

**EDA INSIGHT**



**United States' Energy and Climate Policy  
under President Trump:  
Ramifications for Energy Markets and the GCC**  
Dr Jim Krane and Elsie Hung  
February 2017

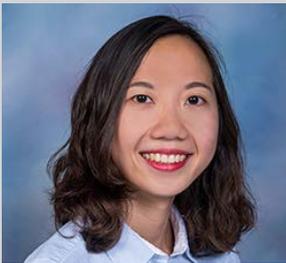
Disclaimer: The views expressed in this publication are solely those of the authors and do not necessarily reflect the views of the Emirates Diplomatic Academy, an autonomous federal entity, or of the UAE Government. Copyright: Emirates Diplomatic Academy 2017.



### **Dr Jim Krane**

**Wallace S. Wilson Fellow for Energy Studies, Rice University's Baker Institute for Public Policy**

Dr Krane's research addresses the geopolitical aspects of energy, with a focus on the Middle East and the OPEC states and their political and economic strategies. His scholarly articles focus on energy subsidies and demand, as well as internal politics in exporting states. He teaches classes on energy policy and geopolitics at Rice University. Krane also is a member of Cambridge University's Energy Policy Research Group, where his PhD studies took place.



### **Elsie Hung**

**Research Associate, Rice University's Baker Institute for Public Policy**

Elsie Hung holds a Master of Science degree in energy management from Tulane University and a Bachelor of Arts degree in business administration from National Taiwan University. Her graduate studies focused on the energy industry, with concentrations in areas such as investment banking, environmental economics, the power industry and econometrics.

## **Executive Summary**

- The Trump administration and Republican-led houses of Congress will reshape US energy and climate policy with a hybrid approach including populist-protectionist, pro-business and anti-regulation points of view.
- Outcomes will be limited by two factors: firstly, the federal government has only tertiary influence over the energy sector, which is driven primarily by global market signals and secondarily by state-level regulations. Secondly, the Trump administration will likely prioritize immigration and trade policies over energy policy.
- Given the cost advantage of crude oil from the GCC and Saudi ownership of significant US refining capacity, Trump policies are unlikely to bring major changes in the amount of oil imports from the region (mainly Saudi Arabia), which accounts for 17% of US total crude imports.
- However, the approval and construction of the Keystone XL pipeline could provide a new source of competition for heavy crude markets on the US Gulf coast by increasing access to Canadian crude.
- US exports of natural gas will probably increase under Trump, competing with GCC gas exporters such as Qatar, while providing potential imports for Kuwait and the UAE. At the same time, US shale gas is unlikely to become a large source of supply for the Gulf due to high costs, growing US demand, and more lucrative markets within pipeline distance.
- Obama-era climate change policies may be undermined or even swept away by the Trump administration. However, US coal consumption – the main target of Obama's Clean Power Plan – will continue to face strong competition with cheap shale gas, cleaner generation technology, and the risk of renewed climate-based restrictions in the future.
- Any US withdrawal from international climate agreements could have diplomatic costs for its relations with some countries, possibly even triggering retaliatory measures. This paper envisions the Trump administration adopting a 'go slow' approach on domestic climate change policy, similar to that under the George W. Bush administration.

## The Issue

The surprise win of Donald J. Trump and a Republican rout of Democratic candidates in both houses of the United States Congress portend a major ideological shift in US energy and climate policy. The regulatory-heavy tactics that prevailed under President Barack Obama appear likely to give way to a hybrid approach under a Trump administration that appears destined to combine populist-protectionist inclinations with the Republican Party's traditional pro-business and anti-regulation stance.

The US government will be dominated by a single party holding the presidency and both houses of Congress for the first time since 2009. Concentration of Republican power means the likelihood of transformational change is higher than it has been in the recent past. Trump's appointment of a new Supreme Court justice appears destined to expand Republican influence by tilting America's highest court to the right.

Despite the onset of single party control in Washington, forecasting policies from the incoming administration is hampered due to the lack of depth in foreign policy statements to date, as well as conflicting pronouncements and positions on energy issues. For instance, Trump has spoken in favour of enhanced US production of natural gas and coal, while calling for a revival of nuclear power and expressing support for renewable electricity generation. Each of these four technologies competes directly with one another within the US electricity market.

This EDA Insight explores how US energy and climate policies could change under the Trump administration, and what implications these could have (i) in the US itself, (ii) for energy markets globally and (iii) for the Gulf Cooperation Council (GCC) states.

## Relevance for the GCC

US energy policy is evolving under Trump, and the changes will affect trade, foreign policy and relations with key global energy suppliers, including the GCC member countries. Shifting US policies are also likely to influence global climate action and geopolitics.

Based on Trump's pro-fossil fuel statements and cabinet appointments, and the administration's noncommittal stance toward climate change, American individuals and firms may feel reduced government pressure to curtail carbon emissions and fossil fuel consumption. US fossil fuel producers may operate under fewer regulatory constraints.

Further, this study suggests that:

- US exports of fossil fuels, particularly natural gas, will probably increase. Gas importers in the GCC, such as the United Arab Emirates (UAE) and Kuwait, may benefit from additional supply. All else constant, an increase in global oil and gas supply would moderate prices.
- The trade in US natural gas, whether via pipeline or ship, will be influenced by the Trump administration's relationship with neighbouring states, particularly Mexico.
- Trump policies will probably not bring major change in US imports of Gulf oil. Loosening of US vehicle fuel efficiency standards could provide a slight increase in demand.

However, the largest influence on energy outcomes in the United States will derive from price signals sent by global markets. The Trump administration's wherewithal to shape domestic energy affairs is limited, since the United States government largely refrains from taxing or subsidizing product prices, or owning parts of the energy sector.

## Changes in US Energy Policy

**Self-sufficiency in US oil production:** Energy independence has been a perennial – if unattainable – mantra of every US president since Jimmy Carter's 1977 plan to wean America off foreign oil. Trump made a similar call in May 2016, vowing to enact policies favourable to domestic oil and gas production.<sup>1</sup> Since the onset of the US shale boom, calls for American 'energy independence' have typically been interpreted as support for self-sufficiency in oil supply. America has long been self-sufficient in coal<sup>2</sup> while importing only about 3% of its natural gas, mainly from Canada.<sup>3</sup> The United States imports just 2% of its electricity, most from Canada,<sup>4</sup> and about half its nuclear fuel, largely from Canada and Kazakhstan.<sup>5</sup>

Oil and refined products remain the chief import, albeit one that is declining in prominence. In 2015 the United States imported 24% of its oil, the lowest portion since 1970.<sup>6</sup> About 20% of US imports came from the Gulf in 2015, primarily Saudi Arabia, which is the number two supplier to the US after Canada. (See Figure 4 on p. 6.)

The US Energy Information Administration (EIA) predicts that oil imports as a percentage of US supply will continue to drop, reaching 19% by 2040. The EIA has also prepared an alternate 'high resource' case in which advances in technology render economic

a broader array of US unconventional resources, allowing the country to reach long-awaited oil self-sufficiency in the 2020s. In that event, the United States would become a net exporter, sending abroad as much as 6 million barrels per day (b/d), equal to roughly a fifth of its 2040 production (see Figure 1).<sup>7</sup>

It bears mentioning that the US oil and gas sector is made up of thousands of private companies that operate independently of state control.<sup>8</sup> Growth in US oil production depends on global market prices and technology improvements, along with factors already in place, such as infrastructure, and land-use and mineral rights laws. Trump will assume no formal jurisdiction over the US oil sector. His expressions of goodwill will play out in the form of federal regulations – or lack thereof – which affect compliance costs borne by producers, transporters and consumers. The United States will arguably never become ‘independent’ of oil activity outside its borders, because oil prices are formed globally and directly impact prices in the United States, irrespective of where production takes place.

**Cabinet appointments:** Trump’s cabinet appointments will also form policy. The appointment of retired Exxon Mobil CEO Rex Tillerson as the nation’s top diplomat, the US secretary of state, could assist the US energy sector internationally. Tillerson could pursue policies advantageous to the US energy sector – in particular the fossil fuel industry – through foreign aid efforts in the developing world, where energy trade and access are a priority. For instance, the Obama administration’s Power Africa initiative,<sup>9</sup> which emphasizes electrification via natural gas and renewables – but not coal – might be abandoned or reshaped by a Tillerson-led State Department,

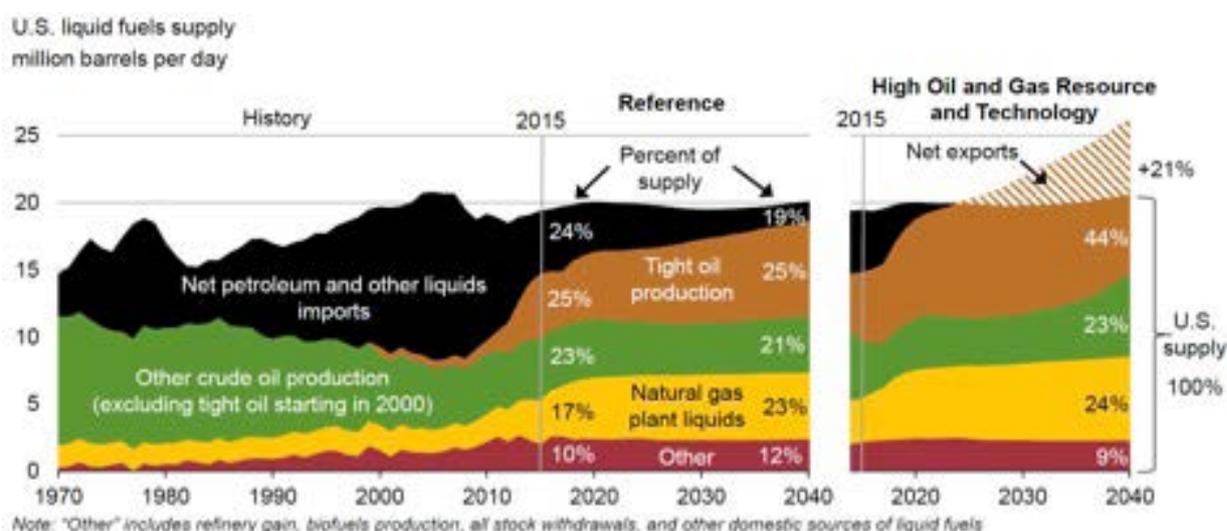
perhaps shifting away from renewables and toward fossil fuels.

The Department of Energy guides US energy policy to some extent, but its main function consists of nuclear research and weapons stewardship. Trump’s candidate for secretary of energy is former Texas governor Rick Perry, a supporter of oil and gas who oversaw loosening of state oversight of the industry during his tenure. Coinciding with Perry’s term has been an increase in flaring of natural gas in Texas, which press reports blame on state officials’ unwillingness to enforce existing regulations.<sup>10</sup> Perry, however, also has supported wind power through pricing and policies which succeeded in raising Texas’ installed wind capacity beyond 1.5 GW by 2015<sup>11</sup> while connecting wind power from West Texas to the east via 3,600 miles (5,800 kilometres) of new transmission lines. Texas has since emerged as the largest US source of wind-generated electricity.<sup>12</sup>

As head of the US Environmental Protection Agency, Trump has nominated Scott Pruitt, another fossil fuel advocate and critic of the agency’s initiatives, including those intended to regulate carbon emissions from power generation. If confirmed, Pruitt, the former attorney general of Oklahoma, can be expected to reduce central government oversight of business, including those connected with fossil fuels.

**Regulatory approach to US fossil fuel and electricity generation sector:** The Trump administration’s main energy policy tool is regulation – the rules and standards imposed on business practices. It appears likely that Trump and his appointees will seek to tilt federal regulation away from environmental protection and toward business interests and control

**Figure 1** US Oil Supply Forecasts: Baseline (left) and Alternate (right)



(Source: EIA, Short-Term Energy Outlook, December 2016)

by individual US states. Possible outcomes could include reversal of Obama administration standards on vehicle efficiency, pollution from refineries and emissions of methane, as well as ending of prohibitions for drilling and mining on federal land and offshore areas where drilling is currently restricted. The Obama administration's proposed curbs on carbon dioxide emissions from power plants, discussed below, are also likely to be weakened or abolished.

Owners of oil and gas pipelines, a recent focus of grassroots opposition, could also see relief. Trump will have the opportunity to appoint at least two members to the Federal Energy Regulatory Commission, which regulates interstate pipelines. Trump has appealed to TransCanada, the company behind the Keystone XL pipeline rejected by the Obama administration on climate grounds, to resubmit its application for a permit to cross the US border. The Keystone XL pipeline, if built, would ferry synthetic crude oil, about 17% more carbon-intensive than average US crudes, from the Canadian oil sands to the refineries on the US Gulf Coast.<sup>13</sup>

Across-the-board abolition of Obama-era regulation would likely trigger a crescendo of litigation and therefore does not seem like a feasible scenario. Federal regulations are difficult to unwind, including those based on the recent 'endangerment finding' under the US Clean Air Act, in which carbon dioxide is considered a pollutant. Full revocation of such regulations requires supportive testimony from science and stakeholders, including environmental interests, and would have to withstand court challenge. However, the Trump administration could refuse to implement or enforce regulations with which it disagrees.

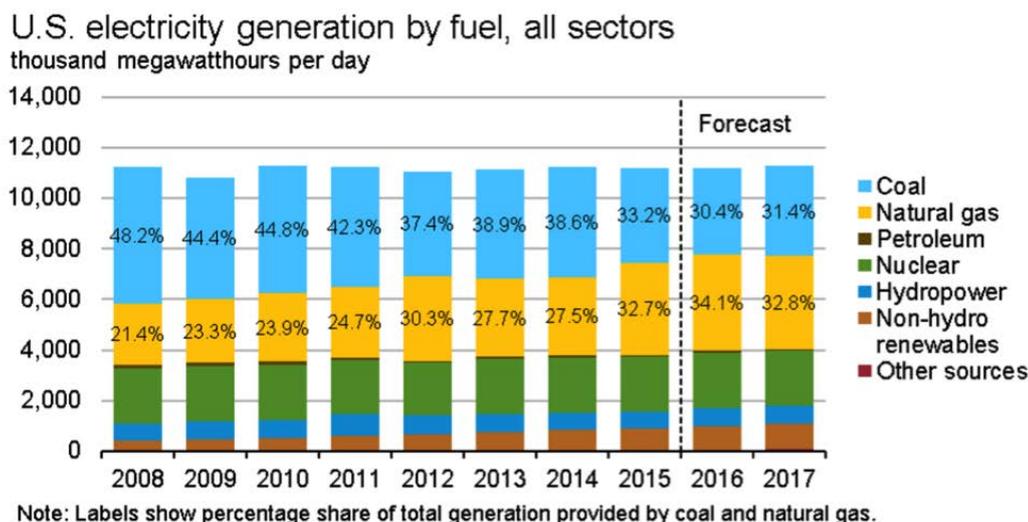
A simpler task is the overturning White House guidance on climate as well as any Obama-era executive orders that had not been enacted through formal legislative or court processes. Obama was largely unable find common ground on policy priorities with Republican-dominated Congress during most of his tenure, and thus relied on less durable executive action.

**Coal policy:** Trump campaigned on promises to reverse the Obama administration's anti-coal policies. One possibility would be overturning Obama's climate policy centrepiece, the Clean Power Plan (CPP). The plan, which remains held up by numerous court challenges, aims to reduce US CO2 emissions by 32% below 2005 levels by 2030. Coal-fired electricity plants are the CPP's chief target. The Trump administration's options include targeting the CPP directly by attempting to withdraw it or, less confrontationally, allowing it to be defunded by the Congress.

Whether or not the CPP is overturned, coal's fortunes in the United States may not markedly improve. EIA figures show US coal consumption dropped by 13% in 2015 and 15% in 2016, even though the CPP is mired in court battles that have delayed its implementation (see Figure 2). The EIA expects US coal demand to rebound slightly, by about 2% in 2017, due to higher expected gas prices.<sup>14</sup>

Coal's travails have been driven by market factors, mainly by the steep reduction in US natural gas prices which has rendered the country's aging coal-fired power fleet uncompetitive. The CPP would be most effective as a hedge against a coal revival in the event of structurally higher natural gas prices. If the CPP is retracted, one might expect a small respite in the form of delays in decommissioning of coal plants that have not reached the end of their operating lives.

**Figure 2** Coal's Share in the US Power Generation Mix Has Declined Steadily Since 2008.



(Source: EIA, Short-Term Energy Outlook, December 2016)

In the longer term, coal demand in the US – and across the Organisation for Economic Co-operation and Development countries – is threatened by competition from cleaner generation technology as well as climate-based taxes and restrictions. Despite the possibility of eight years of coal-friendly Republicans in the US government, national climate action is by no means permanently abolished. There is strong likelihood of a future president reviving anti-coal regulation that could render stranded any new investment into coal combustion.<sup>15</sup>

**Nuclear and renewables policy under Trump administration:** Trump also spoke in favour of nuclear power during a presidential science debate in September 2016, arguing it should remain part of the US generation mix 'long into the future'.<sup>16</sup> Construction of new nuclear power plants is a decade-long enterprise that would extend across multiple presidencies. The Trump administration could begin the approval process for new plants, while providing assistance that might extend the operating lives of the existing fleet.

Much of the US nuclear fleet is nearing the end of its normal operating lifespan. Eight plants representing about 9.3 GW of zero-carbon generating capacity are subject to retirement over the next few years.<sup>17</sup> Efforts by state governments, with probable support from the Trump administration, could keep at least five of those plants operating. The states of New York and Illinois have provided 'zero emissions credits', a form of subsidy, to enable existing plants to remain competitive with cheaper natural gas. By remaining online, the five nuclear plants would offset some 720 million cubic feet per day of natural gas demand growth. Further efforts to revive nuclear, if followed through upon by future presidents, could postpone additional capacity retirements and even permit construction of new plants. Doing so would result in climate benefits by reducing demand for natural gas and/or coal, and associated emissions.

Although Trump has spoken in favour of renewables in the past, the fossil fuel backgrounds of his cabinet appointees and the fact that both houses of Congress fall under Republican control suggest that the US renewable power industry will face a difficult period. In recent years, wind and solar installations in the United States have expanded despite availability of cheaper natural gas-generated electricity, due to federal tax credits and other state-level incentives.

Under current legislation, wind projects would see a 20% yearly reduction in their federal subsidy, called the Production Tax Credit, until the credit reaches zero

in 2020. The Investment Tax Credit for solar is designed to ramp down in similar fashion until 2021, although 10% of the solar credit is supposed to remain in force. The Congress could simply allow both to phase out as intended over the next few years. Alternatively, it could take action to prematurely end the credits. Without the preferential credits, wind and solar would be less able to compete with natural gas on the basis of cost. Of course, some states are expected to retain their pro-renewables policies, and technology development may continue to improve efficiency and reduce cost.

## Ramifications for the US Oil and Gas Sector and Increased US Exports

If fossil fuel share prices are any guide, initial investor sentiment suggests the Trump administration will be good for the oil and gas industry. The opposite case can also be made. On the one hand, lighter environmental regulation could improve prospects for growth in oil and gas production by reducing expectations of future costs on emissions-reduction capital expenses. On the other hand, if Trump succeeded in reviving coal or nuclear power, natural gas interests would face an unexpected new source of competition in the power sector.

The recent downturn in oil prices forced the US oil and gas industry to improve economic efficiency. Breakeven costs<sup>19</sup> on shale oil and gas wells have dropped by an average of 22% per year since 2013.<sup>20</sup> Although sufficient international market prices are the biggest prerequisite, favourable policies for the US oil and gas sector could help increase exports of US natural gas, crude oil and refined products.

Perhaps the largest act to improve the fortunes of the US oil and gas sector came under the Obama administration, which in 2015 overturned the longstanding ban on oil exports with bipartisan Congressional support. In addition, the Obama administration approved permits for new natural gas infrastructure that is expected to bring a steep increase in US exports. Projects approved include two additional natural gas pipelines to Mexico, which would significantly increase the average 2.1 billion cubic feet per day (bcf/d) in US exports, along with ten US liquefied natural gas (LNG) liquefaction and export terminals.<sup>21</sup> Modelling work by Rice University's Baker Institute finds that the number of LNG plants given construction permits probably exceeds the total that will actually be built, given the ongoing global oversupply of LNG.<sup>22</sup>

A further factor that could affect gas exports, as mentioned, is Mexico. US shale gas, imported by Mexico via pipeline, has been replacing fuel oil in the Mexican power generation sector, while also displacing imports of more expensive LNG (see Figure 3). However, Trump has spoken of restricting US-Mexico trade and immigration. One result of a deteriorating relationship might be reduced expectations for an increase in US natural gas exports. Projects at risk in such a scenario would include the four gas export pipelines under construction at the time of writing, with a combined capacity of 3.5 bcf/d. Two further US gas export pipelines representing another 3.3 bcf/d in capacity are planned.<sup>23</sup> Of course, the cancellation of a pipeline to Mexico could free up gas for export as LNG.

### Future US Climate Policy

Climate change was not a major campaign issue, although Trump is on record describing climate change as a 'hoax' meant to harm the US economy, and calling for 'cancelling' the 2015 Paris Agreement on climate change. His post-election statements, however, have been more nuanced.<sup>24</sup> The lack of attention to climate suggests that the Trump administration may focus on other priorities in the first year or two of his term in office. However, some cabinet appointees have taken public stances against climate action. Some have even questioned the scientific consensus on humanity's role in climate change.<sup>25</sup> Further, climate sceptics among Republicans controlling both houses of Congress could push legislation that Trump may be called upon to approve.

Possible actions include:

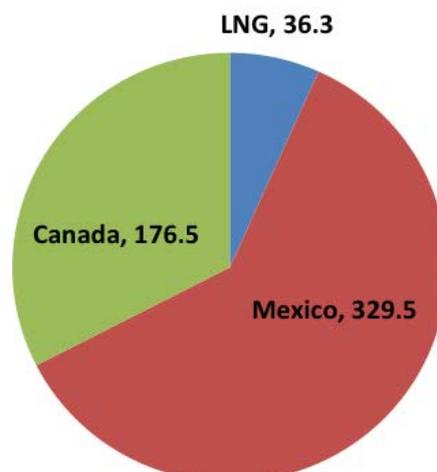
- Overturning, defunding or otherwise undermining the CPP, as mentioned above;
- Withdrawing from the 2015 Paris Agreement, either formally or by ignoring the US commitment;
- Withdrawing from the 1992 UN Framework Convention on Climate Change, the parent treaty of the Paris Agreement;
- Reneging on the remaining US\$2 billion US commitment to the Green Climate Fund, which funds climate change mitigation and adaptation projects in developing countries<sup>26</sup> ; and/or
- Abandoning other climate-based agreements, such as the bilateral deal with China or the 2016 agreement between the governments of the United States, Canada, and Mexico to generate half of their electricity from carbon-free sources by 2025.<sup>27</sup>

#### Potential repercussions of anti-climate actions:

Global political momentum toward climate action has gathered since Paris. Since the United States is the world's largest economy and simultaneously responsible for the largest share of cumulative atmospheric carbon (the US is the second-largest current emitter after China), America's wherewithal to respond corresponds with its share of the blame for the warming climate. Expectations are high.

Figure 3 Mexico Is the Largest Destination for US Gas Exports

### US Natural Gas Exports 2Q 2016 by Destination (bcf)



(Source: EIA 2016)

A unilateral US withdrawal from international climate agreements or renegeing on its Paris commitment could be diplomatically costly, damaging America's international reputation and undermining relations with allies (although probably not the GCC). Governments in Europe, in particular, would view such behaviour as defaulting on a formal commitment. Some European partners might even be unwilling to back Trump priorities in other areas.

Representatives of some countries, including China, have at least verbally stated an intention to pursue their Paris commitments regardless of US behaviour.<sup>28</sup> If China succeeded in reducing coal use and CO2 emissions, it could bolster credentials as a responsible global leader at a time when America moves in the opposite direction. Elsewhere, a US rejection of Paris may spur some other countries to ignore commitments and begin free-riding on carbon, blaming Washington for the change in stance. If American climate backtracking continued over the long term, it is conceivable that some countries could impose 'carbon tariffs' on American imports.

Finally, support among Americans for climate action is high. Energy businesses and other private sector companies have already committed themselves to climate-friendly business strategies. Representatives of numerous companies have vowed to reduce carbon footprints regardless of the positions of the US president and Congress.<sup>29</sup>

For numerous reasons, even a Republican-dominated US government will arguably find it difficult to reverse course on climate change. We envision the Trump administration instead opting for a 'go-slow' approach on climate, resembling the policies pursued under the George W. Bush administration, where climate was not prioritised.

## Effects on US-Gulf Relations

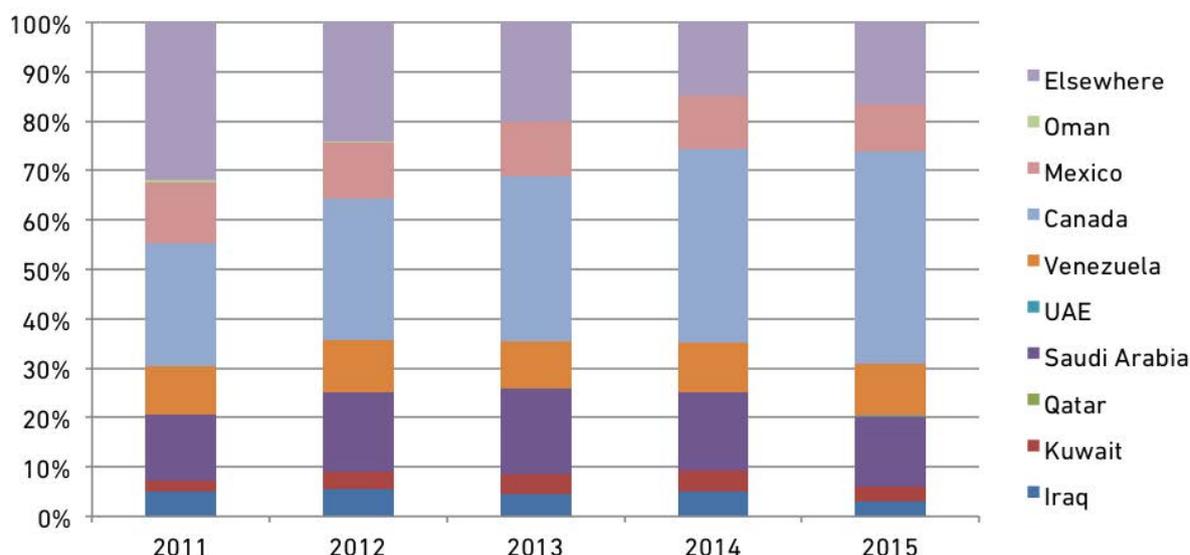
So what can the GCC expect from the next US administration?

The United States' rising self-sufficiency and efficiency in energy has reduced imports of oil and gas, and has already pushed Gulf exporters toward the growing markets in Asia. US imports of LNG have all but halted. As mentioned, oil is the only energy commodity imported in large measure. US domestic oil production has dropped by 500,000 b/d since reaching a peak in 2015, leading to a slight increase in crude oil imports, to about 7 million b/d. About 17% of US oil imports come from the GCC, mainly Saudi Arabia (see Figure 4).<sup>30</sup> US oil production is forecast to decline by a further 100,000 b/d in 2017,<sup>31</sup> but many forecasters expect a revival soon afterward.

The US will probably remain a significant importer of Saudi crude, given US refiners' configurations and Saudi ownership of 620,000 b/d of US refining capacity.<sup>32</sup> Further ahead, US imports will probably

**Figure 4** US Imports of Crude Oil from Canada Have Displaced Those from the Middle East and Venezuela.

### US Crude Oil Import Ratio by Country of Origin, 2011–2015



(Source: EIA 2016)

continue to trend downward, displaced by rising US production and flat or decreasing demand. Thus, Asian markets will continue to grow in importance for GCC oil exports.

Turning to gas, US LNG exports are expected to rise throughout Trump's term, the four years through 2020, as new liquefaction plants under construction are completed. US LNG will compete on the margins with shipments from Oman, Abu Dhabi and especially Qatar, although Qatar's ultra-low cost base will ensure pre-eminence. The addition of US LNG to an already oversupplied market has helped push down prices, allowing gas-short countries in the Middle East to turn to imports rather than develop difficult domestic resources, or reform government prices that have stymied upstream development. The Middle East now appears to be a viable market for American shale gas. As of December 2016, five US LNG cargoes from the newly opened Sabine Pass LNG terminal had been exported to Arab countries: two each to Kuwait and Jordan, and one to the UAE.<sup>33</sup> (See Table 1.)

## Implications for the Gulf

How might possible policy changes play out on US-GCC trade? A few brief scenarios present themselves:

- American demand for imported oil might increase in the event of a rollback in energy efficiency regulations, such as the Environmental Protection Agency's current standards averaging 54.5 miles per gallon (4.32 litres per 100 kilometres) for light vehicles produced between 2017 and 2025. Expectations for declines in US gasoline demand could be disrupted in the event of a major change in regulations alongside continued low fuel prices.

Other Trump-influenced factors weigh against more imports. These include:

- Reduced restrictions on domestic oil and gas production could bring about an increase in US supply; and
- The possibility of enhanced Canadian access to the US crude market – particularly for heavy crude from Alberta, which competes with Middle East grades – would also bode ill for Middle East supply.

Gulf crudes retain a significant cost advantage despite efficiency gains in US oil production. During periods of low prices, oil from the Gulf typically regains market share as higher cost competitors are shut-in.

In the meantime, US shale gas is unlikely to develop into a significant source of supply for gas-short Gulf states, like the UAE and Kuwait. This is because:

- The cost basis for US shale gas is higher than for some sources of competing supply;
- US gas demand is growing, and Trump has suggested he would support manufacturing businesses which remain in the country, which in turn could signal further increases in US demand; and
- Foreign markets for US gas exist within pipeline distance, which could displace supply from less competitive LNG ventures.

Of course, this analysis could be upended by souring US-Mexico trade relations or a revival in global LNG prices that incentivizes greater US exports. Even so, a rise in US exports will only help at the margins.

**Table 1** US Shale Gas Exports to the Middle East between March and December 2016.

LNG exports from Cheniere Sabine Pass Terminal, Louisiana, to Middle Eastern countries				
Date of departure	Country of destination	Tanker name	Volume (MCF)	Price at export point (\$/mmbtu)
28 Mar 2016	UAE	Energy Atlantic	3,391,066	\$3.95
10 May 2016	Kuwait	Creole Spirit	3,609,595	\$3.12
18 Jul 2016	Jordan	Gaslog Greece	3,566,496	\$5.60
1 Sep 2016	Kuwait	SCF Melampus	3,458,203	\$5.3
11 Sep 2016	Jordan	Maran Gas Delphi	3,361,693	\$5.53

(Source: US Department of Energy 2016)

Given the Gulf region's prodigious gas reserves, the GCC would arguably be better served in the long run by rationalising natural gas prices, which would incentivize upstream investment and regional gas trade.

Changes in US climate and renewables policies would impose few effects on the Gulf. The increasing share of renewables in the US electricity market may slow under Trump, particularly if tax credits for wind and solar are eliminated or allowed to phase out. Reduced competition from renewables could enable continued increases in gas' share of the US power generation market.

It is more difficult to predict how US-Gulf relations will evolve under the Trump administration. Trump's post-election statements represent a step back from a more hostile position as candidate when he suggested that, as president, he would oppose purchases of oil from US allies in the Gulf if those countries refused to reimburse the United States for protecting oil shipments, or declined to take part in counter-terror operations.<sup>34</sup>

In revenue terms, whether or not America imports oil from the Gulf makes little difference to Gulf exporters.<sup>35</sup> However, the global economy is underpinned by Gulf oil exports, disruption of which has negative ramifications for all consumers. Free trade is a global public good. Strategic chokepoints pose vulnerabilities that require protection to avoid disruptive shocks. Understanding the magnitude of the tradeoffs may help the Trump administration when it builds its energy policies vis-à-vis the rest of the world.

## Conclusion

In early 2017, a reshaping of US energy policy priorities is unfolding. This paper draws the following conclusions: on climate change, the Trump administration is likely to shift away from environmental and climate concerns, replacing Obama-era priorities with attention to the interests of the energy business sector. However, impact upon the state of the country's environment and its future greenhouse gas emissions may be limited by two important factors:

- First, the federal government has only tertiary influence over the US energy sector, which responds foremost to market signals and secondarily to subnational regulation; and

- Second, the Trump administration will probably prioritise policies emphasized in his presidential campaign, such as immigration and trade, rather than energy.

At the time of writing, the US energy sector appears well-balanced, with oil and gas firms recovering from two years of low market prices, while end-user product prices remained low for the US consumer.

However, the political philosophies embraced by incoming elected representatives and cabinet appointees include everything from protectionist-isolationism to free-market idealism. The wide divergence in views opens the possibility of an unusually broad spectrum of potential policy. As such, thoroughgoing changes to energy policy remain conceivable, either through cabinet appointees from the fossil fuel sector, or via a Republican-controlled Congress, or both.

For the Gulf, energy relations with the US will continue to evolve. What was formerly a strict supply-based relationship is transforming into a more transactional association. In the authors' view, fewer tankers carrying Gulf oil will steam westward. Those that do might encounter tankers of US LNG steaming eastward. US and Gulf energy products – refined fuels and LNG – will even compete in some markets. As the energy landscape evolves, so will the basis for political ties and US military support. Where once America's security umbrella was predicated on direct dependence on Gulf exports, it will be underwritten more on mutual interests in international relations, buttressed by the Gulf's strategic importance.

## Endnotes

- 1) Restuccia, Andrew. 'Trump calls for 'complete American energy independence,' *Politico*, 26 May 2016.
- 2) The United States is a net exporter of coal. See: US EIA (U.S. Energy Information Administration). 'U.S. coal exports declined 23% in 2015, as coal imports remained steady,' *Today in Energy*, 7 March 2016.
- 3) In 2015, the US imported about 2.72 trillion cubic feet, Tcf) of natural gas and exported about 1.78 Tcf, resulting in net imports of nearly 0.93 Tcf. In 2015, net imports (imports minus exports) of natural gas equaled about 3% of U.S. natural gas consumption. See: US, EIA. 'Natural Gas Explained: Natural Gas Imports and Exports,' US Energy Information Administration, US EIA website, updated 27 September 2016.
- 4) Government of Canada. 'Canada-U.S. Relations: Electricity,' Government of Canada website, consulted on 2 November 2016.
- 5) Bonnar, Doug. 'U.S. uranium production is near historic low as imports continue to fuel U.S. reactors,' *Today in Energy*, US EIA, 1 June 2016.
- 6) US EIA. 'How much oil consumed by the United States comes from foreign countries?', *US EIA website*, updated on 13 October 2016.
- 7) US EIA. *Annual Energy Outlook 2016*, 2016.
- 8) Although some companies operating in the US maintain ownership stakes held by non-US governments.
- 9) By way of disclosure, author Dr Jim Krane took part in a US Department of Energy-led Power Africa discussion workshop at Rice University's Baker Institute on 18 May 2016, which aimed to support LNG exports by African producers.
- 10) Tedesco, John and Jennifer Hiller. 'Flares in Eagle Ford Shale wasting natural gas,' *San Antonio Express News*, August 2014.
- 11) Electric Reliability Council of Texas. *2015 State of the Grid Report*. February 2016, p. 21.
- 12) Malewitz, Jim and Kiah Collier. 'Rick Perry's energy legacy is more complicated than you think,' *The Texas Tribune*, 13 December 2016.
- 13) Congressional Research Service. *Oil Sands and the Keystone XL Pipeline: Background and Selected Environmental Issues*. 14 April 2014, p. 26.
- 14) US EIA. 'Short-Term Energy Outlook: Coal Forecast,' *US EIA website*, 6 December 2016.
- 15) Krane, Jim. *Climate Risk and the Fossil Fuel Industry: Two Feet High and Rising*. Working Paper, Baker Institute for Public Policy, Rice University, Houston, July 2016.
- 16) Science Debate. *Presidential Science Debate*, September 2016.
- 17) Tudor Pickering Holt. 'Tudor Pickering Holt Energy Thoughts,' 13 December 2016, email newsletter.
- 18) Ibid.
- 19) Investment and capital costs in producing oil and gas, including a 10% investment rate of return.
- 20) Rystaad Energy. 'Average Shale Wellhead Breakeven Prices are Below 40 USD/BBL,' press release, 28 July 2016.
- 21) Huq, Nushin and Emily Pickrell. 'Mexico's Demand for Natural Gas Spurs Pipelines, Disputes,' *Bloomberg*, 18 July 2016; also: US Federal Energy Regulatory Commission (FERC). 'North American LNG Import/Export Terminals Approved,' graphic on FERC website, 14 December 2016.
- 22) Cooper, Adrian et al. *The Macroeconomic Impact of Increasing U.S. LNG Exports*. US Department of Energy, Washington, D.C., 29 October 29 2015.
- 23) Paraskova, Tsvetana. 'U.S. Gas Pipeline Export Capacity to Mexico to Nearly Double By 2018,' *Oilprice.com*, 1 December 2016.
- 24) Asked about the Paris climate agreement in the interview with the New York Times on 22 November 2016, Trump said he has 'an open mind to it' and that he is 'looking at it very closely.' Shear, Michael D., Julie Hirschfeld Davis and Maggie Haberman. 'Trump, in Interview, Moderates Views but Defies Conventions,' *The New York Times*, 22 November 2016.
- 25) Milman, Oliver. 'Trump's transition: sceptics guide every agency dealing with climate change,' *The Guardian*, 12 December 2016.
- 26) The fund is targeting a long-term total of US\$100 billion, but has a shorter term goal of \$10 billion. The Obama administration committed to US\$3 billion and had transferred US\$1 billion by the time of writing.
- 27) Dlouhy, Jennifer A., and Angela Greiling Keane. 'U.S., Mexico, Canada Pledge 50 Percent Clean Power by 2025,' *Bloomberg*, 27 June 2016.
- 28) However, China in 2015 started up 70 GW of new coal projects and maintained construction on 200 GW more, leading the International Energy Agency to describe the coal sector in China as 'overbuilt.' See: Bloomberg, 'China Seen Investing Too Much in Power Plants That Burn Coal,' 13 September 2016.
- 29) Olson, Bradley, and Cassandra Sweet. 'Companies Stay Resolute in Emissions Fight,' *Wall Street Journal*, 9 December 2016, p. B1.
- 30) US EIA. 'Petroleum & Other Liquids: U.S. Import by Country of Origin,' *US EIA website*, 30 November 2016.
- 31) US EIA. 'Short-Term Energy Outlook: Global Liquid Fuels,' *US EIA website*, 6 December 2016.
- 32) The Motiva refinery in Port Arthur, Texas, is America's largest refinery and wholly owned by Saudi Aramco.
- 33) US EIA. *LNG Monthly*, US EIA, December 2016.
- 34) The New York Times, 'Highlights From Our Interview With Donald Trump on Foreign Policy,' 26 March 2016.
- 35) For more on this topic see: Krane, Jim. 'Refined Approach: Saudi Arabia Moves beyond Crude,' *Energy Policy* 82 (2015): pp. 99–104; Also see: Krane, Jim. 'Guzzling in the Gulf: The Monarchies Face a Threat From Within,' *Foreign Affairs*, 19 December 2014.