

ROUNDTABLE

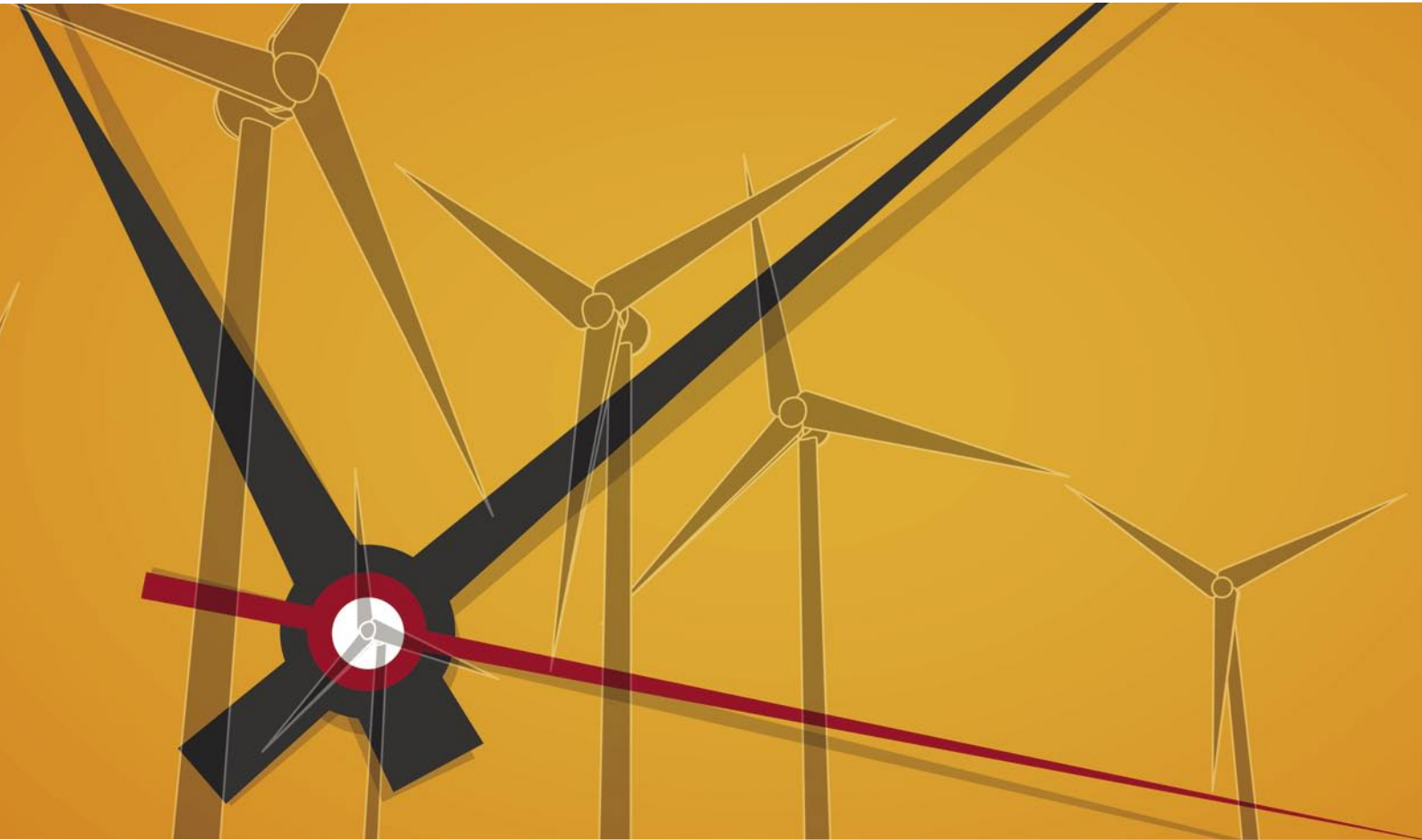
Energy & utilities sector

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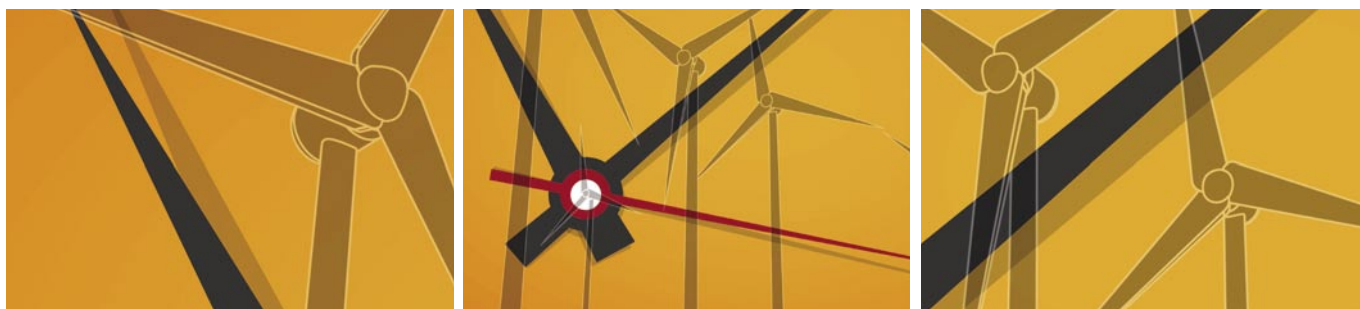


R O U N D T A B L E



ENERGY & UTILITIES SECTOR

Change and volatility readily describe the circumstances in which the energy & utilities sector has been operating. Technological advances are having a major impact on resource extraction and energy distribution and use, while geopolitical shifts and the collapse of oil markets have had a ripple effect around the world. Across the oil, electricity, nuclear, gas, coal, water, waste management and renewable energy segments, companies need to embrace these developments and challenges to take advantage of the opportunities in the energy & utilities paradigm. ▶▶



THE PANELLISTS



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FW: What key developments have taken place in the energy & utilities space in recent months? In your estimation, how are companies in this sector faring?

Vince: Today's big story in energy is change and volatility, with extraordinary geopolitical, economic, technological and policy changes affecting the sector. Tremendous geopolitical shifts in the Middle East and the collapse of oil markets have had a ripple effect across the globe. Indeed, disruptions of BRIC economies, particularly in China, have been felt worldwide. Russia's movement into Crimea has shaken Europe and beyond. Global policy is dominated by climate issues, anticipating the upcoming COP 21. In terms of technology, everything from resource extraction to energy distribution and use is being impacted by game-changing developments including shale gas and oil, the rise of big data, strides in energy storage, and numerous other advancements. Successful companies are embracing the challenges and are actively seeking opportunities in the evolving new energy paradigm. Companies that merely brace against a changing tide, hoping to return to business as usual, are in for a rough ride.

Speier: In recent months, the energy sector, and particularly upstream E&P companies, has been struggling with re-determinations under reserve based lending facilities due to the extended period of low commodity prices. For most upstream E&P companies, reserve based lending facilities, which are based on the value of the company's reserves, are the primary financing tool for the development and operation of its asset base. The borrowing bases under these reserve based facilities – the permitted maximum borrowing amount – are generally re-determined in April and October to account for the current commodity prices and value of the company's reserves and, when evaluations occurred in the past month, many companies found themselves over-levered. Many of these over-levered companies have been forced to evaluate alternative financing sources in order to either repay their borrowing base or finance continued development. At the same time, we've also seen a large uptick in the number of companies evaluating restructuring opportunities as a means of shoring up their balance sheets.

Giardinelli: The past few months have been eventful for the US power and utility industry, with a different story for each sub-sector of the space. In the regulated utility sub-sector, we have seen continued consolidation with acquirers seeking growth, additional scale and expansion into new service territories and businesses. With interest rate increases looming, organic growth opportunities limited, and distributed generation expanding and potentially impacting load significantly, M&A is viewed as a viable solution for many regulated names. For YieldCos, the newest asset class in the sector, the past year has been marked by extreme volatility. Following a string of well-received acquisition announcements and dramatic share price appreciation, YieldCos have experienced a substantial reversal with yields far exceeding previous levels. The players in this space are evaluating next steps against this challenging backdrop. For the IPPs, the downturn in commodity prices has triggered share price declines, albeit to a lesser extent than that of the YieldCos. With natural gas prices near historic lows, fuel and geographic diversity, scale and capacity prices have become increasingly important.

McCarthy: Three recent developments are resulting in an acceleration of the changes to the already shifting mix of power generation resources in the US power sector. The first development is the continued low price of natural gas and the second is developments in natural gas turbines that have increased energy conversion efficiency. Some companies in the sector are better situated to take advantage

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ANTHONY SPEIER

of these developments than others, based on their asset profile and geographic location. The third development is regulatory, with the US Environmental Protection Agency's (EPA) Clean Power Plan (CPP) intended to reduce US greenhouse gas emissions. The CPP is in the earliest stages of implementation and much of its implementation will take place at the state level. Moreover, there are significant legal challenges facing the initiative. Accordingly, for many companies, it may simply be too early to assess whether and how the CPP could affect their bottom line.

Howard: Developments are occurring in each of the generation, network and retail sectors, as they are forced to adapt to cope with new challenges. Generators in the national electricity market are facing continued pressure from oversupply brought about by a combination of softer demand and a steady flow of new renewable generation entrants. The softer demand has arisen due to demand side management, increased efficiency in electricity use and significant uptake in distributed solar PV. While coal fired generators are no longer currently subject to carbon price in Australia, they continue to struggle with lower overall wholesale market prices and competition from subsidised larger renewables such as wind. On the east coast of Australia, there is constrained long term availability of gas at a price suitable to support new investment in gas fired generation. This is primarily due to the significant gas demand that is required to support the three LNG facilities on Curtis Island in Queensland that are nearing commissioning or just embarking on their first shipments of LNG.

FW: Could you provide an insight into how energy prices are currently affecting the market? How are energy companies responding?

Howard: Energy price pressure is being felt in the market in different ways, varying by location and sector. For example, in Queensland, wholesale electricity prices for the first quarter of 2016 are forecast to be substantially higher than current wholesale prices. This is based on an expectation that there will be a considerable increase in electricity consumption, as a result of the ramping up of coal seam gas extraction and transportation required for the LNG projects. While this is good news for the incumbent generators, it is putting added economic pressure on large scale commercial and industrial users such as mining companies, which are already under financial stress from lower commodity prices and are looking for a longer period of reduced electricity prices. In the electricity network space, allowable returns have grown significantly over the past five years but are now coming under pressure from regulators and government in an effort to moderate overall electricity cost to end users. Lower oil prices are having a significant negative affect on petroleum and LNG companies' returns. ►►

Giardinelli: A few years ago, the shale gale unlocked an abundant domestic natural gas supply and established a new normal of persistently low gas prices. Within recent weeks, however, gas prices have dropped below \$2 for the first time since 2012, with inventories at seasonal records and mild weather projected for November. Gas prices are not expected to rebound in the near term, even as production spending has been cut. IPPs have seen the biggest impact. Expanding or buying into markets with robust capacity markets has offered some insulation against commodity price movements, although those IPPs most tethered to gas prices stand to gain the most when prices eventually rise. Also affected have been the YieldCos, which have experienced a major sell-off, at least in part driven by technical factors, such as MLP investors seeking liquidity in the midst of oil market turmoil. YieldCos' heightened cost of capital has led them to seek out alternative financing vehicles for asset drop-downs, including so-called 'warehouses'.

Vince: The collapse of global oil prices is hugely significant. With continued output by Saudi Arabia, the US and Libya, and with Iran coming online in the next year, there is an expectation that abundant supply and low prices will become the norm. Nearly all oil industry companies in the US are trimming their workforces, cutting expenses and slowing new exploration. Many funds that believed they were investing in a buying opportunity were burned as prices continued to plummet. Nevertheless, we are seeing new investors, including Chinese investors, seeking longer term opportunities in the current low prices. In the US, cheap natural gas has sideswiped coal and nuclear as the fuel of choice. Low gas prices have also impeded some competition that otherwise would have been posed by renewables, although the falling cost of renewables is levelling the playing field somewhat.

Speier: While many upstream E&P companies have hedged a large portion of their hydrocarbon production through the end of 2015, the extended period of low commodity prices seen over the past year has caused energy companies to re-evaluate development budgets and reduce internal capex to be spent on exploration and development. At the same time, companies are also evaluating their core asset positions and are forced to face the hard reality that certain 'core' plays may not be economic at the current commodity prices without either a large reduction in service costs or new technological advances. As the capital intensive nature of upstream oil and gas requires large infusions of capital, many companies are increasingly looking to off balance sheet financings to fund development, including a relatively new 'DrillCo' structure which permits a sponsor to invest at the asset level in exchange for a large working interest in wells drilled until a specified return hurdle is achieved. Expanding or buying into markets with robust capacity markets has offered some insulation against commodity price movements

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TODD GIARDINELLI

FW: In your opinion, how are energy policies and political agendas altering the playing field for energy & utilities companies?

McCarthy: The EPA's CPP is an example of energy policy that may alter the playing field for various utilities companies. However, the outcome for specific companies will depend in part on what actions the state or states relevant to that company take – meaning, how the state plans to achieve the CPP objectives it is subject to – as well as pending legal challenges to the CPP, so it may be too early to assess how much the playing field may be altered at present. As a practical matter, to the extent that certain states' CPP implementation is initiated and cannot easily be reversed, even if the requirements of the CPP were then overturned in response to legal challenges, state actions may alter the playing field nonetheless. The CPP also provides for certain trading programmes that could be used to satisfy state emission standards. Depending on how such programmes are implemented, some utilities companies could be advantaged – or disadvantaged – over others.

Giardinelli: Over the past several years, the introduction of environmentally-focused regulation and improvements in technology that have allowed us to access the massive reserves of gas trapped in the shale have fundamentally shifted the landscape of the power space. The Hazardous Air Pollutants rule from the EPA has forced power generators to retrofit or retire many coal plants. According to SNL, 12 GW of coal will be taken offline in 2015 alone. Natural gas generation has filled this void. In the absence of the low gas prices facilitated by shale supply, however, remaking the electric fleet may have been too costly to electric ratepayers to be politically palatable. This shift to natural gas is likely to accelerate under the EPA's Clean Power Plan if it survives the appeal process – it currently faces legal challenges from 25 states. The CPP is targeting a 32 percent increase in gas-fired output by 2022. In addition, 29 states and Washington, DC have renewable portfolio standards or goals, which have provided a state-level policy stimulus for moving toward a greener electric fleet. This has been bolstered at the federal level by production and investment tax credits. We will see if this federal support continues with an extension of the PTC and ITC, which are set to expire at the end of 2015 and 2016, respectively.

Speier: While, at least in the US, much of the energy policy discussion has centred on the federal government's subsidies for wind and solar power and more restrictive regulations from the EPA granting a 'death sentence' to the coal industry, one of the more interesting debates occurring in the energy space is the crude export ban. In recent years, Congress has shown at least some desire to lift the crude export ban, but as recently as the beginning of October 2015, the Obama administration has continued to state that it would veto any bill easing the export restrictions. The ban, which was signed into law in the 70s, was meant to reduce or eliminate our reliance on imported crude oil from the Persian Gulf and to protect against another oil crisis. But with US crude production at record high, the ban has the unintended consequence of saturating the local oil markets. This oversaturation requires US oil companies to sell product at a discount to WTI pricing, which places a larger strain on upstream E&P companies in today's environment.

Howard: Privatisation of government owned energy businesses has been successfully pursued in some jurisdictions where governments have determined that they have a mandate to dispose of energy related assets and recover significant capital from those businesses. New South Wales is currently in the process of privatising its network businesses, while in Queensland the current government has rejected the

proposal to privatise on the back of job security for unionised workers. While the current Commonwealth government has removed the carbon price scheme, or carbon tax as it was known, recent changes within the leadership of government have re-enlivened the possibility of a carbon price being reintroduced. There is also a growing need for a more holistic approach to the strategic priorities for the energy market. The Australian Energy Market Commission has sought to address this in its Strategic Priorities Discussion Paper, released in September 2015, which provides an overview of market and network priorities in the energy sector. Pressure from governments to arrest the ongoing increase in network costs is likely to result in a tightening of returns for electricity networks and a stabilising impact on the overall electric price to the consumer.

Vince: The policy story in the US remains largely unchanged from the past few years. Congressional gridlock has caused state and local governments to be more innovative in designing and implementing their energy policy goals. The executive branch of the federal government continues to drive policy and regulation, stepping into the void left by Congressional inaction. And the federal judiciary plays an outsized – and ill-fitting – role in policy development, especially in environmental matters. Additionally, both in the US and abroad, climate has become a dominant driver for energy policy. From the challenges and opportunities of the Clean Power Plan in the US, the influence of the Vatican, developments in China and expectations of COP 21 in Paris, there is a lot of focus on the interplay of climate, energy and economic activity more generally.

FW: Have there been any specific legislative or regulatory developments that are likely to affect the energy & utilities sector?

Vince: Over the coming year we will continue to witness a struggle over the proper role of the EPA, and the Supreme Court will be called upon to draw jurisdictional lines between federal and state authority over the US energy markets. Meanwhile, a number of states are forging rapidly ahead with their own policies, which, if implemented successfully, may serve as models for the rest of the country. Prominent among these are policies related to renewable energy resources, incorporation of distributed generation, and regulations related to production of energy sources and associated externalities.

McCarthy: Federal Energy Regulatory Commission (FERC) – the US federal agency that regulates wholesale power and natural gas sales as well as interstate electric and gas transmission – has continued to strengthen its enforcement function. When the California energy market crisis – or as some would say ‘Enron’ – occurred around 2000, FERC had 20 enforcement employees contrasted with today’s 200 person enforcement staff. Since 2007, FERC counts total penalties of just under \$643m, not including an additional approximately \$500m that FERC has assessed but that is subject to legal challenges, including a penalty assessed against Barclays of \$435m. In addition to FERC initiating greater numbers of investigations and assessing larger penalties, we have also seen an uptick in claims against individuals involved in alleged violations, including employees who did not benefit personally from the alleged violation. Some companies may decide to exit or modify their participation in FERC-jurisdictional markets – for example, exit speculative power trading and decide to trade only around assets – after concluding that the reputational damage and regulatory risk of FERC penalties are more than simply another cost of doing business.

Speier: Over the past few years, as hydrocarbon production increased dramatically in the US due mainly to advances in hydraulic fractur-

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CLINTON A. VINCE

ing and horizontal drilling techniques, a number of companies have moved drilling activities in closer proximity to populated areas where shale plays are prevalent, particularly in the northeast and Colorado. This migration has caused a number of legislative reactions from increased zoning laws to complete bans on the use of hydraulic fracturing. As drilling continues and community protests intensify, it is expected that there will be continued legislative action at the local and state level to restrict drilling activities in certain densely populated areas throughout the US, including in traditional oil producing states which have thus far been spared the reactions of states like Pennsylvania, New York and Ohio.

Howard: Perhaps the most recent significant legislative development has been Australia’s federal government resetting the Renewable Energy Target to 33,000 GWh per annum for renewable electricity generation in the year 2020. Undertaking the review and setting this target entailed protracted investigations and discussions between both sides of the commonwealth parliament. Until then the Australian large scale renewable sector faced uncertainty that resulted in restricted investment. The setting of this target by the Australian parliament on 23 June 2015 has provided certainty to industry around the renewable energy sector and the associated liability and value of renewable energy certificates. It is expected that to meet this target will require a doubling in the amount of large scale renewable energy generation needed to be installed between 2015 and 2020. On current predictions meeting this target would result in 23.5 percent of Australia’s electricity generation in 2020 coming from renewable sources.

FW: What are the key energy security and supply issues developing around the world? What steps are being taken to ensure that companies and governments have the ability to satisfy long-term demand?

Giardinelli: The US is in the enviable position of having an abundant domestic fuel supply for electricity generation for the foreseeable future. According to the US Energy Information Administration, at current consumption levels and with existing technology, our coal and natural gas resources are sufficient to supply our needs for about 275 and 90 years, respectively, and technology continues to improve. Although recent regulation and impending exports of natural gas should contribute to gas reserves depleting at a faster rate than coal, we have the resources to power our grid for many decades. Cyber security, however, is the key energy security issue receiving board-level attention across the space. Industry participants and government agencies are keenly focused on ensuring that our electric infrastructure is as fortified as possible against an attack and is prepared for recovery as quickly as possible, if an attack were to succeed. ►►

Speier: Today, the most prevalent supply issue in the market is the oversupply caused by the increased US shale development and consistent output from the OPEC countries in an effort to increase or retain market share. This oversupply will likely increase as production from Iran hits the international market, assuming the sanctions are eased over the coming year. In addition to suppressing commodity prices, for both oil and natural gas, the global oversupply has the potential to cause disruption in the Middle Eastern countries as governments are unable to support social agendas at home. Since Middle Eastern governments have struggled with internal strife and uprisings since the Arab Spring, the social programmes currently provided to appease citizens will likely not be materially reduced in the short term, but if prices stay depressed in the long term, governments will be forced to further evaluate annual budgets.

Howard: In emerging countries, security of thermal coal resources for low cost electricity generation is still a key issue. The cost advantage that coal has as a fuel source for electricity generation continues to drive solid demand notwithstanding worldwide pressure to move to a lower carbon emissions generation environment. One of the key issues for developing nations is how they can provide cheap electricity that can underpin quality of living and economic growth without adversely contributing to worldwide carbon emissions. As a result, there is still demand from companies from India and China seeking to secure interests in thermal coal mines in Australia to underpin supply of coal into these markets.

Vince: The BRIC country supercycle has experienced sudden, significant disruptions this year which have impacted global energy supply and demand. Brazil faces considerable challenges and the Russian ruble has plummeted. China, which has shaped global energy markets for the past decade, has experienced a number of recent hiccups, the effects of which are already being felt. Many believe the US will become the new 'swing' supplier for global markets, particularly since shale production can shift more rapidly than other fuel production, and US production has not declined in either scale or volume as previously predicted. This is occurring against a backdrop of huge security concerns stemming from cyber and physical intrusion, increasingly turbulent weather patterns and water scarcity. In the US, companies are re-evaluating strategic plans to enable themselves to seize opportunities when they arise yet protect themselves from daily threats posed by new and ever-changing sources.

FW: In what ways are the evolving market dynamics between traditional, fossil fuels and clean, alternative energy impacting the sector overall?

In Australia, it is interesting to see the traditional coal fired generation maintaining its position on the back of economic advantage as the lowest cost electricity producer.

DAN HOWARD

McCarthy: The change in generation resource mix has resulted in significant costs, creating a challenge to US regulators. Some costs relate to transmission investment needed to deliver remote renewable generation to load centres. Other costs relate to grid investments to ensure grid reliability in the face of the retirement of large baseload nuclear and coal generation facilities. Related costs include the costs for reliability-must run (RMR) agreements entered into with the owners of large baseload generation facilities seeking to retire such units if the facility is uneconomic, but is required for reliability support services for some interim period. Regulators have generally sought to implement a 'beneficiaries pay' approach for costs associated with the changing mix of generation but the cost allocation issues are complex. Take RMR agreements, for example – the first hurdle for regulators is to determine whether, how much and for how long the owner of the retiring facility should be compensated. The next hurdle is to identify who should pay and what mechanism can be relied upon to recover such costs. In many instances, these cases have resulted in protracted litigation.

Howard: In Australia, it is interesting to see the traditional coal fired generation maintaining its position on the back of economic advantage as the lowest cost electricity producer, particularly absent a price on carbon emissions. As renewable energy is now being subsidised through the RET Scheme, renewables are competing in a generally oversupplied wholesale generation market. This has a tendency to further suppress wholesale electricity prices, absent any other intervening event, principally due to increased availability of generation. The key difficulty with the current situation is to successfully transition older, less efficient coal fired power stations out of the market; this will require processes that are not currently catered for within the existing legislative scheme. Rooftop solar PV uptake in some states of Australia are among the highest concentration in the world adding to reduced residential and light commercial electricity demand while at the same time requiring network companies to deal with large amounts of distributed generation.

Giardinelli: Fuelled in large part by state renewable portfolio standards and supported by tax credits, renewables have become fully mainstream sources of generation over the past five years. Whereas wind and solar equipment used to be viewed through the lens of 'clean technology', there is now less focus on technology risk. Well-developed projects are completely financeable, and, despite the recent dislocation facing YieldCos, a deep field of buyers exists for renewable assets. Because of the massive growth and mainstreaming of renewable energy, it must be and is a focus area for every player in the entire power and utility space. Distributed generation, in particular rooftop solar, is certainly top of mind for utilities, given its rapid expansion and its potential to have a meaningful impact on load. While intermittency remains an issue for renewables, we are witnessing advances in managing it.

Vince: Availability of abundant, low-cost natural gas continues to drive fuel choice in the US. Combined-Cycle Gas Turbines (CCGTs) have become the transition generating source for baseload resources. Natural gas economics is playing a greater role in decarbonising the US generation fleet than the rollout of more stringent environmental regulations. Utility-scale solar investment will increase as coal plants are retired and utilities seek to diversify generation portfolios, and as energy storage becomes more commercially available. Distributed energy resources are hot in the US and are attracting significant investment. There are hurdles to overcome, including cost issues related to infrastructure needed to support these resources. However, we believe it will soon become a mega-trend. Meanwhile, ►►

renewables are surging in developed countries and will become the dominant energy source in developing countries that are short on existing infrastructure and capital.

Speier: While market dynamics have generally favoured alternative sources of energy over the past decade, since the dramatic drop in commodity prices, I think many alternative energy sources have had trouble competing with fossil fuels. This is especially true for sources of energy competing with natural gas, which has the benefit of being both a cheap and relatively clean source of fuel. As prices remain low, alternative energy companies will be forced to find ways to lower both the capex and opex costs of alternative energy sources in order to stay relevant in the marketplace. While the solar market has seen dramatic decreases in the cost of solar panels, there is still a large gap between the per KW price of natural gas and solar energy for the residential market. Until either commodity prices rise significantly or a large shift in the regulatory environment in the US occurs, I do not see alternative energy companies having a large impact on the bottom lines for traditional oil and gas companies.

FW: To what extent do you believe energy and utilities companies are taking proactive steps to address environmental concerns which can arise from their operations?

Howard: Across the board, energy and utility companies are well aware of environmental concerns and their environmental liabilities. Putting carbon emissions to one side, environmental factors continue to be a prime driver in the development of new generation and in the operation and maintenance of the energy network system. In the energy retail space, consumers continue to demand energy companies provide green products and services, notwithstanding that those products and services may come at an additional cost. The challenge for governments is to ensure that their policies do not disadvantage those in our communities that can least afford to pay for any resulting increase in their energy cost from environmental policies.

Giardinelli: Industry participants have been committed to complying with federal and state environmental legislation and regulation, which have been focused primarily on expanding the renewable generation fleet and reducing coal burn. While sector participants differ in their approach, all utilities and IPPs recognise that change is occurring and are positioning themselves for the future by deploying their own strategies to manage through that change.

Vince: Energy and utility companies have proactively recognised the combined impact of low-cost gas and environmental regulation. Coal-fired generation is being retired early as companies look to CCGTs as a transition source of generation and utility-scale solar projects and aggregation techniques as longer-term solutions. More advanced utilities have also found ways to work with their regulators to implement energy efficiency and conservation measures while receiving regulatory mitigation such as decoupling. The most progressive utilities are studying behavioural aspects of their customers on a real-time basis to develop business strategies that account for the more proactive role that consumers are expected to play in energy use.

Speier: Energy companies are more focused on environmental issues than ever before as drilling activity shifts toward more densely populated areas and alternative media sources have caused greater awareness of environmental accidents. The public focus on environmental issues has also intensified in the last few years due mainly to increased awareness and the ability to broadcast environmental

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CATHERINE MCCARTHY

concerns to a broad audience in an efficient manner through social media. Unlike a few decades ago, an environmental accident in the Bakken can now be broadcast to millions of followers in a matter of seconds. At the same time, private equity sponsors have increased their investments in the energy space, and many of these sponsors have large institutional investors that are keenly focused on environmental concerns. This dynamic has forced energy companies to become more proactive in environmental matters to both ensure future investment and protect against reputational harm.

FW: What other risks and challenges are occupying boardroom agendas?

Speier: There are a lot of issues facing the energy industry as a whole. However, since the drop in commodity prices, liquidity has been, and will continue at least in the near term, to be the greatest challenge to the industry. The capital intensive nature of upstream exploration and development relies on large infusions of capital from internal drilling budgets, investors or lending institutions. While traditional bank financing and equity markets have become constrained, many upstream E&P companies have been forced to re-evaluate their balance sheets and leverage ratios. As borrowing bases are re-determined through the end of 2015 and 2016, boardrooms are expected to continue to devote their full attention on shoring up balance sheets and leverage ratios.

Vince: We are just beginning to appreciate the potential disruptive impact of a rising movement described as 'empowered consumers'. Converging trends of rooftop solar, in-home energy storage systems, advanced energy efficiency technologies and smart appliances, improved time-of-use technologies, and widespread electric vehicle use, together with the ability to analyse, shape and aggregate consumer behaviour on a real-time basis, all represent a brave new world of utility service. Add to this list issues such as cyber and physical threats to the grid, flat demand and a concurrent need to install new, improved infrastructure, and it is a wonder utility executives sleep at all. Similar to what telecom faced a decade ago, the traditional utility model will remain under siege for some time. Companies face continuing threats of new entrants in solar and wind, and of asymmetrical competitors, particularly in the technology field.

McCarthy: For utility companies with regulated assets, boards always keep a close watch on the regulated return on equity (ROE) but given the low interest rate environment, boards should be ready for questions regarding ROE. In the continued low interest rate environment, US regulators have been pressured to reduce ROEs. Thus far, at least at the federal level, regulators appear to understand the need ►►

to ensure that utilities receive returns that are capable of maintaining and attracting capital. Another issue utility company boards should remain focused on is the costs associated with the change in resource mix and the allocation of such costs to ensure the company remains well situated. Finally, utilities in the US power sector should work to maintain an informed overview of what climate change developments are taking place both in the US and internationally. For example, boardrooms should be aware of the upcoming Paris Climate Conference and be familiar enough with it to discuss it with their own management.

Howard: The types of risks and challenges facing boards differ depending on the sector of the energy market in which the company operates. Large scale coal fired generators are concerned with the future generation mix in the energy market, increased carbon liability and the diminishing role for fossil fuel generators over the longer term. The costs of closure and associated rehabilitation can be significant and when considered with the significant capital expenditure incurred in the development of these large baseload generators, companies face a major challenge to determine their long-term generation and transition plans. For energy networks, the current energy pricing regulatory regime is likely to require change to more accurately reflect the costs of the networks providing services to different classes of customers depending on their energy needs. For energy retailers, price certainty, regulatory complexity and compliance continue to be the present challenge.

Giardinelli: Boards continue to focus on growth. For the regulated utilities, for example, the challenge is finding avenues for growth, particularly as capex cycles have been completed and load growth is limited. M&A has the potential to provide that growth, and boards continue to evaluate a range of M&A alternatives. Shareholder activism has also become a key area of board focus. Boards find themselves in the crosshairs of an increasing number of activist investors who have a massive and growing amount of capital to deploy. While regulated names are somewhat sheltered by state commissions, recent events have shown that no sector is immune, and boards need to prepare to respond and potentially engage with activists. Finally, uncertainty in Washington, including the state of environmental regulation and continued political gridlock, has left boards considering how to invest into an ever-changing landscape.

FW: How is the constantly advancing technology landscape impacting on the energy & utilities market? Are you aware of any disruptive, game-changing innovations on the horizon?

Vince: The entrance of non-traditional energy companies as key players in the energy sector will have a profoundly disruptive effect on the industry. Energy storage, including battery technology, is moving inexorably toward greater commercial feasibility. It is attracting huge investment and likely will come to scale within the next decade. Distributed energy resources are the hot new focus of the electric industry and represent a major investment opportunity to more broadly enhance transmission infrastructure, both on macro- and micro-grid scale. So called ‘brilliant machines’ and advanced data analytics are also game changers, both in terms of energy demand, and in terms of the efficiencies they promise to bring to the sector.

Howard: The uptake of electric vehicles, electric storage, particularly when used in conjunction with renewable energy generation such as solar PV and wind, the ability to control and automate energy usage at home or in businesses are all about to have a significant

and game changing impact on how customers use energy and interact with their energy companies. The ability to utilise technology, the development of smart grids, smart homes and businesses will lead to consumers being offered electricity products that are not currently available in the market. The advancement in battery storage, the ability to control energy consumption and the smart interaction with on-site generation will have a significant impact on energy use profiles and loads on networks.

Speier: As resource allocation continues to be a key focus for E&P companies, advances in drilling and fracking technology that reduces capital expenditures will be necessary to facilitate continued growth in the upstream space. Companies that capitalise on these technological advances potentially coupled with the acquisition of undeveloped acreage at compressed prices will see increased production activity even before a recovery in commodity prices.

Giardinelli: Energy storage, particularly in the form of batteries, has the greatest potential to disrupt and transform the energy landscape. According to the US Energy Information Administration, wind and solar energy generating capacity in the US has grown at a compounded annual rate of about 23 percent since 2005, far outpacing other capacity additions. The impact of this massive renewable build-out has been that a larger portion of the generation stack is coming from intermittent resources. The sun only shines during the day, and we cannot save excess generation from the sun for use at night, at least not today and not to any significant extent. Batteries have the potential to turn intermittent resources into dispatchable power, which would be a true game changer. While the technology is not yet cost-competitive, we may see major advancements on this front over the next decade.

McCarthy: Integration of renewable resources, including but not limited to distributed generation based on new technology, and ensuring reliability while doing so is a considerable focus of regulators in the US. Some distributed generation receives subsidies so the economics of such technology is not always transparent. Also, those relying on distributed generation frequently continue to rely on the utility grid for reliability, so in addition to working to ensure the grid remains reliable, another challenge for regulators is to identify and then ensure that those customers pay for the benefits they actually receive from the grid. The US government’s federal and state regulatory regime also creates challenges to regulators’ ability to respond to changing technology and resulting changes to consumption of power. The US Supreme Court is currently considering the scope of the FERC’s jurisdiction over demand side resources, taking in reductions in energy consumption, to determine whether FERC overstepped its boundaries when it made rulings related to the same.

FW: How would you characterise the levels of M&A activity seen in the energy & utilities sector over the last 12 months? What are the main factors driving deals?

Giardinelli: Since the start of 2014, power and utility M&A has roared back to pre-financial crisis levels. The improved M&A environment has been largely attributable to low interest rates, supportive capital markets and, until recently, share prices near all-time highs. However, the industry is far from monolithic, and the specific motivating factors are different across the sub-sectors. The primary driver of regulated utility M&A has been the search for growth. For the IPPs, M&A has been a story of unlocking substantial synergies, increasing scale and diversifying by geography and fuel type. Prior to the recent market dislocation in the YieldCo space, which has sig- ►►

nificantly slowed M&A for these companies, M&A was motivated by an effort to grow the dividend and provide visibility to additional future growth, effectively pushing down yields and driving up share prices.

McCarthy: In the US we have seen a continued strong competition on the buy side of M&A transactions in the regulated utilities sector. This could be a reaction to market volatility – with the steady return on utility rate base investment continuing to be an attractive investment. Purchase prices in some cases have been at a significant premium to market prices and in addition, in many deals, the actual agreements have included more seller-favourable provisions than we saw, for example, 10 years ago. We have also seen utility ‘roll-up’ machines – holding companies already owning several utilities – acquiring additional utilities. In the past, the Public Utility Holding Company Act of 1935 restricted the ability of holding companies to own utilities across the nation but that act was largely repealed by Congress in 2005, paving the way for what we are seeing now.

Vince: The past year has seen a steady rise in energy transactions globally, compared to the previous several years, but with different drivers depending on the region and industry sector. The US utility sector is in a state of transition. Traditional utilities are striving to remain relevant as the traditional business model is challenged by new and sometimes unexpected market players, including internet companies, cable providers and other non-electric utility companies. Restructuring continues to be an important trend, but technological developments and regulatory shifts are also prominent. Consolidation occurs, but savvy consumers have added new layers of complexity to the regulatory approval process. Low gas and oil prices have been key drivers for deals in that sector, while regulatory reforms – particularly the Clean Power Plan – and state renewable policies have served as investment triggers for electric utilities.

Speier: Overall, outside a few large consolidations, 2015 has been a sluggish year for M&A activity. Since the decrease in commodity prices, there has continued to be a large gap between the bid and ask price for assets, which are typically outside of a company’s ‘core’ focus area. Many boardrooms have been slow to adjust to the new market dynamics and have generally focused on divesting only non-core assets. Thus, the last 12 months can be defined as a period with tremendous amounts of cash ready to be utilised, but a market made up mainly of overpriced, under producing assets.

Howard: One of the main factors driving M&A activity in Australia has been the privatisation of government owned energy utilities. For example, in New South Wales the privatisation of the transmission business and the distribution networks is currently underway. These are significant transactions for the New South Wales government and likely to result in a substantial return of capital estimated in the order of AU\$20bn. The recent settling of the RET Scheme targets has settled some nervousness around the constant risk of regulatory change and triggered a renewed interest in the renewable sector particularly in the areas of solar and wind.

FW: Looking ahead, what trends do you expect to see developing in the energy & utilities sector as we approach 2016? What issues are likely to dominate the thinking of energy bosses?

Speier: As borrowing base redeterminations continue to cause distress among E&P companies and commodity prices stabilise, even at lower prices, the gap between bid and ask prices is likely to narrow and there will be increased activity in the M&A space. There is also

likely to be an uptick in the prevalence of modified ‘DrillCo’ deal structures to fund development while decreasing risk, as less capital will need to be utilised on a specific drilling programme.

Giardinelli: The issues likely to consume the most mindshare in the C-suite are growth, interest rates, access to the capital markets and commodity prices. While the regulated utilities, IPPs and YieldCos, face different challenges with respect to growth, they will all be focused on the path to achieving it – whether organically or through M&A. Growth is particularly important for the regulated utilities and YieldCos with interest rates expected to rise, although the extent and timing of rate increases remains to be seen. A strong growth outlook can help these companies withstand pressure on their share prices likely to result from interest rate hikes. Also important to growth will be access to capital markets to fund M&A. YieldCos unfortunately found the markets significantly less receptive to them in the back half of this year, but hopefully they will be welcomed back in 2016. For IPPs, commodity prices will remain top of mind, given the direct impact on their respective cash flow profiles. Although we are unlikely to see major movements in gas prices in 2016, even relatively small increases can be material for the more gas-sensitive names.

Vince: Looking ahead, we likely will see a continuation of low oil prices due to abundant supply. Similarly, we expect natural gas prices to remain relatively low. We seem to be on the verge of significant additional technology breakthroughs, especially in the areas of energy storage, big data analytics, cloud computing, and distributed energy resources. Each of these will have hugely disruptive effects on the utility industry. On the political side, in the US, the prominence of climate policy in the national dialogue and the proper role for the EPA may shift depending on who occupies the White House following the 2016 elections.

Howard: A key trend that we are seeing across the energy sector in Australia is an increased focus on companies’ operating costs. The energy and utility sector is under price pressure as revenues are falling, either as a result of lower oil prices for the gas sector or as a result of market forces in the electricity sector. Energy companies’ management are focused on running their businesses in the most efficient manner possible and cost containment is high on the agenda. The uptake in new technology such as advanced embedded generation, next generation of energy storage, long range electric vehicles with fast recharge and smart grid management systems will continue to develop in 2016.

McCarthy: We expect to see continued strong buy-side M&A interest for regulated utilities in the US, perhaps based in large part on those companies’ steady returns that contrast with market volatility. In this low interest rate environment, companies with regulated assets will continue to monitor regulatory agencies’ responses to pressure to lower utility returns on equity. Companies with investment in the US power sector will continue to track the implementation of the EPA’s CPP. Details of implementation will be meaningful because so much will occur at the state level. An added complexity are legal challenges that are moving forward simultaneously with implementation. Regulatory issues related to the changing mix in generation resources, including but not limited to cost allocation for related costs, will likely continue to be a focus for many. It is important for companies to remain informed of what those costs are and how these costs are being allocated, and also to determine if the changes provide opportunities for investment – whether in regulated assets or other types of assets. ■