

What are small modular reactors (SMRs)?

The non-profit, non-partisan taxpayer watchdog group, Taxpayers for Common Sense, says SMRs are a taxpayer boondoggle. In February 2013 they awarded "[The Golden Fleece](#)"¹ to the Department of Energy (DOE) for federal spending on SMRs.

According to the U.S. [Nuclear Regulatory Commission](#)² (NRC), SMRs are new reactor designs, not yet certified, that produce less than 300 megawatts of electrical output. In February of 2010, the NRC issued a call to would-be small reactor builders. By the end of 2012, the DOE was budgeted to spend [\\$452 million](#)³ over the next five years, starting with \$67 million the first year. DOE's 2014 budget request is for another \$70 million.

The nuclear industry and its proponents are touting small modular reactors as the "[solution to coal plant retirements](#)."⁴ It seems they are reluctant to admit that the so-called "nuclear renaissance" is dying before ever really taking off.

What is being proposed?

[The Tennessee Valley Authority \(TVA\)](#)⁵ is currently pursuing plans to place four SMRs at their failed and abandoned Clinch River breeder reactor site 40 miles west of Knoxville, Tennessee. TVA optimistically projects receiving a license in 2017 and to begin operation in 2021. Original plans were for six SMRs and TVA expected to apply for a construction application by late 2012 -- that has already been delayed three years. Other possible sites for SMRs include the DOE's nuclear weapons complex in South Carolina, the Savannah River Site, and a site in Missouri.

What are the concerns?

Proponents claim that SMR technology won't have the many problems that have plagued traditional, large nuclear reactors but this couldn't be further from the truth.

High Cost: Funding SMRs are a waste of limited financial resources that could be better spent to develop greater energy efficiency and affordable, safe renewable energy sources. The DOE currently projects that it will spend \$452 million in the next five years. After getting [more subsidies than any other energy sector](#)⁶ in the U.S, it would seem nuclear power should be a thriving industry, but it is flagging at best.

In fact, according to TVA, pursuing the SMR option is the most expensive option of those explored in their [Bellefonte white paper](#)⁷ (see page 13 for chart). In Public Power Weekly's December 13, 2010 newsletter, TVA's Jack Bailey stated that in dollars per kilowatt, the small modular reactors are expected to be slightly more expensive to build than a single large nuclear plant.

Security: Several countries have expressed interest in pursuing SMRs. A particular country's political stability, possible corruption and security forces that may not be properly trained to protect the technology and materials, which can be used to create nuclear bombs, are all concerns as SMRs are considered. "If sabotaged, even a 20-megawatt reactor could release a [substantial amount of radiation](#) ... Do we really want a nuclear reactor on every island in the Indonesian archipelago?" said Dr. Edwin Lyman with the Union of Concerned Scientists.⁸ If the U.S hailed SMRs as the future of nuclear energy, it would be impractical if not impossible to simultaneously deny the technology to the rest of the world.

Radioactive Waste: SMRs produce extremely toxic, highly radioactive and long-lived nuclear waste just like larger reactors. Their small size would require that they be refueled more often, possibly increasing the amount of waste produced. SMRs could greatly complicate the disposal of nuclear waste by increasing the number of designated locations for radioactive nuclear waste in the world, making it harder to control, track and manage. Also, given that many of these reactors are proposed to be built underground, the management and storage of radioactive waste could become much more complex, especially in the event of even a minor accident.

Safety: Because of their small size, vendors of these reactors are proposing smaller evacuation zones, some as small as 1,000 feet, which would be insufficient to protect the public in the event of a radiation release.

What You Can Do

- ✓ **Contact your members of Congress** and tell them to stop wasting your tax dollars on this nuclear boondoggle. Find your U.S. Senator and U.S Representative [here](#).⁹
- ✓ **Contact the TVA Board** and attend their public meetings. Let them know that pursuing small modular reactors are a waste of both taxpayers' dollars and ratepayers' money. Safer, cleaner and affordable energy choices exist including energy efficiency, wind and solar.
 - Phone: (865) 632-4000 Email: board@tva.gov
 - Mail: TVA Board of Directors, Board Services
400 West Summit Hill Drive WT 6
Knoxville, Tennessee 37914
- ✓ **Support the Southern Alliance for Clean Energy.** We need your support to make our work possible. [Donate and become a member today](#)¹⁰ and help us move away from high-risk, costly energy choices and advance clean, safe and affordable energy options that will benefit our communities, environment and economy.

¹ <http://www.taxpayer.net/library/article/golden-fleece-award-goes-to-department-of-energy-for-federal-spending-on-sm>

² <http://www.nrc.gov/reactors/advanced.html>

³ <http://energy.gov/ne/nuclear-reactor-technologies/small-modular-nuclear-reactors>

⁴ <http://www.nuclearenergyinsider.com/smr/pdf/USSMRUtilityMarket5.pdf>

⁵ <http://www.nrc.gov/reactors/advanced/clinich-river.html>

⁶ <http://www.fas.org/sgp/crs/misc/RS22858.pdf>

⁷ http://www.tva.gov/power/nuclear/pdf/bellefonte_white_paper.pdf

⁸ <http://www.csmonitor.com/USA/2010/0330/Nuclear-power-Obama-team-touts-mini-nukes-to-fight-global-warming>

⁹ <http://www.cleanenergy.org/index.php?/Write-Your-Rep.html#.UZUUAQcAQoQ>

¹⁰ Go to <http://www.cleanenergy.org/> to become a member