SMART ENERGY DECISIONS RESEARCH

The State of Corporate Renewable Energy Sourcing

October 2019

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Introduction

Renewable energy now plays a major role in reducing costs and meeting sustainability targets for an increasing number of large electric power users. Renewable energy sources accounted for 11% of total U.S. energy consumption and about 17% of electricity generation in 2018, according to the U.S. Energy Information Administration. The question is: how far can renewable energy go?

Smart Energy Decisions' third annual *RE Sourcing Survey* uncovers ways in which the industry continues to change and grow, as early adopters expand their use of renewable energy and new market entrants are attracted by novel methods of sourcing and more flexible contract terms.

This report continues our exploration of insights into renewable energy procurement. Respondents represent 110 organizations—commercial, industrial, institutional and government—at various levels of experience in RE sourcing, from considering their first purchase through having completed more than five purchases. The respondents shared their perceptions and realities of renewable sourcing, including types and methods used for procurement, drivers, barriers, targets, and preferred partners.

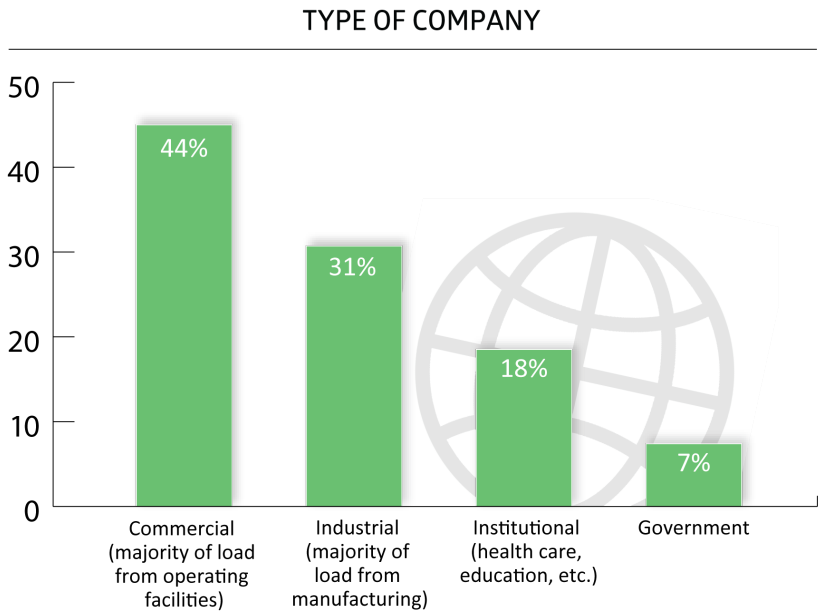
Read on to see where procurement of renewable energy by large electric power users is now and where it is going.

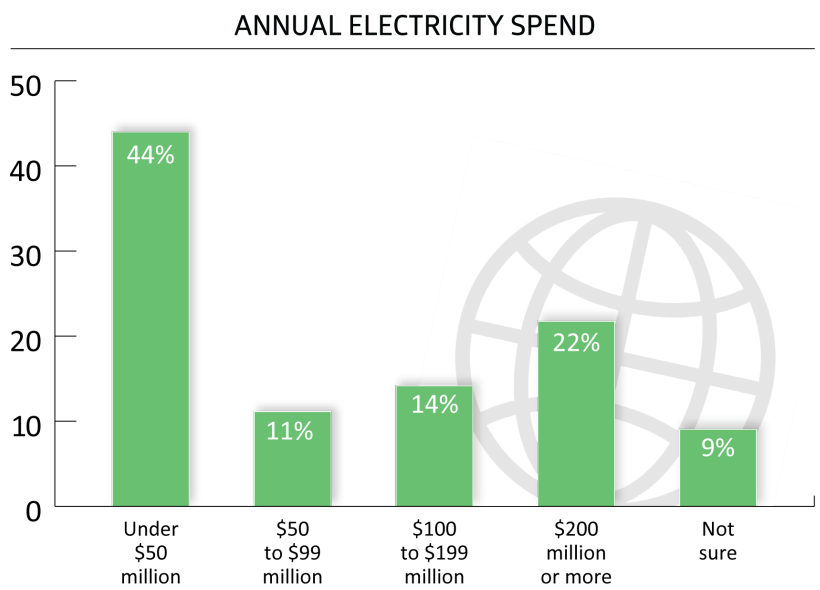
Methodology

An electronic survey was conducted among readers of Smart Energy Decisions in July and August 2019. A total of 110 organizations that have completed or are considering renewable energy (RE) purchases are included in these results.

By company type, 44% represent commercial companies, followed by 31% from industrial companies, 18% from institutions and 7% from government.

Almost one-half of all respondents have energy budgets of at least $50 million a year, with 22% at $200 million or more.





Q. *Which of the following is the best classification of your company?*

Q. *What is your company's annual electricity spend?*

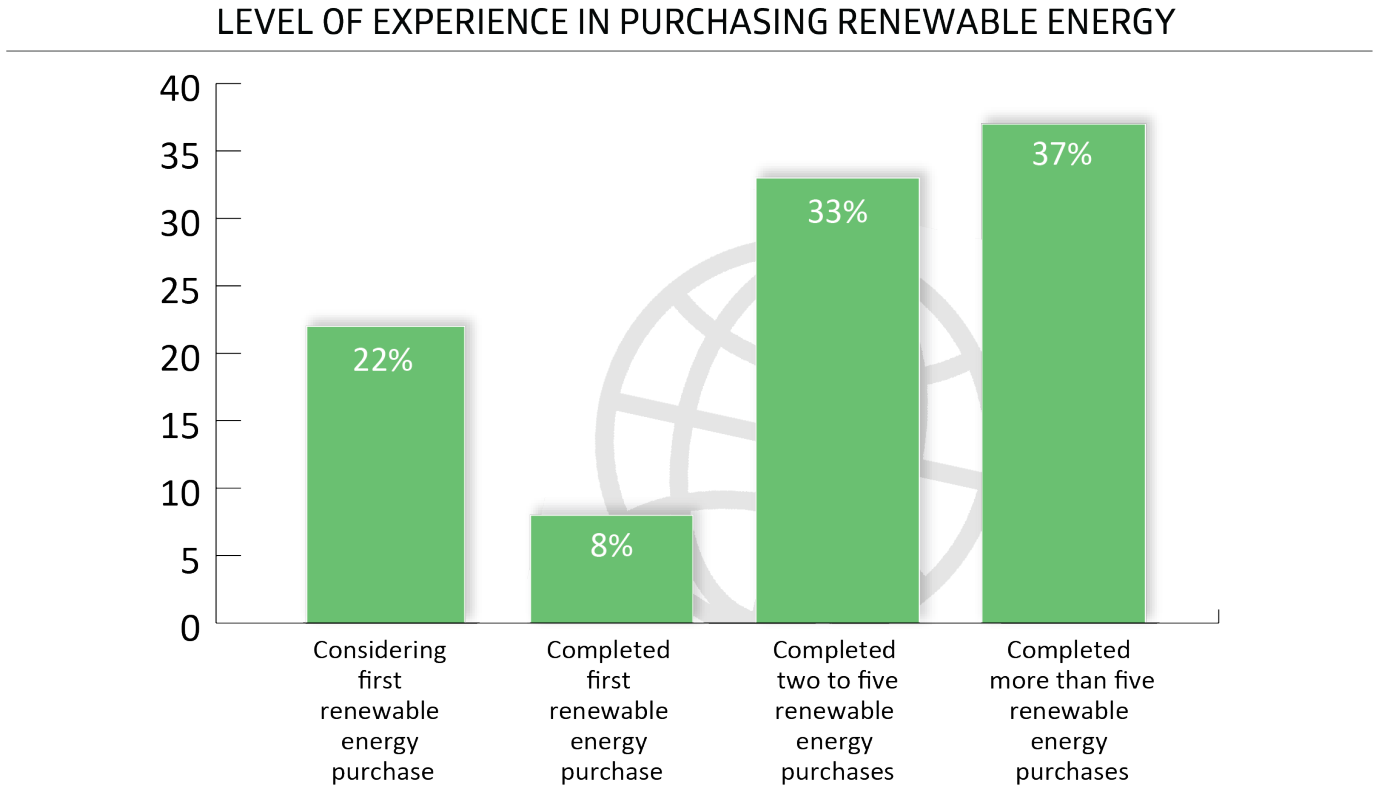
Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Survey respondents by company

2Life Communities
Atlantic County Utilities Authority
Air Products & Chemicals, Inc.
American Honda Motor Co., Inc.
American Tower Corp
Arcelormittal
Arizona State University
Arlington County, VA
AutoZone, Inc.
Blue Cross/Blue Shield of NC
Becton, Dickinson and Company
Best Buy
Brevard Public Schools
Bridgestone Americas
Bryn Mawr College
California Institute of Technology
California State University/Dominguez Hills
Cargill
CBRE Group, Inc.
Central New Mexico Community College
Chumash Casino Resort
Cinemark
Cisco
Citrix Systems, Inc.
City of Ames
City of Charlotte
City of Fort Collins
City of New Bedford
City of Portland
Comcast Corporation
Cox Enterprises Inc.
Crown
Dillard's Inc.
Dollar General Corp.
The Dow Chemical Company
Eastern Michigan University
Eastman Chemical Company
Eaton, Corp.
Electrolux NA
Equinix, Inc.
Facebook
FedEx Ground
Ferrero
Flextronics, Inc.
Gap
General Dynamics Information Technology
Georgia College & State University
Giant Eagle
Halliburton
Havertys Furniture
Hiland Dairy Foods Co.
Hormel Foods Corporation
Humber College
IBM
Intuit
Jamestown, L.P
JLL
Johnson & Johnson
Johnson & Wales University–Denver
Johnson Controls
Kohler, Co.
The Kroger Co.
Lockheed Martin
Lockheed Martin Aeronautics
Marriott International
McDonald's Corporation
Merck
Michelin Aircraft Tire Corp.
Michigan State University
Mohawk Industries, Inc.
MOM's Organic Market
NFI Industries
Northern Arizona University
Northrop Grumman
Occidental
Oswego
Owens Illinois, Inc.
Parkway School District
PepsiCo, Inc.
PetSmart, Inc.
Powdr
Praxair Inc.
Procter & Gamble
Puget Sound Energy Inc.
Raritan Valley Community College
Red Robin International, Inc.
Rutgers University
Salesforce
Samsung
Slippery Rock University
Southwestern Illinois College
Spirit AeroSystems
Sprint
Starbucks Coffee Company
Steelcase Inc.
Swiss Re
TD Bank
Thermo Fisher Scientific
TJX Companies, Inc.
Ulta Beauty
University of Alabama at Birmingham
The University of British Columbia
University of Colorado Boulder
Upstate Niagara Cooperative Inc.
Walmart
Weis Markets
West Chester University
WeWork
Whole Food Market
Yardi

A wide range of experience

Overall, 78% of respondents included in the study have completed at least one renewable energy purchase, while 22% are considering their first purchase. By company type, industrial operators have more experience with RE projects than their commercial counterparts: more than half have completed more than five RE purchases, compared to less than one-third of commercial respondents. When companies have specific sustainability targets, they also have completed more projects than those without targets.

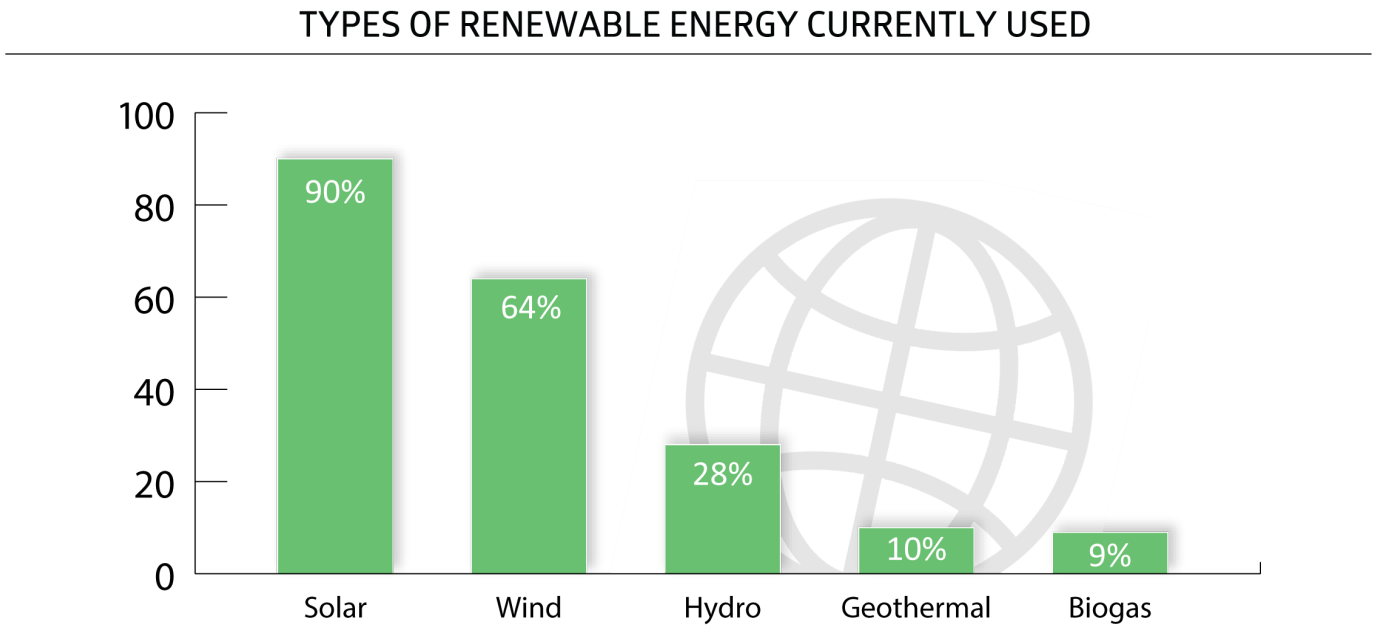


Q. *What best describes your company's level of experience in purchasing renewable energy?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Solar continues to lead

Solar continues to dominate as a source of renewable energy, as it is currently being used by 90% of respondents with a renewable energy portfolio. Wind follows at nearly two-thirds (64%). Hydro is used by just over one-quarter (28%) of respondents. Higher levels of experience also translate to expanding beyond solar, as almost 80% of respondents with more than five RE purchases use wind power, compared to 64% overall. Likewise, hydro usage jumps from 28% overall to 44% among these respondents with more than five RE purchases.

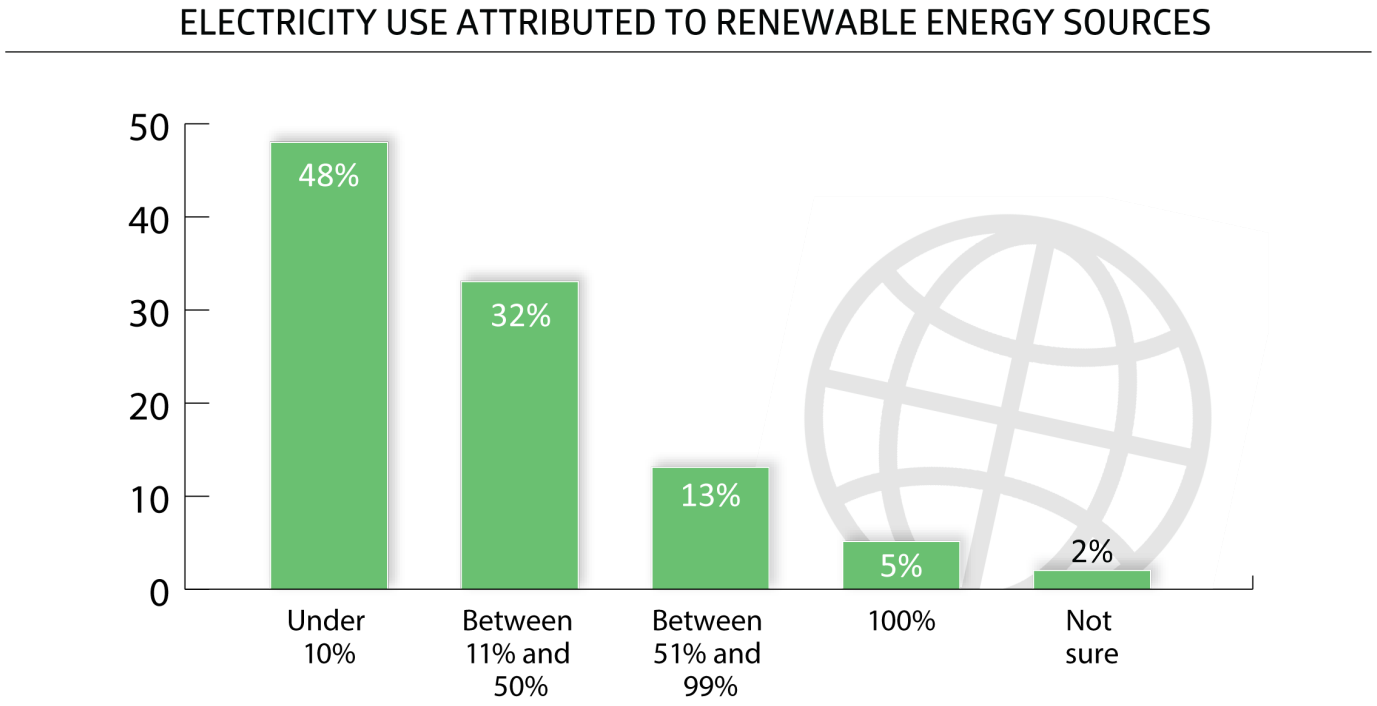


Q. *Which renewable energy sources are currently part of your portfolio? (Choose all that apply)*

Base: Respondents who have completed a renewable energy purchase • **Source:** SED Research, 2019

We're in the early innings of the ballgame

Use of renewable energy is still in early stages, as almost half of respondents (48%) who have completed RE purchases source less than 10% of their electricity from RE. Five percent provide all of their electricity with renewables. It's no surprise that companies who have completed only one project are on the lower end of the spectrum, with 67% getting less than 10% of their electricity from renewable sources.

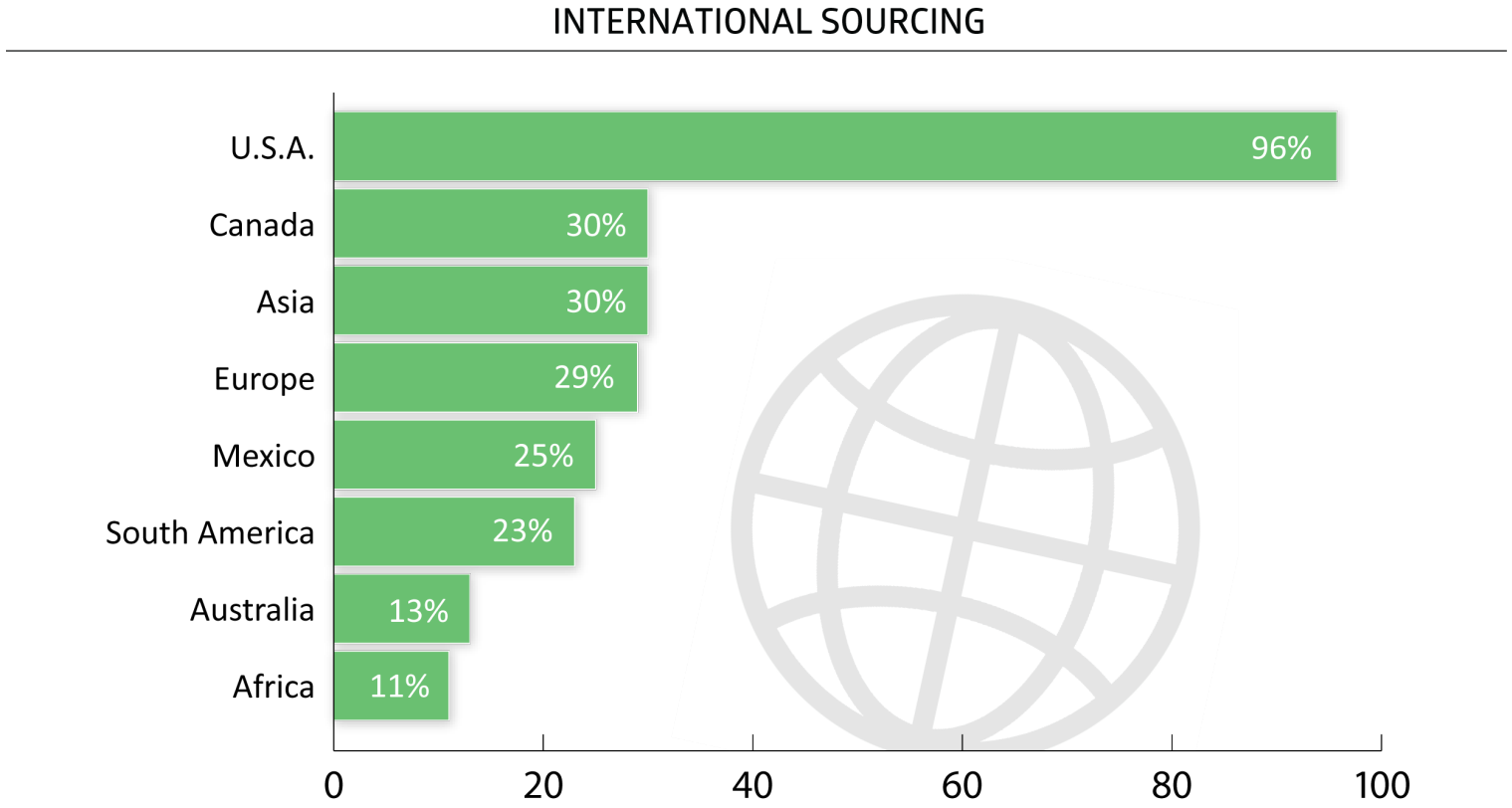


Q. *What portion of your total electricity use currently is attributable to renewable energy sources?*

Base: Respondents who have completed a renewable energy purchase • **Source:** SED Research, 2019

Global RE ambitions are emerging

Almost all respondents (96%) are interested in sourcing renewable energy in the U.S., with 56% interested only in sourcing domestically. Canada, Asia and Europe each received interest from one-third of respondents. Mexico and South America followed as areas of interest for about one-quarter each. Industrial companies, as well as those with a higher number of completed projects, also showed greater interest in sourcing outside of the U.S.

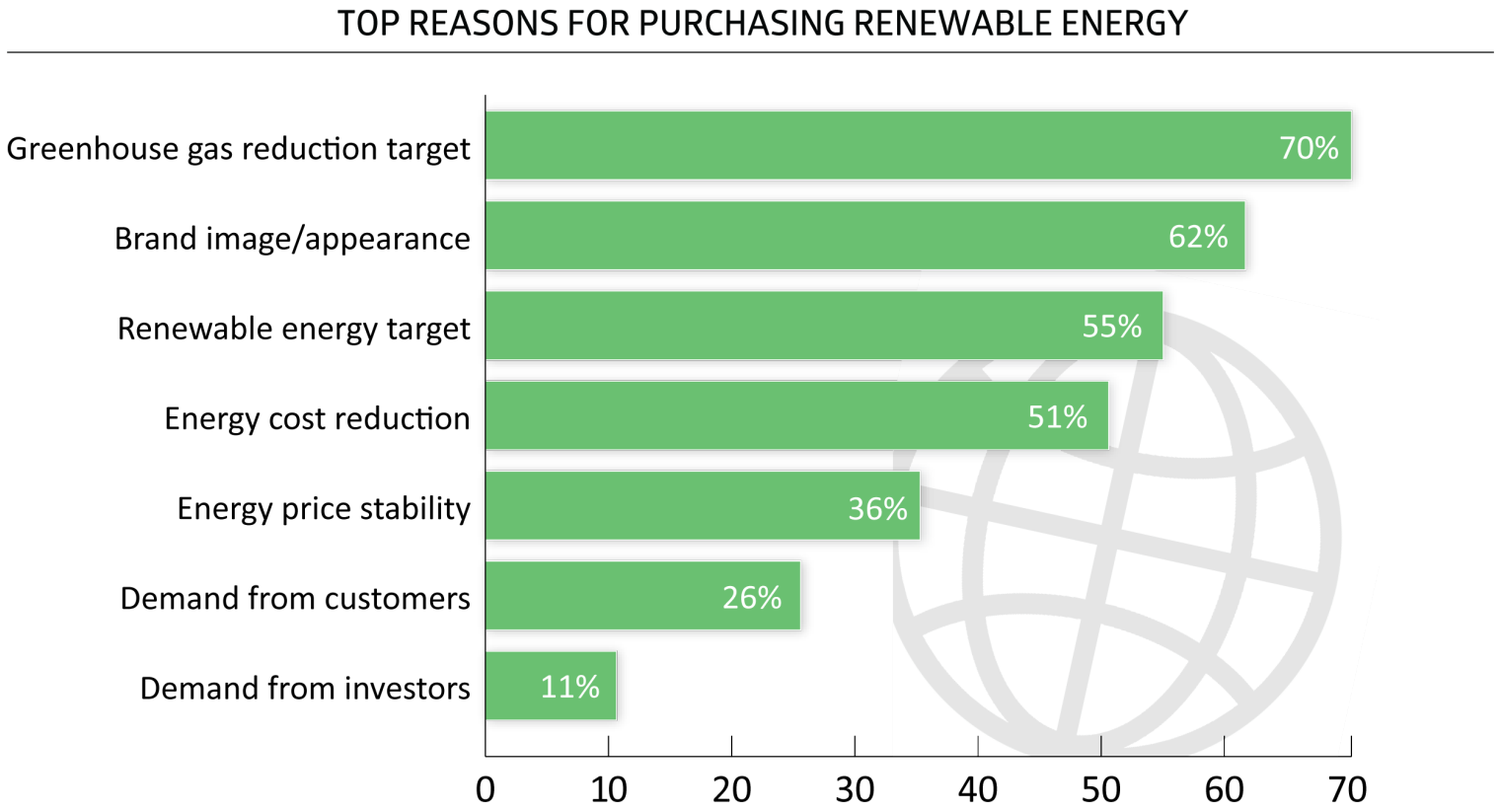


Q. *Where does your company want to source renewable energy? (Choose all that apply)*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Targets, cost and image drive purchasing

When allowed to choose multiple reasons for purchasing renewable energy, greenhouse gas (GHG) reduction targets were cited most often (70%). Brand image or appearance is in second place, followed by renewable energy targets and energy cost reduction, all cited by at least half of respondents. Among multiple choices, industrial companies have GHG reduction targets as their top reason, while commercial operators put brand image at the top. Cost reduction is at the top for those considering their first RE purchase.



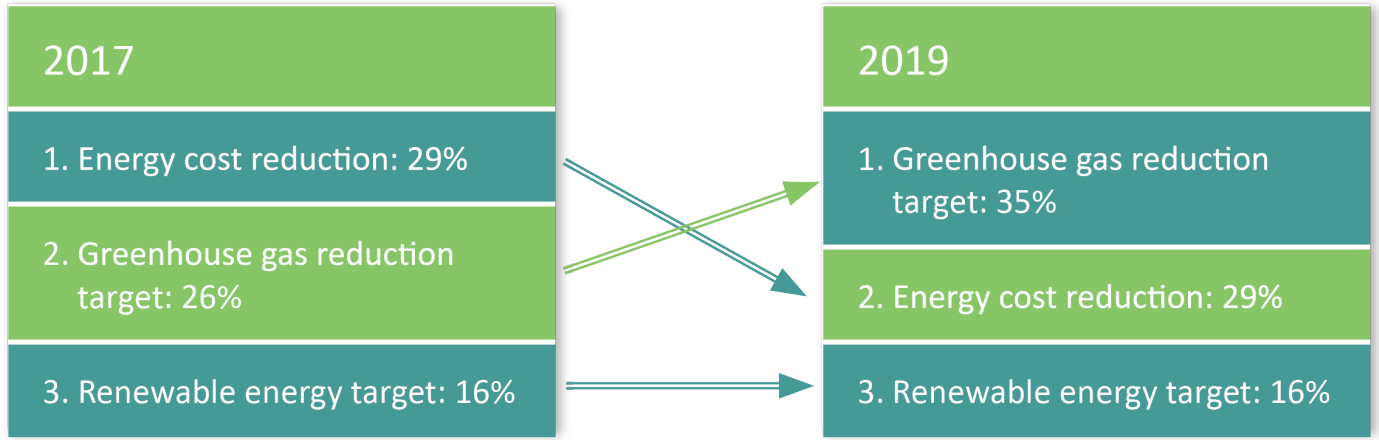
Q. *Of the following, what are your company's* ***top three (3) reasons*** *for purchasing renewable energy?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

GHG targets edge into the lead

When asked to narrow the choice to a single most important reason for purchasing renewable energy, GHG reduction remains at the top of the list, replacing 2017's top choice of cost reductions. This may be an indication that lowering their carbon footprint has become more critical to companies in the past few years. Cost reduction jumped from 4th place among multiple choices to 2nd place as a single choice. Further, this choice is the single top reason for those considering their first purchase. Respondents with one to five completed projects agree with the overall verdict, selecting GHG reduction goals.

SINGLE MOST IMPORTANT REASON FOR PURCHASING RENEWABLE ENERGY, 2017-2019

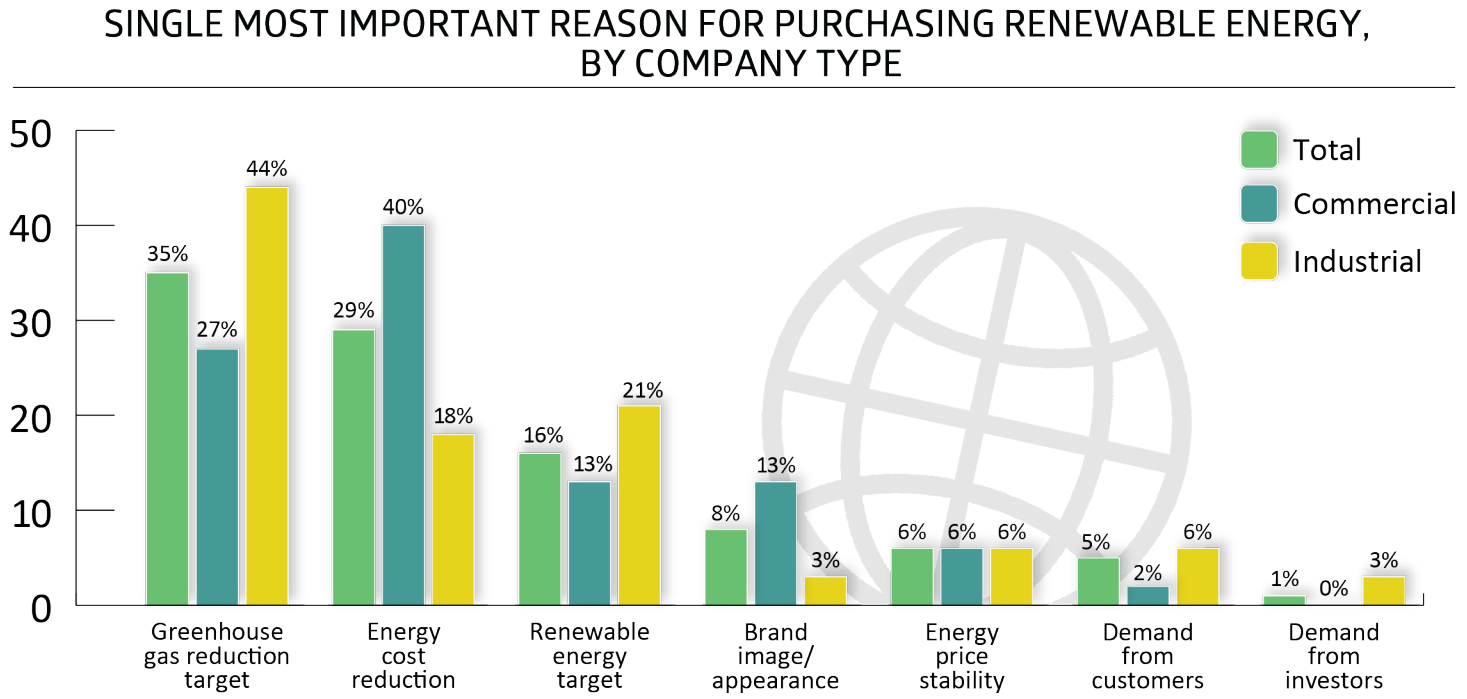


Q. *If forced to select the* ***one (1) most important reason*** *for purchasing renewable energy, what would it be?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Reasons for purchasing RE vary by company type

Industrial operators are driven to renewable energy purchasing by targets more than their commercial counterparts. Industrials cited GHG reduction targets as the single most important reason for purchasing renewable energy (44%), followed by renewable energy targets (21%). The most important driver for commercial companies is energy cost reduction (40%), followed by GHG reduction. Among this segment, RE targets and brand image/appearance are tied for 3rd place (13% for each).

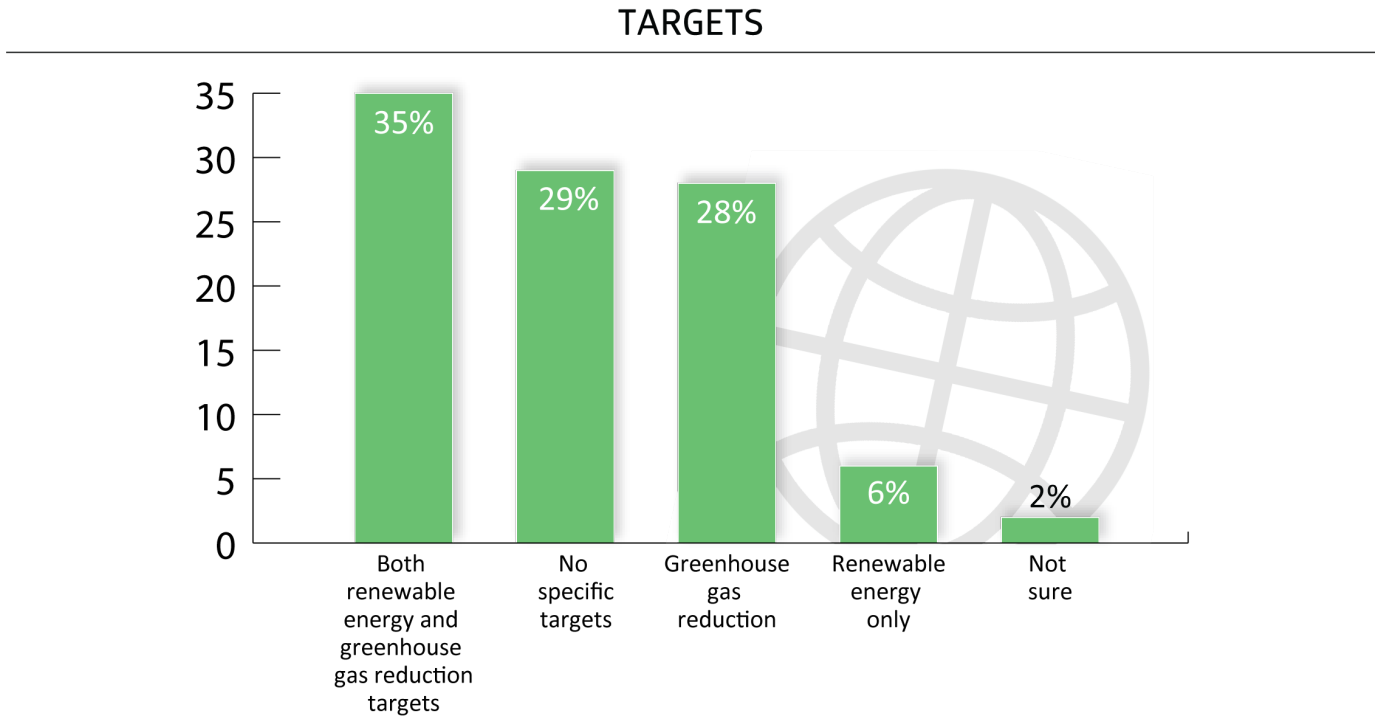


Q. *If forced to select the* ***one (1) most important reason*** *for purchasing renewable energy, what would it be?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Sustainability targets remain an important factor

A total of 63% of respondents now have GHG targets, which explains why these targets are so important as a driver of renewable energy purchasing. A total of 41% have RE targets. Overall, just over one-third of respondents have specific targets in both renewable energy and GHG reductions, with industrial companies most often saying they have both types of targets. More than one-quarter (29%) of respondents have no specific targets.

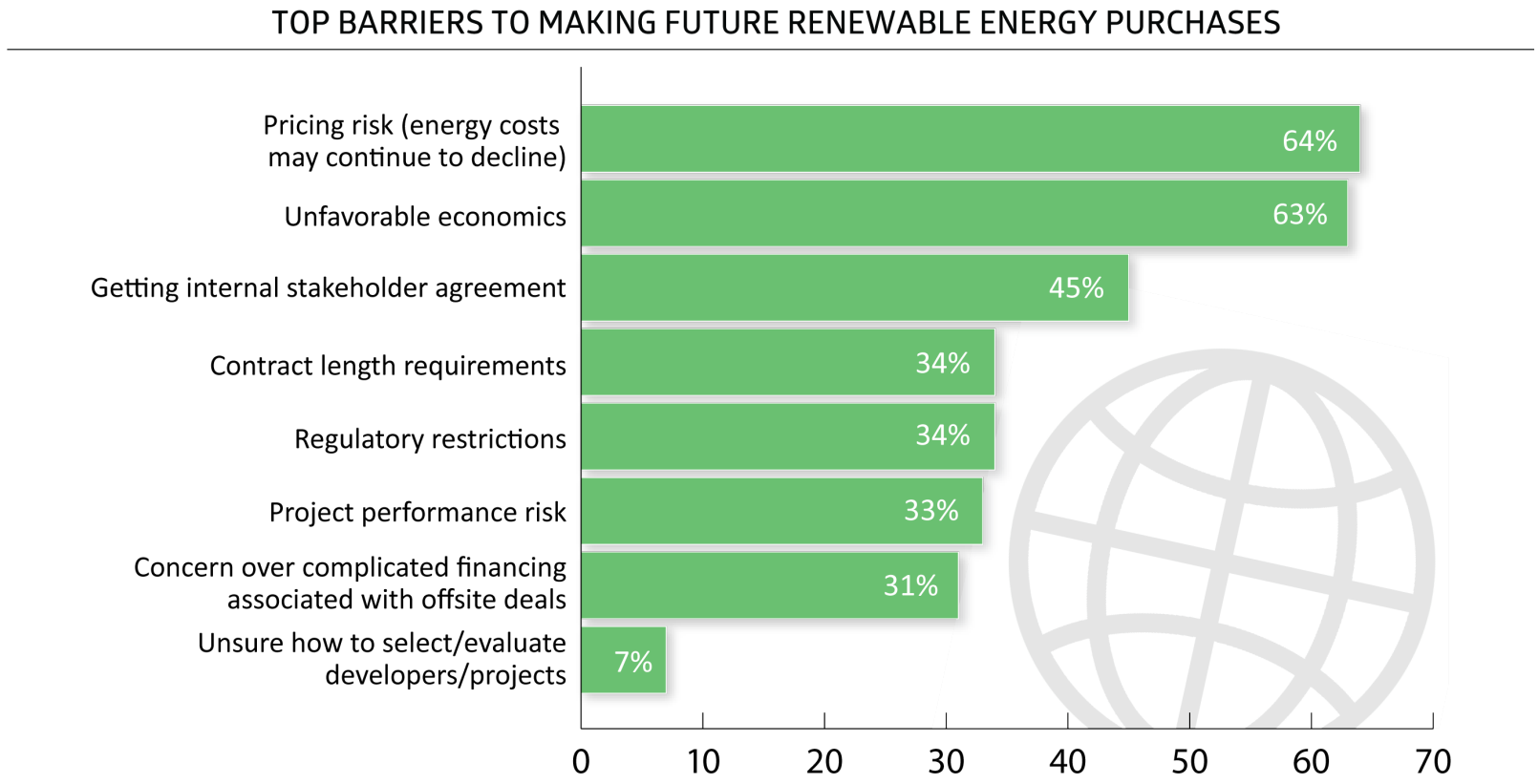


Q. *Does your company have a specific renewable energy target or greenhouse gas reduction target?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Top barriers for experienced buyers

The top barrier to future renewable energy purchases among respondents who have already made at least one purchase is pricing risk (64%). As energy costs may continue to decline, this concern jumped from 47% in 2017. Unfavorable economics is a close second-place concern, cited by 63%. Contract length requirements (34%) dropped significantly since 2017 as more flexibility in term length is starting to become available to customers.

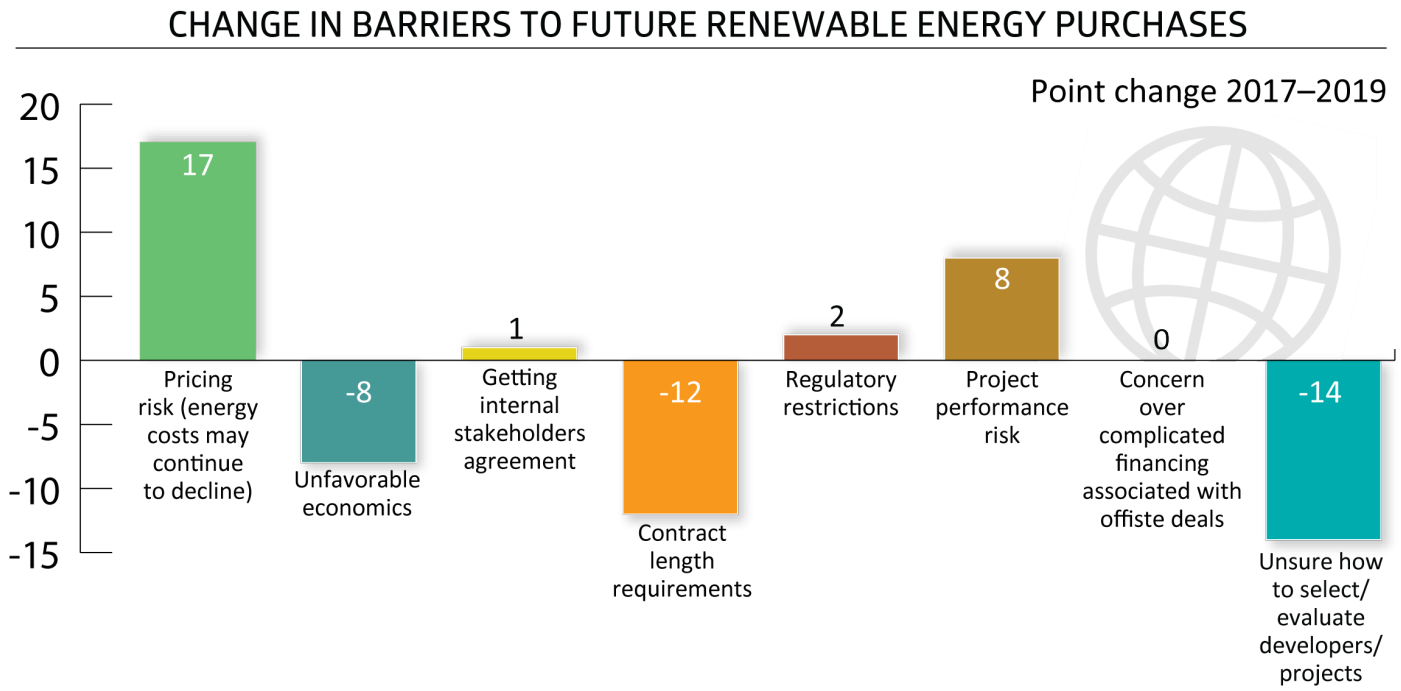


Q. *Of the following, which do you see as the top three (3) barriers/obstacles to making future renewable energy purchases?*

Base: Respondents who have completed a renewable energy purchase • **Source:** SED Research, 2019

Top barriers shift for experienced buyers

The biggest change in barriers to purchasing renewable energy among experienced buyers is the rise of pricing risk, particularly as energy costs may continue to decline. This concern increased by 17 points, from 47% in 2017 to 64% in 2019. Selecting developers and projects declined by 14 points to become a single-digit concern as progress has been made in communicating program benefits and financing options. The perception of contract length requirements as a barrier fell by 12 points as shorter, more flexible contract terms have begun to become available to customers.

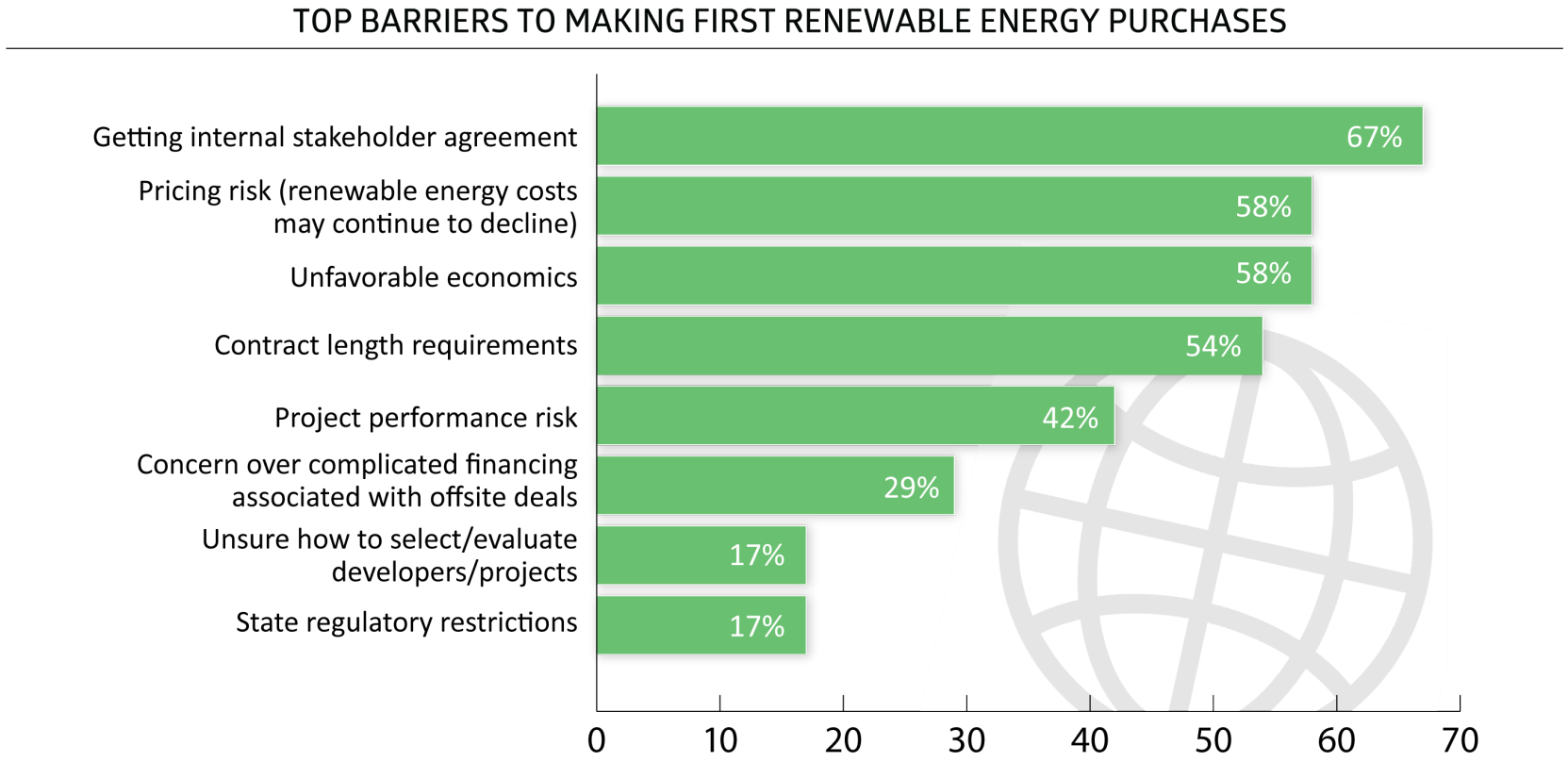


Q. *Of the following, which do you see as the top three (3) barriers/obstacles to making future renewable energy purchases?*

Base: Respondents who have completed a renewable energy purchase • **Source:** SED Research, 2019

Top barriers to first purchase

For first-time buyers, obtaining approval from internal stakeholders is the top barrier, cited by 67%, compared to 45% of experienced purchasers. Pricing risk jumped from fifth place in 2017 to second place in 2019 amid concerns that these new entrants may be missing out on price reductions. While contract length requirements are still cited by more than half of these respondents, this barrier declined from second place in 2017 to fourth place in 2019 as suppliers continue to provide more flexibility in terms.

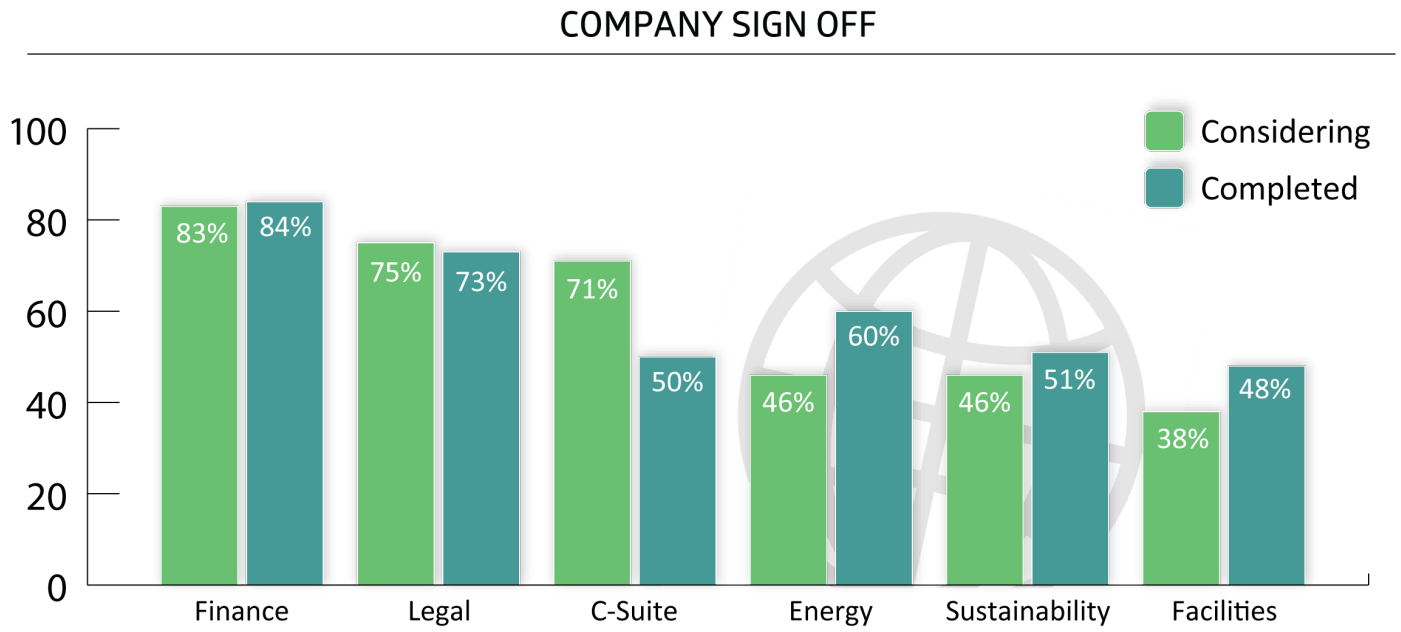


Q. *Of the following, which do you see as the top three (3) barriers/obstacles to making your first renewable energy purchases?*

Base: Respondents who are considering their first renewable energy purchase • **Source:** SED Research, 2019

RE procurement remains a team sport

The perception of internal stakeholder agreement as a barrier to renewable energy purchasing makes sense when you realize that multiple operating areas within a company are typically involved in approvingthese purchases. Among both those who are considering their first purchase and those who have completed a purchase, finance and legal departments are most often involved, followed by the c-suite for those considering and energy for those who have completed a project.

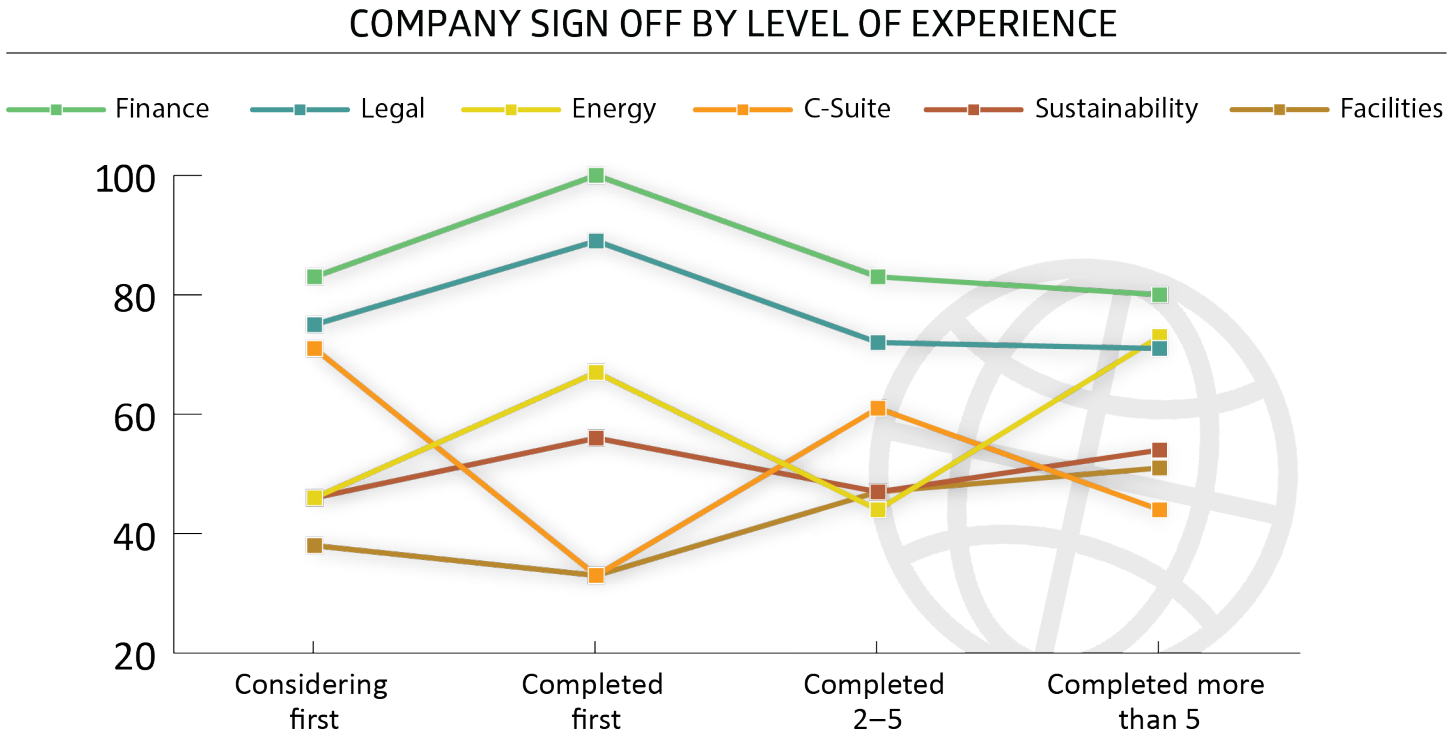


***Q**. Which of the following departments within your company must sign off on a renewable energy purchase? (Choose all that apply)*

Base: Respondents who are considering a renewable energy purchase; Respondents who have completed a renewable energy purchase • **Source:** SED Research, 2019

Authorizations evolve with level of experience

Taking a closer look at the authorization process, the participation of finance and legal functions clearly lessens after the first renewable energy deal is completed. The C-suite is also heavily involved for early purchases but less so one a portfolio is established. As companies complete more projects, other departments lead the process, especially energy and facilities. These functions are relied upon more as the company establishes energy targets and RE projects become more complex.

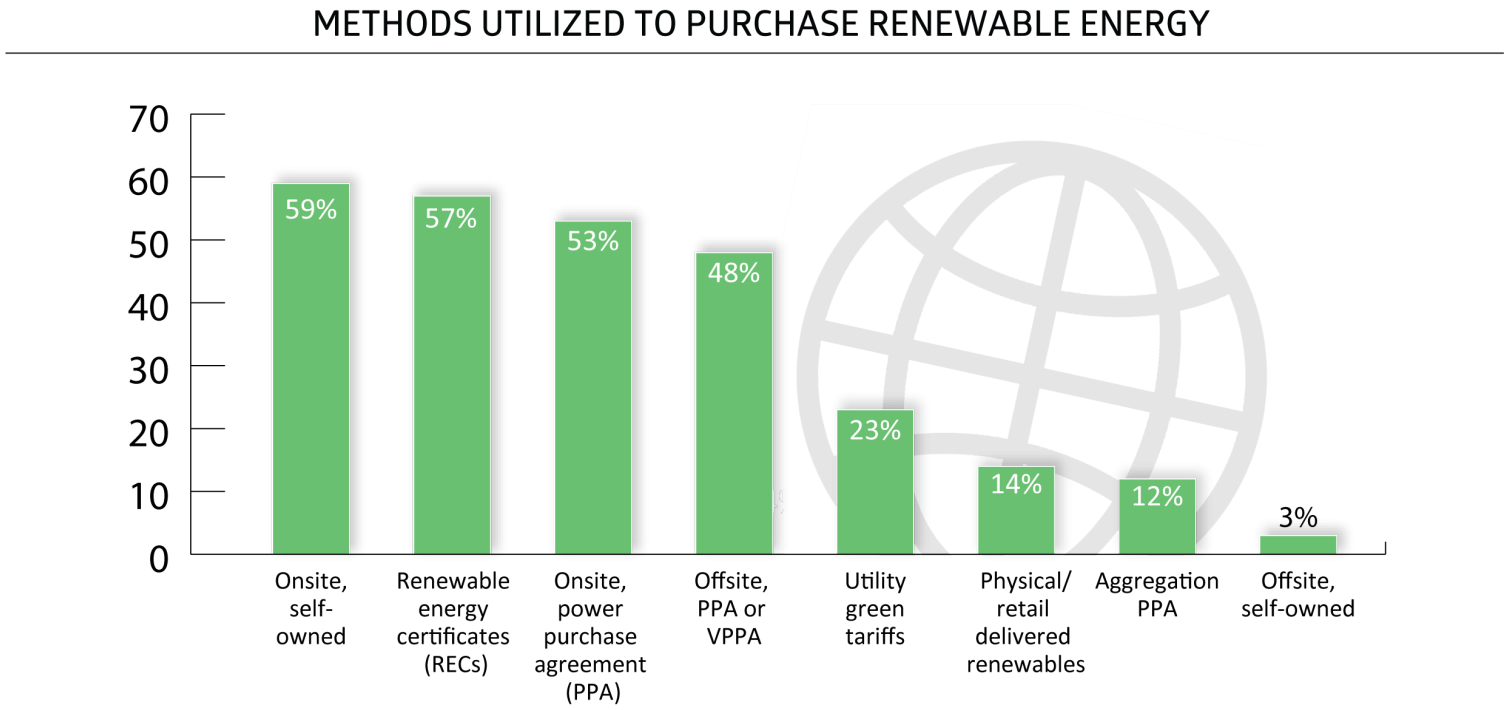


***Q**. Which of the following departments within your company must sign off on a renewable energy purchase? (Choose all that apply)*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Methods shift as new options are developed

Currently, the most popular ways to procure renewable energy are owning projects onsite, renewable energy credits (RECS) and onsite power purchase agreements (PPAs), with each of these methods cited by at least half of respondents. Nearly 80% are using multiple methods. The use of RECs declined from 66% in 2017 to 57% in 2019, and as new options become available—particularly physical or retail-delivered renewables and aggregation deals—this decline is likely to continue, particularly among established users of renewable energy. Commercial operators still favor RECs and offsite PPAs, while onsite self-owned and onsite PPAs top the list for industrials.

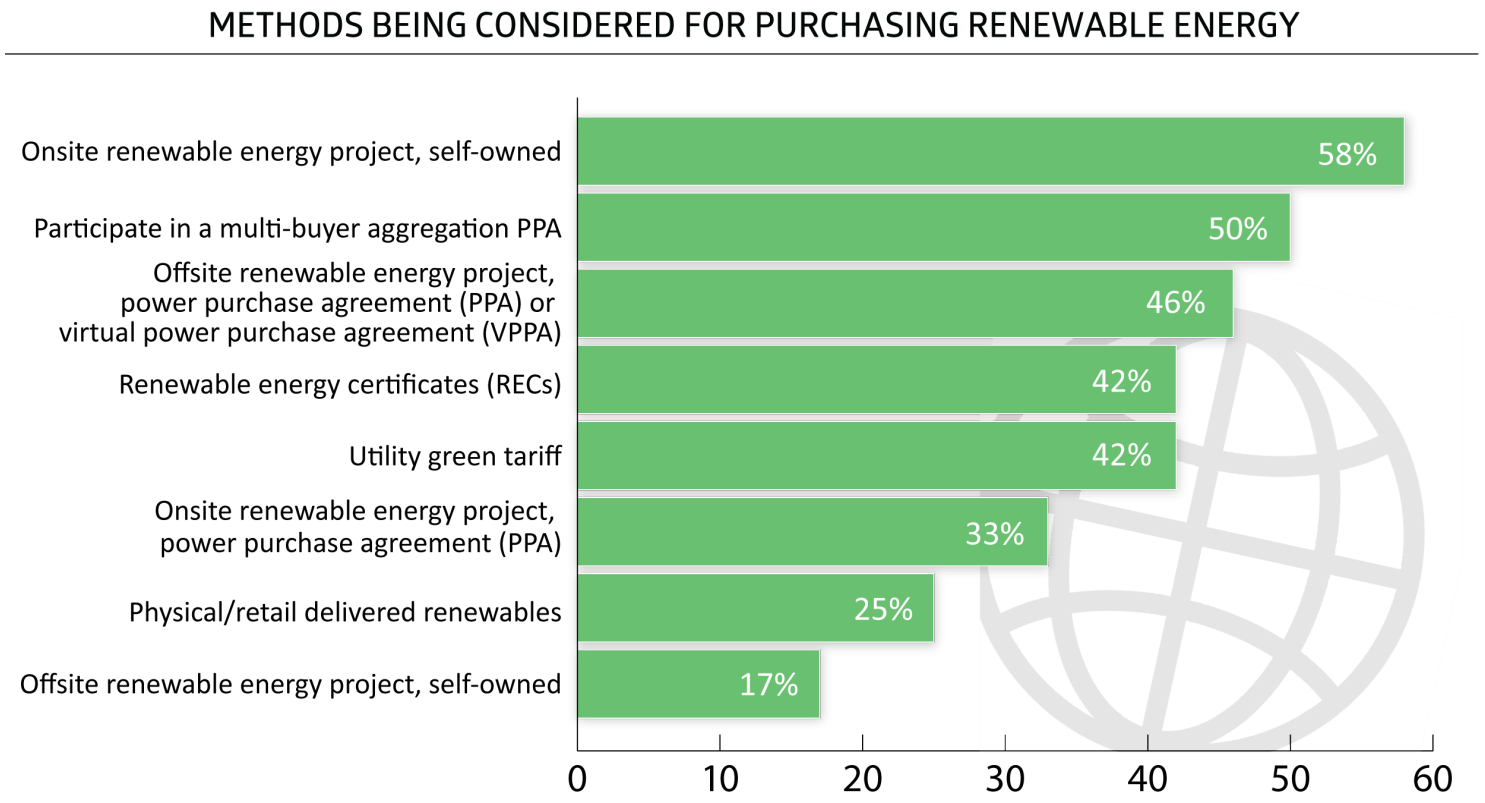


Q. *Which of the following method(s) has your company utilized to purchase renewable energy? (Choose all that apply)*

Base: Respondents who have completed a renewable energy purchase • **Source:** SED Research, 2019

Methods being considered for first RE purchase

The situation is a little different for first-time buyers compared to established users of renewable energy. Although onsite self-owned tops the list of methods (as it does for established RE users), multi-buyer aggregation PPA is a strong second, cited by half of respondents considering a first deal—in part attracted by this structure's ability to allow companies with smaller loads to participate in renewable energy sourcing. Only a third (33%) chose onsite PPAs (compared to 53% of current RE users), perhaps indicating these types of agreement will continue to decline unless contract requirements change.



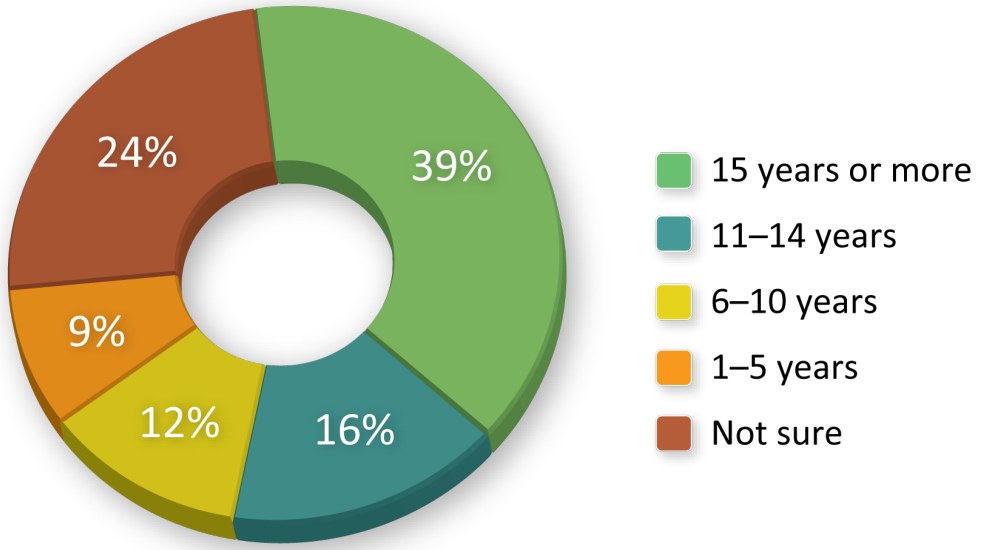
Q. *Which of the following methods are you considering for purchasing renewable energy? (Choose all that apply)*

Base: Respondents who are considering their first renewable energy purchase • **Source:** SED Research, 2019

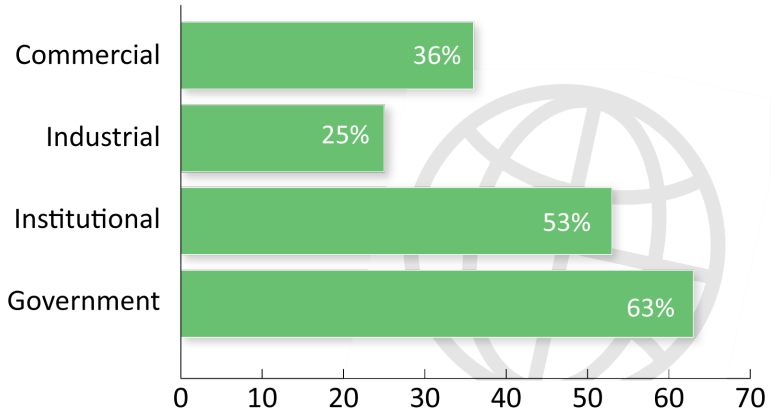
More work is needed on contract length

Another barrier, contract length requirements, is beginning to be addressed, which is good news especially for new renewable energy purchasers. Companies with less experience prefer shorter terms: only 22% want 15 years or more compared to 44% for those with more than five purchases. Overall, these longer contracts are preferred by less than 40%. Only institutions and government entities may have the patience for longer contracts—these segments are more willing to accepts deals of 15+ years, compared to commercial and industrial players.

PREFERRED CONTRACT TIME FRAME



RESPONDENTS WHO WILL ACCEPT 15+-YEAR PPA OR VPPA



Q. *What is the longest time frame your company will accept for a PPA or VPPA?*

Base: Respondents who have completed a renewable energy purchase • **Source::** SED Research, 2019

More industrials are engaging with utilities

There is a clear growth in the level of engagement between customers looking to source renewable energy and their utilities. In 2017, 30% had not expressed any interest in partnering with utilities; this result dropped to 14% in 2019. Today, more than a third of respondents have at least communicated with their utilities about RE, while almost half have worked with a utility directly, either on a green tariff or to engage regulators. Government (75%) and industrial companies (62%) show the highest level of engagement, compared to 47% for commercial operators and only 25% for institutions.

LEVEL OF ENGAGEMENT WITH UTILITIES

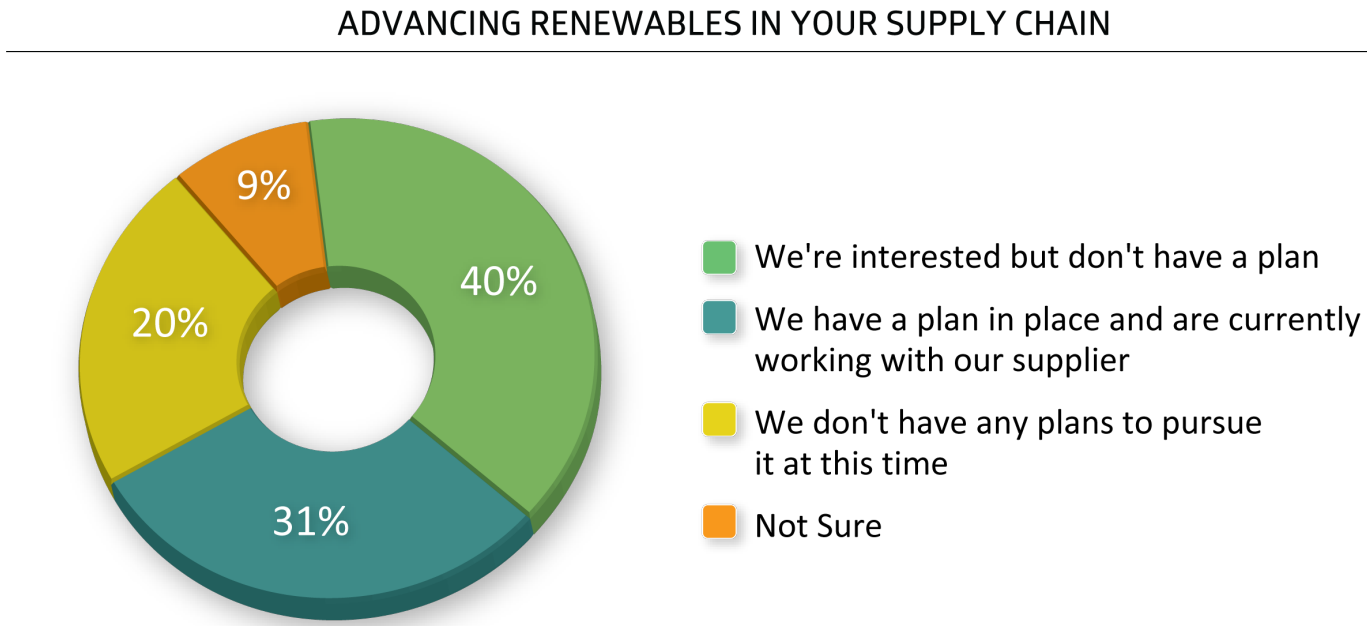
	Total	Commercial	Industrial	Institutional	Government
1=Have not expressed interest	14%	13%	12%	20%	13%
2=Have expressed interest	37%	40%	26%	55%	13%
3=Worked with utility directly on green tariff or renewable energy project	29%	21%	47%	20%	25%
4=Engaged regulators with utilities to make renewable energy available	20%	26%	15%	5%	50%

Q. *What is the highest level of engagement you've reached in working with a utility to source renewable energy?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Supply chain programs may deliver long-term potential

A total of 40% of respondents have expressed interest in advancing renewable energy throughout their supply chain but have no plan to do so, while almost a third (31%) are actively working with suppliers on their plans. Clearly, it's complicated to develop and execute these program and may be the purview of larger companies (42% of those with electricity spends of $100 million or more have a plan in place compared to 29% of those spending less than $100 million). However, the successful implementation of supply chain programs is key to accelerating
rating the adoption of renewables.



Q. *Which of the following best describes your company's level of interest in advancing renewables in your supply chain?*

Base: Respondents who are considering or have completed a renewable energy purchase • **Source:** SED Research, 2019

Conclusions

- Early adopters are expanding their horizons, while a steady stream of new buyers enter the renewable energy market.
- Sustainability targets and cost reduction remain top drivers of RE sourcing.
- New product options (including aggregation and green tariffs), shorter contract terms, and an increasing array of partners are lowering barriers for both new buyers exploring their first RE purchase and experienced buyers looking to expand their RE sourcing.
- The role of utilities as renewable energy partners will continue to grow.
- Use the results of this survey to secure internal stakeholder support for expanding your company's renewable energy sourcing.

Acknowledgements

SMART ENERGY DECISIONS

We're committed to your success.

Smart Energy Decisions is the leading information resource and research platform dedicated to addressing the information needs of large electric power customers. We deliver news, analysis, and research in addition to producing events designed to help our readers make better decisions. We are a catalyst for change in support of the dramatic energy transformation taking place in the electric power markets impacting customers, utilities, and suppliers.

Our mission is to help large electric power users improve their profitability and reduce their carbon emissions by adopting best practices in energy efficiency and renewable energy sourcing.

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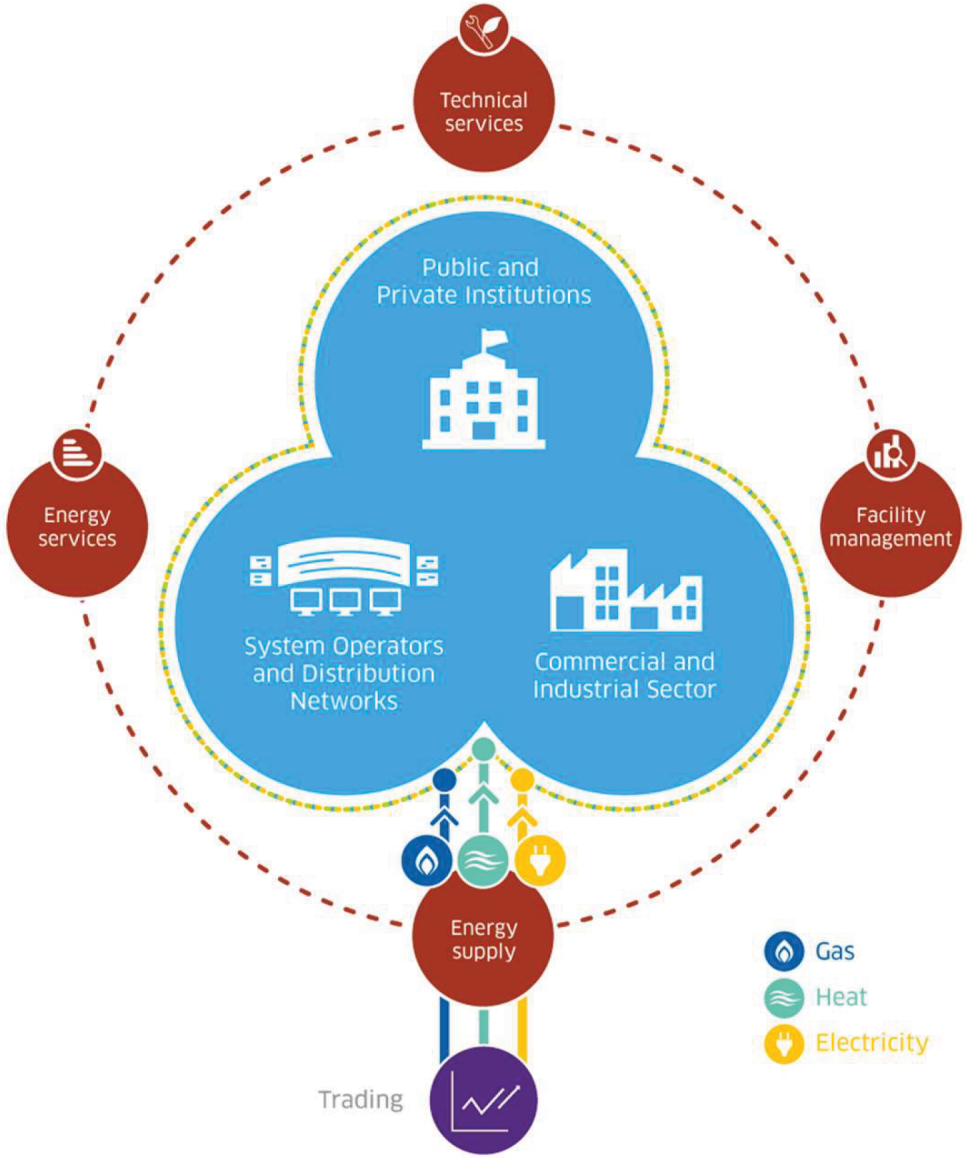
ENGIE

ENGIE North America Inc. offers a range of capabilities in the United States and Canada to help customers decarbonize, decentralize, and digitalize their operations. These include comprehensive services to help customers run their facilities more efficiently and optimize energy and other resource use and expense; clean power generation; energy storage; and retail energy supply that includes renewables, demand response, and on-bill financing options. ENGIE's ambition is to be the world leader in the zero-carbon transition and supports this with nearly 100% of the company's power generation portfolio is low carbon or renewable. For more information on ENGIE, visit http://engieenergyrevolution.com/ or contact Suzanne Childre, Marketing Director at Suzanne.childre@engie.com.



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