

European Nuclear Policy

The nuclear disaster of Fukushima provoked a rethink on the use of nuclear energy in Europe. It was for the first time that a densely populated industrial country, using the latest nuclear power generation technology, was affected. The incident revealed that the mere loss of grid connection can cause a break-down of the backup power supply in a matter of a few hours, which inevitably results in a core melt-down. Since the power grid is the weakest link in the power supply, one can easily imagine a similar disaster occurring in Europe. Germany and Switzerland have already responded and decided to abandon nuclear energy. In other countries, such as France, Fukushima has provoked heated discussions on a possible phase-out.

One of the founding Treaties of what is today the European Union is the EURATOM Treaty, which led to the establishment of the European Atomic Energy Community in 1958. In contrast to all the other founding Treaties, which have meanwhile either expired or been incorporated in new treaties, the EURATOM Treaty is still in place.

It follows, that to this day EURATOM has been aiming to promote the proliferation of nuclear energy in Europe, mainly by granting research sponsorships and cheap loans to power station operators.

One of the main problems is that nuclear power policy is totally exempt from democratic scrutiny, being removed from both parliamentary and public control due to the fact that only governments have a say in the EURATOM policy-making process. This state of affairs was recently carried to extremes, when the European Union refused to authorise a European Citizens' Initiative for a nuclear-free Europe¹ on the grounds that the articles proposed contravened the EURATOM Treaty and were thus beyond the jurisdiction of the EU Commission. As the EURATOM Treaty is not part of the Treaty of Lisbon, it is outside the purview of the European Citizens' Initiative and the new opportunities this has opened up.

¹ www.my-voice.eu

Currently, changes in the European nuclear policy can only be effected via EURATOM, a Treaty under the sole control of the governments of the member states. This is why the first step of a broad-based information campaign has to start with awareness-raising in the member states – in order to convince citizens and eventually their governments that EURATOM needs to be dissolved and that nuclear policy has to be submitted to standard democratic scrutiny.

What is the share of nuclear power in Europe's power generation?

→ currently 28 %

At present, 135 reactors operational in 14 countries of the European Union account for about 28% of the total power generation. Whereas some EU member states have already decided on abandoning nuclear energy (Belgium and Germany), others that are currently not operating nuclear power stations (e.g. Poland or Lithuania) have declared that they will in future put their stakes increasingly on nuclear energy. Ten of the 14 countries with NPSs are planning to build new reactors in the future or to replace existing stations with new ones.

What is the hazard potential of NPSs in Europe?

→ Should an ultimate MCA occur in Europe, an area of 3'000 km² would have to be evacuated within a short period of time and would rest contaminated for thousands of years.

Most of Europe's nuclear power stations are situated in densely populated regions. It is hard to predict how many people would be directly affected by an ultimate MCA at a European nuclear power station. What is certain, however, is that an area of about 3'000 km² would have to be evacuated and out of use for 100'000 years. The immediate economic and social impacts are beyond the bounds of imagination. Even though the health and lives of people cannot be expressed in monetary terms, the costs of the major accidents that happened in the past are an indication of the enormous risk Europe has to accept.



The first grave accident at Three Mile Island (USA) – a level 5 core meltdown measured on the seven-point INES scale – caused damage equivalent to US\$ 1bn. The damage caused by the reactor accident in Chernobyl is estimated at US\$ 15bn; the costs incurred during the 30 subsequent years could add up to € 235bn for the Ukraine and € 201bn for Belarus.² The total damage and the consequential costs caused by the Fukushima accident are currently estimated at a sum exceeding US\$ 300bn.

Are the regulations for the security of nuclear power stations in Europe sufficient?

→ No, because there are no safe nuclear power stations and the few regulations that exist are designed to serve the interests of countries with NPSs.

Just like all the other regulations relating to nuclear energy, also the security issue is regulated exclusively within the framework of EURATOM. The Directive on Nuclear Safety 2009/71 and the Directive for Responsible and Safe Management of Spent Fuel and Radioactive Waste 2011/70/ EURATOM have been drafted in recent years. Contentwise, the Directive on Nuclear Safety has neither made headway nor raised security standards; it does not go beyond the regulations laid down in the CNS (Convention on Nuclear Safety) or in other IAEA recommendations. The key element is the provision that member states are obliged to set up independent national regulatory authorities and to provide for their cooperation at the European level within the “European Nuclear Safety Regulators Group” (ENSREG).

On the one hand, the Directive for Responsible and Safe Management of Spent Fuel and Radioactive Waste clearly states that EU member states are responsible for their own radioactive waste. On the other hand, it authorises the exportation of radioactive waste to third countries. It remains unclear how the safe storage of radioactive waste is to be guaranteed in third countries. There are no regulations concerning the methods involved in and the safety of the national programmes nor concerning the proof of safety of the permanent repositories. As yet there is no permanent repository worldwide.

In 2009, a documentary on ARTE³ revealed that radioactive waste is stored in open spaces, for example in Siberia, thus endangering the population in the surrounding area.

Are there any safe permanent repositories for nuclear waste in Europe?

→ According to the current state of knowledge, there are no perfectly safe permanent repositories for radioactive waste.

Radioactive waste would have to be stored for approximately 100'000 years before the radiation rate would be reduced to reasonably unhazardous levels. The chance of containers cor-



³ In October 2009, reports on the film “Albtraum Atommüll” (the nightmare of nuclear waste) revealed that France has been secretly transporting a significant part of its nuclear waste to Siberia ever since the 1990s. Almost 13% of the French radioactive waste are stored in containers, out in the open, on a parking lot in the city of Seversk with a population of more than 100'000. It also became publicly known that Germany exports even more radioactive waste to Russia.

² <http://oee.gruene.at/energie/artikel/lesen/75875> (German)

roding or water ingressing and thus contaminating the ground water of entire regions cannot be excluded for any repository in the world for such an immensely long period. Scientists are agreed that there is no permanent repository site where waste can be stored and left for good. The waste needs to be stored under controlled conditions so that it can be continually monitored and transferred as and when required. Moreover, accessible repository sites pose a safety problem, since the waste could be exploited for criminal, terrorist or military purposes (so-called dirty bombs).

Is nuclear energy a bridging technology in the transition to CO₂-neutral energy generation?
 → No, we already have efficient technologies for CO₂-neutral energy generation, which are not tainted with the disadvantages of nuclear energy in terms of sustainability and risks.

Many advocates of nuclear energy argue that it has to be classified as a climate-friendly technology for energy generation, because it does not emit greenhouse gases. Moreover, nuclear energy would have to become part of the EU strategy designed to stop climate change (20-20-20 targets: 20 % cut in energy consumption, 20% cut in emissions, 20 % increase in energy efficiency by 2020).

These somewhat hypocritical arguments can be easily refuted. In order to reach the climate goals, society needs to invest. The choice is between sustainable technologies, such as renewable energy generation and energy efficiency, on the one hand, and technologies such as nuclear power on the other hand. Nuclear power generation implies both the rapid depletion of uranium reserves and a high added risk on every investment – e.g. safety risks or the problem of nuclear waste disposal. In the case of renewable energy production, capital expenditure and operating expenses are assessable (stations, transportation grids, storage, imbalance energy and steering); for nuclear energy, they are hard to calculate, because of undefinable future costs (nuclear waste disposal sites, incident costs). Since large numbers of decentralised renewable energy stations can be erected much faster than any one of the huge and complex NPSs – there is absolutely no good reason for gambling on hazardous and non-sustainable nuclear energy technology.



Can Europe's energy supply be ensured without resorting to nuclear energy?
 → Yes, but this requires political courage, foresight and orientation towards the common good.

First of all it has to be pointed out that the generation of electricity in NPSs has its limits. Nuclear power stations need a lot of water for cooling, which is why they are normally built next to large rivers. During cold or heat waves, no water can be withdrawn from the rivers and the power stations need to be switched off.

Gradual phase-out of nuclear energy is possible as soon as the energy efficiency strategy is implemented and the focus of investments is on the development of renewable energy. This requires improved and coordinated support measures for renewable energies in Europe, continuing support for the energy-saving rehabilitation of existing buildings and sizeable investments into energy efficiency.

Ecological power supply can only be envisioned, if we achieve Europe-wide integration of grids and grid expansion. To secure our energy supply, we need solar electricity from Spain and Greece, wind power from the North Sea or the Baltic Sea and connections to pumped storage in the Alps and Northern

Europe, so that the naturally fluctuating generation of renewable energy can be adjusted to the varying needs with the help of storage. Since storage space is currently very limited, we also need more investment in facilities for the production of synthetic methane from renewable energies. The synthetic methane can then be fed into the gas grid and used for electricity generation, heat production and mobility.

Is electricity from nuclear power stations really cheaper than from other stations?

→ When applying fair cost accounting – including risk insurance, subsequent demolition costs and costs for the disposal of nuclear waste – nuclear power stations are not economically viable.

NPS operators can offer their electricity at comparatively low rates: one kilowatt hour of nuclear electricity costs €0.02. The same amount of electricity from coal power stations costs about twice as much and from gas turbine power stations it is about four times as expensive.

This is only possible, because certain costs are not fully included in cost estimates. Nuclear power station operators need to be insured against the risk of incidents. In 2011, a study by the energy institute of the Johannes Kepler University Linz⁴ revealed that power stations are habitually underinsured. If the insurance rates were to be adjusted to the risk, no nuclear power station could be run economically, since the price for nuclear energy would have to be raised from €0.02 to €2.36 per kWh. Yet, these figures still fail to include costs of demolition (about €1bn per power station) or costs of permanent disposal (€15–35bn).

In addition to this, the funding of the new construction and/or expansion of nuclear power stations with low-interest loans, granted directly by decisions within the purview of the EURATOM Treaty, is completely intransparent.

The economic efficiency of NPSs can also be deduced from a political venture by Great Britain, France, the Czech Republic and Poland: They demanded that in the case of an

adjustment of energy taxation on CO₂ emission, NPSs be granted the same exceptions as the providers of renewable energy. Moreover, a discussion on so-called capacity markets has been launched in the last few months. In capacity markets, power stations can add to their revenues from electricity sales (energy price) by making the stations available in the event of electricity shortages (e.g. unforeseen wind conditions leading to a failure of wind power). This so-called capacity price or service price would have to be paid by all residential customers.

What is the influence of the EU on the nuclear policies of member states?

→ Zero, for the time being, since the exclusive jurisdiction in questions of nuclear energy policy lies with EURATOM, where only the member states have a say.

With the adoption of the Treaty of Lisbon in 2009, two of the three founding Treaties of the European Union were integrated into the new Union law. Only the EURATOM Treaty, one of the three founding Treaties, dating back to 1958, remained in force. Thus, the EU member states deliberately withdrew all issues concerning nuclear energy (research, security and funding) from the competence of the European Union and left them within EURATOM. The EU has no authority to pass regulations – e.g. relating to environmental policies – that might have a bearing on EURATOM matters. This is why the European Commission refused in May 2012 to register the European Citizens' Initiative (ECI) for a nuclear-free Europe in accordance with the rules laid down in the Treaty of Lisbon. ECIs are restricted to EU matters that lie within the scope of responsibility of the European Commission. According to the above-mentioned interpretation (and subsequent rejection of the ECI), the EURATOM Treaty, which is EU primary law, does not lie within the scope of responsibility of the European Commission and can only be amended by mutual agreement of all the contracting parties, in other words of all EU member states.

⁴ <http://ooe.gruene.at/energie/artikel/lesen/75875> (German)

Who else has taken up the nuclear energy issue at the European level?

The Heinrich Boell Foundation has offices in Berlin and Brussels and focuses on energy and nuclear policies. Its areas of emphasis are the commissioning of studies, the publication of articles on current topics and the organisation of debates and discussions.

- Energy-Page: www.boell.eu/web/288.html
- Publication: "Myth about Nuclear Power – A Guide": www.boell.eu/web/288-663.html

Friends of the Earth Europe and its Austrian member organisation Global2000 started a European Citizens' Initiative for a nuclear-free Europe. The first attempt has been rejected; however, the organisers are still trying to have the registration approved after modification.

- Information and support: www.my-voice.eu
- Information about nuclear energy in Europe: www.global2000.at/site/de/wissen/atom/atomeuropa

Greenpeace European Unit generally works on energy; it supports the exit from nuclear energy in Europe as well as true-cost pricing and cost coverage by NPS operators. Last year, one of the main issues was the monitoring of the nuclear disaster in Fukushima and the responses to it.

- Publications on nuclear energy: www.greenpeace.org/international/en/System-templates/Search-results/?tab=4&sort=easysearch_startpublishshortl1&all=nuclear

The CEE Bankwatch Network fights against non-sustainable investments by the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB) and the Structural and Cohesion Funds of the EU. In the field of nuclear energy, they were recently raising opposition against the granting of a loan to Ukraine:

- <http://bankwatch.org/our-work/projects/nuclear-power-plant-safety-upgrades-ukraine>

Why are Naturefriends demanding the dissolution of EURATOM?

→ Because Europe-wide democratic scrutiny is the only tool with which to lever out nuclear policy in Europe.

By transferring all nuclear energy issues to EURATOM, the member states of the European Union have removed these areas, which are of cardinal importance to health and environment, from all democratic scrutiny in Europe.

Many documents, such as statements by the EU Commission under Art. 41 ECSC Treaty on the reliability of investment intentions in the context of nuclear power are not accessible to the public, or only in part and after lengthy procedures. Documents that are forwarded by nuclear power station operators to the EU Commission in the context of investment intentions are not published at all. EURATOM does not consider itself bound to implement the Aarhus Convention. Therefore, there is no free access to information, no right of public participation in decision-making and no access to justice in environmental matters.

EURATOM is a political relict from the 1950s, when people blindly believed in these technologies. It does not meet the requirements of modern and democratic policy-making, which are, inter alia, guaranteed by permanent parliamentary scrutiny and free media. EURATOM needs to be dissolved, the EU nuclear policy needs to be incorporated into the Community policies of the European Union – in order to pave the way for a coordinated CO₂-neutral energy policy.

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