

## Expanding Nuclear Power Generation in Eastern Europe

Unnecessary, with huge hidden costs & irresponsible from an environmental justice perspective

EJOLT  
Briefing

011

### Keywords

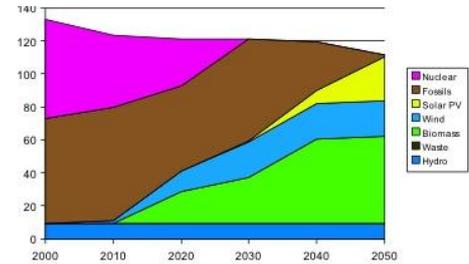
- > Nuclear power
- > Nuclear renaissance
- > Uranium mining
- > Energy mix scenarios
- > Public participation
- > Bulgaria
- > Slovenia

**Myth:** The nuclear industry claims that nuclear energy is clean, reliable and cheap. Since climate change became an issue of public debate, it is also said to be climate friendly and sustainable. The nuclear industry points to expansion of nuclear power capacity in Eastern Europe to underpin its claim of a “nuclear renaissance”.

**Reality:** The environmental justice perspective of [EJOLT report “Expanded nuclear power capacity, impact of uranium mining and alternatives”](#) shows that **expanding nuclear energy capacity in Eastern Europe is unnecessary and characterized by hidden costs** that will be socialized. It is **irresponsible**, considering existing alternative options for energy production and measures for managing energy demand.

The report also demonstrates that the “renaissance” is characterized by nuclear power's old realities, technical problems and high costs at taxpayers' expense. If we compare this with other countries, like the new reactors currently under construction in Finland and France have been delayed and are extravagantly running over-budget. In Switzerland nuclear power expansion has been put on hold in the aftermath of the devastating accident at the Fukushima nuclear power plant in Japan in 2011, Germany is phasing out nuclear and Italy decided to remain nuclear-free.

The governments in **Bulgaria** and **Slovenia** are among those in Eastern Europe **falsely claiming** that **expanding nuclear power generation** is necessary and more economical than alternative options to meet projected energy demand. The report demonstrates the opposite. It shows that the claim that additional nuclear power capacity is needed and economically viable is untenable for both countries, and would only bring **more risks for the safety of people and future generations**.



*Development of electricity production and sources in Bulgaria, following Vision 2050*

Source: INFORSE-Europe and Za Zemiata, 2008

**Cost estimates are kept unrealistically low** because (a) **environmental risks** are not fully accounted for; (b) differences in opinion with regard to what costs should be included are resolved in such a way that **cost estimates are kept low**; (c) the spread in **potential liabilities** resulting from many issues being either unresolved or their costing disputed, is **not considered in the economic assessments**.

Different assumptions will result in considerably different cost estimates, and hence liabilities -the **financial responsibility** of the operator in the case of an accident. In the case of category 7 **nuclear accidents** such as those in Chernobyl and Fukushima, the cost for damages runs into the tens and hundreds of billion Euros. At the same time, **liabilities for nuclear damage cover less than 1%** of such damage. In many countries, liabilities might be as low as several million Euros, orders of magnitude below likely actual costs in the case of significant incidents.

Furthermore, **calculating liabilities** for long-term storage of **radioactive waste** is fictitious simply because **no permanent solutions** for such storage exist yet - neither in **Bulgaria** or **Slovenia** nor anywhere else. In other words, governments have approved and financed nuclear power generation and the resulting production of nuclear waste without knowing how, where and at what cost nuclear waste will be stored long-term. Liabilities for **long-term storage** are grossly inadequate, not least due to the fictitious nature of calculating them.



*Waste pile from former Uranium crusher near Seslavitzi, Bulgaria, easily accessible to the public, 2011*

Photo credit: CRIIRAD



*Abandoned uranium ore processing plant in Buhovo, Bulgaria, 2008*

Photo credit: Za Zemiata

## Policy demands

### How much and which kind of energy?

- **Calculation of future energy demand** in the EU appears to continue to be **based** on the flawed **assumption that it is possible to sustain infinite energy demand on a finite planet**. From an environmental justice perspective, the **available energy has to be the starting point for discussing** how much and what kind of energy capacity the EU should plan for. Current assessments must be revised in a transparent and inclusive process to ensure not only coherence with EU climate policies but also full recognition of the declining stocks of the resources. This will prevent costly and risky construction of redundant nuclear power capacities.
- **The first priority in energy planning must be reducing energy demand**, through energy saving and energy efficiency measures. Sound energy policy planning includes the mapping of the full potential for such measures. With reducing energy demand, increasing energy savings and energy efficiency as political objectives and emphasis on measures for achieving these objectives, the energy demand in Bulgaria and Slovenia could be met without increasing nuclear power capacity.

### How:

- **Energy planning requires utmost transparency and democratic decision-making. Access to information, participation and justice** (accountability) is a **fundamental right** in this process. All kind of impacts, like health, risks, infrastructure, ownership, has to be taken into account. **Decentralisation of energy supply is critical.**

Furthermore, because **radiation** can, even in small quantities, be lethal, contamination with radioactive material as a result of accidents, **incidents and attacks** could make entire **regions uninhabitable** for thousands of years. The **vulnerability** of nuclear power installations and uranium producing and enriching facilities to incidents and attacks is further demonstrated by the fact that private insurance providers do **not offer insurance** for nuclear facilities. The result: the **devastating impacts and the economic costs** of accidents on the scale of Chernobyl or Fukushima are socialized, and **are not considered in the cost calculations** that underpin the economic claims for expanding nuclear energy generation in Bulgaria and Slovenia.

Expanding nuclear power generation also triggers additional uranium mining. Yet the impacts on health and biodiversity, and the associated cost are also absent from the cost calculations, as this is clearly shown in the EJOLT report and briefing on **Uranium Mining**. All the **environmental and health costs** incurred along the production chain must be considered as part of the operating costs of nuclear power plants.

Finally, the report notes that just as long-term storage and associated costs and liabilities are unresolved, so is the question of **who is responsible** for – and who will pay – the environmental and health costs after a mine closes.

In **Slovenia**, citizens found out about expansion plans for the Krško nuclear power plant only when the project appeared in a government document on development projects. No prior public consultation had taken place, yet the government document identifies the expansion as a strategic priority. The Krško example is characteristic for the lack of transparent and open public debate on the use of nuclear energy, and against the **Aarhus Convention**, ratified in 2004 by Slovenia.

**Nuclear power projects** tend to be **protected by strong political networks**. In addition to the lack of transparency from planning to construction and operation, uncontrolled spending of public funds, bribery, corruption and non-consideration of other, more efficient and less costly options for energy development are a regular occurrence in nuclear power generation.

*“Hallmarks of nuclear power generation:*

*Strong (shady) state-industry links, lack of transparency and an unresolved question about long-term storage of radioactive waste”*

## Policy demands

### How:

- Large energy projects tend to overrun significantly in terms of costs and time, mainly at the expense of taxpayers. **Big corporations tend to monopolize the energy sector.** By contrast, dispersed production from locally controlled renewable energy sources could increase citizens' control of the sector, resulting in more transparency and less corruption and bribery. Social desirability and benefits of renewable technology are not only depending on the technology but also a question of the vested power relations and monopolies. This is why **EU needs democratisation of the energy sector.**
- **The EU should shift the subsidies and investment mechanisms to improve access to capital and leverage for renewable energy.** - In spite of the October 2014 conclusions on 2030 Climate and Energy Policy Framework, the EU must demand binding national targets for sustainable and renewable energy use. Experience has shown that such targets are crucial to provide the long-term investment framework and stability that investors in renewable energy production require.
- **Putting communities and citizens at the heart of a shift to renewable energy** is likely to lead to a transition that is quicker, fairer and brings about added benefits. In fact, German and Danish citizens have already put this model into practice on a vast scale. To make this happen, national agencies with grant and loan making capabilities should be established as a necessary means of supporting and promoting community power projects.

**Construction of nuclear power plants** is also usually backed by **public fund guarantees** as they are too expensive to be attractive to private investors, as the heavy subsidies for the planned UK Hinkley Point C plant (twice as high as those for solar energy) demonstrate. However, EU institutions have yet to play their role in ensuring that Member States provide transparency regarding planning, decision-making and award of contracts linked to nuclear power generation.

Although the nuclear industry has already had six decades to show it can deal with long-term storage of the radioactive waste produced in nuclear power generation, there is still no country in the world that has found a scientifically sound way of dealing with high-level radioactive waste. As expanding nuclear energy inevitably means producing even larger quantities of higher level radioactive waste, it is exacerbating the **unresolved issue of long-term radioactive waste storage.** Many countries also lack long-term storage facilities for low and intermediate level radioactive waste.

### Energy demand should match with available renewable energy supply

The EJOLT report seriously questions the assumptions and economic forecasts on which projections of future energy demand in the EU are based. The report shows that demand projections are inflated in order to strengthen the case for expanding nuclear power capacity in Eastern Europe: in light of the current economic crisis in the EU, economic forecasts remain subdued for the short-term and vague and unstable in the long run. Given that construction of additional nuclear energy capacity in **Bulgaria** and **Slovenia** is oriented towards energy export within the EU, nuclear energy generation capacity would be expanded not just at high social and economic cost but also on the basis of uncertain future demand. **Domestic demand does not justify** the plans: in both Bulgaria and Slovenia, the potential is available to match demand with a combination of energy generation from renewable sources and demand management, in a cheaper and less risky way, also from an economic point of view.



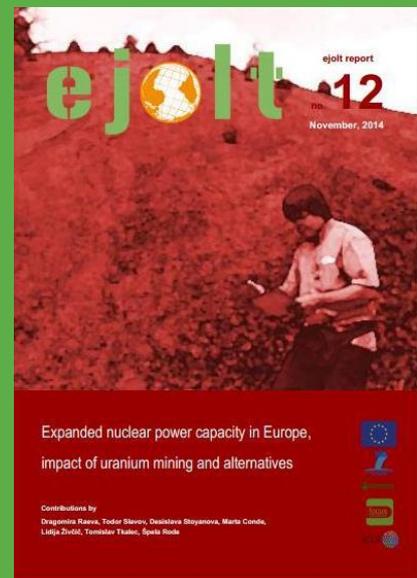
**Unprotected pond with radioactive mud at the village of Seslavtzi, Bulgaria, 2011**

*Photo credit: CRIIRAD*

The nuclear industry has recently undergone what the nuclear lobby called a 'nuclear renaissance', with several countries planning to construct or constructing new plants or prolonging the life of existing reactors.

However, this 'nuclear renaissance' has encountered difficulties in Europe: new reactors currently under construction in Finland and France have been delayed and are running over-budget, while in Germany, Belgium, Switzerland and Italy nuclear energy expansion has been put on hold in the aftermath of the Fukushima accident.

In this report we explore the situation in Bulgaria and Slovenia. For both countries nuclear energy is an important part of the national energy mix and both have plans for new nuclear power plants (NPPs).



Expanding nuclear power capacity strongly **conflicts** with the EU's commitment to pursuing ambitious renewable energy and energy efficiency targets. It's true that renewable energy generation can have substantial environmental and social downsides when developed without involvement of citizens. However, in comparison with nuclear energy, renewable energy is by far the safer option for the environment and it at least provides the opportunity for decentralised and people's owned development – as we have seen in Denmark and Germany. The health effects of renewable energy generation are also significantly lower than those of energy generated from coal or nuclear power.

In addition to reducing **environmental risks** and **avoiding production of more radioactive waste** for which no long-term storage is available, **prioritizing production of energy from renewable energy sources** provides additional benefits to society.

These include **green job creation (300,000 – 1,250,000 jobs** could be created in the EU with pursuing **efficiency and renewable energy objectives**), reduced public expenditure for air pollution control

(€33 bln of annual savings EU-wide with a 40% GHG reduction target, combined with energy efficiency and renewable energy objectives), reduced fossil fuel import bills (annual savings of €27 bln for the EU in the scenario with the highest energy efficiency objective), reduced annual deaths associated with air pollution, increased security of supply – as well as lower greenhouse gas emissions. The combination of **binding national renewable energy targets and ambitious energy efficiency policies in the EU**, while having a very marginal impact on total energy system costs, presents significant economic, environmental and social benefits.



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#### For more information

**Expanded nuclear power capacity in Europe, impact of uranium mining and alternatives**

**EJOLT Report No. 12**, available at:  
[www.ejolt.org/reports](http://www.ejolt.org/reports)

Or please contact the report coordinators:

Todor Slavov (Za Zemiata)  
[ecolog@gmail.com](mailto:ecolog@gmail.com)

Lidija Živčič (FOCUS)  
[lidija@focus.si](mailto:lidija@focus.si)

Marta Conde (ICTA-UAB)  
[mconddep@gmail.com](mailto:mconddep@gmail.com)