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Foreword

As a woman and executive, I am proud to share with you our *#ChangePays* in energy report, whose original research finds the energy sector worldwide has indeed made progress in the area of gender diversity.

Why is this important? At S&P Global, through our *#ChangePays* campaign, we are discovering the many ways diversity “pays.” So far, our research has explored the benefits of increased female participation for the capital markets specifically, and the world economy in general. We hope to learn more through our newly created Women's Research Council, which aims to harness data and expertise across the divisions of our company.

Importantly, the findings add to the conversation about gender diversity in business. If there is a bottom line, it's positive: women's participation in boards and senior executive roles in the energy industry is accelerating.

The number of women in senior management and boards in companies of the S&P Global BMI Energy and Utilities indices more than doubled over the past two decades, approaching 15%, the average figure for most other industries.

That figure hides wide disparities, with New Zealand at close to 30% and South Korea and Japan near to 2%-3%. Progress is also slower in the C-suite, with utilities in particular continuing to do a better job than other energy firms.

In commodities, a survey by S&P Global Platts shows that 60% of industry executives are optimistic that they can change. And what about the renewables sector, which some say represents the future of energy? Surveys generally find that, while renewables companies have a larger proportion of women, there is still work to be done, again at the C-suite level.

You'll also hear directly from senior woman industry executives and regulators, through 12 exclusive interviews. I was inspired by Patti Poppe, CEO of CMS Energy. She sees progress at CMS, where 45% of board members are women, as are about 30% of its officers. To get there, “there was definitely intentionality,” she says, such as having diverse selecting panels so as to minimize bias, but also “to some degree we happened to find extraordinary women.”

I hope this report will provide you with the data, analytics and insight needed to set intentions, take action and to make change pay.

Alexandra Dimitrijevic

Global Head of Research, S&P Global Ratings
Chair, S&P Global Women's Research Council



The changing face of energy

Growth in women's representation in energy leadership positions has increased in the past 10 years, but there's still a long way to go. Maya Weber reports, with research by Kent Berthoud, Andrew Cooper, Ashleigh Cotting and Simon Heald

Women now occupy less than one-fifth of senior leadership spots at energy companies around the world, but trends this decade show growth for women on boards of directors, in career paths leading to the executive suite, and at the C-suite level.

That's according to an analysis of companies around the world that are constituents of the S&P Global BMI Energy (Sector) Index and S&P Global BMI Utilities (Sector) Index. The analysis, by S&P Global Platts Analytics and S&P Global Market Intelligence, was based upon a dataset of personnel compiled by S&P Global Market Intelligence.

Gains were most visible on boards, where efforts to diversify are more established, with an added push from investors and, in some places, regulation (see figure 1).

The share of female board members in the S&P Global indices nearly doubled since 2000 to reach 15% for the energy sector on average. Growth in this decade was more than twice that of the last decade.

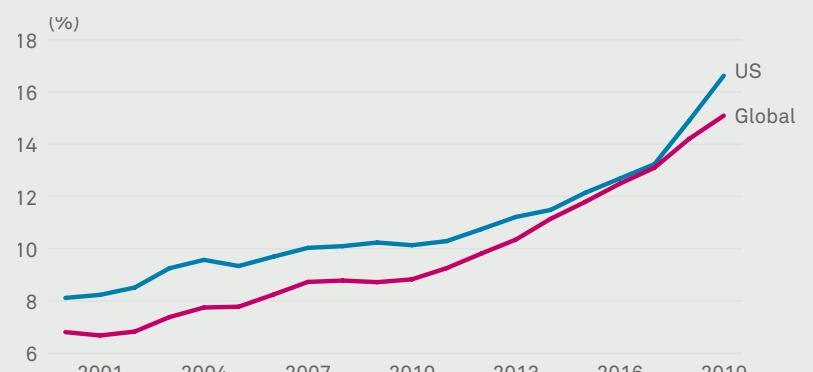
While it is unlikely that growth in women's representation on boards would continue at the current rate, this would see energy boards attain 50-50 gender parity by 2058. Based on the same assumption, US boards would reach parity sooner, by 2044.

Comparing the energy and utilities indices with the S&P Global Broad Market Index as a whole, the energy sector since 2013 has closely tracked the broader swath of industries when it comes to female board representation (see figure 2).

However, there were differences within the global energy sector – with subsectors such as utilities; renewable electricity; oil, gas and coal; and independent power producers seeing significant variations (see figure 3).

Reaching further down, the analysis considered a category that included senior managers and executives in an effort to get a look at the pipeline feeding into the highest levels. One of the common explanations for why there aren't more women in the C-suite is that there aren't enough women a step below to promote.

Figure 1. Female Board Members in Energy



Source: S&P Global Market Intelligence, S&P Global Platts Analytics



Women filled 15% of those senior manager pipeline spots in 2019 on average for the energy sector, up from less than one in 10 in the early 2000s (see figure 4).

Representation in the powerful C-suites, encompassing top leaders such as the CEO, chief operating officer and chief financial officer, has been at slightly lower levels. If the current rate of growth does not increase, it could take until the 2090s for energy C-suites to reach gender parity.

Women now occupy 13% of C-level executive slots in the global energy industry, still less than one in eight, the data showed, but that's almost doubled since 2000 (see figures 5 and 6).

Fiona Boal, head of commodities and real assets at S&P Dow Jones Indices, drew attention to the growing share of women in the senior manager ranks, but said it was still to be determined whether those women would take the final step into the C-suite.

"The fact they're there has to be encouraging," she said, however, "you can have a lot of women in senior management roles, but they ... often wrongly are perceived not to be in the path that takes you into the senior levels of running a company." That could include fewer women in operational, mainline or revenue-generating parts of the business that often feed into the C-suite.

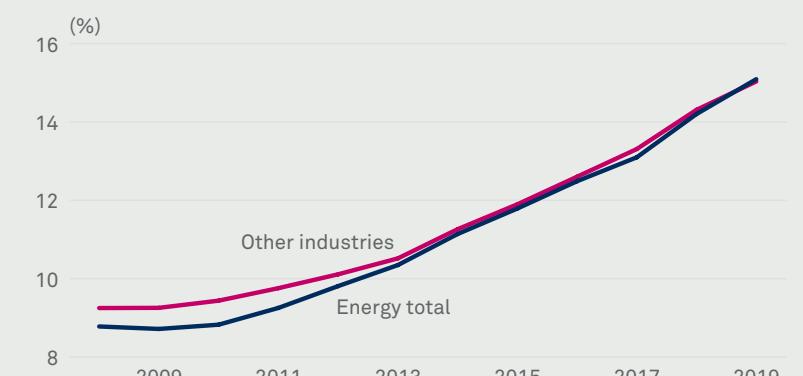
Caren Byrd, managing director for investment banking at Morgan Stanley, said, "I'm happy to see [the

The share of women on utility boards globally rose to 17% in 2019, from 12% in 2009

numbers] going in this direction." The gains in the board numbers are important for diversity because, "it starts at the board ... it's the board that picks the C-suite," she noted. Boards also plan for succession of CEOs.

There were variations by region. The US maintained a small lead over the global average in energy sector C-suite representation at about 2% higher since 2000;

Figure 2. Female Board Members in Global Energy vs Other Industries



September 2019

it also currently exceeds the global average for boards. Southeast Asian countries like Thailand, the Philippines and Malaysia were among the highest performers in the indices, while elsewhere in Asia, Japan, South Korea and Pakistan trailed (see figure 7).

Utilities consistently beat the energy sector average, as well as oil, gas and coal companies in the share of women in all three categories: board, C-suite and senior manager levels.

The oil and gas sector, though, has been making similar gains to utilities, just starting from a lower level.

The share of women on utility boards globally rose to 17% in 2019, from 12% in 2009.

In power and utilities, expectations have changed about the pool of candidates to be considered for boards.

"At this point it's a given, it's understood, that the slate [for boards] has to really be well-represented ... for gender and ethnic diversity," said Jennifer Rockwood, who leads the power and utilities practice at recruitment firm Russell Reynolds.

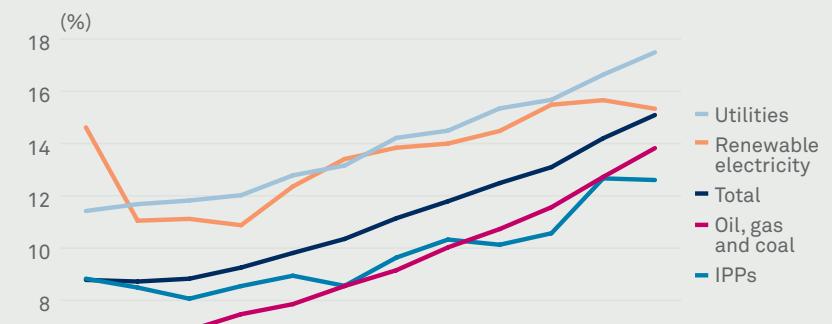
Complementing the data analysis, S&P Global Platts interviewed more than a dozen female leaders about their perceptions of gains, hurdles and efforts underway related to gender parity.

A frequent refrain was that their companies or organizations had embraced research findings that teams with diverse representation have better performance outcomes, make better decisions, or see more innovation. Several cited the importance not only of gender, but also other underrepresented groups when seeking to increase diversity, noting numbers are substantially lower for women of color.

With the share of women on boards still below one in five, some suggested energy companies should look beyond the traditional roles feeding the director positions.

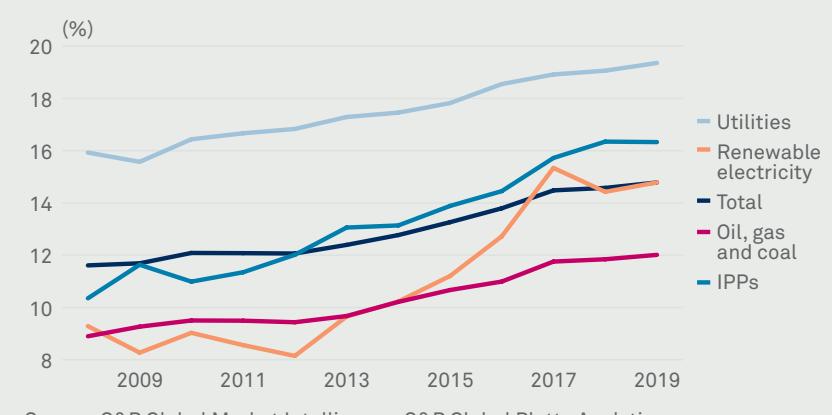
"If they broadened the searches a little bit, they'd probably just naturally get more diversity," said outgoing FERC commissioner Cheryl LaFleur, who was due to leave the agency at the end of August. "I think most boards are woke enough to want it, but it's been

Figure 3. Global Energy, Female Board Members by Subsector



Source: S&P Global Market Intelligence, S&P Global Platts Analytics

Figure 4. Global Energy, Female Senior Managers by Subsector

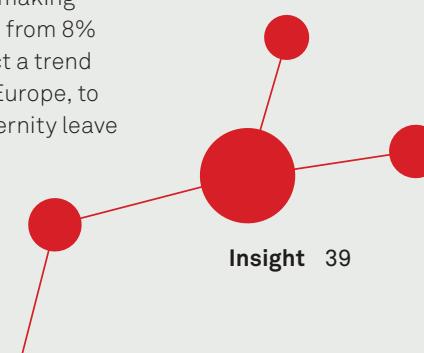


Source: S&P Global Market Intelligence, S&P Global Platts Analytics

in tension with the narrow pools that are sometimes considered for some of those jobs."

In the oil and gas sector, the share of women on boards reached 14% in 2019, double the level in 2009.

While that is still below one in five, some multinational oil majors blew past those averages. The board of BP is 36% female, though its executive team is still just 15% female, according to data provided by the company. Shell has approached parity, with women making up 45% of the board at the end of 2018, up from 8% in 2011, the company said. That may reflect a trend by those large companies, particularly in Europe, to advance diversity and offer generous maternity leave



and flexible work schedules, the lack of which can still frustrate women in smaller companies.

Compared with smaller peers, Maria Victoria Zingoni, Repsol's executive managing director of commercial businesses and chemicals, believes large, multinational companies such as hers are well-positioned to deal with issues such as diversity and inclusion, and have a responsibility to drive them forward. She said large companies in particular "understood that this is important because you don't want to lose 50% of the talent."

Zingoni also said gender diversity can put energy companies in a better position to tackle the challenges they are facing. "If you understand better your customers, you understand better your suppliers, you have a different understanding of what the energy transition means and how to approach that, you have different standpoints in your decision making and that helps you make better decisions," she said.

Despite embracing the goal of increasing diversity in senior leadership ranks, female leaders frequently cited a struggle to attract and build a pipeline of talent, from the entry level on, particularly in the energy sector where there is a high demand for people in technical positions and engineers.

"You have to have a diverse pipeline throughout your organization so that when you are making selections you do have gender in the pool," said Patti Poppe, CEO of US utility company CMS Energy. "You have to work really hard to get the limited pool of diverse candidates in the engineering positions [and] they're highly sought after."

Several also described a need to encourage women to enter mainline or operational parts of the business, or profit-and-loss centers, if they are to advance to higher levels.

"In the push to bring women forward, we pulled them into coordinating roles, and in pulling them into coordinating roles, we pulled them away from operational roles," said Christina Verchere, CEO of OMV Petrom. "They would get to a certain level and couldn't progress further up because they had a gap in their experience."

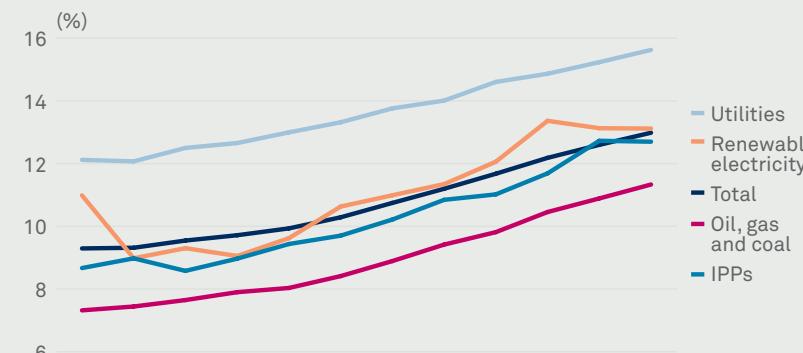
As with boards, utilities also showed higher numbers at the C-suite level than the energy sector average, though women were still below one in five. In 2019, women made up about 16% of utility C-suite spots, up from 12% in 2009, the analysis found.

Rockwood sees an upward trend of women in leadership in power and utility companies as companies are starting to see the fruits of investments in grooming the next generation of talent.

There are still challenges, but there is an "absolute concentrated focus" on cultivating the next generation, she said.

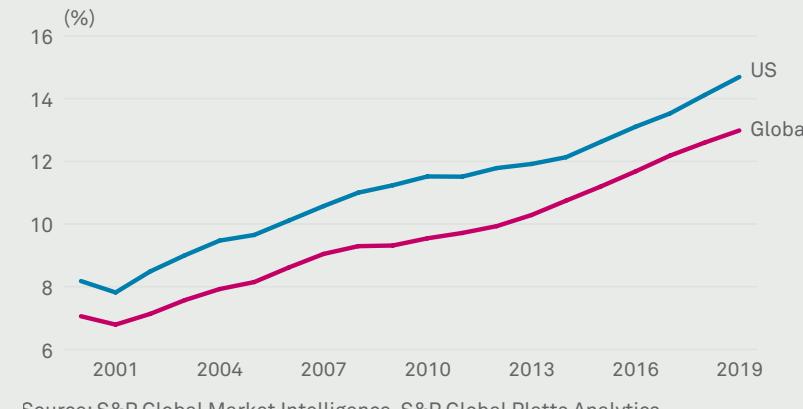
As a sign of progress in the utility space, Anne Pramaggiore, senior executive vice president and CEO

Figure 5. Global Energy, Female C-Suite Executives by Subsector



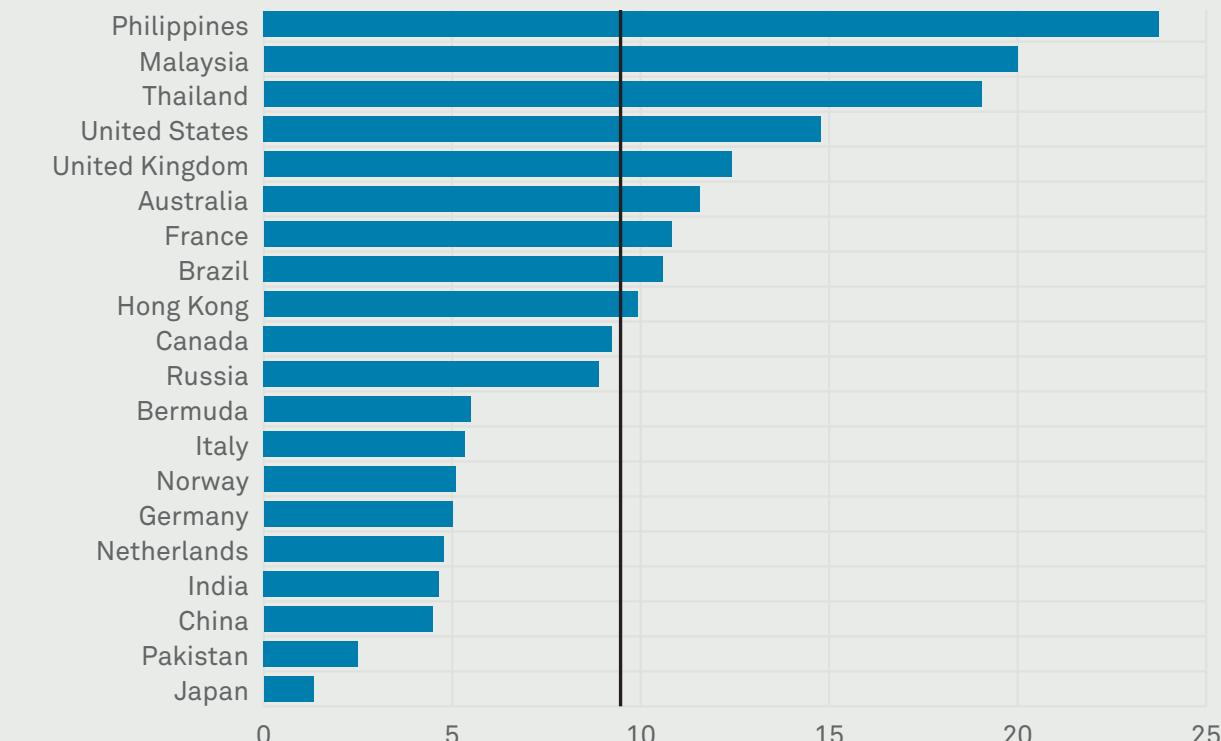
Source: S&P Global Market Intelligence, S&P Global Platts Analytics

Figure 6. Female C-Suite Executives in Energy



Source: S&P Global Market Intelligence, S&P Global Platts Analytics

Figure 7. Female C-suite Executives in Energy, Selected Countries (2019)



Note: Includes countries with sufficient sample sizes in S&P Global BMI Utilities and Energy indices
Source: S&P Global Market Intelligence, S&P Global Platts Analytics

of Exelon Utilities, pointed to research from the Edison Electric Institute. It found that 20.9% of CEOs of US regulated investor-owned utilities were female at the holding company level.

"Some of it is a function of the skill sets that are now viewed as necessary to run their utilities. With change in the business model and technological change, people are coming to run utilities with different skill sets such as finance, or the regulatory and legal side of the business," she said.

Those are areas where women probably have been present at higher levels for longer periods than in engineering and STEM, she said.

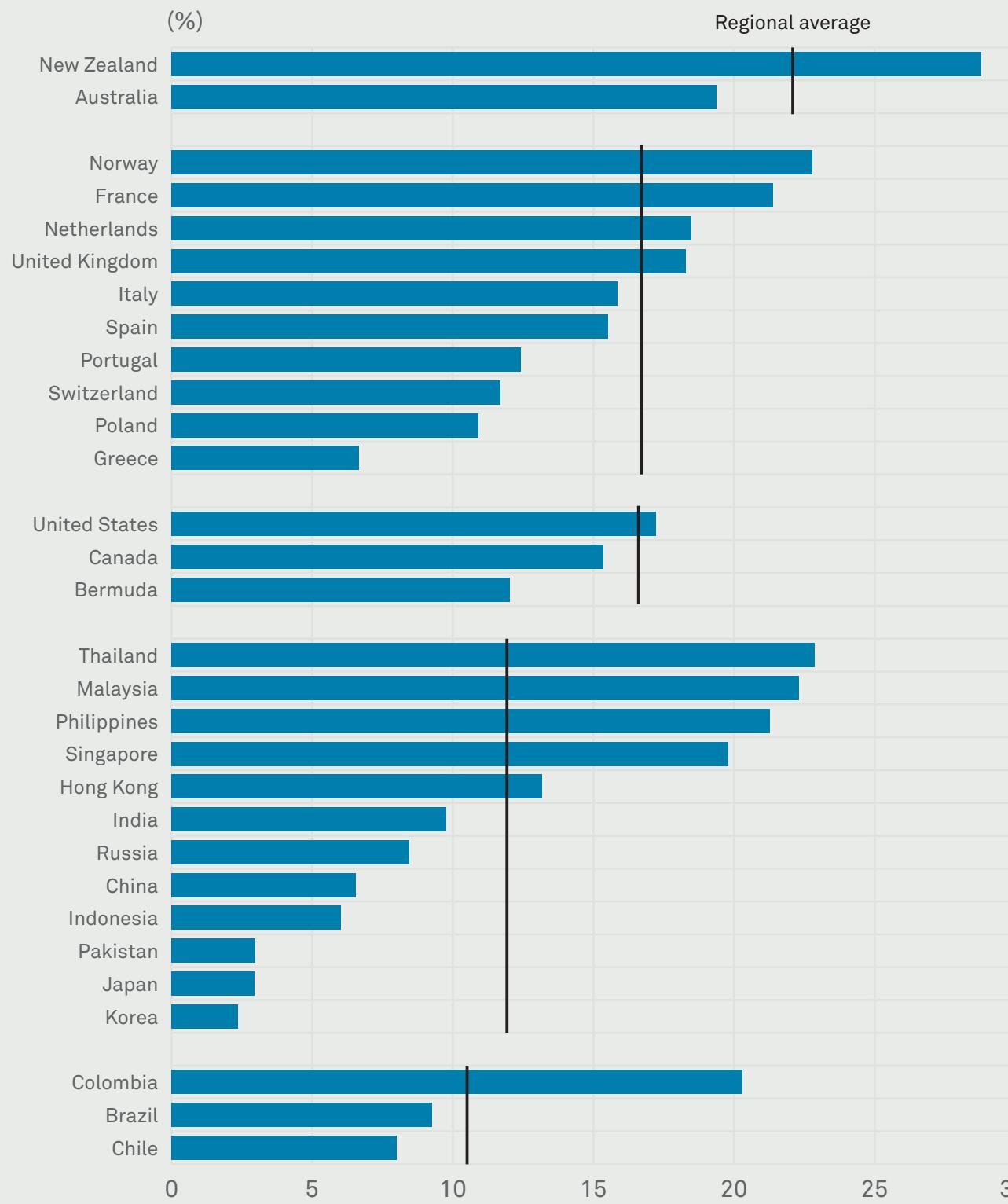
Sue Kelly, president and CEO of the American Public Power Association, said that as utilities move away from their traditional business model – of having poles, wires and generation or "keeping the lights on and the beer cold" – customers expect more, and want to

"As much as anything, it's about getting in at the grassroots in the schools, in opening people's minds up to the sorts of jobs they can do" **Hilary Mercer**

exercise options using technology, she noted. That allows different disciplines to have a say, she said.

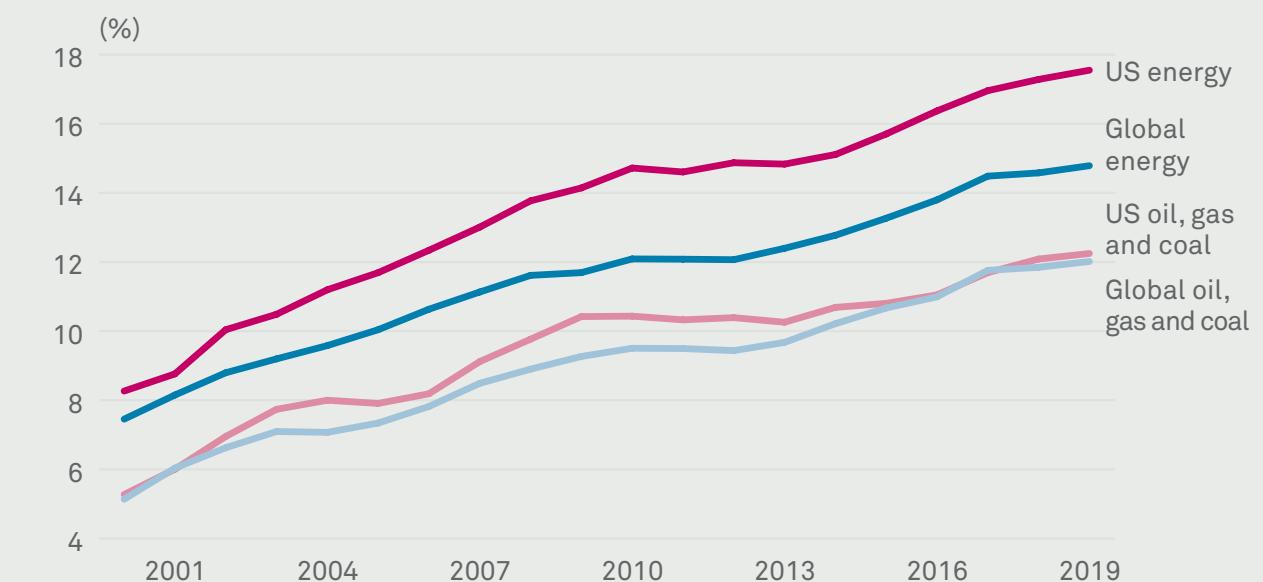
"Consumers are going to be the new asset class," offered Lisa Frantzis, senior managing director at Advanced Energy Economy and managing director at Navigant Consulting. "Everything is moving more toward a much more interactive customer, [and] the customers are not just men." Globally, she said the

Figure 8. Female Board Members and Senior Managers in Energy by Country (2019)



Source: S&P Global Market Intelligence, S&P Global Platts Analytics

Figure 9. Female Senior Managers in Energy, US vs Global



Source: S&P Global Market Intelligence, S&P Global Platts Analytics

value in the power sector is shifting to distribution and behind the meter, with the annual global investment by 2030 estimated at \$1.3 trillion, she said.

As public-facing, regulated entities, utilities also face greater expectations to mirror the communities they serve.

Companies interviewed described efforts to bolster diverse representation at multiple levels in the employment track. Those included creating networking groups, having senior managers mentor or sponsor budding leaders, and attempting to diversify the pool of applicants considered during the hiring process. With the urgent need for employees in technical areas, these also included outreach to schools and sponsorship of educational programs.

"As much as anything, it's about getting in at the grassroots in the schools, in opening people's minds up to the sorts of jobs they can do," said Hilary Mercer, VP of Shell's Pennsylvania Chemicals. She described

challenges getting over "the paradigm" that there are jobs women can and can't do.

For the oil and gas sector, drawing in diverse young recruits may be more difficult, given public perceptions of the fossil fuel industry, as well as preconceptions about the fieldwork, the need to move to remote locations, and a relatively low number of role models for women or minorities in the sector. The challenge is heightened by expected retirements and stiff competition for young talent from the high-tech sector.

Amanda Eversole, COO at the American Petroleum Institute, said there is room to help the industry clearly communicate the breadth of opportunity in the field. Jobs ranging from data scientist to supply chain specialist pay well and offer long careers, she said.

Amid challenges around public perception that could impact the ability to draw women and men, Crystal Heter, segment president, natural gas transportation, for Tallgrass Energy, said, "the industry needs to do a

better job of advocating for the measures it has taken, and the progress it has made, to be socially responsible."

Katie Mehnert, founder of Pink Petro, a social media organization for women professionals in the energy sector, and Experience Energy, a jobs platform, sees a need for oil and gas companies to embrace a "cultural shift," in which diversity and inclusion become core values, rather than a "priority" that can be set aside.

Methodology

S&P Global Platts Analytics and S&P Global Market Intelligence conducted this analysis based on S&P Global Market Intelligence people data for the constituents of the S&P Global BMI Energy (Sector) Index and S&P Global BMI Utilities (Sector) Index.

The two indices include a total of 799 companies: 461 companies in the oil, gas and coal industry; 241 companies classified as utilities; 50 companies classified as independent power producers; and 47 companies classified as renewable electricity. The higher number of oil, gas and coal companies reflects the total number of publicly traded companies in existence in each category. There are more than 2,000 publicly traded oil, gas and coal companies across the globe. In contrast, there are almost 600 publicly traded utilities, roughly 180 publicly traded IPPs and about 230 publicly traded renewable electricity companies. The analysis classified companies by their primary industry, according to the Global Industry Classification Standard used by S&P Global Market Intelligence.

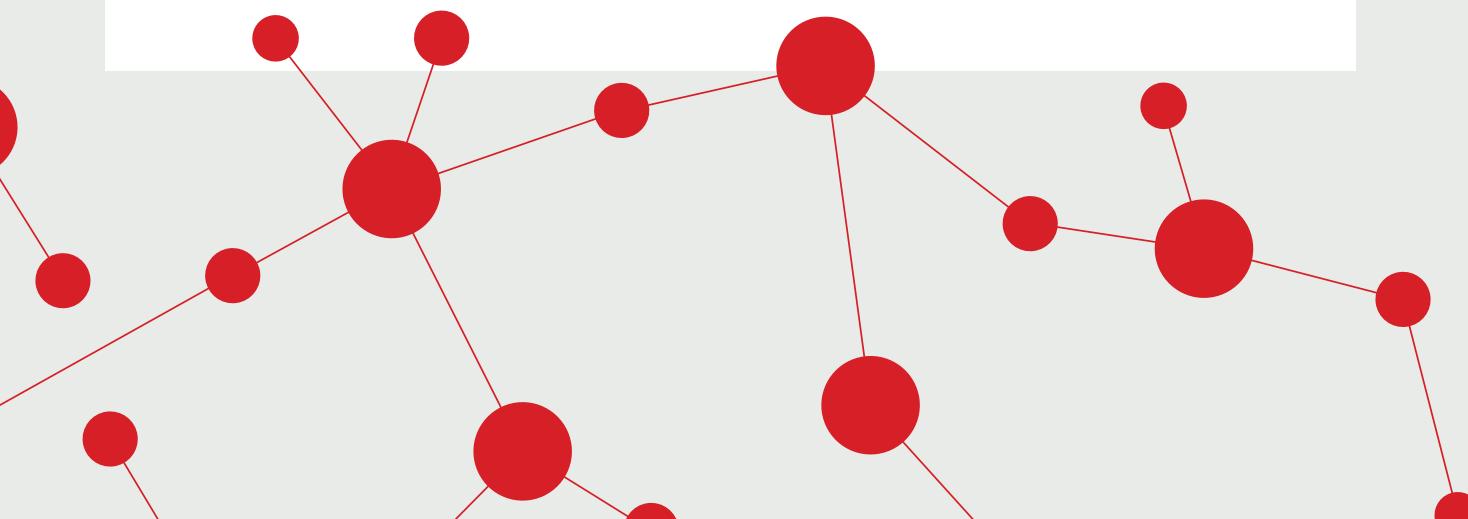
She sees a need to reach "way down" into elementary school, to talk about where energy comes from, and better tell the industry's story about its impact on humanity. ■

"The industry is not sought after by women and young people and minorities. Let's face it," said Mehnert. ■

The renewables category includes companies engaged in generation and distribution, rather than those that manufacture capital equipment or provide technology, components and services.

For the selected companies, the analysis identified board members, senior managers and other key executives. The latter two categories included more than five dozen roles tracked in the S&P Global Market Intelligence database. Researchers identified the gender of the individuals covered in the analysis based on several factors. Honorifics in the database helped identify the gender of 85% of the individuals included in the analysis. Pronouns used in biographical data fields enabled identification of another 13.5%, and the remaining 1.5% were classified by matching first names to external sources, such as the US Census Bureau. This classification method was 95% accurate when back-tested against the known dataset.

Growth rates based on current trends used a simple linear regression, calibrated using the previous decade of data.



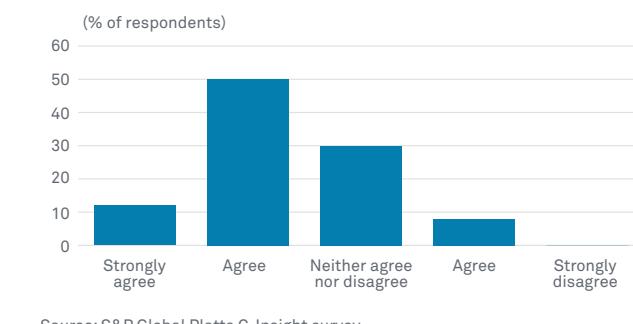
Industry execs confident about diversity, inclusion

More than three-fifths of C-suite executives in the commodities industry are confident their firms have the capacity to address diversity and inclusion issues, according to the findings of a recent survey commissioned by S&P Global Platts.

The global survey of 400 top-level executives at companies in the commodities sector asked "to what extent do you agree or disagree that your company has the capacity to address issues related to diversity and inclusion?"

In total, 62% of respondents agreed that their firms did have the capacity – with 50% saying they agreed, and a further 12% saying they strongly agreed. Just 8% of executives said their firms did not have the capacity to address diversity and inclusion.

To what extent do you agree or disagree that your company has the capacity to address issues related to diversity and inclusion?



Source: S&P Global Platts C-Insight survey

Female executives said the results were an encouraging reflection of the increasing importance of gender diversity and inclusion, but noted there was a difference between having the capacity for change and actually reaching gender parity.

"So many think that they do have the capacity to change, but there's a capacity versus a desire," said Trudy Curran, board member at Baytex Energy and the Alberta Securities Commission and former CEO of mining firm Riversdale Resources. "We all have the

ability to make changes and move forward in the future; I personally don't think it will happen that fast. I see that it takes time to build the pipeline."

Most confident

While the survey also covered companies operating in the petrochemicals, metals, and agriculture industries, firms in the "oil and gas" and "energy/power" sectors were among the most confident. In the oil and gas sector, 61% of respondents agreed their companies were able to deal with diversity and inclusion, while just 5% disagreed. In energy/power, 62% agreed and 8% disagreed.

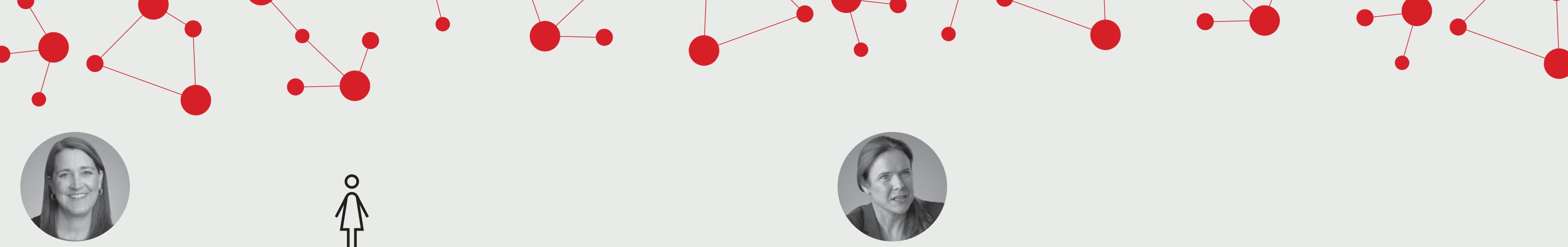
"If the industry has the capacity, then why is women's participation so meager, especially at senior levels?" asked Carole Nakhle, CEO of advisory firm Cystal Energy and founder of Access for Women in Energy, a group aimed at supporting women in the sector.

"More than 60% is an encouraging number, but then the outcomes should be much better than what we currently have. Maybe executives believe their organizations have the right intentions, but somehow there seems to be a problem with implementation."

In contrast, Maria Victoria Zingoni, executive managing director of commercial businesses and chemicals at Spain's Repsol, said she thought the sector did have the capacity to change. "I would answer positively to that," she said. "The industry is understanding more and more that diversity is an important driver of value in the company. I'd say our commitment is there."

The survey, completed in May, involved 100 C-suite executives from the energy/power sector and 50 each drawn from oil and gas, coal, petrochemicals, agriculture and metals. The minimum revenue of most companies was \$320 million, with a lower threshold of \$130 million applying to agriculture.

By Mark Pengelly



Patti Poppe President and CEO, CMS Energy

CEO of CMS Energy, a US electric and gas utility, since July 2016, Poppe is an industrial engineer who took an unconventional route to the sector from a career in auto manufacturing at GM.

At the time she made the shift to utilities, she said, "my family and I were relocating a lot."

"We were about to move to [South] Korea, and I got a job offer at DTE Energy, the local utility." It gave her the chance to stop moving while still fully pursuing her career, and to join a sector undergoing major transformation.

She credits multiple male mentors who gave her challenges and encouraged her to stay in core operational roles, rather than support missions, positioning her well to advance.

Despite the positive attention focused on the number of female CEOs in the US electric utility sector, Poppe sees room to grow. "I do think a lot of ground has been covered. I think that's great, but it's still a small number – it's like the largest numbers of the smallest numbers."

Still, she sees progress at CMS, where 45% of board members are women, as are about 30% of its officers. To get there, "there was definitely intentionality," such as having diverse selecting panels to minimize bias, but also, "to some degree we happened to find extraordinary women."

"We picked them because they were extraordinary, not because they were women," she said.

"We picked them because they were extraordinary, not because they were women"

Among the remaining challenges are cultivating a diverse pipeline throughout the organization, so there is gender diversity when the company is making selections. "There's more work to do at the entry level," she said, as women are still underrepresented in engineering, and diverse candidates are highly sought after. Women also don't tend to flock to the feeder positions of line workers and in gas distribution, she said. "There's work to be done to dispel gender bias myths about roles that have traditionally been done by men."

To compete for top jobs, she said women need to step out of their comfort zones and into mainline jobs that give them the experiences often considered important for those roles.

While her company has "done pretty well" on gender diversity, she says "what I've been frustrated with in my company is representation of women of color." Efforts to address that have included employee resource groups for under-represented populations, creating development plans for employees, and cultivating what she sees as an empowering message that differences are a strength.

September 2019



Christina Verchere CEO, OMV Petrom

Having studied economics, Verchere rose through the ranks of US oil firm Amoco and subsequently BP, after the two firms merged in 1998. She served as president of the integrated oil giant's businesses in Canada and Asia-Pacific, successively, before being appointed CEO of OMV Petrom, the largest oil and gas producer in Romania, which is majority-owned by Austria's OMV.

For Verchere, the importance of advancing women in energy is all about diversity of thought – something that enriches corporate life and helps companies to make better decisions.

Diversity of thought doesn't stop at gender, said Verchere, but also helps to foster a broader conversation about diversity and inclusion, such as sexual orientation and work/life balance, from which both men and women can benefit.

"For me, diversity of thought is the foundational principle that enhances business performance and I believe hugely in that. And that principle of diversity of thought – one aspect of which is gender – is often the lead-in conversation to other aspects of diversity," she said.

The corporate world has awakened to the benefits of promoting gender diversity, Verchere believes but, in doing so, has created a problem for itself. "In the push to bring women forward, we pulled them into coordinating roles, and in pulling them into coordinating roles, we pulled them away from

operational roles. They would get to a certain level and couldn't progress further up because they had a gap in their experience," she said.

Solving this means focusing less narrowly on outcomes and more on ensuring women have opportunities across the entire business. Like others, Verchere believes that encouraging greater participation from women in science, technology, engineering, and mathematics is critical for boosting representation in the energy sector.

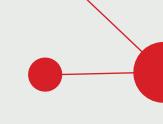
"That's the big focus for the industry: how do you get girls studying STEM? And then once they've studied it, how do you attract them to your industry? That's is another area where I think we're seeing more collective drive to attract girls to our industry."

Ultimately, the best path to greater diversity and inclusion may come through a variety of different routes. The corporate world is increasingly developing "a sense of purpose," said Verchere. She thinks a combination of companies wanting to do the right thing, along with pressure from regulators, shareholders, and other stakeholders, will eventually lead to greater gender balance.

"This combination of nature and nurture – wanting to do the right thing, with a little regulatory push – it helps corporations to focus and prioritize. Once you get critical mass, you can get momentum and the change stands on its own," said Verchere.



"For me, diversity of thought is the foundational principle that enhances business performance and I believe hugely in that"



Vicky Bailey

Board member, Equitans, Cheniere Energy and PNM Resources

Bailey, a board member for midstream gas company Equitans, LNG developer Cheniere Energy and utility holding company PNM Resources, has held myriad energy-sector leadership roles over more than 30 years, including heading Indiana's largest electric utility, serving as a state and federal regulator, and working on international bodies.

"I've been fortunate to be around people who were visionaries who wanted me to succeed. I had the opportunity to be in the room and then it's up to me to prepare myself to handle the responsibilities," she said.

She notes her breadth of experience helped when being considered for boards: her background in industry, financial experience evaluating rates as a regulator, leadership roles such as at Cinergy/PSI Energy (now Duke Energy), advanced management courses, as well as entrepreneurial experience.

She sees signs that oil and gas companies are feeling the need to address diversity. From what CEOs are reading or hearing at conferences, from shareholder advisers, "people are talking more about that," she said. There is more talk about the capabilities of the workforce and the business benefits of "having diversity in the brainpower around the table," she said.

More emphasis is being put on leadership development and making sure that women and minorities are part of the peer group of high-development candidates, she said. Boards are also looking at succession planning for CEOs.

Despite some challenging numbers in oil and gas, she sees progress with women gaining line responsibilities, such as Equitans chief operating officer Diana Charletta, who recently was also

named president of Equitans Midstream. "I think the story should be upbeat, not Pollyannaish, but that we're doing better. We're not where want to be, but that will always be case," she said.

As for racial minorities in top leadership posts in oil and gas, "the numbers are woefully low," Bailey said. There are obstacles to getting minorities into the industry; to come to where the jobs are located, she said. In addition, "where you don't see individuals like yourself in those positions, you may not think of that as a career area for yourself," she said.



"Where you don't see individuals like yourself in those positions, you may not think of that as a career area for yourself"

Among the challenges that remain, "the hurdle will always be 'can she really do the job?' The hurdle will be how you are perceived, she said. "That's something we fight every day. Having our voices heard, being viewed by colleagues as having expertise and credibility and gravitas that individuals come to you as an expert; as someone who knows their field."



Laura Beane

CEO, Avangrid Renewables

Now holding the top spot at Avangrid Renewables, Beane started at the company in 1995 as a contract receptionist, and fought boredom by recommending changes to the corporate presentations she was printing for her bosses. Soon she was getting invited into meetings and pursuing an MBA at night.

She raised her hand for different roles over the years. "I really have never felt that my gender held me back, and back then, utilities were known as male-dominated, but I never personally felt any of that," she said.

A key difficulty is attracting a diverse pool early in the pipeline of workers entering the company, she notes. "In the energy industry, such a large percentage of our employees are often in the field, either line workers or technicians at the wind facilities or solar facilities, and those tend to be very male dominated to this day. We're working really hard to change that." That includes scholarship programs and outreach to technical colleges, she notes.

"We've really worked to see if we can help that pipeline issue as we bring women into these fields, but it's tough, there's not a whole lot of women that appear to be interested in those career fields." And there is stiff competition to draw and retain those people, amid rapid growth in the industry.

On a personal note, Beane said it is because of a female manager's suggestion that her career stayed on track around the time her son was born. "In my mind, I was going to have to leave entirely for a period of time." Instead, they worked out a plan for her to target about five hours of work a day that were not tied down to a set schedule, allowing her to be available for meetings any time of day. "My part-time status I think was largely invisible to everybody that I worked with."

She believes that power companies definitely still have ground to gain in moving women into leadership roles, but she sees positive efforts. "I am very encouraged because I feel that the company is making more deliberate effort in this area than I've ever seen," partly with a new human resources chief focused on diversity and inclusion. "It's really opened up a conversation that I don't remember having at the executive and senior management levels."

One of the efforts to tackle that at Avangrid is an internal networking group, meant to attract and retain female talent, that is open to women and men, she notes.



"We've really worked to see if we can help that pipeline issue as we bring women into these fields, but it's tough, there's not a whole lot of women that appear to be interested in those career fields"



Colette Honorable Partner, Reed Smith

From her post as chairman of the Arkansas Public Service Commission in 2013, Honorable was tapped to be president of the National Association of Regulatory Utility Commissioners, and later a member of the US Federal Energy Regulatory Commission. She is currently a member of the energy and natural resources group at law firm Reed Smith.

Nominated to join FERC by President Barack Obama, Honorable was the third African American to become a commissioner. "I remember some of the African American staff members coming to me and saying 'we've waited a long time for this day.' It just blew me away."

She recalls experiences early in her legal career at the Arkansas PSC of being the only person of color in the room. "If I had been focused on myself, it would have isolating, intimidating to go to a place where there were mostly older, Caucasian men who had worked in the sector for decades."

To cope with that challenge, "I was driven to master it. I was driven to learn it," she said.

From her vantage point, it is refreshing that there are several more women CEOs at US utilities, such as Mary Kipp of El Paso Electric, Lynn Good at Duke Energy and Patti Poppe of CMS Energy. "I've visually seen the difference, but the fact that I have is a sad commentary on how far we have yet to go," she said.

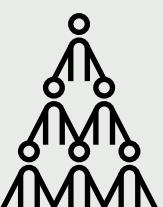
Gaining experience on the operational and financial sides of the business will be important for more women to rise further, she suggests. "Women who get great experience in operations, that is something that sets them apart," she said.

In addition, she sees "a confidence issue" for women, who may be smart and qualified but don't feel that they meet all the prerequisites of a role.

She sees a need for the utility sector to become more "intentional" in finding qualified women and people from diverse backgrounds, as well as for more women to put themselves forward for opportunities.

"The case for diverse women is even more challenging and dire, and unacceptable, I'll be frank. There are many diverse women in the general counsel world and in certain levels in upper management, but we have much more work to do to bring that same intentionality that we need to bring in focusing on women in general to the diverse women's effort," she said.

One culprit, she said, is a tendency to lump gender in with diversity, so that "if we have women on the board; women in the C-suite, we have diversity."



"There are many diverse women in the general counsel world and in certain levels in upper management, but we have much more work to do to bring that same intentionality that we need to bring in focusing on women in general to the diverse women's effort"



Janet Weiss President, BP Alaska

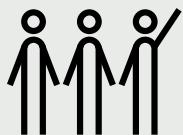
Now overseeing BP's essential interests in Alaska, Weiss has spent most of her 34-year oil industry career in the state. She's held a range of engineering and leadership assignments, including as vice president for the Gulf of Mexico shelf and western Wyoming.

Attitudes have changed since her second day at US oil company ARCO, as a young graduate in chemical engineering, when her boss dropped her off on Alaska's North Slope, returning a week later to ask what she had learned, she said.

"I think about the first couple of years in the mid-1980s ... low oil prices in a state that's economy runs on oil, and thinking about the culture, fiercely independent, 'what is this woman doing coming up here taking a man's job?' That's dramatically different now," she said. "Now there's a lot more women, but not enough, in the industry, whether it's the boardroom, or the control room," she said.

As to hurdles for women advancing to leadership, Weiss said "the biggest thing that I see is this interpretation of confidence at the table – how women might come across and communicate, and how they're heard, how unbiased are we in our listening." At times, she said, "that portrayal of confidence matters."

BP's leadership, she insists, embraces the view that better answers emerge when different perspectives are at the table. According to data shared by the company, women make up 35% of all staff, 36% of the board of directors, 48% of graduate hires, 40% of experienced hires, and 24% of group leaders.



"The biggest thing that I see is this interpretation of confidence at the table – how women might come across and communicate, and how they're heard, how unbiased are we in our listening"

The numbers drop off at the highest levels to 15% for the executive team, despite some recent additions. Asked why that may be the case, Weiss said: "That is a very good question that of course I and various colleagues do talk about from time to time." Getting to the executive team, she suggests, may require diplomacy in the external world, on top of an ability to transform a business. "Most of my colleagues, women that had a great shot at getting there, ended up retiring before they got there."

Among the efforts underway, she highlights a business resource group that brings together women in the industry across the globe to develop and learn. Beyond mentoring efforts, she also points to sponsoring, or "mentoring on steroids." This involves managers pulling someone up sooner who they have seen in action enough, in an effort to "overcome some of the unconscious bias."

Her evolving management philosophies have at times taken on physical signs. To support bringing everybody to the table, she brought in a 16-foot Matanuska Birch boardroom table, crafted with her daughter. More recently, she drew headlines by shaving her head to keep to her word, after the team met a goal of keeping Prudhoe Bay production levels steady for several years.



Lisa Lambert

Chief technology and innovation officer, National Grid

A software engineer by training, Lambert had a Silicon Valley career before joining the new venture capital unit that utility giant National Grid created to invest \$250 million in technologies over several years to disrupt itself.

Lambert sees opportunities for women amid the transformation underway in the electric utility space toward decentralization of generation, storage, metering, communications and the formation of multiple niches.

"There is a new group of upstarts that have entered that market and are competing, [and] some are trying to partner with utilities," she said, adding "the opportunity for women then is to enter into this industry via the startups." The numbers aren't large for women in startups but they are better than the incumbent energy or high-tech companies, she said.

Investment targets for National Grid Partners have included artificial intelligence, security systems, distributed energy systems, hyperlocal weather forecasting, predictive analytics – a variety of companies offering technologies its help improve transmission and distribution business going forward.

Lambert says she is "absolutely" seeing women in senior leadership in those companies pitching for investment capital. She says the data shows diversity is important for performance.

Based on her own experience of often being the "only" woman in the room in her prior career in high-tech manufacturing and venture capital, she has worked to increase opportunity for women. She created a nonprofit bringing women together to help advance their careers. While at Intel Capital, she also founded a venture capital unit investing in women and minority-led technology startups.

In general terms, women make up about half of those entering the workplace at entry level, "but there's this massively leaky pipeline because we fall off precipitously when you get to those senior positions," Lambert said. "It's a real problem getting to the next level."

A major hurdle she sees for women is gaining access to informal networks where rapport is built and where people have a chance to tell of their contribution, and to mentors or sponsors that will advocate to them in the senior ranks. "I think women tend to be more heads down. 'If I do a great job; if I produce at work I'll get recognized.' It doesn't work that way anymore. You have to be visible, you have to be known," she said.



"I think women tend to be more heads down. 'If I do a great job; if I produce at work I'll get recognized.' It doesn't work that way anymore. You have to be visible, you have to be known"



Cheryl LaFleur

Commissioner, FERC

LaFleur twice occupied the top spot at the US Federal Energy Regulatory Commission as chairman. Her path began at a law firm and included a career in northeastern utilities, where she rose to be National Grid USA's acting CEO.

"Overall I've seen the energy sector make progress, albeit slow progress," said LaFleur. Back in 2007, she recalls counting only four women out of 64 CEOs at an electric utilities trade group of top executives. "It's still not proportional, but we're definitely seeing that start to change."

Her path included some bumps along the way. She left a law firm after being passed over as a partner and having a child, then networked her way in a part-time legal position at the then New England Electric System, she said.

The regional utility offered a workable schedule, but it also brought valuable mentorship from CEO John Rowe, the chance to solve key regulatory challenges that gave her visibility, and get operational experience, she said.

"I feel like I had, overall, a good experience. It did not end positively when I was passed over for CEO after I was acting CEO for almost a year," she said. "Overall, I had a situation where I had both mentoring and support through my 30s through some of the work-family issues that seemed to derail some female professionals' careers," she said.

As to whether being female affected her career, "I think it's hurt me and helped me," she said. "There are times when people have given me honest appraisals of why I didn't get certain jobs that I think I have detected comments about myself that I believe are more likely to be made about a woman, like I wasn't tough enough, something that is not an opinion I have of myself. I feel like I've done a lot in my life."

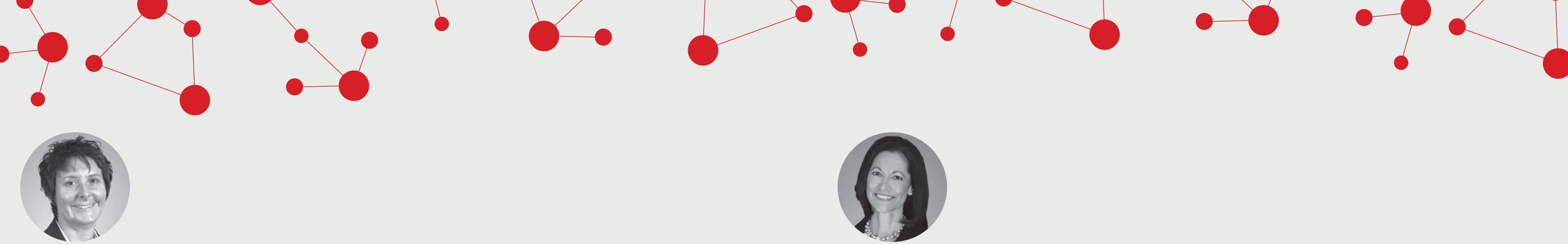
On the other hand, she adds, "when I had this wonderful opportunity to come to FERC, I know the White House was looking for a woman because they lost the only woman on the commission and all the people on the shortlist were female."

She suggests one reason electric utilities may have more women leaders than the oil sector may be that the importance of regulatory success to utility revenue has meant opportunities for those with a legal, rather than technical, background.

Having reached the end of her term of office, LaFleur was poised to leave FERC at the end of August.



"There are times when people have given me honest appraisals of why I didn't get certain jobs that I think I have detected comments about myself that I believe are more likely to be made about a woman"



Hilary Mercer

VP, Shell's Pennsylvania Chemicals

An engineer by training, Mercer is vice president of Pennsylvania Chemicals, a Shell unit developing a major polyethylene project north of Pittsburgh. Her career has entailed positions around the globe employing her technical skills, with stops ranging from the Netherlands to Oman to Malaysia. She previously managed a worldwide portfolio of integrated gas projects at Shell.

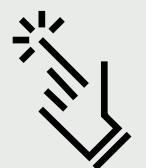
"At my first big construction site in Oman in the late 1990s, it was [me] and 6,000 men – I was the only woman there," she said. Twenty years later, she sees a shift in the number of women taking on technical roles. "If I looked then at Pennsylvania Chemicals, everywhere you look there are women," she said.

Yet she mentions challenges the oil and gas industry has faced in developing a diverse talent pool of technical professionals in areas that had historically lower female participation. She recounts her company's efforts to support STEM education, including scholarships and sponsoring programs at community colleges.

A major challenge, still, is getting over the idea that there are jobs women can and can't do, she said. "That is one of the most important things we can do at school level – to open people's eyes up to the possibility," she said. "I came from a family with a father who was an engineer. I was very lucky in the sense it never occurred to me I couldn't become an engineer, or that I couldn't work in the oil and gas industry."

The focus at Shell on gender parity is "huge... enormous," she said. Gains in Shell's leadership are indicative: the board comprised 45% women at the end of 2018, up from 8% in 2011, she notes. The share of women in senior executive positions was 24% at the end of 2018, compared with 17% at the end of 2013.

"We need the best talent for going through the energy transition. If you restrict yourself to only 50% of the population, you are never going to get the best talent you can to thrive."



"I came from a family with a father who was an engineer. I was very lucky in the sense it never occurred to me I couldn't become an engineer"

She also described the company's belief that if you have diverse teams, you get a better, more innovative, more collaborative environment, and improved results. Finally, diverse teams allow companies to appeal to the diverse users of products and services, she said.

To help female employees build their careers, Mercer said senior leadership sponsor women and help put them into jobs to develop them. She also pointed to a 16-week maternity leave policy and support for dual-career families.

Anne Pramaggiore

Senior executive vice president and CEO, Exelon Utilities

Starting in the utility sector with a retail and law background, Pramaggiore held posts in the law department and business regulatory side at US utility Commonwealth Edison before gaining operational experience to round out her portfolio.

"It's very exciting," Pramaggiore said, of recent gains for women in the utility sector, including a rise in female CEOs among investor-owned utilities over the last five years.

"With change in the business model and technological change, people are coming to run utilities with different skill sets such as finance, or the regulatory and legal side of the business," she said. "Those are areas where women have probably been seen at higher levels for longer periods of time than in engineering and STEM. That has led to the door opening up," she said.

Still, she said, there's no question women are under-represented in the industry, as in STEM jobs in general. There's been a focus on this at Exelon, which has looked at barriers to women or girls coming into these areas of study, she said.

Those barriers include "a lack of awareness of the type of jobs that were out there," a lack of experiences that might allow girls or young women to be excited about those jobs, and a lack of confidence that these jobs would be open to them, she said.

Trying to nurture that pipeline, she said the company has for six years held an icebox derby, where middle to high school girls build electric race cars and solve STEM problems. It joined the UN HeForShe initiative, sponsoring a high school students' STEM program on university campuses, entailing field trips and interactions with potential role models at the company.

But she also welcomes a newer focus. "The question around 10 years ago was how do we get more women into STEM fields or more women into the utility industry, how we shape them for business," she said. That has shifted to "how does the industry ensure that it's adapting to different types of talent that are going to come in," she said. Because the business is changing fast, "we need to be innovative, and you need diversity of all types in order to innovate and move forward." Part of that is taking a broader view of leadership styles, she said.



"We need to be innovative, and you need diversity of all types in order to innovate and move forward"

As to her own path, Pramaggiore, gives credit to male CEOs at ComEd and Exelon who gave her opportunities in operations, allowing her to learn the basics of how the system works, and how the workforce approaches it. "I think it's important for anyone who wants to sit in the CEO chair to understand how the business operates at that level."



Maria Victoria Zingoni

Executive MD, commercial business and petrochemicals, Repsol

Originally from Argentina, now working at Madrid-based integrated energy company Repsol, Zingoni grew up in an oil and gas producing region. After university, it was a natural move for her to begin her career working at YPF, Argentina's national oil company, she said.

"I love to be involved in the energy sector, because I understand that energy is a good way to develop society."

Although reluctant to go into the upstream sector, Zingoni's managers pushed her toward the idea. She now believes this was one of the most important decisions in her career, "because it allowed me to understand the business from scratch."

"Understanding the business is key – and having good leaders that help you go through the different areas of the business is also key. I am where I am today because I have been in different businesses in different countries. That's the only way you can have a senior position in a large company," she added.

Even today, the proportion of women involved in Repsol's exploration and production business is smaller than elsewhere, with women accounting for 29% of employees and 21% of leaders. By contrast, women make up 37% of employees and 27% of leaders in the downstream segment. In corporate functions, both figures are significantly higher, with women making up 54% of employees and 42% of leaders.

"We are more actively working on promoting diversity on the E&P side," said Zingoni.

Repsol's group-wide target is to have 31% of leadership positions held by women by 2020. Encouraging more women to study STEM is important to making this a reality, she said. "The technical and engineering part of the energy sector is still very much considered a male one, so education is very important."

Compared with smaller peers, Zingoni believes large, multinational companies, such as Repsol, are well-positioned to deal with issues such as diversity and inclusion, and have a responsibility for driving them forward. "If you think about global diversity – and when I talk about diversity, I mean not only gender, but race, nationality, and sexual orientation – we require a global mindset in global companies."



"If you think about global diversity – and when I talk about diversity, I mean not only gender, but race, nationality, and sexual orientation – we require a global mindset in global companies"



Jennifer Stewart

SVP, government and regulatory affairs, Southwestern Energy

With a consulting and legal background, Stewart joined natural gas producer Southwestern Energy as vice president for tax. She tried to develop the role as a partner to the business, rather than simply compliance, and then sought out added responsibilities, she said. Promoted to senior VP for finance, she then served as interim CFO and took on the new role created for her as senior VP of government and regulatory affairs.

"To get to that place where you're in the roster, women have to prove themselves substantively and technically first... I think the bar may be a little higher for women than for men to prove themselves at that level," she said.

At Southwestern, a woman is chairman of the board and there are two women board members. Both the CEO and board are strong proponents of female leadership development, she said.

"It's not a targeted women's initiative; if we identify a female leader, we're going to develop her right along with a male leader," she said.

She offers a suggestion for companies going forward. "Give women the opportunity to fail just like you give men the opportunities to fail. Give them stretch assignments and put them under the same pressure."

Young women are saying "give me a challenge, give me something that is scary," she notes, impressed by their ambition.

As for how companies can increase the role of woman in leadership, she says, "if you want to have more women on boards, you're going to have to open up your aperture" for the requirements of board membership beyond traditional positions, such as CEO or CFO.



"Give women the opportunity to fail just like you give men the opportunities to fail. Give them stretch assignments and put them under the same pressure"

Shareholders, regulators increase impetus to change

By Maya Weber

Energy companies are facing external pressures to lift their female leadership numbers from institutional investors, activist shareholders, and even potential employees and customers. But a number of female executives interviewed said the internal drivers at their companies were stronger.

"I think there is a desire to do that at the top of the house at BP because there is a deep belief that you get to better answers if you bring in different perspectives and voices, and that women have a very important perspective," said Janet Weiss, president of BP Alaska.

"It's the internal belief in better business outcomes that's the stronger force. Are there external pressures? You betcha," she adds.

Governments and regulators are increasingly watchful of companies that are lagging in female representation on corporate boards. Norway imposed a 40% quota on boards of listed companies more than a decade ago. A number of other European countries, including France, Italy, and Germany, have followed suit with varying quotas, some with more teeth than others. California imposed something similar in 2018. And gender pay gap disclosure in the UK, which started in 2018, has shed

light on the issue of gender disparity in leadership positions, prompting some companies to address it.

Investors are also playing a role. State Street Global Advisors, one of the world's largest asset managers, in 2017 threatened to vote against the full slate of board members for companies with all-male boards. Another large money manager, BlackRock, has said in proxy voting guidelines that it would expect to see at least two women directors on boards. The New York State Common Retirement Fund is among large pension funds warning of votes against directors on boards that lack diversity.

"The way that investors are standing up in terms of sustainability to the big corporations is quite vocal now, especially in the context of climate change," noted Christina Verchere, CEO of Romanian integrated oil company OMV Petrom. "When you're in that conversation about sustainability with this investor group, you are in a bigger conversation about societal issues, one of which is about gender."

However, many female executives said the shift toward more gender-diverse leadership teams was primarily motivated from within.

Anne Pramaggiore, senior executive vice president and CEO of Exelon Utilities, sees both external and internal factors as important. "Diversity and the tie to innovation is a very strong

driver for business, and so I think that's the internal impetus," she said, noting the major transformation underway of the utility business model.

Investors are also paying attention, she said. "There's no question about that. They make that quite clear." And there's society at large. "The discussion across our culture on diversity is a strong dialogue right now and businesses are part of that as well."

Moreover, as a utility, her company faces questions about diversity in its ranks from state regulators. And utilities frequently cite a sense of responsibility to look like the people they serve.

For companies that already have women on their boards, the threat of being punished by investors is less of a worry. Patti Poppe, president and CEO of utility company CMS Energy, puts it this way: "As opposed to pressure because you'll get in trouble if you don't, it's more of a belief that a diverse team makes better decisions. So it's a desire to have a diverse team [versus] how hard it is to actually create that when there's a limited pipeline pool," she said.

At her company, 45% of board members are women, as are about 30% of its officers, she said.

Internal drivers often mentioned in interviews included:

A need to draw strong talent from more than 50% of the population;

Trust in consultant research findings that diverse teams help drive innovation, or that companies with diverse leadership have better performance; and

A need for a workforce that will match future customers.

"The way that investors are standing up in terms of sustainability to the big corporations is quite vocal now, especially in the context of climate change" **Christina Verchere**

Even as many CEOs strive to diversify because they think it's the right thing to do, "I don't think you can extricate the fact that there are a lot of these external pressures, and truly commercial pressures to be mindful of this and purposeful about this," said Jennifer Rockwood, global power and utilities practice leader for recruiting firm Russell Reynolds.

That was particularly true for publicly traded companies, she said. Meanwhile, companies that sell directly to individuals may be more vulnerable to consumer reactions or social media campaigns.

Another source of momentum: some trade groups have urged CEOs of their member companies to sign pledges to advance diversity and inclusion. ■



Renewables sector acknowledges uphill climb

By Maya Weber

The renewables sector might edge past the oil and gas sector by some measures of gender parity, but that has not stopped it from taking a hard look the mirror.

The Solar Energy Industries Association, a trade group, and the Solar Foundation, a non-profit geared toward accelerating solar adoption, this year released a self-assessment based on two US surveys of employers and employees. The overall verdict: women and African Americans were underrepresented, and there was a major gender gap in wages and opportunities to move up the career ladder.

"Among all senior executives reported by solar firms, 88% are white and 80% are men, presenting a pronounced lack of diversity across gender, ethnicity and race at the executive level," the report said.

"We have a long way to go, unfortunately," said Abigail Ross Hopper, CEO of the SEIA, even as she explained the desire to take an unflinching look. "There are multiple people in the solar industry who share the deeply held belief as we create this entire new industry ... we need to get it right at the beginning, and make sure the issues of equality and equity are addressed and we don't repeat the mistakes of some of our brethren in other energy sectors who have had a whole different workforce that are more recently coming to the conclusion that they need to be more diverse."

The report identified several competitive advantages of expanding recruitment to more diverse candidates. One was broadening the base of potential employees to create a better pipeline of skilled workers. Diverse employees also could also help tap into new markets and build a more diverse customer base.

"We've really worked to see if we can help that pipeline issue as we bring women into these fields, but it's tough" Laura Beane

Hopper notes the study showed that many people get jobs in the sector through word of mouth. "Our friends often look like us. One of the biggest challenges is recognizing that culture and then challenging it and doing it differently," she said.

She is not particularly convinced by the notion that companies would hire women positions if they could find them. "It takes work, you have to perhaps use pathways that are not familiar to you, that are a little outside of your area of comfort zone," she said.

Still, she said, the industry is making strides by having the conversation. More than 80 solar company CEOs have signed an action pledge, committing personally to

have programs in place. And the SEIA has signed MOUs with a number of organizations, including historically black colleges and universities in the US, to provide career opportunities, she added.

Wider talent pool

To fully reach its potential, the renewables sector needs to tap a wide pool of talent as it expands. Concerns about talent shortages caused the International Renewable Energy Agency to launch its own study this year. It found that renewable energy employed more women than the energy sector overall, 32% compared with 22%. However, female participation in renewables is lower for STEM jobs than in administrative jobs. Just 40% of men in the study perceived the existence of gender-related barriers, it noted, as opposed to 75% of women.

Kristen Graf, executive director of the Women of Renewable Industries and Sustainable Energy, said that the overall numbers in the sector clearly need work, but there is an exciting shift in conversations around diversity and inclusion. "Now I feel like so many companies are saying this is really important and we are not there yet and have a lot of work to do."

"I've seen a sharp uptick in the number of companies reaching out to us, asking questions like what should

we be doing, where can we find more information on parental leave policies, on how to build better relationships so that we get a diverse hiring slate," she said.

According to Graf, the overall representation of women in renewables has been floating closer to 30% in the last few years, but is still low at the far ends of the spectrum – the C-suite level and entry-level technicians.

Laura Beane, CEO of Avangrid Renewables, said a large percentage of employees in the sector are often in the field, as line workers or technicians at wind or solar facilities, in roles that still tend to be male-dominated. "We've really worked to see if we can help that pipeline issue as we bring women into these fields, but it's tough, there's not a whole lot of women that appear to be interested in those career fields." There is stiff competition to draw and retain those people, amid rapid growth in the industry, she adds.

Among efforts to tackle that, she points to scholarship programs and outreach to technical colleges. She also sees more deliberate effort than ever before at her company to address the need for women to move up to leadership positions, with steps such as putting networking groups in place. ■