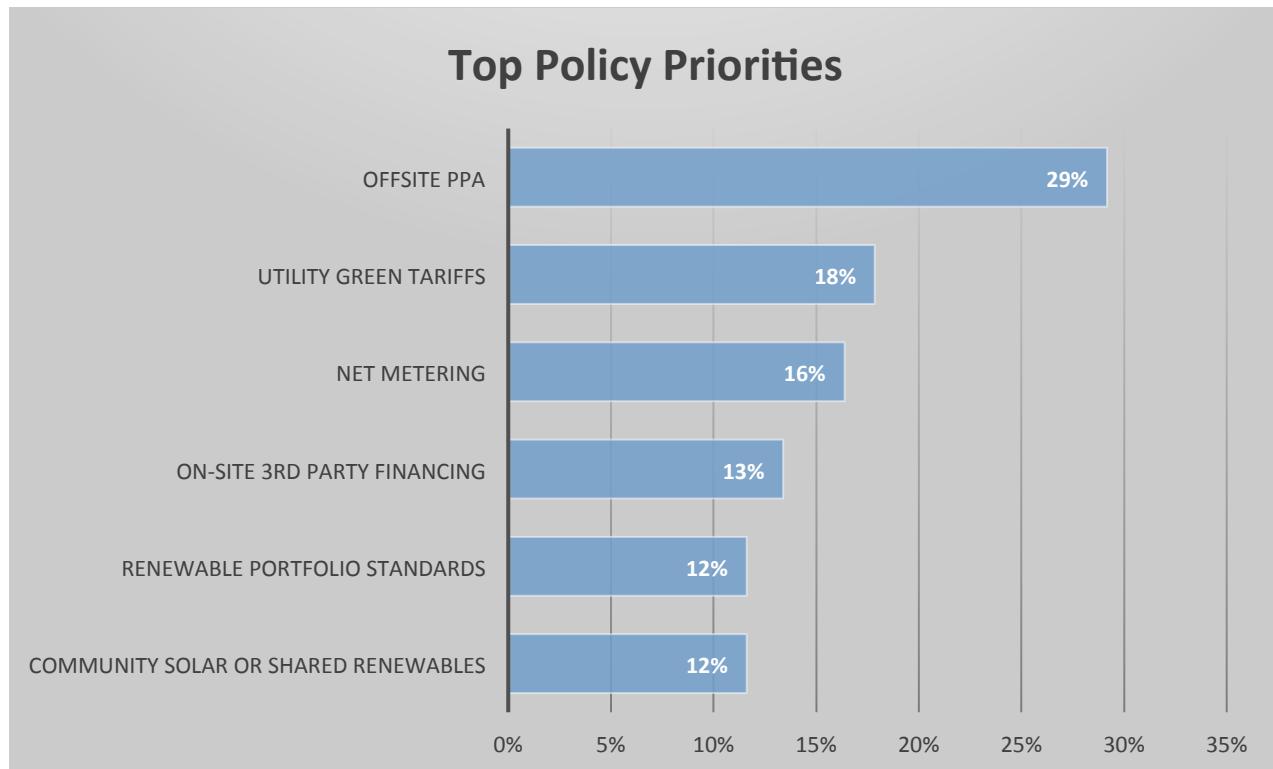
- Respondents report **high participation rates** in the WWF and WRI **Buyers' Principles** initiative, RMI's **Business Renewables Center**, and CDP/Climate Group's **RE100** initiative.
- This is a **significant jump in participation** across these four initiatives, compared to the 2015 survey.
- The respondent group is least familiar with BSR's Future of Internet Power Initiative, as it's geared specifically towards increasing the use of RE to power data centers.

⁴ Note: High participation in the Renewable Energy Buyers' Principles was expected, as signatories of this initiative participated in the survey.

Policy Priorities

5.1 Top Policy Priorities Across Companies

Survey Question: What are your top policy priorities in the United States?

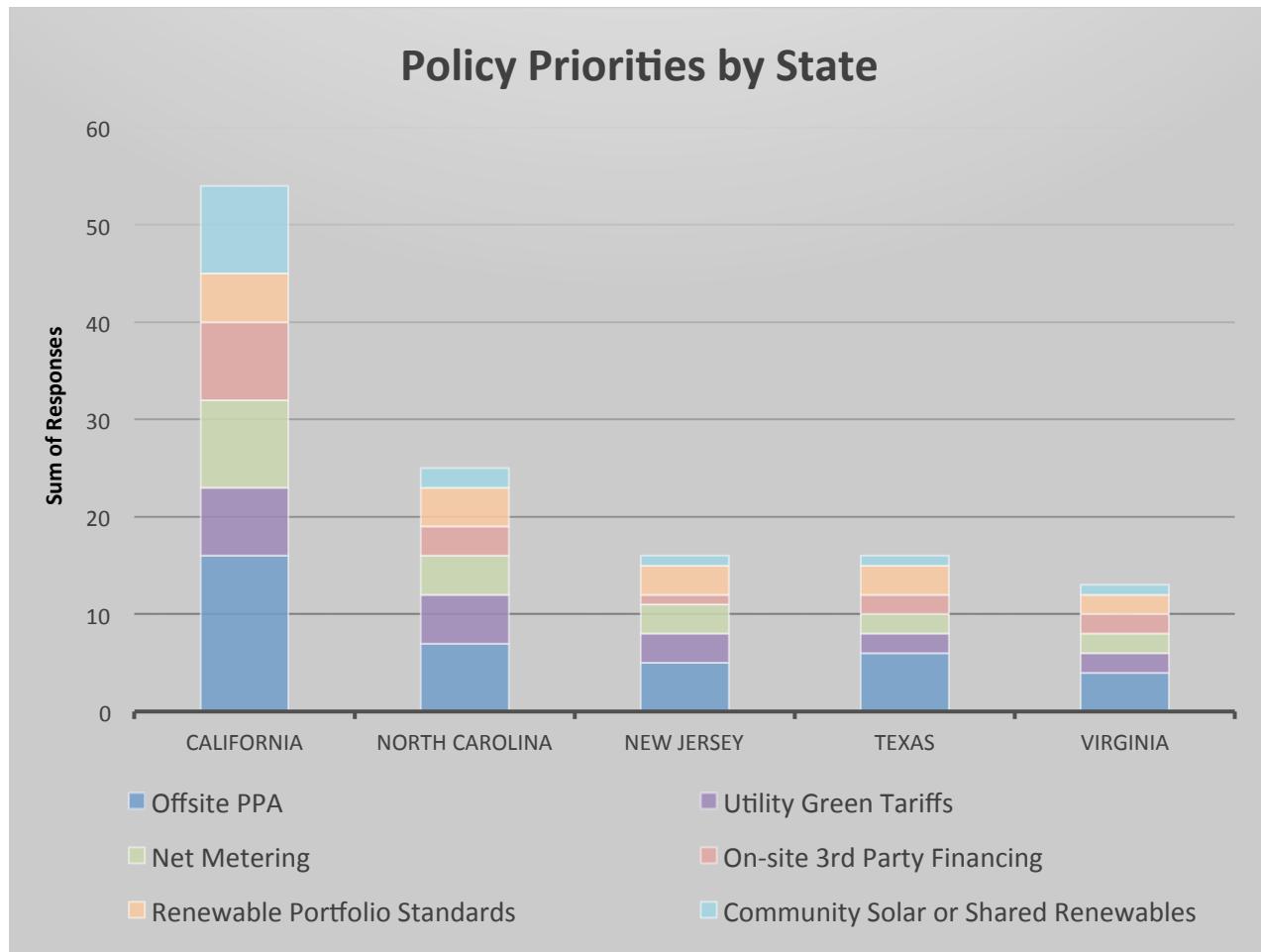


Key findings:

- Companies consistently ranked access to **offsite PPAs** as the **top policy priority** overall.
- The next five policy priorities ranked very closely, showing that a **variety of policy options are currently being utilized**.
- Despite this diversity of policy priorities, rank ordering of these priorities for each respondent depends heavily on which state-level markets respondents are conducting business in. A given states' policy and regulatory environment plays a large role in which policies are both feasible and cost-effective.

5.2 Policy Priorities by State

Survey Question: What are your priority states for policy engagement? What are your top policy areas of interest corresponding to your priority states?

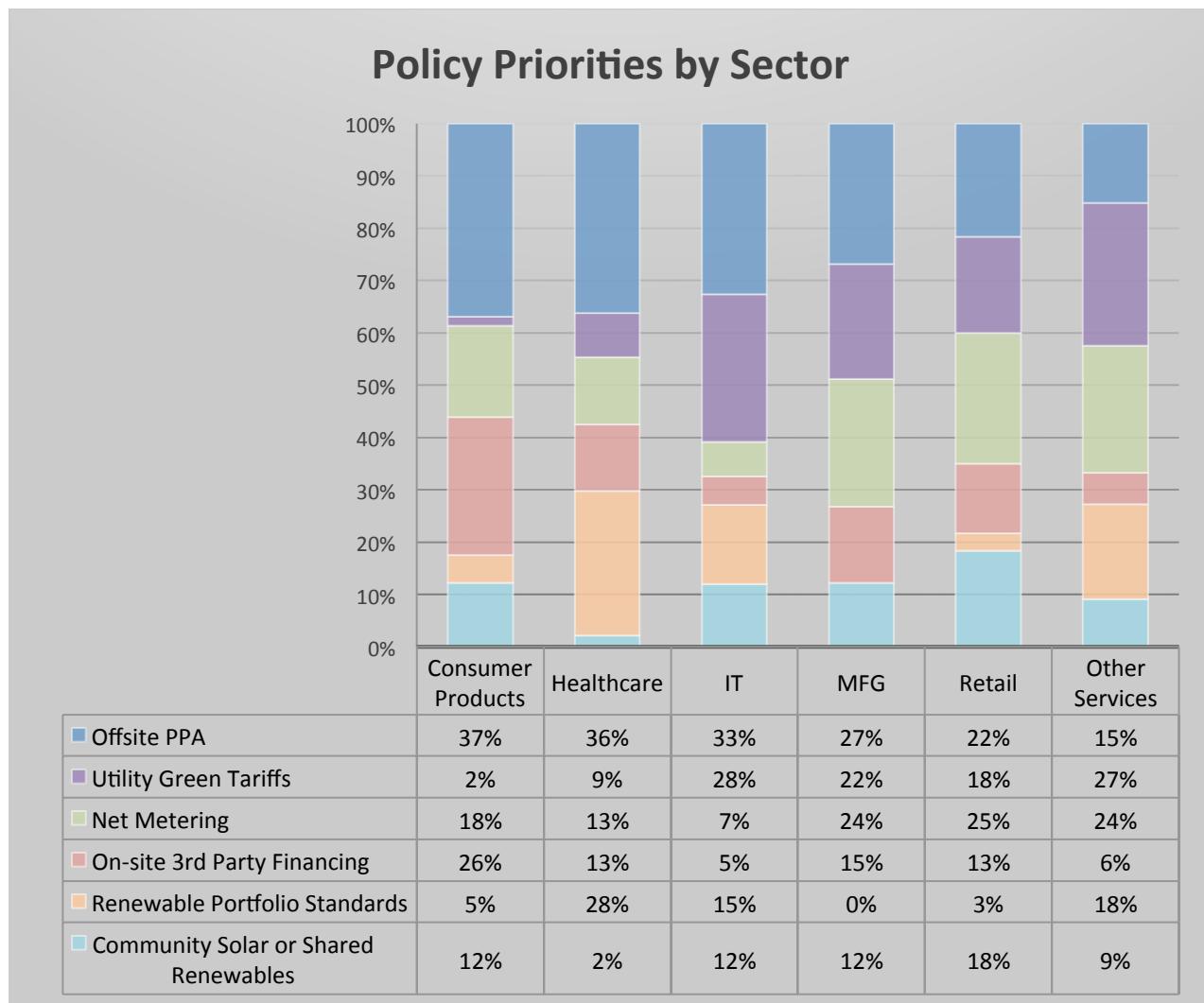


Key findings:

- The greatest number of respondents ranked **California** as important followed by North Carolina, New Jersey, Texas, and Virginia, to round out the top five.
- Within these states, **offsite PPAs** are still a consistent **top priority**.
- After offsite PPAs, the second order priorities had relatively low response counts so the following summary is not a conclusive expression of priorities. In California, community solar and net metering were the next highest priorities while utility green tariffs were the next highest priority in North Carolina. The RPS, net metering rules, and utility green tariffs were cited as second tier priorities for New Jersey, Virginia, and Texas. In Texas, the high interest in offsite PPA access may be attributable to companies' support to continue expanding the use of large-scale wind energy PPAs in Texas' restructured market.

5.3 Policy Priorities by Sector

Survey Question: What are your priority states for policy engagement? What are your top policy areas of interest corresponding to your priority states? (Analyzed by sector)

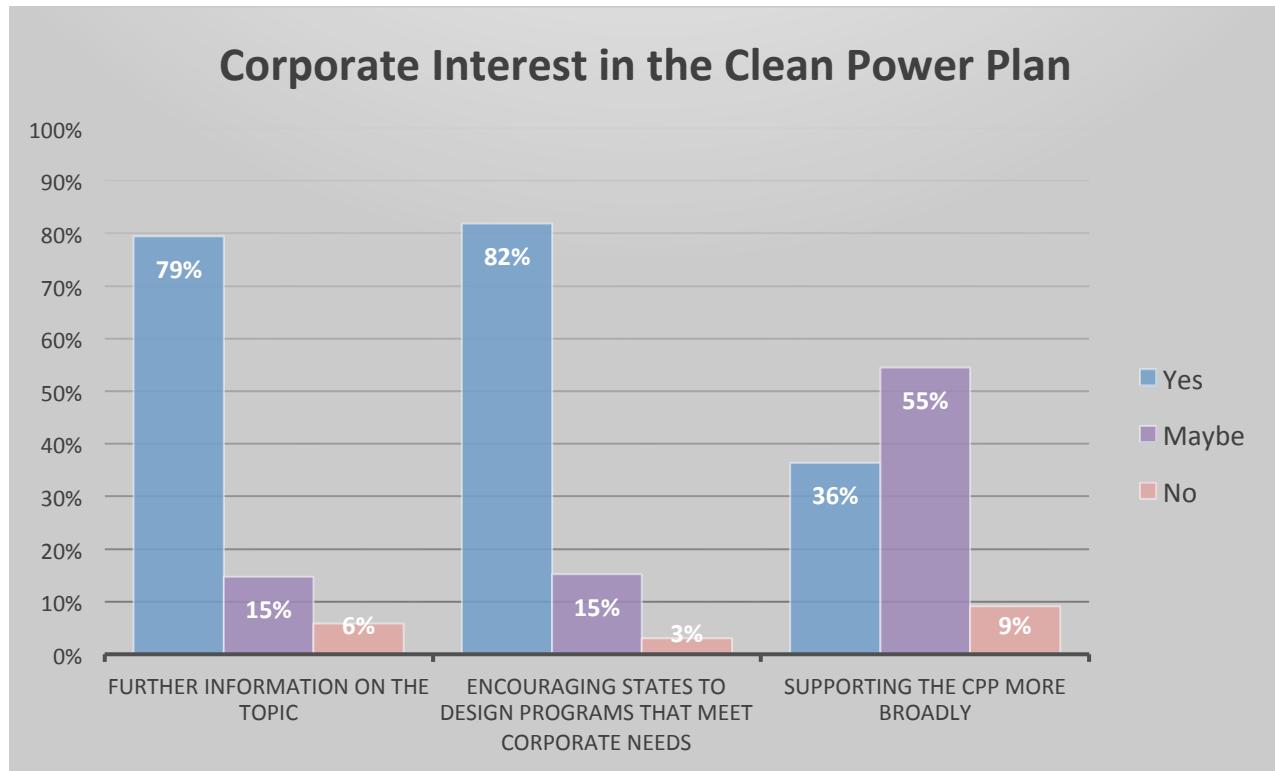


Key findings:

- High priorities:** Offsite PPA's remain the top priority across sectors, though they may be less of a priority for Retail and Other Services sectors but highest priority for the other sectors.
- IT/High Tech rates utility green tariffs as higher priority than any other industry, while on-site 3rd party financing is a runaway leader in Consumer Products. Net metering is most prevalent in Manufacturing, Retail and Other Services, which may be attributed to these industries' reliance on large square footage physical facilities that can host onsite solar. However, it's surprising that Consumer Products doesn't also place a high priority on net metering to accompany their priority for onsite 3rd party financing.
- In general, companies are looking for a diversity of policies and the sample size may be too small to detect significant differences in priority by sector.

5.4 Corporate Interest in the Clean Power Plan

Survey Question: If and when the Clean Power Plan (CPP) is implemented, it will significantly impact how businesses make public claims on the grid emissions avoided due to their voluntary renewable energy purchases, and more general claims about how voluntary purchases drive additional renewable energy deployment. With regards to the CPP, are you interested in the following?

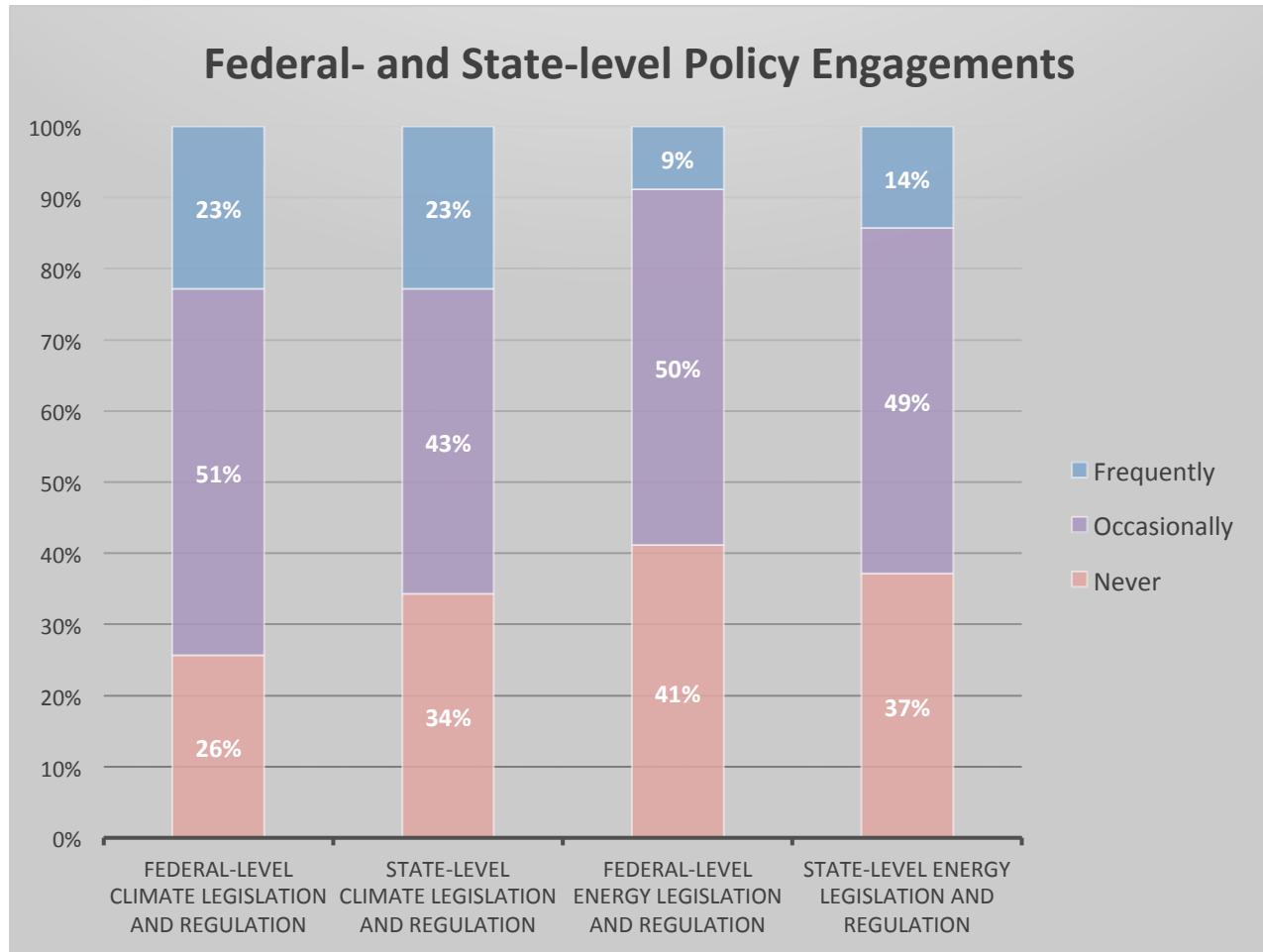


Key findings:

- The majority of **companies would like more information** on whether to support the Clean Power Plan, which suggests a general lack of knowledge/expertise regarding its impacts.
- Unsurprisingly, the majority of companies would like to **encourage state-level utilities** to design programs that meet corporate RE procurement needs while complying with the Clean Power Plan. Whether or not companies would like for these programs to be separate from Clean Power Plan compliance programs was not ascertained by this survey, but would be an important distinction moving forward.
- Comparatively, only a third of companies feel prepared to say that they would support the CPP more broadly. This may speak to the knowledge deficit that exists around the CPP.

5.5 Federal- and State-level Policy Engagements

Survey Question: How often does your company engage in:

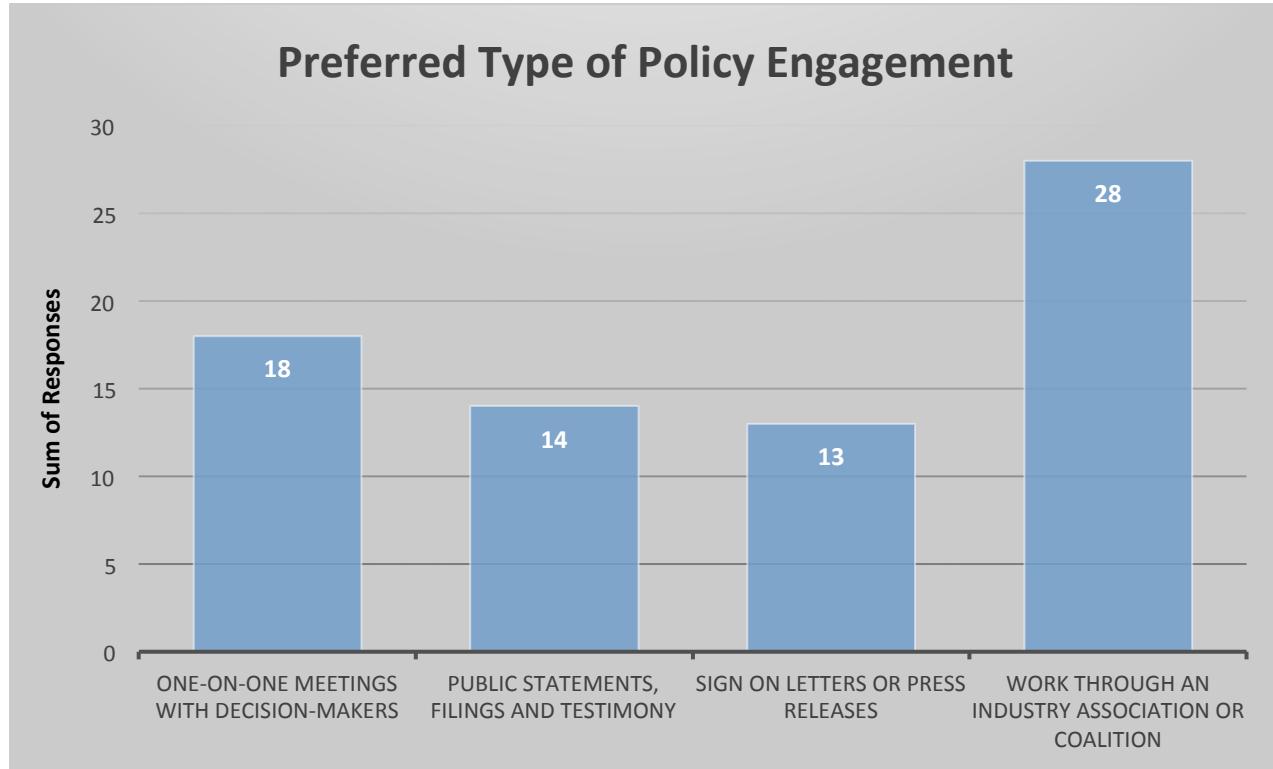


Key Findings:

- Most companies only engage on state or federal policy only occasionally or never.
- Companies report they are as much as **twice as likely to engage with climate legislation and regulation** at both the federal and state levels than with *energy* legislation and regulation.
- **Federal-level energy legislation and regulation** is the **least-likely** type of policy engagement for respondents to engage in.
- Federal-level *climate* legislation and regulation is the most likely type of policy engagement for respondents to engage in. However, it is unclear as to which specific pieces of legislation are classified as climate- or energy-focused at the federal level, so respondents may have interpreted this differently.

5.6 Preferred Type of Policy Engagement

What are your preferred methods of engagement on energy policy?



Key Findings:

- The **most-preferred** type of policy engagement is to work through an **industry association or coalition**.
- The **second most-preferred** type of policy engagement is a **one-on-one meeting with decision-makers**.
- Signing onto letters or press releases and issuing public statements, filings, and testimony are the least-preferred types of policy engagement.

ANNEX A: Top Research and Industry Insights

As interest in and demand for renewable energy continues to rapidly grow, so too does the availability of literature related to it. In order to both inform this briefing and provide the reader with an updated overview of the latest research on renewable energy procurement, we conducted a literature review. The review focused primarily on industry-related publications, in order to ensure that the findings have a highly practical value.

What follows in this annex are overviews of two recent reports that are highly relevant to the 2016 CEF/WWF survey. For these reports, one from PricewaterhouseCoopers (PwC) and another from the American Council on Renewable Energy (ACORE), we compare findings with those in our survey to identify any parallels, divergences, or gaps. It is important to note that the respondents for these reports are likely different than the respondents for our report; nonetheless, we think it is still valuable to review these resources, with the aim of getting a more complete picture of the state of corporate renewable energy procurement.

[Corporate Renewable Energy Procurement Survey Insights](#)

By PwC, June 2016

Comparing PwC's findings to the 2016 CEF/WWF survey:

PricewaterhouseCoopers (PwC) surveyed select large U.S.-based companies with large energy footprints and past purchases of renewables. While their survey and subsequent report is similar to ours, their report is more forward-looking, for instance examining *intent to purchase* in the future using various financing options. Our report looks at *current* purchasing trends. Both of our reports looked at drivers of purchases (ours focusing on drivers of actual purchases made, theirs at future purchases), and both reports identified a number of common motivators, such as meeting sustainability goals, reducing GHG emissions, limiting exposure to energy price volatility, and reducing supply risks. Finally, both reports consider who is involved in decision-making. The PwC report looks laterally to identify various business functions involved, and our report looks vertically to identify what level of seniority is involved.

An overview of the PwC survey:

- **Of the companies surveyed, 72% are actively pursuing RE procurement**
 - Of this group, 46% of respondents have established RE goals and 80% have established GHG reduction goals
- **What are the top-3 motivations driving intent to purchase RE?
(Respondents actively pursuing RE procurement)**
 - Desire to meet sustainability goals and to reduce GHG emissions
 - Generate an attractive ROI
 - Limit exposure to energy price variability
- **How have inclinations to purchase RE changed in the last 6 months?**
 - 63% of respondents are more inclined to purchase RE
 - 85% of companies surveyed who have made a purchase in the past are inclined to make additional purchases in the next 18 months
 - 32% of respondents reported that their inclination to purchase RE had not changed
 - 5% of respondents became less inclined to purchase RE
- **Intended future purchases (% of respondents):**
 - Respondents report that onsite power purchase agreements (PPAs) and offsite traditional PPAs will account for most RE purchases in the next 18 months
 - Renewable energy certificates (RECs) are expected to play a larger role in overall procurement in the next 18 months than they did in the past

- **What are the most important RE technologies over the next 12-24 months?**
 - Solar and wind are expected to dominate purchasing decisions at companies surveyed in the next 12-24 months
- **Which business functions are essential to the decision making process?**
(In rank order)
 - Facilities/energy management
 - Sustainability
 - Finance
 - Operations
 - Procurement
- **How many of these business functions are involved in process?**
(In rank order)
 - At least two
 - More than three
 - Only one
- **What are the top pain points in the RE procurement process?**
(In rank order)
 - Building internal support
 - Negotiating contract
 - Defining strategy
 - Other
 - Identifying project

[Corporate Renewable Energy Procurement: Industry Insights](#)

By ACORE, June 2016

Comparing ACORE's findings to the 2016 CEF/WWF survey:

ACORE, or the American Council on Renewable Energy, recently released a report intended to provide guidance on key renewable energy procurement considerations faced by corporate decision-makers. It provides industry insights into contracting, procurement and financing, policy and legal considerations, and technology options. In preparing the report, ACORE looked primarily to its Corporate Procurement Working Group, which is a network of renewable financiers, developers, power generators, and corporate consumers. Consistent with both our and PwC's report, ACORE found that power purchase agreements (PPAs) are an increasingly popular procurement mechanism, particularly virtual PPAs. Their report took a different approach and looked at contextual factors to underscore the dynamics that are increasingly favorable to renewables: fossil fuel price volatility, price parity, policy support, and voluntary environmental/sustainability commitments. Similar to the findings in our report, they noted that although wind power is generating substantially more electricity than solar currently is, solar energy is experiencing significant growth, in line with the dramatic reduction in payback period found in our report.

An overview of the ACORE report:

- **Market overview**
 - Utilities have historically shouldered the burden of RPS requirements. To meet requirements, utility demand for RE increased; as demand for utility-scale RE power plants went up, the price of power from those plants (esp. wind and solar) has gone down due to lower construction costs and tech improvements.
 - Corporate procurement under PPAs is on the rise: the AWEA reported 52% of all wind energy PPAs executed in 2015 was with non-utility purchasers, up from 22% in 2013.
 - Power procured under a corporate PPA can provide cost savings due to the relative low price of RE.
 - PPAs also reduce market price volatility risk for an extended period (typically 10-25 years).
 - Virtual PPAs are a popular alternative for companies sited in urban areas without ready access to renewable power sources.
 - Corporate offsite renewable energy has more than doubled every year since 2012 and is projected to grow to more than 60 GW by 2030.
 - Some companies are constructing RE projects on-site or adjacent to the facilities to be powered.
 - Benefits: economic (discussed above), tax credits, reduced risk from power outages.
 - RE procurement can open new doors for purchasers, such as access to additional sources of capital.
 - In 2015, approximately \$329 billion was invested in clean energy globally.
 - In many cases there is a fuzzy line between federal/state jurisdictions on electricity markets, which can complicate corporate procurement activities.
 - RE PPAs still make sense for corporate buyers even considering the historic low prices of natural gas for 4 reasons:
 - Price volatility (natural gas and other fossil fuel prices have historically been unstable; RE displays no such volatility)
 - Price parity (wind & solar prices are already competitive with, and in some markets even cheaper than natural gas)
 - Policy support (e.g., Paris Agreement, US Clean Power Plan)

- Environmental commitments (many buyers have carbon reduction commitments best met through RE procurement)
- Renewables made up a record 61% of new capacity installations in 2015, nearly double new natural gas capacity.
- In 2015, more than half of all wind PPAs in the U.S. were executed by corporate, non-utility renewable energy purchasers.
- Regulated utilities are increasingly responding to corporate demand by procuring renewable energy on behalf of corporate purchasers, either through long-term contracts or asset ownership.
- As wind power prices drop (down 60% over last 5 years), companies view RE as a viable way to reduce their carbon footprint. As a result, corporate customers invested in/procured over 3 GW of offsite renewables in 2015.
- **Contracting insights**
 - Experienced corporate RE buyers report that building internal support is the hardest aspect of the procurement process.
 - Internal RE champions that successfully create a cross-functional internal team and lead that team through a well-defined evaluation and buying process can greatly reduce procurement friction and generate successful buying outcomes.
 - A cross-functional team should be formed by the RE champion and an executive sponsor (who ensures executive support and helps secure an explicit executive mandate to work against)
 - The functions that need to be represented on a cross-functional RE procurement team are typically:
 - Operations and/or facilities, sustainability, finance, accounting, legal, and procurement.
 - A four-phase RE procurement process will likely involve:
 - Creating a shared mandate (define & establish consensus on rationale; secure mandate; set timeline and steps in the process; establish coordination and communication mechanisms)
 - Evaluating the options and developing a recommendation (use a systematic process to ID options; focus on 1 or 2 most attractive alternatives; develop RFP; analyze proposals; develop recommendation)
 - Driving a go/no go decision (drive a 2 stage process: 1- review and refine recommendations and business case with functional leaders; 2- receive formal approval from senior execs)
 - Closing the transaction (conduct due diligence; negotiate with supplier; finalize siting and engineering)
 - Why are businesses leading the way with driving RE deployment? Several reasons, including:
 - Desire to hedge future energy prices, brand enhancement, differentiate products or services, respond to stakeholder engagement, or in many cases, a combination of all these reasons.
 - What are the top RE instruments for business?
 - Signing PPAs, developing onsite RE, working with competitive electricity providers, engaging in a utility green power program, participating in community solar projects, and purchasing unbundled renewable energy credits (RECs).
 - While these options all have benefits, in order to make any claim about using or supporting renewable energy, companies must answer own the RECs.
 - Unbundled RECS: company owns the RECs
 - PPAs: depending on the agreement, company may or may not own RECs
 - Competitive electricity supplier (where allowed): company should own the RECs
 - Utility green power program: company always owns the RECs

- Community solar (where allowed): depending on the program, company may/may not own the RECs
 - Onsite RE: company may/may not own the RECs
 - Leased RE: company usually does not own the RECs
- Many businesses are leasing their facilities, and so are often unable/unmotivated to make upgrades to their properties. Locating a solar project offsite also allows for those users with substantial energy use to enjoy the benefits of solar without occupying a large portion of their property.

[Opportunities to Increase Corporate Access to Advanced Energy: A National Brief](#)

By Meister Consultants Group, August 2016

As companies accelerate purchases of renewable energy, policy and regulation in many states constrain certain types of purchases. In other states, legislators, utilities, or utility regulators have enacted policies to expand corporate access to advanced energy. The Meister report looks at the role that policies play in expanding corporate access to renewable energy and identifies policy options that states are using to enable corporate renewable energy purchases. The report then considers where these policies have the greatest potential to expand corporate access. From this analysis, 11 states overall emerged as priority states for one or more of the policies profiled on the basis of its potential to increase corporate access to renewable energy: Alabama, California, Florida, Georgia, Indiana, Kentucky, Michigan, Minnesota, North Carolina, Ohio, and Texas. The six policies assessed either support purchases from offsite facilities, including, 1) utility green tariffs, 2) utility-enabled back-to-back power purchase agreements (PPAs), and 3) direct access tariffs; or enable onsite installation, including, 4) raising system size limits; 5) allowing third-party ownership; and 6) allowing virtual or aggregated metering. The Meister report ranked priority states for advancing certain policies based on where these policies could have the greatest impact, whereas our survey asked corporate purchasers to rank their priority states based on where they are most looking to deploy renewable energy and which policies are most important to them in those states. California, North Carolina, and Texas appear in both priority state lists but we asked about a slightly different set of policy options in those states, including offsite PPA access, onsite 3rd party PPAs, net-metering, community solar and Renewable Portfolio Standards (RPS).

An overview of the Meister report:

- There is no one-size-fits-all transaction or contract structure to meet the varying needs of corporate customers operating in diverse regulatory regimes, geographies, cost constraints, and with varying energy needs.
- Simple, low-commitment options include purchasing RECs (renewable energy certificates) or utility “green power purchasing programs.”
 - Companies have expressed a strong desire for purchasing options that go beyond strictly REC-based purchases, since they do not generate savings or confer long-term price or fuel-hedging benefits, nor do they necessarily support additional (new) project development.
- Categories of remaining options include large offsite projects and distributed energy resources.
- **Large offsite purchases (expanding offsite options)**
 - Utility-scale projects are a particularly attractive option for companies with high electricity use and in states with good renewable potential and favorable economics for large projects.
 - “The main barrier to accessing large offsite purchases is the electricity market structure in the state where a company or facility is located, and in particular whether utilities are vertically integrated or restructured”.
 - Nearly across the board, the customers of vertically integrated utilities cannot choose their electricity supplier, while customers in restructured markets can.
 - Companies without electric choice can still purchase generation from utility-scale advanced energy projects if states have enacted policies that enable such purchases through tariffs or other programs.
 - Utility renewable energy tariffs (aka “Green Tariffs”) allow utility-scale purchases from a portfolio of competitively-procured, utility-delivered projects;
 - Back-to-back utility PPA tariffs allow utility-scale contracts with specific projects: electric utilities agree to procure power from a specified advanced energy facility and adjust the rate charged to the customer according to the cost of the contracted price negotiated by the customer and facility owner;
 - Direct access tariffs allow limited electric choice to certain customers.

- The five states ranked highest on the “policy opportunity index” for offsite purchases (states with regulated electricity markets, no currently available options for the three tariffs just described, high in-state corporate energy consumption, and significant in-state renewable energy resources) include: California, Florida, Indiana, Michigan, and Minnesota.
- **Distributed energy resources (expanding onsite options)**
 - Procuring power from local, distributed resources is appealing for companies that have many locations spread across a state or across the country, and is particularly attractive in regions with strong distributed energy potential.
 - Distributed generation projects are a good option for companies that have appropriate space at their facilities to host a project.
 - In order to present an attractive purchasing pathway for large corporate customers, there must be a mechanism in place to credit customers for generation from distributed energy resources.
 - Even in states that have such a mechanism, there may still be barriers. Policies to overcome those barriers could include: raising system size limitations, allowing third-party ownership, and allowing virtual or aggregated metering.
 - The top five ranked states for policies to raise system capacity limits, based on the potential to increase corporate access to advanced energy: Texas, California, Michigan, Alabama, and Kentucky.
 - The top five ranked states for policies to allow third-party ownership, based on the potential to increase corporate access to advanced energy: Indiana, Florida, North Carolina, Alabama, and Minnesota.
 - The top five ranked states for policies to allow virtual or aggregated metering, based on the potential to increase corporate access to advanced energy: Texas, Florida, Ohio, Indiana, and Georgia.

ANNEX B: Notable Examples in Corporate RE Procurement

There have been several examples of corporate leadership in RE procurement over the last 24 months. To provide a concise summary, we used Rocky Mountain Institute's [BRC Deal Tracker](#) — which tracks new corporate RE deals as they are announced to the public — to identify the largest RE transactions over the last 24 months.

The 2016 column in the chart below only reflects RE deals completed through September 2016 and is not indicative of year-over-year trends, as many RE deals are completed at the end of the calendar year.



ANNEX C: Notable Tools and Resources

While there are several notable tools and resources related to RE procurement, this section offers select tools and resources that aim to help companies navigate the complexities of procuring RE.

Business Renewables Center (BRC)

- “BRC Marketplace” (<http://bit.ly/2dMc34a>)
 - Online platform that connects corporate buyers and service providers with available renewable energy projects.
- “BRC Deal Tracker” (<http://bit.ly/2dMcHhW>)
 - Tracks new corporate renewable energy contracts as they are announced.
- “Primers and Guides” (<http://bit.ly/2dMda3V>)
- “Corporate RE Procurement Case Studies” (<http://bit.ly/2dMcBa8>)

New Energy Opportunities (NEO) Network (Schneider Electric) is an online platform that connects large companies interested in purchasing renewables to project developers, investors, and other key stakeholders. The collaborative platform was created to help companies reduce the amount of time spent identifying and vetting renewable energy projects.

IRENA Project Navigator (International Renewable Energy Agency) is an online platform that provides sustainability practitioners with the knowledge, tools, case studies, and best practices needed to support the successful completion of their RE projects.

Future of Internet Power

- “Best Practices for Colocation Data Centers: A Guide to Maximizing Renewable Energy Mix” (<http://bit.ly/2dr4z3V>)
- “Intelligent Low-Carbon Power Sourcing for Data Centers” (<http://bit.ly/2dr5BwQ>)
- “The Corporate Colocation and Cloud Buyers’ Principles” (<http://bit.ly/2dr4I7x>)

Renewable Energy Buyers’ Principles

- “Corporate Renewable Energy Buyers’ Principles” (<http://bit.ly/2dMbJm0>)
 - Developed by 62 corporate signatories to spur progress on resolving the challenges they face when buying renewable energy, and to add their perspective to the future of the U.S. energy and electricity system.
- “Emerging Green Tariffs in U.S. Regulated Electricity Markets” (<http://bit.ly/2dMbfMy>)
- “Corporate Renewable Energy Strategy Map” (<http://bit.ly/1PhsbBS>)
 - Helps companies identify states that enable access to renewable energy at the scale they need through their utility. It highlights utility green tariff programs and other utility energy products that allow customers to meet their clean energy goals and lower electricity costs and compares each product to the Corporate Renewable Energy Buyers’ Principles.

ANNEX D: Key RE Procurement Initiatives

Several important NGO-private sector collaborative initiatives have formed to identify and tackle key barriers. Notably, World Wildlife Fund (WWF), World Resources Institute (WRI), Business for Social Responsibility (BSR), Rocky Mountain Institute (RMI), Climate Group, and CDP are working to promote collaboration and complementarity among their respective efforts.

1. [**Corporate Renewable Energy Buyer's Principles**](#) (WWF/WRI)

The Renewable Energy Buyer's Principles, in partnership with participating companies, was created to frame the challenges most commonly encountered in corporate renewable energy purchasing. The initiative outlines 6 principles that tell the market what corporates need to increase their access to and use of renewable energy. To implement the Buyers' Principles, WWF and WRI are working to collaboratively expand renewable energy purchasing options with regulated utilities, where corporate options are most limited. As of publishing, 62 major companies demanding over 45 million megawatt hours of renewable energy to meet their 2020 goals have signed the Buyer' Principles.

[Click here](#) for a list of **participating companies**.

2. [**Business Renewables Center**](#) (RMI)

The Business Renewables Center (BRC) was created to accelerate and simplify the adoption of offsite corporate renewable energy purchasing. The BRC's goal is to help corporations procure 60 gigawatts of renewable energy by 2030 by providing: (1) a communications platform to raise awareness and champion successes and opportunities; (2) a community of leading thinkers and industry practitioners, who actively participate in identifying hurdles and solutions to market growth; and (3) a knowledge base of known obstacles and proven solutions, and software tools to facilitate transactions.

[Click here](#) for a list of **participating companies**.

3. [**Future of Internet Power**](#) (BSR)

The Future of Internet Power initiative is comprised of technology companies that are interested in advancing low-carbon, sustainable power for data centers. The initiative enables businesses to share best practices, collaborate with select utilities and policymakers, and develop a platform that drives growth in the renewable energy sector. [Click here](#) for a list of **participating companies**.

4. [**Renewable Energy Buyers' Alliance**](#) (BSR, RMI, WRI and WWF)

REBA is led by four non-profit organizations (BSR, RMI, WRI and WWF) to integrate the three initiatives described above. These NGOs bring together their deep expertise in transforming energy markets to work across customers, suppliers, and policymakers to identify barriers to buying clean and renewable energy and then develop solutions that meet rapidly growing corporate demand. Collectively the four REBA partners work with more than 60 iconic, multinational companies that represent enormous demand for renewable power. REBA also coordinates with the RE100 campaign, supporting companies who have signed onto their 100% renewable energy commitment. REBA's goal is to help corporations purchase 60GW of additional renewable energy in the US by 2025.

5. [**RE100 Initiative**](#) (The Climate Group with CDP)

The RE100 initiative was created to encourage at least 100 major companies to commit to 100% renewable energy by 2020. The initiative supports companies by helping to identify best practices for RE implementation, financial implications associated with transitions, and risks and rewards of options.

[Click here](#) for a list of **participating companies**.

6. [**EPA's Green Power Partnership Initiative**](#) (EPA)

The EPA Green Power Partnership is a platform that provides expert advice, tools, and resources for organizations seeking to diversify their energy mix with 'green' power products such as renewable energy credits, green pricing programs, and on-site generation.

[Click here](#) for a list of **participating companies**.