

From: CNFE Secretariat JD <office@cnfe.eu>

Sent: Monday 14 November 2022 07:11

To: office@cnfe.eu

Subject: CNFE Mail: Small modular reactors generate more nuclear waste

Dear Mayor, dear Councillor, dear colleague,

More and more countries plan the installation of small modular reactors (SMR) as a sort “light-version” of nuclear energy; apparently they would be cheaper, easier and faster to build, less dangerous, and carbon neutral. All reasons that cannot stand the test, if looked at the facts.

But still the UK subsidises the development of SMR by Rolls Royce with almost half a billion Euros, France wants to support EDF’s SMR with a billion Euros, and Czech Republic already announced possible locations for SMRs (close to Austrians Border).

CNFE already informed you before about the disadvantages and risks of these small nuclear reactors (expensive, not developed yet, unsafe, not carbon neutral, etc.). Today we would like to point out a recent study addressing radioactive waste of SMR.

Researchers of the University Stanford and British Columbia looked at three different types of SMR-reactors and concluded that SMR-reactors produce 5 times more “high-radioactive nuclear waste” per produced energy than traditional nuclear reactors do. Link to the report: "[PNAS](#)"

When also “less-radioactive waste” is included, from building material and cooling, etc. then SMRs produce more than 30 times the amount that traditional reactors produce.

Researchers say: “Overall water-, molten salt-, and sodium-cooled SMR designs will increase the volume of nuclear waste in need of management and disposal by factors of 2 to 30.”

Also, the kind of nuclear waste is different, e.g. there will be highly corrosive waste. There are still some unsolved issues to make safe storage even possible. Small reactors generate at least 9 times more radioactive contaminated steel as traditional reactors do.

More waste means more costs. Costs when decommissioning the reactors in the future, more costs for management, transport and storage, more costs for research how to store this new material. These are mainly more costs for society, tax payers, and for next generations. But as we already know, that are costs, that the nuclear industry is not concerned about.

In a next mail we will discuss more about costs and inform you about several studies regarding the economic aspects of small reactors.

Please do not hesitate to contact us if you have any question or remark on this issue.

Kind regards,

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