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# White House on Nuclear: Words, Words, Words

**P**residential Science Advisor John Holdren replied March 5 to a letter sent to him on Feb. 1, by more than 300 scientists and others, urging him to tell the President that the United States must get back to developing nuclear power. His reply consisted of “words, words, words”—pretty much what you would expect by a committed Malthusian who does not support any technology that would enable the world to support a growing population.\* Holdren’s reply is the clearest proof that the White House is not serious about going nuclear, despite feints in that direction.

The letter sent to Holdren states that the “world is leaving us behind,” in developing and deploying nuclear energy. Of the 58 new plants under construction worldwide, it states, only one is in North America, which is a mothballed plant that the TVA is finally finishing. “Our nation needs to proceed quickly—not twenty or fifty years from now—while the people who pioneered this science and engineering can still provide guidance to a new generation of scientists and engineers. There is no political, economic, or technical justification for delaying the benefits that nuclear power will bring to the United States, while the rest of the world forges ahead,” the letter states.

The signers make three “urgent recommendations.” The first, is to “accelerate the licensing and building” of current-generation nuclear power reactors. The second, is to point out the urgent need for the United States to produce medical isotopes, the shortage of which has put thousands of lives in jeopardy. Third, is to develop the fourth-generation reactors. They specifically urge the reinstatement of the program to develop and demonstrate the tech-

nology for recycling used, or spent, reactor fuel (reprocessing), which has been cancelled by the Obama Administration.

The letter points out that Russia, China, India, Japan, and South Korea have expressed interest in contributing to a demonstration fast reactor.

The signers of the letter are predominantly from the United States, but include people from 21 other nations. Academician E.P. Velikhov, head of the Kurchatov Institute and a Russian policy advisor signed, as did Dr. Baldev Raj, director of the Indira Gandhi Centre for Atomic Research in India, and John Ritch, the director of the World Nuclear Association, based in London. Former U.S. Apollo astronaut and geologist, Harrison Schmitt also signed.

The letter was also sent to every Member of Congress and to Energy Secretary Steven Chu.

**John Holdren’s Reply**

John Holdren’s March 5 response\* exemplifies why 321 scientists and others were motivated to send him the very letter to which he is replying: The Administration’s nuclear policy is just a lot of words, with no intent behind them to change a policy that ensures that future generations of Americans will be living in deindustrialized poverty at best.

First: While the rest of the world is right now building dozens of new nuclear plants, and 50 non-nuclear countries are making plans to go nuclear, the Obama Administration is issuing words. There are promises of loan guarantees, but nothing substantially is changed to ensure that new conventional nuclear plants will be built, or that advanced nuclear plants will be built. Remember, we are the nation that pioneered civilian



nuclear technologies. Now we lag far behind.

Second: The shortage of medical isotopes has been a known problem (really a disgrace) for decades. Every single government study has recommended plans to domestically produce an isotope supply. Now we get more words. An Administration intent on solving this problem would reopen the FFTF to produce isotopes, and stop the burial of the so-called waste from Shippingport and the ORNL breeder, and use this material to make valuable isotopes. Instead, this Administration focusses on avoiding “proliferation”—a bogus issue to cover for anti-nuclear policies.

Third, it does not take a rocket scientist to figure out that setting up a committee, especially one without experienced nuclear scientists on it, to study something that has been studied for decades is simply a public relations effort to avoid taking action.

Words and promises are not what built the TVA or what got us to the Moon. Those programs were funded at the levels necessary to get the job done—even when the solutions were not yet known. There was a clear recognition that man has the creativity to solve any problem. The funds were allocated because these were national missions that required long-term support, science-drivers to move the entire economy forward.

In 1958, when South Korea was devastated by years of war and its people were literally starving in the dark and cold, American Walker Cisler, a nuclear pioneer, advised Korea's President to invest scarce funds in a science driver—nuclear power—that would not pay off for at least two decades. Dr. Syngman Rhee listened to Cisler, and 20 years later, Korea's first nuclear plant came on line. Now South Korea has 20 nuclear plants, a fast breeder in the works, and is a prosperous nuclear exporter. And Cisler's America? We are pouring billions into so-called “green” projects that will run our economy into the dust.

Cui bono? Not the American people.

What has to be done to achieve the kind of leap that South Korea made, and that this nation has made in the past, is not mysterious. We know what to do. It requires a political will that is entirely absent from John Holdren's letter of words.

—Marjorie Mazel Hecht

\* The full text and list of signers to the letter to John Holdren can be found here: see [http://www.21stcenturysciencetech.com/Articles\\_2010/Nuclear\\_letter.pdf](http://www.21stcenturysciencetech.com/Articles_2010/Nuclear_letter.pdf)

The text of John Holdren's reply is here: [http://www.21stcenturysciencetech.com/Articles\\_2010/John%20Holdren.pdf](http://www.21stcenturysciencetech.com/Articles_2010/John%20Holdren.pdf)

Those interested in signing the nuclear letter, should contact the corresponding author, John Shanahan.



## Can Machines Think?

### To the Editor:

I was wondering if you could comment on Ray Kurzweil's view that the exponential progression in machine computing ability will, within 20 to 40 years, result in thinking-capable machines which will express their own desire to expand consciously, and physically, into the universe?

Such a situation would essentially mean the end of human civilization, and biological life generally, as the machines would consume the resources necessary to their survival, indiscriminately, including incorporating human consciousnesses (how many?) into its systems.

Without saying it (or likely knowing it), Kurzweil also argues that this would simply represent the next higher-level phase space in the anti-entropic behavior of the universe, à la the Vernadskian progression from the Lithosphere to Biosphere to Noösphere. The next level will be the Mechosphere, capable of transforming and otherwise utilizing the raw resources of the universe at many quantum leaps of efficiency and energy flux densities over biological capabilities, including the biological limitations on consciousness and information processing, and creativity.

If the historical anti-entropic behavior of the creative actions of the universe is a precedent, then this outcome is inevitable and humanity's existence will simply be a “cog in the wheel,” so to speak, of this developmental process, just as how today, organisms which have lived over the eons in the past have provided for humanity's ability to develop; our function in this universal process may one day fulfill its purpose.

Something I think Kurzweil takes too for-granted is the human element required in mechanistic technology. Modern computers *do not* function with less

(Continued on p. 6)