Activities of the nuclear lobby in Eastern Europe
A short analysis to the nuclear map of the Eastern European region in 2013

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This short analysis is to complete the interactive map, titled ad "Activity of the nuclear lobby in Eastern Europe." (http://goo.gl/maps/Hd5a6). The map was prepared jointly by the Austrian Ökoinstitut (A), South Bohemian Mothers (CZ), Energiaklub (H), Terra Mileniul III (Ro) and Za Zemiata (Bg).

The European nuclear energy industry is on the decline. The number of nuclear power reactors has decreased since 1989 from 179 to 137 units and the average age of the existing reactor fleet is constantly increasing, being over 28 years. By 2020, 45-50 reactors may be shut down in the EU, while there are no relevant existing plans for replacing them.

The main reason for the declining number of reactors is that on liberalised electricity markets new nuclear power plants are not competitive. Due to the poor track record of the nuclear industry – the escalation of construction time and costs, often poor performance of new units –, together with the enormous capital demand and the highest specific cost (EUR/installed kWe capacity) among its competitors, financial investors are deterred, nuclear projects without state subsidies are economically unfeasible.

The unfavourable circumstances of the nuclear industry were even worsened by the financial crisis and the Fukushima accident in 2011. Planned and ongoing investments were halted or slowed down worldwide as a consequence to the accident; Germany returned to the policy of phasing out nuclear power, and will close all nuclear plants by 2021; Switzerland decided to shut down its nuclear plants after those reached their design lifetime. Japan after the accident stopped most of its nuclear power plants temporarily; due to the new safety requirements, some power plants will never be restarted, and the others will possibly face strict licensing processes in which they should prove that are able to fulfil the new, stricter obligations. The European "stress tests", which were implemented after Fukushima, with regard to its limited scope, are not able to measure the safety level of the reactors. Nevertheless, in the case of several reactors, it was proved that there are deficiencies in safety.

However, the worsening situation of nuclear power can hardly be seen in the activity of the nuclear lobby in Eastern Europe. According to the recent developments on the field of new NPPs, new reactors and uranium mines, lobbying seems more

successful in Eastern Europe, than in the West (see table).

	Planned new NPPs	Planned new reactors	Under construction	PLEX	Uranium mine research site
Bulgaria		Kozloduy 7 1000 MW			2
Belarus	Astravets 1-2 2x1200 MW				
Czech Republic		Temelín 3-4 Up to 3400 MW		Dukovany 1-4 1998 MW tog.	
Hungary		Paks 5-6 Up to 3200 MW		Paks 1-4 2000 MW tog.	1
Poland	2x3000 MW				
Romania	Transylvania, 1-2 up to 2400 MW	Cernavoda 3-4 2x700 MW			
Slovakia		Bohunice-5 up to 1600 MW	Mochovce 3-4 2x440 MW	Bohunice 3-4 956 MW tog.	2
Slovenia		Krsko-2 up to 1600 MW		Krsko 1 730 MW	
Together	**10800 MW**	**12200 MW**	**880 MW**	**5684 MW**	**5**

There is actual construction work on four units in the EU (one in Finland, one in France and two units in Slovakia), and there are plans for new nuclear power plants or units also. However, these plans are much more developed in the Eastern countries, where, unlike to the West, there are plans for opening new uranium mines as well. **The implementation of all envisaged plans would mean around 23 GW of installed new nuclear capacity** (new power plants and new reactors on existing sites combined, until around 2025), **added to the existing 11.2 GW**, which, according to the plans, will still be operable in 2030. This mean, that practically all existing nuclear power plant is affected by the activities of the lobby somehow, with planned lifetime extension (e.g. Dukovany) or new units (e.g. Temelín) or both (e.g. Paks). **Beyond reactors, at least five new uranium mines would also be opened in the next years in the region, over the existing two.**

There are several reasons behind the advantageous situation in the East. Many of these proposals are the reanimation of plans from the communist times from the seventies or the eighties that formerly were mothballed or cancelled at various stage of implementation, just like Mochovce 3-4, Paks 5-6, (the recently again cancelled) Belene 1-2, Cernavoda 3-4. As these plans were at least partly prepared during the eighties or the nineties, it is easier to launch them again. Beyond this, in the former communist countries the public acceptance of nuclear power is higher than in Western Europe (with the exception of Lithuania, where a 2012 referendum rejected to build two new units, called Visaginas 1-2). State administration also favours nuclear energy, which contribute to the relatively easier start up of these projects.

The implementation of these projects raises lot of concerns. First, constructing new units in foreign countries means transferring both safety and environmental risks to these locations. Secondly, the re-launch of 'hang-over' nuclear projects, aiming to put into operation outdated technology (second

generation reactors: Mochovce 3-4) could increase the safety risks. Furthermore, as there are no significant differences in economical circumstances regarding nuclear new build among Eastern and Western Europe, it is doubtful how nuclear could be competitive in this region. The Eastern governments' approach towards nuclear increases the possibility that economical risks will somehow be put onto the taxpayers of the Eastern countries.

The safety situation is worsened with politically approved (Paks, Hungary) and expected (Dukovany, Czech Republic; Bohunice, Slovakia) lifetime extensions of outdated, second generation, Soviet-design units in the region. The safety condition of these reactors is questionable and as no European nuclear safety standards exist, it is highly problematic to assess the actual state of the old units and also to answer the question, whether these could operate safely for further decades.

The radioactive waste situation is also worrisome in Bulgaria, Romania, Czech Republic and Hungary. The national programs regarding the decommissioning the power plants, the management of the wastes and spent nuclear fuel (SNF) and the remediation problem of former uranium mines in most cases lack clear long term strategy, lack independence and transparency, have no clear answers about responsibilities, and have many questions about funding. Worth to mention, that the financial funds were set up only some 10-15 years after the first reactors started their operation. Bulgaria and Hungary even keep open the option of transporting SNF to Russia for reprocessing. However, while the problem of long term management of SNF and radioactive wastes is conspicuous, is does not seem to be a barrier for the reactor projects.