Stanford

Amory B Lovins

Adjunct Professor

Civil and Environmental Engineering

Bio

BIO

Physicist Amory Lovins (1947–) is Cofounder (1982) and Chairman Emeritus, and was Chief Scientist (2007–19), of RMI (Rocky Mountain Institute, www.rmi.org), with which he continues to collaborate. He has designed numerous superefficient buildings, vehicles, and industrial plants, and synthesized an "integrative design" method and practice that can make the energy efficiency resource severalfold larger, yet cheaper, often with increasing returns. Since 1973 he has also advised major firms and governments in >70 countries on advanced energy efficiency and strategy, emphasizing efficiency, renewables integration, and the links between energy, resources, environment, security, development, and economy. He is a Visiting Scholar of the Precourt Institute for Energy.

Lovins has received the Blue Planet, Volvo, Zayed, Onassis, Nissan, Shingo, and Mitchell Prizes, MacArthur and Ashoka Fellowships, 12 honorary doctorates, the Heinz, Lindbergh, Right Livelihood, National Design, and World Technology Awards, many other energy and environment recognitions, and Germany's highest civilian honor (the Officer's Cross of the Order of Merit). A Harvard and Oxford dropout, former Oxford don, honorary US architect, Swedish engineering academician, and 2011–18 member of the US National Petroleum Council, he has taught at ten universities—most recently the US Naval Postgraduate School and Stanford (spring 2007 MAP/Ming Visiting Professor, half-time 2020– Adjunct Professor of Civil and Environmental Engineering in his teaching terms)—teaching only subjects he hasn't formally studied, so as to cultivate beginner's mind. In 2009, Time named him one of the world's 100 most influential people, and Foreign Policy, one of the 100 top global thinkers. His most recent books, mostly coauthored, include Natural Capitalism (1999), Small Is Profitable (2002), Winning the Oil Endgame (2004), The Essential Amory Lovins (2011), and Reinventing Fire (2011). His avocations include fine-art landscape photography (the profession of his wife Judy Hill Lovins, www.judyhill.com), music, writing, orangutans, great-ape language, linguistics, and Taoist thought.

COURSES: Lovins and Dr. Joel Swisher PE, as CEE Adjunct Professors in teaching quarters, cotaught in 2023 iterations 9–10 of their flagship course applying whole-system thinking and integrative design for radical energy efficiency and profitable climate solutions: CEE 107R, CEE 207R: "E^3: Extreme Energy Efficiency." They will next offer it in Winter and Spring Quarters 2024.

PUBLICATIONS

Lovins has authored 31 books and over 880 papers in a wide range of disciplines. His recent peer-reviewed papers include:

"How big is the energy efficiency resource?," Env. Res. Ltrs., Sep 2018, https://doi.org/10.1088/1748-9326/aad965

"Recalibrating climate prospects," coauthored, Env. Res. Ltrs., Dec 2019, https://doi.org/10.1088/1748-9326/ab55ab

"Can a virus and viral ideas speed the world's journey beyond fossil fuels?," with K. Bond, Env. Res. Ltrs., Feb 2021, https://doi.org/10.1088/1748-9326/abc3f2

"Reframing automotive fuel efficiency," SAE J-STEEP, Apr 2020, https://doi.org/10.4271/13-01-01-0004

His Aug/Sep 2020 Electricity Journal interview on the future of electricity is at https://doi.org/10.1016/j.tej.2020.106827.

His 11 Nov 2020 Precourt Institute for Energy seminar on "Integrative Design for Radical Energy Efficiency," with Dr. Holmes Hummel, is at https://energy.stanford.edu/events/special-energy-seminar-amory-lovins-holmes-hummel.

Profitably abating heavy transport and industrial heat: https://www.rmi.org/profitable-decarb/ and ($6.95 paywall) https://sloanreview.mit.edu/article/decarbonizing-our-toughest-sectors-profitably/, both 2021.

“US nuclear power: status, prospects, and climate implications,” El. J., 6 May 2022, https://doi.org/10.1016/j.tej.2022.107122.

ACADEMIC APPOINTMENTS

- Adjunct Professor, Civil and Environmental Engineering
- Affiliate, Precourt Institute for Energy

Teaching

COURSES

2023-24

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)

2022-23

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)

2021-22

- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win, Spr)

2020-21

- Applied Hope: Whole-Systems Thinking on Energy Solutions: CEE 107H, CEE 207H (Aut)
- E^3: Extreme Energy Efficiency: CEE 107R, CEE 207R (Win)
- Racial Equity in Energy: CEE 130R, CEE 330 (Aut)
- Scaling Integrative Design for Radical Energy Efficiency: CEE 107D, CEE 207D (Spr)