

Reinventing Fire: Secure Energy Without Oil, Coal, or Nuclear

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With Guest Lecturer Dr. Amory B. Lovins

Cofounder and Chief Scientist,
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A transdisciplinary "grand synthesis" published in 2011 by Rocky Mountain Institute (RMI) showed in detail how to run a 2.6x-bigger 2050 U.S. economy with no oil, coal, or nuclear energy, one-third less natural gas, 82–86% lower fossil carbon emissions, and a \$5-trillion lower net-present-value cost than business-as-usual (counting all externalities at zero). The transition requires no inventions nor Acts of Congress, but can be led by business for profit, enabled by administrative and state policy innovations and sped by military innovation. These surprising outcomes emerge from integrating all four energy-using sectors (transportation, buildings, industry, and electricity) and four kinds of innovations—not just technology and public policy but also design and business strategy. A key theme, Integrative design, often makes very large energy savings cost less than small or no savings, turning diminishing returns into expanding returns. An efficient, diverse, distributed, renewable electricity system can yield important economic, risk-management, and resilience benefits. These civilian findings also reflect important military opportunities for more fight with less fuel and for more resilient facilities and effective operations. RMI recently launched a collaborative initiative to apply Reinventing Fire's findings to China.



Dr. Amory B. Lovins

Abridged Biography:

Amory B. Lovins has been active in ~50 countries for nearly 40 years as an innovator and practitioner in energy and its links to security, development, environment, and economy. He is cofounder (1982), Chief Scientist, and Chairman Emeritus of Rocky Mountain Institute—an independent, entrepreneurial, nonprofit think-and-do tank that drives the efficient and restorative use of resources. In 2009, Time named him one of the 100 most influential people in the world. He has briefed 23 heads of state, advises industries and governments worldwide (as well as DoD and DOE) mainly on advanced energy and resource efficiency, and has led the superefficient redesign of >\$40 billion worth of facilities in 29 sectors. Dr. Lovins has received ten honorary doctorates and won many awards. He has provided expert testimony in eight countries and published 29 books. These books include *Reinventing Fire*, *Winning the Oil Endgame*, *Small is Profitable*, *Brittle Power*, and *Natural Capitalism*.

