13 Revealing Risks: European Moments in Nuclear Politics and the Anti-Nuclear Movement

Abstract This chapter explores various European moments when Europeans have engaged with civil and military use of nuclear energy. While the development of nuclear power was initially closely and deliberately linked to (re-)building Europe and European integration, since the 1970s, the growing critique of this technology has given rise to conflicts within societies and across borders, transnational movements, and European networks of cooperation. In the beginning, this was limited to Western Europe, but since the Chernobyl disaster of 1986 it has increasingly included the East as well. This chapter draws on European moments that have played out on – and often cut across – different levels, from the supranational to the national and local, in different parts of Europe, shaped by a variety of different actors. It underscores, in particular, the important role played by women in this conflict.

Keywords nuclear energy; nuclear weapons; protest; European cooperation; transnational movements

When the German Young Socialists Josef “Jo” Leinen and Petra Kelly visited the occupied construction site of the planned Wyhl nuclear power plant on the West German side of the Upper Rhine in 1975, they immediately interpreted the protest event as what could be called a “European moment”.¹ Supported by activists from across the French and Swiss borders, the predominantly local protesters appeared to them to be the embodiment of a better Europe from below. Such border-crossing protest seemed to represent a counter-project to the Europe of big business that many leftists associated with the European Communities (EC) – Kelly’s employer.²

Both Leinen and Kelly were part of the Young European Federalists, the left-leaning youth organization of the European movement, a movement aiming to create a “United States of Europe”. In an attempt to challenge and ultimately change EC nuclear policy, both of them subsequently worked hard to take the protest against nuclear power to Brussels. They managed to convince the European commissioner Guido Brunner to organize public hearings in Brussels in 1977/78, the “Open Debates on Nuclear Energy”.³
Leinen and Kelly were fully aware of the EC’s institutional commitment to nuclear power. The European Atomic Energy Community (Euratom) had been founded in 1957 explicitly to promote nuclear power as the energy source of the future. By the 1970s, Euratom had developed ambitious plans for closing the “fuel cycle”, including reprocessing, fast breeder reactors, and waste repositories,⁴ while societal perceptions began to change in many European countries.⁵ New anti-nuclear movements started to challenge the desirability of nuclear energy altogether,⁶ let alone its promotion via Euratom.⁷

This chapter explores the variegated European histories of ambitions for and conflicts over nuclear power. The term *Europe* was highly contested during the Cold War and was used to emphasize political boundaries. Western Europeans and the EC institutions claimed the term *Europe* for themselves, linked it to the vision of European unity, and juxtaposed it with the Soviet Empire of the Warsaw Pact. In turn, beginning in the 1970s, Czech, Polish, and Hungarian intellectuals highlighted that they had preserved European traditions much better than the supposedly Americanized West.⁸ Just as the meaning of Europe was constantly disputed, so were the promises and perils of nuclear power.

In the 1950s and 1960s, Western European governments; European institutions in Brussels, Luxembourg, and Strasbourg; and industrial, business, scientific, and technological elites promoted nuclear power as a vision and a force for a prosperous, united, and secure Western Europe after the Second World War, a vision that proved persuasive within the media and society. Similar visions were promoted east of the Iron Curtain under Soviet leadership. Since the 1970s, nuclear technology started to become increasingly controversial and divisive, initially in the West and also – after Chernobyl – in the East. Within societies, conflicts intensified between promoters and opponents, and differences also increased between European countries – as some of them opted out of nuclear energy, while others remained staunchly committed to the technology.⁹ At the same time, engagement with nuclear power continued to link Europeans across borders, however, divided into two camps: on the one side, the critics of nuclear power and, on the other side, the promoters as well as operators. Both camps were connected across Europe through transnational exchange and networks of cooperation, sometimes even cutting across the Iron Curtain, and they frequently evoked European or transnational solidarity.¹⁰

The politics of nuclear Europe played out at different levels: at the supranational level, with the early institutionalization of Euratom; at the national levels, with political and technological elites initially pursuing very similar approaches to nuclear energy;¹¹ and at the subnational, regional, and local levels, with anti-nuclear protest frequently linked to centre-periphery conflicts, regional identities, and local concerns, for instance regarding land or water
use, coal miners’ jobs, or local tax revenue.\textsuperscript{12} The local, national, and international levels sometimes overlapped, as transnational and transboundary links and transfers were important for both technological development and protest.\textsuperscript{13} Many of these transfers were not limited to Europe’s geographical boundaries, but involved global connections. Men and women engaged in protest and as transnational mediators with women being often the driving force behind actions. Thus, various action groups and transnational networks were founded and sustained by women. Thus the anti-nuclear movement also became an emancipatory force for female equality and participation beyond nuclear issues.\textsuperscript{14}

When looking back at the nuclear history of Europe, we can single out a number of European moments. We may define such moments as events of relevance for more than one European country, events demonstrating wider European developments, connections, and exchanges in a nutshell while reflecting multiple levels and perspectives. European moments hit home and played out very differently across Europe. Some European moments were actually discussed as “European” by the contemporaries, or involved an “appeal” to the European institutions or an imaginary European public sphere.\textsuperscript{15} This chapter will include those European moments relating to civilian and military uses of nuclear technology like nuclear energy and nuclear weapons. We thus seek to avoid reproducing attempts since the US president Dwight D. Eisenhower’s “Atoms for Peace” initiative in 1953 to reframe the two kinds of applications as fundamentally different. The chapter will draw attention to such European moments chronologically: from the Treaties of Rome to Chernobyl and to the most recent debates on the so-called nuclear renaissance and the persistent issue of what nuclear power leaves behind.\textsuperscript{16}

\section*{1 Rome, March 1957: Making Europe through Nuclear Energy}

In the history of nuclear power, Monday, 25 March 1957, was clearly an important European moment. On that day, the governments of Belgium, the Netherlands, Luxembourg, Italy, France, and West Germany signed the Treaties of Rome. These treaties created the European Atomic Energy Community, alongside the European Economic Community, which established a European common market for goods, services, labour, and capital. These two new organizations complemented the earlier European Coal and Steel Community. Merging into the European Communities in 1967, they formed the institutional basis for today’s Euro-
pean Union (EU). While the European Coal and Steel Community had been founded to provide equal access to vital fossil energy resources in the early 1950s, Euratom was to open the road to what was considered the energy source of the future: providing an apparently clean, and seemingly endless source of nuclear energy.¹⁷ Euratom complemented the promotional efforts of the “Atoms for Peace” campaign, which involved exhibitions and events all across Europe during the 1950s.¹⁸ Euratom’s primary goal was to foster European cooperation in research and development through a network of research centres in the original six member states. Most prominent among those was Ispra in northern Italy, where “[s]ome 500 nuclear scientists from throughout the six nations” could draw on a budget of “$40 million for new equipment and installations to speed Europe’s power reactor technology, instrument research, research in the field of raw and processed materials, and the training of nuclear scientists”, as the European Commission proudly announced in 1960.¹⁹

The euphoria did not last long. By the end of the 1960s, the failure to find a market for the European “Orgel” (organically cooled) reactor design, developed at Ispra, led Euratom into a cul-de-sac.²⁰ In the early 1970s, disaffected researchers left Ispra in droves.²¹ Also from the perspective of the US administration, who had supported Euratom’s founding to prevent proliferation and nuclear nationalism, the organization was a failure, as national reactor projects mushroomed and France attained its force de frappe.²²

Despite the efforts of the “Atoms for Peace” campaign and Euratom, already in the 1950s, there was some contention around the use of nuclear fission. Across various Western European countries, such as Sweden, the UK, and West Germany, some leading scientists and parts of civil society were highly critical of military uses and weapons testing.²³ The US fallout debate resonated in Europe, too. The contamination of children’s milk by radioactive caesium from nuclear weapons tests evoked potent images, triggered health concerns, and mobilized mothers in particular.²⁴

Only rarely did such critique refer to civilian uses as well, but where they did, similar arguments were used.²⁵ The siting of two major nuclear research centres in West Germany between 1956 and 1958 led to effective local opposition. Eventually the research centres were relocated to a forest outside Karlsruhe and to war-ravaged Jülich instead of Cologne.²⁶ Critics emphasized health concerns and issues of land and water use.²⁷ Some of them were apparently aware of experiences elsewhere and referred not only to the transnational fallout issue, but also recent accidents with nuclear waste materials in the US or in other European countries, namely the British Windscale site, where a major accident occurred in 1957.²⁸ Women’s associations played an important role in both
cases and highlighted health concerns “in the name of many unnamed women and mothers”.²⁹

Nevertheless, such protests remained rare and mostly local, because most Western European citizens accepted the promises of the new technology and its symbolic and institutional attachment to European unification. Looking eastwards of the Iron Curtain, the Soviet Union equally promoted nuclear energy as a force of modernization and a Soviet utopia.³⁰ Notwithstanding the promotion of a shared vision of progress by the advocates of nuclear power on each side of the Iron Curtain, by the 1970s nuclear energy became increasingly conflict-prone, and European countries began to diverge in their nuclear energy policies with the beginning of the anti-nuclear protest movements.

2 Stockholm, June 1972: Linking Environmentalism and the Critique of Nuclear Power

At the end of the 1960s and beginning of the 1970s, Western and – with a certain delay – also Eastern European states and societies underwent changes in attitudes, values, political behaviour, and their economies, as the post-war boom came to an end. The rise of environmentalism and a new debate on the negative side effects of economic growth were not only concerns among the new social movements and the media. Such issues were also promoted and placed on the European agenda by international organizations.³¹ 1970 was the Council of Europe’s European Conservation Year (see chapter 12 by Vetter-Schultheiss); the Organization for Economic Co-operation and Development, North Atlantic Treaty Organization (NATO), and also EC institutions started their respective projects to establish environmental policies (see chapter 16 by van de Grift/van Meurs).³² In the face of growing domestic concerns about long-range air pollution affecting Swedish lakes and forests in the late 1960s (see chapter 14 by Kaijser),³³ Sweden had taken the initiative for holding a conference on environmental issues in the framework of the United Nations (UN). Sweden committed to hosting the first UN Conference on the Human Environment which took place in Stockholm in June 1972. This event marked the establishment of environmental policies at various levels in Europe and internationally. Despite its global nature, the conference constituted an important European moment with regard to nuclear power and the rise of anti-nuclear movements especially in Western Europe. Nuclear issues were discussed during official meetings as well as at the so-called counter-conferences – a series of alternative meetings that took place in parallel
to the official gathering in Stockholm. From the late 1960s, nuclear power started to become much more controversial not only in the United States but also in some European countries. In Sweden, it was a highly topical issue, as the king had just inaugurated the country’s first commercial nuclear power plant in May 1972. Thus, at the alternative forums, Swedish nuclear critics like Hannes Alfvén and the new international non-governmental organization Friends of the Earth connected the Swedish issue to broader concerns about the technology and thus raised awareness among European environmentalists from those countries where nuclear power plants were still only on the drawing board.

Nuclear power was also negotiated at the UN General Assembly and various plenary meetings. Three main topics were discussed: radioactive pollution of the seas by nuclear vessels and as “weapon” in the Vietnam war, a ban on the production and use of nuclear weapons, and the issue of nuclear tests and fallout. In the end, however, only a draft resolution on nuclear weapons testing was passed, presumably directed against states such as France, which had been conducting nuclear tests in the South Pacific since the 1960s, an issue much criticized by various non-governmental organizations.

The growing concern for the environment contributed to a new awareness of the problems related to nuclear technology. This is the context in which the great protests of the 1970s emerged, notably on the Upper Rhine, where Swiss, West German, and French energy planners competed for the river’s ample cooling water, becoming the hotbed of transnational anti-nuclear protest in Western Europe.


In the early 1970s, protests against nuclear power began on the French side of the Upper Rhine. The conflicts were initially regional, within the transboundary region, but they quickly turned into transnational, and in many ways also European ones, as the protesters created networks across borders. The events on the Upper Rhine became a point of reference for anti-nuclear activists all over Europe. Many of them perceived the protest as a larger European affair – just as Kelly and Leinen. Well before Stockholm, the construction of the nuclear power plant in the Alsatian village of Fessenheim aroused some local opposition. Its location at the border, originally intended as a symbol of Franco-German reconciliation in the spirit of European technological cooperation, meant that those living on the other side of the river were also potentially affected. This
led German and Swiss citizens to join the protest. Right after the plans had been announced in the summer of 1970, a small group of protesters sent an open letter to the responsible French minister. A first demonstration was held in April 1971. Protesters hailed from the peace movement with its strong Lutheran base, and from environmentalist as well as eugenicist circles. The Austrian-based but transnationally connected World Union for Protection of Life, with roots reaching back to Nazi times, warned against genetic damage due to low level radiation. Other networks were the Christian peace group International Fellowship of Reconciliation, which also supported the critique of nuclear power in Stockholm in 1972 as well as the 1973 meeting that led to the founding of the Organization for Information about Atomic Energy (OOA), the Danish anti-nuclear organization.

When the village of Wyhl on the West German side of the Rhine, not very far from Fessenheim, was selected for a nuclear power plant in 1974, opposition started immediately and culminated in occupation of the site, modelled on French practices from across the border. The occupation lasted from 23 February until 7 November 1975 and has been widely viewed as the starting point for the anti-nuclear movement in Germany. Protesters from Wyhl also went on to occupy the site of the nearby Swiss nuclear power plant in Kaiseraugst, a project under development since 1967. Occupation as a strategy was studied by activists and protest researchers and immediately became a model for protests elsewhere.

The protests at Wyhl had emerged from within the local population, including conservative farmers, vintners, and landowners in the vicinity of the plant, all worried about their produce, way of life, and health. By not taking local concerns seriously, the Baden-Württemberg state government in Stuttgart unintentionally aroused regionalist resentment against what came across as heavy-handed policy. Many locals objected to what looked to them like the forced industrialization of their home region. Cross-border identities, strengthened by the shared Allemannic dialect, provided a more convincing regional identity than the seemingly artificial new state of Baden-Württemberg. Poets and singer-songwriters making use of the shared dialect successfully mobilized cross-border regional ties. In Alsace, protesters similarly inflamed regionalist sentiments against French centralism.

The regional anti-nuclear movement connected nationally and transnationally via mediators like Kelly and Leinen. In the late 1970s, both became leading figures in the umbrella organization of the German environmental citizen action groups. While Kelly helped found the German Green Party, Leinen strengthened the growing anti-nuclear wing of Social Democrats, devoting his career to environmental and European issues. They established links to other European antinuclear activists and helped in taking the protest to Brussels. Kelly travelled to
countries as far as Australia, sustaining transnational connections to movements abroad for years.⁴⁷

Within the region, the rural groups at Wyhl reached out to urban initiatives, such as in the university town of Freiburg, with the Baden Women’s Initiative, for instance. Like the female protesters in the 1950s, many of the women emphasized their motherhood and responsibility for life, health, and food. Women of different generations played an important role in the occupation and the protest at Wyhl and their prominent presence also contributed to the legitimacy – and authenticity – of the opposition.⁴⁸

In the end, it was not only the transnational protests but also the courts, lower-than-expected electricity demand, and politics that put the nail in the coffin of the Wyhl nuclear power plant project. In March 1977, the administrative court withdrew the construction license but later the case was referred to a higher-level court. In 1982, the prime minister of Baden-Württemberg declared the construction of the nuclear power plant in Wyhl unnecessary. In the end, the plant was never built.⁴⁹ Likewise, Kaiseraugst was halted in the wake of the 1975 occupation and eventually abandoned in 1988.⁵⁰ In France, however, where nuclear power development was accelerated because of the 1973 oil crisis, Fessenheim’s two reactors were connected to the grid in 1977 and ran until 2020. Across all three countries, much fought-over plants were completed and some went on line even after the nuclear catastrophe of Chernobyl.

4 Barsebäck, August 1976: Transboundary Nordic Protests

Protests against nuclear power in Scandinavia were transnational and transboundary, too. However, they were not viewed as European, but rather as Nordic concerns. On 7 August 1976, the participants of a Nordic environmentalist summer camp in southern Sweden singled out the Swedish nuclear power plant Barsebäck, where a first reactor had been operating since 1975 and a second one was to go online in 1977, for a first joint Nordic anti-nuclear demonstration with protesters from Sweden, Norway, and Denmark.⁵¹ Even though activists were well aware of the events in France and Germany, they engaged in neither occupations nor violence. Instead, the creative and peaceful protest march – involving a die-in (see figure 1) – linked Barsebäck and the critique of nuclear power to various other environmentalist concerns in the rapidly modernizing Nordic societies. Slogans also criticized the depopulation of the Scandinavian countryside, Copenhagen’s Ørestad city expansion into precious wetlands, and included a
plea for a “society that used its resources sustainably” (see figure 2). After this initial protest event, anti-nuclear activists continued to collaborate transnationally in (almost) annual marches against the Barsebäck nuclear power plant. Its close vicinity to Copenhagen and major Swedish cities helped in making the argument that it was “the world’s worst located nuclear power plant” very strong and facilitated the trustful cross-border collaboration of Danish and Swedish anti-nuclear activists.

Figure 1: “Die-In.” Imaginative Nordic protest against the Swedish Barsebäck Nuclear Power Plant, 7 August 1976 (© Lasse Herneklint, permission kindly granted).
Figure 2: “Nordic Atomic March, 7 August 1976. We meet at Barsebäck”. Poster of first Joint Nordic March against Barsebäck (© OOA Fonden, Copenhagen, smilingsun.org, permission kindly granted).
Barsebäck becoming the target of cross-border anti-nuclear activism caught the Swedish operators somewhat by surprise because relations across the border had been close and cordial up until that time. When the Swedish electricity company Sydkraft planned to build a nuclear power plant in relatively densely populated southern Sweden in the late 1960s, they were following energy planners’ common conventions. The building site at Barsebäck was on a spit of land surrounded by the sea, with no population in the vicinity of five kilometres. The location about 20 kilometres away from Copenhagen was economically advantageous for the planned export of electricity to Denmark. The Swedes consulted their neighbour’s authorities, but the Danes did not object to the location. When the nuclear experts from the Danish research centre criticized the emergency cooling system, the Swedes incorporated this technical advice and changed the plans accordingly, and construction works started in 1971.

In early 1974, in response to the oil crisis, Danish utility companies concentrated on securing a licence to build their own nuclear power plant. The nascent anti-nuclear movement organization OOA immediately challenged these plans and soon found allies in Denmark’s newly fragmented party system. Between 1974 and 1976, energy issues were controversially discussed in parliament and society. By 10 August 1976, three days after the Nordic demonstration against Barsebäck, the Danish government decided to postpone any decision to licence nuclear power plants until a solution for safe waste disposal had been found, which proved impossible to demonstrate. Nuclear development was put on hold until the Danish parliament decided in 1985 to exclude nuclear power from the country’s energy planning.

From 1976 onwards, Barsebäck became one of the main targets of OOA mobilization, calling attention to the risk of a nuclear accident impacting on Danish territory. In December 1976, OOA activists protested in front of Copenhagen town hall and the Swedish embassy against the start-up of Barsebäck’s second reactor. Transnational links and international work were very important for the OOA. The organization had emerged from Christian youth circles, activists from War Resisters’ International, Women’s International League for Peace and Freedom, as well as from the new environmentalist movement organization NOAH. OOA closely observed and communicated with Swedish, German, and other Western and later also Central and Eastern European groups and provided the international anti-nuclear movement with a symbol: the sun sticker created by activist Anna Lund was distributed worldwide (see figure 3). Proceeds from the copyright helped to fund the international renewable energy group World Information Service on Energy (WISE).

Cross-border cooperation between Danish and Swedish anti-nuclear activists continued well into the 1990s. When a referendum on nuclear power was held in
Figure 3: How symbols travel. “Nuclear power – No thanks”, by Anne Lund, Organization for Nuclear Information (OOA), Denmark (© OOA Fonden, Copenhagen, smilingsun.org, permission kindly granted).
Sweden in March 1980, Danish anti-nuclear groups supported the Swedish People’s Movement against Nuclear Power.\textsuperscript{58} Even when the Swedish movement effectively disintegrated after the lost referendum, groups cooperated locally across the border in their efforts against Barsebäck. The nuclear accidents at Three Mile Island in Pennsylvania in 1979 and at Chernobyl in 1986 induced OOA to start massive petition campaigns. In 1979, they only demanded the closure of Barsebäck, but in 1986 this was extended to all nuclear power plants within 150 kilometres of the Danish borders, with OOA delegations entering into talks with the Swedish as well as the West and the East German governments. In the early 1990s, Danish activists protested at the congress of Sweden’s Social Democratic Party.\textsuperscript{59} Embarrassed by the continuous pressures from the Danes,\textsuperscript{60} the Swedish government eventually decided to prioritize Barsebäck’s phase-out. The first reactor was closed in 1999 and the second one in 2005.

5 Malville, July 1977: Fast Breeder Reactors, Violence, and Transnational Protests

While protests remained peaceful in Scandinavia and anti-nuclear message found its way into the political system by sympathetic parties, anti-nuclear activists in most of Western Europe – notably in France and West Germany – faced a pro-nuclear elite consensus that nuclear power was indispensable for energy provision. Accordingly, government authorities had little sympathy when protesters turned out for large-scale demonstrations, involving increasingly violent confrontations with the police. The year 1977 started with clashes at the northern German Brokdorf and Grohnde nuclear power plant sites in February and March, which were closely studied by the French police. Violence peaked on 31 July 1977 at a transnational anti-nuclear demonstration in France directed against the European fast breeder reactor that its opponents called Malville. This European moment was characterized by brutal battles between police and protesters that left a protester dead.\textsuperscript{61}

In the eyes of its planners and supporters, the Superphénix at Creys-Malville – as it was emphatically called officially – was to explicitly symbolize the benefits of European research cooperation.\textsuperscript{62} France, West Germany, and Italy collaborated on an industrial prototype of a breeder reactor. To its advocates, fast breeder reactors were the future of nuclear technology. They promised endless energy by “closing the fuel cycle” using reprocessed spent nuclear fuel in fast reactors in order to “breed” even more fissionable material which would help save precious uranium fuel as they argued.\textsuperscript{63} However, from the perspective of the critics
of nuclear power, breeding plutonium and making what they considered “bomb fuel” the basis for energy production was the embodiment of everything they feared and loathed about the nuclear sector: its connection to the military, the dangers of proliferation,\(^6\) and the handling of the highly poisonous, radioactive element with a long half-life, involving great risks for people and the environment.\(^5\)

For all of these reasons, Malville became the symbol and centre of a transnational protest event, culminating in a violent mass demonstration with participants from West Germany, Italy, Switzerland, and France. Transnational cultural and political misunderstandings aggravated the situation – gear like motorcycle helmets routinely used by West German protesters seemed offensive to French policemen, while Germans were not familiar with French police tactics and their arsenal of gas grenades, which caused severe injuries. Facing criticism in the media, French politicians mobilized nationalist stereotypes and blamed the violence on the activists from other countries, in particular the “Germans”.\(^6\)

For the French anti-nuclear movement, Malville was a turning point, leading to its decline and turn towards a more localized approach. As a European moment, Malville had a wider impact, reflecting the limits of mass demonstrations and the issue of violence. Already on 24 September, when they gathered at the construction site of another controversial European fast breeder reactor at Kalkar on the German part of the Lower Rhine near the Dutch border, Dutch, French, and German protesters as well as the police had reconsidered their strategies to prevent another loss of life. While activists learned from each other how to organize protests more effectively, government officials and police developed special strategies not only to protect reactor sites but also to prevent escalation.\(^6\)

Malville also paved the way for the founding of the European Green parties to take the case against nuclear power to parliamentary institutions.\(^6\)

The transboundary conflict over Malville, however, did not end in 1977. Swiss cantons engaged in litigation to slow down the process of construction before the plant opened in 1986, shortly before Chernobyl, and tried to stop its operation thereafter. In the end, technical problems eventually led to its closure in the 1990s.\(^6\)

6 Greenham Common, September 1981: Women Against Nuclear Arms

While energy issues and the conflict over nuclear power dominated the 1970s, the rise of the Cold War tensions in the early 1980s shifted public attention in
Europe – and North America – back to the military uses of nuclear technology. The peace movement gained strength again, raised the spectre of nuclear war and criticized the double-track decision of the NATO to station new cruise missiles to balance the Soviet SS-20 missiles. A substantial number of those activists who had protested against power plants now mobilized against nuclear rearmament. This overlap and continuity of actors and ideas reinforced both movements, not least in terms of technical, political, and organizational knowledge.⁷⁰

Women played a prominent role in these protests in Western Europe at conferences, demonstrations, Easter marches, and so-called women’s resistance camps. The first and most famous women’s peace camp in Western Europe was established in 1981 in Berkshire in England against the British government’s decision to have cruise missiles stationed there. A whole series of protests followed, taking place close to the Greenham Common Royal Air Force Base. From 250 women in May 1982, participation grew to 30,000 women half a year later.

Protests were very creative and rife with symbols. At the first major protest event, the “Embrace the Base” that took place in September 1981, the participants held hands to form a human chain around the 6-mile (about 10 kilometre) perimeter of the base. During the “Reflect the Base” demonstration in December 1983, 50,000 women encircled the base again to criticize the recent arrival of the cruise missiles. Women held up mirrors to make the military symbolically look back at itself and reflect upon its actions.⁷¹

Early on it was decided that the protests should involve women only. This choice was part of a deliberate strategy, in line with an ecofeminist critique that supposed and emphasized the connection between the suppression of women in a patriarchal society and the subjugation – and destruction – of nature through wars, nuclear power and weapons, and the arms race. Seemingly inherent differences between men and women were highlighted to create a positive reference to shared womanhood, which became an important source of emotional strength and legitimacy for political activities in the women’s peace movement.

Essentializing gender differences, ecofeminists used motherhood as a political strategy. In ways similar to earlier female anti-nuclear protesters the women at Greenham Common legitimated their opposition in the name of the safety of their children and future generations. Many women in subsequent protests after Chernobyl advanced such arguments, too. As Greenham Common was a permanent installation from 1981 until the year 2000, female activists often stayed overnight at the camp, thus challenging traditional notions that a woman’s place was in the home. Indeed, journalists provocatively asked the women why they were not at home with their children if they were so important.⁷²
Greenham Common, in England, and the camps in Comiso, in Italy, served as models for other camps in Western Europe, such as the feminist camp in the heavily militarized West German Hunsrück region. It was set up to protest against the stationing of 96 US cruise missiles in 1983. European female protests also resonated on the other side of the Atlantic, and in the same year, activists in the United States established a protest camp adjacent to the Seneca Army Depot in New York state.⁷³

Two female transnational networkers, Petra Kelly and Helen Caldicott especially, were deeply involved in mediating protest ideas and were perceived as leading voices in peace protests. Transnationally shared ecofeminist ideas provided an important bond not only between the two of them but also to the women at Greenham Common and female activists elsewhere.⁷⁴ Petra Kelly, a German, had grown up and studied in the United States before returning to Europe in the early 1970s. Linking European and global peace and anti-nuclear movements, Kelly established close ties with US and international peace protesters, including, notably, the Australian doctor Helen Caldicott, co-founder of the Women’s Action for Nuclear Disarmament in the United States and the organization International Physicians for the Prevention of Nuclear War, whose protest had been triggered by French nuclear testing in the Pacific.⁷⁵ With the Chernobyl disaster in 1986 and nuclear power returning to the European agenda with a vengeance, Kelly’s perseverance in transnational networking paid off, as her older contacts among international critics of nuclear energy, primarily from the US, revived the connection.⁷⁶

7 Chernobyl, April 1986: The Maximum Credible Accident Hits Home Differently in Europe

The catastrophic accident at the Chernobyl nuclear power plant in Soviet Ukraine on 26 April 1986 released vast quantities of radioactive substances into the atmosphere. It impacted on Europe in two ways. Firstly, nuclear isotopes were blown with the wind and hit Northern, Central, and Eastern Europe more heavily than regions further west. Chernobyl fallout was thus not limited to Soviet Belarus, Russia, and Ukraine, but exposed Europeans elsewhere, too. Radioisotopes taken up by plants and animals could subsequently be found in milk, meat, forest food products, freshwater fish, and wood – even until today.⁷⁷ Secondly, public perceptions of Chernobyl and the ensuing political consequences, however, often varied tremendously between countries, reflecting the state of na-
tional debates on nuclear power much more so than the actual physical fallout. A cross-section of national cases will demonstrate this pattern.

Sweden was thus not only instrumental in uncovering the accident – as surprisingly high levels of radiation measured at the Forsmark nuclear power plant led to diplomatic exchanges that forced the Soviet Union to admit that a nuclear power plant had been "damaged"\textsuperscript{78}. It was also the country outside the Soviet Union most affected by radioactive fallout. Chernobyl’s short-term political consequences were immense, but eroded in the long term. Chernobyl was intensively covered in the Swedish media and seemed to demonstrate that the anti-nuclear activists’ fears of accidents were not exaggerated. This rekindled the country’s nuclear controversy, which had been dormant after the referendum of 1980. Its result had allowed nuclear power expansion to go ahead with a planned phase-out by 2010. Influenced by Chernobyl and the protests that followed, the Social Democratic government put into law in 1988 a phase-out period beginning in 1995/96. However, in 1991, the pro-nuclear wing of the party had this decision reversed. Important arguments for this U-turn were jobs and costs, along with nuclear power’s supposed contribution to combatting climate change.\textsuperscript{79}

Italy, by contrast, was much less affected by actual fallout, but Chernobyl had decisive and long-term political ramifications because it accelerated an ongoing conflict about nuclear technology in the first half of the 1980s. Activists protested against expansion of nuclear power and the stationing of US cruise missiles. Just one month before Chernobyl, the Italian government had approved building several large nuclear power plants and taking a greater share in the Superphénix at Malville. Chernobyl triggered large demonstrations and a campaign for a national referendum. Eventually, the referendum held between 8 and 9 November 1987 put an end to the expansion of nuclear power in Italy.\textsuperscript{80}

In France and the UK, both the physical and the political consequences of Chernobyl were low. Primarily Scotland and some parts of eastern France had been affected by fallout, but authorities played down the impact and argued that their own nuclear power plants were safe. In the UK, with a certain delay, authorities had to admit that some grazing sheep had been contaminated and farmers were duly compensated. This affair remains the main British memory of Chernobyl today. Chernobyl did not resonate much in the UK, as the British anti-nuclear movement primarily focused on nuclear arms. In France, the cover-up of measurement results seemed to confirm the critics’ beliefs regarding the high-handed power and recklessness of the pro-nuclear elite. Chernobyl had a more permanent effect on the French anti-nuclear movement, though, as activists started to establish their own independent infrastructure of measurement stations and counter-expertise.\textsuperscript{81}
Germany received substantial doses of Chernobyl fallout. The political ramifications in West Germany were strong because – as in Italy – they resonated with ongoing conflicts about the soon-to-go critical nuclear power plant Brokdorf, the planned Gorleben nuclear waste repository (see figure 4), and the Wackersdorf reprocessing plant. These projects had kept the nuclear power issue alive in the 1980s, together with the prevailing peace protests. After Chernobyl, some of the peace groups reconnected to their anti-nuclear power plant roots. New groups also formed, among them the Mothers against Nuclear Power, who – along the lines of ecofeminism – emphasized their role in care and defence of their children and engaged in innovative protest. In the short run, the large-scale demonstrations – with a total number of 1.2 million participants in 1986 – did not impress the government(s), and plants went online as planned. However, in the long run, also due to the growing parliamentary presence of the anti-nuclear Green Party and changing public opinion, governments and utility companies became more hesitant to push for nuclear power. The private operators of the Wackersdorf plant (see figure 5) eventually pulled

![Figure 4: May 1980: Protest against the nuclear waste storage in Gorleben. Building a hut village – “Republic Free Wendland” – on a clearing in the area of the planned deep drilling site 1004 that was cleared by police and federal border guard on 4 June 1980 (© Günter Zint, permission kindly granted).](image-url)
the plug on the project in 1988 and opted for European cooperation in reprocessing existing plants in France and the UK instead.⁸⁶

Across Western Europe, in Italy, the UK, France, and West Germany, Chernobyl solidarity groups formed. They sought to help Soviet children, whose health had suffered from the Chernobyl fallout, reaching out across the crumbling Iron Curtain in a humanitarian mission rather than an overtly political one.⁸⁷

In East Germany, information about Chernobyl arrived via Western media and undermined even further any remaining trust in the state socialist government, which had declared all environmental information a state secret in 1982. Nuclear power had hardly been controversial in the socialist state that had beat West Germany in the race for the first operating reactor and heavily relied on dirty brown coal. Only in the wake of Chernobyl, under the umbrella of the Lutheran church, anti-nuclear groups formed, and a first state-wide anti-nuclear workshop took place in East Berlin in April 1987. Activists tried to acquire counter-expertise, obtained from West Germans, as well as, for instance, the Danish OOA.⁸⁸
Like in East Germany, in the socialist countries of Central and Eastern Europe, as well as in the Soviet Union, many citizens viewed nuclear power positively. Official propaganda linked nuclear energy to progress and pride in socialist scientific achievements. Information about safety problems was kept secret and the public sphere was tightly controlled. Environmentalism was usually incorporated into official structures. Critical views began being voiced only after Chernobyl. In relatively liberal Poland, anti-nuclear messages were included in environmental protest, for instance, on Children’s Day on 1 June 1986 in Kraków, and a petition was signed by 3,000 citizens to halt the construction of a nuclear power plant.⁸⁹

In the Soviet Union, Chernobyl put Gorbachev’s new policy of glasnost to a test. The slow and secretive response, as well as the lack of protection and compensation for the hundreds of thousands of Soviet citizens mobilized to help, undermined the trust in the new Soviet leader. The critique of nuclear power became part of the opposition’s critical perspective of the Soviet system and was increasingly linked to nationalist movements. In Soviet Lithuania, for instance, opposition emerged against adding a new reactor to the Ignalina plant. Ironically, after the establishment of independent states in the former Soviet Union, the meaning of nuclear power changed again. In Russia, Ukraine, and Belarus, nuclear power plants were framed as sources of national economic strength, and critics were increasingly marginalized.⁹⁰

Chernobyl was clearly a European moment, even if its physical and political ramifications varied greatly across countries. Chernobyl’s impact on anti-nuclear mobilization and the nuclear sector also varied regarding the short- and long-term consequences: short-term consequences were strong in Italy and Sweden, but did not last in the Scandinavian country, while in West Germany, the consequence was initially weak in the short term, but important in the long term. On the eastern side of the Iron Curtain, Chernobyl had the strongest and most lasting environmental and health effects, thereby contributing to the demise of the Soviet system, but the opposition to nuclear power did not always last.

8 Europe, 1990s and beyond

Chernobyl probably constituted the last important European moment in the history of nuclear politics and the anti-nuclear movement. Three common themes, however, have been characteristic of nuclear politics in Europe since then.

Firstly, after the fall of the Iron Curtain and the run-up to European Union membership, a number of nuclear power plants in Central and Eastern Europe were closed down. East German nuclear power plants were closed down already
in 1990, not least because Western politicians had attributed the Chernobyl accident to risky Soviet technology. Similar concerns played a role in closing down the Lithuanian Ignalina nuclear power plant. However, in Hungary, the Czech Republic, and Slovakia, reactors were modernized and “Westernized” in terms of their security under the auspices of international and European organizations, including Euratom. Operators and regulators were integrated into wider European networks.

Secondly, for European states the search for a nuclear waste repository has become increasingly urgent. For a long time, waste sites have been a focus of anti-nuclear protest across Europe, such as in Spain, where transboundary a protest emerged against a repository to be built on the Portuguese border since the late 1980s. After German reunification, Morsleben, the final repository inherited from East Germany, seemed to offer a convenient solution for West German low- and medium-level radioactive waste in the 1990s. Protests, legal action by environmental non-governmental organizations, and a change of government finally led to its closure in 1998.

Since the 1990s, new repository projects have been underway in Sweden and Finland. After initial protests against test drilling, the Swedish authorities changed to a competition format among Sweden’s existing “nuclear communities” to prevent opposition right from the start. As a lesson from this experience, since 2013 the German government has restarted its search for a final repository with a more transparent and more credible science-based procedure in hopes to find a geologically and socioeconomically suitable place by 2031. By excluding Gorleben from the options in 2020, the authorities tried to put an end to the long-drawn-out conflict over this site, which had lasted for more than four decades.

Thirdly, the debate about the so-called nuclear renaissance has varied widely throughout Europe. Some European countries, among them Finland, France, the UK, and Russia, have invested in building new nuclear power plants, while some, such as Poland and the Czech Republic, are considering this option. Those promoting new nuclear plants are framing nuclear energy as a climate-friendly, “low-carbon” source, a view that is seconded by Euratom. In other countries, notably Germany, this argument has been less persuasive, notably with a view to the “wicked” nuclear waste problem – a lasting heritage of the use of nuclear energy and a persistent source of risk for a million years to come. All in all, however, in Europe “pro-nuclear environmentalism” seems more limited than in the United States.

Like with Chernobyl, European responses to the Fukushima accident in 2011 varied dramatically: while Fukushima triggered little reaction in the UK, France, or in Eastern Europe, Germany saw major anti-nuclear demonstrations. The gov-
ernment of chancellor Angela Merkel immediately backtracked from its 2010 decision to slow down the phase-out. Merkel quickly decided to close the last nuclear power plants by 2022. Similarly, another referendum in Italy in the wake of Fukushima blocked the building of new nuclear power plants that the Berlusconi government had advocated.¹⁰⁰ In Finland, Fukushima’s ramifications only temporarily limited the country’s path of nuclear renaissance.¹⁰¹

Conclusions

This chapter argued that the nuclear history of Europe can best be captured through a series of European moments. These differ when considering how the actors involved thought about and engaged with nuclear technology. Even during the pro-nuclear euphoria of the 1950s – when European collaboration on nuclear power was associated with a promise of progress, peace, prosperity, as well as European unity or solidarity between socialist countries – some critics made their voice heard against military and civilian uses. While this critique was mostly local, it was transnationally informed and often involved women. The 1972 UN conference on the Human Environment in Stockholm epitomized the arrival of global environmentalism, which made nuclear power look increasingly problematic.

Various conflicts around reactor sites and nuclear weapons constituted European moments, as they connected sites and movements transnationally. However, activists – many of them women – did not always profess a “European” identity when they collaborated transnationally and locally across borders to oppose nuclear power plants. In Wyhl, identities were deeply regional and transboundary, while in Barsebäck they were Nordic. In Malville, transnationally organized groups challenged the kinds of European identities professed by Euratom’s nuclear Europeanism. Transnational misunderstandings aggravated violent conflicts, and the French authorities did not acknowledge protesters as fellow Europeans and in turn resorted to nationalist othering. Protests against nuclear rearmament during the 1980s had a strong transatlantic dimension – again with many women at the forefront. The “peace” protesters against NATO’s new missiles organized demonstrations both in the heavily militarized peripheral regions of the continent and in national capitals.

In the wake of the Second World War, Western European nation-states, their elites, and large parts of their societies optimistically tried to employ nuclear power not only to provide clean energy but also to reunite a war-torn continent through technology. This unifying force did not last: already in the 1960s, national governments pursued their own nuclear policies alongside some European
projects, notably those fast breeder reactors, which met fierce transnational resistance. Transnational and transboundary cooperation was characteristic of Western European anti-nuclear movements. From the late 1970s, they often pursued specific national and subnational paths, as they responded to the political frameworks in which they operated. However, after Chernobyl, Western European movements increasingly reached out to cooperate with the nascent movements in Central and Eastern Europe.

Across Western Europe, the success of anti-nuclear protest in halting the expansion of nuclear power in Europe differed greatly by country and sometimes even by site. In many European countries, protests reduced the attractiveness of nuclear power for policy-makers and utility companies as such opposition made planning politically riskier and more expensive. Some countries never went nuclear, and protests played an important role in this. Austria, where the already completed Zwentendorf power plant was never connected to the grid after the 1978 referendum, or Denmark, where commercial nuclear projects were never even started,¹⁰² are cases in point. In many countries, the scale of nuclear programmes was reduced. As electricity demand grew much more slowly than expected in the 1970s and 1980s, ironically, some utility companies were secretly satisfied not having realized their investment plans in full.¹⁰³

When the Chernobyl disaster struck in 1986, it unexpectedly constituted a European moment that drastically demonstrated the biophysical interconnection of the continent. Nuclear politics and anti-nuclear movements’ concerns cut across the Iron Curtain. The end of the Cold War reduced worries over nuclear arms. While apparently unifying the continent, it led to the further fragmentation of nuclear politics and policies. Nevertheless, the most lasting impact on Europe from the conflicts about nuclear technology lies in its transformative power within and across societies. The nuclear conflict mobilized civil society and social movements in an unprecedented manner, within and across national borders. Engaging with nuclear power citizens started questioning authority, technocracy, and traditional values, demanded and realized emancipation and democracy, but also experienced and self-critically reflected upon violence.

Notes

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Ibid., 243.


35 Kajiser, “Referendum”, 246.


45 Milder, Greening Democracy, 135–141.


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