

Marshall Scholarship 60th Anniversary Lecture “The Role of Energy in the Special Relationship”

April 23, 2015

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It is a special privilege to be with you here today to celebrate and honor the British Marshall Scholarship—sixty years after it was first created and exactly twenty years after I was lucky enough to be awarded one.

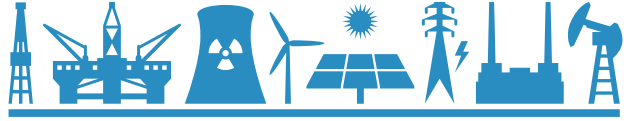
I want to thank my friend Ken Medlock and the Baker Institute for hosting us here today; and Permanent Secretary Stephen Lovegrove for that kind introduction and for taking the time to be with us today. Most especially, a thank-you to Her Majesty’s government for giving me and over 1,700 other lucky young Americans the unique privilege of studying at some of the world’s greatest universities and building lifelong personal, academic, and professional ties with the United Kingdom.

For sixty years, the Marshall Scholarship has stood as a symbol of friendship, gratitude, and cooperation—not merely to continue saying thank you for the Marshall recovery plan, but more importantly to continue building and nurturing what Winston Churchill famously called the “special relationship” between the United States and the United Kingdom.

I spend my time thinking and writing about energy, and it is appropriate to discuss it here today. Not only because few issues are as important to the global economy, geopolitics, and sustainability of the planet. Not only because we come together in Texas—the heart of the US energy industry. But also because for over a century, energy has been a key pillar in the special relationship.

And so this evening, I want to discuss the role energy has played over time in fostering cooperation—and even at times conflict—between the United States and the United Kingdom, and then discuss a few areas of particular importance where stronger US and UK cooperation will be essential in the future if we are to meet today’s most pressing energy challenges.

In the United Kingdom today, many point to higher energy costs, for example for natural gas and electricity, as a cause of the slowdown in industrial activity. Centuries ago, it was the



opposite. Britain in the early 1700s had access to the cheapest energy in the world, coal, which sold for a fraction of the price coal did in the continent or oceans away in China. It was access to cheap energy that made the industrial revolution possible—from steamships to steam-powered railroads to steel and other metals.

As technological advancement brought the cost of those new industrial technologies down, it was trade—of the sort being advanced today through transatlantic trade negotiations—that allowed those new innovations to come across the Atlantic—where, powered by abundant coal resources in Appalachia, they made possible the second, or American, industrial revolution.

Of course all that coal mining and coal use had severe environmental and human health impacts, which is why it is so important that we find ways to help developing countries, like India and China, reach their aspirations for economic growth in sustainable ways.

Now, with all this abundant coal, surely the British would find it folly to depend instead on oil from far away places like Persia to fuel its mighty navy in the years leading up to World War I? Yet that was precisely the course adopted by Winston Churchill as first lord of admiralty, recognizing that oil meant more speed and less manpower than coal. And his decision to convert the British navy from coal to oil is regarded today as a key act of foresight that was critical to the Allies' victory.

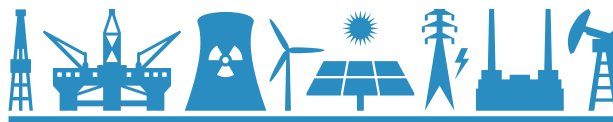
In fact, oil played a uniquely important role in the victory in World War I. War up to that point had involved moving troops by train to central stations, and then victory depended on the strength and number of men and horses to move arms and supplies to the battlefield. This was made even more difficult by the fact that horses consumed ten times the food of the average man, and all that food had to be transported as well.

The use of the internal combustion engine in airplanes, ships, and vehicles dramatically transformed the nature of war in World War I, and created new logistical imperatives for access to fuel to prevail in the conflict.

As the war progressed, oil demand rose sharply, at the same time that German submarine attacks cut off oil tanker supply routes, sinking shockingly large numbers of tankers belonging to companies like Standard Oil of New Jersey, which lost them at a rate of more than one a month in mid-1916.

In 1917, one top British official told the House of Commons, “Oil is probably more important at this moment than anything else. You may have men, munitions, and money, but if you do not have oil, which is today the greatest motive power that you use, all your other advantages would be of comparatively little value.”

This emerging oil crisis forced the United States and the United Kingdom to collaborate even more closely. An Inter-Allied Petroleum Conference was established in February 1918 to pool, coordinate, and control all oil supplies and tanker shipping. That system of US–UK collaboration—



along with the introduction of convoys as an antidote to the German U-boats—solved the Allies’ oil supply problems for the rest of the war.

By October 1918, the Allies had cut off German supplies of oil, and the Germans had only months of reserves remaining to fuel industry, ships, planes, and vehicles. The precise number of months of supply remaining was never tested, for they surrendered a month later in November 1918.

Ten days after the armistice, at a dinner for the Inter-Allied Petroleum Conference, Lord Curzon, who would shortly become foreign secretary, famously declared that “the Allied cause had floated to victory upon a wave of oil.” Coincidentally, that dinner took place just off St. James’s Park at Lancaster House, the same building where thirty years later, on the margins of failing negotiations between the foreign ministers of Britain, the United States, France, and the Soviet Union, George Marshall and the United Kingdom’s Ernest Bevin first began talking about an idea for an extraordinary transatlantic alliance that would lay the seeds for what would become NATO.

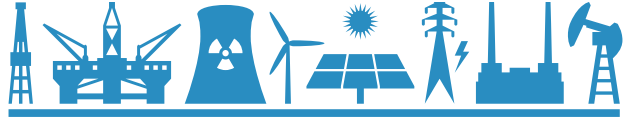
Before World War I, Churchill had made a daring bet: replace abundant Newcastle coal with oil that required long-distance transport. While it paid off in World War I, for much of World War II, the risks in that strategy became painfully evident as fuel supply ships to the US and British coasts were sunk by German U-boats again and again and again. In December 1942, Churchill was told only two months of fuel supply remained. More than one hundred ships were sunk in March 1943 alone. Only when the Allies broke the U-Boat codes were fuel supplies then secured.

Oil was the critical strategic commodity for the Allies in World War II, and that oil supply was coming almost exclusively from the United States. As the war progressed, the strain began to show, and fears of shortage emerged. And those concerns about future supply led both the United States and the United Kingdom to pursue new supplies in the Middle East aggressively. This eventually led to the Anglo-American Petroleum Agreement in August 1944—essentially, the OPEC cartel of its day, which aimed to set production quotas, control possible oversupply, and bring stability to the global oil market.

As the war came to a close, gasoline rationing came to an end in the United States, but a new crisis loomed. Europe was weary and withered. Food and dollars and, importantly, energy were all in desperately short supply. In 1946, in the midst of the coldest winter of the century, coal was in such short supply in Britain that power stations had to be shut down.

The first step in addressing these shortages and averting a complete breakdown of the European economy came in June 1947, as we all know, during a commencement address in Harvard Yard. Of course it is the expression of Britain’s gratitude for what famously came to be the Marshall Plan that we are here today to celebrate sixty years later.

Among the very first problems to be addressed by the Marshall Plan was Europe’s energy crisis. Oil was seen as the solution to the coal shortages that plagued Europe. One US government report at the time said, “Without petroleum, the Marshall Plan could not have functioned.” Of



course all that oil was not cheap; it was one of the largest single items paid for with Marshall Plan aid.

Our fellow Marshall scholar Dan Yergin wrote in his masterpiece *The Prize*, a valuable resource for understanding the history of oil, that “the fundamental fact was that the Marshall Plan made possible and pushed a far-reaching transition in Europe—the change from a coal-based economy toward one based on imported oil.” This had far-reaching consequences, especially since all that oil had to come from somewhere. In 1946, nearly 80 percent of Europe’s oil supply came from the Western Hemisphere; just five years later, in 1951, 80 percent came from the Middle East—a rapid shift with lasting geopolitical implications, from the Arab Oil Embargo to the Iranian revolution to the Gulf War to the role of OPEC and Saudi Arabia in today’s oil price collapse.

The Great World Wars and the Marshall Plan that followed are but a few of the many examples of the special relationship that has endured for more than a century of unparalleled cooperation between two allies in economy activity, trade, commerce, military activity, and intelligence—and energy has been a key vector of the cooperation on all these dimensions.

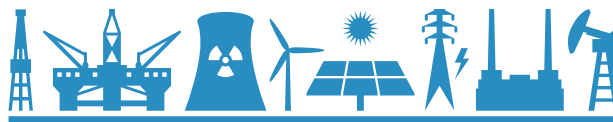
I do not mean to sugarcoat history. The relationship—special as it is—has not been without its tensions, many with energy at their core—from Britain’s invasion of Egypt against the warnings of US President Dwight Eisenhower during the crisis over the Suez Canal, through which two-thirds of Europe’s oil flowed at the time, to the Deepwater Horizon oil spill, which severely strained US–UK relations as many in Britain publicly voiced their displeasure with repeated references to British Petroleum, even though the company had changed its name more than a decade earlier.

But such inflamed moments are the exception. And they must be moving forward if we are to face our great shared challenges.

- How do we ensure our supplies of energy are secure—a key strategic concern that, if any reminder were needed, has been made all the more urgent in the face of the recent Russia–Ukraine conflict.
- How do we promote faster economic growth, not just in the United States or Europe, but also by pulling a billion more people out of extreme poverty and then meeting the massive energy demands that result when they are able to enjoy the luxuries we take for granted—electricity to keep food and medicine refrigerated; cell phones to improve communication; lighting to study into the night or keep people safe; air conditioning to improve comfort and productivity; or transportation to bring a farmer’s goods to market.
- And of course, perhaps most pressing of all, how do we meet the world’s rapidly growing need for energy without rendering large segments of the planet uninhabitable from the potentially severe consequences of climate change?

Meeting these challenges is going to require:

- Trillions in new capital, much of it coming from the world’s financial capitals in London and New York.
- New technological breakthroughs from places like Silicon Valley.



- Smart policies to make our energy supplies more secure, affordable, and sustainable.
- Research from the world's great universities. Every one of the world's top ten universities is located in the United States or the United Kingdom, according to the annual rankings put out by the Times Higher Education in London.

None of this will be easy. It is going to require close collaboration between nations all over the world, action by all the world's major emitters, and new technologies to emerge from brilliant minds in developed and developing countries alike.

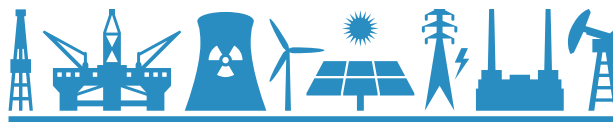
But the special relationship between the United States and the United Kingdom will continue to play a unique role in meeting these shared challenges. We are going to need to work together and learn from one another's successes as well as failures:

- We can learn from each other by looking to the earlier leadership demonstrated by the United Kingdom and others in Europe to put a price on carbon through an emissions trading system. As the Obama administration takes increasingly strong measures to reduce US emissions, and the state of California implements its own cap-and-trade system, we can look to the lessons from the EU—not only what parts to emulate but also how to avoid generating low and volatile carbon prices, or windfalls for polluters if the policy is not designed carefully. We have seen in the EU that when you combine a low carbon price with an aggressive renewables mandate but opposition in many places to shale gas and nuclear, coal use also rises, and the hoped for emissions reductions may fail to materialize.
- We can learn from shared mistakes on biofuels as well—where increased use of biomass in the United Kingdom to meet renewable targets and also increased use of corn ethanol in the United States to meet mandates for renewable transportation fuels have both ended up doing relatively little to reduce emissions and solve climate change.
- And we can learn from each other as public debates rage in the United Kingdom over whether to allow shale gas development, and the issue of shale remains highly charged here in the United States as well.

So let me talk about shale for a minute. The phrase game changer gets overused, but it is not an exaggeration to describe the shale revolution in the United States as a game changer—a transformative moment in the world's energy history and, we are increasingly learning, the most geopolitically disruptive force in energy markets in decades.

The United States is now the world's largest producer of oil and gas. The US energy boom has led to higher employment and economic activity, and lower consumer energy prices and US trade deficit. According to the Council of Economic Advisors, the oil and gas boom contributed around 0.2–0.3 percentage points to GDP growth in each of the last three years, and the impact is perhaps twice as large if spillover effects are included.

It's hard to overstate the magnitude and rapidity of the change. In 2005, the US government projected that this year, the United States would import 19 billion cubic feet of natural gas, more than Russia currently exports. Today, the United States is projected to be a net exporter itself in two



to three years. US oil imports have fallen from 60 percent to 20 percent of consumption, both because of surging production as well as declining consumption.

While there are many factors responsible for the global oil price collapse—including a slowdown in global oil demand—the most significant factor is, I believe, the US oil boom.

US oil production is up a staggering 80 percent since 2008—4 million barrels per day. In the face of this surging production, OPEC refused to cut production at its Thanksgiving Day meeting in Vienna, sending oil prices tumbling. The decision was really Saudi Arabia's, as the country for years has played the role of swing producer within OPEC along with a handful of neighboring Gulf states. This time around, however, Saudi Arabia refused to play its historic role as the market stabilizer, declaring that they would let the oil market balance itself through low prices rather than through Saudi production cuts.

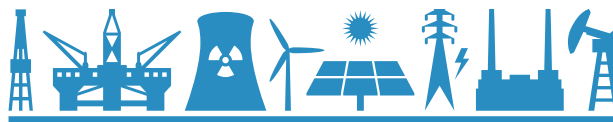
In reality, the Saudis had little choice. They were unwilling to give up market share through unilateral production cuts, but few if any fellow producers inside or outside OPEC were willing to join them in cutting output—faced with budgetary pressures, Asian market share aspirations, and already reduced supply levels in many key producers.

From the Saudi standpoint, the worst outcome would have been to unilaterally make a modest production cut that failed to stem the oil price slide, which would have risked revealing that the emperor, indeed, has no clothes.

Instead, the theory goes, the Saudis preferred to let the market force production cuts elsewhere, as lower prices would make production uneconomic in countries with higher costs. Moreover, the low oil price, combined with economic sanctions, would put the squeeze on Iran and Russia, which were added benefits from the Saudi point of view.

In the media, this has been widely portrayed as a war on shale. “Sheiks vs. Shale,” as the cover of *The Economist* described it. Shale was broadly viewed as being uneconomic at today's low prices, or so many thought. In reality, as the price has fallen, and even as the US rig count has dropped sharply, it is evident that US supply can continue to grow, albeit not as quickly, with oil prices of \$60 or \$70. In response to lower prices, producers have focused on more productive plays, accelerated the already impressive productivity improvement rates for their wells, and pressured suppliers and service companies to bring the entire cost structure down.

As the market regains balance in the coming months, as much if not more of that reduced supply is likely to come from higher cost sources of supply outside the United States—like Canada, the North Sea, Colombia, Russia, or Brazil. And because US shale production can be ramped both up and down so quickly because the output of shale wells drop so sharply after the first year or two, that means that as prices recover, less economic US shale can be quickly brought back online. The result may be that the United States emerges as the world's swing supplier—that the so-called “call on OPEC” becomes the “call on shale”—and that the marginal cost of producing the next barrel of US oil sets a soft floor under the world oil price.



Now, don't misunderstand. It is too early to declare the death of OPEC. Saudi Arabia remains the only country that produces significantly less than it economically can and thus retains any meaningful level of "spare capacity"—the ability to boost sustainable output within thirty days. Moreover, this may be a temporary phenomenon, as the growth rates of US tight oil are projected to slow, global demand rises, and the need for barrels out of OPEC countries rises again in the next decade, as several forecasters have recently warned. But even so, the economic and geostrategic implications of this shift in oil market control to the United States is profound, and it is the direct result of the US shale revolution.

Now, amid the passionate protests and debates now raging in the United Kingdom over whether to allow shale gas development, cooler heads can look to the US experience to learn lessons about how to properly regulate and develop this resource. The circumstances are different, to be sure. Lancashire and the Sussex Downs are very different terrains from Texas or even Pennsylvania. Transportation and road access are more challenging. And, unlike in the United States, landowners do not own the rights to mineral resources and thus have little incentive to support disruptive drilling and production. Still, shale gas presents an opportunity for Europe to boost economic activity, enhance energy security, and displace coal. But it is not without risks. Experience in the United States suggests those risks can be managed, but it requires that the government put in place the right rules and enforcement to make sure production is being done in a safe and responsible way. It also requires companies to take seriously public concerns, address disruptive community impacts from noise and dust and trucks, and bring new technologies to bear to solve problems, like methane leakage or flaring, to make sure we make the most of this opportunity.

Finally, no energy issue is more essential for the United States and the United Kingdom, and every other nation in the world to cooperate on than addressing global climate change. We are already beginning to see the economic and environmental impacts of rising sea levels, more extreme weather events, worse droughts and storms and floods. We are quickly running out of time before, the overwhelming consensus of scientists tells us, rising temperatures caused by human activity radically alter habitats and ecosystems in potentially severe ways. While all the world's major economies need to come together to reduce emissions to avoid the worst impacts of climate change, especially the rapidly growing economies of India and China, developed countries like the United States and the United Kingdom have a special role to play in demonstrating leadership, taking early action, and building credibility. Reasonable steps now can slow the rate of warming, advance new technologies, and build support for more meaningful global action—and that is true irrespective of whether one accepts the developing countries' arguments that, as noted earlier, the UK and US industrial revolutions were achieved on the back of coal.

As we have seen in this brief sweep of history, few issues are more important to the global economy and geopolitics than energy, not to mention public health, the environment, and the sustainability of the planet as we know it. Energy has been a critical pillar upon which the special relationship between the United States and the United Kingdom was built more than a century ago.

Looking forward, continued transatlantic cooperation on energy issues will be key to address the world's most pressing energy security, economic, and environmental challenges.



Those problems are immense. They won't be solved unless nations work together, and the special relationship is unique in the important role it plays in tackling these challenges successfully.

For sixty years, the British Marshall Scholarship has not only provided a lasting tribute and expression of gratitude from Her Majesty's government to the people of the United States for the Marshall recovery plan. Even more importantly, it has fostered exactly that sort of transatlantic understanding and cooperation.

For me, my time at Oxford University was the single most transformative experience in my life. It expanded my sense of what was possible for me to achieve and contribute throughout my career. I made lifelong friends that remain to this day a source of strength and inspiration, and over the years, Marshall alums have also become an important professional network. I was hired by former Marshall Peter Orszag into the Brookings Institution, providing policy training and relationships that made possible my future service in the White House. I developed close relationships with the UK officials in the United States through service on the AMS board and mid-Atlantic section committee upon which I could build when serving in government and that I also maintain to this day. And by far most significantly for me, I met former Marshall Dan Yergin through the scholarship, and for anyone seeking to make a career in energy, I can personally tell you there is no greater mentor you could hope for.

Today I spoke about energy, but of course we could have spoken about any of the pressing challenges facing us today—from terrorism to rising inequality to global poverty. Successfully meeting such challenges will require strength, trust, and cooperation in the special relationship between the United States and the United Kingdom. The Marshall Scholarship has been a crown jewel in that relationship for sixty years now. I am deeply grateful to the British government for its continued sponsorship of this priceless program, for honoring me exactly twenty years ago with an opportunity that changed my life, and for inviting me to celebrate the Marshall Scholarship here with you today.

Thank you.