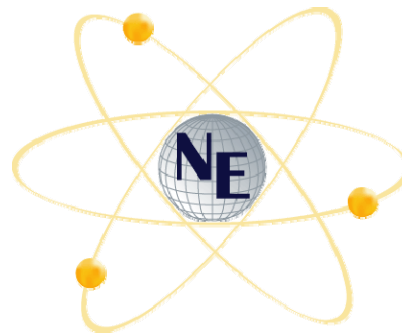




Nuclear Energy: Investing In Our Energy Security

The U.S. Department of Energy's Office of Nuclear Energy

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- Today, 103 nuclear reactors generate 20 percent of America's electricity.
 - U.S. electricity demand will grow by 50 percent over the next 25 years.
 - To maintain the 20 percent nuclear share requires building the equivalent of 45 to 50 one-thousand-megawatt nuclear reactors.
 - Nuclear power is the only proven base load producer of electricity that does not emit greenhouse gases.
 - Nuclear power is necessary to meet our needs for carbon-free, dependable and economic electric power.
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The Global Nuclear Energy Partnership

The U.S. Department of Energy's Office of Nuclear Energy

- GNEP envisions a new, commercial partnership effort to recover, recycle and safely utilize spent nuclear fuel, without producing pure plutonium.
 - GNEP represents a move towards green energy by recycling and reusing valuable energy resources to the fullest. The Department will leverage existing and new technologies to establish advanced recycling facilities.
 - By recycling used nuclear fuel, the volume and radioactive toxicity of wastes would steadily decrease, significantly increasing the capacity of a geologic repository. GNEP neither replaces nor defers the need for the Yucca Mountain geologic repository.
 - The Department has initiated these programs and projects through the Advanced Fuel Cycle Initiative; however, we envision that commercial recycling facilities would be built by the private sector.
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Investing in Our Energy Security

The U.S. Department of Energy's Office of Nuclear Energy

The Department is working to:

- Enable Industry to Deploy a New Generation of Nuclear Power Plants.
 - Develop Advanced Nuclear Reactor and Fuel Cycle Technologies.
 - Maintain Critical National Nuclear Infrastructure.
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Investing in Our Energy Security

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Enable Industry to Deploy A New Generation of Nuclear Power Plants

The President's Budget supports:

- Completion of Early Site Permit demonstration projects making sites available for building new plants.
- New Nuclear Plant Licensing Demonstration projects that will exercise the untested licensing process to build and operate a new nuclear plant.
- Design activities in support of the submission of two combined Construction and Operating License applications to the Nuclear Regulatory Commission.
- Development of final designs for two standard nuclear plants.
- Development of tools, including standby support, to mitigate financial risks to industry associated with deploying new nuclear power plants.

Program Element (\$ in Millions)

	FY 2007 Request	FY 2008 Request
Nuclear Power 2010	\$54.0	\$114.0

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Develop Advanced Nuclear Reactor and Fuel Cycle Technologies

The President's Budget supports:

- The Global Nuclear Energy Partnership, which will provide reliable, emission-free energy with less of the waste burden of older technologies and without making available separated plutonium that could be used by rogue states or terrorists for nuclear weapons.
- Research and development to achieve desired goals of sustainability, economics, and proliferation resistance in support of the Next Generation IV gas-cooled, high temperature reactor.
- Research and development on enabling nuclear-based hydrogen production technologies.

Program Element (\$ in Millions)

	FY 2007 Request	FY 2008 Request
Advanced Fuel Cycle Initiative	\$243.0	\$395.0
Generation IV	\$31.4	\$36.1
Nuclear Hydrogen Initiative	\$18.7	\$22.6

Investing in Our Energy Security —

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Maintain Critical National Nuclear Infrastructure

The President's Budget will:

- Maintain the national nuclear infrastructure to provide isotopes for research and commercial applications, power systems for space exploration and national security mission, and fuel services for U.S. university research reactors.
- Maintain the INL site-wide infrastructure required to support research and development programs.
- Maintain and operate the systems, facilities, and protective forces needed to protect DOE personnel and assets at the Idaho site.

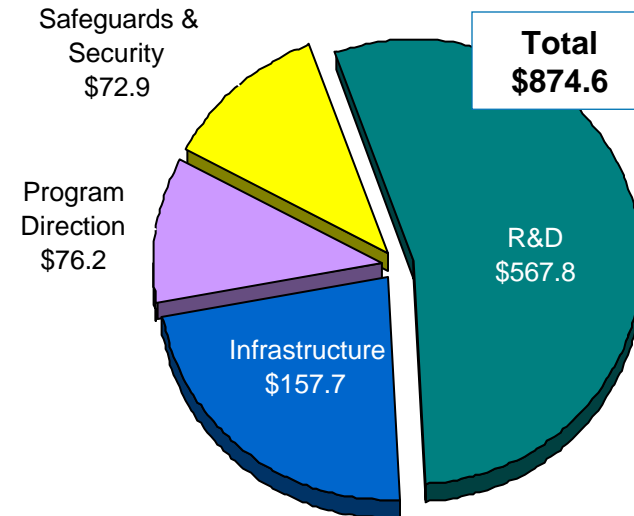
Program Element (\$ in Millions)

	FY 2007 Request	FY 2008 Request
Radiological Facilities Management	\$49.7	\$53.0
Idaho Facilities Management	\$95.3	\$104.7
Idaho Site-Wide Safeguards & Security	\$72.9	\$72.9

FY 2008 Budget Request — Nuclear Energy

The U.S. Department of Energy's Office of Nuclear Energy

<u>Program</u>	<u>FY 2007 Request^a</u>	<u>FY 2008 Request^a</u>
Research and Development:		
Nuclear Power 2010	54,031	114,000
Generation IV Nuclear Energy Systems Initiative	31,436	36,145
Nuclear Hydrogen Initiative	18,665	22,600
Advanced Fuel Cycle Initiative	243,000	395,000
Infrastructure:		
Radiological Facilities Management	49,722	53,021
Idaho Facilities Management	95,290	104,713 ^b
Idaho Site-Wide Safeguards and Security	75,949	75,949
Program Direction	67,608	76,224 ^c
Less Security Charges for Reimbursable Work	-3,003	-3,003
Total Nuclear Energy	632,698	874,649



^aAll values are dollars in thousands.

^bIncludes \$2,450,000 of RESL funds transferred from EH.

^cIncludes \$3,726,000 of RESL funds transferred from EH.