



**WHY EURATOM DOES NOT MAKE  
OLD NUCLEAR POWER PLANTS SAFER:  
The Battle for More Money for New Reactors**

**A Friends of the Earth paper  
on EURATOM's role  
in nuclear safety in  
EU accession countries**

**by Patricia Lorenz**

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# WHY EURATOM DOES NOT MAKE OLD NUCLEAR POWER PLANTS SAFER: The Battle for More Money for New Reactors

by Patricia Lorenz  
Antinuclear Campaigner  
Friends of the Earth Europe (FoEE)

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Friends of the Earth Europe, Rue Blanche 29, B-1060 Brussels, Belgium  
Tel: + 32 2 542 01 80. Fax: + 32 2 537 55 96. Email: [info@foeeurope.org](mailto:info@foeeurope.org)  
[www.foeeurope.org](http://www.foeeurope.org)

# WHY EURATOM DOES NOT MAKE OLD NUCLEAR POWER PLANTS SAFER: The Battle for More Money for New Reactors

## 1 Executive Summary

The European Commission is soon to present its proposal for an extension and increase of the EURATOM loan facility designed to finance nuclear safety upgrades in certain non- EU countries.<sup>1</sup> The proposal must be approved by the EU finance ministers and the Commission is now under pressure to win over several strongly anti-nuclear countries.

In its quest, the Commission has cooked up an appealing PR-strategy meant to give doubters the impression that EURATOM loans are being – and will be – used for safety-upgrades of the hotly debated reactors in Eastern Europe.

However, the facts tell a different story. An overview of granted and planned EURATOM loans show that they usually go to the building of new reactors and there are no signs of change in this trend.

EURATOM loans for non- EU countries have been granted for only two projects, the building of two new reactors in Ukraine and the upgrading of two VVER-1000 reactors in Bulgaria. The European Commission tries to camouflage that they are simply building new reactors (amounting to industry welfare) and prefers language such as 'completing' reactors that are 'under construction' or necessary 'safety upgrades'.

The EU member states should refuse to support the Commission's proposal. The path the EU is currently following with the EURATOM Treaty and the EURATOM loans – that nuclear power is the energy source that deserves special promotion against all other options – should be stopped now.

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<sup>1</sup> These countries include Bulgaria, the Czech Republic, Hungary, Lithuania, Romania, Slovenia, Slovakia, Russia, Armenia, and Ukraine.

## 2 The EURATOM PR strategy

In March 2001, FoEE published a leaked European Commission proposal calling for an extension of EURATOM loans financing nuclear facilities within the EU and certain non- EU countries.<sup>2</sup> A storm of rejection across Europe made the Commission postpone the presentation of this proposal (to the weekly Commission meeting) for approval – until now. A ‘new’ version is being prepared and can at any time be presented to all Commissioners. Resistance can be found among some Commissioners who do not support the pro-nuclear policy of e.g. DG Transport and Energy (TREN). After the Commission has adopted the proposal it must be approved by ECOFIN – the Council meeting of finance ministers – unanimously.

The Commission is now under pressure to win over several strongly anti-nuclear countries and has cooked up an appealing PR-strategy meant to give doubters the impression that EURATOM loans are being – and will be – used for safety-upgrades of the hotly debated (dangerous) reactors in Eastern Europe. For instance, the Greenpaper on energy claims that ‘...these loans [EURATOM loans] are currently being used by applicant countries to help modernise their installations’.<sup>3</sup>

The PR strategy was further developed in a January 2002 Communication on EC/EURATOM Lending.<sup>4</sup> This Communication prepares the ground for not only an extension but also an increase of the EURATOM loan facility and explains:

*‘...especially as the issue of the safety of Soviet designed nuclear power stations becomes ever more acute, there will be pressure to further extend EURATOM coverage and hence a need for increased provisioning. Potential new EURATOM commitments could be in the order of € 200-300 million a year. Any further EURATOM lending will also require raising the ceiling for EURATOM loans which is subject to a separate legislative’.*

The argumentation may sound reasonable and might compel antinuclear governments to approve the extension and increase of EURATOM loans since the money will supposedly go to safety upgrades. However, the following analysis shows that EURATOM loans usually go to the building of new reactors and there are no signs of change in this trend.

## 3 EURATOM projects: new reactors no upgrades

The green light for the Commission – through EURATOM – to finance nuclear facilities outside the European Union was given by a 1994 Council decision. (See Annex II for the Council decision text).

The following 3-part analysis gives an overview of what EURATOM loans have been used for in the past and what they are likely to be used for in the future. The

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<sup>2</sup> The leaked proposal is available on the FoEE website: <http://www.foeeurope.org/activities/Nuclear/proposal.pdf>

<sup>3</sup> European Commission Greenpaper: *Towards a European Strategy for security of energy supply*, November 2000.

<sup>4</sup> COM(2002)20 final. Communication from the Commission to the Council and the European Parliament: EC/EURATOM Lending and Guarantee Capacity for External Actions, Commission of the European Communities, Brussels 21.01.2002.

first part shows that only one country has used a EURATOM loan for what can arguably be called a safety upgrade of a nuclear power plant. The second part details for what the loans actually were used and the third part describes potential future projects for EURATOM.

### 3.1 Upgrades in EU accession countries

Since 1989, safety upgrades have been undertaken in all older nuclear power plants in EU accession countries. Interestingly, only in one single case was a EURATOM loan used (Kozloduj 5 + 6 in Bulgaria). For all other past, ongoing or planned upgrading projects, funds of the utility owning the plants or international funds were used. The European Commission could not explain why there is no interest in their offer. Table 1 shows all nuclear power plants in Central and Eastern Europe and indicates whether modernisation was undertaken and how it was/will be financed:

**Table 1: Safety upgrades for Nuclear Power Plants in EU accession countries (status August 2002)**

Country	Plant design	Reactor type	Commercial start	Output (MWe installed)	Modernisation / financed by (F)
<b>Bulgaria</b>	Kozloduj 1-4	VVER-440 V230	1974, 1975, 1981, 1982	4x440	Ongoing F: several sources (mainly EU/PHARE and Kozloduj owner)
	Kozloduj 5-6	VVER-1000	1988, 1993	2x1000	<b>Ongoing F: EURATOM loan granted in 1999</b>
<b>Czech Republic</b>	Dukovany 1-4	VVER-440 V213	1985, 1986, 1987	4x440	Planned F: Utility's (CEZ) own funds.
<b>Hungary</b>	Paks 1-4	VVER-440 V213	1983, 1984, 1986, 1987	4x440	Some modernization already completed. F: Hermes guarantee of 35 million DM for I&C in 1997 and utility's own funds. Further upgrading was announced in 2002. <sup>5</sup>
<b>Lithuania</b>	Ignalina 1-2	RBMK-1500	1985, 1987	2x1500	Ongoing F: International and bilateral funds (US, Sweden, France). Closure dates 2004/2009 agreed.
<b>Romania</b>	Cernavoda 1	CANDU	1996	1x700	(New reactor)
<b>Slovak Republic</b>	Bohunice 1-2	VVER-440 V230	1979, 1981	2x440	Finished F: Utility's (SE) own funds.
	Bohunice 3-4	VVER-440 V213	1985, 1986	2x440	Ongoing F: Utility's (SE) own funds.
	Mochovce 1-2	VVER-440-213	1998, 1999	2x440	(New reactors)
<b>Slovenia</b>	Krsko 1	PWR-664	1983	664	Westinghouse reactor

<sup>5</sup> Hermes is the German Export Credit Agency.

### **3.2 Two new reactors in Ukraine and a little green wash for Bulgaria**

EURATOM loans for non- EU countries have to date been granted for only two projects: the building of two new reactors in Ukraine and the upgrading of two VVER-1000 reactors in Bulgaria.

The European Commission tries to camouflage the fact that they are simply building new reactors and prefers language such as ‘completing’ reactors ‘under construction’. But to determine whether a reactor is under construction or not lies in the eye of the beholder. Should for instance a reactor that was planned many years ago and not featuring more than building foundations and that never had a construction budget be considered to be ‘under construction’? This is the situation for the Romanian reactor Cernavoda II. Only the granting of the currently prepared for EURATOM loan would turn this reactor into a reactor ‘under construction’.

#### ***K2/R4 in Ukraine***

In 1995 the Ukraine and the G7 agreed on a memorandum of understanding, which should enable the Ukraine to definite close the last operating unit at Chernobyl. G7 promised to finance replacement capacities and a fierce discussion started around the suggested options: two new nuclear reactors or non-nuclear capacities. A clearly political decision in 2000 favoured two nuclear reactors (Khmelnitzky II and Rovno IV, K2/R4). A condition for granting the EURATOM loan of 585 USD was tied to the EBRD (European Bank for Reconstruction and Development) conditions on safety criteria for its loan. But the conditions were not met by the Ukrainian side and therefore the EBRD loan was not granted and is currently being re-negotiated. The EURATOM loan was not yet ‘taken back’, but the Commission announced the necessity to re-approve the EURATOM loan for K2/R4.

#### ***Kozloduj in Bulgaria***

The reactor units 1-4 in Kozloduj, Bulgaria are among the most dangerous reactors in the world (first generation VVER 440). The Commission set a goal in *Agenda 2000* to have these four reactors closed by 2002. In exchange for the close down, the Commission promised a EURATOM loan for the modernisation of the two newer units 5 and 6 (VVER 1000).

The loan was granted on 17 April 2000 despite that Bulgaria had only agreed on the closure date (2002) for units 1 and 2. For units 3 and 4 the Commission only negotiated an understanding for shut down before 2006. (Thus, the preconditions for receiving the loan were not fulfilled.) At the end of the day, not only was the Commission goal of having all four reactors closed by 2002 missed, but also the granting of the loan will reduced the chances of having units 3 and 4 closed since the incentive is gone. (See FoEE press release, 14 April 2000).

The ongoing modernisation of units 5 and 6 is a far cry from meeting Western safety standards. The planned safety upgrading is so minor that it can be done during several normal summer outages of the nuclear plant. Moreover, the extent of the upgrading is far below what was carried through at the same type of reactors at the Temelin plant in the Czech Republic.

### **3.3 Outlook: potential EURATOM projects**

The only EURATOM project in the pipeline is the financing of a second new reactor in Romania – Cernavoda II (see Annex I for more on Cernavoda). EURATOM hopes to get this project approved this year.

Other possible projects in the not so near future might be the financing of two new reactors in Slovakia (Mochovce 3 and 4) and support for the construction of further reactors in Russia (e.g. Kalinin 3). The idea was also floated to support the Russian project of recycling nuclear warhead plutonium into reactor MOX-fuel. This would reduce the amount of plutonium stored in Russia, but increase the nuclear safety risk all over Europe.

As a potential new task for EURATOM, decommissioning of nuclear power plants was mentioned in the loan extension proposal of 2001.<sup>6</sup> However, financing of decommissioning is not realistic under the current requirements for receiving a EURATOM loan. A EURATOM loan must be ‘economically viable’, a criteria a decommissioning project can never fulfil. Decommissioning in EU countries has to be financed by the owner of the nuclear power plant who has the duty to accumulate the necessary funds. For reactors in Eastern European reactors, where funding for decommissioning is not sufficient, special programmes have already been established (PHARE pre-accession funds). Future funding for decommissioning of nuclear power plants outside EU countries should not be handled by EURATOM but instead be allocated through a mechanism set up specifically for this purpose.

## **4 Conclusions and Recommendations**

Currently, EURATOM is not handling any applications for upgrading projects. Further, there are no signs that any country will apply for upgrading loans since most reactors already went through some upgrading and several high-risk reactors in Eastern Europe are scheduled to be taken off the grid in the next few years. In addition, owners of reactors clearly prefer to finance their upgrades themselves, and one reason for this might be that this keeps out external monitoring and condition setting.

EURATOM is not making any plants safer because the loans are being used for the construction of new nuclear power plants. Therefore there is no reason to support the Commission’s lonely fight for 1) keeping the EURATOM loan facility 2) even increasing the loan ceiling.

The EU member states should refuse to support the European Commission’s proposal for extending and increasing the EURATOM loan facility. The current path the EU is following with the EURATOM Treaty and the EURATOM loans – that nuclear power is the energy source that deserves special promotion against all other options – should be stopped now.

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<sup>6</sup> See footnote 2.

## 5 Annex I: Letter on Cernavoda II (to EU ministers)

[Update: on 16 July 2002, the experts of the member states met and discussed the EU Commission's proposal to grant Romania the EURATOM-loan for Cernavoda II. The proposal was accepted against the objection of Austria and Germany.]

Brussels, 1 March 2002

Dear Minister,

We write to you regarding the upcoming decision on granting a EURATOM loan for a new nuclear reactor in Romania, Cernavoda II.

*Since 1999 the European Commission has been preparing a project to grant a EURATOM loan for the construction of Cernavoda II, a new CANDU-reactor from Canada. The granting of this loan of 350 million euro to the Romanian government would be in clear violation of the Council guidelines for granting EURATOM loans to certain non-EU countries since they are not supposed to be used for the building of new reactors.*

For your reference we quote the relevant Council decision of 1994 (31994D0179):

*'94/179/Euratom: Council Decision of 21 March 1994 amending Decision 77/270/Euratom, to authorize the Commission to contract Euratom borrowings in order to contribute to the financing required for improving the degree of safety and efficiency of nuclear power stations in certain non- member countries'.*

It seems clear that Euratom loans are to be used for safety upgrades of existing reactors and not the building of new reactors. This interpretation – that the loans are meant for older Soviet designed reactors – seems to be shared by the Commission in their new Communication, which is trying to argue the case for more EURATOM funds:

*'However, especially as the issue of the safety of Soviet designed nuclear power stations becomes ever more acute, there will be pressure to further extend Euratom coverage and hence a need for increased provisioning. Potential new Euratom commitments could be in the order of Euro 200-300 million a year. Any further Euratom lending will also require raising the ceiling for Euratom loans which is subject to a separate legislative procedure'. (Communication from the Commission - EC/EURATOM lending and guarantee capacity for external actions. (2002) 20 final, Brussels, 21.01.2002.)*

To be sure, this document does not either mention that funds would be applied to the building of new reactors.

We have received information that the EU Commission intends to present a safety report on the Cernavoda II project to the PHARE safety expert group in the upcoming weeks. All the representatives of EU member states will be asked for their approval of the project. In light of the above-mentioned circumstances, we trust that you are not going to support the granting of a Euratom loan to be used for the building of a new reactor at Cernavoda.

Yours sincerely,

Patricia Lorenz  
Friends of the Earth Europe

## **6 Annex II: 1994 Council decision on EURATOM loans for non-EU countries**

[Note: relevant parts are cited below]

**Council decision of 1994 (31994D0179): '94/179/Euratom: Council Decision of 21 March 1994 amending Decision 77/270/Euratom, to authorize the Commission to contract Euratom borrowings in order to contribute to the financing required for improving the degree of safety and efficiency of nuclear power stations in certain non-member countries**

Sole Article

Article 1 of Decision 77/270/Euratom shall be replaced by the following:

'Article 1

The Commission is hereby empowered to contract, on behalf of the European Atomic Energy Community (Euratom), and within the limits fixed by the Council, borrowings, the proceeds of which will be allocated in the form of loans to finance, within the Community, investment projects relating to the industrial production of electricity in nuclear power stations and to industrial installations in the nuclear fuel cycle.

The Commission shall also be empowered to contract, within the same limits, borrowings, the proceeds of which will be allocated in the form of loans to finance projects to increase the safety and efficiency of the nuclear power stations of the non-member countries listed in the Annex. For these projects to be eligible they must:

- relate to nuclear power stations or installations in the nuclear fuel cycle which are in service, or under construction, or to the dismantling of installations where modification cannot be justified in technical or economic terms,
- have received all the necessary authorization at national level and in particular the approval of the safety authorities,
- have received a favourable opinion from the Commission in technical and economic terms.

The Commission may borrow only within the limits of loans requested of it.

The borrowing and corresponding lending operations shall be denominated in the same monetary unit and carried out under the same conditions as regards repayment of the principal and interest payments. Cost incurred by the Community in concluding and executing each operation shall be borne by the recipient undertakings'.

ANNEX

List of eligible non-member countries

- Republic of Bulgaria
- Republic of Hungary
- Republic of Lithuania
- Romania
- Republic of Slovenia
- Czech Republic
- Slovak Republic
- Russian Federation
- Republic of Armenia
- Ukraine

A Friends of the Earth paper by Patricia LORENZ, [patricia.lorenz@foeeurope.org](mailto:patricia.lorenz@foeeurope.org)

Friends of the Earth is the largest grassroots environmental network in the world campaigning to protect the environment and to create sustainable societies.

Friends of the Earth Europe (FoEE) unites more than 30 national member groups with thousands of local groups.

Friends of the Earth Europe, Rue Blanche 29, B-1060 Brussels, Belgium  
Tel: + 32 2 542 01 80. Fax: + 32 2 537 55 96. Email: [info@foeeurope.org](mailto:info@foeeurope.org)  
[www.foeeurope.org](http://www.foeeurope.org)