

# NUCLEAR ENERGY - Th INVESTIGATED

## THORIUM SHOULD BE INVESTIGATED AS AN ALTERNATE TO URANIUM/PLUTONIUM NUCLEAR ENERGY

Professor [Egil Lillestol](#) has been trying to convince Norway that a nuclear reactor based on thorium (Th) would be a viable solution to the world's growing energy demands without the environmental impact of coal, or the hazards of traditional nuclear energy.

- Because Thorium is not a fissile material:
  - There is no danger of a melt-down like the Chernobyl reactor
  - There is no need to worry about nuclear proliferation because it is not suitable for the production of weapon grade materials
- Thorium reactors:
  - Produce minimal radioactive waste
  - Can burn Plutonium waste from traditional nuclear reactors with additional energy output
  - Do not require reprocessing of the fuel
  - Fuel can remain in the reactor during the reactor's life of 30-40 years - after that the core could be transferred into a new reactor
  - Can reduce waste by 80 to 90 %
  - Waste is not dangerous after 50 years whereas present nuclear waste is dangerous for thousands of years
- Thorium facts (as indicated in many reports):
  - The energy contained in one kilogram of Thorium equals that of four thousand tons of coal
  - Since Thorium is not fissile, it must be "bombarded" with neutrons which can be supplied by cyclotrons or - better yet - by waste from spent fuel from our present nuclear plants
  - The global Thorium reserves could cover the world's energy needs for thousands of years
  - Norway has an estimated 180 000 tons of Thorium which based on the 2006 price of oil is equivalent to 250 thousand billion US\$, or 1000 times the Norwegian oil fund
  - The USA has an estimated 160 000 tons of Thorium - mostly in Idaho (see chart below)
  - It is not as dangerous mining or preparing the ore as is the case for uranium

### **World Thorium Reserves & Energy Value Overview**

<b><u>Country</u></b>	<b><u>Reserves (tons)</u></b>
Australia.....	300,000
India.....	290,000
Norway.....	170,000
USA.....	160,000
Canada.....	100,000
South Africa.....	35,000
Brazil.....	16,000
Malaysia.....	4,500

Other countries.....90,000  
**World Total (tons ThO<sub>2</sub>).....1,200,000**

- Scan through the sites below. Many more sites can be found on the web:

<<http://energyfromthorium.com/2010/07/01/welcome-american-scientist-readers>>

<<http://energyfromthorium.com/essay3rs>>

<[http://www.youtube.com/watch?v=EHDrlqi\\_Z8](http://www.youtube.com/watch?v=EHDrlqi_Z8)>

<<http://www.thoriumenergyalliance.com>>

<<http://oilprice.com/Energy/Energy-General/Thorium-A-Cheap-Clean-and-Safe-Alternative-to-Uranium.html>>

Easy reading: <<http://www.cosmosmagazine.com/node/1341>>

Norway Can Solve the Global Energy:

<[http://www.innovations-report.de/html/berichte/energie\\_elektrotechnik/bericht-71533.html](http://www.innovations-report.de/html/berichte/energie_elektrotechnik/bericht-71533.html)>

D'Auvergne Brothers Industries [www.dauvergne.com/english/pages/abundance.htm](http://www.dauvergne.com/english/pages/abundance.htm)

Accelerating Future » A Nuclear Reactor in Every Home:

<[www.acceleratingfuture.com/michael/blog/?p=212](http://www.acceleratingfuture.com/michael/blog/?p=212)>

Wisconsin Interfaith Power and Light's (WIPL) goal is to eliminate the burning of fossil fuels. Primarily, stop coal burning since it is the dirtiest, but stop burning petroleum and natural gas as well.

- They are too valuable to burn. See:

<<http://wisconsinipl.org/assets/whatwedo/FOSSIL%20FUELS%20-%20Too%20Valuable%20to%20Burn.pdf>>

- They are also too dangerous to burn. See:

<<http://www.wisconsinipl.org/assets/whatwedo/Too%20Dangerous%20to%20Burn.pdf>>

Development of renewable energy has only begun and, at the present time, cannot supply our requirements for maintaining our economy. There are dozens of other possibilities that have barely been examined - especially the development of a hydrogen economy.

**CURRENT LEGISLATION:** US Senators Harry Reid and Orin Hatch proposed legislation to investigate a program for Thorium development. See: <<http://www.thoriumenergy.com>>

**WIPL RECOMMENDS:** investigating the pros and cons of nuclear energy with Thorium as an alternative to the more than half-century old Uranium and Plutonium reactor technology.

Wayne Stroessner, WIPL BOD  
39 East Shore Drive  
Random Lake, WI 53075-1608  
PH:(920)994-2471