

AMORY B. LOVINS (1947–) has been active in ~70 countries for over 45 years as an innovator and practitioner in energy and its links to security, development, environment, and economy. He is co-founder (1982) and Chairman Emeritus of Rocky Mountain Institute—an independent, entrepreneurial, nonprofit think-and-do creating a clean, prosperous, and secure energy future (www.rmi.org) and was its Chief Scientist until Sep 2019, thereafter on contract. Originally a consultant experimental physicist, and author of 31 books and >650 papers, he has received MacArthur and Ashoka Fellowships, the “Alternative Nobel,” Zayed, Blue Planet, Onassis, Volvo, Nissan, Shingo, and Mitchell Prizes, 12 honorary doctorates, and the National Design, Heinz, Lindbergh, and World Technology Awards. In 2016 the President of Germany awarded him the Officer’s Cross of the Order of Merit. In 2009, *Time* named him one of the 100 most influential people in the world, and *Foreign Policy*, one of 100 top global thinkers.

A Swedish engineering academician, former Oxford don, honorary US architect, and 2011–18 member of the National Petroleum Council, he has briefed over 40 heads of state, advised industries and governments worldwide (as well as DoD and DOE) mainly on advanced energy and resource efficiency, and led the superefficient redesign of >\$40 billion worth of industrial facilities, scores of buildings, and various land and sea vehicles. His “integrative design” techniques often make very large energy savings cheaper than small ones.¹ Since 1991, he has led the development of quintupled-efficiency, uncompromised, cost-effective automobiles² and low-cost advanced-composite manufacturing technology to make them. His *Small Is Profitable* was an *Economist* 2002 book of the year (www.smallisprofitable.org). His OSD- and ONR-cosponsored 2004 synthesis *Winning the Oil Endgame*³ roadmapped how to eliminate U.S. oil use by 2040 and revitalize the economy, led by business for profit; its projections have so far proven conservative. His Oct 2011 *Reinventing Fire* synthesis with 60 colleagues expanded the off-oil synthesis to include coal and save \$5t (www.reinventingfire.com), and so far is on track in the marketplace. For China’s National Development and Reform Commission, he co-led a consortium drawing similar conclusions that strongly informed China’s 2015 13th Five Year Plan. He also launched and supports the effort by Prime Minister Modi’s NITI Aayog to make India’s mobility shared, connected, and electric.

Dr. Lovins’s security background includes devising the first logically consistent approach to nuclear nonproliferation (technical papers⁴ and two books, 1979–83); performing for DoD the still-definitive UNCLAS study of domestic energy critical infrastructure and resilience⁵; codeveloping a “new security triad” of conflict prevention, conflict resolution, and nonprovocative defense⁶; lecturing at NDU, DAU, USMA, USNA, NWC, NPS, STRATCOM, etc. on least-cost security and on how new technologies will transform missions and force structures; leading for VADM Lopez the 1995–98 overhaul of NAVFAC’s design process; leading a 2000–01 analysis for SECNAV of how to save up to half the hotel-load electricity aboard *USS Princeton* CG-59⁷; addressing ASNE 2010 and the USMC Commandant’s 2010 expeditionary energy symposium; keynoting SECNAV’s 62th Current Strategy Conference; and serving on 1999–2001 and 2006–08 Defense Science Board panels⁸ finding cost-effective DoD fuel-saving potential later estimated by RMI to total ~66% plus avoided lift. Dr. Lovins continues to help DoD with energy strategy⁹, electricity resilience, and platform efficiency, most recently in a 2018 NAVSEA-RMI charrette to help transform the Naval design process. Having helped drive DoD’s energy agenda for three decades, he served on CNO’s Advisory Board (CAB) in 2013–14, and in 2011–17 was a Professor of Practice at the Naval Postgraduate School.

¹ Lovins, “How Big Is the Energy Efficiency Resource?,” *Envtl Res Ltrs* 18 Sep 2018, <https://doi.org/10.1088/1748-9326/aad965>.

² Lovins & Cramer, “Hypercars®, Hydrogen, and the Automotive Transition,” *Intl J Veh Design* 35(1/2):50–85 (2004), <https://www.rmi.org/insight/hypercars-hydrogen-and-the-automotive-transition/>.

³ https://www.rmi.org/wp-content/uploads/2017/06/RMI_Winning_Oil_Endgame_2004.pdf.

⁴ Summary in *Foreign Affairs* 58:1137–1177 (1980); UNCLAS technical support in *Nature* 283:817–823 (1980).

⁵ A.B. & L.H. Lovins, *Brittle Power: Energy Strategy for National Security*, 1981 report to DoD, 436 pp., 1,200 refs., Brick House (Andover MA), 1982, out of print but reposted in 2002 at https://www.rmi.org/wp-content/uploads/2017/06/RMI_Brittle_Power_Energy_Strategy_Natl_Security_1982.pdf; Foreword by ex-CJCS ADM (Ret.) Tom Moorer and ex-USECNAV, then DCI, Jim Woolsey; summary at <https://rmi.org/insight/the-fragility-of-domestic-energy/>.

⁶ Harvey & Shuman, *Security Without War*, 1990–93, Westview (Boulder), https://www.rmi.org/wp-content/uploads/2017/05/RMI_Document_Repository_Public-Reprrts_S93-23_SecurityWoutWar.pdf.

⁷ RMI report under ONR Grant #N00014-01-1-0252, 2001, https://rmi.org/wp-content/uploads/2017/06/RMI_Energy_Efficiency_Survey_Aboard_2001.pdf.

⁸ “More Capable Warfighting Through Reduced Fuel Burden,” <https://pdfs.semanticscholar.org/36c3/4670a85ad0430511c22c957ecaaf86cce8c8.pdf>; “More Fight—Less Fuel,” https://archive.org/details/DTIC_ADA477619.

⁹ Lovins, “DoD’s Energy Challenge as Strategic Opportunity,” <https://ndupress.ndu.edu/portals/68/Documents/jfq/jfq-57.pdf>.