

## ABOUT THE CONTRIBUTORS

JAMES ACTON is an associate in the Nonproliferation Program at the Carnegie Endowment for International Peace. Prior to joining the Carnegie Endowment in October 2008, Acton was a lecturer at the Centre for Science and Security Studies in the Department of War Studies at King's College London, where he conducted the research for this project. He has also worked as the science and technology researcher at the Verification Research, Training and Information Centre (VERTIC), where he was a participant in the UK-Norway dialogue on verifying the dismantling of warheads. He is currently the joint UK member of the International Panel on Fissile Materials. Dr. Acton co-authored the Adelphi Paper, *Abolishing Nuclear Weapons*, and co-edited the follow-up book, *Abolishing Nuclear Weapons: A Debate* (both with George Perkovich). He has published widely on topics related to nonproliferation and disarmament in such journals as the *Bulletin of the Atomic Scientists*, *Nonproliferation Review*, and *Survival*. Dr. Acton holds a Ph.D. in theoretical physics from the University of Cambridge.

WYN BOWEN is Professor of Non-Proliferation & International Security, and Director of the Centre for Science & Security Studies, in the Department of War Studies at King's College London. In 1994, he spent 5 months as a Center Associate of the Matthew B. Ridgway Center for International Studies, Graduate School of Public and International Affairs, University of Pittsburgh. From September 2005 until August 2007, he was Professor of International Security in the Defence Studies Department at King's College. In 1997-

98 he served as a weapons inspector on several missile teams in Iraq with the UN Special Commission and has also worked as a consultant to the International Atomic Energy Agency. He served as a Specialist Advisor to the House of Commons' Foreign Affairs Committee for inquiries into "The Decision to go to War with Iraq" (2003) and "Weapons of Mass Destruction" (2000). Dr. Bowen holds a BA (Hons) from the University of Hull, and an MA and Ph.D. from the University of Birmingham.

PETER BRADFORD is a former member of the United States Nuclear Regulatory Commission and former chair of the New York and Maine Utility Regulatory Commissions. He has taught at the Yale School of Forestry and Environmental Studies and currently is an Adjunct Professor at Vermont Law School teaching "Nuclear Power and Public Policy." A member of the China Sustainable Energy Policy Council, he served on a recent panel evaluating the reliability of the Vermont Yankee nuclear power plant; on the European Bank for Reconstruction and Development Panel advising how best to replace the remaining Chernobyl nuclear plants in Ukraine; a panel on the opening of the Mochovce nuclear power plant in Slovakia; and the Keystone Center collaborative on nuclear power and climate change; and is Vice Chair of the Board of The Union of Concerned Scientists. Professor Bradford is the author of "Fragile Structures: A Story of Oil Refineries, National Securities and the Coast of Maine" and many other articles. He is a graduate of Yale University and the Yale Law School.

SIMON CARROLL is an independent environmental consultant, with a specialist focus on matters related to nuclear energy, including nuclear liability and compensation. As a senior advisor with Greenpeace International, he participated in the negotiations of the International Atomic Energy Agency (IAEA) Standing Committee on Nuclear Liability on the 1997 Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage and the 1997 Convention on Supplementary Compensation. In March 2009, he was appointed to the United Kingdom's newly-created Nuclear Liabilities Financing Assurance Board (NLFAB), a body which provides independent advice on financial arrangements for the decommissioning of nuclear reactors and radioactive waste management in the UK.

ANTONY FROGGATT has worked as a freelance consultant on energy and nuclear issues in the European Union (EU) and neighbouring states since 1997. He has worked at length on EU energy policy issues for European Governments, the European Commission and Parliament, and commercial bodies. He has also worked extensively with environmental groups and public bodies in Central Europe and neighboring states, particularly in the run up to enlargement, assisting in the development of policies, initiatives and capacity building. He is also a regular speaker at conferences, universities, and training programs across Europe and is a Senior Research Fellow at Chatham House. Prior to working freelance, Mr. Froggatt was employed for 9 years as a nuclear campaigner and coordinator for Greenpeace International.

STEVE KIDD is Director of Strategy & Research at the World Nuclear Association, the international association for nuclear energy based in London. After a brief period as an economics tutor at Sheffield University, he followed a career as an industrial economist with leading UK companies. These specialized in the raw materials and engineering sectors and included Rio Tinto and Rover Cars. He practiced as an independent consultant from 1990 onwards and then joined the former Uranium Institute as Senior Research Officer in 1995. He assumed his present position when the Institute became the World Nuclear Association in 2001. He organizes and teaches training courses for nuclear professionals in developing nuclear countries on behalf of the World Nuclear University, and is a frequent speaker at conferences and meetings around the world. Mr. Kidd is the author of the recent book, *Core Issues – Dissecting Nuclear Power Today*, and authored many articles on the commercial aspects of nuclear power. Mr. Kidd holds a bachelor's and a master's degree in economics from Queens' College and the University of Cambridge, respectively, and was the winner of the Adam Smith Prize.

DOUG KOPLOW is the founder of Earth Track in Cambridge, MA, which focuses on making the scope and cost of environmentally harmful subsidies more visible and identifying reform strategies. His work on natural resource subsidies spans nearly 20 years and has been widely cited across the political spectrum. Clients have included the Organization for Economic Cooperation and Development, the United Nations Environment Program, Greenpeace, the Alliance to Save Energy, the International Institute for Sustainable Development, the U.S. National Commission on

Energy Policy, and the U.S. Environmental Protection Agency. Mr. Koplow's most recent work has been on U.S. subsidies to biofuels and the nuclear fuel cycle. His analysis documents the many ways these sectors are socializing their investment risks and quantifies the high subsidy cost per unit energy produced or ton of greenhouse gas avoided. Mr. Koplow holds an MBA from the Harvard Graduate School of Business Administration and a BA in economics from Wesleyan University.

AMORY LOVINS, a MacArthur Fellow and consultant physicist, is among the world's leading innovators in energy and its links with resources, security, development, and environment. He has advised the energy and other industries for more than 3 decades as well as the U.S. Departments of Energy and Defense. His work in 50+ countries has been recognized by the "Alternative Nobel," Blue Planet, Volvo, Onassis, Nissan, Shingo, Goff Smith, and Mitchell Prizes, the Benjamin Franklin and Happold Medals, 10 honorary doctorates, honorary membership of the American Institute of Architects, Foreign Membership of the Royal Swedish Academy of Engineering Sciences, honorary Senior Fellowship of the Design Futures Council, and as a recipient of the Heinz, Lindbergh, Jean Meyer, Time Hero for the Planet, Time International Hero of the Environment, Popular Mechanics Breakthrough Leadership, and World Technology Awards. A former Oxford don, he advises major firms and governments worldwide and has briefed 19 heads of state. Mr. Lovins cofounded and is Chairman and Chief Scientist of Rocky Mountain Institute, an independent, market-oriented, entrepreneurial, nonprofit, nonpartisan think-and-do tank that creates abundance by design.

Much of its pathfinding work on advanced resource productivity (typically with expanding returns to investment) and innovative business strategies is synthesized in *Natural Capitalism* (1999, with Paul Hawken and L. H. Lovins). This intellectual capital provides most of RMI's revenue through private-sector consultancy that has served or been invited by more than 80 Fortune 500 firms, lately redesigning more than \$30 billion worth of facilities in 29 sectors. In 1992, RMI spun off E SOURCE, and in 1999, Fiberforge Corporation, a composites engineering firm that he chaired until 2007; its technology, when matured and scaled, will permit cost-effective manufacturing of the ultra-light-hybrid Hypercar® vehicles he invented in 1991. Mr. Lovins is the author of 29 books, including *Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size* (2002, an Economist book of the year blending financial economics with electrical engineering) and the Pentagon-cosponsored *Winning the Oil Endgame* (2004, a roadmap for eliminating U.S. oil use by the 2040s, led by business for profit). His most recent visiting academic chair was in spring 2007 as MAP/Ming Professor in Stanford's School of Engineering, offering the University's first course on advanced energy efficiency.

MYCLE SCHNEIDER works as independent international energy and nuclear policy consultant. He is a member of the International Panel on Fissile Materials (IPFM), based at Princeton University, and teaches within the International MSc in Project Management for Environmental and Energy Engineering at the Ecole des Mines in Nantes. Since 2000, he is an advisor to the German Ministry of the Environment. Between 1998 and 2003 he was an advisor to the French

Environment Minister's Office and to the Belgian Minister for Energy and Sustainable Development. Between 1983 and April 2003, he was executive director of the energy information service WISE-Paris. He has given evidence and held briefings at Parliaments in Australia, Belgium, France, Germany, Japan, South Korea, Switzerland, United Kingdom (UK), and at the European Parliament. He has lectured extensively including at universities and engineering schools in various countries. Media representatives from around the world have inquired for his information, advice, or complete features, including many TV and radio stations, electronic, and print media. His numerous publications cover the analysis of nuclear proliferation, security, and safety, as well as environmental and energy planning issues. In 1997, he was honored with the Right Livelihood Award ("Alternative Nobel Prize") together with Jinzaburo Takagi for their work on plutonium issues. Mr. Schneider is the co-editor of *International Perspectives on Energy Policy and the Role of Nuclear Power* (Multi-Science Publishing, 2009), and lead author of *The World Nuclear Industry Status Report 2009*, commissioned by the German Environment Ministry (August 2009).

HENRY SOKOLSKI is the Executive Director of the Nonproliferation Policy Education Center (NPEC), a Washington, DC-based nonprofit organization founded in 1994 to promote a better understanding of strategic weapons proliferation issues among policymakers, scholars, and the media. He currently serves as an adjunct professor at the Institute of World Politics in Washington, DC, and as a member of the Congressional Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism. He pre-

viously served as Deputy for Nonproliferation Policy in the Department of Defense, for which he received a medal for outstanding public service from Secretary of Defense Dick Cheney. He also worked in the Office of the Secretary of Defense's Office of Net Assessment, as a consultant to the National Intelligence Council, and as a member of the Central Intelligence Agency's Senior Advisory Group. In the U.S. Senate, he served as a special assistant on nuclear energy matters to Senator Gordon Humphrey (R-NH), and as a legislative military aide to Dan Quayle (R-IN). Mr. Sokolski has authored and edited a number of works on proliferation, including *Best of Intentions: America's Campaign Against Strategic Weapons Proliferation* (Westport, CT: Praeger, 2001), *Nuclear Heuristics: Selected Writings of Albert and Roberta Wohlstetter* (Strategic Studies Institute, U.S. Army War College, 2009), *Falling Behind: International Scrutiny of the Peaceful Atom* (Strategic Studies Institute, U.S. Army War College, 2008); *Pakistan's Nuclear Future: Worries Beyond War* (Strategic Studies Institute, U.S. Army War College, 2008); *Gauging U.S.-Indian Strategic Cooperation* (Strategic Studies Institute, U.S. Army War College, 2007); *Getting Ready for a Nuclear-Ready Iran* (Strategic Studies Institute, U.S. Army War College, 2005); and *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice* (Strategic Studies Institute, U.S. Army War College, 2004).

SHARON SQUASSONI serves as director and senior fellow of the Proliferation Prevention Program at the Center for Strategic and International Studies (CSIS). Prior to joining CSIS, she was a senior associate in the Nuclear Nonproliferation Program at the Carnegie Endowment for International Peace. From 2002-07, she advised Congress as a senior specialist

in weapons of mass destruction at the Congressional Research Service, Library of Congress. Before joining CRS, she worked briefly as a reporter in the Washington bureau of Newsweek magazine. Ms. Squassoni also served in the executive branch of government from 1992 to 2001. Her last position was as Director of Policy Coordination for the Nonproliferation Bureau at the State Department. She also served as a policy planner for the Political-Military Bureau at State. She began her career in the government as a nuclear safeguards expert in the Arms Control and Disarmament Agency. She is the recipient of various service awards and has published widely. She is a frequent commentator for U.S. and international media outlets. Ms. Squassoni holds a BA in political science from the State University of New York at Albany, a master's in public management from the University of Maryland, and a master's in national security strategy from the National War College.

JOHN STEPHENSON is a Project Manager at Dalberg Global Development Advisors, a strategy consulting firm focused on international development. He has consulted to the senior management teams of leading international financial institutions, multilateral development organizations, foundations, and multinational corporations on strategy, organizational effectiveness, stakeholder and change management, and development policy. He has experience in several development sectors, including energy and the environment, access to finance, health, private sector development, post-conflict reconstruction, and governance and public sector reform. Some of his most recent engagements include: (1) evaluating fund manager proposals and conducting due diligence as

part of a \$500 million global call for Renewable Energy funds in emerging markets; (2) serving as a strategic advisor on an innovative \$50 million fund for post-conflict countries; (3) working with the United Nations Foundation and Vodafone Group Foundation on their public-private partnership in mobile health and emergency response; and (4) assisting the East African Community to formulate an energy access scale-up strategy to support attainment of the Millennium Development goals with a focus on alternative energy sources. Prior to joining Dalberg, he worked at the World Bank where he participated in the formulation of the Bank's Country Assistance Strategy for the Democratic Republic of Congo. Mr. Stephenson holds a bachelor's degree magna cum laude in government and East Asian studies from Harvard University, and a master's degree from Georgetown University's School of Foreign Service.

STEPHEN THOMAS is Professor of Energy Policy at the Public Services International Research Unit in the University of Greenwich, London, where he leads the energy research. He has worked as an independent energy policy researcher for more than 20 years. From 1979-2000, he was a member of the Energy Policy Programme at SPRU, University of Sussex, and in 2001, he spent 10 months as a visiting researcher in the Energy Planning Programme at the Federal University of Rio de Janeiro, Brazil. He was a member of the team appointed by the European Bank for Reconstruction and Development to carry out the official economic due diligence study for the project to replace the Chernobyl nuclear power plant (1997). He was a member of an international panel appointed by the South African Department of Minerals and Energy to carry out

a study of the technical and economic viability of a new design of nuclear power plant, the Pebble Bed Modular Reactor (2001-02). He was part of an independent team appointed by Eletronuclear (Brazil) to carry out an assessment of the economics of completing the Angra dos Reis 3 nuclear power plant (2002). Mr. Thomas has a BSc in chemistry from Bristol.

PETER TYNAN is a Partner at Dalberg Global Development Advisors, a boutique global strategy and policy advisory firm focused on global issues and emerging markets. He leads the Global Access to Finance Practice Group and works in Dalberg's Washington, DC, office. He has advised, governments, corporations and development institutions in strategy and policy, organizational reform, and finance and energy issues. He has advised the Overseas Private Investment Corporation in placing \$500m in renewable energy investments, and the Asian Development Bank in placing \$100m in renewable energy investments in Asia. He is also advising a number of clients on regional renewable energy policy and investment. Prior to joining Dalberg, he advised the Minister of Finance in the Democratic Republic of the Congo, and the Minister of Finance in the Republic of Egypt. He has worked with multiple U.S. Government agencies, including for the Administrator and CFO of the General Services Administration (GSA) in strategy, strategic planning, and the reorganization of the GSA. He previously worked in private equity, where he sourced and evaluated middle market private equity investments. Mr. Tynan is the co-author of *India's Integration into the Global Economy: Lessons and Opportunities for Latin America and the Caribbean* (Inter-American Development Bank, 2009); "Will the U.S.-India Civil

Nuclear Cooperation Light India?" in *Gauging US-Indian Strategic Cooperation* (Strategic Studies Institute, U.S. Army War College, 2006); and *Imagining Australia: Ideas For Our Future* (Allen & Unwin, 2004). He regularly speaks on access to finance, renewable energy, and SME financing issues. Mr. Tynan holds a Bachelor in Business with First Class Honours degree and the University Medal from the University of Technology in Sydney, Australia; a master's in public policy from the Kennedy School of Government at Harvard University, and an MBA from Harvard Business School.

FRANK VON HIPPEL, a theoretical physicist, is a Professor of Public and International Affairs and co-principal investigator with Harold Feiveson of Princeton's research program on Science and Global Security. From September 1993 through 1994, he was on leave as Assistant Director for National Security in the White House Office of Science and Technology Policy, and played a major role in developing U.S.-Russian cooperative programs to increase the security of Russian nuclear-weapon materials. He is an ex-chair of the American Physical Society's Panel on Physics and Public Affairs. He chairs the editorial board of *Science & Global Security*. During the following 10 years, while his research focus was in theoretical elementary-particle physics, he held research positions at the University of Chicago, Cornell University, and Argonne National Laboratory, and served on the physics faculty of Stanford University. In 1974, Dr. von Hippel's interests shifted to "public-policy physics." After spending a year as a Resident Fellow at the National Academy of Science, during which time he organized the American Physical Society's Study on Light Water Reactor Safety, he was invited to join the research and in 1984

the teaching faculty of Princeton University. During the late 1970s, his research focused on technical questions relating to the containment and mitigation of nuclear-reactor accidents, alternatives to recycling plutonium in nuclear-reactor fuel, and the potential for major improvements in automobile fuel economy. Since the early 1980s, his research has focused on developing the analytical basis for deep cuts in the U.S. and Soviet/Russian nuclear stockpiles, and removal of their nuclear missiles off launch on warning alert; verifying nuclear warhead elimination, a universal cutoff of the production of weapon-usable fissile materials and the phasing out of their use in nuclear reactor fuel; and a comprehensive nuclear-warhead test ban. Dr. von Hippel has served on advisory panels to the Congressional Office of Technology Assessment, U.S. Department of Energy, National Science Foundation, and U.S. Nuclear Regulatory Commission, and on the boards of directors of the American Association for the Advancement of Science and the *Bulletin of the Atomic Scientists*. For many years, he was the elected chairman of the Federation of American Scientists. In 1977, Dr. von Hippel shared with Joel Primack the American Physical Society's 1977 Forum Award for Promoting the Understanding of the Relationship of Physics and Society for their book, *Advice and Dissent: Scientists in the Political Arena*. In 1989, he was awarded the Federation of American Scientists' Public Service Award for serving as a "role model for the public interest scientist." In 1991, the American Institute of Physics published a volume of von Hippel's selected works under the title *Citizen Scientist*, as one of the first three books in its "Masters of Physics" series. In 1993, he was awarded a 5-year MacArthur Prize fellowship. In 1994, he received the American Association for the

Advancement of Sciences' Hilliard Roderick Prize for Excellence in Science, Arms Control and International Security. Dr. von Hippel holds a BS in physics from MIT in 1959 and D.Phil. in theoretical physics from Oxford, where he was a Rhodes Scholar.