

No Blood for Oil? Hydrocarbon Abundance and International Security

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For most of the past century, the international security dimensions of energy have largely been governed by perceptions of *scarcity*: a presumption that global reserves of oil and other basic fuels are insufficient to meet the anticipated needs of all major powers and that energy-poor states must undertake extraordinary measures—economic, diplomatic, and, on occasion, military—to ensure access to adequate supplies. In undertaking such efforts, the major energy-importing countries have been guided by a number of core assumptions: first, that an adequate supply of energy is essential for the successful functioning of a modern industrialized economy; second, that global supply reserves of oil, natural gas, and other basic fuels are finite and often located in areas of recurring turmoil and conflict; and third, that satisfying national energy requirements is a critical government responsibility (Kalicki and Goldwyn 2013). Summarizing these views, Spencer Abraham, former US Energy Secretary, told Congress in 2002, ‘Energy security is a fundamental component of national security’ (Abraham 2002). As a component of national security, moreover, energy security can become the justification for using military force—a stance articulated by several US presidents when authorizing military action in the Persian Gulf area.

Perceptions of energy scarcity played a key role in the strategic thinking of the major powers during World War I and in the years leading up to World War II. When Great Britain began converting its warships from

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coal to oil propulsion in 1912, it was almost totally lacking in domestic reserves of petroleum (this was long before the discovery of the North Sea fields) and so sought to acquire control over a foreign source of supply—an effort that led in 1914 to the nationalization of the Anglo-Persian Oil Company (APOC, the forerunner of BP), a UK-based firm that had acquired a promising concession in southwest Persia (now Iran). Described as an essential move for national security, the takeover of APOC led the British to seek a dominant military position in the Persian Gulf area and seek access to other promising reservoirs (Jones 1981; Yergin 1991). After World War I, the other European powers—most of which, like the UK, lacked substantial oil reserves of their own—followed Britain's lead by seeking concessions of their own in the area. Energy scarcity played a role in strategic planning for World War II, with both Germany and Japan ultimately undertaking foreign invasions—Germany of the Soviet Union, Japan of the Dutch East Indies—with the hope of securing access to major oil reserves.

To this day, perceptions of scarcity and a willingness to safeguard vital energy supplies through military means continue to shape government policy in many parts of the world. In the Gulf area, for example, the US Central Command (Centcom) remains poised to undertake extensive military operations in the event that Iran attempts to block the Strait of Hormuz—the narrow waterway through which approximately 30% of the world's shipborne oil passes every day (Talmadge 2008). In early 2012, amid unveiled threats by Iran to block Hormuz in retaliation for the new round of Western sanctions, General Martin E. Dempsey, Chairman of the Joint Chiefs of Staff, confirmed that the USA will 'take action and reopen the Strait' if blocked by Iran (as quoted in Bumiller et al. 2012). Similarly, China and India have declared their intent to bolster their high-seas naval capabilities and to employ force if necessary to protect their own energy imports.

Recently, however, energy analysts have begun to question this scarcity-driven outlook. Instead of growing scarcity, it is claimed, the future promises greater energy availability, not less. This is especially true for the USA: as a result of the 'shale revolution,' entailing the use of hydraulic fracturing ('fracking') to extract oil and natural gas from underground shale formations, this country is now producing more natural gas than at any time in its history and more oil than at any time except for a brief period in the early 1970s (EIA 2015a, b). At the same time, other countries have begun to utilize new drilling technologies in their efforts to exploit oil and gas reserves once considered inaccessible or non-commercial. Canada, for example, is using a variety of

techniques to convert its bituminous tar sands (also called 'oil sands') into a synthetic form of petroleum, vastly increasing the nation's output. Iran, Iraq, and Saudi Arabia all expect to increase their future oil and gas output by employing enhanced recovery techniques to boost output at existing fields and allow the development of new ones. Meanwhile, the rapid expansion of wind and solar installations—driven, in large part, by global efforts to reduce carbon emissions and thereby slow global warming—is bolstering confidence that any future shortages of fossil fuels (or restrictions on their use) can be offset by a greater reliance on alternative forms of energy (Yergin 2011a). As a result of all this, the perception of energy scarcity is being replaced by one of relative optimism regarding the future availability of energy. 'Instead of facing an Era of Scarcity,' avowed Rex Tillerson, the Chairman and CEO of ExxonMobil, 'we are now witnessing the transition to a new Era of Abundance' (Tillerson 2013).

Along with expressing greater optimism regarding the future availability of energy, many analysts are beginning to question the need to continue relying on military means to safeguard the delivery of energy supplies (Yergin 2011b; Crooks and Dyer 2013). With a greater abundance of energy available from an increasing range of domestic and international sources, it appears pointless to devote enormous military resources on the protection of any particular foreign supplier. Indeed, for some, the natural response to diminished US reliance on Middle Eastern oil would be the withdrawal of American forces from the Persian Gulf and their redeployment home or to areas of greater strategic significance. 'If America can produce its own oil,' the *Economist* opined in 2014, 'Why waste so much blood and treasure policing the Middle East?' (*Economist*, 2014).

Any effort to reduce the application of military means to the protection of imported energy supplies would have some obvious attractions. The termination of Centcom's oil-protection mission in the Gulf area, for example, could save the US Treasury tens or hundreds of billions of dollars per year, without even counting war-related expenses (O'Hanlon 2010). A diminished US military presence in the Gulf could also abate some of the anti-Americanism that pervades the area, perhaps robbing Islamic extremists of their primary funding and recruiting appeal. On a global scale, the elimination of energy scarcity as a rationale for deploying military forces abroad could reduce regional tensions and lessen the risk of war. But will the newfound perception of abundance actually result in these outcomes? At this point, it is too early to reach such a conclusion. The belief that ensuring access to adequate energy supplies is essential to national security runs deep, and few states appear poised to eliminate their reliance on the use of military instruments for this purpose. As

will be shown, moreover, the historic tie between energy scarcity and military action has spawned the creation of powerful military organizations, such as Centcom, which exert considerable sway in policy-making circles. It is essential, then, to examine the historical relationship between energy consumption and international security and investigate how it is (or is not) being altered by the current expansion of global supplies.¹

1 The Militarization of Energy (In)Security

The relationship between energy availability, national security, and the use of force first took shape during World War I, when oil-powered weapons—notably tanks, planes, and submarines—made their initial appearance on the battlefield. With few sources of petroleum then in production, mostly concentrated in the USA, Romania, Iran (then Persia), and Baku in Czarist Russia, the belligerents sought to control these areas or deny them to their opponents. Believing that possession of abundant supplies of oil would be essential for success in any future contests of this magnitude, the surviving great powers engaged in a competitive struggle to extend their control over the major oil-producing areas (Yergin 1991). The major European states, possessing few domestic reserves of their own, largely focused their efforts on acquiring concessions in the oil-bearing regions of the Middle East. This was the era of the San Remo Agreement of 1920, under which Britain obtained control over Iraq and France of Syria under mandates from the League of Nations (Key 2003, pp. 124–29). Meanwhile, Japan—a rising industrial power with a similar paucity of oil—harbored imperial ambitions over the Dutch East Indies, then the major oil producer in Asia.

As World War II approached, the need to secure overseas sources of oil to sustain both industrial and military operations played a significant role in the strategic planning of Germany and Japan, both of which feared the consequences of inadequate domestic supplies. In 1941, when full-scale combat broke out, both countries undertook military strikes with this purpose in mind: Germany invaded the Soviet Union, with Baku as one of its primary objectives; Japan invaded the Dutch East Indies. And, because Tokyo feared that its invasion of the Dutch East Indies would provoke a US military response—particularly, a naval drive to starve Japan of oil—it simultaneously attacked the US naval base at Pearl Harbor in Hawaii, thus ensuring American entry into the war (Yergin 1991).

¹ The author first examined these issues in Klare (2015).

Until this point, the USA had not participated in the strategic (as distinct from the commercial) pursuit of overseas oil, as it possessed sufficient domestic reserves to satisfy its wartime military requirements and those of its principal allies. As World War II progressed, however, President Franklin D. Roosevelt and his senior advisers worried that the heavy wartime exploitation of domestic oil was rapidly depleting US reserves, eroding America's capacity to sustain another full-scale war on the magnitude of World War II. Accordingly, Roosevelt ordered the State and Commerce Departments to seek a reliable foreign source of oil to supplement American reserves in the event of a future conflict (Painter 1986; Stoff 1980). After considering the various possibilities, government experts concluded in 1943 that Saudi Arabia represented the best candidate to serve in this capacity. With this in mind, Roosevelt met with King Abdul Aziz ibn Saud on February 14, 1945, and forged an agreement with him under which the USA would obtain privileged access to Saudi oil in return for an American pledge to protect the monarchy against its assorted enemies (Painter 1986; Stoff 1980).

In the years that followed, the USA became ever more deeply involved in Persian Gulf affairs. Following London's 1968 decision to withdraw all British forces from the region by 1972, President Richard Nixon chose Iran—then controlled by Shah Mohammed Reza Pahlavi—to serve as a substitute 'gendarme' in the Gulf and, in accordance with this plan, agreed to provide the Iranians with a vast array of modern American weapons (Klare 1985, pp. 108–26). Later, after the Soviets invaded Afghanistan and the Shah was overthrown, President Jimmy Carter concluded that the USA could no longer rely on surrogates but would have to assume direct responsibility for ensuring the safety of Persian Gulf oil supplies (Palmer 1992, pp. 101–11). This stance was first articulated in his State of the Union address of January 23, 1980, and has been known since as the Carter Doctrine. 'Let our position be absolutely clear,' he declared. 'An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force' (Carter 1980). Because the USA did not at that time possess any forces specifically earmarked for operations in the Gulf area, Carter also created a new military organization—the Rapid Deployment Joint Task Force (RDJTF)—to provide this function.

Carter's successor, President Ronald Reagan, elevated the RDJTF into a region-wide military organization, the US Central Command, and tasked it

with protection of the oil flow from the Gulf area.² Reagan was also the first American president to fully implement the Carter Doctrine: when Iranian forces attacked Kuwaiti tankers during the Iran–Iraq War of 1980–88, he determined that such action constituted a severe threat to the free flow of oil and authorized the ‘reflagging’ of those tankers with the American ensign, thereby allowing their protection by the US Navy (Palmer 1992). The protection of Persian Gulf oil was also cited by Reagan’s successor, President George H.W. Bush, as the justification for US efforts to protect Saudi Arabia following the Iraqi invasion of Kuwait on August 2, 1990.³

Although the Persian Gulf area has long been the principal focus of US efforts to ensure the safety of foreign energy supplies, American leaders—fearing overdependence on one often-imperiled source of supply—have also sought to increase reliance on other foreign producing areas. This drive, known as ‘diversification,’ has, in particular, focused on the procurement of additional oil from the Caspian Sea basin and West Africa, both considered attractive new producing zones.⁴ But while attractive as alternatives, these areas also harbor threats to the safe flow of oil—and so growing reliance on their hydrocarbon output has led to increased US military involvement in both areas.⁵

The Caspian Sea basin first attracted widespread interest in the early 1990s, following the breakup of the Soviet Union. Until then, oil production in this region was under the control of central planners in Moscow and there was little opportunity for local firms or foreign companies to become involved; after the Soviet breakup, however, the energy-rich states of the Caspian region—Azerbaijan, Kazakhstan, Turkmenistan, and Uzbekistan—opened their countries to foreign investment, usually in conjunction with state-owned companies. This resulted, before long, in the establishment of several major international consortia for the extraction and export of the region’s copious energy resources (Johnson 2009; Klare 2009).

Viewing these undertakings as a substantial contribution to the diversification of Western energy imports, US leaders vowed to do whatever they could to facilitate their success. By promoting Caspian exports, President Bill Clinton told his Azerbaijani counterpart, Heydar Aliyev, ‘we not only

² Although Centcom has since then been assigned a number of other missions, including prosecution of the wars in Iraq and Afghanistan, it continues to perform its original, oil protection role (Austin III 2015).

³ ‘Our country now imports nearly half the oil it consumes and could face a major threat to its economic independence,’ and so ‘the sovereign independence of Saudi Arabia is of vital interest to the United States,’ Bush declared at the time (Bush 1990).

⁴ This was a major objective of the energy policy adopted by the Bush administration in 2001. See National Energy Policy Development Group (2001, Chapter 8).

⁵ The author first examined this topic in Klare (2005).

help Azerbaijan to prosper, but also help diversify our energy supply and strengthen our nation's security' (Clinton 1997). In consonance with this outlook, Clinton worked closely with Aliyev and other Caspian officials to construct the Baku–Tbilisi–Ceyhan (BTC) pipeline from Azerbaijan across the Caucasus to Turkey (thereby bypassing both Russia and Iran as transit states) and to bolster their self-defense capabilities in the face of widespread regional instability (Klare 2005). Clinton's successor, President George W. Bush, also placed a high priority on securing access to Caspian oil and gas, backing local leaders in their efforts to resist domination by Moscow and providing stepped-up military assistance (Klare 2009; Yergin 2011b).

A similar trajectory of increased US involvement can be seen in the oil-producing areas of West Africa. Keen to reduce US reliance on the Persian Gulf area and to increase drilling opportunities for American oil firms, the George W. Bush administration placed particular emphasis on increased US energy investment there (Klare 2009, pp. 157–64). But, as in the Caspian area and the Gulf, such efforts were imperiled by widespread violence and instability. Accordingly, Washington expanded its military aid and training programs for friendly local governments (Klare and Volman 2006).⁶ To help sustain and manage these endeavors, President Bush authorized the establishment of yet another new military organization, the US Africa Command (Africom), in 2007—much as President Carter followed the enunciation of his famous doctrine of January 1980 with the creation of (what became) the US Central Command (Ploch 2011).

The drive to diversify US sources of imported oil was largely intended to diminish the nation's dependence on Persian Gulf oil, and thereby minimize the risks and complications of American involvement in that chronically unstable area. By turning to the Caspian region and Africa, however, the USA did not escape the security dimensions of reliance on imported energy. In fact, these areas harbored many of the same sorts of internal fissures as those encountered in the Gulf, and so again Washington found it necessary to respond with military measures of one type or another. Because the BTC pipeline crosses through Georgia, passing near such war-torn areas as Chechnya and South Ossetia, the Clinton and Bush administrations provided substantial military aid to Georgia's military forces, at some points stationing large military training contingents there (OGJ 2003). Similarly, President Bush found it necessary to increase US arms and training aid to Africa, particularly to Nigeria and other states bordering the oil-rich Gulf of Guinea.

⁶Annual appropriations for military aid to Africa are tabulated in US Department of State (DoS), *Congressional Budget Justification*, vol. 2, *Foreign Operations* (by Fiscal Year).

2 Energy Abundance and America's 'Enduring Posture' in the Persian Gulf

Most of the policies and programs adopted by the USA to ensure the safety of foreign oil supplies, such as the formation of Centcom and Africom, were put in place during the years between World War II and the first decade of the twenty-first century. By 2010, however, America's reliance on imported oil began to contract as the shale revolution resulted in a dramatic increase in domestic production. US field production of crude oil jumped from 5.4 million barrels per day (mbd) in January 2010 to 9.3 mbd in January 2015, a remarkable increase of 72% (EIA 2015b). At the same time, US consumption of oil remained relatively flat, a consequence of sluggish economic conditions and the growing efficiency of US-manufactured motor vehicles. According to the Energy Information Administration (EIA), domestic consumption rose by only 3% between January 2010 and January 2015, from 18.7 to 19.2 mbd (EIA 2015c). Subtracting one from the other, this means that US *imports* of oil fell from 13.3 to 9.9 mbd over this period, a decline of 83%.

Even as US reliance on foreign oil has declined, the country has also achieved greater diversity in its imported supplies, with fewer supplies coming from the ever-turbulent Middle East and more from Canada, a stable and friendly neighbor. Whereas 25% of US oil imports originated in the Persian Gulf in January 2003, only 14% did so in January 2015; at the same time, imports from Canada rose from 20% to 42% over this period (EIA 2015d). It is these trends that have fueled the calls for scaling back US reliance on military means to secure the safety of overseas oil deliveries.

But while some analysts have favored such a pullback, many others have not, claiming that the uninterrupted flow of energy remains essential to global economic stability and that the USA has an inalienable obligation to perform that role (Chapman 2009).⁷ Given the world's continuing vulnerability to sudden disruptions in the global flow of oil, it is argued, the USA must continue to protect that flow, even if the supplies involved are not destined for the USA. As suggested by Rex Tillerson of ExxonMobil, the uninterrupted flow of Persian Gulf oil is essential 'to global economic stability,' and thus to the well-being of the US economy. Even if 'we're no longer getting any oil from the Middle East because we're secure here,' he explained,

⁷ In an unusually candid expression of this outlook, a group of senior policymakers, including former Secretary of Defense and Energy, James R. Schlesinger, observed in 2000, 'As the world's only super-power, [the United States] must accept its special responsibilities for preserving access to worldwide energy supply' (Schlesinger and Nunn 2002, p. 30).

‘a disruption of oil supplies from that region will have devastating impacts on global economies,’ ours included (Tillerson 2012). This logic appears to have been embraced by President Obama, who has pledged to retain a strong military presence in the Gulf. ‘The United States of America is prepared to use all elements of our power, including military force, to secure our core interests in the region,’ he told the UN General Assembly on September 24, 2013. These include, he indicated, ‘ensur[ing] the free flow of energy from the region to the world.’ Even though America is steadily reducing its dependence on imported oil, he continued, ‘the world still depends on the region’s energy supply, and a severe disruption could destabilize the entire global economy’ (Obama 2013).

Obama has, however, indicated that there will be a major shift in US strategy in the Persian Gulf region. Instead of employing troops on the ground to affect the outcome of regional power struggles, as it has in the past, this country will now rely on air and naval forces to safeguard the free flow of oil. In particular, the administration has made it clear that it will use force to overcome any Iranian effort to block the flow of oil through the Strait of Hormuz. According to the *New York Times*, President Obama, through intermediaries, has told Iran’s Supreme Leader, Ayatollah Ali Khamenei, that closing the Strait is a ‘red line’ that would provoke an automatic US military response (Bumiller et al. 2012). To ensure that this is not an empty threat, Obama has ordered Centcom to deploy sufficient air and naval strength in the area to overcome any Iranian move to block the Strait. As noted by Centcom’s commander, General Lloyd J. Austin III, ‘The U.S. fully intends to maintain a strong and enduring military posture in the [Gulf] region, one that can respond swiftly to crisis, deter aggression and assure our allies’ (Austin III 2014).

3 Following in America’s Footsteps: China’s Approach to Energy Security

The policies and programs described above were largely put in place in the second half of the twentieth century and the early years of the twenty-first century, when the bulk of international energy transfers were directed to the major Western industrialized powers (mostly members of the Organization for Economic Cooperation and Development, or OECD) and the USA assumed overarching responsibility for ensuring their safety. The further we look into the future, however, the greater the degree to which world energy

consumption will be dominated by the developing nations of Asia, especially China and India. In 2040, the EIA predicts, non-members of the OECD will account for approximately 65% of world energy demand, reducing the OECD share to a mere 35%; China alone will account for about 27% of world energy demand at that time, and an estimated 25% of world oil consumption (EIA 2013a). The question thus arises: To what extent will China, India, and other emerging nations follow Western precedents and view the protection of energy imports as a matter of national security, potentially involving the use of military instruments?

Historically, Chinese leaders have sought to rely as much as possible on domestic sources of energy to satisfy the country's needs, fearing dependence on external sources of demand that could be cut off or impeded by hostile powers. As China's economy has grown, however, it has proved increasingly difficult for that country to rely on domestic energy alone and so Beijing has had to seek ever-expanding quantities of imported energy (Newmyer 2009; Klare 2009). Despite China's recent efforts to exploit its vast reserves of shale oil and gas, its ability to raise domestic output via fracking appears limited due to a lack of the necessary know-how and infrastructure, as well as severe water shortages in key producing areas (Gunningham 2014). As a result, China will be forced to rely on imports for an ever-growing share of national requirements. In the case of oil, for example, China's oil import requirement is expected to jump from 5.2 mbd in 2010 to 14.2 mbd in 2040, an increase of 177% (EIA 2013).

To ensure its access to all this imported oil and gas, China is extending its diplomatic and military sway to the major energy-producing regions, with a particular focus on Africa, the Middle East, and Central Asia. Central Asia is of special interest to Beijing because its oil and gas exports can be carried by pipeline directly to the Chinese border, eliminating the need for reliance on tankers that would travel through waters controlled by the US Navy (which could, in theory, block such deliveries in the event of a major Sino-American confrontation). To promote such links, China has showered Central Asian leaders with economic aid and diplomatic attention, and invited them to play a conspicuous role in the Shanghai Cooperation Organization (SCO), a regional economic and security organization sponsored by Beijing (Gill and Oresman 2003). Under the auspices of the SCO, China has been supplying Central Asian forces with military aid and participating with them in joint military maneuvers (Perlez 2013a).

Africa is attractive to China as a source of energy because local governments are largely open to increased Chinese involvement and because the Western

presence—though substantial—is less overbearing than in other energy-producing areas. To cultivate ties with African oil producers and allow for increased participation in their extractive operations by Chinese firms, Beijing has provided African governments with substantial economic aid and invited their leaders to diplomatic extravaganzas like the Forum on China–Africa Cooperation. As in Central Asia, moreover, it has provided friendly governments with various forms of military assistance (Klare 2009).

Still in question is the degree to which China will imitate the USA by using military power to ensure the safety of its vital energy supply lines. Chinese naval officials have become particularly insistent on China's need to enhance its ability to protect these lines. 'With the expansion of the country's economic interests, the navy wants to better protect the country's transportation routes and the safety of our major sea lanes,' Rear Admiral Zhang Hua-chen declared 2010. 'In order to achieve this, the Chinese Navy needs to develop along the lines of bigger vessels and with more comprehensive capabilities' (quoted in Wong 2010). Recent comments by President Xi Jinping suggest that top government officials share this outlook: according to one account, Xi told a Politburo meeting in 2013 that China must become a 'maritime strong power' (Perlez 2013).

Much like their Chinese counterparts, India's leaders are well aware of the security implications of their country's growing reliance on imported energy supplies and are determined to take steps to safeguard their vital supply lines. According to the EIA, India's oil import requirement will jump from 2.4 mbd in 2010 to 7.1 mbd in 2040—about the same amount as US imports at that time (EIA 2013). As most of these imports will travel by ship across the Indian Ocean—a body of water considered by New Delhi to be a natural extension of India's strategic space—India has sought to bolster its sea control capabilities in this vital maritime region. 'India's economic resurgence is directly linked to her overseas trade and energy needs, most of which are transported by sea,' a 2007 strategic blueprint released by the Indian Navy declared. 'The primary task of the Indian Navy towards national security is, therefore, to provide insulation from external interference, so that the vital tasks of fostering economic growth and undertaking developmental activities can take place in a secure environment' (Integrated Headquarters Ministry of Defence 2007, p. 10). In consonance with this policy, India is steadily enhancing its deep-sea naval capabilities, focusing in large part on the Indian Ocean, but also extending to neighboring bodies of water like the South China Sea.

4 New Sites of Contention

The global energy picture has also been transformed by the extension of oil and natural gas drilling to new areas of the world, notably the Arctic region and the deep oceans. Once considered inaccessible, these areas have come within the reach of producing companies through the application of new drilling technologies and, in the case of the Arctic, through the warming effects of climate change. The onset of drilling in these areas, when combined with the shale revolution in the USA and the exploitation of tar sands in Canada, largely accounts for the growing sense of energy abundance. However, these endeavors have also created new forms of friction and conflict, thereby erasing the purported security benefits of energy plenty.

Energy companies have, of course, long drilled for oil and natural gas in shallow coastal areas adjacent to major onshore deposits, as, for example, in waters of the Gulf of Mexico off Louisiana and the Caspian Sea off Baku (in what is now Azerbaijan). Drilling has also occurred in Alaska, northern Siberia, and other onshore areas of the Arctic. Drilling in deep waters and the offshore Arctic, however, is a relatively recent phenomenon. In 2005, Chevron set a record by drilling in 3500 feet of water in the Gulf of Mexico, a major site for deepwater innovation. Just one year later, Chevron doubled that depth at its Jack No. 2 well at another Gulf location. Shell was the next to break records, announcing in 2010 that it had drilled 8000 feet beneath sea level at its Perdido field, 200 miles east of the Texas coastline (Klare 2012, pp. 44–49). Record-breaking depths have also been reached in waters off Angola, Brazil, India, and Vietnam. Meanwhile, major drilling firms have begun to venture into the Barents, Beaufort, Chukchi, and Kara Seas, and other extensions of the Arctic Ocean (Ibid., pp. 70–93). Although not all of these endeavors have panned out—Shell announced in September 2015 that it would abandon its drive to drill in the Beaufort and Chukchi Seas after spending some \$7 billion on exploration there (Adams and Crooks 2015)—together they account for a significant share of the additions to the world's oil and natural reserves over the last decade or so.

While most of these activities are taking place in waters that lie within the undisputed maritime territory of adjacent nations, such as Shell's and Chevron's operations in the US portion of the Gulf of Mexico, others are occurring in areas claimed by two or more countries, as is the case in the East and South China Seas. These constitute semi-enclosed extensions of the western Pacific Ocean that are bordered by China and a number of other states: the East China Sea by Japan and Taiwan; the South China Sea by Brunei, Malaysia, the Philippines, Taiwan, and Vietnam. In both cases, the bordering

countries have laid claim to significant swaths of these waters, citing historical ownership of assorted islands as well as development rights provided under the United Nations Convention on the Law of the Sea (UNCLOS) (EIA 2012, 2013).

The UNCLOS treaty, first approved in 1982, grants signatory powers an 'exclusive economic zone' (EEZ) extending up to 200 nautical miles from their coastline. In the case of continental states, such as China, the UNCLOS treaty also allows state parties to exploit their outer continental shelf, even if it extends beyond 200 miles. Given the relatively small size of the East and South China Seas, this has led to a welter of overlapping claims to the waters involved, with China claiming the lion's share of both areas and the other states claiming significant portions. In order to demonstrate their resolve to protect their claims, most of these countries have deployed naval or coast guard vessels in their respective EEZs and in some cases established small garrisons on contested islands. On some occasions, this has resulted in maritime clashes between the contending forces (Kaphle and Gottlieb 2012).

Until now, most of the oil and gas drilling in the East and South China Seas has occurred at sites in the undisputed EEZs of one or another of the states involved. Recently, however, China has begun drilling in parts of the South China Sea claimed by Vietnam, provoking naval clashes and anti-Chinese riots in Vietnamese cities. The most serious episode erupted in May 2014, when the China National Offshore Oil Corporation deployed its largest deepwater drilling rig, the HD-981, in waters off the northern coast of Vietnam. Once emplaced in the drilling area, the Chinese surrounded the HD-981 with a large flotilla of naval and coast guard ships; when Vietnamese coast guard vessels attempted to penetrate this defensive ring in an effort to drive off the rig, they were rammed by Chinese ships and pummeled by water cannon. No lives were lost in those encounters, but anti-Chinese rioting in Vietnam proper led to several deaths and scores of injuries (Buckley et al. 2014; Perlez 2014; Bradsher 2014; Perlez and Bradsher 2014).

As noted in most press accounts of these events, the naval clashes and rioting sparked by the deployment of HD-981 in Vietnamese-claimed waters were driven in large part by nationalism and resentment over past humiliations. The Chinese, insisting that the islands in the South China Sea were once ruled by China, are seeking to overcome the territorial losses they suffered under the sway of the Western imperial powers and Imperial Japan; the Vietnamese, long accustomed to Chinese invasions, seek to protect what they view as their sovereign territory. But aside from the sociopolitical implications of these disputes, both China and Vietnam are determined to exploit the oil and gas reserves of the South China Sea, and neither shows any inclination to

compromise on their respective claims (ICG 2012). The same can be said of the Philippines with respect to its swath of that sea, and of Japan with respect to contested areas of the East China Sea. So long as these bodies of water are viewed as a valuable source of energy, the parties to these disputes are likely to persist in their efforts to exploit what they view as their rightful resources—even if this means risking armed conflict with their neighbors.

A similar picture could emerge in the Arctic region. Here, too, a number of neighboring states—Canada, Denmark (acting for Greenland), Norway, Russia, and the USA (via Alaska)—seek to exploit the region's copious oil and gas reserves, and here, too, a number of unresolved boundary disputes have bedeviled efforts to determine ownership of key areas. The USA, for example, has a boundary dispute with Russia in the Bering Sea and with Canada in the Beaufort Sea; Canada has a dispute of its own with Greenland over their mutual boundary in Baffin Bay; and Greenland has one with Iceland in the Arctic proper; all of these countries, moreover, are vying for control over the outer Arctic, beyond their respective 200-nautical-mile EEZs. Although the Arctic states have pledged to refrain from the use of force in asserting their claims, most have taken steps to enhance their capacity to engage in combat operations in the area (Smith 2011). Russia, for example, has announced plans to establish new bases in the Arctic and to deploy specially equipped combat forces there. This buildup, said President Putin, 'will make it possible to substantially strengthen our military and border security and also to increase the effectiveness of the protection of natural resources' (quoted in Kipp 2011; see also: Conley and Kraut 2010). Canada has also taken steps to bolster its presence in the Arctic, establishing a new base at Resolute Bay on Cornwallis Island and ordering a new fleet of ice-hardened patrol ships. Norway, which shares a border with Russia in its far north, has relocated its combined military headquarters to Bodø, above the Arctic Circle, and has taken further steps to bolster its Arctic combat capabilities (Conley and Kraut 2010).

5 Conclusion

As this survey suggests, the close association between energy and national security is well entrenched and will not easily be undermined. Many of the policies and institutions established during the Era of Scarcity, such as the Carter Doctrine, Centcom, and Africom, have acquired large and unyielding constituencies. Even though the original logic for these measures—heavy US reliance on oil imports from the Persian Gulf and Africa—no longer prevails,

it seems impossible for US leaders to abandon them. This is evident, for example, in President Obama's faithful adherence to the Carter Doctrine and his continuing reliance on Centcom to ensure the safety of global energy supplies. However self-reliant the USA may become in oil and gas production, it appears unlikely that it will shed its commitment to military action for energy security for the foreseeable future.

At the same time, it is evident that other states—whatever their degree of self-sufficiency or import dependence—are also likely to uphold such a commitment. China, with a growing reliance on imported energy, appears determined to enhance its ability to safeguard its far-flung resource lifelines; Russia, though self-sufficient in oil and gas, is committed to extending its sway into the Arctic and defending its resources there with force if necessary. In both, powerful constituencies—in particular, the navy—endeavor to promote such efforts. Other countries, only briefly mentioned, appear to be headed in similar directions.

The Age of Abundance may have arrived, but this does not yet seem to have eliminated the conviction that energy supplies are essential and must be defended with military means if necessary. This could be so because major policymakers worry that the appearance of plenty is an illusion, or because they lack faith in the ability of markets to match shortages in one area with surpluses in another. They may also be influenced by powerful military constituencies that seek institutional advantage by maintaining or expanding their role as the guardians of vital resource lifelines. But for whatever reason(s), the arrival of abundance is not likely to alter the security-minded outlook of national leaders.

6 Preview of the Section

As this assessment shows, energy plays a significant role in the affairs of state. Far more than is true of any other commodity, government leaders feel compelled to monitor the production and disbursement of energy, and to intervene in the marketplace when deemed necessary to ensure the availability of adequate supplies to meet national requirements. For many states, ensuring adequate supplies is viewed as a matter of 'national security,' justifying the use of any means—including, on occasion, military force—to achieve this objective. The shale revolution and other recent technological developments, by increasing the global availability of energy, have blunted this imperative, but not erased it from the mind-set of senior officials.

Energy occupies this unique position in the affairs of states for several reasons. To begin with, it is essential for the prosecution of war—especially modern, mechanized warfare—and so is viewed as a ‘strategic’ commodity whose availability cannot be left to the vagaries of the market but requires, when necessary, unrestricted government intervention. An adequate supply of energy is also essential for the smooth functioning of modern economies, and, as ensuring the health of the economy is widely considered a vital government function, states will often intervene in the market to guaranty an uninterrupted flow of essential fuels. This, in essence, is the premise of the ‘Carter Doctrine,’ the 1980 presidential proclamation justifying the use of force to protect oil imports from the Persian Gulf. At the same time, states that enjoy an abundance of energy often enjoy significant benefits—both political and economic—from their ability to export any surpluses to nations less advantaged. For some such states, the ability to increase or decrease deliveries to (or to raise or lower prices for) an especially dependent client can be employed as a political tool, to reward subservience and punish unfriendly behaviors. Venezuela, for example, has supplied oil at a submarket rate to friendly Latin American countries in a bid to win their support for assorted anti-American initiatives; Russia, for its part, has sought to employ its role as a major supplier of natural gas to the ex-Soviet republics to ensure their loyalty to Moscow. Energy exports also generate vast amounts of money—in some cases, providing the main source of government revenues—and so senior officials are forever scheming to utilize these ‘rents’ in the service of favored government policies (e.g. the improvement of poor citizens’ lives, as in Venezuela) or for personal financial gain.

In the chapters that follow, these and other aspects of the relationship between energy and the state are given close attention. Although they address different dimensions of the problem, they all examine ways in which states use (or attempt to use) energy as an instrument of coercion or use coercive means to ensure the safety of energy flows (whether imports or exports). In ‘Do Countries Fight over Oil?’ (Chap. 18), Emily Meierding argues that military force (or the threat of force) is often brandished by states in the asserting their claims to contested oil-producing areas, for example, through the deployment of gunboats in disputed waters, but that they only initiate full-scale combat when the survival of the state (or the regime) is perceived as being at stake. James Henderson, in ‘Does Russia Have a Potent Gas Weapon?’ (Chap. 19), looks at the use of energy as a political tool. He shows that Russia, under the leadership of President Vladimir Putin, has repeatedly sought to utilize the dominant role played by state-controlled Gazprom in the supply of natural gas to surrounding states to influence their foreign and economic policies. These efforts have, for the most part, been foiled because their intended tar-

gets have been able to secure alternative sources of supply in an ever-expanding natural gas marketplace. As Henderson demonstrates, however, the expansion of Europe's gas marketplace has been made possible, in large part, by the European Union's (EU) concerted drive to promote competition in supply and combat Gazprom's monopolistic practices.

In their chapter, 'Energy, Coercive Diplomacy, and Sanctions' (Chap. 20), Eugene Gholz and Llewelyn Hughes further explore the potential use of energy supplies as a tool of influence and coercion. Like Henderson, they see limits to the ability of energy exporters to exploit energy in this fashion, especially as the number of suppliers to the global market grows. But they also consider the ability of major consuming states to employ their collective buying power to coerce unfriendly suppliers, through sanctions on those countries' exports. Although effective in some cases—for example, US and EU sanctions on Iranian oil exports—such measures are likely to have limited value over the long term as the center of gravity of world oil consumption shifts from the West to the East. Finally, in 'The Resource Curse Across Four Waves of Work' (Chap. 21), Victor Menaldo and William Gochberg assess the argument that possession of energy riches in otherwise economically deprived states typically leads to stilted economic growth and the concentration of power in the hands of corrupt, usually authoritarian leaders. Reviewing four waves of work on the subject, they argue that the theory of a conditional resource curse enjoys wide support in the literature. This implies that resource wealth can, in some circumstances, prove a blessing rather than a curse.

Together, these chapters provide a rich and valuable contribution to our understanding of the links between energy, economics, and state power. They demonstrate conclusively that energy affairs cannot be viewed through an economic or political lens alone, but are best seen as interconnected phenomenon, with each exerting a powerful influence on—and in turn being influenced by—the other.

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