



Background Note Future Nuclear and Energy Research under the FP7s

- Michel Raquet, 30 November 2006 -

Over the period 2007-2013 there will be 2.5 more money available for energy efficiency and renewable sources of energy than it was the case in the previous EU R&D Framework Programme.

This Greens' success has however to be balanced with an even larger increase in the nuclear R&D budget.

**All in all, for each Euro spend in the next five years on renewables there will be about three Euros spend on nuclear R&D.
An unsustainable situation!**

I. Renewables R&D: A Greens' Victory

Under the general framework programme - FP7 -, which will last seven years until 2013, the EU R&D budget devoted to renewables and energy efficiency will definitely increased compared to the previous FP6. *There should roughly be 2.5 more money available for this type of research than was the case under the previous R&D Framework programme.* This is a real victory from the Greens as we were managed to get renewables and end-use energy efficiency as "the major part" of the non-nuclear energy part of the FP7. Concretely, this latter means that *at least 50% of the € 2350 Million 2007-2013 non-nuclear energy R&D budget will be devoted to renewable sources of energy and to energy efficiency.*

Renewables and energy efficiency R&D budget should increased from an estimated €453 Mio under FP6 to a possible minimum €1175 Mio under FP7, i.e. roughly 2.5 more money. A clear victory for the Greens.

II. Nuclear: More Millions for a Nightmare

Unlike the "normal" FP7, the European Parliament is only consulted on the Euratom FP.

A second difference with the "normal" FP7 is that the Euratom FP7 has been officially adopted for a period of five years (2007-2011) instead of seven as it is the case for "normal" one.

The Euratom R&D programme has two specific parts, one of which covers fusion, fission and radiation protection research, including the International Thermonuclear Experimental Reactor (ITER) project. The fission programme focuses on practical measures for management of radioactive waste, research on developing the next generation of reactors (Generation IV) and research on partitioning and transmutation. The second part covers the Joint Research Centre's nuclear activities which will focus on managing nuclear waste, reactor safety and security.

The **€2751 million budget for research into nuclear energy to 2011 is a huge increase compared to €1.35 billion for the previous seven-year programme.** Fusion will receive the lion's share of this budget with €1947 million, significantly more than the previous seven-year programme's €824 million. The €411 million budget for research into fission still includes money for the Generation IV research; finally the EU's Joint Research Centre -nuclear part has been allocated a budget of €571 Mio for the coming five years, 2007-2011:

(a)	Fusion energy research	€1947 Mio
(b)	Nuclear Fission and radiation protection	€287 Mio
(c)	Nuclear Activities of the Joint Research Centre	€517 Mio

Within the amount foreseen for Fusion energy research, not less than EUR 900 million will be reserved to activities other than the construction of ITER, listed in Annex I

Furthermore, if we look at **2012 and 2013**, the Commission's has estimated a R&D budget of nearly **€1000 Million** just to cover the white elephant **ITER - fusion programme! This means about €500 Mio per year. The ITER currently scheduled to operate for twenty years.**

Nuclear R&D budget will escalate to €2751 Mio for the next five years, 2007-2011, and could even high rocket to €3800 - €4000 Mio if a seven-year period is considered. Compared to the already high budget of €1352 Mio under the Euratom FP6, taxpayers' money for nuclear research could be tripled during the period 2007-2013 compared to the previous Euratom framework programme.

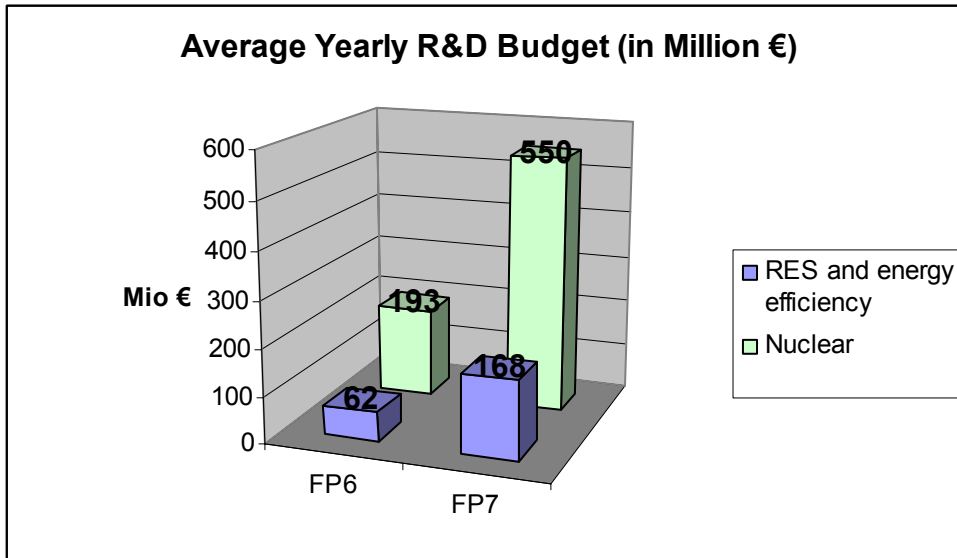
III. Nuclear vs Renewables : Highlighting the Contradictions

Two comparisons have been made 1) on the basis of the annual R&D budget and 2) on the basis of total amounts.

Both comparisons show frightening trends.

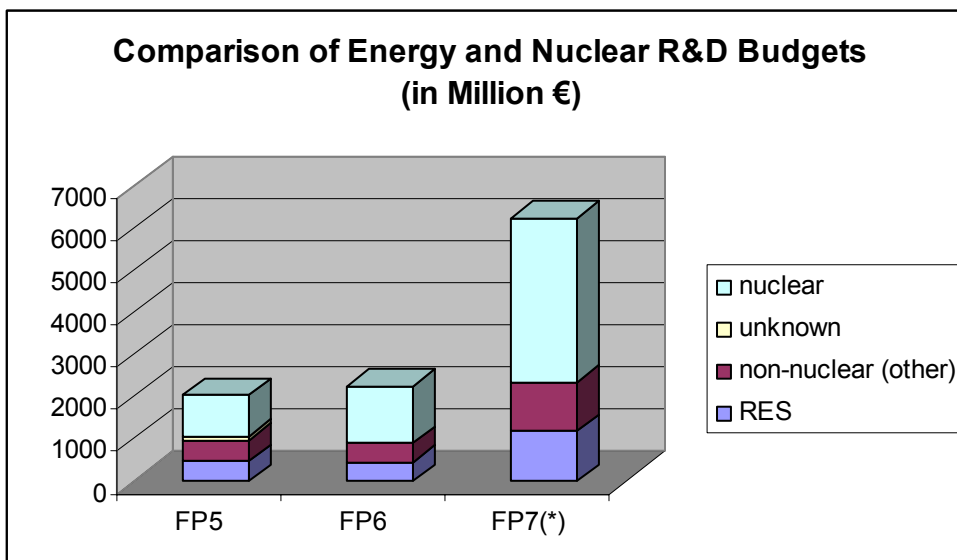
- The annual spending is undertaken on the basis of a shorter period of time for the Euratom FP7 (five years) than all the other FPs (seven years). It introduces a bias towards nuclear since there is no agreement on the 2012 and 2013 R&D nuclear budget although the Commission's indicative figures show a further increase of it after 2011, mainly because of the costs of ITER;
- On the basis of estimated total amounts, for the seven-year FPs, with conservative estimates of a little more than 1 billion euros for the 2012-13 period.

On an annual basis, nuclear will continue to receive, in average during the next five years, three times more money than renewables and energy efficiency, i.e. €550 Mio per year and €168 Mio per year respectively.



Note: Based on the assumptions on a five-year Euratom FP7; seven-years for the others FPs and based on the assumption that 50% of the non-nuclear energy FP7 will go to renewables and end-use energy efficiency.

In absolute terms, renewables and energy efficiency are not being treated equally with nuclear research. During the next seven years, 2007-2013, an estimated €3800 Mio - €4000 Mio is earmarked to be spent on nuclear, which is at least three times more than what renewables and energy efficiency might get during the same period (€1175 Mio).



Note: Based on a similar seven-years period and on the assumptions that nuclear would received roughly €1billion (a conservative estimate) and that 50% of the non-nuclear energy FP7 will go to renewables and end-use energy efficiency.