

Elisabetta Bini

## ATOMS FOR PEACE (AND WAR): US FORMS OF INFLUENCE ON ITALY'S CIVILIAN NUCLEAR PROGRAMS (1946-1964)\*

This chapter analyzes the ways in which the United States influenced Italy's civilian nuclear policies between the end of World War II and the mid-1960s. Existing scholarship on the history of postwar US-Italian relations has largely overlooked this issue, with the important exception of studies about military uses of nuclear power.<sup>1</sup> Most research on the country's civilian nuclear energy programs has adopted a national perspective, and has focused on the differences and clashes between private firms and public agencies and research centers, or on the debates that accompanied the nationalization of the electric industry in the early 1960s.<sup>2</sup> Studies about Italy's energy policies, on the other hand, have mostly focused on oil and natural gas, and have examined the role the state-owned company Ente Nazionale Idrocarburi (ENI) had in reconstructing Italy after the Second World War and in challenging American interests in Italy and internationally.<sup>3</sup>

---

\* This chapter is part of a research project carried out at the University of Trieste between 2014 and 2016 with the support of Elettra Sincrotrone Trieste S.C.p.A. It presents initial results of a study of American documents held at the National Archives and Records Administration in College Park (NARA), namely the papers of the State Department, the American Embassy in Rome, the Central Intelligence Agency (CIA), the Joint Committee on Atomic Energy, and the Atomic Energy Commission (USAEC). I wish to express my gratitude to Professors Carlo Rizzuto and Elisabetta Vezzosi for their support and for their comments on previous versions of this paper.

1 Leopoldo Nuti, *La sfida nucleare. La politica estera italiana e le armi atomiche* (Bologna: il Mulino, 2007).

2 Mario Silvestri, *Il costo della menzogna. Italia nucleare, 1945-1968* (Torino: Einaudi, 1968); Giovanni Paoloni, ed., *Energia, ambiente, innovazione: dal CNRN all'ENEA* (Roma-Bari: Laterza, 1992); Valerio Castronovo, ed., *Storia dell'industria elettrica in Italia*, vol.4, *Dal dopoguerra alla nazionalizzazione, 1945-1962* (Roma-Bari: Laterza, 1994); Giovanni Zanetti, ed., *Storia dell'industria elettrica in Italia*, vol. 5, *Gli sviluppi dell'Enel (1963-1990)* (Roma-Bari: Laterza, 1994); Barbara Curli, *Il progetto nucleare italiano (1952-1964). Conversazioni con Felice Ippolito* (Soveria Mannelli: Rubbettino, 2000); Giovanni Paoloni, *Il nucleare in Italia* (Roma: Enel, 2008).

3 Angelo Pressenda and Marcella Sarale, *L'ENI da Mattei a Cefis: la politica del petrolio tra mito e realtà* (Torino: Einaudi, 1978); Giulio Sapelli and Francesca Carnevali, *Uno sviluppo tra politica e strategia: ENI (1953-1985)* (Milano: FrancoAngeli, 1992); Daniele Pozzi, *Dai gatti selvaggi al cane a sei zampe. Tecnologia, conoscenza e organizzazione nell'Agip e nell'Eni di Enrico Mattei* (Venezia: Marsilio, 2009); Elisabetta Bini,

Until the mid-1950s, when the United States developed the Atoms for Peace program, the US administration remained quite suspicious about Italy's project to develop a civilian nuclear energy program. Both the State Department and the Atomic Energy Commission (USAEC) kept firmly under control Italy's efforts to extract uranium in the North of the country. Their greatest concern was that the Italian government might declare its uranium property of the state, like it had done with its hydrocarbon resources. Despite a series of requests from Italian scientists and industrial firms, the Marshall Plan did not provide any funds for the purchase of nuclear equipment.

In the context of the Atoms for Peace program, the United States gained increased influence over Italy's atomic energy plans. While Italian firms and research centers expressed immediate interest in the program, the State Department and the USAEC used American aid and technology to shape Italian nuclear policies, in particular the relationship between public and private actors and agencies. They tried to strengthen the position of private Italian industrial groups such as Edison and Fiat, and contain the state-led forms of economic development promoted by the Centro Nazionale per le Ricerche Nucleari (CNRN) and its director Francesco Giordani. Furthermore, as part of the bilateral agreement between the two countries, they offered enriched, rather than natural uranium, thus making Italy dependent on a technology controlled by the United States.

While existing studies about US-Italian relations in the nuclear energy field have argued that the US undermined Italy's nuclear project, this chapter contends that Italian policies were only partly defined by the United States.<sup>4</sup> Rather, they were the outcome of a domestic conflict between public agencies and private firms, which used US interest in the country's nuclear program to promote their own specific interests. Along with the instability that characterized Italian governments at the time, these tensions delayed the signing of bilateral agreements, and negatively affected Italy's atomic program. When, in 1960, the Italian Parliament finally passed an atomic energy bill and established the Centro Nazionale per l'Energia Nucleare (CNEN) as Italy's main institution devoted to the development of peaceful uses of nuclear energy, American and Italian firms and agencies engaged in new forms of cooperation. Especially after John F. Kennedy became President, and in the context of the creation of center-left governments, the US administration and the USAEC supported the expansion of Italy's nuclear policies and a greater

---

*La potente benzina italiana. Guerra fredda e consumi di massa tra Italia, Stati Uniti e Terzo mondo* (Roma: Carocci, 2013). For a general overview: Pier Angelo Toninelli, "Energy and the Puzzle of Italy's Economic Growth," *Journal of Modern Italian Studies* 1 (2010): 107-127.

<sup>4</sup> See in particular Simone Turchetti, "A Most Active Customer: How the US Administration Helped the Italian Atomic Energy Project to 'De-Develop'", *Historical Studies in the Natural Sciences* 5 (2014): 470-502.

role of the state in promoting civilian nuclear energy programs. In the first half of the 1960s, the US provided most of Italy's research reactors, and trained a new generation of Italian scientists in the US, while American firms participated in building two of the country's three nuclear power plants. In 1962 the American government viewed favorably the creation of the Ente Nazionale per l'Energia Elettrica (ENEL), a public agency that centralized the production of electric energy.

In this framework, the decline of the Italian nuclear program in the early 1960s was more the result of domestic conflicts than of American forms of influence. Once ENEL was founded, it decided to rely on oil, rather than nuclear power, to fuel its electric plants. This decision was the outcome of a complex set of decisions: on the one hand, following the decrease in the price of crude oil on the international market, Standard Oil (N.J.) flooded the Italian market with oil from North Africa. This strategy was supported by American oil companies operating in Italy, by the Italian refining industry and by ENEL, and by the State Department, which considered it a way of reducing Italy's reliance on Soviet oil. On the other hand, the shift away from nuclear power was closely linked to the decline of the forms of economic planning promoted by center-left governments in the early 1960s, and to a series of conflicts inside and between Italy's main political parties. When, in 1963, Secretary General of CNEN Felice Ippolito was accused of mismanaging public funds and removed from his position, public investments in the Italian nuclear program decreased rapidly. The government embraced a more "minimalist" policy, which made Italy increasingly dependent on imported fossil fuels. In the context of the "Ippolito affair", various sectors of the US administration and of the USAEC adopted a critical stance. They pointed out that the decline of Italy's civilian nuclear program represented a potential threat to the country's modernization, as it undermined one of its most advanced scientific, technological and industrial sectors.

#### THE EARLY POSTWAR YEARS

Until the mid-1950s, the US administration was wary of any effort on the part of Italian firms and research centers to develop an atomic program. While the 1946 McMahon Act (or Atomic Energy Act) limited access to nuclear information to countries that had been US wartime allies, the 1947 peace treaty forbade Italy from acquiring or developing nuclear weapons. Through the regular despatches the US Embassy in Rome sent to the State Department, and through direct contacts between the Special Assistant to the Secretary of State for Atomic Energy and the USAEC, the American administration kept a close eye on Italian atomic energy programs. It also drew on personal con-

tacts with Italian nuclear physicists working in the United States – such as Emilio Segrè and Federico Sensi – to receive reports on Italy's activities. In particular, it monitored the discovery of uranium mines in various parts of the country. Between the late 1940s and the early 1950s, it sent a representative of the Economic Cooperation Administration (ECA), along with several USAEC geologists, to carry out studies of uranium deposits in the area around the town of Cuneo, and asked private Italian firms to provide samples to be analyzed. Its aim was to control any sources that could be used by the United States for its own nuclear activities or in the framework of the Mutual Defense Assistance Program. The United States' greatest concern was that the Italian government might declare uranium a public property, as it had done with its hydrocarbon resources.<sup>5</sup>

Despite a series of requests from Italian scientists and industrial firms, the Marshall Plan did not provide any funds for the purchase of nuclear equipment. As a memorandum from the Office of the Under Secretary of State put it, “the Department considered it undesirable to establish as a precedent, purchase of nuclear research equipment with funds provided by the ECA”.<sup>6</sup> The USAEC aimed at avoiding any association between ECA and atomic energy programs (also for public relations reasons). It decided not to include uranium among the strategic materials the United States might ask in exchange for American aid, so as not “to give to Communist propaganda such powerful corroboration of the claim that we were bargaining world economic health against perpetuation of an atomic monopoly for the United States”.<sup>7</sup>

The US administration was not only worried about security, military and political issues, but aimed at influencing Italian (and, indeed, European) energy policies by assigning a crucial role to oil, as the main fuel of Europe's economic reconstruction. As David Painter has pointed out, “more than 10 per cent of the total aid extended under the Marshall Plan financed imports of dollar oil from US companies”.<sup>8</sup> American aid created markets for US oil companies, and reconfigured Western Europe's energy pat-

---

5 Richard G. Hewlett and Francis Duncan, *Atomic Shield: A History of the United States Atomic Energy Commission (AEC)*, Vol. II, *From 1947 to 1952* (University Park: Pennsylvania State University Press, 1969); Nuti, *La sfida nucleare*, 21-31. NARA, General Records of the Department of State (hereafter RG 59), Decimal File, 1950-1954, box 5314; NARA, RG 59, Office of the Secretary (hereafter OS), Special Assistant to the Secretary of State for Atomic Energy & Outer Space (hereafter S/AE), General Records Relating to Atomic Energy Matters (hereafter GRAE), 1948-1952, box 80; NARA, RG 59, OS, S/AE, GRAE, 1948-1952, box 51.

6 NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 76.

7 Under Secretary of the Department of State to Mr. Lovett, November 14, 1947, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 76. John Krige, *American Hegemony and the Postwar Reconstruction of Science in Europe* (Cambridge: The MIT Press, 2006); John Krige and Kai-Henrik Barth, eds., “Global Power Knowledge: Science and Technology in International Affairs,” special issue of *Osiris* 21 (2006).

8 David S. Painter, “The Marshall Plan and Oil”, *Cold War History* 2 (2009): 160; Timothy Mitchell, “Carbon Democracy,” *Economy and Society* 3 (2009): 399-432.

terns and relations, marking a sharp decline of British and German coal.<sup>9</sup> Italy received over 143 million dollars in petroleum aid, which placed Italy third in the ranking of Marshall Plan aid recipients of petroleum products.<sup>10</sup>

The US administration and the USAEC became increasingly involved in Italian nuclear policies after the CNRN was founded in 1952 under the direction of Francesco Giordani. A long-time supporter of state-led forms of intervention in the economy, and former President of the public company Istituto per la Ricostruzione Industriale (IRI) in the 1930s, Giordani believed that atomic energy should allow Italy to overcome its chronic dependence on the import of energy resources, and that the state should have a crucial role to play in developing a public agency specifically devoted to this task. In the first half of the 1950s, the USAEC's main concern was that the CNRN might introduce, as John A. Hall, head of the Commission's Office of International Affairs put it, a "governmental policy concerning uranium, its domestic use and control and export", and undermine American efforts to control global uranium resources.<sup>11</sup>

As the CNRN started drafting a new law regulating the production and use of uranium, Special Assistant to the Secretary of State for Atomic Energy Gordon Arneson wrote to the US Embassy in Rome and encouraged Ambassador Clare Boothe Luce to meet with Prime Minister Giuseppe Pella. In December 1953, Luce handed over to Pella a memorandum asking the Italian government assurances that "any uranium produced could be freely exported to the United States", in line with the 1950 mutual defense agreement, and pointed out that "Italy might retain such quantities of uranium as would be required in the Italian atomic energy program".<sup>12</sup> In exchange, the US would provide financial and technical assistance in locating and extracting uranium, and train Italian personnel. The Italian government showed little interest in the offer and postponed any decision on the matter. While the political context was highly unstable, the Italian government voiced, as Arneson put it, "the usual nationalistic reasons for resisting foreign development of mineral resources".<sup>13</sup>

#### THE ATOMS FOR PEACE PROGRAM

---

9 David S. Painter, *Oil and the American Century: The Political Economy of US Foreign Oil Policy, 1941-1954* (Baltimore: The Johns Hopkins University Press, 1986); Stephen J. Randall, *United States Foreign Oil Policy Since World War I: For Profits and Security* (Montreal: McGill-Queen's University Press, 2005).

10 Painter, "The Marshall Plan and Oil", 166.

11 John A. Hall to Gordon Arneson, August 21, 1952, NARA, RG 59, OS, S/AE, GRAE, 1948-1952, box 80. On Francesco Giordani: Valerio Castronovo, ed., *Storia dell'IRI. Vol.1. Dalle origini al dopoguerra, 1933-1948* (Roma-Bari: Laterza, 2012); Barbara Curli, "Francesco Giordani e l'autonomia energetica", in ANIMI, ed., *Radici storiche ed esperienza dell'intervento straordinario nel Mezzogiorno* (Roma: Bibliopolis, 1996), 213-225.

12 Memorandum, December 23, 1953, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 502.

13 Secret memorandum, October 13, 1954, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 502.

It was in this context that US President Dwight D. Eisenhower announced the Atoms for Peace program, with the aim of promoting peaceful uses of atomic energy throughout the world. With the approval of the Atomic Energy Act in 1954, private firms were allowed to obtain information about nuclear energy production, and exchange information with foreign countries. As a result, in the mid-1950s the United States signed a series of bilateral agreements with most Western European countries, including Italy. The accord was the outcome of a long series of discussions between Italian and American government representatives, industrialists and scientists, and set the terms for American forms of influence on Italy's atomic energy policies.<sup>14</sup>

Given the strength of the Communist Party, Italy was not "just another country". It was especially Luce who expressed concern for American plans to help Italy develop an atomic program. During a meeting held in Paris in February 1955 (a few months before the signing of the bilateral agreement) between Deputy to the Special Assistant to the Secretary of State for Atomic Energy, State Department representatives and US Ambassadors in Europe, Luce pointed out that "with one-third of the Italian population voting Communist, there was no possibility for sufficient security arrangements to make possible a US-Italian bilateral agreement under present interpretation of the security provisions of the Atomic Energy Act of 1954".<sup>15</sup> The problem was also Italian public opinion, since Italian Communist broadcasts "commented that President Eisenhower failed to say whether the US would support an immediate ban on atomic weapons", while left-wing papers argued that the program was a reaction to the Soviet acquisition of the atomic bomb.<sup>16</sup> At the same time, Luce recognized the positive effects the Atoms for Peace program might have, and argued that, "knowledge of the possibilities of a United States-aided atomic energy program could have a great effect in influencing the next Italian elections",<sup>17</sup> while the Central Intelligence Agency (CIA) was convinced that the program would "bring political and psychological benefits to the US".<sup>18</sup>

Italy expressed immediate interest in the American program, and was one of the first countries to do so. The forms of international cooperation promised by the Atoms for Peace program seemed to offer new possibilities to a country that was desperate to de-

---

14 Richard G. Hewlett, *Atoms for Peace and War, 1953-1961: Eisenhower and the Atomic Energy Commission* (Berkeley: University of California Press, 1989); Ira Chernus, *Eisenhower's Atoms for Peace* (College Station: Texas A&M University Press, 2002); John Krige, "Atoms for Peace, Scientific Internationalism, and Scientific Intelligence," *Osiris* 1 (2006): 161-181.

15 NARA, RG 84, Records of the Foreign Service Posts of the Department of State, Italy, Rome Embassy, Records of Clare Boothe Luce (hereafter CBL), 1955-1957, box 4.

16 NSC Briefing, December 10, 1953, in NARA, CIA Records Search Tool (CREST).

17 NARA, RG 84, CBL, 1955-1957, box 4.

18 Memorandum for the Director of Central Intelligence, August 9, 1954, NARA, CREST.

velop autonomous forms of energy, but lacked the means and technology to do so. The CNRN pointed out that, “considering the scarce Italian availabilities of power and their prevailing high costs – the utilization of nuclear energy on an economical level would be reached in Italy sooner than in other Countries”.<sup>19</sup> The CNRN wanted to receive 10 tons of heavy water, fissionable material, and a research reactor. Its aim was to obtain equipment and technology, while at the same time promoting an atomic energy policy that would be independent from the United States.<sup>20</sup>

Discussions about the bilateral agreement took place in Washington, DC, rather than in Rome. The US Embassy insisted that an American offer be made to Italian Ambassador Egidio Ortona rather than to the Italian government, “in order to prevent the possibility that Italians might tie up the approach ... with our interest in uranium”.<sup>21</sup> Ortona highlighted the interest the Italian government had in establishing forms of cooperation with the US, and argued that the CNRN wished to send a mission of atomic experts to the US in order to “pav[e] the way for the stipulation of a cooperation agreement”.<sup>22</sup> He pushed the State Department to prepare a draft, so that Prime Minister Mario Scelba might sign it during his trip to the United States in March 1955. He also let the State Department know that Giordani and Edoardo Amaldi were “prepared to come to the US immediately to undertake the negotiation of a bilateral”.<sup>23</sup> During his official visit to DC, Scelba was accompanied by Giordani who, along with Amaldi, Carlo Salvetti, Bruno Ferretti and Anna Baroni, represented the Italian government in the field of atomic energy.

Bilateral talks were immediately characterized by a growing American concern for the debate taking place in the Italian Parliament around the signing of an atomic energy bill. During Scelba's visit, Luce reported that the Italian government had approved a draft law assigning the state responsibility for the development of atomic energy in all its different phases. The bill – presented by Giordani and by Minister of Industry Bruno Villabruna, and submitted in February 1955 – promoted the idea that the state should have a direct role in prospecting for mines and using nuclear energy for industrial purposes, and that uranium should become a state property.<sup>24</sup> Luce heavily criticized the law,

---

19 NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 503.

20 Paoloni, *Energia, ambiente, innovazione*.

21 Interim Programs to Develop the Peaceful Uses of Atomic Energy, January 6, 1955, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 503.

22 Italian Embassy to Secretary of State, February 22, 1955, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 503.

23 Memorandum of Conversation, February 14, 1955, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 503.

24 Paoloni, *Energia, ambiente, innovazione*.



and Giordani's role in pushing the government to endorse it, and related the CNRN's proposal to the policies promoted by ENI and its President Enrico Mattei. Luce was particularly concerned about the Oil Law that was being discussed in Parliament, which hindered the activities of US private oil companies operating in Italy, by creating a monopoly over the exploration and extraction of hydrocarbons. The Ambassador went so far as arguing that "unconfirmed reports circulating to effect that law [on atomic energy] inspired by Enrico Mattei who plans absorb Natl Committee [CNRN] into framework of ENI".<sup>25</sup> She concluded that private companies might be better suited to carry out a program aimed at developing Italy's civilian atomic energy through bilateral relations with the United States, offering "concrete proof to long-claimed willingness Ital industry proceed with exploitation peaceful atom".<sup>26</sup> Luce's position was reinforced by General Electric representatives who, in a letter to the USAEC, argued that the Giordani-Villabruna bill would be "in contrast to that feature of the declared policy of the USA ... that the development, use and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise".<sup>27</sup>

The USAEC used Giordani's visit to point out that it would not support the atomic energy bill, and that its approval might have deep consequences on the possibility for Italy of obtaining US assistance. As the US Embassy in Rome put it, "the reports of the Italian Atomic Energy Delegation to Washington re US criteria in Atomic Energy Cooperation, has now caused the Council of Ministers to instruct the Ministry to withdraw its first draft and present another with the objectionable monopoly features eliminated".<sup>28</sup> While discussions in the Italian Parliament stalled, the United States and Italy signed a bilateral agreement, according to which the United States would provide heavy water, while Italy could buy up to 600 kg of enriched uranium from the USAEC and a research reactor similar to the one installed at the Argonne laboratory. By focusing on enriched rather than natural uranium, the USAEC aimed at making sure that, as Simone Turchetti has argued, "countries receiving supplies ... would be continuously reliant upon US imports to run their nuclear programs".<sup>29</sup>

---

25 US Embassy in Rome, March 18, 1955, NARA, RG 84, CBL, 1955-1957, box 9.

26 NARA, RG 84, CBL, 1955-1957, box 9.

27 NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 502.

28 American Embassy Rome to Department of State, May 6, 1955, NARA, RG 84, CBL, 1955-1957, box 4819.

29 Turchetti, "A Most Active Customer", 480. See also John Krige, "The Peaceful Atom as Political Weapon: Euratom and American Foreign Policy in the Late 1950s", *Historical Studies in the Natural Sciences* 1 (2008), 5-44.



The agreement came into effect after the International Conference on the Peaceful Uses of Atomic Energy was held in Geneva in August 1955, during which Italian firms and agencies committed to developing an atomic program. Whereas Italian delegates proposed to build three nuclear plants and highlighted the presence of uranium resources in the northern parts of the country, the main private firms – Fiat, Montecatini, and Edison – expressed interest in purchasing reactors from the United States.<sup>30</sup> It was especially Edison, the biggest private Italian electric company, that took advantage of these debates to obtain material from the United States. In April 1955, Edison's CEO Giorgio Valerio sent a letter to the USAEC asking for its support in importing an American power reactor to Italy. He pointed out that, "Edison intends to increase further its steam generating capacity and it believes that the time has now come to turn to atomic energy using American equipment and engineering."<sup>31</sup> A few months later, he visited the United States, together with Mario Silvestri and the director of the company's thermal power stations, Franco Castelli, and started talks with Westinghouse to purchase a pressurized water reactor, which was supposed to be a duplicate of the one the American company was building for the Yankee Atomic Electric Company in Massachusetts. In December 1955, Edison founded the Società Elettronucleare Italiana (SELNI), with the aim of building a nuclear power plant in Trino Vercellese, near Turin.<sup>32</sup> The following year, Hall met with Vittorio Valletta, general manager of Fiat, to develop a joint program in the field of atomic energy and, in particular, build power reactors through the company Società Ricerche Impianti Nucleari (SORIN), with equipment provided by Westinghouse.<sup>33</sup>

In the second half of the 1950s, US-Italian relations in the field of atomic energy continued to be influenced by the debate about the atomic energy bill, which revolved around the relationship between public agencies and private firms. While Giordani received Segni's support for a bill reserving to the state the right to exploit materials needed to produce nuclear power, and giving it control over the industrial use of fissionable material, other Italian politicians advanced a different view of the country's atomic project. In 1956, Senators Giuseppe Caron and Stefano Perrier challenged the Giordani-Villabruna draft law by presenting another project, modeled on the 1954 US Atomic Energy Act, which would have allowed private industrial groups to develop atomic energy programs under government control.

---

30 American Embassy in Rome, August 12, 1955, NARA, RG 84, CBL, 1955-1957, box 9.

31 Giorgio Valerio to USAEC, April 14, 1955, NARA, RG 326, Records of the Atomic Energy Commission, Office of the Secretary, General Correspondence, 1951-1958, box 111.

32 Valerio Castronovo, *Il gioco delle parti. La nazionalizzazione dell'energia elettrica in Italia* (Milano: Rizzoli, 2012).

33 Atomic Energy Developments in Italy, February 7, 1957, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 503.

The debate stalled in Parliament and slowed down relations with the USAEC. Giordani traveled to the United States in January 1956 to close the deal and buy a research reactor to be placed at Ispra, near Milan. While in the United States, he met with Hall and asked for a revision of the bilateral agreement, in order to purchase a larger quantity of enriched uranium, as well as a power reactor. Just before Giordani left for the United States, Luce “suggested that if the Italians approach us for a power bilateral agreement, we should insist that they establish their own basic atomic energy law first”.<sup>34</sup> Gerard Smith of the USAEC replied unofficially that the US government “would probably like to see the Italian atomic energy legislation prior to the completion of an agreement for cooperation in the power reactor field”.<sup>35</sup>

The Italian Council of Ministers approved the bill in the Fall of 1956, shortly after Giordani resigned from his position and was replaced by Felice Ippolito, another strong supporter of a state-led nuclear program. In his remarks before the Council, Minister of Industry and Commerce Guido Cortese argued that, “The bill has taken into account the experience behind foreign legislation and that provided by the various international conferences. ... Our law ... is specifically designed to give to private enterprise sufficient guarantees and incentives to enable it to intervene with adequate investments in the mining phase as well as that of industrial utilization”.<sup>36</sup> However, the proposal stalled in Parliament and was eventually withdrawn in 1958, at the end of the legislature. In the meantime, the CNRN proposed an interim law regulating the role the agency should have, and presented a new bill, creating the CNEN under the control of the Ministry of Industry and Commerce. It took another three years for the bill to be approved and come into effect.

While the US administration pushed the Italian government to pass a law that would be acceptable to the United States, it was the contrast between public agencies and private firms, and the lack of stable governments, that delayed the signing of bilateral agreements and negatively affected Italy’s atomic program. When, in 1957, the Italian government asked the State Department to revise the bilateral agreement in order to import more fuel to operate the country’s three reactors, the US Embassy pointed out that, “neither of two government groups now in the field, Agip Nucleare and Società Energetica Nucleare (SEN) [*sic*], have been able to come up with concrete projects”.<sup>37</sup> In

---

<sup>34</sup> Memorandum for the file, January 10, 1956, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 502.

<sup>35</sup> Italian Atomic Energy Development, January 17, 1956, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 503.

<sup>36</sup> American Embassy Rome to Department of State, October 1, 1956, NARA, RG 84, CBL, 1955-1957, box 4819.

<sup>37</sup> David Zellerbach to Secretary of State, May 17, 1957, NARA, RG 59, Central Decimal File (hereafter CDF), 1955-1959, box 2541.

such a context, “it is very difficult indeed to plan a coherent atomic energy program with no law or regulation on which to base it, and with authority and responsibility for the program dispersed and unclear”.<sup>38</sup> According to the new agreement signed in 1957, Italy would receive 7,000 kg of enriched uranium over a twenty-year period, while the United States would supply enriched uranium for two power plants.

The contrast between public agencies and private firms led to a delay in Edison's plan to build a nuclear power plant in northern Italy using American technology. As Valerio put it, one of the main problems was that there was no “‘agreement of cooperation’ between the United States and Italian government, appropriate authorizations from the governmental agencies concerned, provision for supply of nuclear fuel”. The main issue, though, was that Edison encountered countless problems in obtaining funding from the Export-Import Bank, despite the fact that the USAEC pressured banks to provide loans to private foreign companies.<sup>39</sup> It was especially the Italian government that undermined Edison's activities. In the winter of 1956-1957, Cortese – under pressure from Ippolito – turned down the company's request to receive a bill of exchange guarantee for the Export-Import Bank loan.<sup>40</sup> The controversy continued, and in 1959 the Minister of Industry had not yet approved the site of the SELNI reactor. A report sent to the State Department pointed out that,

The Embassy understands that the Secretary General, Ippolito, of the CNRN has taken an interest in the matter. Ippolito is an outspoken opponent of private participation in nuclear power development, as in the SELNI project, and is a particular foe of the parent Milan Edison group. Ippolito's influence could quite possibly be brought to bear ... to delay approval of the site chosen by SELNI. This could prevent private industry from becoming established in the nuclear power field, and this getting a foot in the door, before this question comes under examination in the legislative consideration of the proposed basic nuclear law.<sup>41</sup>

The Italian Ministry of Industry dragged its feet for years, refusing to issue an official permit to allow construction of the plant. The American Embassy explained the situation, stating that, “the Ministry has hesitated to authorize construction of the SELNI plant because the long standing controversy on whether private interests will be permit-

---

<sup>38</sup> Report on Atomic Energy Developments in Italy, December 19, 1957, NARA, RG 84, CBL, 1955-1957, box 4819.

<sup>39</sup> Edisonvolta purchases a large power reactor, December 20, 1956, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 502; Felice Ippolito and Folco Simen, *La questione energetica (dieci anni perduti 1963/1973)* (Milano: Feltrinelli, 1974).

<sup>40</sup> Ippolito and Simen, *La questione energetica*, 28.

<sup>41</sup> AmEmbassy to Department of State, April 6, 1960, NARA, RG 59, CDF, 1960-1963, box 2690.

ted to operate Italian nuclear power plants has not yet been resolved by Parliament.”<sup>42</sup> The Embassy intervened through its Economic Counselor, who pressured the Italian government to take a clearer stance. It “assured Minister Colombo that the issue of public vs. private nuclear power was recognized as an internal Italian matter”, but it also pointed out that “the Westinghouse company has already committed a considerable amount of money in work ... and therefore is anxious to have the project authorized to go ahead regularly”.<sup>43</sup>

In 1960, the Italian Parliament finally passed the atomic energy bill it had been debating since the mid-1950s. The law established the CNEN as Italy’s main agency devoted to the development of peaceful uses of atomic energy. Placed under the control of the Ministry of Industry, CNEN promised to allow Italy to overcome its chronic lack of energy resources. In the early 1960s, it was one of the most advanced agencies in Western Europe, and set Italy among the most advanced countries – along with Japan – in the field of civilian nuclear energy.<sup>44</sup>

The American Embassy in Rome kept closely under control Italian discussions about the so-called Colombo Bill, which eventually led to the creation of CNEN, fearing that it might exclude private firms from operating in the field of nuclear energy. Once the bill was passed, the Embassy recognized that, “a major obstacle in the way of planning and carrying out a long range Italian national nuclear program was removed”,<sup>45</sup> and that Italy could gain “a position of European, if not world, prestige and leadership in the nuclear field”.<sup>46</sup> CNEN would encourage new forms of planning which, in the Embassy’s view, “in the past ha[ve] been hampered by the fact that allocations were made on a year to year basis”.<sup>47</sup> Thanks to this new institutional context, a series of agreements signed by American and Italian firms and agencies in the second half of the 1950s finally came into effect. These included building a nuclear power plant in the Southern town of Garigliano, which was based on an agreement between the state-owned Società Elettro-nucleare Nazionale (SENN) and General Electric and received funding from the World Bank; and operating Italy’s first research reactor in Ispra, which was sold by the American Car and Foundry Company and was partly funded by the USAEC.<sup>48</sup> By 1961, the United States provided Italy with six research and training reactors, along with the

42 AmEmbassy to Secretary of State, January 29, 1961, NARA, RG 59, CDF, 1960-1963, box 2691.

43 AmEmbassy to Secretary of State, March 8, 1961, NARA, RG 59, CDF, 1960-1963, box 2691.

44 Ruggero De Leone and Cecilia Dau Novelli, “Dal Cnen all’Enea, 1960-1982,” in Paoloni, *Energia, ambiente, innovazione*, 71-160; Silvio Labbate, *Il governo dell’energia. L’Italia dal petrolio al nucleare (1945-1975)* (Firenze: Le Monnier, 2010).

45 AmEmbassy to Department of State, May 6, 1961, NARA, RG 59, CDF, 1960-1963, box 2691.

46 AmEmbassy to Department of State, May 6, 1961, NARA, RG 59, CDF, 1960-1963, box 2691.

47 AmEmbassy to Department of State, October 18, 1960, NARA, RG 59, CDF, 1960-1963, box 2690.

48 Piero Isola, *Odissea Garigliano. Storie del nucleare in Italia* (Manziana: Vecchiarelli, 2004).

enriched uranium needed to fuel them. Among them, the Progetto Reattore Organico (PRO), which was the outcome of a close collaboration between AGIP Nucleare, Fiat, and Montecatini on the Italian side, and the Martin Marietta Corporation from Baltimore and Atomic International on the American side.<sup>49</sup>

The only exception remained the building of the SELNI nuclear power plant, which became the object of a heated political controversy in the context of the debate about the nationalization of Italy's electric industry. In 1962, SELNI and Westinghouse pushed the US administration to approve the shipment of the reactor needed to operate the plant. The State Department replied by asking CNEN for an official statement that the reactor was part of the US-Italian bilateral agreement. However, the Italian government refused to issue the statement considering how politically sensitive the matter was. A CNEN representative in Washington, DC, "advised that due to governmental crisis and likelihood of nationalization nuclear industry in 'opening to left' of new coalition no official Rome presently in position state SELNI authorized receive shipment."<sup>50</sup> The State Department concluded that "any implication of US interference in planned nationalization, nuclear power or SELNI reactor specifically must of course be avoided."<sup>51</sup>

#### THE NATIONALIZATION OF THE ELECTRIC INDUSTRY

In November 1962, the Italian Parliament voted to create ENEL, which centralized the production of electric power. The law was part of a wider debate, carried out by the Italian Parliament between the second half of the 1950s and the early 1960s, about the need to create center-left governments, based on a coalition between the Christian Democratic Party (DC), the Italian Socialist Party (PSI) and the Italian Social-Democratic Party (PSDI). The establishment of ENEL was one of the conditions set by the PSI for supporting the creation of a center-left government.<sup>52</sup>

In the late 1950s, the US administration remained weary about socialists' participation in the Italian government. Its attitude changed after John Foster Dulles – a fierce anti-Communist – left his position as Secretary of State in 1958. However, the United

---

49 US Participation in Inauguration of Italy's First Nuclear Reactor, April 22, 1959, NARA, RG 84, CBL, 1955-1957, box 4819; Felice Ippolito to Wells, Director of International Affairs, USAEC, March 1960, NARA, RG 59, OS, S/AE, GRAE, 1948-1962, box 502. See also Paoloni, *Il nucleare in Italia*.

50 Department of State to AmEmbassy, February 23, 1962, NARA, RG 59, CDF, 1960-1963, box 2695.

51 Department of State to AmEmbassy, February 23, 1962, NARA, RG 59, CDF, 1960-1963, box 2695.

52 Labbate, *Il governo dell'energia*; Leopoldo Nuti, *Gli Stati Uniti e l'apertura a sinistra. Importanza e limiti della presenza americana in Italia* (Roma-Bari: Laterza, 1999); Valerio Castronovo and Giovanni Paoloni, eds., *I cinquant'anni di ENEL* (Roma-Bari: Laterza, 2013).

States still wanted to make sure that the new government would confirm Italy's membership in the Atlantic Alliance and avoid any form of neutralism. Prime Minister Amintore Fanfani's trip to the United States in June 1961 was, in this sense, crucial. Just before he left for Washington, DC, Charles Douglas Jackson, who had been Eisenhower's special assistant, sent a report to President John F. Kennedy, pointing out that the PSI was indeed breaking away from the Communists.<sup>53</sup>

While the nationalization of the Italian electric industry reminded many of the forms of economic nationalism carried out by ENI in the oil field, the US administration and the American Embassy recognized the political and economic importance of ENEL. As the Embassy put it, "the nationalization of electric power can be viewed as a defensible political compromise adopted in the hope of furthering long-range political objectives of major importance to the country. In this light, the purpose was to obtain support for a center-left government from socialists ... who are loyal to democratic principles and therefore fundamentally opposed to communism, while being nothing worse than doctrinaire".<sup>54</sup> According to the US administration, the creation of ENEL was not so radical, since center-left governments did not intend to nationalize other sectors, private firms could continue to operate, and ENEL might have overall positive effects on the Italian economy, boosting the government's economic planning policies, particularly in the South. The United States' main concern was the proposal – advanced by ENI – to nationalize all energy sectors. Once ENEL was established, the US Embassy reported optimistically that, "the limitation of the proposed new agency to electric power production would seem to end the hopes of those who from time to time have proposed creation of a gigantic single state agency to control the whole energy sector", while at the same time limiting the possibility on the part of the CNEN of establishing full control over the Italian nuclear sector.<sup>55</sup>

ENEL, however, decided to rely on oil, rather than nuclear power, to fuel most of its electric plants. The decision was tied to economic and political reasons, and depended on a series of changes that characterized the national and international energy market. The most important one had to do with the declining price of crude oil, linked to the discovery of new fields in North Africa. Furthermore, in the early 1960s the United States' approach to Italian oil policies changed significantly. After ENI signed a series of treaties with the Soviet Union for the import of crude oil, the US administration and American oil companies intervened to stop Mattei's activities. In 1963, with the support of the State Department, ENI and Standard Oil (N.J.) signed an agreement,

---

53 Catronovo, *Il gioco delle parti*, 163.

54 AmEmbassy Rome to Department of State, October 1, 1963, in NARA, RG 84, Italy, US Embassy Rome, Classified General Records (hereafter CGR), 1946-1964, box 28.

55 AmEmbassy to Department of State, July 20, 1962, NARA, RG 59, CDF, 1960-1963, box 2695.

according to which the American oil company would provide ENI with crude oil and natural gas it extracted in Libya, in exchange for technical equipment. The treaty reduced Italy's dependence on Soviet oil and allowed Esso to find an outlet for its hydrocarbon resources.<sup>56</sup>

Thanks to these deals, Italy received large quantities of cheap oil, which it refined in its many plants, especially the ones located in Sicily. Part of the refined products was sent to other Western European countries, but what was left was used to fuel Italy's electric industry. The government's and ENEL's strategy was largely supported by American oil companies operating in Italy, as well as by ENI and the Italian refining industry.<sup>57</sup> ENEL's decision to rely on oil to fuel its electric plants led to a sharp decline of Italy's nuclear program, given that the agency reduced its investments in the nuclear sector and relied almost entirely on cheap oil rather than on a more diversified range of energy sources. As a result, despite the country's advances in the nuclear sector, by the second half of the 1960s only 5% of Italy's electricity came from nuclear power. This decision had long-term effects, since it made the Italian economy and industry largely dependent on imported oil and increasingly vulnerable to the changes of the international oil market, as was clear during the 1973 oil "shock".<sup>58</sup>

### THE "IPPOLITO AFFAIR"

Italy's shift away from nuclear energy was also the result of political decisions. In the summer of 1963, Giuseppe Saragat, leader of the PSDI accused Ippolito of mismanaging public funds. After a long trial, Ippolito was removed from his position, leading to a decline of public investments in nuclear programs. The American Embassy in Rome reported widely on what it called the "Ippolito scandal" and the subsequent trial. When Saragat made his accusations, it highlighted how "Saragat's stand on question of nuclear power has distinct political connotation. Evidently prepared for him by experts in the field who oppose nuclear plants, his statements seem aimed at discrediting Felice Ippolito".<sup>59</sup> A week later, the Embassy confirmed its opinion that "Saragat's principal

56 Archivio Storico ENI (ASE), Fondo ENI, Presidenza, Raffaele Girotti, b. 76, f. 3369. On US reactions to the treaty between the Soviet Union and ENI: Elisabetta Bini, "A Challenge to Cold War Oil Politics? The US and Italy's Relations with the Soviet Union, 1958-1969", in Jeronim Perovic, ed., *Cold War Energy: A Transnational History of Soviet Oil and Gas* (London: Palgrave Macmillan, 2017): 201-230.

57 De Leone and Dau Novelli, "Dal Cnen all'Enea", 91-92.

58 AmEmbassy Rome to Department of State, February 1, 1963, NARA, RG 84, Italy, US Embassy Rome, CGR, 1946-1964, box 28. Elisabetta Bini, "A Transatlantic Shock: Italy's Energy Policies between the Mediterranean and the EEC, 1967-1974," *Historical Social Research*, 4 (2014): 145-164.

59 AmEmbassy in Rome to Ruepda, August 1963, NARA, RG 59, Central Foreign Policy File (here-



motives were political rather than economic, although he ... has been concerned with large expenditures involved in building and operating nuclear power stations".<sup>60</sup> It immediately linked the accusations to the policies carried out by the center-left governments, and argued that,

[Sarat] has raised question of type of center-left to be created ... namely, whether it would be a center-left that would institute needed social and economic reforms with full respect for individual initiative and enterprise, or center-left of type sought by such left-wingers as Riccardo Lombardi and Ugo La Malfa, who advocate basic structural changes in economy.<sup>61</sup>

Sarat's support for the first option obviously meant undermining the reformist ethos that had characterized political discussions concerning the founding of ENEL and CNEN's programs.

US representatives immediately considered the political repercussions of the "Ippolito affair". While the CIA reported that "revelations of conflicts of interest in the government Nuclear Energy Committee are causing a political uproar that may complicate maneuvers this fall to form a new government",<sup>62</sup> the American Embassy pointed out that the Italian Communist Party (PCI) might take advantage of the situation, by taking sides with Ippolito and trying to broaden the investigations to various DC Ministers of Industry.<sup>63</sup> Furthermore, it argued that, "the government has handled the case very gingerly apparently because many important personalities had been subsidized by Ippolito [Lombardi and La Malfa in particular]".<sup>64</sup>

The Embassy initially pointed out that the "Ippolito 'scandal' is but one of several involving top government officials which have blown up Italy in past few years ... [Ippolito] appears to [*sic*] deeply implicated to escape completely unscratched."<sup>65</sup> The Ambassador argued that, "The decision to arrest Ippolito would also seem to indicate the Government's determination to do something positive about the rash of economic and political scandals that have beset Italy in the past several years, and possibly enhance its public image at a time when popular support for its programs is so eagerly sought".<sup>66</sup>

---

after CFPF), 1963, POL, box 3951.

60 AmEmbassy in Rome to Ruepda, August 1963, NARA, RG 59, CFPF, 1963, POL, box 3951.

61 AmEmbassy in Rome to Ruepda, August 1963, NARA, RG 59, CFPF, 1963, POL, box 3951.

62 CIA, September 19, 1963, NARA, CREST.

63 AmEmbassy in Rome to Ruepda, September 1963, NARA, RG 59, CFPF, 1963, POL, box 3951.

64 AmEmbassy in Rome to Department of State, October 17, 1963, in NARA, CFPF, POL, box 3952.

65 AmEmbassy in Rome to Ruepda, August 1963, NARA, RG 59, CFPF, 1963, POL, box 3951.

66 AmEmbassy in Rome to Department of State, March 5, 1964, in NARA, CFPF, 1964-1966, Political & Defense, box 2366.

However, during the trial the Embassy changed its initial impression that “firm evidence has been uncovered against Ippolito”, and pointed out that Ippolito “administered the agency, and its funds, in accordance with CNEN directives”, and that, despite his “deplorable personal traits ... his staff felt that he was accomplishing the desired objective of moving Italy ahead in the field of nuclear technology”.<sup>67</sup> One year after the outbreak of the “Ippolito affair”, the Embassy pointed out that one of the main results had been to waste “a year in the field of nuclear research and development”, reduce “the country’s stature and prestige in international nuclear agencies”, and convince the public that nuclear power was too expensive for Italy.<sup>68</sup>

## CONCLUSION

Between the end of World War II and the mid-1960s, Italy’s civilian nuclear program was profoundly influenced by the Cold War and, in particular, by US policies and interests in Western Europe. Until the mid-1950s, the US administration and the US-AEC kept Italy’s uranium resources under control, and did not provide any aid or funds for the purchase of nuclear equipment under the Marshall Plan. Once the Eisenhower administration introduced the Atoms for Peace program, the US used its bilateral agreements with Italy to shape the country’s civilian nuclear program, by strengthening the role of private industrial groups and providing enriched, rather than natural uranium, thus making Italy dependent on a technology controlled by the US.

This chapter has argued that, rather than simply representing an imposition of American technology and industrial strategies, US policies interacted in complex ways with a variety of Italian actors, which offered their own interpretations of the meaning of civilian nuclear projects for the country’s modernization. Until the early 1960s, when the Italian Parliament finally approved an atomic energy bill and created the CNEN, the US encountered many forms of resistance on the part of Italian politicians and institutions. These were tied to a specifically domestic struggle between public and private firms and research centers, revolving around the nationalization of the electric industry, which hampered the development of Italy’s nuclear program. Once CNEN was established and the Italian government started supporting the idea that the development of a nuclear policy should be part and parcel of the forms of economic planning and modernization

---

67 AmEmbassy in Rome to Department of State, August 7, 1964, NARA, CFPE, 1964-1966, Political & Defense, box 2366.

68 AmEmbassy in Rome to Department of State, August 19, 1964, NARA, CFPE, 1964-1966, Political & Defense, box 2366.

promoted by the center-left coalitions, the US became actively involved in providing Italy with reactors, and training a new generation of Italian scientists and technocrats.

The link between the development of a civilian nuclear program and Italy's modernization came to a sudden halt in the early 1960s, after the creation of ENEL and in the aftermath of the "Ippolito affair". This chapter has shown that the decline of public investments in the nuclear sector was only partly the result of American forms of pressure. While US oil companies and the State Department pressured the Italian government and ENI to buy large quantities of cheap crude extracted in North Africa, thus reducing the country's dependence on Soviet petroleum, ENEL's resolution to rely on oil, rather than nuclear power, to fuel its electric plants, was a domestic choice. It resulted, once again, from a struggle between public and private firms and interests, and intersected with the decision, on the part of the Italian government, to marginalize the forms of economic planning and modernization that had characterized the late 1950s and early 1960s. In this framework, it should come as no surprise that the American Embassy, the US administration and the USAEC interpreted the "Ippolito affair" as putting an end to one of Italy's most advanced scientific, technological and industrial projects, and undermining Italy's international prestige.