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Women for peace and small scale renewables. Anti-nuclear mobilization in 1970s Sweden

Pacifismo femminile ed energie rinnovabili su piccola scala. La mobilitazione anti-nucleare nella Svezia degli anni Settanta

Abstract

Women were, for a long time, not welcome in the energy debate or in the energy sector in Sweden. However, during the 1970s feminist actors influenced and made important changes in Swedish energy politics. In the beginning of the decade, Member of Parliament Birgitta Hambraeus brought nuclear resistance into the Swedish Parliament. On September 26, 1979, the Women's March against nuclear power took place in more than 100 locations around Sweden. This was one of the more visible signs of how influential feminists presented the anti-nuclear struggle as a crucial women's issue. In this article, we analyze the rise and mobilization of feminist engagement in energy politics in Sweden during the 1970s. The purpose is to focus on women's engagement, the feminist arguments and strategies based on their commitment to a society based on renewable energy and against nuclear power. We do this by using archive material, political documents and qualitative interviews.

Keywords: public engagement, gender, feminist movement, nuclear resistance, renewable energy, politics

Abstract

Per molto tempo le donne in Svezia non vennero accolte volentieri nel dibattito sull'energia, né nel settore energetico. Ad ogni modo, durante gli anni Settanta alcune attiviste femministe influenzarono e determinarono cambiamenti importanti nella politica svedese dell'energia. All'inizio del decennio, Birgitta Hambraeus introdusse la resistenza

contro il nucleare nel parlamento svedese. Il 26 settembre 1979, in oltre cento località svedesi ebbe luogo la Marcia delle donne contro l'energia nucleare. Fu uno dei segni più evidenti di come alcune femministe influenti presentassero la battaglia contro il nucleare come un tema cruciale per le donne. In questo articolo analizziamo la nascita e le mobilitazioni dell'impegno femminista nelle politiche energetiche nella Svezia degli anni Settanta. Il nostro obiettivo è quello di mostrare l'attivismo delle donne, i discorsi femministi e le strategie basati sul loro impegno verso una società caratterizzata dall'energia rinnovabile, e contraria all'energia nucleare. A tale scopo utilizziamo materiali d'archivio, documenti politici e interviste qualitative.

Parole chiave: impegno pubblico, genere, movimento femminista, resistenza antinucleare, energia rinnovabile, politica.

Introduction

WOMEN FIGHTING FOR PEACE

SAVE THE LIFE

ATOM POWER EQUAL TO ATOM BOMB

WOMEN AGAINST NUCLEAR POWER

SAY NO TO NUCLEAR POWER

These words were written in a manifesto, put on flags and banderols for a manifestation and a Women's March against nuclear power in September, 26, 1979. This march was gathering big crowds of women in over 100 places in Sweden in the middle of anti-nuclear/pro-small scale renewable mobilization in Sweden (Kvinnokamp för fred, 1979^A; 1979^B; Dagens Nyheter, 1979). This was not a single event – it was part of a large mobilization of women, engaging in energy issues – towards a transformation of the society and the energy system, and against nuclear power. These women formed groups, wrote manifestos, demonstrated, created new political conversations and connections, told stories, shared knowledge and experiences, and demanded change. Their backgrounds were diverse. They came from the environmental movement, the peace

movement, the feminist movement, different political parties in the Swedish Parliament, intellectuals but also the public – with different ideological viewpoint. They had their say in a matter traditionally dominated by men. They encouraged and invited other women to take part in the movement and get involved in the energy debate. By influential women in Sweden, the energy issue and especially nuclear power was now put forward as women's issue. They urged each other, not to be passivated and not hand over the energy issues to men (Kvinnokamp för fred, 1979^A; 1979^B). Even though this national demonstration was a one-time mobilization, a feminist perspective on energy issues and women's impact on energy and environmental politics started to gain ground in Sweden in the beginning of the 70s. A central event can be traced back to 1972 when Member of Parliament, Birgitta Hambræus brought resistance towards nuclear power into the Swedish Parliament, influenced by feminist thinkers like Vandana Shiva and Elin Wägner (Hambræus, 2012).

Energy politics is today and has throughout history been an area dominated by men. Up until the day we speak, energy has been an unequal sector dominated by men, as showed not least by state agencies and public-private initiatives (Energimyndigheten, 2015; Tam, 2017). One way of understanding the energy system have the interpretative prerogative, and is dominating the way we think and act upon energy. This has determined what energy politics is about – to ensure the expanding energy demand from the industry and the households, and planning for how energy supply can increase, in order not to limit economic growth. As a result, a clear distinction is maintained between what is described as objective, scientific and unambiguous, in contrast to what is being presented as non-scientific, political, ideological, irrational, etc. In other words and with references to feminist scholars within research on ecology (Merchant, 1980; 1996; Alaimo, 2010; Rocheleau, 2008; Elmhirst, 2011), technology (Wajcman, 2010) and energy (Filteau, 2014; Woodworth, 2015) – masculine versus feminine coded. Cutting edge research in the field are now discussing that this binary is not enough to understand energy politics and technology development; there is a need to specify the different masculine norms that are at play in the energy sector in terms of industrial modern, ecomodern and ecological masculinities thereby being able to talk about how various forms of masculinities dominate the sector in different periods of time (Hultman & Pulé, 2018). Like energy is enacted in the beginning of 1970s by an industrial modern masculinities area, nuclear power is an industrial masculinities coded energy source. In Swedish energy politics, nuclear power has been used in relation to arguments of connecting the energy issue to

large scale and centralised technologies and against including more and diverse actors and perspectives. This has meant a difference compared to, for example, renewable energy sources which to a greater extent has meant a broadening of the issue and to include other values and different kind of knowledge. By its proponents nuclear power has been considered to be rational, objective, free from emotions and entangled with a desire not to make the issue political. The political has been something to dissociate oneself from (Kall, 2011). Such enactment of the technology is in stark contrast to how the pro-nuclear engineers and politicians actually argued for this technology which they did with the idea of it creating a paradise on Earth (Anshelm, 2010). In Sweden, like in many countries, arguments for a rational, large-scale, technologically advanced, growth-generating, and scientifically based energy system has been dominating as energy ideology Nuclear power fit well into that image in the 1950-70 supported by the industry, conservatives and the Social democratic party – large-scale, technologically advanced, and closely linked to scientific and technical expertise (Anshelm, 2010).

In the early 70's, the industrial modern hegemony was challenged. This change, and the questioning of existing structures was also linked to a ecofeminist perspective. At the time, an ecological and relational way of talking about and engaging in energy issues gained influence. A greater consideration for humans and the environment was advocated and ideas of energy as renewable flows were introduced The large-scale and centralized society and energy system was criticized and an ecological small-scale Solar-society vision of the future energy system gained influence. Greater consideration was given to democratic processes and to issues of participation. Since then, what can be described as feminist energy politics has been an influential, although never dominating, part of Swedish energy politics (Hultman, Kall & Anshelm, forthcoming; Hultman & Yaras, 2012).

The aim of the present paper is to analyse the mobilization of women's engagement in energy issues in Sweden in the 1970s. The empirical material used in this article is political documents, interviews and the personal archive of Birgitta Hambraeus, Member of Parliament. The archive consists of fourteen running meters of material, collected in the archive, Riksarkivet in Stockholm (Riksarkivet, 2018).

Feminist and gender scholars and activists have a tradition of questioning established patterns and knowledge. By addressing what have been suppressed or hidden, they often put focus on power relations and demonstrate how it could have been otherwise. Not least, feminist scholars were early focusing on the relations between nature, technology and the

societal. This article is in line with calls for cross-disciplinary studies that integrate social and behavioral sciences in energy research (Ellsworth-Krebs, Reid & Hunter 2015; Sovacool et al., 2015) as well as calls for gender studies of energy (Sovacool, 2014) bringing forward the influence of feminist activism within the energy sector that has not been recognized and written about before.

Previous research on gender, energy and history

The envisioned goal for Sweden today, that has been around for almost forty years now, regarding its energy system – as well as for most countries around the world today – is a decentralised and renewable system. The transition to such system is a societal issue, not least since this is in contrast to the energy technologies which globally are mostly based upon fossil fuel and heavily centralised. These dominant energy technologies of nuclear, large scale hydropower and fossil fuels have been, and are still today, populated mostly by men (Energimyndigheten, 2015; Tam, 2017). This is true both of extractive industries such as coal, gas and oil (Filteau, 2014; 2015) as well as those technologies most common in Sweden, nuclear and hydro power (Öhman, 2007; Hultman & Kall, 2016). A *first generation* of studies about energy and gender went along the so called modernism paradigm, typically asking quantitative research questions about how many women and men work within the energy sector or how much energy men and women use respectively (Parikh 1985; 1995). Women have been described and researched as victims of energy scarcity. The solution was thought to be: more electricity, better data collection and reporting, more women in the institutions, better education for women, global cooperation and create specific tools for gender and energy questions (Parikh, 1995; Cecelski, 1995). Quite a few studies have since, used quantitative methods showing different consumption patterns of energy by of women and men; all demonstrating that men on average use more energy than women (Räty & Carlsson-Kanyama, 2010). This first generation of energy and gender studies has been criticized for conserving the dominance of men, creating the binary of men and women as well as withholding the North-South divide (Arora-Jonsson, 2011; Ryan, 2014).

A *second generation* of scholarship on gender and energy has been called for recently by editor in chief Sovacool and Ryan in the journal *Energy Research & Social Science* (Sovacool, 2014; Ryan, 2014). According to them there is a huge and important task for energy researchers to engage in gender studies to interrogate socio-cultural binaries and problematize simplistic accounts of energy usage and policy historically and present.

Ryan acknowledge how little gender and energy research there has been done and how it can fruitfully be inspired by recent development of gender scholarship within other fields such as Science and Technology Studies and Material Feminism. As pointed out in her overview article: “Gender and energy researchers might productively draw upon relational ethics and standpoint, or intersectionally, theories” (Ryan, 2014 p. 96). If there has been a void of specific gender analysis of energy history, there are some other fields that can help us with the analysis.

Influential ecofeminist discussions in the 1970s

We will in this part focus on the ideas that circulated at the same time as the feminist Anti-nuclear movement/Solar-society influenced the energy politics in Sweden, but also discuss some earlier role models for many Swedish ecofeminists.

Early on many feminists recognised the socially and environmentally destructive implications of traditional industrial and modern notions of manhood and masculinities (Laula, 1904; Wägner, 1941; Carson, 1962). Human rights activist Elsa Laula provided an early Swedish indigenous view on social and environmental justice, confronting colonisation's impacts on her Saami heritage, as (primarily) white, wealthy men plundered minerals and water resources of her homeland, positioning her as an icon of brave indigenous women's resistance the world-over to this day (Laula, 1904). Elin Wägner wrote about Sweden's trajectory towards extractive industrial modernisation from the 1930s into the war years (Wägner, 1941). Some consider her work *Väckarklocka* to be a forerunner of ecological feminist thinking (Leppänen, 2008). Further, consider the monumental influence of Rachel Carson, whose ground-breaking exposure of bioaccumulation of toxic synthetic chemicals was one of the most visible contributions to women, femininities and Earth before an ecological feminist discourse formally emerged (Carson, 1962). As Joni Seager demonstrated, Carson was more of an ecofeminist than was widely acknowledged, since she challenged ‘the ascendant view that human progress depended on ever more powerful control over “nature”’ (Seager, 2017 p. 28).

In the late 1960s a global movement of activist and scholars formed around issues of nature and gender. Ideas of the need to combine justice for women and protection of Earth through the ecological feminist discourse rose. They provided leadership in understanding how valorising masculinities has resulted in androcentricism (or male-centredness) further to the anthropocentrism (Plumwood, 1993). In the late 1960s women

lead environmental activism became increasingly influential. This resulted in, for example, the Green Belt Movement (GBM) originating in Nairobi, Kenya, which championed holistic approaches to localised development strategies. GBM emphasised environmental care in pair with community development, capacity building and empowerment, climate resilience, deliberative democracy and sustainable development strategies, particularly for girls and women throughout the Global South (Maathai, 2004). Women activism has also been discussed to be important in anti-nuclear movements in Global North (Anshelm, 2010), even though not analysed as such. The foundational scholars courageously reached beyond the constrictions of malestream norms to build the conceptual foundations of ecological feminisms through grassroots (ecofeminist) actions. These actions were emerging spontaneously across the globe in pair with the civil rights and green revolutions that were taking hold in response to colonialism and industrial modernisation.

On the academic scene, French feminist scholar Françoise d'Eaubonne coined the term ecofeminism in her pivotal paper: *Le féminisme ou la mort* in 1974 (despite similar ideas having emerged previously, which we have recognised above). There, d'Eaubonne argued the need for women to take a lead role in an ecological revolution to usurp male domination in response to its terrible and specific impacts on women and Earth (d'Eaubonne, 1974: p. 213-252, d'Eaubonne, 1980 p. 64). D'Eaubonne's was both a feminist scholar and gender-equity activist. She posited the term ecofeminism to help end to the epic violence of phallogocratic sexist civilisations addicted to male domination; her work gave power to social and environmental movements that were to become powerful expressions of women's intellectual and tangible leadership that grew to effect among else energy politics (d'Eaubonne, 1980 p. 64). To build a truly just and sustainable world, the task ahead was clear for the ecofeminist of the 1970s:

"Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continues to be one of domination. They must unite the demands of the women's movement with those of the ecological movement to envision a radical reshaping of the basic socioeconomic relations and the underlying values of this [male dominated] society" (Ruether, 1975: 204).

Foundational ecological feminist statements such as this focused on solving the problems of society and the environment through acute analyses of the impact of gendered socialisations on women and Earth by men (Griffin, 1978 p. xv). Ruether (1992 p. 266), later argued that 'women's liberation' ought to not only be the incorporation of women's wisdom into the supplanting of male domination conceptually speaking. Griffin

challenged women's alleged frailty, lust and embodiment juxtaposed against the presumed robustness of a hyper-masculinised 'ultimate reality' writ-large, being unapologetic in proclaiming that 'the face of [E]arth is a record of man's sins'. (Griffin 1978: p. 8-9; 28).

In *Green Paradise Lost*, Elizabeth Dodson Gray (1979) published a contribution to the complicated relationship between our global social and environmental problems. She was critical of constructs that placed inert elements of Earth at the base of a hierarchy that then ascended to plants, animals, children, women, common men, noble men, princes, kings, then fallen angels and angels, culminating in a male God in the heavens. She argued that this arrangement—broadly referred to as the 'Great Chain of Being' – trained humanity to exercise power over those we dominate. The social and environmental consequences of human mastery over nature (or more precisely men's domination over otherised others) continues to challenge us locally, regionally, nationally, internationally and globally. Gray's text was influential not least since it fitted with the critical analysis of nuclear power that was in full swing at the time.

In a subsequent book titled: *Patriarchy as a Conceptual Trap*, Gray (1982 p. 114) explored a pervading 'illusion of dominion' that has historically not only placed humans above nature, but also placed men above women. Gray poignantly noted:

"It seems to me very understandable that [men] would want to create cultures that would say to them as men, 'look, you men are terrific!—even though you cannot do what women do.' ... What men did everywhere was set about creating for themselves 'a culture to reassure'—patriarchy!" (Gray, 1982 p. 35).

When the Swedish engineers talked about nuclear power as the enactment of paradise on Earth, that is a good example of Gray's analysis. Gray suggested men constructed male domination as a way of justifying their own existence.

Mary Daly (1978 p. 27-29) considered it difficult for men to resolve the ills of society and the environment precisely because doing so cuts against the grain of their internalised superiority, revealing a foundational aspect of ecological feminism that positioned patriarchy—and modern Western white men in particular—as a foreboding force to be reckoned with. When the ecofeminists in Sweden argued that the engineers who were connected and living of nuclear power were blinded by their own interests to see the risk with that technology, Daly's analysis is exemplified.

Feminist influence in the breakthrough of nuclear resistance in the Swedish Parliament

THE
TOPIC

In the beginning of the 70s, Member of Parliament, Birgitta Hambraeus was new in the Swedish Parliament. She represented the Centre Party – profiled in environmental issues already in the early 60's. Nonetheless, the Centre Party, like all other political parties in Sweden, had a positive standpoint towards nuclear power in the end of 1960s. The Swedish Government led by the Social Democratic Party had taken a central role in directing the atomic energy program after World War II. Since the late 1950s, nuclear power had been the accepted solution (Lindquist, 1997). The Parliament agreed on its significant position in the future energy system, and important role in the development of the welfare state and for economic and industrial growth. Sweden's first commercial reactor, Oskarshamn 1, was put into operation in 1972. Nuclear power was not a political concern, it was considered to a question for technicians and experts. This was however about to change.

In 1970, Birgitta Hambraeus' party, the Centre party, declared that nuclear power should only be used for peaceful purposes in a way that did not harm humans or animals (Lindquist, 1997 p. 107). As a result of this change, Hambraeus was given the mission to investigate whether also peaceful nuclear power could have a negative effect on people, the society and the environment.

Birgitta Hambraeus worked actively to create connections between the parliamentary work and activities in society at large. She placed great importance on creating networks and relations outside the Parliament with scientists, activists, representatives of the industry and the public. She arranged meetings and wrote letters. Every morning when Birgitta Hambraeus came to work in the Parliament, she went to her mail box and got the day's pile of letters. She then used the day to read and write new letters (Hambraeus, 2012). It was the strategy she were using to learn more about nuclear power, to create awareness and attention to the issue and to create new connection by introducing different actors to each other. The mission to investigate the risk with nuclear power led to a change of opinion for Hambraeus. An OECD report, *Radioactive Waste Management Practices in the Western Europe*, published in September 1971, about the problem of radioactive waste was a crucial turning point for Hambraeus. As a result, Birgitta Hambraeus contacted Hannes Alfvén in 1972 (Hambraeus, 1972).

Alfvén was a professor in physics. He initiated the field of magnetohydrodynamics (MHD), a work on which he two years earlier in 1970 won the Nobel Prize. Alfvén had a background in and was in many ways involved in the development of the Swedish

atomic energy program. He was a member of the Atomic Committee, which started in 1945 and distributed research funding and gave advice to the government regarding the organization of atomic energy (Fjæstad, 2010: 44) and later he was also a member of the Board of the Atomic Energy Co (Sundqvist, 2002). However, in time he reconsidered his opinion on nuclear power and became more critical. He developed his contacts with the peace movement and became a member of the Pugwash – critical to nuclear weapons. The Swedish peace movement had worked actively against nuclear bombs since the mid-1950s (Fjæstad, 2010: 160). In Sweden, work on civilian nuclear power was also closely linked to the military aspects of atomic energy (Fjæstad, 2010). Alfvén's more critical opinion to nuclear power resulted in withdrawing some of his earlier engagement and opened up for other networks and connections. On June 12, 1972, under the headline *Energy and Environment*, Alfvén, was talking about nuclear power (Alfvén, 1972). He is doing so in what is known as the People's Forum in Stockholm. It was large gathering of people from different spheres in society, mainly what we would now call civil society groups and representatives, that in diverse ways tried to set on the political agenda issues spanning from pollution control to civil rights to nuclear concerns. Arranged at the same time Stockholm was the site for another environmental conference, The United Nations Conference on the Human Environment referred to, and recurrently described, as a significant event and important for environmental work in Sweden and internationally.

Hannes Alfvén pointed to the risks and possible devastating consequences with the development of nuclear power. He questioned the technological promise of the nuclear power prevalent at the time, asking if the calculations by the atom experts could work in reality. His opinions and work was not uncontroversial in Sweden. As a scientist involved in building the Swedish atomic energy program, he had strong legitimacy in the field, and in many ways, he was the scientific and technological ideal personified. To then criticize what he used to be a part of led to strong reactions. Using his scientific legitimacy, Alfvén's concern was to put forward the exception he saw nuclear power represent.

Birgitta Hambraeus and Hannes Alfvén had much contact with each other and there is no doubt that Hambraeus was strongly influenced by Hannes Alfvén and his perspectives and knowledge. With Hambraeus, Alfvén, for his part, got a connection into the Parliament. They had two different platforms, worked together and benefited from each other's different positions and knowledge. As a physicist and Nobel Prize winner Hannes Alfvén helped to create legitimacy for nuclear criticism when he questioned the Swedish nuclear program. Birgitta Hambraeus anchored her standpoint in both technical expertise

and legitimacy, and a feminist belief. She used her knowledge on nuclear power and the scientific legitimacy from her collaboration with Hannes Alfvén. Her energy politics was characterized by the idea of using nature on its own prerequisites and a antipathy against a society based on the exploitation of nature. Based on ecofeminist thinking – where woman due to biology or tradition, is more caring and understanding for the importance of protecting nature she wrote herself into an alternative understanding of energy – not always technologically framed and not by necessity controlled by experts.

On October, 25th 1972 Birgitta Hambraeus submitted an interpellation, a formal question to the Minister of Industry, Rune Johansson (Sveriges riksdag, 1972^A; 1972^B). In the interpellation, Hambraeus confronted the Parliament with critical objections in line with the ones Hannes Alfvén earlier expressed: The development of nuclear power entails great risks of radioactive poisoning and there is no acceptable method of dealing with the nuclear waste. Plutonium and other radioactive substances must be prevented from reaching the biosphere. The toxic radioactive substances must be kept isolated for hundreds or thousands years. No one can guarantee safety for the length of time required: it is a burden laid upon future generations. Hambraeus particularly emphasized the delicacy of the problem with the management of the radioactive waste. She argued for the importance to include the costs of the waste for indefinite future in the discussion. Hambraeus rhetorically asked:

“How could it be possible for us to replace all future generations for their work with our radioactive waste? It is about concept of time we are not accustomed to. No payment system works forever. No human culture is forever. How can we ensure that future generations have technical skills and capabilities to manage the waste, which would irreparably harm all life if it came out in the biosphere?” (Sveriges riksdag, 1972^B p. 73)

Less central, but something that would become as important, was the need to make this into a political issue and a matter for political debate in the Parliament. This was a question that could not be handed over to a few technicians. Hambraeus stated that the Swedish Parliament had not taken a stand on the expansion of nuclear power.

The resistance and arguments against Hambraeus' critical view on nuclear power were many. The Minister of Industry, Rune Johansson stated that all prognosis show that there will be an increased need for electrical power in the next decade – a reality, one must take into account. According to Johansson, nuclear power leads to less dependence of import, it is an environmentally better option than oil, it is an effective way to manage limited natural resources and calculations show that nuclear power is economically more favourable than other alternatives. There are no reasons to, in line with Hambraeus'

suggestion, reconsider the Swedish nuclear power program. The basic decisions taken in the mid-50s maintain, Johansson stated (Sveriges riksdag, 1972^A p. 37). In the parliamentary debate about the interpellation, he said it was difficult to have a debate when Mrs Hambraeus obviously have not read the response to the interpellation or understood the content, or when lack of knowledge about the Parliament is so profound. The main arguments used by the Minister of Industry has since then been used against advocates of renewable energy sources and those against nuclear power – often in different way connected to arguments and perspective coded as feminine in future energy politics.

During spring of 1973 Birgitta Hambraeus introduced Hannes Alfvén to the leader of the Centre Party, Thorbjörn Fälldin. Fälldin now began to anchor nuclear resistance into the party. At the Centre Party's annual national congress in June 1973 a decision in principle against nuclear power was taken, and a one year moratorium was called for. Both Hannes Alfvén and Birgitta Hambraeus have by researchers been described as the most important actors for the breakthrough of a nuclear critical opinion in Sweden (Anshelm, 2000). Their action paved the way for a nuclear critical opinion that no one predicted at the time. During the beginning of the 1970s, Birgitta Hambraeus' feminist viewpoint was rarely made explicit in the public energy debate or in the political documents, even though the arguments she put forward can be linked to the ecofeminist thinkers and discussions during the 1970s. However, following her correspondence in the archive, this also becomes more visible and explicit (Riksarkivet, 2018).

A 'Solar-society' of energy politics

The year 1972 have by scholars been described as a starting point for an ecological and renewable enactment of energy issues in Sweden (Hultman, 2010). Modernity as an ideal in which technology, science, development, and economic growth had prominent roles was no longer deemed self-evident, and the growth-oriented approach began to be replaced by a more ecological perspective. Nuclear power became a symbol of the technological and growth-oriented society, but also evoked fears of terrorism, nuclear threats, and environmental degradation (Lindquist, 1997). In connection with this critique of modernity, a contrasting vision of a small scale, renewable and decentralised society was developed; envisioned as a 'Solar-society'. Energy became a question debated by different groups and in all possible forums in society. The low energy society was presented as an alternative to the growth society. It was a society that would reduce energy

use, but it was above all a reaction to what was described as the high energy or growth society (Hultman, Kall & Anshelm, forthcoming).

Feminist mobilization

The accident at the Three Mile Island nuclear power plant in Harrisburg, Pennsylvania, USA, on March 28 1979, prompted a turnaround in the public opinion in Sweden and had an large effect on Swedish energy politics. After a few years where the alternative visions of the energy future had been given less space in the energy debate, criticisms of nuclear power was now revived, evoking new possibilities for a society based on renewable energy sources. On May 21 1979 it was announced that a referendum would be held in Sweden (Lindquist, 1997 p. 212 ff.). The period between the accident in Three Mile Island, Harrisburg on March 28, 1979 and the referendum on March 23 1980, led to an even stronger mobilization of the resistance to nuclear power. The ecological and renewable critique of nuclear power during the 1970s opened up for a unique time in Swedish political history and in the history of energy. Regarding engagement and participation in discussions regarding technologies there are no other examples similar to this one. As a result of the upcoming referendum 1980 the knowledge circulation regarding nuclear power and other energy sources and technologies intensified once again (Anshelm, 2000). Not least, this lead to a mobilization of women engaged in energy issues and opened up for a feminist-based nuclear criticism that had been an issue for the feminists since their anti-nuclear weapon struggles in the 1960s. Male rationality was put against a female care rationality with the help of ecofeminist analysis. The specific female experience associated with caring for life and a responsibility for future generations laid the foundation for legitimate concern and increased moral responsibility as the male culture could no longer be allowed to neglect or downplay. The high energy society as well as nuclear power was described as destructive inventions of men (Bergom-Larsson, 1980). The unique with this time was that it was put forward as a women's issue and the arguments used, came from a feminist perspective. Women involved in the debate were refereeing to early feminist role models. It was now described as an issue that no longer should be excluded to certain types of groups or to specific types of questions. In one sense, this was a resistance against nuclear power and how and by whom the energy issues were discussed and managed in politics, by institutions and by the industry. At the same time, it was an attempt to do something else and to make a change – about having a choice and the power to decide what the future should look like. It was a critique against the

technological deterministic approach to the development of the society and the energy system where the power was gathered around certain arenas, practices and groups of experts. It was an effort to get different perspectives and issues, than those already established, to have an influence and to play a significant role. It was also another way of doing politics and to engage in an area that by tradition had been masculine coded and been dominated by men.

Politics through practices

This period was also a time when platforms, spaces and networks were created for other ways than the established ones of engaging in a conversation about the energy systems and different energy sources. The feminist activist practices, challenged both in how politics was performed, by whom and by what means. Besides public debates, seminars, written manifestos – environmental engagement, feminism, solidarity and antimilitarism were combined with artistic expressions like art, music and theatre. These activities and practices can be seen as a way to create new platforms and greater scope for action. By their own means they also work as a resistance towards the dominated way of talking and acting within in the energy area.

As preparation of the manifestation with the Women's March on September 26, 1979, clear instructions were given for how this could be done with suggestions for activities. Suggestions for slogans for posters and banners was presented: "Women fighting for peace", "Say no to nuclear power", "Women against nuclear power" etc. (Kvinnokamp för fred, 1979^A). In another text, clear instructions on how flags can be made for the Women's March is given, illustrated with hand drawn pictures:

"Here you see a white flag. I will paint it as beautifully as I can, and join the Women's March. For peace and against nuclear power. We need beautiful flags, because we are people saying yes to life, to songs, to work, sacrifices and poetry no to the way of thinking and being that brings the need for nuclear power." (Kvinnokamp för fred, 1979^B).

In the following text, detailed instructions on how to colour an old sheet in order to make a flag and how to sew letters by hand or machine was given. In the article "From cyborg feminism to drone feminism: Remembering women's anti-nuclear activisms" (2015), Anna Feigenbaum writes about how protest camps against nuclear power in the 80s became laboratories for innovation and for creative and symbolic practices. Their craft-based activism and embodied engagement are according to Feigenbaum ".../central to

an activist articulation of feminist practice that seeks to intervene in the infrastructures and systemic operations of militarism” (Feigenbaum, 2015 p. 270). The embodied practices of making the flags is an example of a feminist and feminine coded practice, challenging established energy knowledge and expertise.

When, Katarina Michanek, one of the local organizers of the Women’s March is asked: “Is nuclear power a women’s matter?” She answers: “No, not really. But I think women have lived closer to life for centuries. We have developed a sense against the technical society that men have created.” (Gotlands Allehanda, 1979). In an interview, Birgitta Hambraeus also involved in the Women’s March, describes her view on the role of women and energy issues. Now more explicit with her feminist belief, Hambraeus goes one step further and argue that women are particularly suitable for managing nuclear issues. She describes a community of women, crossing party boundaries and earlier locked positions, wanting change and another type of society. With the background of this being a society, at large formed by men, women are less entangled and therefore better possibilities to come up with constructive suggestions. Referring to the Swedish feminist Eva Moberg, Hambraeus conclude women are more objective and not so emotionally bound to the kind of technology we have now (Femina, 1980).

The argumentation is interesting. In line with the ecofeminist perspectives presented earlier, it is emphasized that, due to women’s exclusion from certain types of practises, they are more suitable to look critically on the development and to find new solutions. The reference to women being more subjective and less emotionally connected can be seen as a way to go against the image of women as more emotional and less rational. The Swedish writer Maria Bergom-Larsson describes how the energy issues are characterized by an irrational and emotionally controlled technology and development optimism. In the same spirit, nuclear power resistance is described as a struggle to “save life”. Both the high energy society and nuclear power were described as destructive male inventions which threatened to kill the whole humanity. Instead of being dismissed as hysterical housewives, Bergom-Larsson believed that the concerns expressed by women in opinion polls must be politically heard (Bergom-Larsson, 1980). The women were the silent anti-nuclear majority in the 1970s, and their voices must be taken into account.

Feminist values in energy

The ideas, thoughts, arguments and stories presented as part of the feminist mobilization was articulated by politicians, writers, activists and intellectuals in different arenas and

contexts. They came from established political parties, but also from the environmental movement, the feminist movement and the anti-war movement. Even though, not always coherent and not always formulated in the same way, some core argument and values were particularly important and reproduced by different actors in different settings. The manifesto written in relation to the Women's March and the book *Rädda livet!: kvinnor mot kärnkraft* by Maria Bergom-Larsson (1980) both gather the feminist arguments against nuclear power. In the Swedish journal *Arbetaren*, Birgitta Hambraeus wrote a text about her visions of the society under the title "Ett alternativt samhälle" or in English "An Alternative Society" (1979). Not only questioning but also change the existing system and society was an important part of the feminist mobilization and also an argument put forward in all these three texts and in other contexts. The book by Bergom-Larsson starts with an quote from the Swedish author Elin Wägner:

"It is not within the current system that the women's movement has its mission as it is believed, its mission is to find a point beyond the same from which it can, not to disturb the world because it is already disturbed, but restore its equilibrium." (Bergom-Larsson, 1980).

The continued growth in the rich part of the world is described as unsustainable. A situation where the Earth is emptied of oil, coal and metals is not an option Maria Bergom-Larsson states (Bergom-Larsson, 1980). Nuclear power is described as the solution for centralized, large-scale and high-energy society formulated by the power elite, regardless of party affiliation. For those who have felt the powerlessness in the large systems, often women and grassroots, a decentralized, small-scale society built on renewable energy sources are the solution (Bergom-Larsson, 1980).

The foundations of the society Hambraeus describes are democracy, ecological balance and global solidarity. In this text, the focus is on the goals and the possibilities rather than the resistance and the problems. In her vision, energy and the society at large should be something relatable and manageable for every human being. Everyone has the right to understand and be part of the system. It is important for every individual to know how their actions affect the world and other humans. These changes should, according to Hambraeus, be done together and through collaboration between different social movements and by the use of peoples creative ability (Hambraeus, 1979). With no doubt, Birgitta Hambraeus was an important actor regarding the transformation of the energy system and the nuclear resistance during this time. If, she in the early 1970s built her

network mostly with the environmental movement, the industry and the scientists, her contacts with the feminist movement increased in the end of the decade.

Conclusions

The energy politics done by feminist actors in the 1970s in Sweden was in many ways about crossing borders. It was about discussing and engaging in energy issues in a different way than before. When Birgitta Hambraeus questioned nuclear power in the Swedish Parliament, it made nuclear power into a matter of political debate and not just a matter for technicians. Some aspects of energy are considered relevant and taken for granted, while others are hidden. By questioning established practices – other issues, problems, solutions, actors and power relations becomes visible. Many of Hambraeus arguments, influenced by ecofeminist thinkers put forward in the beginning of the 70s, was also articulated as part of the feminist mobilization in the end of the decade. To also make the political actions into a feminist practice where embodied engagement and political values were weaved together became an important part of the feminist energy movement. These feminist actors, together with other advocates of renewable energy and/or small-scale alternatives more than others been accused of not acknowledging reality and being irrational, naïve and ideological without understanding the conditions of science and technology. Nevertheless, on April 1980, the Swedish Parliament, in line with the result from the referendum, decided to transform the Swedish energy system into renewable energy sources and to phase out nuclear power until the year 2010 (Sveriges regering, 1980 p. 6). Oil, coal, and nuclear power were no longer to be part of the Swedish energy system; instead, society was to rely on energy sources that did not negatively affect the environment; a ‘Solar society’ in the line of ecofeminist argumentations was to be created. Achieving that vision would entail research and improved energy efficiency, as well as co-operation between various actors in society (Sveriges regering, 1980; Sveriges riksdag, 1980 Parliamentary Protocol 1979/80:168). Even though this was not the end of the story, as presented here feminist energy actors have continued to play a central role in Swedish energy politics. Their efforts have led to changes both the energy system and in energy politics. Still, the need for resistance, critique and change remains.

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