

Atomic policies

in selected

European Countries



Impressum

This booklet was produced by Greenkids e.V., representing the partnership of the "International Anti-nuclear Gathering" including the groups and organizations *Sonne + Freiheit* (A), *Turva* (FIN), *Réseau Sortir du Nucléaire* (F), *Greenkids* (D), *Zali.lt* (LT), *WISE* (NL), *GAIA* (PT), *EKO-UNIA* (PL), *Association of ecological movements of Slovenia* (SLO) and *Milkas* (S).

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Introduction

As a result of the horrible Fukushima disaster starting a series of nuclear reactor explosions on March 11, 2011, atomic power has a difficult stand in Europe and elsewhere on earth. Germany closed eight of their reactors, several European countries like Belgium and Switzerland decided a nuclear phaseout, while other countries stopped new atomic power station projects or have frozen these plans for now. In Lithuania people voted in a legally binding referendum against the planned new Visaginas NPP project in 2012. However, nuclear facilities are still a threat in Europe as some countries continue their believes in the good of atomic power pushing forwards new reactors and other atomic projects.



Examples are the Finnish government's support of some three new reactors in Olkiluoto, Loviisa and Pyhäjoki, or the Lithuania pushing forward the construction of the Visaginas NPP against the public's objection. Poland and the Czech Republic are other countries still dreaming the – illusory – dream of a complete nuclear power fabrication chain on their ground including not only the power stations, but also fuel fabrication and uranium mining facilities. Uranium mining, however, is a more the less almost invisible atomic threat outspreading again across Europe without drawing too much public attention.

This booklet is a result of a 2012 gathering of young anti-nuclear activists from nine European countries. Meeting in a camp in Middle Saxony (Germany), about 60 people exchanged information on the atomic situation in their regions, presented upcoming campaigns and discussed strategies as well as activist's challenges like networking, international mobilization and threats like burn-out. Afterwards, we produced this booklet to spread the word on the still ongoing threats in the areas we are active at. The articles only provide the limited knowledge of ours and are written from our points of view. We aim to update these kinds of “status reports”, thus feedback, comments and constructive criticism are welcome!

The articles reflect the topics, fields and issues some of the participants of the 2012 gathering in Döbeln, Germany, are connected to. The event was supported by a grant of the European Commission's programme “Youth in Action”. Experienced activists from our partner countries in Austria, France, Finland, Germany, Lithuania, Poland, Portugal, Slovenia and Sweden organized the network gathering, supported by experts from these and other countries providing lectures on specific topics. As a practical impression, we visited an “abandoned” uranium mine close by the Saxony in the Czech Republic meeting the company responsible for the environmental remediation as well as local citizens advocating against attempts of a revival of the uranium mine.

With this booklet we hope to contribute some useful material to the interested public and all those groups and initiatives of concerned citizens educating and protesting the threats atomic facilities expose them to. Further information and material in general is provided by the international anti-nuclear activist's “Nuclear Heritage Network” website at <http://nuclear-heritage.net>.

Why to Protest Nuclear Industry?

The big energy companies, their lobbyists and some politicians are promoting nuclear energy as solution against climate-change, some claim atomic power to be economically profitable, safe and a blessing for humanity.

The reality looks different: **nuclear power is dangerous** in many ways: it starts with uranium mining and its further treatment, goes on with the risks during the operation of the power plants – as proofed by Chernobyl, Fukushima and Harrisburg (Three Mile Island) – and eventually there is this big problem left over: no safe solution for a final disposal of nuclear waste anywhere on earth.

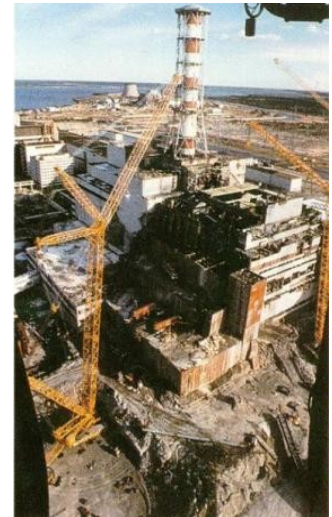
Plutonium, a material used by military to **build atomic bombs**, is produced during the reprocessing of spent nuclear fuel, as well as highly enriched uranium is suitable for a-bombs, too. A country operating “civil” atomic plants also has the basic requirements for building nuclear bombs. Besides that, since about a decade the NATO military also uses uranium waste (depleted uranium – DU) to armor vehicles and to strengthen ammunition. A strict separation between maintenance of the atomic energy system and a possible nuclear weapons production is impossible.

Hundreds of thousands of people died in **consequence of the catastrophes** in Chernobyl (Soviet Union; these days: Ukraine) and Fukushima (Japan); millions of victims are expected to suffer the long-term impacts of the radiation released by these atomic facilities. Serious accidents took place in many other sites every few years, too: Windscale (1957 - United Kingdom), Mayak/Kyshtym (1959 - Soviet Union; these days: Russia), Tokaimura (1999 – Japan) are examples for nuclear accidents killing people directly. Other accidents like Brunsbüttel 2001 in Germany were close to a meltdown. The list of hundreds of nuclear accidents taking place in atomic facilities globally every year shows that this technology can not be controlled safely by humans for sure.

Since decades scientists warn the **health impacts of radiation** to be under-estimated enormously. The so-called “low” level radiation released by atomic facilities and within transports of radioactive material has the potential to damage cells and genes causing diseases, genetic damages and deaths. During the last ten years a number of studies has showed significant evidence for regular operated atomic power stations causing cancer. The “strongest” study is still the so-call “KiKK study” including the biggest data collection showing a seriously increased risks for children living close to German nuclear power plants to experience cancer.



Within the operation of **uranium mines** huge amounts of uranium ore are dug and stored on surface **releasing radioactive materials** like radon and spreading radioactivity to the surrounding water systems and environment in general. Uranium mining exposes the mostly indigenous workers to serious health risks. Thousands of cases have been officially registered already. Besides this dangerous release of radiation, the uranium mines produce



huge amounts of “tailings” - radioactive and toxic waste waters stored forever in so-called tailing ponds mostly unprotected in nature.

The fuel used in atomic reactors includes a major share of the uranium-238 isotope with a half-life of some 4.5 billion years. It takes some 45 billion years before most of the isotope will be decayed. During the decay, other isotopes and elements are created with different amounts and types of radiations releasing as well with different half-life. As any amount of radiation is capable of causing health impacts, radiation exposure is to be reduced and avoided as much as possible. Thus, a safe final disposal of the radioactive waste is necessary for millions and billions of years. In the light of significant and unpredictable changes in society, knowledge of people and nature, such a **safe disposal is impossible**.



The Anti-Nuclear Movement in Austria

The Austrian situation may indeed be considered as unique, since no other country in the world has written in its constitution, that the country will not use nuclear power for its energy needs. Until 1978 this was not the case however and only after a referendum, where slightly over 50 % of the voters put a stop to starting up the country's first and only NPP Zwentendorf a bit west of Vienna. The result of this referendum came as a surprise to the political establishment, but was in the end respected. Had there however not been the

catastrophe of Chernobyl in 1986, tendencies within Austria to start up the completely ready built NPP would have in the long run probably prevailed. After 1986 however no politician in Austria, who wanted to be re-elected, dared to be pro-nuclear any more. One of the side effects of the referendum 1978 and the accident in Chernobyl was also the emerging of the green party, which however on the national level has never been yet part of the government. This is a bit different on the regional level and especially in the province of Upper Austria it led even to a government funded programme, which supports anti-nuclear projects also in neighbouring countries with a special focus on the NNP Temelín in the Czech Republic.

Another important aspect in the discussion in Austria is by the way the fact, that beginning with small private initiatives there was a market created for the use of solar energy. Austria is one of few countries, where having a solar collector on one's private roof is a kind of even fashion, one could say. The start was really a grassroots process. One of the examples, which could be named, is the in the meanwhile established company "SOLARier Gesellschaft für erneuerbare Energie mbH". State funded installations for that kind of solar collectors for heating up the water for domestic needs and heating are broadly accepted in Austria. Quite different however is the situation with the boom of photovoltaic, which in Austria has not taken place yet. This trend is only slowly becoming a reality and is far behind compared with Germany or the Czech Republic, where within about 3 years there have been installed about 20 time as many photovoltaic modules than in Austria, with a very controversial public discussion however ("good business for the rich, paid by the poor"), which could be avoided in Austria. Wind power is a big topic in the East of the country and for example the province of Burgenland has become statistically completely independent from fossil and nuclear energy (concerning electricity) already, covering its electricity demands only from renewable energy sources. In the west of this partly alpine country the water power stations are dominating and enable Austria to really reach a very high level of covering its electricity demands from renewable sources.

Of course a different story but not independently seen from the structure of the energetic system is the situation of the anti-nuclear movement as a whole. Austria is quite a young country in its present structure and the country is missing something like a founding myth. When the Habsburg empire collapsed 1918 people in Vienna saw their country as "the rest, that remained" and so the country actually started to have its modern identity only after 1955, after the foreign troops having stayed in the country after the second world war when the country was part of Nazi-Germany had left. Then one important point in Austrian modern identity developed which is the so called "Neutrality" a bit similar as in Switzerland,



however the Austrian Neutrality was always more a big front than a real concept of politics, maybe with the exemption of the period of Chancellor Kreisky who tried to bring this concept of Neutrality to life in the foreign politics of the country.

And it was Kreisky too, who enabled the referendum against the Zwentendorf NPP in 1978, originally being very strongly in favour of nuclear energy. So in the end he gave, quite against his will, the country also a second "modern point" of its new identity, which can be called a strong position of the anti-nuclear movement as a national consensus in the country. Also here however much of the rhetoric is only a big front and would there not be in some regions really well working NGOs, which are partly supported by its members but also partly by the regional governments or the capital city of its province (one of the really long term NGO with a long record of high profile work with international contacts is the group "Überparteiliche Plattform gegen Atomgefahren Salzburg"). After many different attempts over the years a well coordinated network of anti-nuclear NGOs from the west to the east and partly even with intensive contacts to the Czech Republic, Slovakia and Slovenia as well as with Germany of course is now slowly emerging. Also bigger NGOs like Greenpeace or Global 2000 (the Austrian representative of Friends of the Earth) are cooperating in certain areas of the anti-nuclear movement.

With the Nuclear Heritage Network and the so called NukeNews also an international platform exists, which is being used by some groups as the French network "Réseau Sortir du nucléaire", although not too many activists in Austria speak French.

Here is a list of some NGOs in Austria with their main region of activity:

<http://www.naturschutzbund.at/landesgruppen/vorarlberg/news.260/items/grossdemo-beim-akw-muehleberg.html> (Vorarlberg)

<http://www.afaz.at/html/afaz.html> (Tirol)

<http://www.plage.cc> (Salzburg)

<http://www.atomstopp.at> (Upper Austria and neighbouring countries)

<http://www.atomkraftfrei-leben.at>

<http://www.muettergegenatomgefahr.at>

www.slunceasvoboda.eu (mainly Austrian and neighbouring countries)

<http://www.atomkraftfreie Zukunft.at> (Vienna and neighbouring countries)

<http://www.global2000.at/site/de/tag/atom>

<http://www.greenpeace.org/austria/de/themen/atom>

Remains to see how the Austrian situation will develop. One interesting aspect will be the attempt of trying to reform the EURATOM-Treaty in the EU, or if that proves impossible to make Austria leave that pro-nuke lobby group and start a discussion in other EU-Countries which don't run any NPP.

Nuclear Renaissance? - Anti-nuclear Protests in Finland

For many years Finland was internationally regarded as the country of the so-called “nuclear renaissance” (a worldwide increasing number of new reactor projects was utilized by the atomic lobby to pretend this industry to have a prospering future). The very first EU reactor design, the European Pressurized Water Reactor EPR, developed by the French Framatome (these days Areva) and the German Siemens company, was to be constructed as a prototype in Olkiluoto in Finland. At the same time a site for final disposal of high level radioactive waste was started (not in operation yet) there, called Onkalo. Pro-nuclear media and lobby claimed Finnish people to be supporting the atomic plans, and for a long time it was impossible to correct this media image.



Decades ago, when the first atomic sites for NPPs were established in Lovisa and Olkiluoto, a strong anti-nuclear movement was protesting this policy. However, most active people gave up when the reactors were built and only a small number of activists continued campaigning and advocating against atomic power afterwards. In 2008 with an “International Anti Nuclear Festival” for the first time since years interested people, activists and organizers gathered nearby Olkiluoto starting something that developed to a new,

young anti-nuclear movement. Since that time several international campaigns, projects and events were started. Focus was on Olkiluoto III, uranium mining in Tervola and Rautavaara as well as on the proposed EON NPP in northern Finland. In the beginning of November 2012 a major environmental catastrophe took place at the Talvivaara nickel and uranium mine. Thousands of cubic meters of toxic and radioactive waste waters were released in a spill event. Immediately thousands of people stood up protesting the uranium mining in Talvivaara and demanding the site to be closed. A number of new people have joined the anti-nuclear movement in



Finland due to the Talvivaara spill. Many new initiatives were started and we have an enthusiastic atmosphere within the anti-nuclear struggle here now.

The movement is formed by many small groups of activists, partly connected to environmental NGOs, but mostly of grassroots type. In 2010 the publicly announced “Olkiluoto Blockade” was the first nation-wide gathering of anti-nuclear activists in Finland with a bigger opportunity to discuss strategies and to meet many activists in person. Strategy discussions take place locally, and especially southern groups are in a deeper exchange with each other. Other connected movements have been established in more northern parts of Finland against uranium and against the EON NPP attempts.

Atomic Situation in France

Between 1956 and 2002 about 60 nuclear plants have been taken into operation in France. The first research reactor for electricity generation was built in Marcoule by the Commissariat à l'énergie atomique (CEA). Some 58 commercial nuclear reactors are in operation in France these days. Besides these reactors, France has established a big number of all types of atomic plants to produce nuclear fuel and treat radioactive material for the commercial use. Some 80 % of electricity produced in the country comes from nuclear power stations.

Until the event of the Fukushima disaster there was a wide pro-nuclear consensus between all political parties except for the



Greens. In 2011 the situation changed a bit with the Socialists questioning their stance. During the last dozen years the anti-nuclear movement in France became stronger and stronger. The Réseau Sortir du Nucléaire as an association of about 600 groups and organizations was founded connecting and supporting anti-nuclear activities in France centrally. Blockades and mass demonstrations have formed the picture of the anti-nuclear movement since that time.

The supposed final disposal site for high level atomic waste is situated in the area of the village of Bure. An underground laboratory is preparing the later operation of the repository

although doubts of the suitability of the site have not been cleared. A protest house was bought in Bure by the movement as a gathering place and for educating and campaigning against the Bure final disposal plans.

A second prototype of the EPR was started in Flamanville some years after the construction began in Finland as the Olkiluoto III project experienced too many difficulties to get finished soon. These days a main field of protests against nuclear power developments in France is the construction of new power lines. Construction site occupations took place as well as public campaigns, camps and other events. The transports of the high level CASTOR containers from the La Hague reprocessing unit to Gorleben in Germany were also cause for hundreds of French activists to demonstrate their protest, blockade the transport and to show solidarity with the anti-nuclear protests in Germany.



Anti-nuclear Struggle in Germany

Despite of the internationally known German “nuclear phase-out”, it is one of the European countries with the biggest number of atomic plants in operation. Still nine commercial nuclear reactors are in operation, and it is likely that the goal to close them by 2022 will only be realized with a strong anti-nuclear movement forcing the government and industry to fulfill the promises they made in law.

The official state policy is the phase-out of atomic power. However, the nuclear industry is insisting, campaigning and pushing forwards to annihilate the decisions made in 2011 in response to the disaster in Japan. Hundreds of thousands of people had protested nuclear power in Germany at that point of time forcing the government to close eight of Germany's oldest reactors to pacify the public. In 2011, a politically remarkable occurrence was the change in the conservative Christian Party's main point of view on nuclear power not to promote it officially any more, but to publicly admit it to be too dangerous and to end the atomic age. Sure, this was a reaction to the public's opinion and not motivated by themselves. However, this is a stance they can't easily move back from again. These days, phasing out nuclear power seems to be a

political consensus in Germany. No political party dares any more to ask for new nuclear reactors here, and also the development of other atomic plants is less likely than elsewhere. Still some factories like the uranium enrichment facility in Gronau (federal state of Nordrhein-Westfalen) are not target of the official phase-out policy and even receive permissions to extent their operation times and capacities.

Anti-nuclear campaigns in Germany focus on ensuring the decided atomic phase-out to become reality, to close also the other nuclear industry's facilities and to prevent German companies and state to continue the nuclear

business in other countries. At the same time struggles concern the support of the development of renewable energy supplies. The conservative government aims to influence the pro-renewable support systems established on federal level since the 1990ies to be profitable for the big energy companies by reducing the size of subsidies per kWh, financing the renewal of the electricity grid and by particularly supporting big projects of renewable energy facilities affordable only by powerful companies.

An additional big issue for activists and public here is the unsolved and unsolvable problem of nuclear waste. Since the middle of the 1960ies German institutions were making experiences with the “final disposal” of the radioactive material. It started in Eastern Germany in the Morsleben salt mine at the end of the 1960ies/beginning of the 1970ies, while in Western Germany the Asse II salt mine was used for dumping nuclear waste even a bit earlier. In both cases public was not involved to the site decision as well



as politic considerations had a major impact more than ecological or safety requirements.

These days, Morsleben and Asse II are evidence for a failed final disposal concept followed in Germany. Both repositories are faced to cave-ins and intrusion of water. The operator, the state of Germany, already admitted these repositories to be unsuitable and too dangerous for operation as a final disposal site. However, tens of thousands of cubic meters of atomic waste have been dumped there already. Though it is considered to fetch the radioactive material and get it out of these dangerous mines, it is a technically and from a radiation safety point of view challenging attempt. Strong pressure of local initiatives and the public have caused the authorities and politicians to change their stances during the last decade to be more open for public discussions and even for considering removing the nuclear waste from these mines.

Besides these officially failed final repository projects, the Schacht Konrad iron ore mine received permission for the final disposal of nuclear waste, while the Gorleben mine is formally only categorized as a research facility under mining law and at the same time used as the official final disposal proof required by the nuclear law. However, in both mines no atomic waste has been stored so far. Gorleben is the most disputed atomic site since decades in Germany causing demonstrations of tens of thousands of people blockading for instance shipments of high level nuclear waste to the temporary repository on site.



Dozens of temporary repositories for atomic waste are situated on site of other nuclear facilities (NPPs, Gronau etc.) or operate as central storage sites (Ahaus, Lubmin).

Until 2005 most of the high level nuclear waste produced in German nuclear power stations was shipped to so-called “reprocessing units” in France and UK, where plutonium is separated, the volume of waste is multiplied and high amounts of radioactive substances released to the environment. This type of “disposal” of waste was not allowed by the nuclear law any more after 2005. Since that time the “direct final disposal” was required. However, still return transports of atomic waste take place from abroad to Germany.

Only 2 % of the volume of radioactive waste in Germany was produced in medicine, research and other industries. Almost all nuclear waste is caused by the commercial nuclear power stations.

The German anti-nuclear movement is composed by hundreds of grassroots groups, individuals and some NGOs. It is a decentralized movement without formal structures and representatives. Particularly big environmental NGOs often attempt to speak in the name of the movement which is widely not accepted. The most successful strategies and campaigns gathering many activists and starting up powerful actions were not implemented by central NGOs, but by independent initiatives and groups. An important media of the movement is the monthly magazine “anti atom aktuell”. Every half a year a gathering of activists (spring and autumn conference) is supposed to take place for exchanging information, starting campaigns and discussing strategies. Parties like the Greens or left parties partly join the movement, but have no leading roles.

Nuclear Situation in Lithuania

Lithuania is decommissioning the Soviet built Ignalina nuclear power plant and is planning a new one at the same site, despite that citizens voted against it in a nation-wide referendum held on October 14th, 2012.

In the past Ignalina nuclear power plant (INPP) consists of two RBMK type reactors (the same as in Chernobyl), which were built while Lithuania was member of the Soviet Union. INPP produced up to about 70-80 percent of the country's electricity. In 1992, a nuclear fuel cassette was stolen from the Ignalina nuclear power plant. In 1994, a terror act was proposed and the power plant was stopped for a few days.



Lithuania had to close INPP as a condition to join EU, due to safety reasons. The first reactor was closed in 2004, the second in 2009. INPP now is the biggest energy consumer in the country. In 2010, radioactive liquids were released in the surrounding area of the plant; it was officially claimed not to be dangerous. Besides this, the decommissioning of the power plant is going along with many scandals. There are delays in constructing temporary repositories, so there is no place where to put spent fuel. Therefore, the fuel is still in use, though the plant does not produce electricity any more. Financial difficulties are expected, as Lithuania was not able to use all the funds available for 2007-2013 period. In addition, billion Euros disappeared. Therefore, the EU might cut the funding for the next period.

Despite these difficulties, Lithuanian politicians are planning a new atomic power station (Visaginas - VNPP) at the same site. In 2006, Lithuania, Latvia and Estonia decided to build the new nuclear power plant together. Later Poland joined the project, but recently was hesitant whether to want to join the project when they got to know the conditions with the constructor Hitachi-GE. In 2007, Lithuania's parliament adopted a law on building a new NPP. The law also stipulated the creation of a "national investor" to gain investments for the new nuclear power plant¹. Lithuanian Energy Company (LEO LT), a national energy holding, was established in 2008 by the government with the Lithuanian government holding 61.7% of LEO LT and 38.3% of "NDX Energija". LEO LT was surrounded by controversies, for instance, "NDX Energija" was chosen without any competition. The project has gained public opposition, but it was not against the power plant itself, but against the way investor was formed. In the end of 2009 the company was liquidated. Then the government proposed an international tender to find a strategic investor, which failed. After this, the government proposed a bid process. The Japanese-American company Hitachi-GE was turned into the strategic investor.

VNPP is promoted as a solution to Lithuania's dependency on Russian energy, while the reality is that the plant would make the country even more dependent as Lithuania is involved to the Russian power transmission system and only Russia could guarantee the immediate power reserve. The politicians claim that Lithuania will be a regional leader by building the power plant and electricity would be cheap.

¹ <http://www.reuters.com/article/idUSL2870020520070628>

The critical information was being kept secret from the public all the way during the project development. Moreover, the proponents organized a campaign against anti-nuclear activists claiming they were financed by the Russian government.

The Lithuanian government was still pursuing the nuclear plans after the Fukushima disaster in 2011. For Hitachi-GE it is a chance to sell their reactors, while the market has shrunk. On October 14th, 2012, Lithuanian citizens voted on the statement “I am in favour of constructing a new nuclear power plant in the Republic of Lithuania” in a nation-wide consultative referendum. The referendum was attended by 52,5 percent of voters with 62,6 percent voting „No“. However, Lithuanian politicians are now trying to downplay the results of the referendum, claiming it would be supposed only to consult the opinion of people, while legal acts stipulate the referendum to be legally binding.

Overview on Poland's Atomic Politics

Poland since the 1950s always followed a clearly pro-nuclear policy, mostly expressed in a wide range of nuclear research activities. However, until today, Poland never has made uses of atomic power for commercial energy production, nor have there ever been intentions to set up a nuclear industry, neither for nuclear fuel production nor to obtain fissile material for military use.

Nevertheless, Poland has to deal with waste amounts of radioactive waste, originating mostly from its research reactors and to a far smaller degree from medical accessories.

Those wastes consist of low and intermediate level radioactive waste being stored in an old Russian fortress, while all high level radioactive spent fuels have been and are still being transferred to Russia. The atomic capacities of Poland these days only consist of one research reactor near Warszawa with a nominal power of 30 MW. Altogether, there have been 5 reactors on Polish territory since 1958. Environmental problems connected to atomic energy occurred in Poland basically as a result of uranium mining. This took place in lower Silesia during the 1950s and '60s. There are still several 100 abandoned dumps of waste rock and an uncovered tailing pond, which was supposed to be part of a remediation project in 2004.

In 1980 Poland once already had begun constructing of two commercial atomic power plants. The catastrophe of Chernobyl and the end of the communist regime in 1989 led to the abortion of construction work, and Poland's energy supplement remained based on coal.

After the millennium, new plans for the implementation of a domestic nuclear industry with a core of two commercial power plants were developed. In 2011 the Polish parliament approved a proposal to build these plants until 2023. This has been accompanied by activities in lower Silesia to explore potentials for new uranium mining. Poland also will have to build a new repository for the long-term highly radioactive waste which would be produced in the new plants.

New uranium mining

Two companies, Pol Skal and European Resources, are suspected to plan on new uranium mining in lower Silesia. This seems reasonable since uranium prices at the world market are continuously pretty high, so that even the poor ores of Silesia might be economically exploitable. Plans for uranium mining have not yet been officially confirmed, nonetheless inhabitants of the area are already organizing protests.

Most recently voices – even official ones – are rising up in Poland that in sight of Poland's enormous potentials in gas exploitation by the newly developed fracturing method nuclear power might become expendable once more. Poland's gas reserves that possibly could be taken out off the ground by fracturing are supposed to be so vast, that they might cover Poland's energy needs for the whole century in a rather cheap and possibly more



accepted way. Nonetheless, fracturing is another highly dangerous technique that inflicts enormous threats to the environment and human population in the exploitation area.

Plans to build the first reactor in Poland

The state-owned energy holding Polska Grupa Energetyczna (PGE, Polish Energy Group) has been appointed by the Polish government as the strategic investor. The first adopted programme version (early 2009) envisaged that this company would build two first NPPs by 2020 and 2022 respectively. The eventual location for the first one, as well as sources of funding and the reactor type, were to be decided upon between 2011 and 2014. One of the leading candidate sites so far is Żarnowiec, a village in northern Poland, some 60 kilometres Northwest of the regional capital of Gdańsk. At the end of 2009, PGE Energia Jądrowa S.A., a dedicated company within the PGE holding, was set up to „develop nuclear power generation in Poland”.²³

The government is the official author and a proponent of the nuclear revival plans, thus the information and “knowledge” disseminated through various channels (such as for the public education programmes, e.g. at schools of various levels) about the nuclear energy is completely imbalanced. They present only the advantages of nuclear energy. News and opinions presented by the Polish mainstream media are fed in and dominated by the atomists who prevail in delivering the pro-nuclear messages.

There is no official public debate of which the results would condition the decision to implement or not to implement the nuclear power programme. The biased and selective media opinions on the nuclear issues smuggled within the news can hardly be called a public debate. They favour nuclear and dismiss the renewable energy's advantages. They use propaganda tricks like taking exclusively coal into considerations while making their comparisons with other resources as well as using some researches and analysis very selectively.

The Polish government has earmarked PLN 450 million (ca. 110 mio euro) on promoting its nuclear agenda before 2012.

According to Poland's energy programme for the period until 2030, nuclear power plants would establish the country's energy security. But the document's own analysis and calculations themselves say the new reactors are supposed to supply between 15 and 20 percent of all future electricity produced in Poland. However, in 2005, the share of electricity in Poland's total energy supply was 14.5 percent, and by 2020 it is projected to grow only to 15.4 percent. This means that the share of nuclear energy in the country's entire energy supply will not exceed three percent, rising only to a mere seven percent in primary energy supply by 2030.

Furthermore, not only will nuclear energy not help Poland overcome its dependency on coal, but it will effectively impede its attempts to develop renewable energy.

Experts say that as energy security concerns go, Poland will benefit more if it joins its power grid with those of fellow EU member countries. Combined with energy efficiency measures, gradual modernisation of Poland's national grid, and a dynamic development of renewable energy sources, as well as expansion of power production from gas, this will both ensure Poland its energy security and reductions in greenhouse gas emissions.

² <http://www.pgesa.pl/en/PGE/PressCenter/PressInformation/Pages/RegistrationofPGEnergiaJadrowaSA.aspx>

³ <http://www.pgesa.pl/en/PGE/BusinessAreas/Pages/NuclearPowerGeneration.aspx>

Safety is not a tangible issue at this stage except for the usual doubts.⁴

Major negative impacts of the supposed NPP on the region

An NPP located in Zarnowiec would need a water channel to link the lake siding the plant with the Baltic Sea. It would provide enough cooling water for the reactor (because of the prevailing too high temperatures of the lake predicted). But if constructed, the channel would cut and endanger a number of Natura 2000 (EU protected) areas and its habitats.

An NPP in Zarnowiec location would have negative impact, even through its sole presence, on the local, small scale tourism in the whole Pomorze (Pomerania) region. It would be negatively perceived by potential tourists (large part of which are German people), because of the potential risk of contamination and the visual obtrusion. Thus it would deter them from visiting the region and from staying there. The income of the touristic business which is one of the largest contributor to the welfare and convenient jobs in the region would drop significantly. The impact on the rural agricultural lands would be similar.

Other types of negative impact are usually known potential risks related to siting of any NPPs (population's health, terrorism, nature contamination from regular operating, fuel transports and others). Other locations considered (especially Klempicz) would undergo similar negative consequences.

⁴ described e.g. here: <http://www.greenpeace.org/international/en/news/Blogs/nuclear-reaction/free-nuclear-advice-for-the-polish-energy-gro/blog/11814>

Portugal: Uranium Mining

The struggle against nuclear energy has a long tradition in the environmental movement in Portugal. In 1974, shortly after the April 25th revolution that overthrew the fascist regime, the Movimento Ecológico Português (MEP - Portuguese Ecological Movement) was formed. The main big issue of this movement was the opposition to the building of the nuclear power plant in Ferrel, in Peniche. The anti-nuclear struggle evolved into a convergence of movements and citizens with ecological motivations under the CALCAN - Comissão de Apoio à Luta Contra a Ameaça Nuclear (Support Commission to the Struggle against the Nuclear Threat). A big anti-nuclear festival was organized and in 1977 a large march in Ferrel, initiated with the Church bells, marked the high point of the anti-nuclear struggle. The debate on whether to build a nuclear plant in Portugal continued until the 1980s. During this decade, the government definitely decided that Portugal should remain free from nuclear power.

Despite this, the country continued to extract and export uranium. Since 1977, the public Empresa Nacional de Urânio S.A. (ENU), a subsidiary company of the Portuguese State mining holding company, Empresa de Desenvolvimento Mineiro, S.A. (EDM), employed up to 614 workers in mines in Viseu, Guarda and Coimbra. The largest and most known mine is Urgeiriça, which represents today one of the most visible examples of the environmental liabilities generated by uranium mining.

In 1999, Anaconda Uranium Corporation has entered into a binding agreement with ENU, to develop and exploit the Nisa Uranium Project as a joint venture. Located in the Alto Alentejo area of Portugal, the Nisa Project consisted of eight shallow uranium deposits with total reserves in excess of 5 million pounds of U₃O₈ at a grade of 0.13 percent U₃O₈. It was estimated that the project would be in production within the next 12 months. However, in 2001, still with 44 workers, ENU entered in liquidation and definitely closed doors in 2004. The agreement between Anaconda and ENU on the development of the Nisa project, Portugal, expires together with the liquidation process⁵.

In the last years, ex-workers of ENU have been struggling for compensations for the health consequences of their work. They state, among the 160 ex-employees that died, many suffered from cancer. In this struggle for environmental justice, more than 160 ex-workers - more than half of the 300 still living - have already volunteered to medical tests⁶.

With the economic crisis, new mining frontiers have been opened in Portugal. Among them came the possibility to explore uranium in Nisa, and prospection by the company Berkeley Resources Ltd. started in 2008. Other private consortiums also expressed interest to explore the source of at least 6,000 tons of uranium⁷. Local citizens, with the support of environmental NGOs, reacted rapidly and formed the "Movimento Urânio em Nisa, Não" (MUNN)⁸. More than 300 people have signed a petition launched by Movimento Urânio em Nisa, Não (MUNN) to protest against the possible exploration of uranium in the region. (Diário Digital Jan. 31, 2008). On Oct. 19, 2008, 300 people held a demonstration in Nisa against any uranium exploration in the area.⁹

⁵ Anaconda 2001 Annual Report, Oct. 24, 2001

⁶ http://www.dn.pt/inicio/portugal/interior.aspx?content_id=2327578
<http://www.publico.pt/sociedade/noticia/mais-de-160-trabalhadores-da-extinta-empresa-nacional-de-uranio-ja-fizeram-exames-medicos-1320122>

⁷ http://www.pcp.pt/joomla/index.php?option=com_content&task=view&id=29824&Itemid=390

⁸ <http://movimento-uranio-nao.blogspot.com/>

⁹ Jornal de Notícias Oct. 19, 2008

Slovenia Nuclear Country Report

In recent years the legacy of nuclear power (both military use and “peaceful” use to produce electricity) in former Yugoslavia – after important archives were opened and the involved persons started to talk on it openly – became clearer and well documented. But the picture of the historical development is all but positive.¹⁰

In the late 1940s, Yugoslavia's president Josip Broz Tito ordered the establishment of a nuclear programme, most likely viewing the development of nuclear power as a key to overall economic development. Yugoslavia's early research benefited tremendously from collaboration with Norway, particularly on reprocessing, and, to a lesser degree, with the Soviet Union. Competing with the civilian research programme, Tito initiated a nuclear weapons programme. Security concerns and the desire for international status may have played a role in his decision to develop a nuclear deterrent. In the 1960s, Tito terminated the nuclear weapons programme for two reasons: First because of the nuclear accident at the Vinca nuclear institute site on 15th of October 1958 as six people were irradiated and one of them died. The second reason were the huge costs of the project. However, in 1974, after India with whom Yugoslavia competed for the leadership of the Non-Aligned Movement (NAM), tested a nuclear weapon, the weapons programme was once again revived under the name “Programme A”, even though Yugoslavia had in 1970 become a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Lack of enthusiasm among nuclear scientists and insufficient financial resources are often cited as the reasons why Yugoslavia's drive toward nuclear weapons was ultimately unsuccessful and finally abandoned in 1987.

In the 1970s the focus of Yugoslavia's civilian nuclear programme shifted from research to nuclear power. In 1981, its first and only nuclear power plant Krško, became operational. However, the Chernobyl disaster of April 1986 led to a moratorium, adopted first by the Slovenian Parliament and then by the Federal Council, that essentially ended all nuclear power-related research in Yugoslavia. In 1992, following the secessions of Slovenia, Croatia, Macedonia, and Bosnia and Herzegovina, Serbia and Montenegro formed a new state, called the Federal Republic of Yugoslavia. The FRY existed until 2003, when it was replaced by the Federation of Serbia and Montenegro. Montenegro became independent in 2006.

During the mid- to late-1990s, scientists from the Vinca Nuclear Research Institute near Belgrade, one of Yugoslavia's main nuclear research facilities, began expressing concern about the safety of over 40 kilograms of fresh nuclear fuel containing highly enriched uranium and 2.5 tons of spent fuel that were stored at Vinca. In August 2002, a multinational team of public, private, and international entities organized a successful operation to transport 48 kg of 80%-enriched uranium from Vinca to the Russian Institute of Atomic Reactors in Dmitrovgrad, Russia.



¹⁰ James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies

Nuclear Phase-out and Revival of Atomic Power in Sweden

In 1980 in reaction on the 1979 meltdown in the USA Three Mile Island NPP (Harrisburg) a referendum lead to a decision for a long-term nuclear phase-out and a stop of constructing new atomic power stations in Sweden. However, the atomic industry received millions of EUR compensation in cash and in kWh provided by state operated energy companies for closing a first reactor in Barsebäck. Instead of using the money for investments in renewable energy sources, the Swedish nuclear industry took over significant shares of other European companies, partly also from German nuclear energy companies. Thus, the goal of a nuclear phase-out by the beginning of the 21st century was not met.



In Germany for instance the Swedish participation in nuclear companies lead to stronger stances and campaigns against the German nuclear phase-out. Also the new formed Swedish-German energy companies exercised a “greenwashing” of electricity by selling atomic power to Sweden and buying for instance water generated power from Sweden at the same time. Of course this deal only happened on paper – in reality the electricity is used in the place produced next to the consumption. But in Germany the atomic power companies were able to sell their electricity now as “green energy”.

In 2006 a serious accident took place at the Forsmark NPP operated by Vattenfall company experiencing serious incidents in their German reactors Brunsbüttel and Krümmel, too.

As a result of the formal decision to phase out nuclear power, the strong anti-nuclear movement disappeared or transformed into NGOs focusing on lobbying and educating. Street actions became rare. In 2009 the Swedish phase-out was eventually annulled by the government setting up a new energy programme allowing building new (but bigger) NPPs to replace the old ones. One year later the Swedish parliament confirmed the government's decision. Since that time the public awareness and objection to atomic power slightly grew again. It seems to be contradictory that several strong anti-nuclear NGOs are established and working on lobbying, research or educational level in Sweden while protests in public are rare and were particularly done by Climate action groups of young people not involved to the established anti-nuclear movement.



These days ten nuclear reactors are in operation in Forsmark, Oskarshamn and Ringhals. Nuclear energy makes between 35 and 40 % of the Swedish electricity generation. At Oskarshamn also the temporary repository for high level nuclear waste is situated while Forsmark is supposed to become the site for a final repository for this waste.

Nuclear power is a threat to everyone: humans, animals and environment. The lessons of the horrible disasters in Fukushima 2011, Chernobyl 1986 and Three Mile Island 1979 as well as hundreds of “events” on the INES international nuclear event scale globally occurring every year have stressed that it is not responsible, and not acceptable, to go on operating atomic power stations any more.

Furthermore serious health risks and threats to the environment are connected to the mining of uranium ore, transports and storage of nuclear waste and to the regular “low” level radiation released in usual operation of atomic facilities. A safe final disposal of radioactive waste being hazardous for millions and billions of years is impossible.

Despite the political decisions in some countries to phase out nuclear power or to freeze their atomic power station development programmes, the nuclear risk is not banned yet. Still governments and companies attempt to push new atomic projects and insist on the public opinion downplaying the impacts and threats of nuclear power.

This booklet aims to provide some brief status reports and historical information on selected European countries.