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The Liquid Fluoride Thorium Reactor: Energy Cheaper Than Coal

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This century, we face significant environmental challenges. Our demand for limited natural resources is rapidly increasing and much of humanity is concerned about the consequences. Our unsustainably growing population drives these challenges, and humanely stabilizing it would alleviate these pressures. Demographic data clearly shows that prosperity stabilizes population and it also shows that prosperity critically requires energy. In spite of the pressing and demonstrable nature of these challenges however, politically there is no international consensus on global energy policy. Developing nations simply will not accept a policy that will hamper their economic growth. Yet, we do have a solution to these challenges, an idea conceived and experimentally tested by Alvin Weinberg at Oak Ridge National Laboratory, the Liquid Fluoride Thorium Reactor. Presently, various laboratories and start-up companies, including the Chinese Academy of Sciences have begun efforts to commercialize the technology. By delivering the promise of inexpensive energy it will be in the economic interest of the developing nations to use this carbon-free energy source. By delivering superior performance on longstanding public concerns about nuclear energy, it will be technologically and politically feasible for developing nations to stabilize their population with the bounty of energy cheaper than coal.