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Monitored this issue:

Nuclear energy in Bulgaria – chaos, corruption and incompetence

Every decision of the government and the parliament regarding the energy sector, every media appearance of the Prime Minister Boyko Borissov, and the Minister of Energy Temenuzhka Petkova, on the topic of energy is an intellectual insult to the society.

After the repeated justification by Minister Petkova, which sounds like an anecdote that the Covid crisis temporarily stops the interest of investors in the Belene NPP, we thought that we would not hear more nonsense. However, on January 20, 2021, through a press release, the government announced information regarding Minister of Energy's report on the actions taken and the results of the study looking into the possibilities for the construction of a new nuclear power plant at Kozloduy NPP, and the use of Belene NPP equipment.

With this report, the government once again demonstrates its incompetence, lack of vision for the development of the energy sector and effort to provide the nuclear lobby with an opportunity to drain the state budget for "consulting" reports, analysis, evaluations, studies, equipment transfers for decades.

Without mentioning the termination of the Belene NPP project at all, the report goes directly to a proposal for the construction of Unit VII at Kozloduy NPP with the equipment developed for the Belene NPP. Adding to the absurdity, there is also the possibility of installing small modular reactors on the same site… which have not yet been approved by Euratom. Prime Minister Borissov, commenting on this report on the construction of Unit VII at Kozloduy NPP, in his typical style, cheerfully promised Unit VIII. And this is happening two months before the parliamentary elections?! I wonder what reality this government lives in.

It is as if they want us to forget how only a few months ago Minister Petkova convinced the public that the Belene NPP would be built and that a „consortium" of Russian Rosatom, French Framatom and American General Electric has been created to participate in the procedure for selecting a strategic investor for Belene NPP. And President Radev called the Belene NPP project „inevitable."

Belene nuclear power plant

Reactor site Belene

To illustrate the chaos in the government we offer this link in Bulgarian with the Ministry of Energy's response from 30.12.2020 , (https://www.zazemiata.org/resources/otgovor-aec-belene/) to our letter from 16.6.2020, with which we once again insist on the termination of the Belene NPP corrupt project and a nuclear-free usage of the site. (https://www.zazemiata.org/belene-is-back-letter/)

In its response, the Ministry of Economy clearly states that the decision of the National Assembly of June 17, 2018 to resume the Belene NPP project will be implemented and they repeat the mantra for the strategic investor. There is not a single word about Unit VII of Kozloduy NPP.

That is, on 30.12.2020 ME officially confirmed that it continues to look for an investor for Belene NPP, while on 20.1.2021, we already have a report from the Minister of Energy with a proposal to use the equipment from the Belene NPP site for the construction of Unit VII of Kozloduy NPP.

Apart from being an illustration of the brazen lies and intellectual inability of the government to deal with this case, the approach of transferring equipment from Belene NPP to Kozloduy NPP shows they are not really very skillful in trying to cover up the huge thefts and abuses of corruption. BGN 3.5 billion was stolen from the state budget through an organized criminal group (OCG) by politicians, consultants and parties serving foreign energy interests.

The sense of impunity that this government demonstrates with its inadequate decisions in the energy sector can be compared to the arrogance of Rumen Ovcharov (former Minister of Economy and Energy 2005-2007).

The prosecutor's office and SANS (the State Agency for National Security) are investigating the Belene NPP case from 2009, perhaps after the elections the institutions will be more willing to seek responsibility from those responsible for this 30-year theft of huge funds from taxpayers.

If that happens, the current prime minister and minister Petkova should be investigated, of course next to their OCG comrades from several previous governments and a president dreaming of a Grand Slam.

Todor Todorov- Environmental Association Za Zemiata

Nuclear energy and the EU-taxonomy,
After heavy lobby attacks nuclear energy not in the first Delegated Act of the EU Green Taxonomy

The European Commission is currently establishing an EU-wide classification system, the so-called "taxonomy", which will be used in the future to classify economic activities on the basis of their ecological sustainability. Within this framework, the question of whether an investment in nuclear power can be classified as sustainable is being debated. The final report of the Technical Expert Group (TEG) of March 2020 contains the following nuclear energy assessment in the Annex:

"[…] it was not possible for TEG, nor its members, to conclude that the nuclear energy value chain does not cause significant harm to other environmental objectives on the time scales in question. The TEG has therefore not recommended the inclusion of nuclear energy in the Taxonomy at this stage."(TEG Report Annex 2020, p. 211)

Among other issues the unsolved nuclear waste issue was cited by the TEG as a reason for this assessment. The Taxonomy Regulation 2020/852 entered into force on July 12, 2020. It tasks the Commission with establishing the actual list of environmentally sustainable activities by defining technical screening criteria for each environmental objective. These criteria will be established through delegated acts – the first was decided on April 21. Until the very last-minute attempts to change, prevent or postpone the delegated act were made, last one the night before, when in a joint letter, leaders of Bulgaria, Cyprus, Czech Republic, Hungary, Malta, Poland, Romania and Slovakia expressed disagreement over the EC's decision to leave out nuclear and natural gas from the current delegated act to include them in a separate legislation.

As happens rather often with EU legislation, the European Commission is serious about its intention, however, political lobbying of member states, industry and many others wreck this idea. So when this was published, friends of nuclear decided that "real" nuclear experts are needed to assess this. So the European Commission called in JRC – Joint Research Center, legal basis for it: EURATOM.

Another fun feature from the EURATOM Treaty's founding year 1975 rather than from 2021: It was supposed to be kept CONFIDENTIAL. The JRC report was leaked in a few hours' time…also worth mentioning: The first JRC report ever to be published…without naming the authors' names.

Next steps:

According to plan, two committees were mandated to perform a review of the draft JRC report. The so-called Art. 31 expert group is named after the respective article of the EURATOM Treaty, similar to e.g. the Art. 37 group. Their task is to ensure compliance of some specific project and act in full secrecy and are sent by the member states. However, they are certainly no experts on life-cycle analysis or nuclear waste management. The other group is similarly secretive and unknown to long-serving nuclear experts: SCHEER (Scientific Committee on Health, Environmental and Emerging Risks) at the DG SANTE (the European Commission's Directorate-General for Health and Food Safety). Their expertise seems to be even more remote from the topic at hand than the Art. 31 groups' qualifications. They will assess the JRC report (they have started already), ask questions and finally arrive at making a statement of their own. The SCHEER mandate asks to assess the taxonomy regulation's articles 17 and 19 that set the legal framework for the Do No Significant Harm principle:

"(iii) the long-term disposal of waste may cause significant and long-term harm to the environment; and (e) pollution prevention and control, where that activity leads to a significant increase in the emissions of pollutants into air, water or land, as compared with the situation before the activity started;

And Article 19: (f) be based on conclusive scientific evidence and the precautionary principle enshrined in Article 191 TFEU;

(g) take into account the life cycle, including evidence from existing life-cycle assessments, by considering both the environmental impact of the economic activity itself and the environmental impact of the products and services provided by that economic activity, in particular by considering the production, use and end of life of those products and services;

The EC said those committees' reviews will be for internal purposes only. Both should complete their task by end of June. In September the European Commission is expected to present the draft specific delegated act as announced on April 21.

The less discussed question: How important for financing new nuclear power plants is being part of the taxonomy actually? The image of nuclear energy of course would be severely damaged, that is for sure. But there is broad disagreement on whether money would become scarcer or more abundant for new builds.

Definitely of influence is the taxonomy for the review of the EIB energy policy (fall 2021) and the EU guidelines on state aid for energy and environment, which need to updated actually right now, but the EC seems to be waiting for the outcome of the taxonomy.

The April 21 delegated act was by some seen as a victory for nuclear energy – FORATOM for example. That is certainly wrong, even though we are aware that the exercise described earlier will also be heavily influenced by politics, because the agreed text doesn't say so and some member states might still increase their efforts, also the European Commission is not a pronuclear bloc – but they need sound arguments, which we can help prepare.

Patricia Lorenz, Antinuclear Campaigner at Friends of the Earth Europe, patricia.lorenz@foeeurope.org

Position Paper:
http://www.joint-project.org/upload/file/Position_Paper_on_Taxonomy_Delegated_Draft_Act_v2.pdf

Critical review of the JRC report
https://www.global2000.at/sites/global/files/Hintergrundpapier%20Joint%20Research%20Centre%20-%20GLOBAL%202000%20Reality%20Check.pdf

JRC report and more on taxonomy on EU sites:
https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en

Risks of lifetime extension of Nuclear Power Plants

The risk of severe nuclear accidents is significantly increasing due to the operation of old and outdated nuclear power plants. This is the main result of a comprehensive study of a group of internationally respected nuclear experts and former leading heads of nuclear authorities, the International Nuclear Risk Assessment Group (INRAG).

Of the 141 reactors in Europe, only one reactor has begun operating in the last decade, and more than 80 % of the reactors have been running for more than 30 years. Their average age is more than 35 years. Since nuclear power plants were originally designed to operate for 30 to 40 years, the operating lifetime of the majority of pan-EU nuclear reactors is approaching this limit, or has already exceeded it. Their in most countries legally unlimited licenses are - from the safety point of view - exhausted.

Plans are evolving to extend the operating lifetime of many pan-EU nuclear plants for another 20 years up to 60 years. This means significantly increased risk due to obsolete safety systems allied to the aging of non-exchangeable systems and components.

Further it is planned to conduct these nuclear lifetime extensions :

- without a full renewal of their licenses
- without transparent integrated assessments under current safety criteria
- without properly assessing or communicating the many residual risks that remain.

In summary, the key results of the INRAG study are:

- The vast majority of European nuclear power plants are, or will be, operated beyond the limit of their original technical design.
- The technology and safety concepts of all currently operating European commercial nuclear reactors are outdated.
- As operational experience shows, ageing processes increase the risk of malfunctions and accidents significantly. The fact is, the cause of many safety-relevant events can be traced back to ageing processes; including corrosion, wear and tear, and embrittlement. Thus, the safety margins of old reactors are significantly reduced by ageing.
- In general, there is insufficient protection against new risks especially from external and combined events (i.e. earth quakes, airplane crash, terrorist attacks, and climate change events including flooding).
- Components that do not comply with their corresponding safety standards are often kept in operation, thereby reducing required minimum safety margins.
- Lack of documentation and information makes it difficult to assess the safety of existing installations. Risky and unproved assumptions often replace sufficiently documented data and calculations that are needed to prove safety.
- The assertion of the operators that the safety of old reactors has been continuously improved is often misleading. A significant number of retro-fits has been carried out to reach the original license safety standards. The goal of much retro-fitting has been to try to adapt to risks either ignored or overlooked at the time the permit was issued. Thus, given safety improvements are only to eventually comply to the requirements set by the original license.
- Backfitting measures are limited in scope. The main conceptional weakness of the old reactors remain. The key safety-relevant component of a reactor (the reactor pressure vessel) cannot be replaced or be repaired. Furthermore, experience tells us that backfitting measures may lead to the emergence of new significant risks.
- There is no international review body and no internationally binding rules for the implementation of improved safety requirements for existing ageing nuclear installations. In practice, the economic imperative of operator cost reduction determines the level of safety achieved - resulting in a significantly compromised pan-European nuclear safety regime.

This INRAG Report has been commissioned by the Alliance of Regions for a Europe-wide Nuclear Phaseout and was presented on April 26, the 35th anniversary of the Chernobyl disaster, by INRAG and the State of Baden Württemberg, a member of the Alliance.

A summary as well as the full report (only available in German) can be downloaded here:

https://www.inrag.org/risks-of-lifetime-extension-of-old-nuclear-power-plants-download

NUCLEAR NEWS

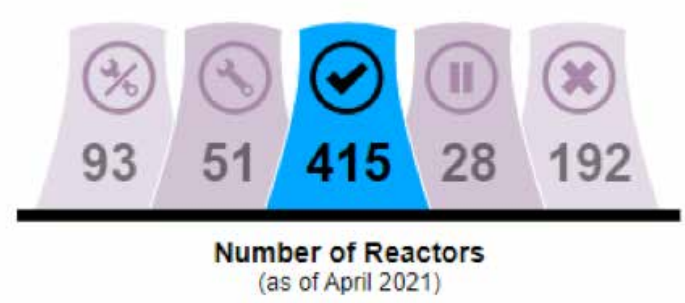
Construction start of a new Chinese NPP

China: In April the construction of a new reactor started at Changjiang-3. The reactor design is known as the Hualong one type. In 2026 the construction is planned to be completed.

New interactive tool on status nuclear industry

World Nuclear Power Status

Starting in this edition, we will publish every month the status of the nuclear industry in the following graph.



Source: https://www.worldnuclearreport.org

In the graph you see five numbers:

- the abandoned constructions. In 93 cases the construction started but was stopped definitely.
- The number of nuclear reactors under construction. At this moment that number is 51. This is one more in comparison with last month, due to the above mentioned Chinese construction start of Changjiang-3.
- The third number represents the actual operating nuclear reactors around the world, 415 at this moment.
- There are 28 nuclear reactors in long term outage, a large number (24) of these are in Japan. In the aftermath of the Fukushima disaster the Japanese government decided to close all nuclear power plants for a thorough inspection.
- The last number in the graph represents the closed nuclear reactors.

The numbers (and the graph) are produced by the World Nuclear Industry Status Report. As of April, the WNISR started a new initiative with an interactive tool. Where are operating nuclear power plants in the world? Who is building new reactors? How many units did China start up since the Fukushima disaster? Where are EPRs in the world and what is their current status? Which company is operating/building reactors in the United Arab Emirates?

Now, in a few clicks, you can actually see the answers with the fully interactive tool covering 70 years of nuclear history from 1951, when construction of the first nuclear power plant began, through to 2021.

The interactive tool is available at https://www.worldnuclearreport.org/70-Years-of-Nuclear-Power-Launch-of-Interactive-Datavisualization.html

Chernobyl-dossier by Heinrich Böll Foundation

The year 2021 marks the anniversary of two dreadful disasters in nuclear power plants: 10 years have passed since Fukushima (11 March 2011), 35 since Chernobyl (26 April 1986). The Heinrich Böll Foundation takes stock of the impacts of the latter catastrophe, looks at the state of the nuclear industry in Europe today and provides an outlook of this form of electricity generation. Bringing in voices from foreign offices and partners in different European countries, the dossier consists of articles shedding light on the different perceptions and myths of nuclear energy in the respective countries, a series of video statements explaining why nuclear is not the right answer to the climate crisis and various publications. WISE Netherlands contributed to the Heinrich Böll Stiftung dossier with the report: "Towards a clean and sustainable energy system: 26 criteria nuclear power does not measure".

The complete dossier can be found at https://eu.boell.org/en/Chernobyl35