



Oil for Atoms: The 1970s Energy Crisis and Nuclear Proliferation in the Persian Gulf

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The 1970s energy crisis, which rocked global markets and caused oil prices to skyrocket, had a number of far-reaching and unexpected consequences, many of which have become the focus of academic study in recent years. However, one topic that has eluded scholarly attention is the connection between the energy crisis and nuclear proliferation in the Gulf region. The French government responded to the energy crisis by looking for bilateral trade opportunities with OPEC countries in order to avert a recession. After the shah of Iran offered to sell oil to France in exchange for nuclear reactors, the French government realized that it could trade oil for nuclear technologies with other countries in the Persian Gulf — arousing the interest of Saudi Arabia and Iraq. This generated strong opposition from the U.S. government, which was worried about nuclear proliferation in the region. But while the United States succeeded in preventing Saudi Arabia from acquiring nuclear reactors, it was unsuccessful when it came to Iraq. The 1970s energy crisis thus had an enduring impact on nuclear proliferation in the Gulf.

After the outbreak of war between Israel, Egypt, and Syria during Yom Kippur on Oct. 6, 1973, Arab countries launched an oil embargo against the United States and some of its allies. The Organization of the Petroleum Exporting Countries (OPEC) then leveraged this oil scarcity to justify quadrupling international oil prices by Jan. 1, 1974. This series of events, known as the “First Oil Shock,” set in motion the global energy crisis of the 1970s — a transformative event that continues to shape the world today.¹ Historians have only begun to grapple with the myriad ways in which this energy crisis transformed the world order, which in-

clude the deepening of America’s geopolitical entanglement in the Persian Gulf, bringing 30 years of post-war high economic growth to a standstill, producing skyrocketing debt across the developing world, and stimulating the growth of environmentalism.² It might be more surprising to learn, however, that the energy crisis also threatened the global nonproliferation regime by spurring the controversial Iranian and Iraqi nuclear programs. And yet, the way in which these OPEC states chose to “go nuclear” during the first oil shock remains unappreciated and unstudied.

Iran’s and Iraq’s atomic aspirations were enabled by the global destabilization of trade balances that

1 For historical overviews of the oil crisis, see Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, & Power* (New York: Free Press, 2009), chap. 29–31; and Fiona Venn, *The Oil Crisis* (Taylor and Francis, 2016).

2 For overviews of the 1970s as a transformative moment in U.S. foreign relations, see Niall Ferguson et al., eds., *The Shock of the Global: The 1970s in Perspective* (Cambridge, MA: Belknap Press of Harvard University Press, 2010); David S. Painter, “Oil and Geopolitics: The Oil Crises of the 1970s and the Cold War,” *Historical Social Research (Köln)* 39, no. 4 (2014): 186–208; and Daniel J. Sargent, *A Superpower Transformed: The Remaking of American Foreign Relations in the 1970s* (Oxford: Oxford University Press, 2015). For the reconfiguration of U.S. relations with the Persian Gulf during the energy crisis, see Andrew Scott Cooper, *The Oil Kings: How the U.S., Iran, and Saudi Arabia Changed the Balance of Power in the Middle East* (New York: Simon & Schuster, 2011); Victor McFarland, *Oil Powers: A History of the U.S.-Saudi Alliance* (New York: Columbia University Press, 2020); and David M. Wight, *Oil Money: Middle East Petrodollars and the Transformation of US Empire, 1967-1988* (Ithaca, NY: Cornell University Press, 2021). For the relationship between the oil crisis and the development of new economic ideologies, see Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London: Verso, 2011); Christopher R. W. Dietrich, *Oil Revolution: Anticolonial Elites, Sovereign Rights, and the Economic Culture of Decolonization* (Cambridge: Cambridge University Press, 2017); and Robert Vitalis, *Oilcraft: The Myths of Scarcity and Security That Haunt U.S. Energy Policy* (Stanford, CA: Stanford University Press, 2020). For the impact of the oil crisis on U.S. economic and political life, see Judith Stein, *Pivotal Decade: How the United States Traded Factories for Finance in the Seventies* (New Haven, CT: Yale University Press, 2010); and Meg Jacobs, *Panic at the Pump: The Energy Crisis and the Transformation of American Politics in the 1970s*, 1st ed. (New York: Hill and Wang, 2016). For analyses of oil’s role in the international financial system, see Duccio Basosi, *Finanza e petrolio: Gli Stati Uniti, l’oro nero e l’economia internazionale* (Venezia: Studio LT2, 2012); and C. Edoardo Altamura, “A New Dawn for European Banking: The Euromarket, the Oil Crisis and the Rise of International Banking,” *Zeitschrift für Unternehmensgeschichte* 60, no. 1 (2015): 29–51, <https://doi.org/10.1515/zug-2015-0103>. For an overview of the rise of the green movement during the 1970s, see Stephen Milder, *Greening Democracy: The Anti-Nuclear Movement and Political Environmentalism in West Germany and Beyond, 1968-1983* (Cambridge: Cambridge University Press, 2017).



resulted from the oil price hike, as well as by the French government's rejection of U.S. leadership at a time of economic crisis and geopolitical uncertainty. Indeed, France's desperate need to combat an oil-derived recession created a unique opportunity for Iran's monarch, Mohammad Reza Shah Pahlavi, to offer it an economic lifeline in the form of a Franco-Iranian "oil-for-atoms" exchange, triggering rivaling demands across OPEC's other Gulf states. This had knock-on effects across the region, as Iraq's Baathist regime managed to capitalize on these tensions to get a nuclear reactor of its own. These moves came against the backdrop of U.S. Secretary of State Henry Kissinger's efforts to reinforce the nuclear nonproliferation regime and growing concerns about Saddam Hussein's not-so-peaceful intentions.

The Iranian and Iraqi nuclear programs were thus born at the intersection of OPEC's mounting ambitions and the West's economic and financial woes. Until Jan. 1, 1974, the world had been mainly concerned with global energy scarcity. With the resumption of Arab-Israeli hostilities in October 1973, Arab oil producers had deployed the "oil weapon" — cutting back on production and launching an embargo against the United States and some of its allies. However, with the fourfold increase in OPEC's posted oil price coming into effect, the world's attention shifted away from the security of Middle Eastern oil supplies to the international economic sphere. The oil import bill for noncommunist countries was expected to increase from \$45 billion in 1973 to \$116 billion in 1974 — an effective transfer of about \$70 billion from the oil-consuming world to the coffers of OPEC. This would unleash not just unprecedented imbalances in the global balance of payments, but also the most massive peacetime international transfer of wealth in recorded history.³

And yet, with global monetary problems evoking the specter of the Great Depression, the West was growing increasingly divided over how to respond to OPEC's challenge. By exacerbating self-interested na-

tionalism, the energy crisis exposed the weakness of European cooperation and caused rifts at the heart of the Atlantic alliance. The French government became frustrated by the lack of solidarity among members of the European Economic Community and opted to "go it alone" in its own bilateral dealings with OPEC states as a desperate solution to its energy and balance of payments problems, challenging Kissinger's calls for Western unity. In the process, France inadvertently discovered that exporting nuclear reactors to OPEC countries could be a potential solution to the balance of payments problem posed by the oil shock. A breakthrough oil-for-reactors deal between France and Iran prompted other governments from West Germany to Japan to scramble for the Persian Gulf's oil and petrodollars.

In this way, the energy crisis generated far-reaching and unexpected consequences. After French bilateral efforts prevailed over Kissinger's attempt to uphold Western cooperation against OPEC, France would inadvertently push the United States into an enduring geostrategic and economic partnership with the Saudi monarchy. This U.S.-Saudi rapprochement then emboldened France's nuclear export policy in the Gulf — intensifying competition among Western countries for access to OPEC's oil and dollars. With new demands for nuclear reactors coming from Saudi Arabia and Iraq, and European governments bent on exporting nuclear technologies to these newly wealthy oil-producing states, the United States found itself struggling to strike a balance between ensuring the safeguards of the Treaty on the Non-Proliferation of Nuclear Weapons — which had just come into force in 1970 — and maintaining the competitiveness of its nuclear industry. And yet, the United States could not stop Europe's nuclear export drive into the Persian Gulf, which gave rise to two of the world's most notable nuclear crises in Iran and Iraq.⁴

By showcasing how France's efforts to avert an oil-derived recession planted the seeds of future instability in the Persian Gulf, this episode reveals

3 "International Economic Impact of Increased Oil Prices in 1974," Jan. 1, 1974, General CIA Records, ESDN (CREST): CIA-RDP85T00875R001500190021-9, CIA Freedom of Information Act Electronic Reading Room, <https://www.cia.gov/readingroom/docs/CIA-RDP85T00875R001500190021-9.pdf>.

4 There is a rich and growing literature on U.S. efforts and failures to enforce the global nonproliferation regime during the Cold War, and particularly during the 1970s. However, this scholarship tends not to delve into the energy crisis and the way it challenged the Treaty on the Non-Proliferation of Nuclear Weapons. See William Burr, "A Scheme of 'Control': The United States and the Origins of the Nuclear Suppliers' Group, 1974-1976," *International History Review* 36, no. 2 (2014): 252-76, <https://doi.org/10.1080/07075332.2013.864690>; William Burr, "To 'Keep the Genie Bottled Up': U.S. Diplomacy, Nuclear Proliferation, and Gas Centrifuge Technology, 1962-1972," *Journal of Cold War Studies* 19, no. 2 (Spring 2017): 115-57, https://doi.org/10.1162/JCWS_a_00743; James Cameron and Or Rabinowitz, "Eight Lost Years? Nixon, Ford, Kissinger and the Non-Proliferation Regime, 1969-1977," *Journal of Strategic Studies* 40, no. 6 (2017): 839-66, <https://doi.org/10.1080/01402390.2015.1101682>; Francis J. Gavin, "Nuclear Proliferation and Non-Proliferation During the Cold War," in *The Cambridge History of the Cold War*, ed. Melvyn P. Leffler and Odd Arne Westad (Cambridge: Cambridge University Press, 2010); Francis J. Gavin, *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca, NY: Cornell University Press, 2012); Jacob Darwin Hamblin, "The Nuclearization of Iran in the Seventies," *Diplomatic History* 38, no. 5 (November 2014): 1114-35, <https://doi.org/10.1093/dh/dht124>; Jacob Darwin Hamblin, *The Wretched Atom: America's Global Gamble with Peaceful Nuclear Technology* (New York: Oxford University Press, 2021); Or Rabinowitz and Nicholas L. Miller, "Keeping the Bombs in the Basement: U.S. Nonproliferation Policy Toward Israel, South Africa, and Pakistan," *International Security* 40, no. 1 (Summer 2015): 47-86, https://doi.org/10.1162/ISEC_a_00207; Jayita Sarkar, "U.S. Policy to Curb West European Nuclear Exports, 1974-1978," *Journal of Cold War Studies* 21, no. 2 (Spring 2019): 110-49, https://doi.org/10.1162/jcws_a_00877; and Jayita Sarkar, "From the Dependable to the Demanding Partner: The Renegotiation of French Nuclear Cooperation with India, 1974-80," *Cold War History* 21, no. 3 (2020): 1-18, <https://doi.org/10.1080/14682745.2019.1694908>.

the interconnectedness of seemingly disparate areas in international affairs — namely energy, monetary policy, and nuclear proliferation. Moreover, it illustrates how government actions to address a problem have the potential to create new and enduring points of international conflict, thus highlighting the inherently chaotic nature of world “order.” Finally, it calls upon historians to decenter the United States when looking at global decision-making. In this case, the analysis of French and American archival documents uncovers the leading role that the French government played in Iran’s and Iraq’s acquisition of nuclear reactors and how this policy was, perhaps surprisingly, rooted in the French response to the energy crisis.

France “Goes It Alone”: European Disunity, Bilateral Deals, and France’s Elusive Quest for Energy Independence

What came to be known as the “First Oil Shock” produced a multipronged crisis across France. With skyrocketing oil prices, gasoline shortages, labor upheavals, and fears of a monetary calamity, it was difficult for this resource-poor country to secure its energy independence and avert a serious economic recession. French officials had initially pinned their hopes on the European Community, expecting France’s neighbors to share resources at a time of global turmoil. They were, however, surprised by the hollowness of supposed European solidarity. From the North Sea to the shores of the Persian Gulf, countries in the European Economic Community not only refused to come to each other’s aid, but they actively betrayed each other in their desperate attempts to secure oil and gas supplies. This motivated France’s radical decision to expand its domestic nuclear power sector to make it the key to its energy independence as well as its decision to sell nuclear reactors to Persian Gulf states. In fact, right as France was debating whether to transition to nuclear power, the shah of Iran

offered a short- and medium-term energy lifeline to France: trading petroleum for nuclear reactors in an unprecedented oil-for-atoms exchange.

In January 1974, the French economy was in dire straits. Given France’s total dependence on oil imports, the country was particularly affected by OPEC’s decision to radically increase the price of oil. That year, gasoline prices were expected to rise by 20 percent, domestic fuel oil prices by 60 percent, and heavy fuels by a staggering 120 percent.⁵ This already precarious situation was further complicated by an unexpected accident. In December 1973, the Algerian gas terminal at Skikda — from which France obtained 15 percent of its natural gas supplies — broke down, right in the midst of a cold winter, leading the French government to ration gas to consumers.⁶ To make matters even worse, gasoline retailers went on strike to protest the government’s price controls, threatening to shut down 20,000 gasoline stations across the country.⁷ Meanwhile, rising trade deficits and plummeting foreign exchange reserves threatened the franc’s valuation.⁸ Government officials were desperate to find a solution to the country’s dual energy and monetary crises and were ready to go to any lengths to save the French economy.

Starting in January 1974, Jean Blancard, France’s recently appointed chief energy delegate, was given the enormous task of finding solutions to these multipronged challenges.⁹ Like the United States, France had set a long-term goal of energy independence. However, with the looming exhaustion of its coal mines and gas deposits, and no domestic oil production of its own, this goal seemed quixotic at best. Paris initially looked to Europe for support. French state oil company ERAP had discovered major oil and gas deposits off the Scottish and Dutch coasts, which raised hopes that France could receive a share of the North Sea’s hydrocarbons.¹⁰ To the dismay of French officials, however, the United Kingdom and the Netherlands would keep their oil and gas for themselves. Facing the revival of national egos within the European Eco-

5 “Note pour Monsieur le Premier Ministre,” Jan. 8, 1974, 19830369/1, Minutier du délégué général à l’énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

6 “Note sur l’approvisionnement de la France au cours des prochains mois,” Dec. 28, 1973, 19830369/1, Minutier du délégué général à l’énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and “Note pour Monsieur de Wissocq,” Jan. 14, 1974, 19830369/1, Minutier du délégué général à l’énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

7 “Call for Oil Price Reduction Is Rejected by Arab States,” *The Globe and Mail* (1936-2017), Jan. 18, 1974.

8 “France Floats the Franc,” Embassy in Paris to State Department, Telegram 01654, Jan. 19, 1974, 1974PARIS01654, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=13315&dt=2474&dl=1345>.

9 This position reported directly to the prime minister.

10 “Correspondance du Délégué Général de l’Energie au Président d’Elf-ERAP,” Jan. 11, 1974, 19830369/1, Minutier du délégué général à l’énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and “Note pour Monsieur le Ministre des Affaires Etrangères,” Feb. 5, 1974, 19830369/1, Minutier du délégué général à l’énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

conomic Community, France realized that it would have to fend for itself.¹¹

In this context, the PEON Commission¹² — the state's main advising body on nuclear energy matters — met in January 1974 to formulate a new strategy to ensure France's long-term energy security.¹³ Its first recommendation called for an unprecedented expansion of France's nuclear capacity. Given the oil price hike and France's lack of alternative energy sources, nuclear power could be the safest path for the country to achieve a measure of energy independence at relatively low costs. The 1974 PEON Commission report generated a wave of nuclear euphoria, feeding into government ambitions to make atomic energy the linchpin of France's new energy strategy.¹⁴ But with France debating a massive transition away from hydrocarbons and toward nuclear power, the country still needed to find short- and medium-term solutions to the oil crisis. In fact, even with the prospects of a nuclear future, it would take years for any new reactors to become operational.

The administrations of Georges Pompidou and his successor Valéry Giscard d'Estaing would both grapple with this problem. The only solution seemed to be to enter into bilateral deals with OPEC states. To address its trade deficit, France had to find a competitive, high-value-added export that it could offer in exchange for OPEC's oil. At first, military equipment seemed like an obvious choice: France's Gazelle helicopters and Mirage aircraft were certainly prized in world markets and could be traded for oil with the Gulf's Arab monarchies. In fact, without any significant domestic markets, these countries were not in a position to import large amounts of foreign indus-

trial goods. However, their leaders were keen on ensuring their regimes' survival by meeting their security needs and were eager to import arms and military technology. Thus, while the French government had frozen its sales of military aircraft and helicopters to Kuwait during the Arab-Israeli War of 1973, it signaled its desire to restart these arms negotiations in January 1974 — but only if Kuwait increased its oil supplies to France.¹⁵ That year, France also succeeded in signing a three-year agreement with Saudi Arabia that connected oil sales to the construction of a new refinery and the sale of Mirage aircraft. France also began negotiating a second, more ambitious 10-year deal with the Saudi monarchy.¹⁶ And yet, the long-term viability of arms sales as a solution to France's energy trade predicament remained questionable. It was unlikely that the entirety of France's oil imports could be translated into arms exports to Arab states, and such sales also posed the risk of triggering regional arms races.

Fortunately, unlike the United States, France had not been targeted by the Arab oil embargo and so it could exploit the growing rifts among oil-producing states. At the most fundamental level, diverging economic development strategies pitted populous OPEC members — such as Iran, Iraq, Venezuela, and Nigeria — against the more sparsely populated Arab Gulf states — especially Saudi Arabia, Kuwait, and Abu Dhabi.¹⁷ Iran and, to a lesser degree, its neighbor Iraq needed to maintain elevated oil production levels and keep prices high in the short term in order to generate enough capital to carry out ambitious industrialization and modernization programs and raise the living standards of their sizable populations, which presented France with potential trade op-

11 "Remarques Sur La Position de M. F. Mitterrand Dans Son Étude 'Pour Une Vraie Politique de l'Énergie,'" April 25, 1974, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

12 The *Commission Consultative pour la Production d'Électricité d'Origine Nucléaire*, generally known as Commission PEON, was formed in 1955 to advise the French government on the development of nuclear power. For an overview of its origins, see Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity After World War II* (Cambridge, MA: MIT Press, 1998).

13 For the proceedings of the 1974 PEON Commission, see "PEON 1974," 19830369/15, Industrie, Direction générale énergie, matières premières (1965-1978), Archives Nationales de France, Pierrefitte-sur-Seine, France.

14 For some discussions on the work and impact of the PEON commission during this period, see Dominique Finon, "Évolution comparée de la compétitivité de la production d'électricité d'origine nucléaire aux États-Unis et en France (deuxième partie)," *Revue d'économie industrielle* 3, no. 1 (1978): 82–129; and Claire Le Renard, "Les débuts du programme électronucléaire français (1945-1974) : de l'exploratoire à l'industriel," *Herodote* 165, no. 2 (2017): 53–66, <https://www.cairn.info/revue-herodote-2017-2-page-53.htm>.

15 "Note Verbale," Jan. 10, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

16 "Correspondance du DGE au Président de l'ERAP," Jan. 25, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Memorandum of Conversation: Secretary's Meeting with Oil Company Executives," March 29, 1974, Foreign Relations of the United States, 1969–1976, Vol. XXXVI, Energy Crisis, 1969–1974 [Hereafter FRUS 1969–1976, XXXVI], Doc. 345, <https://history.state.gov/historicaldocuments/frus1969-76v36/d345>.

17 "Note pour Monsieur le Premier Ministre sur la Collaboration entre l'Iran et la France dans le Domaine de l'Énergie," March 21, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; "Note pour Monsieur le Premier Ministre sur la Situation Actuelle de la France en Matière d'Énergie," May 17, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Remarques sur la position de M. F. Mitterrand dans son étude 'Pour une Vraie Politique de l'Énergie.'"

portunities. In contrast, the small populations of Saudi Arabia and Kuwait challenged the ability of these states to absorb the exceptionally high profits generated by the OPEC price shock: If injected into their small economies, these astronomical revenues would quickly generate an excessive money supply and lead to hyperinflation. Without an efficient mechanism for managing these currency flows, it appeared to be in the best interests of these countries to cut back oil production and even reduce prices, which made them less likely than Iran or Iraq to engage in trade deals to acquire massive amounts of foreign industrial goods in exchange for oil.¹⁸

In this context, the complex relationship between the United States and the shah of Iran could improve France's bid for a strengthened partnership with Iran. While the country's regional stance as a pro-American, anti-communist bastion had been enshrined in its alliance with the United States — whether as the “Policeman of the Gulf” or as one of the “Twin Pillars” in President Richard Nixon and Kissinger's vision for the Middle East — it also generated domestic and international resistance to the shah's rule.¹⁹ In fact, the perception that he was subservient to the United States undermined his grandstanding — and sometimes megalomaniacal — pretensions. Hence, early in 1974, the shah began announcing projects to expand his international influence, all while distancing himself from the United States: He promised to build new refineries to provide oil to the developing world, especially India and Pakistan,²⁰ and he was vocal about his plans to distribute financial aid and oil funds internationally, even suggesting that oil money should be used to establish a new world bank in which OPEC members would play a central role and America would see its influence wane.²¹ Nonetheless, these ambitious plans required large capital investments

and technology transfers, which he hoped to receive from countries other than the United States. This seemed like a potential win-win situation for France. Free from the colonial baggage that the United States and the United Kingdom carried in the Persian Gulf, France could assist Iran in industrializing and ascending to global leadership, all while receiving not just an oil and gas lifeline, but also an outlet for high-value-added exports that could help to redress the current account deficits caused by the OPEC price shock.²²

The French government would soon learn that the energy crisis was continuing to engender a cut-throat rivalry among European companies and governments as they competed for preferential access to Iran's hydrocarbons. In response to the crisis, many countries were bent on transitioning power generation and heating technologies from oil to natural gas. France's Gaz de France (GDF), Italy's SNAM, and West Germany's Ruhrgas teamed up to bring southern Iran's offshore gas into the European market.²³ However, what had begun as a friendly commercial partnership quickly degenerated into a bitter rivalry among European companies and the governments that backed them. In mid-January 1974, French officials were shocked to discover that the Italian government was using this joint venture to secretly negotiate an Iranian-Italian preferential economic partnership. This was just further proof that, within the European Economic Community, oil and gas had become contentious issues that were wrapped up in national and economic security. Blancard thus expressed to Prime Minister Pierre Messmer that if one country were to propose a comprehensive economic partnership to the shah, it should be France. No other country should facilitate Iran's industrialization with a permanent presence of foreign experts on Iranian soil.²⁴ And no Italian company should offer its technical expertise to

18 "Note pour Monsieur le Premier Ministre sur la Collaboration entre l'Iran et la France dans le Domaine de l'Energie"; "Note pour Monsieur le Premier Ministre sur la Situation Actuelle de la France en Matière d'Energie"; and "Remarques sur la position de M. F. Mitterrand dans son étude 'Pour une Vraie Politique de l'Energie.'"

19 For overviews on American grand strategy in the Gulf during the Nixon years, and the concepts of the "Twin Pillars" and the "Policeman in the Gulf," see Emile A. Nakhleh, *The Persian Gulf and American Policy* (New York: Praeger, 1982); Howard Teicher and Gayle Radley Teicher, *Twin Pillars to Desert Storm: America's Flawed Vision in the Middle East from Nixon to Bush* (New York: William Morrow and Co, 1993); W. Taylor Fain, *American Ascendance and British Retreat in the Persian Gulf Region*, 1st ed. (New York: Palgrave Macmillan, 2008); Steven A. Yetiv, *The Absence of Grand Strategy: The United States in the Persian Gulf, 1972-2005* (Baltimore, MD: Johns Hopkins University Press, 2008); and Cooper, *The Oil Kings*.

20 "Note pour les Présidents d'Elf-ERAP et de la C.F.P. sur l'Entretien du 12 Mars 1974 avec le Dr. Reza FALLAH," March 14, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

21 "Note sur la Coopération Franco-Iranienne en Matière d'Energie," May 7, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

22 "Note pour Monsieur le Premier Ministre sur la Coopération avec l'Iran, Notamment sur d'Importants Gisements de Gaz Naturel," Jan. 15, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

23 "Note pour Monsieur le Premier Ministre sur la Coopération avec l'Iran, Notamment sur d'Importants Gisements de Gaz Naturel."

24 "Note pour Monsieur le Premier Ministre sur la Coopération avec l'Iran, Notamment sur d'Importants Gisements de Gaz Naturel."

Iran, but solely and exclusively a French company such as GDF or ERAP.²⁵

Blancard set out to meet with the shah in Zurich on Feb. 6, 1974, with the hopes of securing a new, comprehensive Franco-Iranian partnership.²⁶ But the shah proved to be a difficult negotiator. From the beginning, he made it clear that France was not alone in seeking to package attractive trade offers within new intergovernmental agreements. While crude supplies remained available, competition was stiff, not only among industrialized countries such as the United Kingdom, Italy, Japan, and West Germany, but also among developing countries like India and Pakistan that were also seeking to benefit from the shah's promises to come to their aid. The shah was adeptly pitting Western allies against each other as they vied for his most favorable treatment.²⁷ Moreover, he insisted that any deal would be conditioned upon supporting the cause of Iranian industrialization through significant capital investments and aid to his country. This came at the worst possible time for a country like France, which was trying to stem the veritable hemorrhage of foreign currency into the Gulf. Giving any form of aid to Iran would worsen France's current account deficit.²⁸ And yet, Blancard had few options but to accept the shah's terms. Indeed, the tables had turned. The post-colonial world suddenly had a say in the economic future of the industrialized world.

Facing this hurdle, Blancard received an intriguing proposal during his meeting with the shah that would set the basis for an unprecedented bilateral oil deal. The Iranian monarch explained that he was seeking to reorganize his country's entire energy sector — not only would he create a new Ministry of Energy and Water, but he also wanted to

establish a new Atomic Energy Organization. The shah recognized that Iran's oil and gas resources were finite — and Europe's apparently infinite hunger for Iranian oil made conservation efforts futile. So he wanted to take advantage of his country's favorable financial position to start planning for Iran's post-hydrocarbon industrial future by diversifying away from a petroleum-based economy. Furthermore, embracing nuclear power could not only set the foundation for his country's industrialization, but it could also signal the country's rise as a technological world power. He also noted that a great number of Iranian nuclear scientists were being trained in France, and he wanted to bring them back to launch Iran's nuclear program. Thus came an unprecedented suggestion from the shah: to exchange Iranian oil for French atomic power. Blancard was puzzled: This all seemed very appealing, but it was unclear how such a trade framework would work.²⁹

By the end of February 1974, a joint French-Iranian Interdepartmental Commission for Economic Cooperation began deliberations on an "Atom-Petroleum Exchange."³⁰ Then, on March 5, 1974, Messmer announced an audacious energy plan: In line with the newly released PEON Commission report, he would launch an unprecedented and massive acceleration of France's civilian nuclear program to generate electricity that would include the construction of more than 50 nuclear reactors within the decade.³¹ The so-called "Messmer Plan" would commit the French state to supporting the national utility company Electricité de France (EDF) in building six to eight nuclear plants per year between 1974 and 1980, when the first reactors were expected to become operational.³² Enriched uranium would thus replace fuel oil as France's pri-

25 By March 1974, it was finally agreed that SNAM would not be Iran's exclusive partner for technical cooperation in the Kangan gas fields, but that these responsibilities would be equitably shared between GDF, SNAM, and Ruhrgas — an agreement that French officials found to be sub-optimal yet satisfying. See "Correspondance du Délégué Général à l'Energie au Président de l'ERAP, sur le Consortium de Sociétés Gazières Européennes pour l'Approvisionnement et le Transport du Gaz Naturel d'Iran en Europe Continentale de l'Ouest," Jan. 25, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Correspondance du Délégué Général à l'Energie au Directeur Général de Gaz de France sur l'Accord de Consortium Signé par Gaz de France pour l'Achat de Gaz Iranien," Feb. 25, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

26 "Note pour Monsieur le Premier Ministre sur la Coopération avec l'Iran, Notamment sur d'Importants Gisements de Gaz Naturel."

27 "Note pour les Présidents d'Elf-ERAP et de la C.F.P. sur l'Entretien du 12 Mars 1974 avec le Dr. Reza FALLAH."

28 This was one of the key reasons that Iran's negotiations with Japan faltered: The Japanese government was unable to find an investment scheme in Iran that wouldn't further degrade the country's trade balance. "Correspondance du Délégué Général à l'Energie au Directeur Général de Gaz de France sur l'Accord de Consortium Signé par Gaz de France pour l'Achat de Gaz Iranien."

29 "Note pour les Présidents d'Elf-ERAP et de la C.F.P. sur l'Entretien du 12 Mars 1974 avec le Dr. Reza FALLAH." For Blancard, it was unclear how to trace short-term oil shipments for long-term nuclear reactors, and how an equivalence between these two products could be formulated and quantified.

30 "Note pour les Présidents d'Elf-ERAP et de la C.F.P. sur l'Entretien du 12 Mars 1974 avec le Dr. Reza FALLAH"; and "Correspondance du Délégué Général à l'Energie au Directeur Général de Gaz de France sur l'Accord de Consortium Signé par Gaz de France pour l'Achat de Gaz Iranien."

31 "Notre Grande Chance, c'est l'énergie Nucléaire' Déclare M. Pierre Messmer," *Le Monde*, March 8, 1974, https://www.lemonde.fr/archives/article/1974/03/08/notre-grande-chance-c-est-l-energie-nucleaire-declare-m-pierre-messmer_2515767_1819218.html.

32 "Correspondance du Délégué Général à l'Energie au Directeur Général d'Electricité de France," May 22, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.



**Indeed, the tables
had turned.
The post-colonial
world suddenly had
a say in the economic
future of the
industrialized world.**

mary source of electricity.³³ But the Messmer Plan would also serve as the bedrock for the new partnership with Iran. France would not only expand its nuclear capacity at home, but it would also export reactors to the Persian Gulf in order to address its short- to medium-term energy shortages and payments imbalances. Thus, the Messmer Plan and the Atom-Petroleum Exchange would mutually sustain each other.

At a domestic level, building over 50 nuclear plants in less than a decade posed several challenges. To begin with, there were contentious environmental and legal issues. A massive deployment of nuclear reactors across France could potentially endanger civilian populations,³⁴ and key nuclear equipment remained licensed to the American company Westinghouse.³⁵ But the most pressing questions were financial in nature. The program would consume at least a billion francs in its first couple of years, at a time when France was facing an imminent recession. EDF did not have the working capital to carry out this investment on its own, so the French government might have to borrow in international capital markets to carry out these investments. In this context, French policymakers hoped that the deal with Iran would ease some of these financial pressures.

Over a series of meetings in early 1974, Blancard and Giscard d'Estaing met with Iranian Minister of Economic Affairs and Finance Hushang Ansary, Iranian Prime Minister Amir-Abbas Hoveyda, and the shah to start building a comprehensive agreement to secure France's petroleum supplies while developing Iran's nuclear capabilities. Iran would rely upon French corporations, technicians, and government advisers to build a nuclear electricity-generation capacity of 5,000MW. France would train Iranian technical personnel, build nuclear reactors, and furnish the enriched uranium and other fissile materials needed to run these nuclear plants. It would also offer services and expertise for building desalination plants and nuclear-pro-

pelled oil tankers. The Atomic Energy Organization of Iran would take inspiration from the statutes, regulations, and other legal frameworks of the French Commissariat à l'Énergie Atomique. In this manner, Iran agreed to have a special cooperation framework with France on nuclear matters in exchange for oil shipments — all while promising to open up new oil and gas prospection zones to ERAP and the Compagnie Française des Pétroles (known today as Total).³⁶ Thus, the build-up of the Iranian nuclear program stood as a complement to, and an enabler of, France's drive toward energy independence, and the two were announced simultaneously: March 1974 not only saw the announcement of the Messmer Plan, but also the shah's declaration that Iran would launch a massive nuclear program, which he hoped would surpass a capacity of 20,000MW in a couple of decades.³⁷

But there were additional covert financial aspects to this Atom-Petroleum Exchange. In order to ease pressures on France's growing trade deficit and waning foreign currency reserves, the French government pressed for an additional agreement: a petrocurrency recycling mechanism. Under this framework, Iran was invited to establish a special account in the Banque de France to hold "excess profits" from French purchases of Iranian oil — hopefully totaling \$3 to \$4 billion between 1975 and 1980.³⁸ These funds could be used as prepayments for future Iranian purchases of French nuclear services and equipment, enabling the exchange of short-term oil deliveries to France for long-term nuclear exports to Iran. This would also alleviate pressure on French foreign exchange reserves and help to finance the buildup of French nuclear reactors.³⁹ Given rising contentions about the proper use of excess oil profits by OPEC members — whether they should be placed in multinational institutions such as the International Monetary Fund, or used by petrostates to give aid to the developing world, as the shah himself claimed he would do — the terms of this agreement had to

33 "Correspondance du Directeur Général à l'Énergie au Directeur Général d'EDF," Jan. 28, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Correspondance du Délégué Général à l'Énergie à Monsieur Boulou, Directeur Général de CREUSOT-LOIRE," Jan. 23, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

34 "Note pour Monsieur le Premier Ministre sur la Situation Actuelle de la France en Matière d'Énergie."

35 "Correspondance du Délégué Général à l'Énergie à l'Administrateur Général Délégué du Commissariat à l'Énergie Atomique," Feb. 11, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

36 "Note pour Monsieur le Premier Ministre sur la Collaboration entre l'Iran et la France dans le Domaine de l'Énergie"; "Correspondance du Délégué Général à l'Énergie à l'Ambassadeur de France à Téhéran," April 1, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Note sur la Coopération Franco-Iranienne en Matière d'Énergie."

37 Mustafa Kibaroglu, "Iran's Nuclear Ambitions from a Historical Perspective and the Attitude of the West," *Middle Eastern Studies* 43, no. 2 (2007): 223–45, <https://doi.org/10.1080/00263200601114083>.

38 By excess profits, the French government understood the surplus revenues from oil purchases by the Compagnie Française des Pétroles (CFP) beyond the price of US\$3 per barrel — that is, the posted price before the OPEC price hike.

39 "Note pour Monsieur le Premier Ministre sur la Collaboration entre l'Iran et la France dans le Domaine de l'Énergie."

remain shrouded in secrecy.⁴⁰ Once again, self-interested bilateralism trumped any calls for global solidarity. French officials prided themselves on outmaneuvering their allies in negotiating one of the most beneficial government-to-government partnerships to date with an OPEC member.⁴¹ By late March 1974, French and Iranian officials embarked upon further negotiations to devise an effective, mutually beneficial framework for this unprecedented exchange, setting France on the twin paths of expanding nuclear power at home and pursuing oil-for-reactors deals abroad.

The United States Joins the Fray: The Global Scramble for Oil and Dollars and the U.S.-Saudi Special Relationship

France's rising fortunes in the Gulf mirrored the steep decline in America's standing in the region. As ties between France and Iran blossomed, U.S.-Saudi relations hit rock bottom. Despite Kissinger's sponsorship of an Arab-Israeli ceasefire; weeks of shuttle diplomacy between Jerusalem, Cairo, and Damascus; and the successful achievement of Egyptian-Israeli military disengagement on Jan. 18, 1974, King Faisal of Saudi Arabia remained reticent to lift the oil embargo.⁴² For the embattled Nixon administration, this felt like a betrayal from a variety of allies. Not only was Saudi Arabia condemning the American public to continued oil shortages and long lines at the gas pump, but France was leading the way for other allies to engage in bilateral negotiations with OPEC. In this sense, Kissinger's diplomatic hands were doubly tied. He had to focus on resolving the Arab-Israeli dispute to get the embargo lifted, while trying to uphold multilateral cooperation among oil-importing countries through initiatives such as the Washington Energy Conference. But any semblance of Western unity crumbled as even Washington's close allies in Bonn and Tokyo followed Paris in pursuing deals that

threatened to permanently divert constricted oil supplies away from the American market. This left few options for Kissinger but to renew U.S.-Saudi relations. The French-led global scramble for oil and dollars inadvertently pushed the United States into a highly consequential, long-lasting partnership with the Saudi monarchy.

By February 1974, the energy crisis had brought about an explosion of social unrest across the United States. On Jan. 30, 1974, in his State of the Union speech, Nixon promised an end to the embargo.⁴³ But the next day he faced a massive and violent truckers' strike: Protesters shut down the American interstate highway system across 42 states to demand a rollback of oil prices. After U.S. highways were seized by gunmen and arsonists, hundreds of truckers were arrested and the nation's commercial activity was brought to a standstill, creating supply chain disruptions that made it difficult to find basic foodstuffs in supermarkets across the east coast. The situation became so critical that five counties in West Virginia declared martial law, and a dozen governors mobilized the National Guard to contain the violence.⁴⁴ For average Americans, there was a clear culprit: Nixon and his administration, who were increasingly perceived not just as incompetent, but also as deeply corrupt, with the Watergate investigations picking up steam.⁴⁵

It was then, right as U.S. officials were struggling to contain this nationwide unrest, that Faisal announced a new set of conditions for restoring oil sales to the United States, revealing the emptiness of Nixon's State of the Union promises. While the Saudi monarch had previously claimed that the Egyptian-Israeli military disengagement would be enough for the boycott to be lifted, he now claimed that this would be impossible as long as Israeli-Syrian armed hostilities persisted.⁴⁶ The fact that this announcement came at a time of heightened turmoil across the United States — with Nixon moving to crack down on the truckers whom he called "lawbreakers" and "outlaws" — made Faisal's decision appear particularly spiteful.⁴⁷ Thus, the pow-

40 "Note Pour Monsieur ROCALVE," May 6, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

41 "Note sur la Coopération Franco-Iraniennne en Matière d'Energie."

42 For overviews of Kissinger's shuttle diplomacy between Israel and Arab capitals, as well as his negotiations with Faisal to lift the embargo, see Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994); Yergin, *The Prize*; Sargent, *A Superpower Transformed*; and McFarland, *Oil Powers*.

43 Richard Nixon, "Address on the State of the Union Delivered Before a Joint Session of the Congress," Jan. 30, 1974, The American Presidency Project, University of California Santa Barbara, <https://www.presidency.ucsb.edu/documents/address-the-state-the-union-delivered-before-joint-session-the-congress>.

44 Jacobs, *Panic at the Pump*, 89–95.

45 Jacobs, *Panic at the Pump*, 97–98.

46 "Telegram from the Department of State to the Interests Section in Egypt," Feb. 2, 1974, FRUS, 1969–1976, XXXVI, Doc. 302, <https://history.state.gov/historicaldocuments/frus1969-76v36/d302>.

47 Jacobs, *Panic at the Pump*, 100–01.



er struggle between Saudi Arabia and the United States reached a dangerous climax. Infuriated by months of blackmail, Kissinger threatened to publish the exchanges between the American government and the Saudi monarchy and expose the kingdom's hypocrisy and duplicitous diplomacy to the public. The whole world might know, for instance, how, while Saudi Arabia mobilized the anti-American embargo to enhance its claims to leadership of the Arab and Islamic worlds, it had secretly tried to provide oil to the sixth and seventh American fleets via Bahrain back in January.⁴⁸

Omar Saqqaf, the Saudi minister of foreign affairs, condemned Kissinger's threats as "mendacious" and "insulting." He accused the Nixon administration of only caring about its own survival, before proceeding to decry America for being "even more totally enslaved to Israeli wishes and Zionist pressure than the Arabs believed." Saqqaf claimed that he was ready to end all U.S.-Saudi military cooperation and instead buy armaments from Europe. Not only would Saudi Arabia withdraw its funds from American banks — potentially launching a currency war against the dollar — but Aramco could be nationalized or given to European or Japanese investors. Saudi Arabia had wanted to depend on the United States, but Saqqaf claimed that, with rising European and Japanese interest in making bilateral deals that would benefit the kingdom's development, "[w]e can live without you altogether, you know."⁴⁹ After all, Saudi Arabia was deeply involved in its second round of bilateral negotiations with the French government, which was benefitting from the ongoing breakdown of U.S.-Saudi relations to try to position itself as the preferred partner of the Saudi monarchy.⁵⁰ In the end, Kissinger's threatening message was officially withdrawn before reaching Faisal. A new letter was penned by Nixon expressing regrets that the Saudi-American relationship had reached such an unexpected low point, and the confrontation de-escalated. Nonetheless, Sau-

di Arabia had made the point that it was indispensable to the United States, while showing that it had other potential partners.⁵¹

Kissinger's diplomatic maneuverings were not faring much better outside of the Gulf. Amid scenes of national chaos, Kissinger hosted and chaired the Washington Energy Conference on Feb. 11, 1974, bringing together representatives from the United States, Canada, Japan, Norway, and the nine members of the European Common Market.⁵² He was expected to showcase the need for American leadership in managing the world's increasing interdependence. Kissinger opened the conference by

To the dismay of U.S. officials, West Germany and Japan were both following in France's footsteps, with each of these countries counting on America's disengagement from bilateral oil diplomacy to vie for the most favorable treatment by Gulf states in order to solve their oil supply and balance of payments problems.

sounding the alarm about the world's dire economic situation, but he claimed that things remained manageable if the world's leading economies took a multilateral approach, and that it was just a "matter of enlightened self-interest — and moral responsibility — to collaborate in the survival and restoration of the economic system." He then made veiled threats against France: "We confront a fundamental decision. Will we consume ourselves in nationalistic rivalry which the realities of interdependence make suicidal? Or will we acknowledge our interdependence and shape cooperative solutions?" Thus, to ensure the success of multilateralism, he proposed to create a code of conduct that

48 "Telegram from the Embassy in Saudi Arabia to the Department of State," Dec. 30, 1973, FRUS, 1969–1976, XXXVI, Doc. 275, <https://history.state.gov/historicaldocuments/frus1969-76v36/d275>; and "Telegram from the Embassy in Saudi Arabia to the Department of State," Jan. 21, 1974, FRUS, 1969–1976, XXXVI, Doc. 283, <https://history.state.gov/historicaldocuments/frus1969-76v36/d283>. In fact, there were numerous instances in which Saudi princes explicitly described how Saudi Arabia's diplomacy needed to be deceptive and duplicitous toward the "Arab Street." Given the unpopularity of the United States among the Arab public, they had to mix occasional bouts of virulent anti-American rhetoric with a more tacit understanding that close relations with the United States were among the royal family's most essential prerogatives. See, for instance, "Memorandum of Conversation with Saudi Minister of Interior and Second Deputy Prime Minister, Prince Fahd Ibn 'Abd- al-'Aziz al-Sa'ud," July 26, 1973, FRUS, 1969–1976, XXXVI, Doc. 189, <https://history.state.gov/historicaldocuments/frus1969-76v36/d189>.

49 "Backchannel Message From the Ambassador to Saudi Arabia (Akins) to Secretary of State Kissinger," Feb. 5, 1974, FRUS, 1969–1976, XXXVI, Doc. 303, <https://history.state.gov/historicaldocuments/frus1969-76v36/d303>.

50 "Note pour Monsieur le Premier Ministre sur le prix du pétrole brut acheté par la France dans le cadre du contrat à long terme à conclure avec l'Arabie Saoudite," Feb. 5, 1974, 19830369/1, Minutier du délégué général à l'énergie, 1973-Juin 1974, Archives Nationales de France, Pierre-fitte-sur-Seine, France.

51 "Backchannel Message From the Ambassador to Saudi Arabia (Akins) to Secretary of State Kissinger."

52 Murrey Marder, "Clash of Strategies Makes Kissinger Diplomatic Victor," *Washington Post*, Feb. 15, 1974.

would regulate bilateral deals with OPEC states.⁵³

This aroused the indignation of French Foreign Minister Michel Jobert, who went on to steal Kissinger's spotlight. Jobert denounced Kissinger's allegedly hegemonic designs in convening the conference before defiantly declaring that France would continue to freely make bilateral deals with oil-producing countries.⁵⁴ His refusal to agree on any communicate pushed the conference into a third unscheduled day.⁵⁵ Other delegates were appalled by Jobert's intransigence and unnecessary aggression, accusing him of engaging in diplomatic sabotage.⁵⁶ Finally, on Feb. 13, the conference ended in an uneasy compromise in which France took exception to several clauses of the final communique, allowing both Kissinger and Jobert to claim victories. But while Kissinger's approach to the energy crisis was tainted by this public spectacle of trans-Atlantic fracture, Jobert achieved his main objectives: He was able to preserve good relations with OPEC, and he eliminated any potential constraint on France's bilateral trade deals in the Persian Gulf.⁵⁷

By early March 1974, competition for deals with OPEC had intensified among industrialized countries. The governments of West Germany and Japan had been vocal in their condemnation of the French foreign minister during the Washington Energy Conference, but the lack of any commitment among oil-consuming countries to abstain from bilateral deals allowed them to freely engage in their own increasingly visible negotiations with oil producers. To the dismay of U.S. officials, West Germany and Japan were both following in France's footsteps, with each of these countries counting on America's disengagement from bilateral oil diplomacy to vie for the most favorable treatment by Gulf states in order to solve their oil supply and balance of payments problems.⁵⁸ It was

becoming harder to fathom how a disunited bloc of oil consumers would ever succeed in pushing back against OPEC. The bilateral option seemed an increasingly attractive way to address the monetary problems caused by the oil price shock — but it required moving fast in order to compete with France, which had the first-mover advantage.

But West Germany's and Japan's decisive entries into the bilateral sphere began to erode France's initial edge. Starting in January 1974, France had moved to establish preferential relationships with Saudi Arabia, Iran, and Iraq.⁵⁹ And yet, pressure from France's competitors increased on all these fronts. In the case of Iran, for instance, the shah had invited West Germany to establish an inter-governmental agreement in January, which was met with reticence and ambivalence in Bonn. West Germany had consistently backed the U.S. position on oil multilateralism, but it had also refused to foreclose bilateral channels with Tehran.⁶⁰ Negotiations between West Germany and Iran began picking up steam, and in early March Hoveyda had a productive visit to Bonn, resulting in West Germany agreeing to build a 25-million ton oil refinery in Bushehr, in addition to a major petrochemical complex. Many questions remained about the price of oil and the quantity that was destined for West Germany, as well as about control of the refinery and the petrochemical plant. But a special gesture was made to Bonn that had not been extended to Paris: Thirty-five leading West German industrialists were invited to an investors conference in Persepolis in late April and early May, by which time the West German government hoped to finalize the bilateral agreement.⁶¹

In contrast to West Germany, the Japanese government had consistently advocated for "reasonable" bilateral arrangements, provided that "they

53 "Excerpts from the Opening Address by Secretary Kissinger at the International Oil Meeting in Washington," *New York Times*, Feb. 12, 1974, <https://www.nytimes.com/1974/02/12/archives/excerpts-from-the-opening-address-by-secretary-kissinger-at-the.html>.

54 Ronald Koven, "Washington Energy Meeting Becomes Michel Jobert's Show," *Washington Post*, Feb. 13, 1974.

55 Hella Pick, "Early Clash Between France and US at Energy Conference," *The Guardian*, Feb. 12, 1974; "France Rejects U.S. Plan on Oil," *Newsday*, Feb. 13, 1974; and "Kissinger and French Minister Unable to Reconcile Conflicting Positions," *The Globe and Mail*, Feb. 13, 1974.

56 "Kissinger and French Minister Unable to Reconcile Conflicting Positions"; "France Rejects U.S. Plan on Oil"; Hobarb Rowen, "Europe in Disarray," *Washington Post*, Jan. 27, 1974; Richard Burt, "French Stance in Oil Talks Angers Officials in Britain," *Boston Globe*, Feb. 15, 1974; Don Cook, "French Stand at Washington Oil Talks Brings Common Mart Crisis," *Los Angeles Times*, Feb. 16, 1974; and David R. Francis, "Bonn Rebuffs Paris, Speaks up for U.S.," *Christian Science Monitor*, Feb. 28, 1974.

57 Bernard Gwertzman, "12 Nations Agree at Energy Parley on Need for Plan," *New York Times*, Feb. 14, 1974; and "Text of the Communique of the Washington Energy Conference," *New York Times*, Feb. 14, 1974.

58 "Energy: FRG Flirting with Bilateralism," Embassy in Bonn to State Department, Telegram 01326, Jan. 24, 1974, 1974BONN01326, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=13830&dt=2474&dl=1345>.

59 "Note pour Monsieur le Directeur des Carburants sur la Visite du Premier Ministre en Irak," Aug. 8, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

60 "Energy: FRG Flirting with Bilateralism."

61 "Iranian Prime Minister's Visit to Bonn," Telegram 04098, March 14, 1974, 1974BONN04098, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=56479&dt=2474&dl=1345>.



were not disharmonizing or destabilizing to the world's economy."⁶² Hence, Japanese officials had been on a diplomatic charm offensive since January. They toured Arab capitals and discussed their options with Tehran, and Saudi Oil Minister Ahmed Zaki Yamani visited Tokyo to meet with Prime Minister Kakuei Tanaka.⁶³ However, it was Iraq that would become Japan's key oil trading partner. In February 1974, Minister of International Trade and Industry Yasuhiro Nakasone traveled to Baghdad with representatives from Mitsubishi and other industrial groups in order to launch official negotiations for the purchase of 160 million tons of oil over 10 years. In exchange, Japan would build industrial facilities in Iraq, including a new refinery, and would extend a \$1 billion credit to the Iraqi government.⁶⁴ Eventually, these projects would be expanded to include a natural-gas processing plant, a fertilizer plant, a cement plant, an aluminum smelter, and a petrochemical complex.⁶⁵ Again, another major industrialized economy had followed France's lead and negotiated a bilateral commercial agreement with an OPEC state.

Officials in Washington watched from the sidelines as the bilateral solution to the energy crisis prevailed over Kissinger's multilateral scheme. By March, the global scramble for Middle Eastern oil had fully materialized, with France, West Germany, and Japan scoring diplomatic and commercial victories across the Persian Gulf. And with each passing deal, resources were diverted away from American consumers as petrodollars flowed back

to Europe and Japan instead of the United States. In addition, the United States was far behind all its peers in the bilateral contest and was still the target of the embargo. American officials felt pressured to change course and find their own arrangement with the world's largest oil exporter: Saudi Arabia.⁶⁶

Hence, between March 8 and March 11, 1974, U.S. diplomats made overtures to the Saudi cabinet, seeking to "overcome [the] impression in Saudi minds that [the] U.S. has lost interest in Saudi Arabia and discounts Saudi views."⁶⁷ The U.S. embassy in Saudi Arabia then revealed an unprecedented proposal: the creation of joint U.S.-Saudi commissions on economic, technical, and military matters. As the U.S. ambassador told the Saudi foreign minister, the United States "had never discussed anything remotely comparable or as important with any other country in the Middle East and rarely with any country anywhere."⁶⁸ The U.S. ambassador described the reception in Riyadh as "euphoric":

All the Saudis called this initiative the news they had been expecting for 25 years. All said that the U.S. has finally recognized the importance of its interests in the Arab world; all said that the U.S. and Arab economies would be so closely entwined that there could be no turning back and all wanted to move forward as rapidly as possible.⁶⁹

62 "GOJ Views on Bilateral Deals and the Energy Conference," Embassy in Tokyo to State Department, Telegram 01127, January 25, 1974, 1974TOKYO01127, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=8116&dt=2474&dl=1345>.

63 "Kosaka Trip to North Africa and Middle East -- Politics and Aid," Embassy in Tokyo to State Department, Telegram 01784, Jan. 30, 1974, 1974TOKYO01784, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=33157&dt=2474&dl=1345>; and "Energy: Yamani in Tokyo," Embassy in Tokyo to State Department, Telegram 01337, Jan. 30, 1974, 1974TOKYO01337, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=4109&dt=2474&dl=1345>.

64 "Japanese Negotiations with Iraq on Bilateral Oil Deal," Embassy in Tokyo to State Department, Telegram 02473, Feb. 25, 1974, 1974TOKYO02473, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=36005&dt=2474&dl=1345>.

65 "Japan Pursuing Easier Oil Policy," *The New York Times*, April 28, 1974, <https://www.nytimes.com/1974/04/28/archives/japan-pursuing-easier-oil-policy-early-frenzy-gone-moves-to-aid.html>; Embassy in Tokyo to State Department, "Iranian Export Refinery," Telegram 03150, March 8, 1974, 1974TOKYO03150, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=43511&dt=2474&dl=1345>.

66 "Telegram from the President's Deputy Assistant for National Security Affairs (Scowcroft) and Charles A. Cooper of the National Security Council Staff to Secretary of State Kissinger in Damascus," March 1, 1974, FRUS, 1969-1976, XXXVI, Doc. 330, <https://history.state.gov/historical-documents/frus1969-76v36/d330>.

67 "Joint US-Saudi Economic Commissions," Department of State to Embassy in Manila, Telegram 045027, March 7, 1974, 1974STATE045027, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=44526&dt=2474&dl=1345>.

68 "Joint US-Saudi Economic Commissions," Embassy in Jeddah to State Department, Telegram 01123, March 8, 1974, 1974JIDDA01123, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=44515&dt=2474&dl=1345>.

69 "Joint US-Saudi Economic Commissions: Saudi Enthusiasm," Embassy in Jeddah to State Department, Telegram 01192, March 11, 1974, 1974JIDDA01192, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=55952&dt=2474&dl=1345>.

In fact, Hisham Nazer, the head of the Saudi Central Planning Authority, went as far as to state that “if this project goes through we will have no need for the French or the British or the Japanese. The United States can do everything.” The U.S. embassy also promised that Saudi Arabia would not just play a major role in global energy supplies, but also “in world finance in the next 20 years.”⁷⁰

In this context of improving U.S.-Saudi relations, Arab countries finally lifted the oil embargo against the United States on March 17, 1974, providing relief to global oil markets while leaving both countries ready for a new round of discussions on their future relationship. America’s tentative move into the bilateral fray would not just be significant for Saudi Arabia — it would be a gamechanger in global oil diplomacy. For months, Kissinger had threatened that if Europeans “will not work multilaterally we will force them by going bilateral ourselves.”⁷¹ Then, leading up to the Washington Energy Conference, he added that “the participants should have no doubt that if it isn’t going to be multilateral, we’re going to go our own way; and let’s see who’s going to win a bilateral contest.”⁷² With the lifting of the embargo, the time had arrived for the United States to show its commercial and diplomatic might. In an ironic twist of fate, France would be the first country to bear the brunt of America’s diplomatic offensive.

On March 10, Saudi Prince Saud had approached French officials to inquire about whether they were interested in exporting nuclear technologies to Saudi Arabia in a new intergovernmental accord inspired by France’s ongoing negotiations with Iran, in exchange for preferential access to Saudi oil. Blancard set out on a mission to Riyadh on March 25 to explore this possibility. However, on the eve of his departure, Saudi officials canceled several key meetings and postponed others. This came as a shock to Blancard, who pondered whether Saudi Arabia had suddenly turned its back on France. In a bout of wishful thinking, he wondered whether, rather than being a bad sign, this was just a testament to how serious the Saudi government was about its cooperation with France — maybe they just needed some additional time to think. But he nevertheless raised alarms that pro-American fac-

tions within the royal family might be sabotaging the preferential bilateral relationship with France.⁷³ And indeed, Kissinger’s threats were coming true: The United States would win the bilateral contest for Saudi Arabia.

On March 29, Kissinger met with top oil men from Exxon, Socal, Mobil, Texaco, and Gulf Oil to discuss the ongoing shift in U.S. policy toward OPEC. Kissinger went on to enumerate the bilateral deals being carried out with OPEC by governments across the world — which now included Argentina, Sweden, India, Thailand, and even Poland and Romania. Exxon Chairman John Kenneth Jamieson bitterly accused the French of being responsible for this state of affairs and seeking to displace America in the region by “peddling oil that they have in essence stolen from us.” Kissinger still hoped that some of these negotiations — especially those between West Germany and Iran — would break down, and he lamented that the world had turned its back on his calls for more cooperative multilateral solutions. This made Jamieson particularly concerned about the loss of U.S. access to Saudi oil: “[M]ore and more oil that was Aramco oil is being diverted to these other countries on government-to-government deals. So we are losing effectively oil that was under our control before.” Equally important was the fact that these were long-term deals that were contractually raising oil prices around the globe — the very situation that Kissinger had been seeking to prevent at all costs.⁷⁴

However, facing this *fait accompli*, Kissinger knew that there was little he could do to prevent these bilateral deals, and Jamieson agreed: “We all know what the French are doing. They just say they are going on this course in spite of everybody.” Moreover, Jamieson thought that the shah was a “tough cookie” who was continuing to push prices up by calling for even more bilateral agreements. Kissinger and the oil men thus agreed: If you can’t beat them, join them. In a fateful turn of events, Kissinger affirmed his readiness to abandon his strong stance on multilateralism altogether in favor of seeking bilateral deals. After all, he said, “we should not be the first ones to look out for the world community if no one else does.” Moreover,

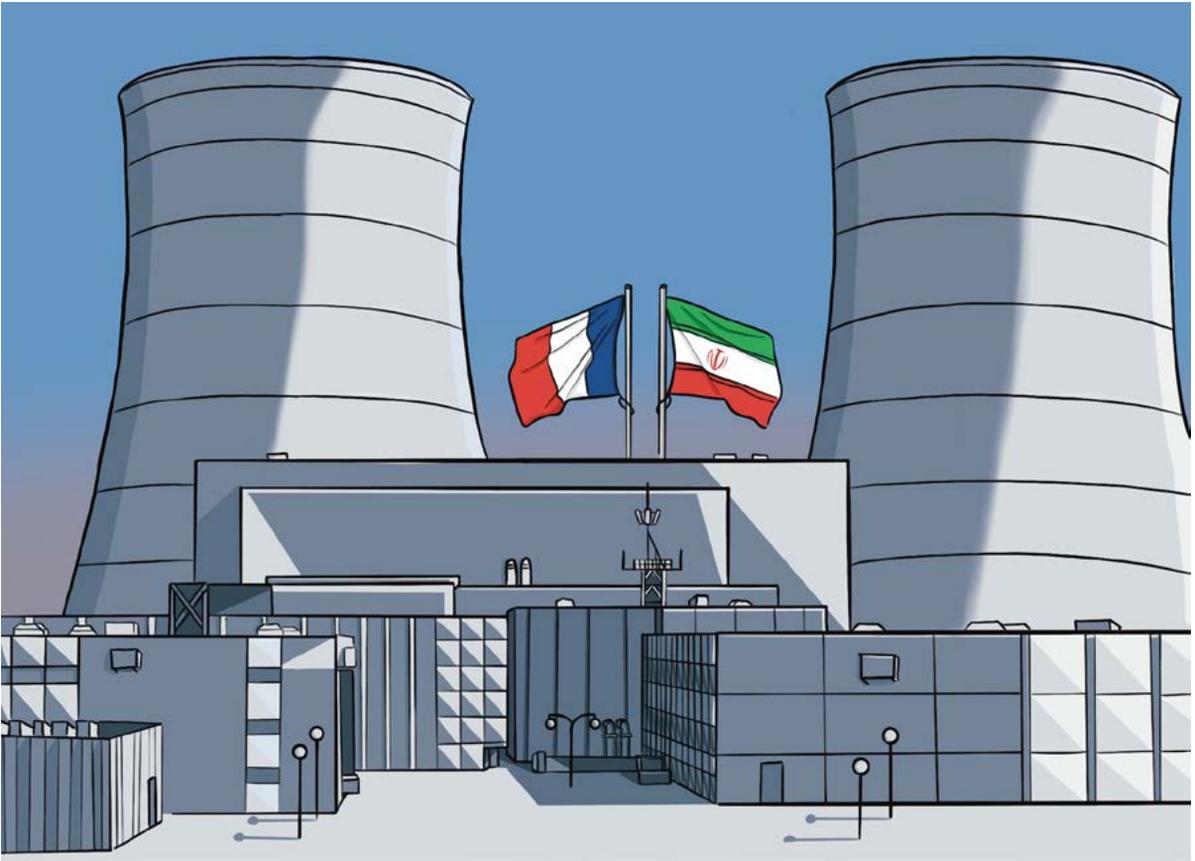
70 “Joint US-Saudi Economic Commissions: Saudi Enthusiasm.”

71 “Summary of Decisions from Secretary of State’s Staff Meeting,” Jan. 8, 1974, FRUS, 1969–1976, XXXVI, Doc. 279, <https://history.state.gov/historicaldocuments/frus1969-76v36/d279>.

72 “Minutes of the Secretary of State’s Staff Meeting,” Jan. 31, 1974, FRUS, 1969–1976, XXXVI, Doc. 293, <https://history.state.gov/historicaldocuments/frus1969-76v36/d293>.

73 “Compte-rendu de la mission effectuée en Arabie Saoudite du 25 au 27 mars 1974,” March 28, 1974, 19830369/1, Minutier du délégué général à l’énergie, 1973-Juin 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

74 “Memorandum of Conversation: Secretary’s Meeting with Oil Company Executives.”



from a geopolitical standpoint, each of these deals was granting European countries and Japan leverage over oil producers, and the United States was conversely seeing its relative position in the region weaken. U.S. officials understood that, with these deals totaling dozens of billions of dollars, France, West Germany, and Japan were not only restoring their trade balances and securing long-term oil supplies, they were also making OPEC states dependent upon them for goods, services, and technologies, the deliveries of which could be withheld in case of new hostilities.⁷⁵

Hence, the bilateral scramble was not only detrimental from a global economic standpoint, but America could not afford to lose more geopolitical clout in the Gulf. Kissinger and the oil executives thus decided to focus their efforts on reaching a bilateral agreement with Saudi Arabia to preserve America's influence in the region and benefit the commercial interests of Aramco's corporate shareholders. As Kissinger explained to the oil men, the way forward would be an unprecedented government-to-government preferential oil arrangement with Saudi Arabia:

The worst is to go along for six months and talk about cooperation while our bilateral options are being foreclosed and our political clout gets dissipated. Right now in Saudi Arabia we still have some unique assets. No one else can give them the intelligence, no one else can give them the political support they need, no one else can give them the military support they need. These are three assets we have that no one else can give them. The French can talk about what they want.⁷⁶

Kissinger proceeded to expand diplomatic contacts with the Saudi monarchy and earnestly began building America's own bilateral partnerships in the Gulf — all while turning his back on his previous multilateral initiatives. The energy crisis would now be resolved bilaterally, and on the United States and Saudi Arabia's terms. Thus, while the contours of the new relationship remained to be defined, the American embrace of oil bilateralism became visible for the whole world to see. On June 8, 1974, Prince Fahd of Saudi Arabia traveled to Washington to sign a joint statement on U.S.-Saudi cooperation and, a week later, it was Nixon's

75 "Memorandum of Conversation: Secretary's Meeting with Oil Company Executives."

76 "Memorandum of Conversation: Secretary's Meeting with Oil Company Executives."

turn to visit Riyadh, sealing the renewal of these increasingly special ties.⁷⁷ France's oil bilateralism had thus succeeded in pushing the United States into a significant, long-term economic and security partnership with Saudi Arabia.

France's Nuclear Gamble: Petrodollar Recycling, Reactor Exports, and the Threat of Proliferation in the Persian Gulf

America's entry into the bilateral oil deal scramble caused another shift in France's fortunes in the Persian Gulf. By the time of Nixon's trip to Riyadh, the tables had turned against Giscard d'Estaing, who had not yet concluded his deal with Iran while his negotiations with Saudi Arabia stalled. Kissinger's warnings had been prescient: The French export sector was not as competitive as those of the United States, West Germany, and Japan. Once the race for bilateral deals began, France would find itself outperformed by its industrially superior rivals. Indeed, Saudi Arabia moved into close alignment with the United States, and Iran became the scene of intensifying competition among a growing array of potential suitors. But this rivalry only emboldened French efforts to outmaneuver competitors by exporting some of its highest value-added and most technologically advanced products: nuclear reactors. The Franco-Iranian oil-for-reactors deal would provide a blueprint for France's future relations with OPEC. In its efforts to resolve its trade deficit, France made the increasingly dangerous gamble of promoting nuclear exports across the Gulf in exchange for petrodollars. This, in turn, threatened the stability of the U.S.-led nuclear world order predicated upon nonproliferation. With both Iran and Iraq acquiring French nuclear technology without categorically renouncing atom-

ic weapons, France's oil-driven push to export nuclear reactors to the Gulf showcased the inadequacies of the Non-Proliferation Treaty in addressing the potential connections between civilian and military nuclear programs.

After an initial wave of optimism, officials in Paris grew increasingly frustrated by the apparent lack of interest among oil producers in entering into preferential or exclusive trade agreements with France. It was now Giscard d'Estaing's turn to watch as American, German, and even Indian officials were welcomed in Iran.⁷⁸ Prompted by Franco-Iranian nuclear negotiations, U.S. diplomats made their own overtures to the shah in March and April 1974. Kissinger proposed the creation of a joint economic commission, as he had done with Saudi Arabia. In line with the shah's industrialization plans, Kissinger offered a breadth of potential partnerships in the fields of mechanical engineering, electronics, water desalination, solar power, military industries, and, most notably, peaceful nuclear energy, positioning the United States as a direct competitor of France. Then, between April and May, West Germany moved forward with its oil deal with Tehran: The West German investors' conference at Persepolis raised the prospects for about 10 new industrial projects in Iran, with plans continuing for the massive refinery in Bushehr, whose oil output would be preferentially reserved for West German ports.⁷⁹ Finally, in May, Indian Prime Minister Indira Gandhi visited Tehran. In a grandiose spectacle at Nivaran Palace symbolizing the rebirth of the great empires of India and Persia, Gandhi and the shah negotiated a new energy partnership that also included nuclear assistance.⁸⁰ Hence, not only did the shah oppose any bilateral exclusivity, but these deals reduced the amount of oil supplies available for France, whose officials were bogged down in the highly complex business of negotiat-

77 "Memorandum from the President's Deputy Assistant for International Economic Affairs (Cooper) and Harold H. Saunders of the National Security Council Staff to Secretary of State Kissinger," June 5, 1974, FRUS, 1969-1976, XXXVI, Doc. 353, <https://history.state.gov/historicaldocuments/frus1969-76v36/d353>.

78 For an analysis of buyers' strategic ability to pit suppliers against each other in the global nuclear market, see Eliza Gheorghe, "Proliferation and the Logic of the Nuclear Market," *International Security* 43, no. 4 (Spring 2019): 88-127, https://doi.org/10.1162/isec_a_00344; and Jeff D. Colgan and Nicholas L. Miller, "Rival Hierarchies and the Origins of Nuclear Technology Sharing," *International Studies Quarterly* 63, no. 2 (June 2019): 310-21, <https://doi.org/10.1093/isq/sqz002>.

79 "FRG/Iran Economic Relations," Embassy in Bonn to State Department, Telegram 07347, May 7, 1974, 1974BONN07347, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=107755&dt=2474&dl=1345>.

80 "Indians See Mrs. Gandhi's Iran Visit as Great Success," Embassy in New Delhi to State Department, Telegram 06431, May 15, 1974, 1974NEWDE06431, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=95672&dt=2474&dl=1345>; and "Mrs. Gandhi's Visit to Iran," Embassy in Tehran to State Department, Telegram 03593, May 6, 1974, 1974TEHRAN03593, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=98336&dt=2474&dl=1345>. For a firsthand account of the visit by Gandhi's science and technology adviser, see Ashok Parthasarathi, "Oil Shock and Surprise," *Frontline (The Hindu)*, Feb. 16, 1974, <https://frontline.thehindu.com/the-nation/oil-shock-and-surprise/article10055609.ece>.

ing short-term oil for long-term nuclear reactors.⁸¹

Then came an event that profoundly challenged the wisdom of exporting reactors to the Gulf. On May 18, 1974, just a couple of weeks after Gandhi's visit to Tehran, India conducted its first successful, allegedly peaceful, test of an atomic bomb in the Rajasthan Desert.⁸² Codenamed Operation Smiling Buddha, the test revealed the thin line that separated civilian nuclear power from the development of nuclear weapons. This ran up against the view that the safeguards enshrined by the Non-Proliferation Treaty were sufficient and led Nixon to call for a thorough review of U.S. nonproliferation policy.⁸³ Ironically, the situation was made more complex by Nixon's own controversial announcement, during the first ever U.S. presidential visit to both Jerusalem and Cairo in June 1974, that he would sell civilian nuclear reactors to Israel and Egypt.⁸⁴ In this context, the National Security Council made a series of recommendations on June 24, calling for an intensified national policy to "inhibit the further spread of independent nuclear weapons capabilities" by advocating for stricter adherence to the treaty, collaborating more closely with the International Atomic Energy Agency (IAEA), and reinforcing ties with the other suppliers of nuclear materials and equipment, such as the United Kingdom, Canada, France, West Germany, and Japan.⁸⁵

But France promised, once again, to stand out as the dissonant note in Western cooperation. Unlike

other major nuclear exporters, it had refused to sign the Non-Proliferation Treaty. The National Security Council advised Nixon to pressure Giscard d'Estaing to collaborate, especially when it came to "troubled areas" of the world. The National Security Council also expressed support for a limitation of U.S. exports of enriched uranium, which could add an additional safeguard against proliferation.⁸⁶ This policy shift would create a new rift in trans-Atlantic relations, pitting America's goals of ensuring nonproliferation against France's (and West Germany's) nuclear export drives.⁸⁷ Thus, a bilateral deal to resolve France's challenges of oil scarcity and trade deficits became entangled in the intricate question of nuclear nonproliferation.

In this tense context, the shah sent shockwaves across the world when he arrived in Paris to sign the nuclear deal. On June 23, in an interview with the French weekly *Les Informations*, he hailed the Franco-Iranian agreement as the "most important ever signed between an oil producing and an industrialized country," with a long-term potential that could allegedly exceed \$10 billion in trade. He also mentioned that the deal was particularly important for France now that "certain Arab countries are closed to them, especially after Nixon's visit to Riad [sic]." And then came the bombshell: When asked if he intended to possess nuclear weapons in the future, he allegedly replied "certainly, and sooner than is believed."⁸⁸ On the following day,

81 Multiple factors made this oil-for-atoms trade deal particularly difficult to carry out. Most notably, the French needed oil supplies immediately, but the reactors would take at least five years to build, so a framework had to be designed for future reactor sales to finance short-term oil purchases. Additionally, it was difficult to establish a formula that would set an equivalence between an amount of oil and a number of nuclear reactors. Finally, managing these reactors required uranium supply contracts, technical expertise, and safety and nonproliferation guarantees, all of which had to be factored into the agreement. See, for instance "Note pour Monsieur le Premier Ministre sur la Collaboration entre l'Iran et la France dans le Domaine de l'Energie."

82 The Indian government hailed the nuclear explosion as a scientific breakthrough for the Third World, all while claiming that it was carried out for peaceful purposes. However, it aroused international concern, most notably from Pakistan. See "India's Nuclear Explosion: Swaran Singh Statement," Embassy in New Delhi to State Department, Telegram 06785, May 22, 1974, 1974NEWDE06785, Central Foreign Policy Files, 1973- 79/ Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=108765&dt=2474&dl=1345>.

83 "National Security Study Memorandum 202: Nuclear Non-Proliferation Treaty," May 23, 1974, General CIA Records, ESDN (CREST): CIA-RDP81B00080R001600010011-2, CIA Freedom of Information Act Electronic Reading Room, <https://www.cia.gov/readingroom/docs/CIA-RDP-81B00080R001600010011-2.pdf>.

84 The United States considered its light-water reactor technology to be safe from a nonproliferation standpoint. However, the sale of reactors to Israel and Egypt remained contentious and would never see the light of day. While civilian nuclear power might have been desirable to Israel for desalination purposes, Nixon's announcement put an uncomfortable spotlight on Israel's policy of nuclear ambiguity. Moreover, Yitzchak Rabin worried that this offer could allow Egypt to develop nuclear weapons and compromise Israel's security. See Or Rabinowitz, "Signed, Sealed but Never Delivered: Why Israel Did Not Receive Nixon's Promised Nuclear Power Plants," *International History Review* 40, no. 5 (2018): 1014-33, <https://doi.org/10.1080/07075332.2018.1436581>.

85 "Memorandum for the President: National Security Study Memorandum 202: U.S. Non-Proliferation Policy," NSC Under Secretaries Committee, June 24, 1974, General CIA Records, ESDN (CREST): CIA-RDP81B00080R001600010001-3, CIA Freedom of Information Act Electronic Reading Room, <https://www.cia.gov/readingroom/docs/CIA-RDP81B00080R001600010001-3.pdf>.

86 "Memorandum for the President: National Security Study Memorandum 202: U.S. Non-Proliferation Policy."

87 Sarkar, "U.S. Policy to Curb West European Nuclear Exports, 1974-1978." For broader historical overviews of U.S. efforts for nuclear nonproliferation during the Cold War, see Gavin, "Nuclear Proliferation and Non-Proliferation during the Cold War"; Gavin, *Nuclear Statecraft*; Francis J. Gavin, "Politics, History and the Ivory Tower-Policy Gap in the Nuclear Proliferation Debate," *Journal of Strategic Studies* 35, no. 4 (2012): 573-600, <https://doi.org/10.1080/01402390.2012.715736>; and Francis J. Gavin, "Strategies of Inhibition: U.S. Grand Strategy, the Nuclear Revolution, and Nonproliferation," *International Security* 40, no. 1 (Summer 2015): 9-46, https://doi.org/10.1162/ISEC_a_00205.

88 "Interview with Shah," Embassy in Paris to State Department, June 24, 1974, 1974PARIS15305, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=127628&dt=2474&dl=1345>.

Iranian state agencies issued strongly worded denials of these comments as fabricated lies, but they could not undo the concerns that had arisen about the shah's true intentions for Iran's nuclear program.⁸⁹ And again, on June 25, the shah gave an interview to *Le Monde* that only added to the confusion. He proclaimed his steadfast desire for a "non-nuclear" Middle East — especially given prospective U.S. sales of nuclear reactors to Egypt and Israel — but at the same time he said that if any neighboring country sought nuclear arms, "the national interests of any country at all would demand that it do the same."⁹⁰ Given the shah's refusal to categorically renounce atomic weapons, the imminent Franco-Iranian deal seemed like a dangerous gamble.

And yet, none of this deterred the French government, which was bent on finalizing its long-awaited deal with Iran. After all, France had traditionally challenged U.S. nonproliferation policies and had not signed the Non-Proliferation Treaty. In a characteristically Gaullist fashion, French officials believed that they could ensure nonproliferation safeguards bilaterally.⁹¹ Moreover, the French Atomic Energy Commission had already aided Israel in developing its nuclear weapons program in the late 1950s and was on the verge of selling very sensitive nuclear technologies to South Africa, Pakistan, and South Korea.⁹² Hence, from the French point of view, far from the threat of nuclear proliferation, the deal's main problem was the absence of additional Iranian oil that could be shipped to France in exchange for its reactors. By the time the agreement was signed on June 27, Iran had already promised most of its available supplies to other countries with which it had brokered deals, leaving little oil for the Atom-Petroleum Exchange to mer-

it its name. Even after pleas from Prime Minister Jacques Chirac at an official luncheon at the *Palais de Matignon*, the shah insisted that he had no additional oil supplies to offer France. Other countries, such as West Germany, had been quicker to reserve their shares of Iranian oil. Thus, on the eve of the signature ceremony, Blancard expressed concerns that France had gotten the short end of the deal.⁹³

Nevertheless, the French government still hailed the Franco-Iranian nuclear agreement as an unprecedented triumph. The first orders made to the nuclear engineering contractor Framatome (later known as Areva) for two 950MW reactors at Darkhovin would bring France payments of at least \$1 billion, with the full prospective reactor sales of a total of 5,000MW potentially reaching \$4 billion.⁹⁴ The deal may not have secured oil shipments, but with the end of the embargo, securing the supply of oil had become secondary to the monetary problems generated by the oil price shock and especially the prospects for an economic recession. In this regard, the deal promised a long-term influx of billions of Iranian petrodollars that could help to redress France's trade deficits while stimulating economic activity. Moreover, these petrodollars would help to finance Framatome's domestic construction of new nuclear reactors, easing the implementation of the Messmer Plan and clearing the path for the country's long-sought energy independence.⁹⁵ This agreement would be France's flagship bilateral deal, to be replicated with other OPEC states. It became official state policy for France to develop a nuclear presence in oil-producing countries through the joint efforts of diplomats, industrialists, and the Commissariat à l'Énergie Atomique, with nuclear technologies becoming the most promising French exports that could redress the monetary and eco-

89 "Shah's Alleged Statement on Nuclear Weapons," Embassy in Tehran to State Department, June 25, 1974, 1974TEHRAN05192, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=133701&dt=2474&dl=1345>.

90 "Further Remarks by Shah on Nuclear Weapons," Embassy in Paris to State Department, June 25, 1974, 1974PARIS15445, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=126592&dt=2474&dl=1345>.

91 For overviews of French nonproliferation policy, see Georges-Henri Soutou, "La France et la non-prolifération nucléaire: Une histoire complexe," *Revue historique des armées* (2011): 35–45; and Florent Pouponneau and Frédéric Mérand, "Diplomatic Practices, Domestic Fields, and the International System: Explaining France's Shift on Nuclear Nonproliferation," *International Studies Quarterly* 61, no. 1 (March 2017): 123–35, <https://doi.org/10.1093/isq/sqw046>.

92 For the connections between the French and Israeli nuclear weapons programs, see Gadi Heiman, "Diverging Goals: The French and Israeli Pursuit of the Bomb, 1958–1962," *Israel Studies* 15, no. 2 (Summer 2010): 104–26, <https://doi.org/10.2979/ISR.2010.15.2.104>. For context on these projects, see Anna Koniczyna, "Nuclear Twins: French-South African Strategic Cooperation (1964–79)," *Cold War History* 21, no. 3 (2021): 283–300, <https://doi.org/10.1080/14682745.2020.1823968>; and Sarkar, "U.S. Policy to Curb West European Nuclear Exports, 1974–1978," 124–27.

93 "Note pour Monsieur le Ministre de l'Industrie et de la Recherche sur l'Accord Franco-Iranien dans le Domaine de l'Énergie," June 25, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

94 "Note pour Monsieur le Ministre sur l'Accord nucléaire franco-iranien," Oct. 8, 1974, 19830369/2 - Minutier délégué général à l'énergie, Octobre-December 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Note sur une prise de participation de l'Iran dans EURODIF I," Oct. 4, 1974, 19830369/2 - Minutier délégué général à l'énergie, Octobre-December 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

95 "Note pour Monsieur le Ministre de l'Industrie et de la Recherche sur les Négociations avec Westinghouse," Feb. 21, 1975, ANF 19830368 2 - Minutier délégué général à l'énergie 1975 janvier-février, Archives Nationales de France, Pierrefitte-sur-Seine, France.



conomic troubles triggered by the First Oil Shock.⁹⁶

However, this policy ended up destabilizing the Persian Gulf: It emboldened Iran's ambitions to master the entire nuclear cycle, aroused commercial competition among Western nuclear suppliers, and made other regional players covet atomic programs of their own. Even before the deal was signed, the Iranian government was already eyeing expanding it. Hoveyda informed French negotiators that he wanted to get Iran involved in the uranium enrichment business by investing in EURODIF, a French-based European consortium established in November 1973 to build France's first commercial uranium enrichment plant.⁹⁷ Hoveyda's suggestion that Iran should become a shareholder in EURODIF was met with both surprise and ambivalence — this was, after all, a very sensitive program. But French doubts turned into apprehension when Hoveyda half-jokingly mentioned that Iran had enough petrodollars to acquire a 22.5 percent share in the consortium, so if France did not make an offer, he would just go and purchase these shares from Italy. Blancard saw some merit in using Iran's participation in EURODIF as an additional bargaining chip to get more oil and better financial terms from the bilateral deal, but he wanted to limit Iranian shares to 3.5 percent. He was also concerned by the prospect of similar demands coming from other Gulf countries such as Saudi Arabia.⁹⁸ After all, uranium enrichment was one of the key gateways to the development of nuclear arms: The same facilities that produced low-enriched uranium for power generation could also yield highly enriched,

weapons-grade uranium, so control over uranium enrichment was — and remains — one of the key safeguards for nonproliferation.⁹⁹

The extent of nuclear cooperation between France and Iran was particularly important because it could set a precedent for other countries in the region — especially given that Saudi Arabia had also requested French nuclear technologies. In fact, during the shah's visit to Paris, the Saudi vice minister of oil was also invited to the Commissariat à l'Énergie Atomique in the hopes that the successful Iranian deal would encourage the Saudi monarchy to acquire its own nuclear program. But again, French officials were disappointed when the Saudi vice-minister left Paris without making any concrete proposals.¹⁰⁰ Little did they know that, just three days prior, a Saudi official had approached the U.S. ambassador in Jeddah to request American nuclear assistance. Unlike Iran, Saudi Arabia was looking for an exclusive partnership — not with France, but with the United States.¹⁰¹ Competition among Western countries to export nuclear materials to the Gulf grew hand-in-hand with OPEC's ambitions: Within a few months, Iran, Saudi Arabia, and Kuwait all approached the United States seeking reactors.¹⁰²

But these requests from the Middle East were met with apprehension from the U.S. government, which faced a dilemma: It had a vested interest in nonproliferation, but there were major economic and commercial benefits to engaging in nuclear trade, especially with a global recession looming on the horizon. U.S. officials sought to strike a deli-

96 "Présence Nucléaire Française en Irak," Nov. 25, 1974, 19830369/2 - Minutier délégué général à l'énergie, Octobre-Décembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

97 EURODIF had public capital from France, Belgium, Italy, Spain, and Sweden, and competed with URENCO, a rival German-British-Dutch consortium. It was meant to decrease French reliance on American or Soviet uranium-enrichment services. "Note pour Monsieur Giraud, Administrateur Général Délégué du Commissariat à l'Énergie Atomique, sur la Production d'Uranium Enrichi de l'Usine EURODIF," June 28, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

98 "Note pour Monsieur le Ministre de l'Industrie et de la Recherche sur l'Accord Franco-Iranien dans le Domaine de l'Énergie," June 20, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Note pour Monsieur l'Administrateur Général du Commissariat à l'Énergie Atomique," June 21, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

99 Uranium isotope U-235 can be used both for peaceful purposes, such as generating nuclear power, and for the production of nuclear weapons, the main difference being the level of abundance of U-235 versus the more common U-238 isotope. Light-water reactors for power generation require uranium enriched to 5 percent abundance of U-235, while nuclear weapons require uranium enriched to at least 80 percent (considered "weapons-grade"). However, it is the same technology that produces both levels of enrichment.

100 "Note pour Monsieur le Ministre de l'Industrie et de la Recherche sur la Visite du Vice-Ministre du Pétrole et des Ressources Minérales d'Arabie Saoudite," June 26, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

101 "Saudi Interest Expressed in US-Saudi Nuclear Agreement," Embassy in Jeddah to State Department, Telegram 03609, June 24, 1974, 1974JIDDA03609, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=123562&dt=2474&dl=1345>.

102 It must be noted that non-OPEC countries in the region also requested nuclear assistance from the United States in 1974, most notably Israel and Egypt. This may also have influenced competing demands in the region, even if the conversations with Egypt in particular remained at very initial stages, focusing exclusively on safety protocols before the onset of any talks on nuclear sales. See "US-Iran Cooperation," State Department to Embassy in Tehran, Telegram 220253, May 28, 1974, 1974STATE220253, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=219266&dt=2474&dl=1345>; and "Kuwaiti Interest in Atomic Energy and Conversion of Sea Water," Embassy in Kuwait to State Department, Telegram 03297, Aug. 6, 1974, 1974KUWAIT03297, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=173852&dt=2474&dl=1345>.

cate balance between limiting the spread of nuclear technologies into new states such as Saudi Arabia and becoming involved in the nuclear programs that had been launched by rival nuclear suppliers — as was the case with Iran. Hence, the State Department concluded that it would be technologically “premature” for Saudi Arabia to develop a nuclear sector and that the United States would not prioritize it. And yet, this could not stand in the way of America pursuing a new special relationship with Saudi Arabia. As a solution, U.S. officials would make empty promises to the monarchy while drowning nuclear discussions within the broader work of the U.S.-Saudi Joint Working Group on Technology, Research, and Development. U.S. officials would actively delay a Saudi nuclear program — hopefully until the country lost interest — being careful not to arouse anger or suspicion from their Saudi counterparts.¹⁰³

The Iranian case, however, was much more complex given that the United States lacked an equivalent level of exclusivity with the shah. The U.S. Atomic Energy Commission was ready to provide nuclear reactors to Iran — and hopefully many more than Iran had promised to acquire from France — but the Department of Defense worried about the need for proper controls beyond those that the IAEA had established. In view of India’s nuclear test and the shah’s remarks in Paris, department officials wanted to ensure that Iran would not be able to develop nuclear arms, which would require additional bilateral controls and inspections along with accountability measures with regard to enriched uranium supply contracts, the physical security of reactors, and the disposal of residual plutonium — a radioactive waste that could also be used to develop atomic bombs.¹⁰⁴ In fact, Defense Department officials noted that, if Iran installed 20,000MW worth of reactors, its annual

plutonium production would be equivalent to that of 600 to 700 nuclear warheads.¹⁰⁵

But instituting more stringent bilateral protocols beyond the IAEA safeguards was likely to outrage the shah and be interpreted as a sign of mistrust, which could create diplomatic hurdles and harm the U.S. nuclear export sector. After all, OPEC states had been emboldened in their drive toward resource sovereignty, so it was unlikely that the shah would accept potentially humiliating controls that would not be equally applied to industrialized countries. Nonetheless, the Department of Defense still advocated for additional safeguard protocols to be imposed on Iran. A prescient report to the secretary of defense noted that “an aggressive successor to the Shah might consider nuclear weap-

It emboldened Iran’s ambitions to master the entire nuclear cycle, aroused commercial competition among Western nuclear suppliers, and made other regional players covet atomic programs of their own.

ons the final item needed to establish Iran’s complete military dominance of the region.” Stringent bilateral safeguards could be an important line of defense against such scenarios — no matter if the shah saw them as an insult to Iran’s position as a responsible regional power.¹⁰⁶

And yet, even the most robust safeguards would be useless if only the United States were to apply them. This could hurt American commercial competitiveness without addressing the risk of nuclear proliferation. The situation was more urgent given that West Germany also saw nuclear exports as a

103 “Saudi Interest in Nuclear Agreement,” State Department to Embassy in Jeddah, Telegram 138121, June 27, 1974, 1974STATE138121, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=118231&dt=2474&dl=1345>.

104 In addition to enriched uranium, nuclear warheads can be made with the plutonium isotope Pu-239 when enriched at 97 percent versus the more common isotope Pu-241. All uranium reactors produce plutonium as radioactive nuclear waste, but the longer the cycle runs, the lower the residual proportion of Pu-239. After three months running, the residual waste of a uranium reactor contains weapons-grade plutonium enriched at 93 percent. After one or two years of continuous operation, however, it will fall below 83 percent and cannot be used for nuclear weapons. Hence, uranium power reactors must be controlled in terms of length of operations and the management of plutonium waste to ensure they are used strictly for civilian purposes. For further explanations in lay terms, see Martin Sevier, “Uranium, Plutonium, Heavy Water ... Why Iran’s Nuclear Deal Matters,” *The Conversation*, Nov. 25, 2013, <http://theconversation.com/uranium-plutonium-heavy-water-why-irans-nuclear-deal-matters-20694>.

105 “Nuclear Energy Cooperation with Iran (U) - Action Memorandum,” Office of Assistant Secretary of Defense for International Security Affairs to Secretary of Defense, June 1974, The Nuclear Vault, National Security Archive, George Washington University, <https://nsarchive2.gwu.edu/nukevault/ebb268/doc02.pdf>.

106 “Nuclear Energy Cooperation with Iran (U) - Action Memorandum.”

potential solution for maintaining trade balances amid the oil price shock. In fact, the West German nuclear export sector had issues of its own. Unlike in France, a massive anti-nuclear grassroots movement was developing, drawing throngs of protestors to the streets in opposition to the construction of new reactors.¹⁰⁷ This severely limited the potential domestic market for Siemens and its nuclear subsidiary the Kraftwerk Union, which held a monopoly on the country's nuclear contracts. Thus, West Germany had also refused to sign the Non-Proliferation Treaty and pushed aggressively to export reactors to maintain the Kraftwerk Union's revenues, setting its sights on Iran as a potential commercial outlet.¹⁰⁸

By October 1974, French officials had grown concerned by the speed at which West German diplomats and industrialists were seeking to displace France as Iran's preferred nuclear supplier. In fact, the Kraftwerk Union was negotiating the sales of two 1,300MW reactors at Bushehr — a complement to the refinery complex to be established in the city through the West German bilateral oil deal that had been signed in May. This prospect alarmed Blancard, who finally warmed up to the idea of allowing Iran into EURODIF to protect France's leadership role in the Iranian nuclear program.¹⁰⁹ As EURODIF was facing severe financial difficulties, France could indeed welcome Iran as a new partner.¹¹⁰ But this would come with a high price tag for Iran. In order to buy the right to acquire 10 percent of EURODIF, Iran would have to extend a \$1 billion loan to France,¹¹¹ funneling even more petrodollars toward financing the Messmer Plan.¹¹² Thus, by the end of 1974, Iran had acquired four nuclear reactors along with shares in the uranium enrichment

business, all by leveraging its prized petrodollar reserves amid the monetary challenges caused by OPEC's oil price shock.

But Iran's successful nuclear ventures aroused the jealousy of its main regional rival: the revolutionary Baathist regime in Iraq. Since August 1974, the Iraqi government had accused France of giving more favorable treatment to its neighbors Iran and Saudi Arabia and of infringing on the terms of their bilateral deal. In March 1974, Iraq had awarded the Compagnie Française des Pétroles preferential treatment in exchange for the company carrying out agricultural development projects in Iraq. But this program suddenly seemed insignificant compared to France's nuclear overtures to the governments of Iran and Saudi Arabia. The Iraqi government thus threatened to expel the French oil and gas company from Iraq altogether unless Paris stepped up the terms of its relationship with Baghdad.¹¹³ With these veiled demands for reactors, the French state devised its second successful nuclear deal with an OPEC state.

Unbeknown to the U.S. embassy in Paris, Iraq requested French support for the construction of a heavy-water reactor — an unusual request, given that France's reactor fleet consisted of light-water reactors, which were understood to be safer from a nonproliferation standpoint. In contrast, heavy-water reactors, such as those used in India, were easier to repurpose for military aims: It was much easier to extract weapons-grade plutonium from their nuclear waste.¹¹⁴ But while this certainly raised eyebrows, French officials decided to move forward with the request, and in December 1974 Chirac visited Baghdad, leaving U.S. diplomats intrigued about the French prime minister's passing mention

107 For an overview of the history of the West German anti-nuclear green movement, see Milder, *Greening Democracy*.

108 Sarkar, "U.S. Policy to Curb West European Nuclear Exports, 1974–1978," 120–22.

109 "Note pour Monsieur le Ministre sur l'Accord nucléaire franco-iranien." Again, this episode illustrates how nuclear buyers are able to pit suppliers against each other to acquire sensitive technologies, as explained in Gheorghe, "Proliferation and the Logic of the Nuclear Market."

110 EURODIF was financially challenged by the loss of Sweden's 10 percent shareholding position, along with Italy's inability to meet its financial obligations to the consortium in the midst of an economic recession. "Note sur une prise de participation de l'Iran dans EURODIF I."

111 The Iranian share was watered down within a Franco-Iranian company called SOFIDIF (Société Franco-Iranienne pour l'Enrichissement de l'Uranium par Diffusion Gazeuse), which in turn became a shareholder in EURODIF. See Jacob Darwin Hamblin, "The Nuclearization of Iran in the Seventies," *Diplomatic History* 38, no. 5 (November 2014): 1124–25, <https://doi.org/10.1093/dh/dht124>.

112 "Note pour Monsieur le Ministre de l'Industrie et de la Recherche sur le Financement d'EURODIF," Oct. 31, 1974, 19830369/2 - Minutier délégué général à l'énergie, Octobre-December 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; "Note pour Monsieur le Ministre de l'Industrie et de la Recherche sur le Voyage en Iran," Nov. 15, 1974, 19830369/2 - Minutier délégué général à l'énergie, Octobre-December 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France; and "Les relations franco-iraniennes dans le domaine de l'Energie," Dec. 20, 1974, 19830369/2 - Minutier délégué général à l'énergie, Octobre-December 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

113 "Note pour Monsieur le Directeur des Carburants," Aug. 8, 1974, 19830369/1, Minutier du délégué général à l'énergie, Juin-Septembre 1974, Archives Nationales de France, Pierrefitte-sur-Seine, France.

114 "Présence Nucléaire Française en Irak." The most well-known heavy-water reactor is the CANDU reactor under joint British and Canadian license. This is different from the light-water reactor developed by Westinghouse, which was the most prevalent technology in France and was exported to Iran. Heavy-water reactor technology can use natural uranium instead of enriched uranium as fuel, which makes it more difficult to ensure safeguards in terms of fuel supplies. Moreover, weapons-grade plutonium can be extracted from heavy-water reactor nuclear waste while the reactor is running, which also makes it more challenging for the IAEA to ensure that no plutonium is diverted for military purposes. In fact, India used CANDU reactors to develop its first nuclear bomb, which raised alarms about the risk that heavy-water reactors posed additional proliferation risks.

of “peaceful atomic energy” projects as a potential field of French-Iraqi cooperation.¹¹⁵ This came at a time when the U.S. National Security Council judged that “the proliferation problem [was] at a crucial juncture,” requiring intensified efforts to coordinate policies and priorities with key nuclear suppliers in order to “inhibit the further spread of independent nuclear explosive capabilities.” Thus, while France was moving forward with the development of a high-risk Iraqi nuclear program, the National Security Council recommended “for the advanced nuclear industrial states to tighten controls on weapon-usable material and related production capabilities,”¹¹⁶ through joint international efforts by what would eventually become the Nuclear Suppliers Group.¹¹⁷

The National Security Council singled out France as a country whose nuclear export policy had to be brought under the control of a multilateral regime. However, this would prove to be deeply divisive within the French government and especially as it came to the already-contentious negotiations with Iraq. French Foreign Ministry officials signaled from the start that they would be opposed to any “multinational rule-making structures,” and that they could ensure nonproliferation safeguards on their own. They also noted that restraining exports of sensitive technologies for uranium enrichment and nuclear waste reprocessing would “discriminate against the less industrialized nations” by creating an international double-standard.¹¹⁸ To be sure, this was quite a self-serving stance, as these technologies were the objects of potentially lucrative

contracts with South Africa, Pakistan, and South Korea.¹¹⁹ Nonetheless, these longstanding French positions — inherited from the Gaullist years and popular with the Commissariat à l’Energie Atomique — were not shared by Giscard d’Estaing, the Fifth Republic’s first non-Gaullist president. He favored stronger relations with the United States, which was reflected in his growing commitment to nonproliferation. But this caused frictions with his Gaullist prime minister, Chirac, who became an equally strong advocate of nuclear exports.¹²⁰

After his trip to Baghdad, Chirac kept pushing for a bilateral partnership with the Iraqi Atomic Energy Commission.¹²¹ Despite the high level of secrecy about the content of these negotiations, word quickly got out about Iraq’s interest in a non-conventional nuclear reactor — a decommissioned *Uranium Naturel Graphite Gaz* model,¹²² which ran on natural uranium and was better suited for the production of weapons-grade plutonium than for producing large amounts of electricity — alerting U.S. officials about Iraq’s potentially dangerous intentions.¹²³ Iraq’s requests even raised alarms within the French government. Blancard himself warned against pursuing nuclear exports to Iraq, which, in his own words, could be “a limited step, but still a step, towards a nuclear weapon.”¹²⁴ But Chirac remained unphased by this domestic and international pressure. After all, this was another opportunity for France to recycle Gulf petrodollars and protect its overseas oil interests, with the added bonus of gaining geopolitical leverage over a

115 “Prime Minister Chirac’s Visit to Iraq,” Embassy in Paris to State Department, Telegram 29667, Dec. 10, 1974, 1974PARIS29667, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=270664&dt=2474&dl=1345>.

116 “Memorandum for the President: U.S. Nuclear Non-Proliferation Policy,” NSC Under Secretaries Committee, Dec. 4, 1974, The Nuclear Vault, National Security Archive, George Washington University, <https://nsarchive2.gwu.edu/nukevault/ebb268/doc03.pdf>.

117 The Nuclear Suppliers Group was a multilateral nuclear export control regime established in 1975, initially grouping seven major nuclear technology-exporting countries (the United States, Canada, the United Kingdom, France, West Germany, Japan, and the Soviet Union). The group began meeting in London between 1975 and 1978 to agree on a set of nuclear export guidelines. It served as a way for the United States to harmonize nuclear export policies with countries that did not adhere to the nonproliferation treaty, such as France. See Burr, “A Scheme of ‘Control.’”

118 “French Views on Coordination of Nuclear Export Policy,” Embassy in Paris to State Department, Telegram 28641, Nov. 29, 1974, 1974PARIS28641, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=260684&dt=2474&dl=1345>. Again, this was a self-serving stance, as France was also negotiating lucrative contracts for uranium enrichment facilities in South Africa, for nuclear reprocessing plants in Pakistan and South Korea.

119 Soutou, “La France et la non-prolifération nucléaire,” 6–7.

120 Sarkar, “U.S. Policy to Curb West European Nuclear Exports, 1974–1978,” 122–24.

121 “Problème de la Fourniture à l’Irak d’une Centrale Uranium Naturel-Graphite-Gaz (UNGG) et d’Installations Annexes: Aspects Liés à la Non Prolifération,” Feb. 27, 1975, ANF 19830368/2 - Minutier délégué général à l’énergie 1975 janvier-fevrier, Archives Nationales de France, Pierrefitte-sur-Seine, France; and “Note pour Monsieur le Ministre,” Feb. 26, 1975, ANF 19830368/2 - Minutier délégué général à l’énergie 1975 janvier-fevrier, Archives Nationales de France, Pierrefitte-sur-Seine, France.

122 Uranium Naturel Graphite Gaz (UNGG) reactor technology was developed in France in the 1950s, using graphite gas instead of water in the cooling system and natural uranium as fuel, while allowing for a simpler extraction of weapons-grade plutonium. In fact, these reactors were used for France’s own initial development of atomic weapons. They did not use enriched uranium, which granted them lower operational costs. However, they had a limited electricity production capacity and other technical disadvantages.

123 “Iraqi Interest in Buying French Natural Uranium Power Reactor,” Embassy in Paris to State Department, Telegram 01944, Jan. 23, 1975, 1975PARIS01944, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=126496&dt=2476&dl=1345>.

124 “Problème de la Fourniture à l’Irak d’une Centrale Uranium Naturel-Graphite-Gaz (UNGG) et d’Installations Annexes: Aspects Liés à la Non Prolifération”; and “Note pour Monsieur le Ministre.”

historically anti-Western Arab regime and earning a geostrategic foothold in the Persian Gulf.¹²⁵

In September 1975, Iraqi Vice President Saddam Hussein received red carpet treatment in Paris when he came to sign the nuclear cooperation agreement, despite being vocal about his aggressive intentions. On his way to France, Hussein reportedly told journalists in Beirut that he was launching “the first Arab attempt at nuclear arming,”¹²⁶ which he claimed was a necessity given Israel’s covert nuclear arsenal.¹²⁷ But again, nothing deterred Chirac. Although France would eventually cave under U.S. pressure and stop its controversial sales of nuclear reprocessing plants to South Korea and Pakistan,¹²⁸ it would duly accommodate Iraq — its second largest oil supplier amid the energy crisis.¹²⁹ Hussein thus spent a whole weekend “in the bosom of PM Chirac’s family” before meeting Giscard d’Estaing. The end result was an uneasy compromise between nonproliferation pressures and the Gaullist tradition: French officials reiterated the peaceful nature of the deal, insisting that Iraq was a signatory of the Non-Proliferation Treaty, that the program would have strong safeguards, and that any agreement would have to be approved by the Euratom agency in Brussels. French technicians would be present in the reactor at all times, ensuring that no radioactive materials were diverted to other ends. Moreover, the French government had successfully dissuaded Hussein from seeking a *Uranium Naturel Graphite Gaz* reactor — he settled instead for more conventional light-water technol-

ogy.¹³⁰ But this final arrangement remained marred by controversy: The Osiris research reactor that France ultimately sold to Iraq,¹³¹ known as Osirak in France and Tammuz 1 in Iraq, would run on weapons-grade enriched uranium and could produce weapons-grade plutonium. The Israeli government saw it as a cover for a clandestine nuclear weapons program. Concerned about the limitations of the Non-Proliferation Treaty in ensuring that Iraq not possess nuclear weapons, and conscious of the vast risks that a nuclear Iraq could pose to its own security, Israel took matters in its own hands by destroying the Osirak reactor in 1981.¹³²

Conclusion

To this day, Iran’s and Iraq’s objectives in launching nuclear programs remain points of international contention, and these concerns go back to the origins of these programs in 1974, at the height of the energy crisis. American and French policymakers were aware of both the shah’s and Hussein’s ambiguous intentions even before these nuclear agreements were signed. And yet, during the two-year window following the onset of the oil crisis, the West’s need to recycle Gulf petrodollars through bilateral trade agreements outweighed conflicting geopolitical and nonproliferation imperatives. By arousing self-interested nationalism, the energy crisis exacerbated fractures across the European community and the Atlantic alliance,

125 “Compte-Rendu de la Réunion du 15 Septembre 1975,” Oct. 3, 1975, ANF 19830368/2 - Minutier délégué général à l’énergie 1975 mars-décembre, Archives Nationales de France, Pierrefitte-sur-Seine, France; and “Saddam Hussein Visit to France,” Embassy in Paris to State Department, Telegram 23731, Sept. 15, 1975, 1975PARIS23731, Central Foreign Policy Files, 1973- 79/Electronic Telegrams, RG 59: General Records of the Department of State, U.S. National Archives and Records Administration, <https://aad.archives.gov/aad/createpdf?rid=321546&dt=2476&dl=1345>.

126 William E. Burrows and Robert Windrem, *Critical Mass: The Dangerous Race for Superweapons in a Fragmenting World* (New York: Simon and Schuster, 1994), 37.

127 The actual nature of the Iraqi nuclear program during the 1970s and early 1980s has been hotly debated. While insiders in the Baathist regime have claimed that the decision to build nuclear weapons had been made since the early 1970s, academic historian Målfrid Braut-Hegghammer has argued that Hussein was just “drifting” toward the bomb during the 1970s and only began actively pursuing nuclear weapons with a dedicated budget and program after Israel’s bombing of the Osirak reactor in 1981. See Ahmed Hashim, “Iraq: Profile of a Nuclear Addict,” *Brown Journal of World Affairs* 4, no. 1 (Winter/Spring 1997): 103–26, <https://bjwa.brown.edu/4-1/iraq-profile-of-a-nuclear-addict/>; Khidr ‘Abd al-‘Abbās Hamzah and Jeff Stein, *Saddam’s Bombmaker: The Terrifying Inside Story of the Iraqi Nuclear and Biological Weapons Agenda* (New York: Scribner, 2000); Hal Brands and David Palkki, “Saddam, Israel, and the Bomb: Nuclear Alarmism Justified?” *International Security* 36, no. 1 (Summer 2011): 133–66, https://doi.org/10.1162/ISEC_a_00047; Målfrid Braut-Hegghammer, “Revisiting Osirak: Preventive Attacks and Nuclear Proliferation Risks,” *International Security* 36, no. 1 (Summer 2011): 101–32, https://doi.org/10.1162/ISEC_a_00046; and Målfrid Braut-Hegghammer, *Unclear Physics: Why Iraq and Libya Failed to Build Nuclear Weapons* (Ithaca, NY: Cornell University Press, 2016).

128 William Burr, “Kissinger State Department Insisted that South Koreans Break Contract with French for Reprocessing Plant,” The Nuclear Vault, National Security Archive, April 10, 2019, <https://nsarchive.gwu.edu/briefing-book/henry-kissinger-nuclear-vault/2019-04-09/kissinger-state-department-insisted-south-koreans-break-contract-french-reprocessing-plant>.

129 Hashim, “Iraq: Profile of a Nuclear Addict,” 107.

130 Embassy in Paris to State Department, “Saddam Hussein Visit to France.”

131 Research reactors are generally used for a variety of scientific purposes, including the production of radioactive isotopes for cancer treatment. In contrast to nuclear reactors for power generation, research reactors can be turned on and off without affecting the electricity grid. This is significant in terms of nuclear proliferation. Given that light-water reactors must be turned off in order to extract residual weapons-grade plutonium, research reactors are better suited than power reactors for diversion toward military purposes.

132 With growing concerns that it was being used to develop nuclear weapons, the Osirak reactor would eventually be bombed by Israel in Operation Opera in 1981. See Joshua Kirschenbaum, “Operation Opera: An Ambiguous Success,” *Journal of Strategic Security* 3, no. 4 (2010): 49–62, <https://doi.org/10.5038/1944-0472.3.4.3>.

preventing multilateral cooperative solutions from being pursued and opening further fissures in the global nonproliferation regime.

Moreover, while these deals were meant to alleviate energy-derived economic and monetary problems, they created a geopolitical quagmire that continues to impact the West's relations with the Persian Gulf — showcasing the law of unintended consequences. For instance, Iran's nuclear program would be characterized by the shah's nationalist resentment and resistance to any exceptional international controls, which were seen as a humiliating infringement upon Iran's national sovereignty. This stance would persist despite the revolutionary upheavals of 1979. The Islamic Republic of Iran, like the shah's regime, would claim its right — as a signatory of the Non-Proliferation Treaty — to master the entire nuclear cycle.¹³³ After the Islamic Revolution, France tried to undo the damage: It stopped the construction of the Darkhovin reactor, refused to pay back its \$1 billion loan, froze enriched uranium supplies to Iran, and diverted its contracted machineries to French power stations.¹³⁴ And yet, the Islamic Republic of Iran held onto its 10 percent share in EURODIF, and it is still trying to build the Darkhovin reactor all by itself. The West German-built Bushehr reactor still stands and is now at the center of the ongoing U.S. efforts to curb Iran's nuclear program.¹³⁵

Meanwhile, international suspicions about Hussein's clandestine quest for atomic weapons plagued Iraq's relationship with the West until the turn of the 21st century. Instead of dissuading Iraq, the destruction of the Osirak reactor may have actually encouraged Hussein to actively pursue a clandestine nuclear weapons program throughout the 1980s.¹³⁶ The United Nations would eventually dismantle the Iraqi nuclear program after the Gulf War in 1991 — when the country was on the verge of possessing atomic weapons capabilities — but lingering suspicions about Hussein's continued desire to develop weapons of mass destruction would serve as a justification for America going to war with Iraq in 2003.

Finally, although Saudi Arabia may not have ac-

quired a nuclear program, it certainly succeeded in building a far-reaching partnership with the United States. This U.S.-Saudi relationship would reach new levels with King Faisal's momentous decision to recycle petrodollars bilaterally through the U.S. Treasury in 1975, creating unprecedented levels of financial and geopolitical interdependence between both countries.¹³⁷ In all these respects, the energy crisis set in motion major transformations in the world order, with ripples that would be felt for decades to come. 

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133 Hamblin, "The Nuclearization of Iran in the Seventies."

134 Hamblin, "The Nuclearization of Iran in the Seventies."

135 "Iran Starts Second Atomic Power Plant: Report," *Reuters*, Feb. 8, 2008, <https://www.reuters.com/article/us-iran-nuclear-plant-idUSL0812863720080208>; and "In A First, Iran's Sole Nuclear Power Plant Undergoes Emergency Shutdown," *NPR*, June 21, 2021, <https://www.npr.org/2021/06/21/1008657573/in-a-first-irans-sole-nuclear-power-plant-undergoes-emergency-shutdown>.

136 Dan Reiter, "Preventive Attacks Against Nuclear Programs and the 'Success' at Osirak," *Nonproliferation Review* 12, no. 2 (2005): 355–71, <https://doi.org/10.1080/10736700500379008>; Braut-Hegghammer, "Revisiting Osirak"; Brands and Palkki, "Saddam, Israel, and the Bomb"; and Braut-Hegghammer, *Unclear Physics*.

137 Ahmed Banafe and Rory Macleod, *The Saudi Arabian Monetary Agency, 1952–2016: Central Bank of Oil*, (London: Palgrave Macmillan, 2017), 49–76; and David E. Spiro, *The Hidden Hand of American Hegemony: Petrodollar Recycling and International Markets* (Ithaca, NY: Cornell University Press, 2019), 42–48.