KPMG

2018 Global Energy Conference

Powering the future with the next generation of energy

Conference recap

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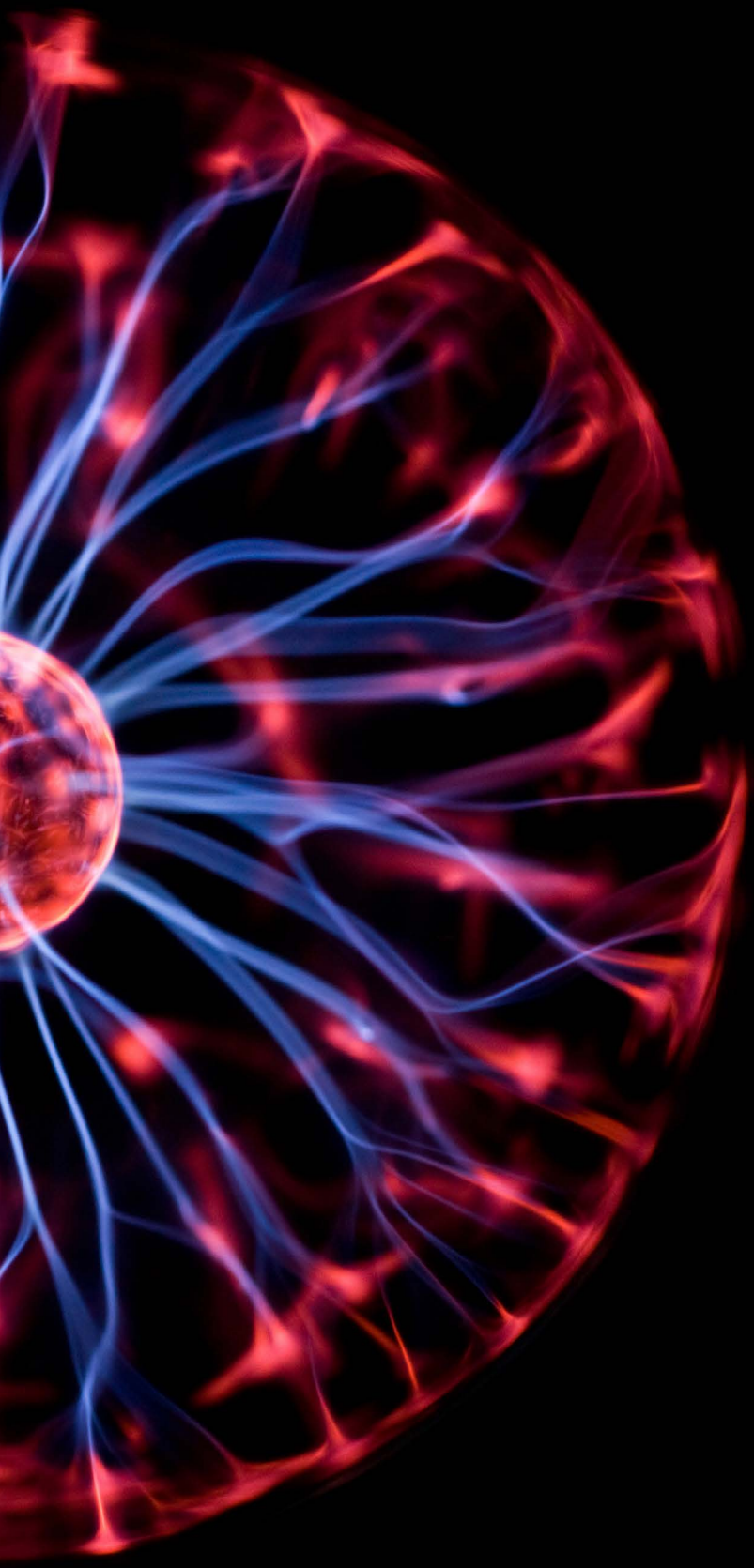

Introduction

Regina Mayor

"Our industry is driving the future," Regina Mayor said as she opened the 16th annual KPMG Global Energy Conference. "But at the same time, we're at a nexus of converging forces. We have geopolitical risk and uncertainty that continues to build. We have rapidly accelerating technology development. And we have a cultural shift with the demographic changes that we're facing. We will address all of those trends on our stage this year."

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Opening session

Host Regina Mayor addresses the 2018 KPMG Global Energy Conference

Regina Mayor, global and U.S. sector head, Energy and Natural Resources, KPMG in the U.S.

Mayor, KPMG's Global Sector Head and U.S. National Sector Leader for Energy and Natural Resources for KPMG in the U.S., introduced the theme of the 2018 GEC, Powering the future with the next generation of energy, noting the optimism in the room.

A more positive outlook in 2018

"Last year, we were decidedly more glum. We talked about lower for longer, lower forever… Brent breached US$80 in May. I don't know about your definition of 'lower,' but that's not my definition of lower."

Mayor reminded the crowd that on the day last year's GEC started, May 24, 2017, WTI closed at just under $51 per barrel, and Brent closed at just over $53 per barrel. Flash forward to June 4, 2018, when WTI closed at $65 and Brent closed at $75. "I think this is a marked change from where we thought things would be last year at this time."

Mayor ticked off some additional stats. Rig counts rose 25 percent in 12 months, up 182 percent since their low in 2016. Production in the U.S. was up by 1.4 million barrels per day in early June to almost 11 million barrels. And the U.S. represents 16–17 percent of total demand, while OPEC's production cuts were helping to get rid of the supply overhang.

When asked what they believe WTI will be at the end of 2018, 39 percent of audience members who answered a real-time poll said between $70 and $79 per barrel, and another 34 percent answered $60 to $69. A bullish 18 percent predicted $80 to $89.

The industry's optimism mirrors the findings of KPMG's annual survey of 1,300 CEOs across all industries and around the world, Mayor said. An astounding 90 percent of CEOs said they are confident in their companies' growth prospects, with another 67 percent expressing confidence in global economic growth.

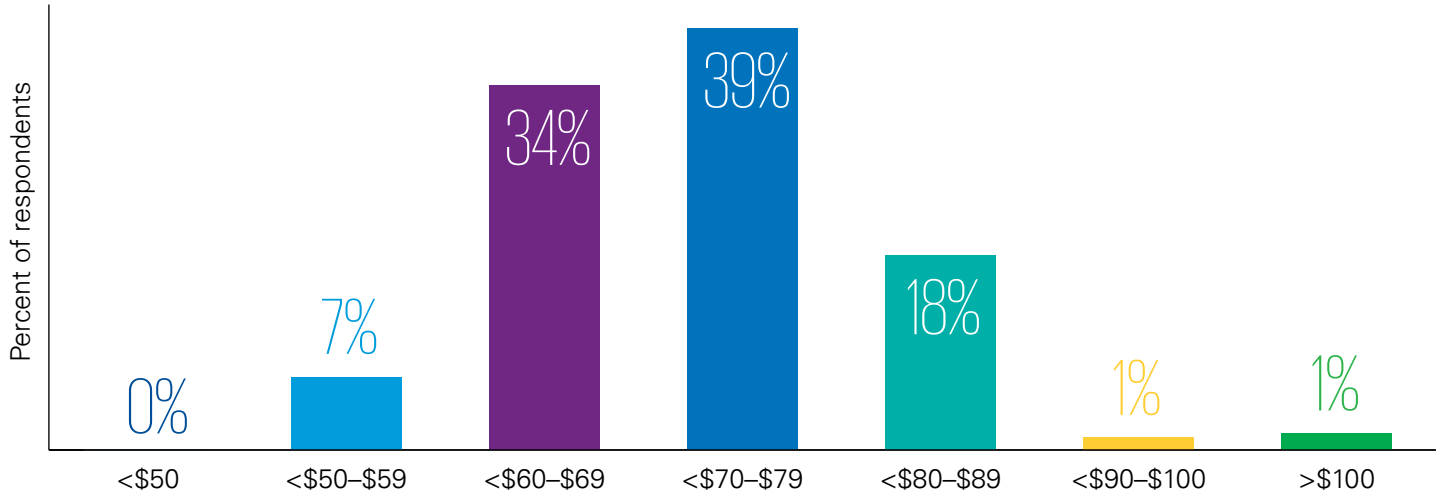
"So with all of these incredible statistics and the uber optimism and confidence, we should feel wildly optimistic about what's to come. But, there is more to the story."

"So with all of these incredible statistics and the uber optimism and confidence, we should feel wildly optimistic about what's to come."

—Regina Mayor
KPMG's Global Sector Head and U.S. National Sector Leader for Energy and Natural Resources

Regina Mayor, global and U.S. sector head, Energy and Natural Resources, KPMG in the U.S.

What do you believe the WTI crude price will be at the end of 2018?



The background noise of uncertainty and turmoil

The audience watched a video designed to capture what both businesses and individuals experience daily as they are battered by the pace of disruption, ramped-up geopolitical uncertainty, and the frenetic news coverage of it all.

"There's almost an unprecedented level of leadership schizophrenia on important topics like sanctions, trade, tariffs, military action. And I'm not trying to indicate that this is necessarily negative, because I've had many client executives from other parts of the world say the U.S. is being a brilliant negotiator. But whether it's by design or by default, it creates uncertainty, and that uncertainty creates corporate and personal anxiety."

Mayor added that the problem is exacerbated by an increasingly polarized news media—particularly broadcast news—fighting to maintain its reputation against accusations of "fake news."

"Given all of these conflicting and chaotic signals, how does anyone, anywhere in the world, make sense of it all? Our ability to effectively consume information to form our own opinions is even more critical today than it ever has been. And yet, it's even harder to do today than it ever has been."

With internet and social media sources, there's also so much more content to digest, Mayor said. She referred to a Pew Research Center study finding that 42 percent of people across 38 countries say they turn to the internet at least once a day for their news. Another 35 percent get their news from social media, including almost half of U.S. adults who rely on Facebook for news.

An agenda to reflect the times

To provide some context for these issues, the GEC invited speakers including journalist Soledad O'Brien, for a deeper understanding of the media and how the energy industry can better present its message; former senator George J. Mitchell, for his measured view of risk and opportunity around the globe; and generational expert Lynne Lancaster, for advice on how to engage a workforce that spans five generations.

Meanwhile, the annual Women in Energy Executive Breakfast panel tackled the #MeToo movement, while breakout discussions covered a range of subjects impacting the oil and gas and power and utilities sectors, from tax reform, the global balance of power and the energy transition, to cybersecurity, digital transformation, and the future of mobility.

"We explored a number of topics, the turbulent economic environment, the turbulent geopolitical environment, our commodity price environment—frankly the confidence and optimism that exists in business and in our own industry for what's coming and what we can do and how we flourish," Mayor said as the conference drew to a close.

"We heard great ideas and suggestions for how to manage this multigenerational workforce, and how to better lean in to media messaging. We talked about 2040 and what that generation's going to bring to the workforce and the talents that they'll have. I think there were some terrific takeaways."

Finally, Mayor referred to Senator Mitchell's message during his keynote address, "Genius exists wherever there are humans. Genius knows no language, no race, no ethnicity, no religion. It's a spark." And, she added as she bid farewell to GEC attendees for another year, we need to figure out how to ignite that spark.

Women in Energy Executive Breakfast

Using the #MeToo era as a catalyst for creating a safer workplace environment

The concept of "safety" is taking on new meaning at energy companies in the #MeToo era.

Senior energy leaders and labor experts who spoke at KPMG's annual Women in Energy Executive Breakfast discussed how the industry can create a more inclusive culture by applying the same diligence to addressing sexual harassment that it successfully used to transform physical safety standards for employees.

"We need the right language and the right tools that we can take back to our companies and drive real change so that everyone, men and women, feel respected," said panel moderator Angie Gildea, principal, Americas Oil and Gas coleader, KPMG in the U.S. "And that's why we're here this morning."

Significant room for improvement in the energy sector

Energy's current approach to sexual harassment is similar to how it was handling safety issues in the late 1990s and early 2000s, according to labor and employment attorney Tom Wilson, a partner at Vinson & Elkins LLP.

"At that point, we were measuring a lot of the wrong things, we were missing the big picture, and culture wasn't really part of what we were talking about," he said. "And I think that's where we are today on this topic as an industry."

An anonymous poll of breakfast attendees found that more than 60 percent of the women and surprisingly more than 70 percent of the men, had experienced what they would describe as a #MeToo moment in the workplace. Many respondents said their experiences were recent, within a year's time.

"We know by the numbers that industries where you have a higher percentage of men in leadership, you have a greater incidence of sexual harassment," said Betsy

Stephanie Cox, Vice President Human Resources, Schlumberger Limited

Bagley, senior director and consultant for advisory services at Catalyst, a nonprofit organization supporting inclusive workplaces for women. "While it's certainly improved in energy, it still is one of the laggards."

About half of the attendees who answered the poll also said that, overall, the energy industry hasn't changed much since the start of the #MeToo movement. "That's not a good sign," Wilson said. "That probably is the most sobering number there, with all of what's gone on the last 18 months."

Meanwhile, men may be changing their behavior in the workplace in response to #MeToo, but not always in a positive way, the panelists said.

"You can go to an opposite extreme of fear for being with

a woman, or having a conversation, because you don't know where that line is," said Stephanie Cox, recently named president of North America Land Drilling at Schlumberger Limited after serving as the company's vice president of Human Resources. "If this fear prevents the advancement of women, then that sends us so far back to what we don't want to see happen in our industry."

To counter the pendulum swinging too far in the wrong direction as well as address some of the other challenges related to sexual harassment in the workplace, the panelists offered the following suggestions:

Create a climate for open dialogue and inclusion

While #MeToo empowered women to speak up, men's discomfort with the topic can shut the conversation down, Bagley said. Catalyst's MARC (Men Advocating Real Change) leadership program, for example, allows women to share their experience in a supportive environment, and gives men the tools to listen rather than react and try to explain behavior away.

Employees also need the right words to communicate, Bagley added. In the 1990s, the U.S. armed services established a bystander intervention system that gave people an easy "red, yellow, green" scale to describe their level of discomfort with behavior toward and around them.

"What's OK for one person is not OK for another, and I think that's what's confusing to men, because they want the rule, 'what am I supposed to do, what can I do?'" she said. "As a colleague that's witnessing it, you have a mechanism for dialoguing, and then you can plan how to respond to yellow or red."

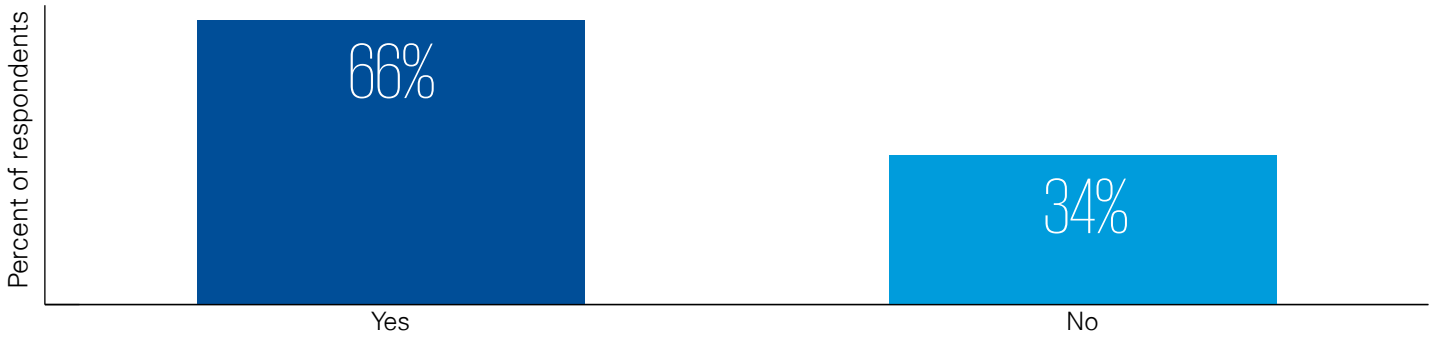
"If everybody in the workplace respects everybody else and is looking out for them, then that's the definition of safety. That's what we're talking about here, looking out for each other."

—Tom Wilson
Partner, Vinson & Elkins LLP

(From left to right) Angie Gildea, Principal, Americas Oil and Gas Co-Leader, KPMG in the U.S.; Tom Wilson, Partner, Labor & Employment, Vinson & Elkins LLP; Betsy Bagley, Senior Director and Consultant for Advisory Services, Catalyst; Stephanie Cox, Vice President Human Resources, Schlumberger Limited

KPMG

Have you experienced what you would describe as a #MeToo moment in the workplace? (Women Responses)



For energy clients, Catalyst often refers to another safety culture approach—the now-common practice in the sector of discussing lessons learned through anecdotes—to help organizations build accountability and senior-level championship.

"Cultures really change by the stories that people are sharing, and when you're opening every meeting with a 'safety moment,'" Bagley said. "That same type of attention is needed for inclusion."

Establish avenues to report problems

Employees need a clear process and reporting structure to raise concerns, Wilson said. This includes mechanisms for the most senior women in the company who may need to turn to a board member.

The chain of command does matter, he added. Plant safety managers used to report to the local plant manager, "a really bad dynamic that led to some really bad outcomes that this industry suffered." Now, more often, they instead report up the safety chain.

HR can use the same structure, with the HR manager for a plant reporting up to corporate HR rather than local management, he said. "That way you've got an avenue where hopefully that HR person on site has created a way for people to feel comfortable to talk about these issues."

Formalize mentoring relationships

One of the biggest barriers to women's advancement is not having access to the informal, influential networks that turn into sponsorship, create opportunities, and garner the advocates that are going to open doors for women, Bagley said.

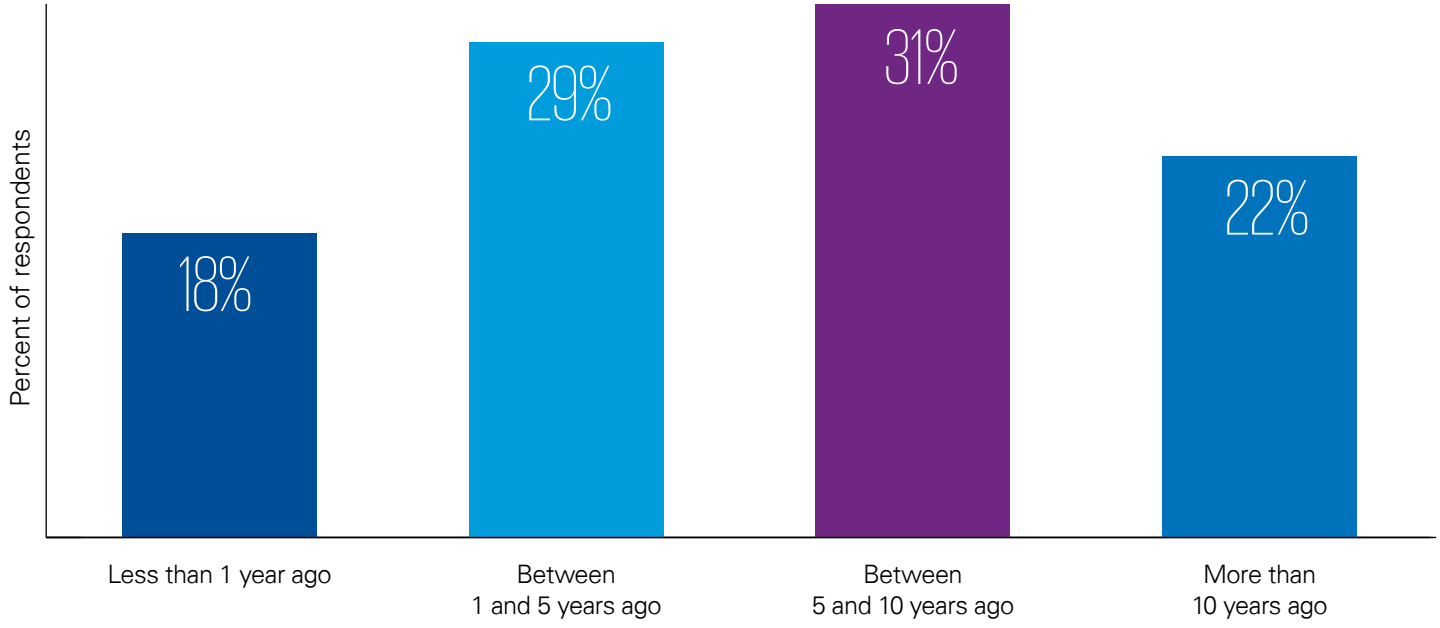
"What we've heard from men is that they do want to mentor high-potential women, but without somebody formalizing it, they feel that it will be misconstrued or misinterpreted," she said. "By putting a system in place where you're matching people and saying that it's an important part of cultivating talent, and that we're going to hold you accountable for mentoring and sponsoring women and men, then it helps them across the line so there's less fear."

Wilson said he reminds male clients that it's simply part of their jobs to promote and find opportunities for employees, regardless of gender, and to model that behavior for younger men.

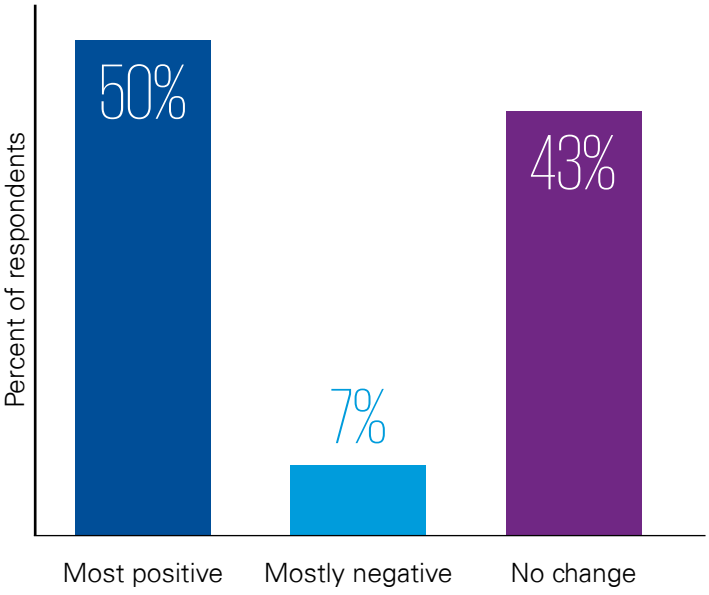
"At the end of the day, if you're doing that, and you've got decent management skills, you are probably 99 percent going to be OK," he said. "Don't let this whole process scare you out of doing the right thing."

(From left to right) Angie Gildea, Principal, Americas Oil and Gas Co-Leader, KPMG in the U.S.; Tom Wilson, Partner, Labor & Employment, Vinson & Elkins LLP

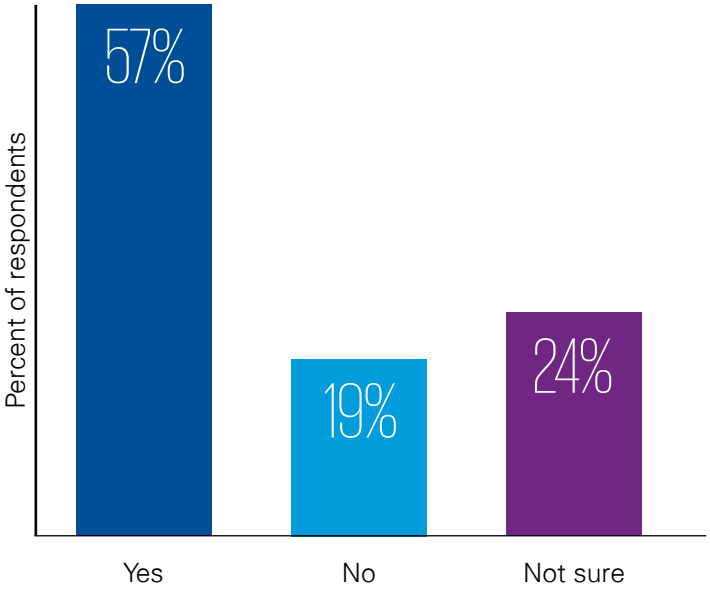
If yes, how recent was the event?



Following the #MeToo movement, what do you think have been the ramifications in the energy industry?



Does your company supplement traditional harassment training with other programs (i.e., Unconscious bias, Bystander training, "Men advocating real change")



Betsy Bagley, Senior Director and Consultant for Advisory Services, Catalyst

Take every report seriously

Cox said that she's aware of a number of reports in the industry spurred by the #MeToo movement that happened years and even decades earlier. Those older incidents need to be addressed as quickly and empathetically as recent ones, Wilson said, telling the audience to think of relief valves.

"When you get one of these reports, you can bet there's some pressure," he said. "If you don't respond, and say, 'we're looking into this, we want to talk to you some more, we're going to have somebody come visit you,' whatever it might be, that pressure will build. And the next thing you know, that person will be on social media talking about this and naming your company, and now you've got a reporter calling you. Now it's a lot worse situation than if you had at first said, 'we need to react and get on top of this before it gets out of hand.'"

As the panel came to a close, Cox agreed the safety analogy "is a good comparison. As an industry we took a stand on safety, and we're more serious about it," she said. "It's expected that you talk about it every day and there's a platform to do it."

"I think the safety analogy works so well because you get across the point that if everybody in the workplace respects everybody else and is looking out for them, then that's the definition of safety. That's what we're talking about here, looking out for each other," Wilson said. "And if you're doing that, then you're improving your safety, and hopefully you're addressing the large numbers that we saw in the #MeToo movement."

Betsy Bagley, senior director and consultant for advisory services at Catalyst, gave an example of how men in one company did the right thing when they encountered a #MeToo moment.

Employees from a company were at a meeting with a customer when he addressed the most senior member of the group, and the only woman. "Well, you know, I'd really like to be able to cultivate this relationship, take you out to golf," he said. "But I wonder would it be OK with you if I just invited your husband?"

After the meeting, one of the men checked in on his female colleague. "That just didn't feel right to me," he said, "was it OK with you?"

Her initial response was, "It's OK, I'm used to dealing with this, I've got pretty thick skin. But did it bother me? Yes. I'm going to be OK, but I don't think that what happened in there was OK."

With that, her colleague then raised the issue with their boss who came back to her and said, "Look, we don't need to be doing business with someone that is treating you with that level of disrespect. Do you want to terminate the relationship, or do you want me to do it?"

"Actually," she said, "with your permission, I will be more than happy to terminate that relationship."

"What I really liked about this story was how empowering all of those check-ins were with the woman," Bagley said. "Nobody was rushing in to save her, they weren't the white knight."

General session

Energy's role in the global economy from production to consumption

From economics to politics and technology, the story of energy is the story of the world, a point made clear in a "state of the union" discussion of today's energy sector moderated by Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and National Resources, KPMG in the U.S.

Who's driving the bus today?

As the Chief Economist for KPMG in the U.S., Constance Hunter set the stage for the morning's conversation with an economic overview of the energy sector. "Twenty years ago," she said, "the developed economies were really driving the bus in terms of demand, but we have gradually had a shift towards Asia, in particular China, and to some extent, India." She noted that in terms of consumption demand projected over ten years, China is currently growing at a rate of about 4–5 percent versus only 2.5 percent for developed economies in the Organisation for Economic Co-operation and Development (OECD).

Hunter argued that the energy intensity of GDP—a measure of the energy efficiency that calculates how many units of energy it takes to produce a given level of GDP—is going to be the key determinant of how and where energy is used in the future. She cited transportation as an area where greater efficiencies have come into play. "That efficiency is only going to continue in terms of advancements in developing economies, for example, it's going to continue in terms of distribution of more efficient vehicles throughout emerging markets."

Manufacturing was another key sector Hunter identified as undergoing significant changes in energy usage. She cited a recent instance where a Global 100 corporation used artificial intelligence to reduce the electricity used for cooling its server facilities by 40 percent. "Imagine if all of manufacturing were to reduce its energy intensity of GDP by 40 percent," she said. "Now also imagine China, which has made a huge investment in artificial intelligence, and how artificial intelligence will affect their energy demand over the next several decades.

"If we get greater energy efficiency and lower energy intensity of GDP, it's very possible we'll see the start of a decoupling of geopolitics and energy over the next several decades."

Richard Ellings, President, The National Bureau of Asian Research

The rise of China

Richard Ellings, President, The National Bureau of Asian Research, has spent decades studying Asia and China in particular. He focused on the growing role of China and its potential impact on geopolitical risk around the world.

"The balance of power is totally different than it was two decades ago," he noted. "The U.S. has less capacity relative to the rest of the world to exert leadership. Our military is not as gargantuan in comparison to others as it was. We've kept military expenditures fairly flat, especially in terms of investments. Aside from enormous expenditures in the Middle East, we're not making the investments, for example, to counter Chinese investments."

In the meantime, he said, "China now talks about replacing the U.S. not just regionally, but globally as the world leader. Russia is simply aggrieved and it would love to have Eastern Europe again."

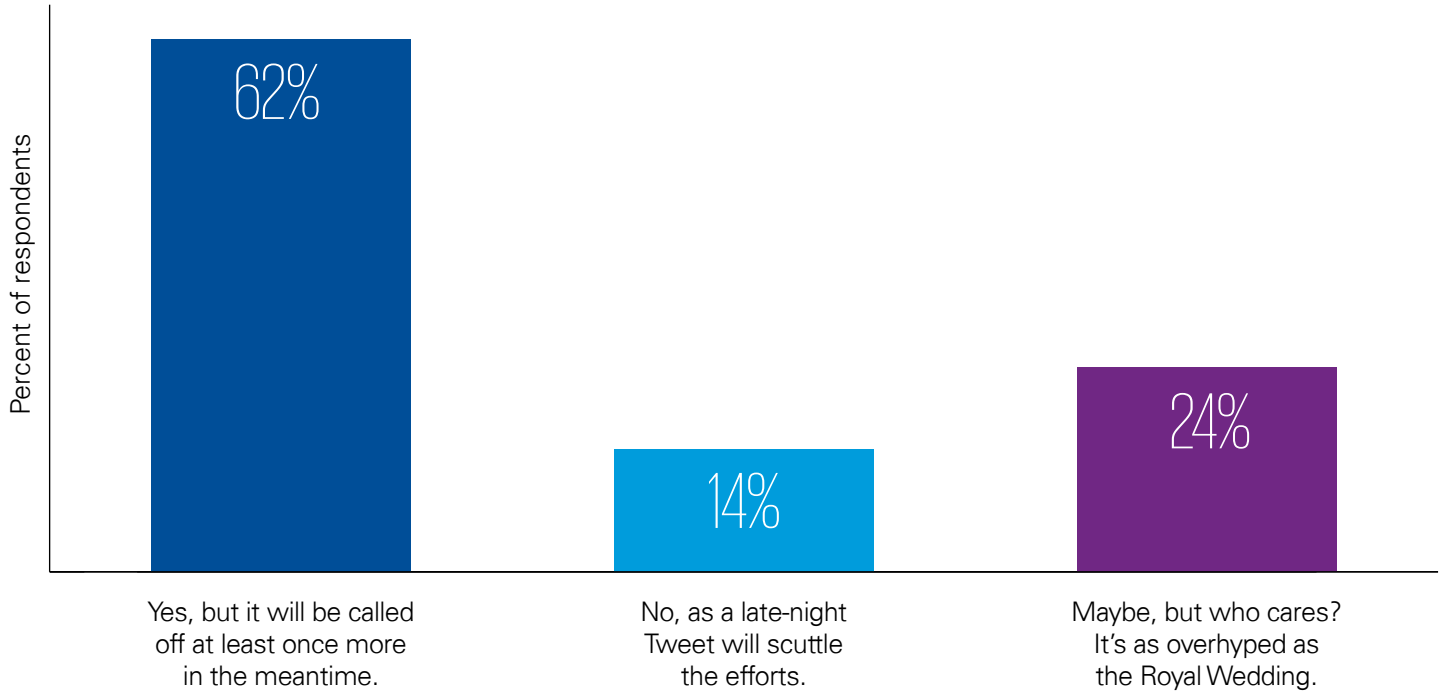
He added, "I don't give a date, but I do think the world is approaching a tipping point simply because of the ambitions and power of those whose interests, as they define it, are not in preserving the World War II order. The challenge is economic, and it's a challenge that is way more than the Soviet Union ever was."

"If we get greater energy efficiency and lower energy intensity of GDP, it's very possible we'll see the start of a decoupling of geopolitics and energy over the next several decades."

—Constance Hunter
Chief Economist for KPMG in the U.S.

(From left to right) John Gimigliano, Principal in Charge, Federal Legislative and Regulatory Services, KPMG in the U.S.; Richard Ellings, President, The National Bureau of Asian Research; Constance Hunter, Chief Economist, KPMG in the U.S.; Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S.

Do you think the summit with North Korea will actually take place next week?



Despite these misgivings, Ellings said that he remained optimistic. "The U.S. has been more involved in the world, frankly, than we were the prior eight years. We're stronger in the Ukraine. We're confronting allies and friends, maybe not always in the right ways, but nonetheless, we're out there. So, there is an activism and a recognition of problems that seem to me to be a good thing."

Tax reform and tariffs: who benefits?

John Gimigliano, Principal in Charge, Federal Legislative and Regulatory Services, KPMG in the U.S., wasted no time in addressing the question on everyone's mind: What about that tax bill passed in December by Congress?

Gimigliano started by pointing out the sheer magnitude of the bill. "For everyone in this room, this is the largest tax bill that we will all see in our working careers. There will be changes, there will be tweaks along the way, but this is the big kahuna for most of us in terms of changes in tax policy."

He also explained that the bill is not "a $1.5 trillion bill." Rather, it's a $1.5 trillion net tax cut. "When you total the tax cuts and tax increases, it's really closer to a $10 trillion bill. Five-and-a-half trillion dollars of tax cuts and $4 trillion in tax increases. So even by Washington standards this is an enormous bill, and easily the largest tax bill in U.S. history."

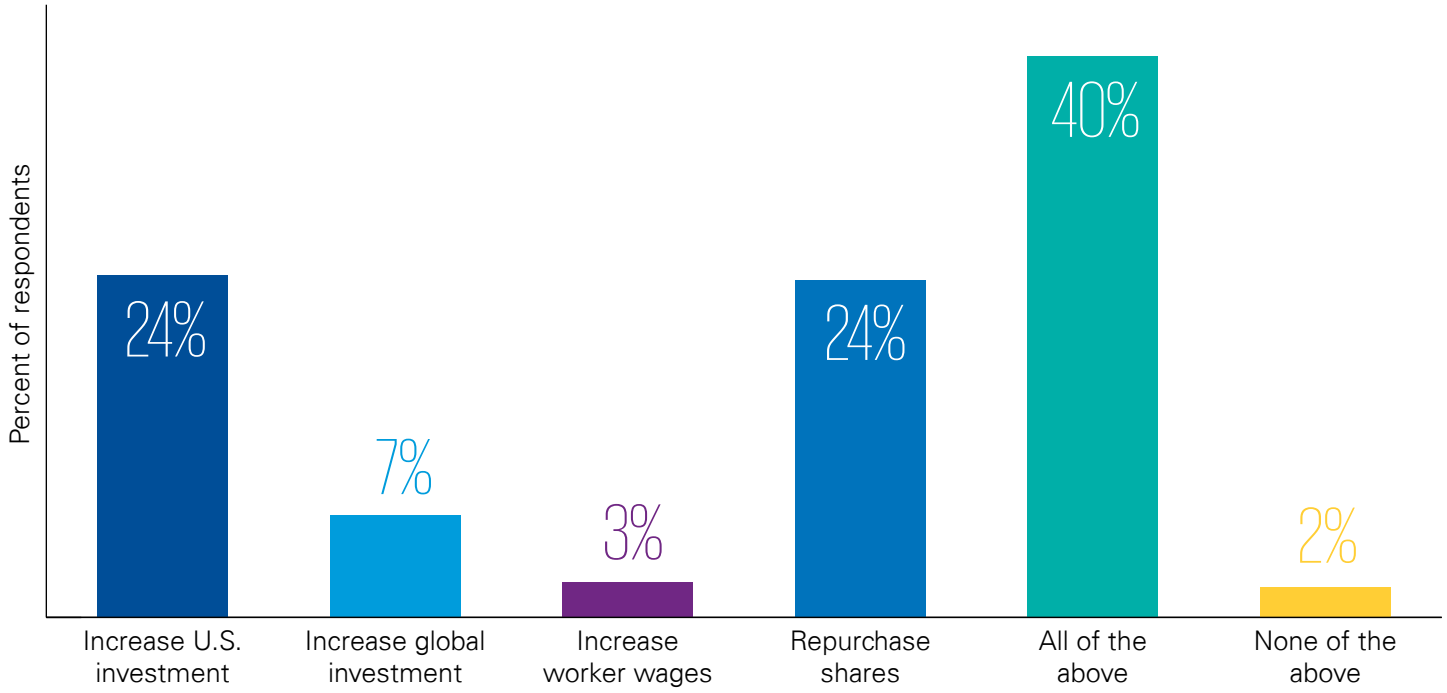
Given its size, Gimigliano said, this bill will change the way companies do business around the world. The former statutory corporate rate of 35 percent had created "all sorts of undesirable behavior—inversions, IP migrations out of the U.S., and foreign acquisitions of U.S. assets." Parts of the new bill will enable companies to repatriate over $3 trillion of foreign earnings that had accumulated over decades. "And not only the opportunity to do that, but the mandate that they do that."

So who will benefit the most from the tax bill? "There are those that think that this is all about stock buybacks that maximize the income of upper management," Gimigliano argued. "I don't ascribe to that. There's a finite amount of demand for stock buybacks. Taken to its logical extreme, I really don't think these companies are going to go private. I believe that corporations have lots of stakeholders that they must answer to, some of which are shareholders, but also employees, the community, and other things."

Gimigliano also pointed to a recent uptick in wages, and added that the lower taxes will result in greater investment over time.

(From left to right) John Gimigliano, Principal in Charge, Federal Legislative and Regulatory Services, KPMG in the U.S.; Richard Ellings, President, The National Bureau of Asian Research; Constance Hunter, Chief Economist, KPMG in the U.S.; Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S.

How do you think U.S. companies will use their tax cuts?



Top risks for today—and tomorrow

By way of closing, Mayor asked the panelists what they considered to be the top risks that the world faces today.

From Ellings point of view, the greatest possible risk would be the potential for a Sino-Russian alliance. "Not that they share that many interests, but they have complementary interests—China mainly in Asia, Russia in Europe." Short-term risks, he said, would include Taiwan, Japan, and regional disputes in the South China Sea that could disrupt trade.

Gimigliano cited political stability in the U.S., by which he means policy stability. Having spent the last two years on the tax reform trail talking to hundreds and hundreds of companies, he said that companies often tell him, "Yes, we want legislation that makes us more competitive, but we also want stability. I just kind of want to know what the rules are."

For the economy, Hunter identified an escalation of trade disputes as the greatest risk. "If we pull out of NAFTA, if there was an escalation there, that would certainly hurt the economy." She said that if inflation were to pick up from an increase in wages, that might lead to higher inflation and higher rates from the Federal Reserve, all of which would bring forward a recession.

Constance Hunter, Chief Economist, KPMG in the U.S.

America the leader or America alone?

Multilateralism and the role of the U.S. today around the world was a recurrent theme for the panelists. Here's a quick take of some of their thoughts:

Ellings: "The greatest imperative for us strategically is to strengthen our economic and alliance relationships, and friendship relationships in various parts of the world, especially Europe and Asia. That doesn't mean you don't have spats, but in the end, you need to strengthen a coalition that stands for rule of law, freedom of the seas, and those basic components and institutions that make up the post–World War II order."

Hunter: "Trade agreements are essential. The Trans-Pacific Partnership did two things. It updated NAFTA and dealt with labor laws and also services. Services are not covered currently in NAFTA, so updating NAFTA really helped move the ball down the field. It also carved out a relationship with the rest of Asia that excluded China and would have solidified our trade channels with those that possibly have greater philosophical alignment to the United States in terms of both legal and labor relationships with the World Trade Organization."

Gimigliano: "Actually, there has been a trade war going on between the EU and U.S. for a long time. Much of it has been prosecuted via the tax laws. I think this whole question of choosing multilateralism versus bilateralism, in part through the trade agenda and through the tax law, is the art of the deal. That's the president's view. And I think that's part of what we're seeing with our relationship with the EU as well."

Breakout session

Accelerating sustainable energy innovation

Transitioning to a sustainable global energy system is a critical issue and focus of the World Economic Forum (WEF), where Espen Mehlum is Head of Knowledge Management and Integration for the Future of Energy System Initiative. And while there's been progress in solar, wind, electric vehicles (EVs), and other solutions, Mehlum told the breakout session audience, "that's really only the tip of the iceberg of what is needed to meet the carbon commitments that many countries signed on to."

(From left to right) Brett Perlman, Chief Executive Officer, Center for Houston; Michael Hayes, Global Head of Renewables, KPMG in Ireland

Energy consumption and production contributes two-thirds of global emissions, and fossil fuel usage has remained steady for 30 years. Furthermore, only 4 out of the 38 technologies required to meet climate commitments are advancing fast enough.

WEF is working with KPMG and more than 100 major companies, governments, and experts on how to quicken the pace. Michael Hayes, Global Head of Renewables, KPMG in Ireland, led the panel through a discussion of ideas to support that acceleration, including the role investors and governments can play in the effort.

The investor's dilemma: balancing risk and reward

Martin Laguerre, Senior Principal, Power and Renewables, at Canada Pension Plan Investment Board (CPP), said that as investors they are "paranoid about innovation." A shift in consumer habits—for example, fewer personally owned gas-powered vehicles—can directly impact revenue and cash flow models.

"If we think about risk returns, there's the risk of innovation disrupting the traditional fossil fuels, but also creating the opportunities on the renewable energy side or distributed generation. So as you think about energy innovation and how that ties fossil fuel to cars and EVs and ride sharing, we think about that," he said, adding, "it's a much broader ecosystem than just one technology."

CPP invests in only 2 to 4 percent of the deals it reviews, Laguerre said. "At end of day, we're stewards of capital, so we back management teams," he said. "The bar is high and the competition is fierce."

Government's infrastructure for innovation

To attract the innovators, you have to create a market in which they can interact, according to Brett Perlman, Chief Executive Officer at the Center for Houston's Future (CHF), a nonprofit focused on solving the most important issues facing the region. CHF and KPMG are working on a study regarding the future of the energy industry and innovation in the Houston area.

Because many of the innovators are start-ups, the ecosystem needs the established public utilities and global oil and gas companies, he said. "This is a scale game, and so you really need to have the companies that understand how to implement this stuff. This is a very different innovation infrastructure than you have in social media or in software. It takes a different set of skills, a different set of companies, and really a different mind-set in order to do this."

CHF pulls together innovators, companies, and individuals at the very beginning of their life cycles, and looks to the larger companies to help test and pilot new technologies, Perlman said. "That marriage between small innovative companies and large established companies, the incumbents, is really I think the essential driver of this energy innovation economy that we're trying to create."

If CHF succeeds, the center of that economy will be in Houston, which has the technology, scale, development, and finance to make it happen, he said. "It's really about unleashing the machine we have here," adding, "I will go as far as to say, if Houston doesn't become a center, we won't be successful in what we're all trying to accomplish here."

"That marriage between small innovative companies and large established companies, the incumbents, is really I think the essential driver of this energy innovation economy that we're trying to create."

—Brett Perlman
Chief Executive Officer, Center for Houston's Future

(From left to right) Espen Mehlum, Head of Knowledge Management and Integration, Future of Energy System Initiative, World Economic Forum;Martin Laguerre, Senior Principal, Power and Renewables, Canada Pension Plan Investment Board; Brett Perlman, Chief Executive Officer, Center for Houston's Future;Michael Hayes, Global Head of Renewables, KPMG in Ireland

Barriers to sustainable energy development

The panelists tackled several barriers to accelerating innovation, as outlined in the WEF/KPMG white paper that inspired the session.

One, moving from idea to large-scale implementation requires government support and investment that's just not readily available, particularly in the early stages of technology development, Mehlum said. "Behind the success stories of offshore wind, solar, and others are years and years of R&D before things came to fruition."

Government's role should focus more on making sure a good framework is in place for private investment, rather than on funding, Laguerre suggested. "The best projects get funded. If you look on the technology side, the great stories of the U.S. in terms of stocks, none of them were funded by government—and they seem to be doing quite well."

Perlman countered, "I think the energy ecosystem model that we have is broken. I don't think the model that works in other industries works well here. In this industry, for innovation to occur, it takes a long time and it takes a lot of money. And so we really do have to have somewhat of a different framework."

Bold ideas for fueling energy innovation

The WEF/KPMG white paper also presents six bold ideas for accelerating energy innovation generated from a series of expert interviews and workshops. Hayes said that all six were "road tested" in the U.K. with various stakeholders from government and industry, and he asked the panelists to discuss two that "caused quite a bit of debate": public-private collaboration and public procurement.

First, there's a funding gap between the very early stages of development, when public investment typically comes in, and when innovation is closer to market and enjoys private sector investment, Mehlum said. Co-investment instruments, used more often outside of the energy industry, could help reduce risks by combining public and private sources of capital, filling that gap. "Innovators would get access to capital, and easier access to markets."

Public-private partnerships could fix some of the issues in the energy innovation value chain, Perlman agreed. The time to market for sustainable energy technologies often does not fit the expectations venture capitalists have for other sectors. Incenting larger companies to nurture new ideas could help.

Second, public procurement could drive energy innovation by influencing demand for new technologies, Mehlum said. "The first unit is always the hardest to sell, finding that first market. And at the same time many city governments are big buyers of energy solutions. Can there be a case to use public procurement more strategically to drive first markets for innovators?"

Perlman said he wants to see the idea broadened a bit. "It's not just about having the public be the first purchaser of some of these technologies, but really using the public entities that we created, such as grid operators, to test some of these ideas and help solve real problems."

While he found the ideas interesting, Laguerre cautioned that institutional managers have a very serious fiduciary responsibility for public funds and must exercise extreme care in choosing where to invest it. "You want to make sure that the public feels like their hard-earned money is really put to good use."

The panelists ended their discussion with a review of some of the innovations they are keeping an eye on, from battery storage and hydrogen power to blockchain and artificial intelligence.

"Digitalization, decentralization, and electrification coming together is going to be a very important model upon which you can build multiple applications, and it has implications as well for the intersection between energy and mobility," Mehlum said. "I think this is a tremendous opportunity for innovation, but it won't happen fast enough unless we make some specific interventions."

(From left to right) Martin Laguerre, Senior Principal, Power and Renewables, Canada Pension Plan Investment Board; Espen Mehlum, Head of Knowledge Management and Integration, Future of Energy System Initiative, World Economic Forum

Breakout session

Security transformation—Building resilience against cyber threats

"What we've got here is failure to communicate."

When that line was uttered by the evil Captain in the 1967 film, *Cool Hand Luke*, rampant malware, ransomware, hacking and cybersecurity in general were mere twinkles in a technologist's eye. Little did Paul Newman's Luke—much less a then-nascent enterprise computing industry—know what was coming.

As moderator Dave Baumgartner, principal, Cyber Security, KPMG in the U.S. said, there's often a communication gap that exists as an initial barrier in conversations around cyber resiliency. Most directors, C-suite executives and business leaders typically don't have technology backgrounds. Conversely, information security professionals usually haven't spent their careers running lines of business.

"There's a common question of how we get to a place where we can communicate effectively with our leaders," said Baumgartner. "A big part of the reason that this communication gap exists—and this really gets to the challenge of being resilient in the face of a cyberattack—is the constant change we are all experiencing. We've heard over and over that threats are changing, technology is changing, but the big change now is the move from the traditional waterfall development model to an agile development model, which means we have to work to enable security from the beginning."

An investment today in tomorrow's cyber resiliency

The panelists suggested that security leaders should invest now to help close some of those gaps and help ensure that their businesses are resilient to cyber threats, and they also highlighted some of the critical success factors. And while there are resource challenges, ultimately what this scenario has created is a prioritization challenge.

"Virtually every company has experienced a cyber event to some degree, which often leads to a discussion-based tabletop scenario in which existing plans are examined and assessed. But that's not enough," said Zeeshan Sheikh, chief information officer, Entergy, adding that a cyber response plan should be part of a company's overall crisis response plan.

"Tabletopping, in my opinion, is great for developing a procedure, but not actually gauging effectiveness of an organization's response," he said. "Part of developing that resiliency is putting yourself in an actual cyber response position, rather than a simulation. From experience, you will see how your resources operate under duress and you will quickly find out where you have blind spots. You've got to live it."

For Jed Young, chief information security officer, Andeavor, achieving resiliency is an ongoing, four-pronged effort. "Fundamentally, there is a bit of identification you have to do, a little bit of prevention, and a little bit of detection," he said. "And then there's that response—you have to be ready to respond. Resiliency requires some level of investment across all four of those areas. There has to be some level of investment in making sure that we understand that our adversaries are out there gathering information about us. They are identifying our weaknesses."

"What keeps me up at night is thinking about decisions that were made in a certain context years ago that have not been updated for today's interconnected world."

—Scott vonFischer
Chief Information Officer, Lyondell Chemical Company

What's keeping you up at night?

While the session focused specifically on cyber resiliency, the topline theme was overall business resiliency.

Industry chatter around resiliency really started to accelerate in the aftermath of last year's cyber event that affected global shipping giant Maersk and its logistics arm, Damco, which experienced a ransomware attack. The impact was deep and broad: the company had to proactively take about a third of its businesses offline for approximately four weeks to deal with the internal technological disruption.

"We have to continue to have robust resilience controls and security around the digital assets that are controlling physical processes," said Young, referring to attacks targeting a Saudi refinery's safety systems announced in late 2017. That attack not only focused on business systems and Internet of Things devices, but on the very system that was controlling the refinery's physical process. "What keeps me up at night is the level of sophistication that is needed to be able to carry out those attacks."

"What we have today is a lot of technology that has a higher vulnerability because it's interconnected with everything across the supply chain and it shouldn't be," said Scott vonFischer, chief information officer, Lyondell Chemical Company. "What keeps me up at night is thinking about decisions that were made in a certain context years ago that have not been updated for today's interconnected world."

Tips from the pros

The panelists also took a few moments to offer some simple yet powerful cybersecurity tips—not necessarily as business people, but as citizens of the world we now live in.

Dave Baumgartner—"If you have an account with any online retail site or social media platform, you've got to think about ATO, which stands for Account Takeover. The advice is to get a password manager app for your phone and use strong passwords and different authentication methods. A single press of a button will take you to any Web site you use that requires logon credentials while keeping your information off the 'dark web.'"

Scott vonFischer—"I've been a strong proponent of multifactor authentication for a really long time. Today it's so easy that it's almost embarrassing if you're not using it. It's so simple and prevents account takeovers because the hacker needs your phone information as well. That's something I'm pretty passionate about. Definitely do that on any social service or shopping site."

Jed Young—"For security and compatibility, update your device's operating system every time you can. Those user interface changes can be inconvenient, but just update every time. That's just a global message that anyone can do and it's really painless."

Zeeshan Sheikh—"I travel a lot for work. If you've ever had your credit card stolen and you've also got that card linked to recurring payments, it is a nightmare to have to go back and change it for all those different accounts. So, the card I use to do recurring payments is different than the card that's in my wallet. Just assume you're going to have a credit card stolen at some point and protect yourself—and turn those alerts on."

General session

The next big news story

Soledad O'Brien, award-winning journalist, documentarian, news anchor, and producer

Walking onstage in a bright red dress, smiling broadly, Soledad O'Brien—recipient of multiple Emmy and Peabody Awards—looked the 2018 KPMG Global Energy Conference audience in the eyes and said, "the energy industry does a terrible job of telling its story."

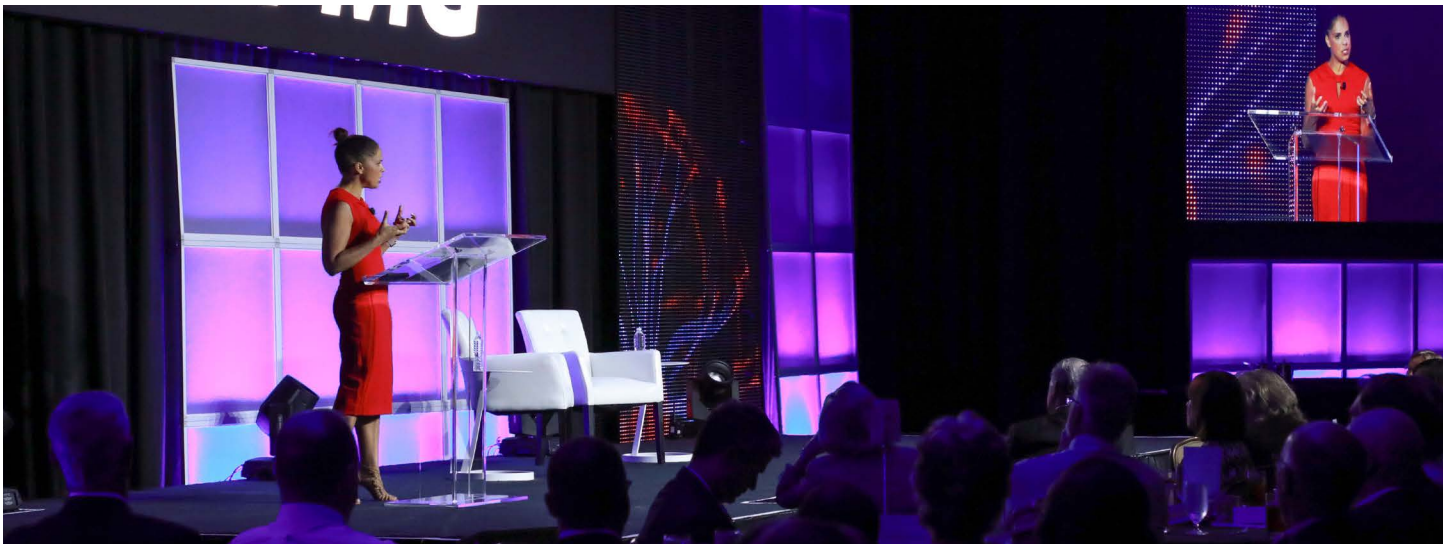
Strong words, but being the good documentarian she is, she put a pin in that burning thesis and proceeded to take a step back to establish some context around her point of view on the media and storytelling.

We don't get to opt out

In 1958, when O'Brien's parents met, interracial marriage was illegal in Maryland. In fact, an Australian man and Afro-Cuban woman like O'Brien's Johns Hopkins–attending parents couldn't be married in 16 states. But they were in love. So they drove to Washington, DC, got hitched, and lived illegally back in Baltimore. It wasn't until 1967 that the Supreme Court ruled that banning interracial marriage was unconstitutional.

"I used to ask my mom what it was like," said O'Brien, the fifth of six children, all of whom went to Harvard. "After my older sisters were born in '60 and '61, she said people would actually spit on them as they walked down the street. But she would also say 'we knew America was better, we knew there was a better place to get to.'"

It was an early life lesson that framed O'Brien's ultimate view of how she should contribute to society, both personally and professionally. "As I became a reporter,



Soledad O'Brien, award-winning journalist, documentarian, news anchor and producer

I came back to that a lot. What's my role in helping America get to that 'better place'? Is it contributing to the screaming or is it telling stories in a different way? And I kept thinking about that, whether I was doing a documentary or in any of my reporting. That was really helpful to me, acknowledging our obligation to not opt out of things that can be messy and uncomfortable. We need to figure out how to tell those stories and contribute to a better narrative."

Today, even as a professional, O'Brien admits to feeling frustrated by the tenor of the news we see on TV and social media, where there's seemingly very little in the way of complexity and detail and nuance—the things that make us human. "We're covering the 140, now 280 characters, we're covering the froth of the story, we're covering a headline," said O'Brien. "And that has not only led to a lack of understanding, but also contributes to an increasingly polarized audience."

From staple taker-outer to on-air reporter

O'Brien paid her dues to come to this realization. "When I started working in television news in 1987, I was hired to be the staple remover at WBZ-TV in Boston," she said. "My job was to remove staples from bulletin boards on every floor of the office."

Not the height of prestige for the former Harvard student, but she loved being part of the news team. O'Brien quickly realized she had an opportunity to influence the kinds of stories the station told. So she answered phones and pulled staples, but, like her mother, she always knew there was more, a better place.

By the time she got to San Francisco in 1993 as a newly minted reporter at ABC affiliate KRON-TV, O'Brien felt she had amassed a few more skills. Her first assignment, during her first week on the job, was to do a live report on the San Francisco Giants, who had made it into the playoffs, but because she was low in the reporter pecking order, she wasn't actually sent to the game—she was sent to a bar to cover people who couldn't get tickets to the game.

A #metoo moment before there was a #metoo movement

"It was my first week as an on-air reporter," she recalled. "I was interviewing people and writing and editing my story. Everybody was drinking. As they came to me for my 6:00 p.m. live shot, I heard 'Soledad O'Brien is standing by live with the very latest from Joe's Pub,' and realized that everybody was really drunk—and they're all standing really close to me. It never even dawned on me that I should care about that. As I started my report one of the drunk guys behind me reached out and pinched me on the rear end. My first live shot ever. Terrible. Luckily, they cut away from me, rolled my story, and then came back to me live."

"That was really helpful to me, acknowledging our obligation to not opt out of things that can be messy and uncomfortable. We need to figure out how to tell those stories and contribute to a better narrative."

—Soledad O'Brien
Journalist, documentarian, news anchor, and producer

(From left to right) Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S.; Soledad O'Brien, award-winning journalist, documentarian, news anchor and producer

Soledad O'Brien, award-winning journalist, documentarian, news anchor and producer

"I don't know if you've ever had something go badly, and your friends say something like 'Listen, it didn't actually read that bad.' My experience was the opposite. My experience was terrible and everybody was like, 'Oh my… what happened?'"

O'Brien's boss called her into his office and suggested she may want to start looking at opportunities in smaller markets. Never a good conversation to have. "I called my old boss at ABC and he said, 'Whatever you do don't quit. Just dig in and learn the skills.' That was great advice. Within a few months, I was better, decent at doing live shots, and shortly became the Oakland/East Bay bureau chief."

She was on her way. There would still be stories about feline reincarnation, escaped snakes, and giant fish, but soon she would be a household name, covering the custody battle over Elián González, the massive Indian Ocean earthquake and tsunami, the 2008 financial crisis, Hurricane Katrina, and many others. "When I started as a low-level production assistant I never thought I would be able to cover some of the biggest stories of our time."

Fast forward a couple of decades and increasingly social media—sometimes overtly, sometimes with a bit more subtlety—is pressuring reporters into coverage that is more salacious than they might instinctively pursue. To O'Brien, it often seems as if the media has been highjacked by an increasingly rancorous, facts-light, partisan debate that is sensationalistic, often ugly, frequently ill-informed, and obscures vital, fact-based stories.

Lost opportunity

O'Brien offered a highly publicized example. After Roseanne Barr posted an inappropriate tweet in late May that was broadly condemned, a highly charged discussion of how ABC would respond—a valid topic—completely dominated the social and TV universes. At the same time, a story relating how Harvard was examining data in an effort to measure the actual number of people who had died in Puerto Rico as a result of Hurricane Maria was only lightly covered.

"Those two stories were released exactly at the same time," said O'Brien. "Puerto Rico didn't have water, didn't have power. Even with all that, the story never seemed to gain traction. The Harvard story had the potential to break through the lack of interest in the Puerto Rico story. Even with a very wide margin of error, which the report talked about, the low end of the estimate put the damage and the deaths near Katrina level, which was quite high. There was some reporting on the story, but not a lot. This was a classic failure of media's responsibility to its viewers."

According to O'Brien, on the day both stories hit, CNN spent 10 minutes on the Harvard/Puerto Rico story and 8 1/2 hours on the Roseanne story. "Media had an opportunity to really explain things, add context, and offer a sophisticated, data-based point of view, but instead added fuel to a confusing fire," she added.

Energy can lead

As for O'Brien's view of the energy sector's ability to promote itself, she says on balance, it simply doesn't relate, doesn't reveal itself. "It's hard to find stories about the energy industry that aren't just framed as 'good' or 'not good,'" she said. "I think the conversation could be far more dynamic. There's so many things that you are doing around data for example that people don't know about and that could really serve communities. You have to figure out how to communicate with the media to get some of those stories told. I'm not saying you need a really great PR strategy so everybody loves you. I'm saying be honest about what is working and where you're being effective. That can be a very compelling narrative."

O'Brien challenged the energy executives in the room to lead in this conversation, to work with their respective organizations to produce thoughtful stories, stories that look at emerging technologies, stories that look at where AI is going, stories that look at the latest innovations that impact people.

"You're in an industry that affects people's lives," she said. Not everybody has that opportunity to frame and shape stories that affect actual people. "Examine data and strategies and policies that lead to success. Talk about new processes, obstacles that were overcome, how successful results were achieved. When you do that, I think everybody can win."

Be a lifeline, not a looter

In their one-on-one chat, Regina Mayor asked O'Brien about her most recent book *The Next Big Story: My Journey Through the Land of Possibilities.* Mayor referenced O'Brien's reporting on a massive earthquake that struck central Chile near the city of Concepción in 2010. O'Brien visited the area just days later and witnessed how people were responding, both the good and the bad, during the crisis. In the book, O'Brien wrote: "You can be a looter or you can be a lifeline. The choice is yours." Mayor asked O'Brien what we can do to be that lifeline—if not literally, then figuratively—and make the world a better place.

"One of the most depressing things for me about the time that we're in from a media perspective is it's all framed as 'looters,' as crazy and depressing—that people are terrible and situations are awful all the time. But, actually, when you report on the most awful, horrible stories, there's always someone who steps up and says 'What can I do?' or 'I've done this thing and I'm helping to feed these 5 or 10 people'—or, if you're José Andrés, and you're helping a million people. As he said to me, 'I'm a chef. Chefs cook. That's what I do.' I think that's the answer. Don't get sucked in to the negativity around you. Instead, do whatever is your equivalent of 'I'm a chef. Chefs cook.' Help four people. Give two internships. Write a check for $10. I think we need to focus in that way and ignore the often unpleasant tenor of the time we're in and focus on the good stories, on the people who are doing good things and try to elevate those stories. That's what we can do."

(From left to right) Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S.; Soledad O'Brien, award-winning journalist, documentarian, news anchor and producer

Breakout session

Architecting the future of energy—How grid edge technologies are transforming distributed generation

With the advent of renewable energy solutions, distributed resources, and demand management strategies, utilities are implementing new technologies such as cloud-based software, advanced metering infrastructure, software, and communications networks at the "edge" of the electric power grid.

David Pretyman, Principal, Advisory, Corporate Strategy, KPMG LLP (U.S.), served as moderator for a diverse panel representing utilities, service providers, and infrastructure financing professionals, with a particular focus on the commercial and industrial (C&I) sector.

Software as a game changer

Polly Shaw, Vice President, Regulatory Affairs and Communications, STEM, Inc., noted falling prices are a key driver for increased adoption of renewables-based storage solutions by C&I customers. Polly also noted that the energy industry is in a period of lower renewable energy prices, increasing the market penetration of intermittent generation (requiring batteries) to support C&I customers as well as grid operators.

However, she emphasized that "the real game changer with storage is not about the hardware but the software, and how it operates as a platform to shift, pivot and dispatch services within a few minutes." With the right software, grid operators can deliver highly time-specific and location-specific services to help smooth the intermittency from renewables and alleviate grid constraints. Software can help C&I customers lower their bills through demand management and provide greater control over their energy needs and spending.

Lidija Sekaric, Director, Strategy and Marketing, Siemens

What do customers want?

Mac Nash, Vice President of Mergers and Acquisitions, National Grid, offered the perspective of a for-profit, investor-owned energy company. He agreed with Shaw about the importance of price as a driver of adoption but added that customer demand was equally important.

"Trying to find what customers want is really the biggest question," he said. He added that his company also explores the role of energy affiliates and other third parties that could potentially provide services to their customers.

Nash also addressed the demands by C&I customers for sustainable energy products, "We've always had a strong energy-efficiency program, so that's a push in that direction. One of the mechanisms to support that is to decouple rewards and utility remuneration from volumetric charges, so we only pay on the cost of deployment," he said. "We're also looking at how customers' expectations are changing. The question is always how the utility can add value and play a role in supporting renewables."

The utility is well positioned to support increasingly engaged C&I customers who want bundled solutions, such as solar plus storage and energy efficiency retrofits.

A one-stop shop

Lidija Sekaric, Director of Marketing and Strategy, Siemens, talked about C&I customers who work with a larger solutions provider. "Being a one-stop shop is an advantage, definitely."

"The real game changer with storage is not about the hardware but the software, and how it operates as a platform to shift, pivot and dispatch services within a few minutes."

—Lidija Sekaric
Director, Strategy and Marketing, Siemens

(From left to right) Mac Nash, Vice President of Mergers and Acquistions, National Grid; Tad Neeley, Chief Executive Officer and Co-Founder, Banyan Infrastructure

(From left to right) David Pretyman, Principal, Corporate Strategy, KPMG LLP (U.S.); Mac Nash, Vice President of Mergers and Acquisitions, National Grid; Tad Neely, Chief Executive Officer and Co-Founder, Banyan Infrastructure; Polly Shaw, Vice President, Regulatory Affairs and Communications, STEM; Lidija Sekaric, Director of Marketing and Strategy, Siemens

Different customers have different needs, she said, and it helps to be able to provide end-to-end solutions, along with the flexibility to offer more than one type of product and the control to dispatch products in terms of generation and storage.

Sekaric added that for some customers, having to choose among a number of complex options can be intimidating, so it helps them to consult with a provider that has experience with multiple vertical industries where a customer solution can be customized to holistically address their energy needs.

A clear demand

Tad Neeley, Chief Executive Officer and Co-Founder, Banyan Infrastructure, discussed issues relevant to financing for grid edge technology initiatives.

"We're seeing the cost going down, and rooftop solar in California shows how this can happen," he said. "California is really not a deregulated state, but all of a sudden, a bunch of solar companies showed up. There was a financing mechanism that allowed this to happen. Now the C&I space is trying to do the same thing. Their systems are more complex and in some ways more costly, but the C&I customers want it; there's a clear demand."

Looking ahead, Neeley discussed C&I customers and distribution. "If the utility at the distribution level starts to act like an independent system operator, where they are just giving the right pricing signal, then that becomes a role that's easy to understand," he said. "Customers are showing up with their own distribution systems. I think that's where things are headed."

Breakout session

Tax reform executive edition—Highlights of the new tax law and the impact on the global energy industry

John Gimigliano, principal in charge, Federal Legislative and Regulatory Services, KPMG in the U.S., says the tax reform legislation the president signed into law late last year is "the biggest tax bill that we will all see in our working careers."

After a series of starts and stops, what seemed implausible in early November of 2017 was a done deal by Christmas. "Tax reform seemed imminent until it was not, and then all of a sudden it happened," said Michael Terracina, National Tax Leader, Oil & Gas, KPMG in the U.S.

The reality of drafting and passing a bill so rapidly—49 days in this case—is there's inevitably so much left undone. "It's hard for me to imagine Congress ever coming back again to do a bill this big," said Gimigliano, who moderated this lively breakout. "It's already the biggest bill in history, so they'd have to replace it with the new biggest bill in history. It doesn't mean there aren't going to be changes along the way—I can assure you there will be. Our challenge is predicting and dealing with those changes."

Think about where we were before tax reform: the combination of a system of deferral of foreign earnings and the high corporate tax rate had created a dynamic under which companies often found it better to invest outside the United States Congress had come to this realization over a number of years. Some strategic lobbying by multinationals ultimately convinced Congress to try to reverse these incentives. And so that was a big part of what this was all about.

In the lead-up to the work on the bill in Washington, DC, the president laid out four high-level goals for tax reform:

— Make the tax code simple, fair, and easy to understand.

— Give American workers a raise by allowing them to keep more of their hard-earned pay.

— Transform America into the jobs magnet of the world by leveling the playing field for American businesses and workers.

— Bring back trillions of dollars that are currently offshore to reinvest in the American economy.

Grading tax reform

How did Congress do? How many of the president's goals were fulfilled? Right off the bat, Gimigliano challenged his fellow panelists to grade this colossal overhaul of the U.S. code.

"At the end of the day we are going to go to the markets that generate the best after-tax rates of return," said Aric Mann, vice president of Tax, Anadarko Petroleum. "Reducing the corporate rate to 21 percent certainly makes our system very competitive with anywhere else in the world. Before, we were able to bring back money and use the foreign tax credit system to offset the U.S. tax, so we didn't have residual tax. But, obviously, for companies that didn't have the credits, they were able to bring their foreign earnings back, but the cost was they had to pay a tax."

From the regulated side of the business, the panel included Chuck Mannix, vice president, Tax Services, NiSource, which supplies natural gas and electricity to nearly four million customers in seven states. Mannix approached the subject from a more domestic perspective.

"On the regulated side, I think it was very good in terms of putting money back into the pockets of our customers," said Mannix. "The regulators are adamant about passing back the lower tax rates, which are built into our utility rates, so we're going to be reducing our rates across the board. We did an analysis and it came out to be about a four percent reduction on average for our customers. So, I think it's fairly successful, and I think it will drive the economy, all things being equal. 'B' is about the right spot in terms of a grade."

The utility industry has long had a strong lobby. During the broad debate over tax reform, the industry was adamant about educating the legislators about how the utility industry is different.

"The industries' big push was to make sure that the tax code changes would be beneficial to customers," said Rod Anderson, national tax leader, Power & Utilities, KPMG LLP. "From that perspective we were pretty successful, including getting it into the code that the regulated utilities would be exempt from the limitations on interest deductions. The education that was provided to the legislators took hold and was reflected in the changes. So, we felt that we got what we needed."

"Reducing the corporate rate to 21 percent certainly makes our system very competitive with anywhere else in the world."

—Aric Mann
Vice President of Tax, Anadarko Petroleum

KPMG

Uncertainty reigns at the moment…

One aspect that remains unresolved is some of the uncertainty that still exists—the tax law was produced at such a rapid speed that much of the verbiage is a bit unclear and even contradictory. Treasury will have to offer guidance on a number of topics, such as interest disallowance, accelerated depreciation, Global Intangible Low-Taxed Income (GILTI), Base Erosion and Anti-Abuse Tax (BEAT), and 163J regulations, just to name a few.

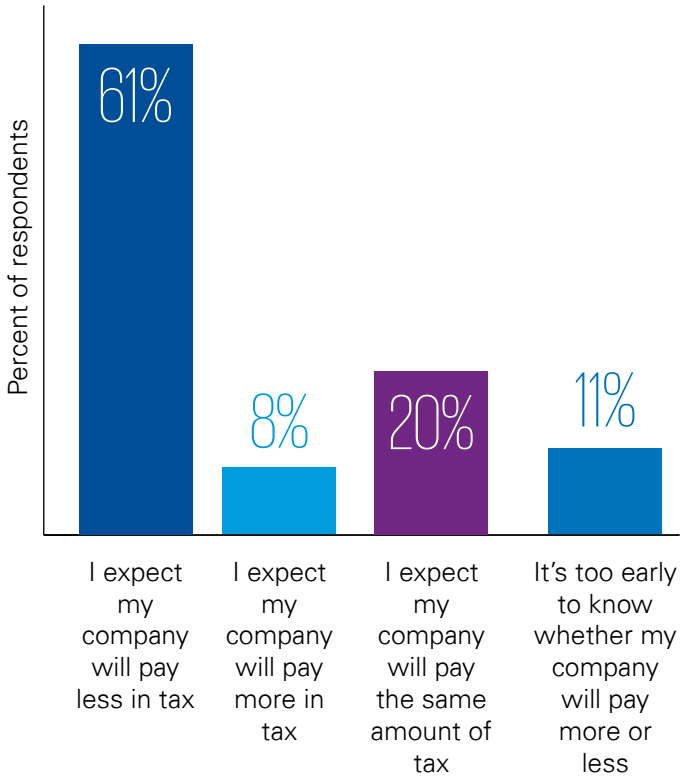
What's more, according to Gimigliano, under the Internal Revenue Code, rules issued by Treasury cannot apply retroactively unless they are finalized within 18 months of the enactment of the statute, which in this case was on December 22, 2017. The clock is ticking. There is one school of thought that says Congress may go back and try to take care of some of the things that they didn't do in the first bill—mainly make the individual provisions permanent, instead of letting them expire at the end of 2025. That seems unrealistic.

"The best thing that can happen is for the Republicans to put it up for a vote," said Gimigliano. "Either they get the Democrats to agree with their point of view and pass a bipartisan bill or, more likely, Democrats will oppose the bill and Republicans will say, 'See, we wanted to make the individual cuts permanent, but the Democrats blocked us.'"

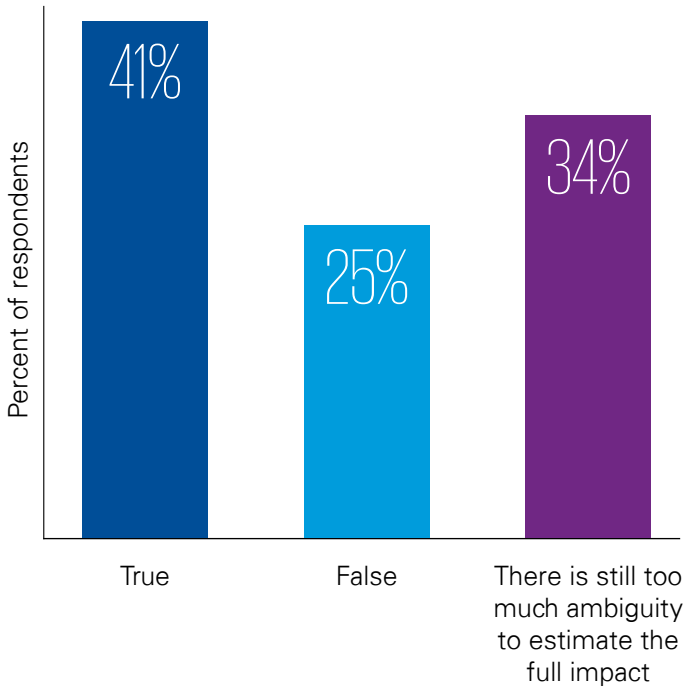
However, Gimigliano, a former senior tax counsel for the House Ways and Means Committee, questions whether it even makes it to the floor.

"My guess is Mitch McConnell will not let that bill come up for a vote in the Senate because he doesn't even have 50 Republicans who will vote yes. He doesn't want to have that vote and say that he can't even get a majority of Republicans to support it. So, I don't see any major bill coming this year. You could see some modest things come through, but even that would be a little bit of a surprise."

Under the new tax law:



I believe the new tax has significantly leveled the playing field for U.S. businesses and workers.

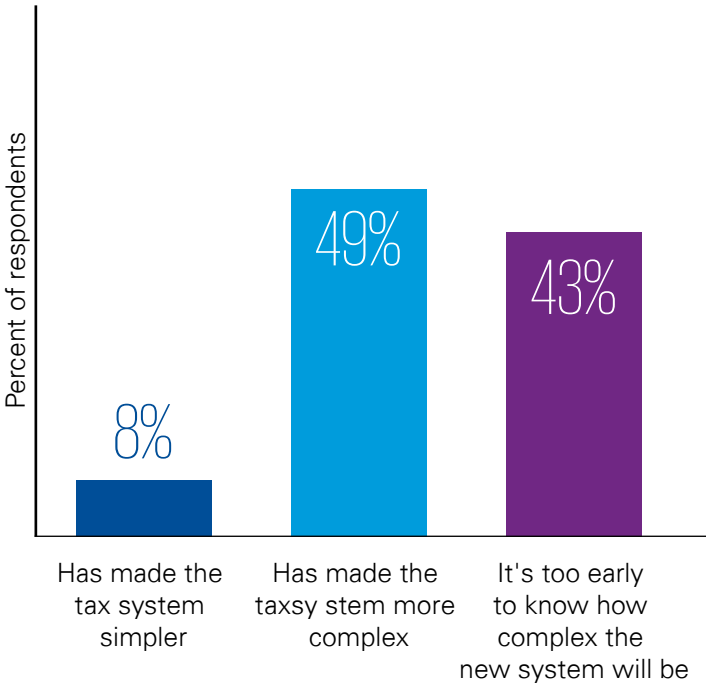


...but the future for energy looks bright

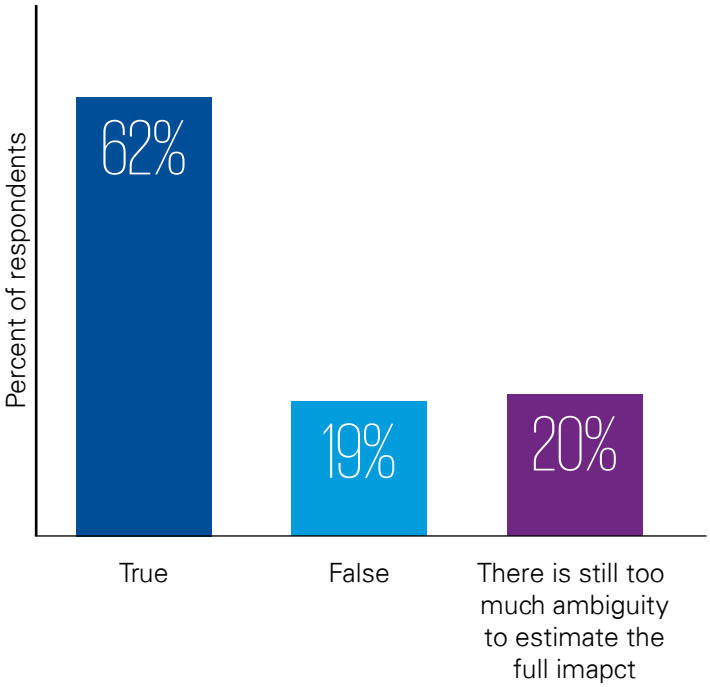
Bottom line, in this panel's view the long-term result will be positive for energy because customers ultimately will see reduced rates. However, in the short term, the industry will have to struggle a bit to maintain financing for ongoing infrastructure investments in a lower cash flow environment.

"Overall, and in the long term—that is, beyond the 18 months—we think tax reform is good for the industry, particularly for our customers," said Mannix. "But, individually, we have to change—not our business strategy, but how we fund our infrastructure investments. Previously, it came from the taxes we collected that we weren't paying to the government because of our net operating loss position. Now, we have to change our financing plans so we can continue to invest in safety and reliability and new technologies. That's got treasury departments across the industry looking for new ways to generate capital to keep those investments going."

I believe the new tax law:



I believe the new tax law will stimulate growth in the U.S. economy by bringing jobs back to the United States.



Note: Percentages do not add up to 100% due to rounding.

General session

Solving the multigenerational workforce puzzle

Lynne Lancaster, generational expert, author, and cofounder of BridgeWorks

In Lynne Lancaster's opinion, the old aphorism "people are people" holds true. Based on thousands of interviews, she told the 2018 KPMG Global Energy Conference, people really do want the same things professionally, regardless of the generation they represent:

- To work in a workplace where they feel valued
- To do work that means something
- To be appreciated for their work
- To have coworkers they can click with and really enjoy

Lancaster's views are uniquely credible. She has spent her entire career studying people in the workplace from a generational perspective and advising corporate leaders on how to use this insight to achieve better strategic and managerial results.

"There are many factors that shape how we see the world and who we are—from geography to ethnicity, birth order to thinking style," said Lancaster. "Generational personalities do seem to hold true over a lifetime and if we can understand them a little bit better, it can help us manage a little bit better."

Will the United States run out of workers?

During the conference's opening session, Constance Hunter, chief economist, KPMG in the U.S., suggested that one of the biggest threats to U.S. GDP growth is that we might run out of qualified workers, which dovetailed with Lancaster's entire generational premise. "I thought that was very profound," said Lancaster. "If you think about the history of our economy, about the economic boom that lasted all of the '60s and much of the '70s, there was a lot of corporate growth."

Where were we getting our workers? Lancaster pointed to a few specific demographic factors. First, robust immigration was pulling in a lot of workers; second, the women's movement resulted in millions of women coming into the workforce; and, third, there was the baby boom—80 million Americans, born between 1946 and 1964—which flooded the market with a perfect storm of new, ambitious employees.

Lynne Lancaster, Generational Expert & Co-Founder of BridgeWorks

Fast forward and take a look at our situation today. In the last year, the birthrate in the United States dipped below "worker replacement," according to the Centers for Disease Control and Prevention's National Center for Health Statistics. Against that backdrop, and considering the current administration's stance on immigration, not to mention the lack of any worker-replenishing "movement" on the horizon, where are we going to find personnel?

"We need to be able to retain and really engage the workers we have because we need to get the most value out of them that we can," said Lancaster. "We have five generations of workers showing up every single day. If we can figure out what makes them tick, then we can get them to stay with us—to fall in love with the energy industry and others, to be part of your company, to want to stay. That's the goal."

So, what does make the generations tick? Lancaster says generational theory tells us that the events and conditions that are present when we come of age shape who we become, especially in the workplace. She highlighted each generation based on what defines its distinct, collective "personality."

"We need to be able to retain and really engage the workers we have because we need to get the most value out of them that we can"

—Lynne Lancaster
Generational Expert & Co-Founder of BridgeWorks

Traditionalists: Respect for authority

Traditionalists, who came of age during the Great Depression, have shaped workplace culture at many companies, particularly in terms of work ethic, integrity, and loyalty.

"If you want to think of one big concept about the traditionalist generation, I would say it would be loyalty to institutions," said Lancaster. "It's a generation that believed you put aside your individual needs to serve the greater good of the institution. Traditionalists won two world wars, beat back the Great Depression, put a man on the moon, and built so many amazing companies by saying 'My needs are not as important as what we can do together.'"

Most traditionalist organizations were built on a military model: rank, order, levels, titles, respect for authority. At these companies, information cascaded down on a need-to-know basis, based on employees' rank.

"If you're in a room full of traditionalists and you say 'Jump,' they're going to say 'How high?'" said Lancaster.

Baby boomers: Idealism, optimism, competitiveness

Boomers took that respect for institutions that traditionalists had and said, "Yeah, but, we want to get in there, there's 80 million of us, we're really competitive, we want to put our own stamp on that thing. We want to make it bigger, better, and more professional and grow the business. We're going to shake things up."

The first few million baby boomers burst onto the workforce scene in the mid '60s. Their worldview was shaped by post-war optimism and a decade-long economic expansion. With the G.I. bill, boomers became the most college-educated generation in U.S. history. Big companies were expanding and they were hiring in a big way. Boomers got hired by the millions and idealism reigned.

"Beyond optimism and idealism, we have to remember that boomers are the most competitive generation ever," said Lancaster. "We had to compete with this large cadre of people throughout our entire careers for that place in the college of our dreams and, later, that plum job that we always wanted."

To get ahead in a sea of 80 million, boomers had to know how to work the system. Lancaster, a boomer herself, noted that her generation had to dress for success and look the part. They also had to know how to make the boss look good and impress at meetings. Boomers had to learn how to give a proper presentation, write reports, send a memo—whatever it took to stand out from the crowd.

"I think what we need to know about boomers is this: We need them in our workforce," said Lancaster. "If we don't have enough workers to replace, then we really need to scan our market and look for our best and brightest and hang on to them."

Lynne Lancaster, Generational Expert & Co-Founder of BridgeWorks

Gen X: Media, media, and more media

During their formative years, Gen Xers saw an explosion of media. The country went to cable and then satellite. Eventually, everything was on a 24-hour cycle. They saw the birth of CNN and MTV—suddenly every story was everywhere.

According to Lancaster, by age 20, the average Gen Xer had already watched 23,000 hours of television. Gen X had a front-row seat to the LA riots, the Nancy Kerrigan–Tonya Harding dustup, the O.J. Simpson trial, the Oklahoma City bombing and, of course, Monica Lewinsky and the blue dress.

Lancaster's research suggests Gen Xers developed a healthy skepticism about what they were experiencing through the media. "They dissected what they were seeing and felt very disappointed in the same institutions that the traditionalists had upheld and served," she said. "They saw so many of those institutions called into question almost every night on TV, from the presidency to the military to corporate America and organized religion. They all disappointed."

Many Gen Xers came home from school to an empty house—they were the original latchkey kids—where they had to be independent. They had to be very entrepreneurial, be self-starters, and learn to deal with change. These generational personality traits play out in Gen Xers' attitude in the workplace.

"At work, Gen Xers really are the sandwich generation," said Lancaster. "They've got 82 million millennials on one side that they need to supervise and manage who are saying 'teach me, coach me, mentor me.' And on the other side they have 80 million baby boomers clogging the big jobs."

Millennials: The dot connectors

Your millennial employee comes into your office and says, "Dude, this laptop is so 2012." We laugh, but it can be a problem strategically when the millennials' technology at home is superior to technology they have at work. It can be frustrating and get in the way of productivity and morale.

They are, after all, the "digital natives"—that is, the first generation where virtually everyone grew up with a computer in the house—and by 2020 millennials will comprise 50 percent of the workforce, both in the United States and globally.

"Two big things changed for millennials," said Lancaster. "One was that media went social. So it wasn't just a one-way street where you're putting it on a floppy disk. It became a two-way street for organizing your life. The other big change for millennials was the upgrade cycle of technology. They've become accustomed to new apps, new software, and new hardware at a very rapid rate."

This generation is used to having a voice. Millennials have been collaborators ever since they were old enough to program our remotes or set up our new phone or fix our printer. They've been working in groups and on team projects ever since middle school.

"You see them in the workplace," said Lancaster. "They form teams very rapidly, make connections, figure out the skill set needed, delegate the work, go off and get it done, come back, turn it in, finalize it. Many millennials we've interviewed say, 'I don't even care if my name goes on the report, I just want the team to be on there.' Then they're able to disband the team and move on to the next project."

The oldest millennials are in their mid to late 30s. They're already managing and supervising, and the boomers and Gen Xers to whom many report need to think about coaching them and helping them succeed.

"Millennials want to connect the dots," said Lancaster. "This is a generation that really wants to know that they're making a difference for clients, for the team, for the division, for the company. But they don't always know how they fit in, so we need to take a little bit more time to talk about results, about good news, and how the job they're doing aligns with the company's overall mission."

Gen Z: Custom made

Coming to a workforce near you very soon, Gen Z are young, but they know what they want—and what they don't.

"Gen Z is showing a real resistance to a four-year college education right now," said Lancaster. "They're saying, 'It takes too long, they waste too much of my time, it's way too expensive, why do I have to take all these courses that aren't going to get me a job?'"

They're coming of age in the era of customization. Gen Zers can customize just about anything: their playlist, their Facebook page, their Instagram, their Pinterest, their sneakers, their first car. Colleges and universities, and even high schools and middle schools, are treating them to a customized environment, as well. Their entire school plan, their grades, their papers, their degree. It's all online. All customized.

"As employers, we've got to think about a customized response to get this generation in the door and excited," said Lancaster. "And I know you'll do it because you've done it for all the other generations."

Lynne Lancaster, Generational Expert & Co-Founder of BridgeWorks

On-ramp/off-ramp

"One fascinating generational shift that we see happening right now is that the on-ramp to adulthood is getting longer. It's taking longer for people to start and finish college. The Boomer parents are like 'Oh yeah it is, and more expensive than ever!' But when you talk to Millennials, they say 'It's reasonable. If I'm going to work until I'm 80 I might as well take it slow now—what's the rush?' But while that on-ramp is lengthening for millennials and Gen Z, what people aren't seeing is that the off-ramp from corporate America is also going to need to lengthen for boomers and Gen X. We're going to need more options for how people step down, step away, reinvent, and reinvigorate in this next phase of their careers. Especially since we need all of them and their knowledge.

"We need to coach our managers to sit down with people, especially boomers, and say, 'How is work going for you? Even though you're good at what you do, and you've been doing it a really long time, I actually do care about your career. What can we do to enrich it for you? Are there new things you want to learn? Are you bored out of your mind, but you just don't want to say it? Is there something else that you've always wanted to do and maybe we can help you go in that direction?'

"We don't want our workers to end up so burnt out that they ultimately check out."

General session

Fueling the future—What electrification of the automotive sector means for energy

Do you want to buy an asset for $33,500 that immediately loses 11.5 percent of its value and then sits idle 94 percent of the time?

When KPMG's Gary Silberg asked this question at the Global Energy Conference, he was met with somewhat embarrassed laughter. That asset, the audience quickly realized, is a car.

And a show of hands indicated that many in the audience owned two or three of these underutilized machines. Someone admitted to owning eight.

"You don't need a PhD in economics to understand that that's probably not a great idea," said Silberg, National Sector Leader for Automotive at KPMG LLP in the United States. "Now, there is a value of owning a car—'It's who I am. It's about my personality.' But what I'm going to argue, and what we're going to discuss today, is that the premise of buying a vehicle, and getting from point A to point B, will be a different utility for different people."

This shift in how consumers view car ownership and mobility will have a profound impact on the energy sector, Silberg said, with a "two-fold punchline."

The decline of individual car ownership

First, car sales will drop with the proliferation of autonomous vehicles that are increasingly viewed as a utilitarian mode of transport, available at the push of a button. The clockspeed of innovation fueling this trend is moving incredibly fast, Silberg said, checking off a series of developments from Waymo's involvement in turning 60,000 Chrysler Pacificas into robotaxis to Apple's collaboration with Volkswagen on driverless cars.

The effects will appear first in what Silberg called "islands of autonomy." For a whitepaper by the same name, KPMG worked with a start-up to track the cellphone pings of 180,000 drivers in several major metropolitan areas such as Chicago, Atlanta, and Los Angeles/San Diego in order to understand their commuting habits. Each "island" is different—short and long commutes within a city, between cities, or back and forth from suburbs—indicating diverse transportation demands both current and future (electric versus gasoline, autonomous, shared, etc.).

"The types of energy that these cities will need and the type of propulsion systems will vary," Silberg said. "And I promise you it's different for Munich, and it's different in Tokyo, and it's different in Paris. Understanding this by islands of autonomy matters."

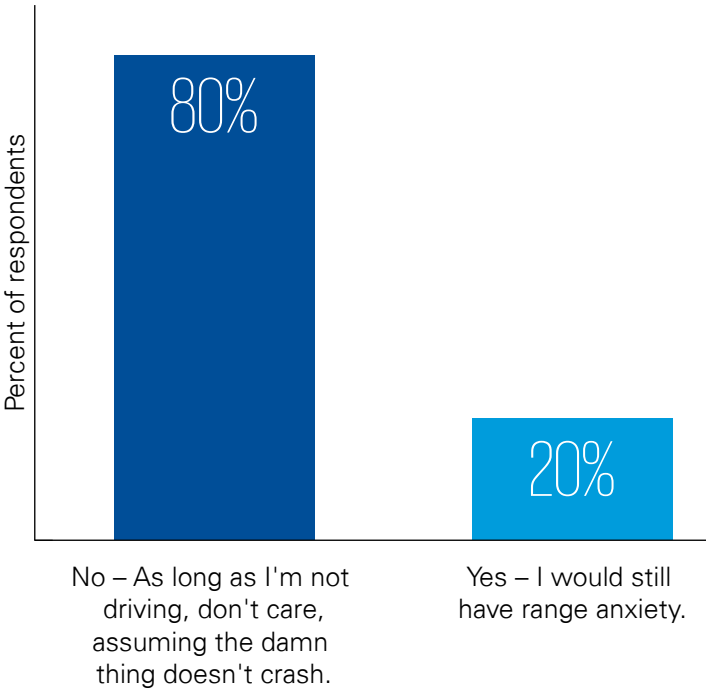
The rise of vehicle miles traveled

Second, as the cost per mile to access mobility declines significantly, vehicle miles traveled (VMT) will soar. Autonomous vehicles will allow older consumers to stay on the road longer while youth gain access to transportation before they're old enough to operate a traditional vehicle.

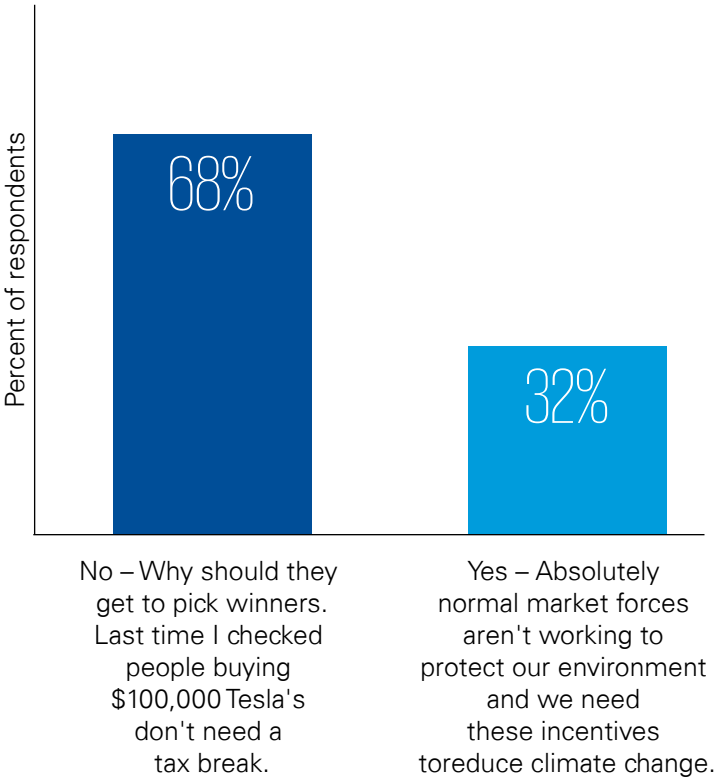
As mobility becomes more accessible on both ends of the age spectrum, approximately 2.8 trillion miles traveled will increase to 4.3 trillion miles, including miles logged in both self-driving personal vehicles and by autonomous mobility-as-a-service (MaaS) fleets. This will likely be a boon for the energy industry as it evolves to power these modes of transportation.

Don MacKenzie, Assistant Professor of Civil and Environmental Engineering, University of Washington

If you are able to "push a button" to hail a driverless car (think Uber-type robotaxi service) would it matter to you if that vehicle was a pure battery electric?



Should it be the role of the federal or state government to subsidize alternative powertrains and infrastructure (electric, fuel cells, etc.)?



New business driven by new technologies and markets

As Silberg welcomed panelists to the stage, he asked each to name areas on which they are focusing or that they believe merit attention.

Pacific Gas & Electric Corporation (PG&E) in California looks to maintain ambitious carbon reduction targets, according to Nick Stavropoulos, president and chief operating officer. The utility is looking at how to best support renewables and distributed generation.

"The electric grids in this country were designed to generate electricity at a central station and basically flow everything one way, and now we're seeing massive amounts of two-way flows on our networks," he said. PG&E also wants to take advantage of the bourgeoning opportunity created by electric vehicles (EVs) to sustain its business as energy efficiencies increase. California established a goal of 5 million electric vehicles by 2030; there are only 350,000 on the road today.

Assistant Professor Don MacKenzie from University of Washington's Civil and Environmental Engineering program is examining what he calls "the state of charge." Even as battery technology improves and costs come down, range anxiety and grid impact remain issues, affecting EV competitiveness. However, we can optimize that state of charge by aligning charging, travel, and other activities throughout the course of the day.

"Today, how people and where people charge their vehicles creates challenges," he said. "So, this technology of automation, combined with mobility services, opens up a lot of opportunities that make electric vehicles more viable from a technical standpoint."

The EV revolution is going to impact oil demand by some 6 million to 10 million barrels, according to Mike Utsler, formerly of oil and gas company Woodside Energy Ltd. However, new demand will come from a growing global population expected to reach 9.6 billion over 20 years compared to 7.3 billion today.

"The challenge for the oil and gas industry is actually an opportunity…as we drive efficiency in internal combustion engines and we get better performance," he said. "How can we then use what has previously been the need for gasoline and diesel in other applications for those same molecules? Those carbon molecules represent not only fuel, energy, and electricity on the upstream side of it, but also the plastics, the downstream side."

Mismatched clockspeeds: Innovation and regulation

Unfortunately, the pace of government often is no match for the clockspeed of innovation. Stavropoulos described the process of working with regulators—all with their own timetables and opinions—to try to install 7,500 EV chargers over three years, the largest such program in the country.

"That sausage-making takes a long time. And then you're trying to design this wonderful fast stallion, and you might come out with a camel at the end that had very little input from the customers that are actually going to use the product," he said. "You talked about the massive acceleration and change in this business environment, and electric utility regulation just doesn't move at that pace."

Utsler added, "The U.S. will struggle in this space as it always does. It will be driven by the social realities from a 'license to operate' perspective as the world passes us by and moves much more quickly to implement these changes," referring to China's EV and other energy efforts, and Europe's plans to ban diesel fuel.

(Left to right) Gary Silberg, Partner, The Americas Head of Automotive, KPMG in the U.S., Mike Utsler, former Executive of oil and gas company Woodside Energy Ltd., Don MacKenzie, Assistant Professor of Civil and Environmental Engineering, University of Washington, Nick Stavropoulos, President and Chief Operating Officer, Pacific Gas & Electric Corporation

Beyond battery-powered electrification: Alternative fuels

"I wonder whether or not electric is going to be the fuel for the future because of the weight-to-power ratio," Stavropoulos said, suggesting that liquefied natural gas (LNG) may be a better alternative for medium- and heavy-duty long-haul trucking as well as for rail and shipping. "When you look at the ferries out in San Francisco harbor, a tremendous amount are using diesel fuel. Is it going to be a battery-powered ferry or is it going to be a LNG-powered ferry? I think there's a lot of debate that needs to happen there."

LNG is not without its challenges, including fugitive emissions of methane that could wipe out the carbon benefit, MacKenzie said. Additionally, the higher the pressure of the LNG required, the heavier the system, eating into mass efficiency.

"There are these complicated trade-offs that with any gaseous fuel makes it harder to use in an automotive application," he said. "But again, if you design a vehicle ground up, you can package that a lot more efficiently, just as you can with an EV that you design ground up."

Utsler called hydrogen a potential disruptor to battery-driven electric vehicles. Toyota for example is dedicating tremendous resources and talent to hydrogen, producing a hydrogen fuel cell that's 45 to 50 pounds compared to Tesla's massive battery pack.

"From an industry perspective, we're actually quite excited by the potential of where hydrogen fuel cells could go," he said. "And it also has a greater propensity for being able to create greater horsepower in per-unit size because you don't need 7,000 batteries the length of the car."

Hydrogen's ability to deliver longer distance between fueling than today's EV battery also could shift our approach to infrastructure, Utsler added. "It changes the investment strategy required for the distribution system, because if I can go 2,000 kilometers versus 700 kilometers, I only need two stations versus five stations."

If I had $10 billion…

Silberg closed the session by asking each panelist where he'd invest a hypothetical $10 billion. Stavropoulos would explore how to better incorporate multiple renewable energy sources, such as combining a solar and wind battery, connecting that to EV charging, and leveraging hydrogen and LNG.

Utsler said that in addition to developing hydrogen fuel cells and LNG for transport fuel, he would invest in renewables to power the infrastructure that allows us to produce in the first place. "We use five to 20 percent of the product that we produce to create the energy to enable us to produce the product to deliver to the marketplace. That is a huge inefficiency in our own economic scenario."

Speaking broadly, MacKenzie described MaaS as the most promising, with less political risk than some of the clean energy options. "It goes beyond just cars, but the advent of this whole spectrum of options and the idea that you can have anything from a scooter up to an SUV, potentially." But aerial personal transport is a no-go, he added. "Two words: noise pollution."

Gary Silberg, Partner, The Americas Head of Automotive, KPMG in the U.S.

Mobility on demand in the Big Apple

KPMG's Gary Silberg provided an example of how autonomous MaaS vehicles could change the lives of city dwellers—and ultimately, the energy industry—in the very near future. Here is an excerpt from his discussion:

I talked about how the cost per mile is going to go down and that the vehicle miles traveled are soaring. To give you an idea of our research, we think over…you can name the year, 2024, 2025 even, probably shorter—the cost per mile for a consumer for a self-driving car will be close to 50 cents a mile in a MaaS type of environment.

So, let's take Manhattan as an example. Say you're in midtown Manhattan. You've got to go to Wall Street. Let's make it five miles. If you pushed your button and got in a self-driving car, we think the consumer will only have to pay five times 50 cents. That's $2.50, okay? And, you have your own self-driving car.

Does anybody know the cost of the lovely subway in New York City today? It's $2.75 today. And so you have an option. You can join all the other beautiful human beings in the 90-degree weather down in the subway and enjoy all of the hoopla—or you can push a button.

And this is one of the many examples—and I could give you example after example—why the miles traveled will soar. Because people, when the option is cheap enough, are going to push that button. So this, to us, presents a massive opportunity for the industry.

Breakout session

Digital transformation—How the next generation of digital revolution will reshape the energy industry

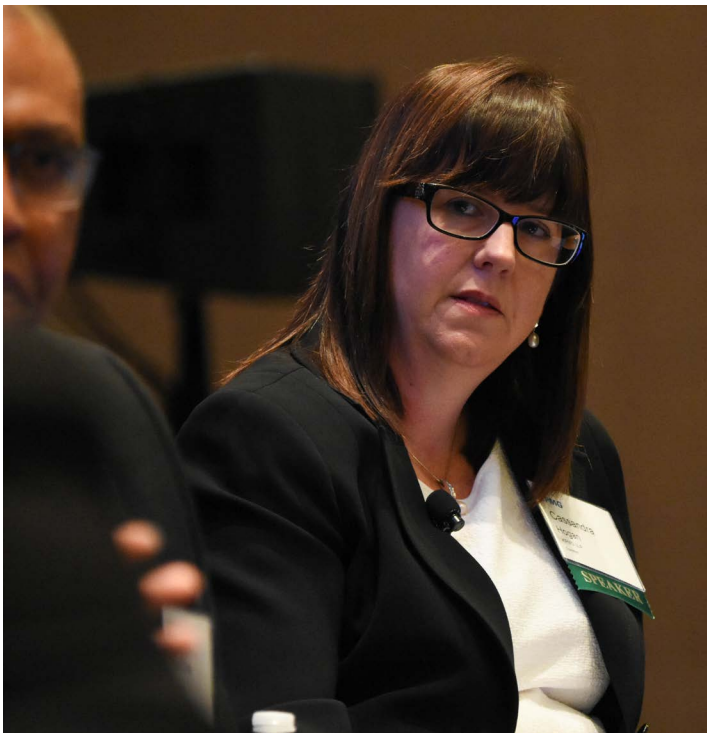
When it comes to digital transformation, BP's upstream CEO Bernard Looney totally "gets it." And he gets it because he sees the value to the upstream—and not just because of low oil prices. It is because Looney recognizes that, to create a sustainable company for the future, you have to evolve and transform, said Morag Watson, BP's Vice President of Digital Innovation.

"He has been a huge proponent and enabler for people within the upstream organization—across the company in fact—to embrace digital," Watson told moderator Cassandra Hogan, National Sector Leader, Power & Utilities, KPMG Australia. "He's creating an environment where people can go and try new things. We have a huge organization, and there are areas where there is still a lot of influencing to be done. I can't emphasize enough the importance of having enlightened leaders across the organization from the top all the way down, who are able to show they're not afraid, and that we should move into this brave new world."

From crisis comes innovation

CenterPoint Energy is the local electric and natural gas company in Houston, serving about 2.5 million residential customers. The company also owns gas distribution companies in 6 states, as well as an energy services company that operates in 32 states.

Valentine Emesih, CenterPoint's Vice President of Operations, Technology, and Market Systems, said the company's digital transformation journey started right after Hurricane Ike, a huge storm that knocked out power for millions of people in 2008.



Cassandra Hogan, National Sector Leader, Power and Utilities, KPMG Australia

"Houston's mayor at the time, Bill White, along with the state legislature, basically ordered us to figure out better ways to make our infrastructure more resilient, provide better engagement for our customers, especially on the electric side, and enable the deregulated market here in Texas," said Emesih.

Shortly after the storm, CenterPoint implemented a new smart-energy delivery infrastructure, deploying 2.3 (currently at 2.5) million smart meters between 2009 and 2012 that were intended to provide a detailed and granular view of customer energy usage. "Typically, electric meters are read once a month," said Emesih. "With the smart meters, we read 96 intervals every day. So, you are talking about thousands of data points—way more than we ordinarily get."

And creating a digital intelligent grid enabled the company to improve its ability to isolate problems, such as when severe weather sweeps through the area impacting residential and commercial power. "The objective is to home in on where the issue is, isolate the issue, and restore as many customers as possible as quickly as possible," said Emesih. "We've deployed all these digital technologies and we are in a state right now where we are consuming quite a bit of data."

Let the mathematicians do the math

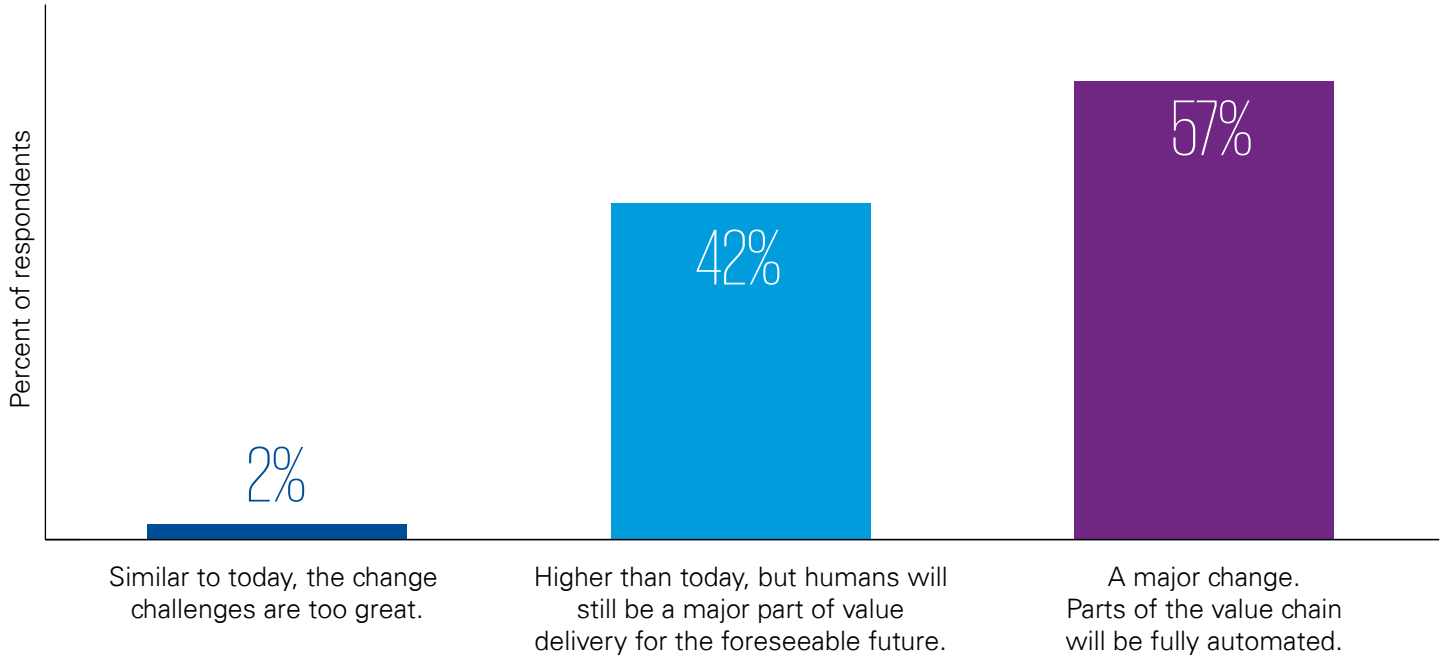
Speaking of extracting actionable insight in a rapidly digitizing business landscape, Woodside Energy, Australia's largest independent oil and gas company, went down a relatively conventional path: hiring scientists, developing algorithms, expanding capabilities, and hoping it would all be additive to the organization's goals.

"I can't emphasize enough the importance of having enlightened leaders across the organization from the top all the way down, who are able to show they're not afraid, and that we should move into this brave new world."

—Morag Watson
Vice President of Digital Innovation, BP

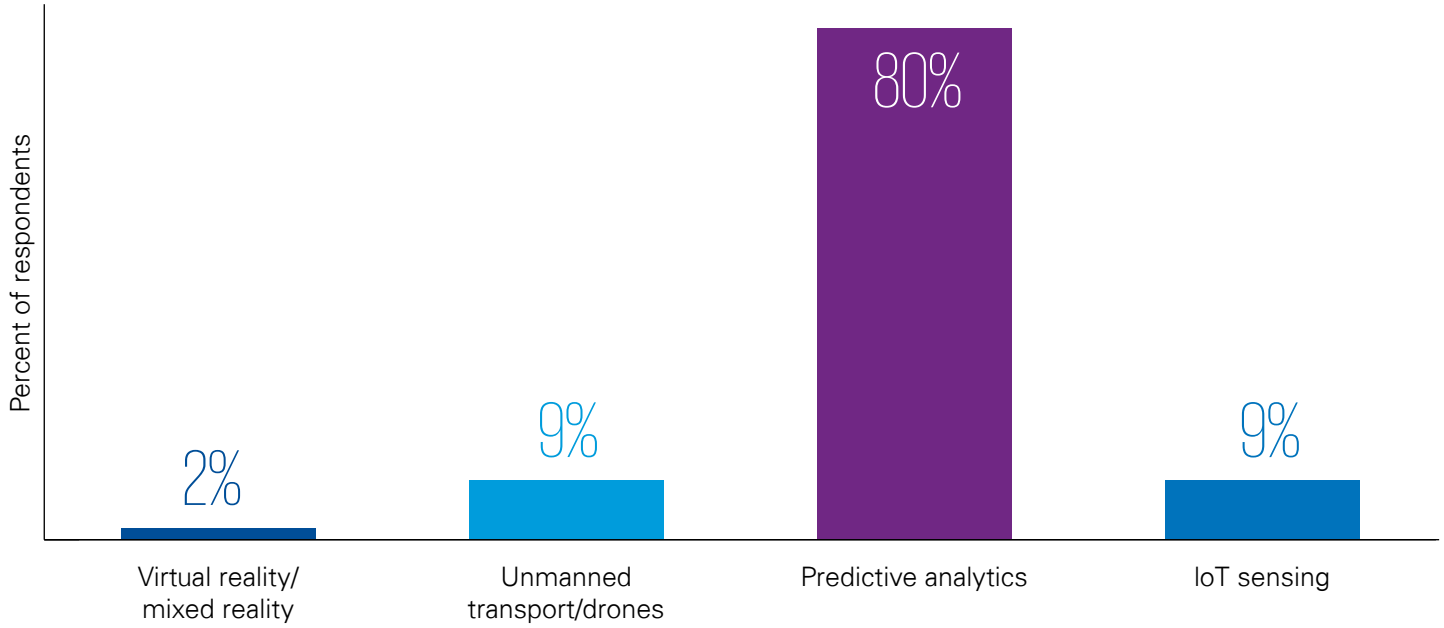
(From left to right) Mike Utsler, former Executive, Woodside Energy Ltd.; Morag Watson, Vice President of Digital Innovation, BP; Valentine Emesih, Vice President of Operations Technology and Market Systems, CenterPoint Energy; Cassandra Hogan, National Sector Leader, Power and Utilities, KPMG Australia

The energy sector has a major dependence on asset management. What level of asset automation do you envisage in your sector in the future?



Note: Percentages do not add up to 100% due to rounding.

A range of technologies are maturing that could transform your sector. Which of the following do you see as impacting your business within the next 12 months?



(From left to right) Mike Utsler, former Executive, Woodside Energy Ltd.; Morag Watson, Vice President of Digital Innovation, BP; Valentine Emesih, Vice President of Operations Technology and Market Systems, CenterPoint Energy; Cassandra Hogan, National Sector Leader, Power and Utilities, KPMG Australia

"Woodside invested time, money, and resources initially but struggled to translate the analytics into workplace-accepted and used solutions," said Mike Utsler, former Woodside Energy Executive. "We had to reverse engineer, go back to basics, to be specific and selective about the problems we're trying to solve, the data we require, and how to effectively and efficiently deploy technology in an IoT world to unlock the right level of information."

They also stopped trying to teach their data scientists about oil and gas, actively giving them the freedom to do what they do best. "We want to keep them pure to the fact that they are mathematicians," Utsler added. "They don't need to know what industry they're in. They don't care. Not to be glib, but their ability to take data and convert it from an algorithm into a usable product is what you want."

At Woodside, it's about establishing a vision around a specific goal, about really getting inside a problem, whether it's in exploration, development, production, or distribution. "From there, we say 'prototype small, scale fast.' That's the catch phrase that's become evergreen in our organization from big problems to small. You don't want to reinvent the wheel every time. Look for where and how you can repeat processes across your organization."

Speed round

It's no wonder with a topic as broad, timely, and thought-provoking that the conversation would push the limits of the time allotted. With literally three minutes for final closing remarks, Hogan challenged the panelists to offer one "short and punchy" tip for achieving success in our digital world.

Mike Utsler—"Be very clear as an organization on what you're going to build versus what you're going to borrow from the industry versus what you're going to buy from partners who can provide and deliver services that are not in your wheelhouse. As a soundbite, be clear about your build, borrow, buy."

Morag Watson—"Don't go for perfection. If you wait to get everything sorted out before you start moving, the game is lost already. You have to have a bit of faith and get going, and do it in a smart way by biting the challenges off in bite-sized chunks so you can modify direction as you go. For me, the key to all of this is speed to action."

Valentine Emesih—"I think it's important to be aware of all that is going on around you. And be conscious of going after too many shiny objects. You have to focus on the key areas that provide the highest value for your customers. It's no longer only about the solutions that you provide, it's as much about the questions that you're asking. You've got to have the humility and skill to ask the right kinds of questions. This will help you identify the most relevant areas of focus."

Breakout session

What's on the horizon? Accounting and reporting update

Moderator Joel Smith, partner, Audit, KPMG LLP (U.S.), began the accounting and reporting session by noting that last year's major topic, revenue recognition under Accounting Standards Codification (ASC) 606, was replaced this year by ASC 842 for lease accounting. Smith asked a panel of accounting experts about lessons learned about 606 that could be applied by practitioners and energy companies as they implement 842.

Get going on ASC 842 implementation

Comparing 606 and 842 implementation, John Barbagallo, managing director, KPMG LLP (U.S.), said that a number of revenue recognition amendments issued by the Financial Accounting Standards Board (FASB) in prior years may have unintentionally resulted in companies "putting down their pencils" to wait for the final word from the FASB on various revenue recognition issues. However, he said that there was less likelihood of significant amendments to ASC 842 during 2018. One exception is ASU 2018-01, which allows a practical expedient for land easements existing as of the adoption date to be excluded from the scope of the new leases standard. Going forward, however, new land easements should be analyzed to determine if they meet the new definition of a lease.

Barbagallo also offered some practical words of advice for stakeholders. These included taking steps to help ensure that disclosures are properly robust, consulting with the U.S. Securities and Exchange Commission (SEC) if necessary, keeping in mind the impact to controls, and recognizing the need for adequate 842 systems and processes. Networking with peers was another recommendation.

As with the other panelists, he stressed the importance of not waiting to implement ASC 842. "Implementation takes longer than expected. Beginning the work now is key."

Defining lease populations

Molly Chilakapati, partner, Advisory, KPMG LLP (U.S.), discussed a number of issues, including the population of leases. She explained that defining this population in terms of total lease assets and liabilities was critical, but currently there are overlooked or underreported leases.

(From left to right) Joel Smith, Partner, Audit, KPMG in the U.S.; Mark Zajac, Partner, Audit, KPMG in the U.S.; Molly Chilakapati, Partner, Advisory, KPMG in the U.S.; John Barbagallo, Managing Director, KPMG in the U.S.

Mark Zajac, Partner, Audit, KPMG in the U.S.

"Firming those numbers up is not necessarily easy," she said. "The most important thing to remember is that companies that achieve the highest successes in accurately defining lease populations are the ones that go out into the field and interview personnel in operations, procurement, and commercial, with the objective of gaining an understanding of how they run their business. That helps predefine and identify leases, including embedded or previously unidentified leases." She added, "Getting down to that level of granularity is one of the most critical procedures you can perform."

Risks and disclosures for SPACs and MLPs

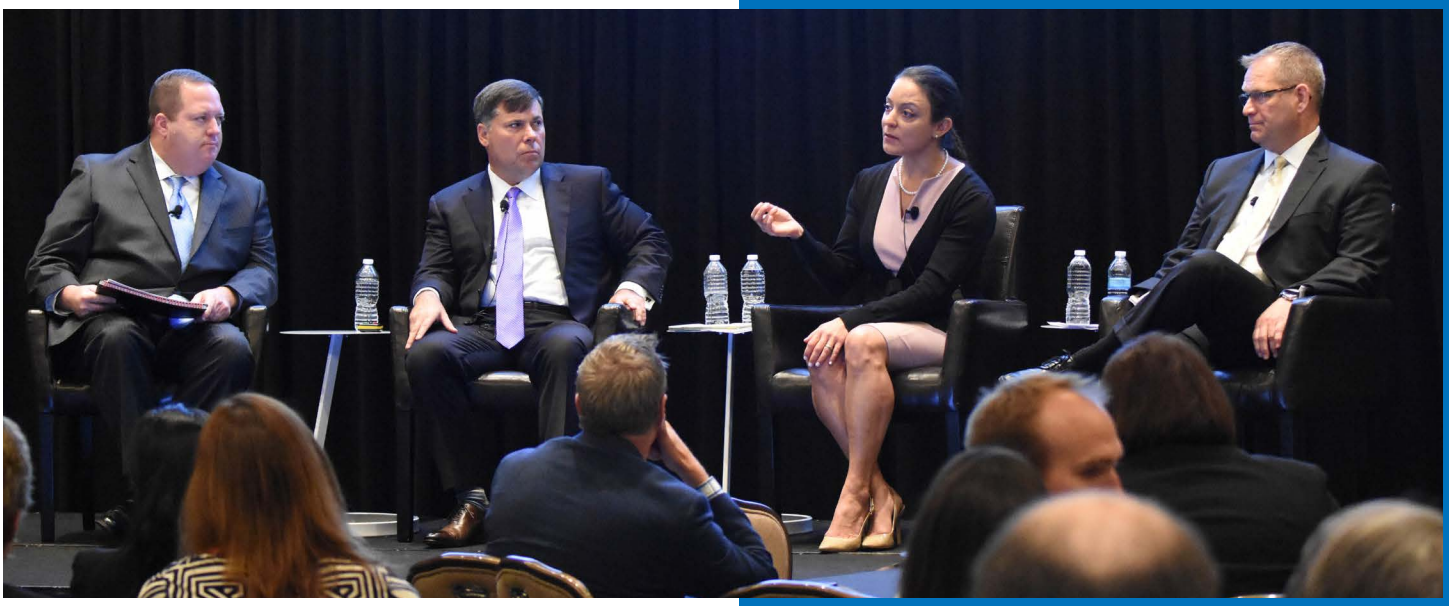
Mark Zajac, partner, Audit, KPMG in the U.S., suggested several areas that might be of interest to the SEC in 2018, including special purpose acquisition companies (SPACs), also called "blank check companies." These companies are expanding in popularity and offer an easy way to go public. However, many of these companies have made disclosures about significant changes in controls as well as a number of material witnesses. This sometimes raises their risk profile.

Zajac also mentioned the dissolution of master limited partnerships (MLPs). These entities have competing interests among various stakeholder groups and other complex issues, so disagreements and even lawsuits sometimes emerge during a dissolution, prompting the SEC to pay particular attention to disclosures and related documents.

Additionally, Zajac reviewed casualty loss and insurance related considerations, income taxes, and the need to begin thinking about the new auditor reporting model that will become effective in 2019.

"Companies that achieve the highest successes in accurately defining lease populations are the ones that go out into the field to interview personnel in operations, procurement, and commercial, with the objective of gaining an understanding of how they run their business."

—Molly Chilakapati
Partner, Advisory, KPMG in the U.S.



(From left to right) Joel Smith, Partner, Audit, KPMG in the U.S.; Mark Zajac, Partner, Audit, KPMG in the U.S.; Molly Chilakapati, Partner, Advisory, KPMG in the U.S.; John Barbagallo, Managing Director, KPMG in the U.S.

Media panel discussion

A reporter's perspective on the energy industry

Regina Mayor, global sector head and the U.S. national sector leader of Energy and Natural Resources, KPMG in the U.S., moderated a panel of seasoned energy reporters who offered their insights into what the media sees as the big industry stories, as well as how they view and approach journalism today.

The energy transition and technology

For Erin Ailworth, who covers renewables and power markets for the *Wall Street Journal*, the energy transition is the hot topic. When will it occur? "It's already happening," she said. "It's not when, it's now. The big question is, what technologies are really going to come out in force?"

In addition to battery storage, Ailworth mentioned developments in wind, such as floating turbines for deep water, as well as far larger turbines. "These things are getting massive," she said, referring to GE's efforts to build a 12 megawatt turbine. "It's basically like three Statue of Liberties stacked on top of each other, and the blades themselves are longer than a professional soccer field. It's a huge step forward if we make it happen."

Oil and gas also is a significant user and rapid innovator of technology, said Ernest Scheyder, national energy correspondent for Reuters News, and it's finally getting its arms around big data. "The oil and gas industry generates a ton of data each day, and a lot of it is just wasted," he said. "Only recently they're really starting to grasp the potential."

"What I'm excited about, believe it or not, is sand," said Joe Carroll, Houston bureau chief for Bloomberg News, to a few chuckles in the room. The fracking industry figured out that it can use sand in West Texas, eliminating the need to bring it in by rail from remote mines in Minnesota and Wisconsin. "That sounds a little goofy, but you're talking about a commodity that was worthless, and now in some cases it sells for more than coal," he said.

Oil prices and the interplay between OPEC and U.S. shale

While Organization of Petroleum Exporting Countries (OPEC) "got its act together" and "wiped out the glut," Carroll said, "shale continues to roar to new records every week. So you have those competing forces." Scheyder added that the two parties have realized they need each other. "Nobody wants oil prices to spike again, because then [consumers] are going to go to the Teslas of the world."

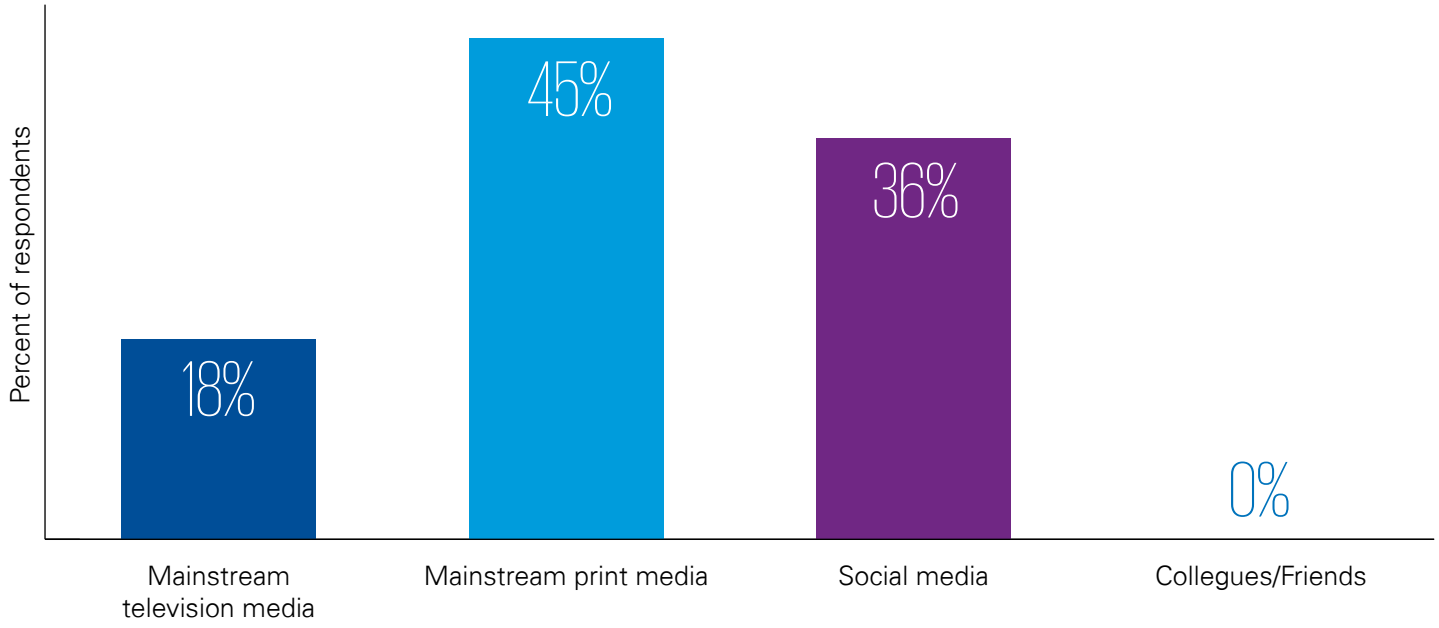
(From left to right) Ernest Scheyder, National Energy Correspondent, Reuters News; Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S.

It also will be interesting to see how oil and gas companies proceed now that the fear of "lower forever" oil prices has dissipated, the panelists said. "So as long as the memory of $26 oil from 2016 is relatively fresh, I think you'll see a certain amount of restraint, but that will go away," Carroll said. "Folks in the business are eternal optimists, and there's always another boom coming."

Meanwhile, the wave of bankruptcies everyone expected post-crash was never as severe as the predictions, Carroll said, as banks gave some leeway for their own benefit. Added Scheyder, "It's one thing to own a foreclosed house; it's another to own western North Dakota oil acreage."

The industry didn't see as many private equity deals during the crash as expected either, Scheyder said. "We still have a lot of PE money on the sidelines, and now oil prices are going back up, so that window to investment is presumably closing."

I mainly use this channel to get the majority of my information and to form my opinions:



Note: Percentages do not add up to 100% due to rounding.

Erin Ailworth, Energy Reporter, *Wall Street Journal*

Joe Carroll, Houston Bureau Chief, *Bloomberg News*

> **"While Organization of Petroleum Exporting Countries "got its act together" and "wiped out the glut," shale continues to roar to new records every week."**
>
> **—Joe Carroll**
> *Houston bureau chief Bloomberg News*

At the same time, "Wall Street is still not convinced that the oil and gas industry is resuscitated," Carroll said. "So when we see those [IPOs] start to pop up, we'll know that the atmosphere has turned."

Tax reform and tariffs

Energy companies are largely "thrilled" with tax reform and the lower corporate tax rate, although hesitant to outwardly express it to avoid criticism from consumers, Carroll said.

Utilities are in the midst of determining how they will pass any savings on to their customers, as required, Ailworth said. But rate reductions, infrastructure investment, and other efforts require state public utility commission review, an onerous process. "What gets approved and how that actually flows through is still up in the air."

Tariffs are another matter. As Scheyder pointed out, energy uses a lot of steel, and shale executives such as those at Pioneer Natural Resources admitted they'll be pinched. U.S. solar, meanwhile, is split in two between the installers, who will be hurt when costs increase, and the manufacturers, who are talking about ramping up, Ailworth said.

Journalism and the news media today

The panelists described being flooded with thousands of e-mails and press releases, but a few factors make a story idea rise to the top. First, simply, it has to be interesting, Ailworth said. And if the same topics keep bubbling up, "that probably means there's something there we should be writing about."

Bloomberg, which serves the investor community, is looking for stories that are "actionable," Carroll explained. "If you can buy, you can sell, you can hedge, if it's in any way useful from a finance point of view, we write it."

The panelists encouraged accessing a wide variety of news outlets to overcome any natural, inherent biases. However, the quality of the sources matter, Ailworth said. "The big challenge is that there's so much crap out there masquerading as reputable journalism. People go to these other sources and they think that it's the same level of work that we do, and it's not."

The reporters opined on broadcast television as well, following on Soledad O'Brien's comments earlier in the conference. "I think they're all sort of yelling at each other. We could have sat here and yelled at each other and done CNN Crossfire, and you would have been less informed than we would hope after this hour of discussion," Scheyder said.

"I think there is a hunger out there for unbiased insight and analysis that really helps people unpack the world," he added. "And I think our three organizations have a big commitment to that."

General session

Moving forward in a G-Zero world

Honorable George J. Mitchell, Former U.S. Senate Majority Leader (1989–1995)

For more than half a century, the Group of 7—Canada, France, Germany, Italy, Japan, the UK, and the U.S.—were the acknowledged leaders in economic strength and political influence. Today, however, the term G-Zero is being used to describe a world where no one country (or a coalition of countries) is willing or able to assume the responsibility of global leadership.

Over a long and distinguished career, Senator Mitchell has been a witness to this transformation and in many ways an agent of positive change, both in the U.S. and abroad. He has served as a federal judge in Maine, as Majority Leader of the United States Senate; and as Chairman of peace negotiations in Northern Ireland, which resulted in an agreement that ended a historic conflict. Most recently, he was U.S. Special Envoy to the Middle East.

In a wide-ranging address followed by a one-on-one conversation with Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S., Mitchell provided candid insights, commentary, and reasons for hope in a rapidly changing G-Zero world.

A changing world order

Mitchell was realistic in assessing the current world order—or the lack of it.

"In the coming decades it will become increasingly clear that the long period of relative stability that followed the Second World War has come to an end," he said. "Across a wide swath of the globe from South Asia to the Indian subcontinent, from the Middle East and all across Africa, populations will grow rapidly in the coming decade. Much of that growth will take place in countries already not able to meet the basic needs of their people. Many are struggling with widespread corruption and the absence of an effective rule of law."

Honorable George J. Mitchell, former U.S. Senate Majority Leader (1989–1995)

That order has now collapsed, he said, by the weight of rapid population growth, widespread drought, deep mistrust and violence, with all these factors intensified by religious differences.

Conflicts can be ended

Nevertheless, Mitchell expressed optimism about the future. "You see or hear comments that the world is falling apart, that it's more dangerous than ever, that the United States is in decline at home or abroad," he said. "I disagree. Fear of the future, complaining about the current state of affairs, lamenting the loss of a rose-colored past is as old as civilization."

Referring to his experience as a peace negotiator, Mitchell said, "I believe there's no such thing as a conflict that can't be ended. Conflicts are created, conducted, sustained by human beings, and they can be ended by human beings. How we, the United States and our allies, respond to these challenges will have effects all across the world. I can't speak for others, but I personally have great confidence in our country and in our people."

Mitchell continued by saying, "I believe that our democratic institutions remain strong, that science and reason will prevail as they always have ultimately in American history over fear, hostility, and looking backward. I believe we must, and we will devise the policies to deal with the challenges that we now face and will face in the coming decade. To do that, I believe it's essential that we remain true to our nation's principles. It is our democratic ideals that distinguished our country from the very beginning, and they always have appealed to people around the world."

Mitchell also emphasized that the worth of the United States was not only or perhaps even primarily a matter of military strength. "No one of us should ever forget that the United States was a great nation long before it was a great military power or an economic power. You'll never meet an immigrant who said they came to the United States because we have the best cruise missiles. They come to the United States because they believe that here is where they will find freedom and opportunity."

(From left to right) Honorable George J. Mitchell, former U.S. Senate Majority Leader (1989–1995); Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S

(From left to right) Honorable George J. Mitchell, former U.S. Senate Majority Leader (1989–1995); Regina Mayor, Global Sector Head and the U.S. National Sector Leader of Energy and Natural Resources, KPMG in the U.S

World trade and partnerships

Mitchell was straightforward in his assessment of current tensions between the U.S. and other countries over trade. He argued that trade agreements and institutions like the World Trade Organization have been instrumental in supporting global peace.

"Keep in mind that in 1870, 1914, and 1939, Europe was devastated by three major land wars," he explained. "The men and women who led the effort to rebuild after that war created institutions to encourage trade as a means of reducing the likelihood of conflict, to urge prosperity and stability in those countries. And I would argue they were, despite many mistakes and setbacks, largely successful."

However, he disagreed with the current administration in Washington. "I believe that the president made a profound error when he withdrew from the Trans-Pacific Partnership agreement. There were ten Pacific-facing nations who did not want to have their primary economic relationship with China. They wanted it with the United States and we spurned them, and they then have turned to China."

Mitchell readily conceded that some jobs are lost as a result of trade agreements, but he added that the vast majority of jobs lost in our country and elsewhere is the result of innovation in a dynamic free market economy. "That's what we have to recognize. And to build walls and to try to force people to take actions, I think it's just the wrong approach."

Gerrymandering and money

Mitchell was equally candid when discussing Washington gridlock and a divided Congress. Gerrymandering has much to do with this, he argued. Tinkering with congressional district lines after every ten-year census is a long-standing practice, he explained, but today's technology has greatly increased the effectiveness of gerrymandered voting.

"We've got to change that. We have to reduce the level of partisanship in redrawing congressional district lines. If the general election is irrelevant, which it now is for most House seats, the only thing that matters is the nomination, and in the nomination process a tiny number participate. They tend to be the most partisan, most rigid, most ideological, and the most averse to compromise. That's a big problem."

The second problem, he said, is money. "Billions of dollars are being poured into the American political process with little or no accountability. The Supreme Court in the Citizens United case and a series of related cases made disastrous decisions by concluding—contrary to prior Supreme Court rulings—that we cannot constitutionally limit contributions to campaign and political expenditures. And I believe it's not going to change until another Supreme Court comes along and says that this court is wrong, and the prior courts were right. We, the American people, have the right to limit contributions and expenditures."

The"'real" George Mitchell

Mayor concluded the session by noting the importance of another George Mitchell—George P. Mitchell, who pioneered fracking among his many accomplishments. Although not related, the two George Mitchells knew each other, and Mitchell joked with Mayor that the two men used to get each other's mail. "I call him 'the real George Mitchell.'"

Mitchell also shared this story, which served as a fitting conclusion to his remarks.

"It began a long time ago in a village in the hills of Greece. There was a teenage boy named Savas Parascavopolis. He had no education. A goat herder. But he was ambitious. He wanted something more, and so he left and came to America. He got a job on the Transcontinental Railroad—mostly Irish in the East and Chinese in the West—building the railroad that connected our country.

"The first payday, Friday, the paymaster said to him, 'You're a good worker and we want you to stay on, but nobody can pronounce or spell your name, Savas Parascavopolis. So get a new name.' And the kid asked, 'What's your name?' The paymaster said, 'Mike Mitchell,' and Savas said, 'Well, from now on, that's my name.'

"The new Mike Mitchell later left the railroad, went to Galveston, Texas, and opened a shoeshine shop. He had a son and named him George, a smart kid. He went to Texas A&M, and you saw what happened. He created fracking. What I say of him is this: In not too many years nobody's ever going to remember me, but everybody's going to remember him, because he changed history. Eight American residents stood up and promised to create energy independence, and not one of them could do it. But the son of an illiterate goat herder from the hills of Greece, George Mitchell of Texas, did it."

Mitchell on immigration

Immigration policy in the U.S. certainly ranks among the country's hot-button issues. Noting that his mother was an immigrant and his father the orphaned son of immigrants, Mitchell suggested the following "thought experiment" to show how immigrants can contribute to the U.S.

"Arguably, three of the most successful business enterprises in the world are Apple, Amazon, and Google," he said. "Apple was created by Steve Jobs. His father was born in Syria. Amazon by Jeff Bezos, whose adopted father was born in Cuba. Sergey Brin was the cofounder of Google. He himself was born in Russia.

"So, ask yourself this question—would we be a better country if they hadn't been admitted? Just as important, what do you think the chances are that if Steve Jobs had lived his life in Damascus he would have created Apple? Or Jeff Bezos in Havana? Or Sergey Brin in Russia?

"The fact is that genius exists wherever there are humans. Genius knows no language, no race, no ethnicity, no religion. It's a spark. But where it tends to flourish is where there is freedom and opportunity, innovation, and where people can strive and succeed. And I feel that way in my own life."

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2018 GEC by the numbers

Attendees Over
500

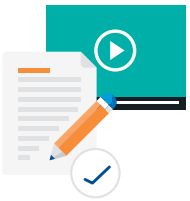
27
Countries represented

Moderators/ panelists
49

Companies represented Over
200

Distinguished keynote speakers
3

17
Energy reporters attending



Sessions and panels
15

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