WASHINGTON STATE
Academy of Sciences
Science in the Service of Washington State

WSAS PROJECT

Value of Distributed Solar and Storage

Oversight Committee Members Bios

Anjan Bose, Regents Professor, School of Electrical Engineering and Computer Science, Washington State University; Site Director, Power System Engineering Research Center

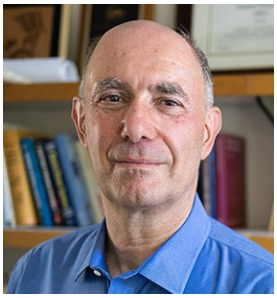
Dr. Anjan Bose has over forty years of experience in industry and academia, as an engineer, educator, and administrator. He is well known as a technical leader in the power grid control industry, a researcher in electric power engineering, an educator in engineering, and an administrator in higher education. He is a Regents Professor at Washington State University (WSU), where he also served as the Dean of Engineering and Architecture (1998-2005) and in 2012-13 served as a Senior Advisor to the US Department of Energy (DOE) in the Obama administration.

Dr. Bose is a Member of the US National Academy of Engineering (2003) and has served on many National Academy Committees. He is a founding Member of the Washington State Academy of Sciences and has been elected as its President. He is also a Foreign Fellow of the Indian National Academy of Engineering. He is a Fellow of the IEEE and is active in several international professional societies. He was the recipient of the Outstanding Power Engineering Educator Award (1994), the Third Millenium Medal (2000) and the Herman Halperin Electric Transmission & Distribution Award (2006), from the IEEE. He has been recognized as a distinguished alumnus of the Indian Institute of Technology, Kharagpur (2005) and the College of Engineering at Iowa State University (1993).

Mohit Chhabra, Senior Analyst, Regulatory and Economic Policy, Climate & Energy, Natural Resources Defense Council (NRDC)

Mohit Chhabra provides analysis and strategic guidance to policymakers and other stakeholders at the state, regional, and national levels. He is currently working on redesigning electricity pricing to facilitate decarbonization and enhance affordability, developing cost-effective pathways to reduce greenhouse gas emissions and pollution from California's energy sector, and serving as a technical advisor to other regional teams. He holds a master's degree in civil environmental and architectural engineering from the University of Colorado Boulder and a bachelor's degree in mechanical engineering from the University of Pune in India. He is based in NRDC's New York City office.

Dan Kirschen, Donald W. and Ruth Mary Close Professor, University of Washington



Daniel Kirschen joined the University of Washington in 2011 as a Close Professor of Electrical Engineering after spending 16 years at the University of Manchester (previously UMIST) where he was head of the Electrical Energy and Power Systems research group. He is a member of the Renewable Energy Analysis Lab, which focuses on how to build a smart grid that will maximize the amount of energy produced from renewable energy sources at a reasonable cost while maintaining the reliability of the electricity supply at the level to which we have grown accustomed. The main objective of his research focuses on developing techniques that achieve the optimal balance between providing a reliable grid service, minimizing the cost of providing energy, and reducing the environmental impact of the electrical system while facilitating the use of renewable energy sources. Before becoming an academic, Kirschen worked for Control Data and Siemens on the development of advanced application software for electric utility control centers. He is the author or co-author of two books and over two hundred scientific papers.

Elena Krieger, Senior Director of Research and Policy Analysis at Just Solutions

Elena Krieger, PhD, is the Senior Director of Research and Policy Analysis at Just Solutions, a national nonprofit organization focused on developing equitable energy and climate solutions. Previously, she served as director of research at an interdisciplinary energy science and policy research institute, where she explored strategies to integrate public health, equity, affordability, resilience, and other societal benefits into energy transitions. She is a member of the second cohort of New Voices at the National Academy of Sciences, Engineering, and Medicine, a member of the Disadvantaged Communities Advisory Group to the California Energy Commission and California Public Utilities Commission, and a member of the board of directors for the Center for Economic and Environmental Partnership. She has served on multiple committees for the National Academies, including the Committee on the Role of Net Metering in the Evolving Electricity System. Elena received her BA in Physics and Astronomy & Astrophysics from Harvard and her PhD in Mechanical and Aerospace Engineering from Princeton, where her research focused on optimizing energy storage for renewable energy systems.

H. Alan Love, Professor, School of Economic Sciences; and Director, Center for Institutional Research Computing, Washington State University, Pullman

Dr. Love is a Professor in the School of Economic Sciences (SES), where he served as Director between 2011 and 2019. Currently, he also serves as the Director of the Center for Institutional Research Computing (CIRC) that provides high-performance computing (HPC) resources and expertise to advance computational and data-intensive research across WSU. Dr. Love holds a doctorate in Agricultural and Resource Economics from the University of California, Berkeley. Prior to joining Washington State

University, Dr. Love was a Professor in the Department of Information and Operations Management and in the Department of Agricultural Economics at Texas A&M University, College Station. His research fields include industrial organization, information economics, supply-chains, and applied econometrics. His current research focuses on electricity markets with particular interest in smart grid edge designs to enhance prosumer response for increased resilience and decarbonization of electric power services. Dr. Love's research awards include the Quality of Research Discovery Award from the Agricultural and Applied Economics Association, Outstanding Published Research Award from the Western Agricultural Economics Association, and Article of the Year Award from the Northeastern Agricultural and Resource Economics Association.

Autumn Proudlove, Managing Director – Policy & Markets, North Carolina Clean Energy Technology Center

Autumn Proudlove is the Managing Director - Policy & Markets at NCCETC, where she leads the Center's energy policy team and provides strategic direction on policy and market issues across the Center. Autumn oversees the policy team's portfolio of activities and directly manages its client-focused research services and publications, including the 50 States of Solar, 50 States of Grid Modernization, 50 States of Electric Vehicles, and 50 States of Power Decarbonization quarterly policy tracking reports. She is a co-principal investigator for the Carolinas Renewable Energy Development Assistance and Siting Hub project and oversees the Database of State Incentives for Renewables and Efficiency (DSIRE). Autumn is on the leadership committee for North Carolina's Solar for All program and serves on the technical steering committee for the National Open Data for Electrification (NODE) Collective. Autumn previously served on the National Academies of Sciences, Engineering, and Medicine's committee on the role of net metering in the evolving electricity system. Autumn received her Master's degree in Energy Regulation and Law, summa cum laude, from Vermont Law School and her Bachelor's degree in Environmental Studies, with a minor in Economics, from Dartmouth College.

Daniel Schwartz, Director, Clean Energy Institute; and Boeing-Sutter Professor of Chemical Engineering, University of Washington

Schwartz is the founding director of the UW Clean Energy Institute (CEI) and the Boeing-Sutter Professor of Chemical Engineering. His research explores transport and reaction in electrochemical systems, including the performance of complex electrodes used in energy storage and conversion. Schwartz served on the Technical Advisory Board for Washington's Energy Strategy in 2012 and, in 2018, he received the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring from the White House Office of Science and Technology Policy and the National Science Foundation. He is a Fellow of the Electrochemical Society and is a board and executive committee member of the Washington CleanTech Alliance.

Noel Shulz, Inaugural Director, Institute for Northwest Energy Futures

Noel N. Schulz is Washington State University's First Lady and the inaugural director for the Institute for Northwest Energy Futures. Dr. Schulz has more than 26 years of teaching experience at 6 U.S. universities including WSU. She has taught courses in power systems, energy conversion, application of computer programs to power engineering, application of intelligent systems to engineering problems, fundamentals of electrical circuits, renewable and distributed generation, and smart grid technologies. She has graduated 45 master's students and 13 doctoral students.

Dr. Schulz's research has focused on power systems modeling and analysis, smart grid applications, microgrids, renewable energy, and shipboard power systems. The research has been funded by multiple national agencies—including the National Science Foundation and the U.S. Departments of Defense, Energy, and Homeland Security—and private power equipment companies. She has published 175 papers and two book chapters.

Prior to arriving at the University with her husband, WSU President Kirk Schulz, in mid-June 2016, she served as First Lady and associate dean for research and graduate programs in the College of Engineering at Kansas State University. She also directed the KSU Engineering Experimental Station and the Electrical Power Affiliates Program and was the Paslay Professor of Electrical and Computer Engineering. Dr. Schulz is the recipient of the 2016 Institute of Electrical and Electronics Engineers (IEEE) Fellow, the 2014 IEEE Education Society Hewlett-Packard Harriet B. Rigas Award for outstanding contributions in advancing recruitment and retention of women in IEEE and the engineering professions, and the 2014 American Society for Engineering Education (ASEE) Fellow.

Susan Tierney, Senior Advisor, Analyst Group

Dr. Tierney is an expert on energy policy and economics, specializing in the electric and gas industries. She has consulted to companies, governments, nonprofits, and other organizations on energy markets, as well as economic and environmental regulation and strategy. Her expert witness and business consulting services have involved industry restructuring, market analyses, utility ratemaking and regulatory policy, clean energy regulatory policy, transmission issues, wholesale and retail market design, and resource planning and procurement. Dr. Tierney is a former assistant secretary for policy at the US Department of Energy, state cabinet officer for environmental affairs, and state public utility commissioner. She chairs the board of directors of Resources for the Future; serves on the external advisory board of the National Renewable Energy Laboratory; and is a member of the boards of directors of the World Resources Institute, the Alfred P. Sloan Foundation, the Barr Foundation, and other organizations. She has published widely, frequently speaks at industry conferences, and has lectured at many leading universities.

Jud Virden, Associate Laboratory Director, Energy and Environment Directorate, Pacific Northwest National Laboratory

Jud Virden is the Associate Laboratory Director for the Energy and Environment Directorate at Pacific Northwest National Laboratory in Richland, WA. He leads 1,700 scientists, engineers, and staff who are delivering science and technology solutions for the nation's complex energy and environmental challenges—including modernizing the power grid, advancing energy storage technologies, increasing the energy efficiency of buildings and lighting, developing biofuels, and resolving complex issues in nuclear science and environmental management. Jud earned his Ph.D. and B.S. in chemical engineering from the University of Washington. He joined PNNL in 1991.

Jonathan Yoder, Distinguished Professor for Sustainable Development; and Director, State of Washington Water Research Centers, Washington State University

Jonathan Yoder is the Director of the State of Washington Water Research Center and Distinguished Professor for Sustainable Development in the WSU School of Economic Sciences at WSU Pullman. His research specializations include natural resource and environmental economics, focusing on policy design and impact analysis, law, and contracts.

Dr. Yoder joined the Water Research Center in 2014, but has been involved in water-related economic research for about 15 years. He has contributed to research on water pricing, economic analysis of water law, water markets, economic aspects of large environmental systems modeling efforts, benefit-cost analysis of water projects and water recreation, water quality impacts of livestock waste, and more. He has a BA in Biology, a MS in Applied Economics, and a PhD in Economics. Dr. Yoder has been President of the Universities Council on Water Resources, is a Member of the Board of Directors of the National Institutes of Water Resources, is a member of the Washington State Academy of Sciences, and has served in numerous other editorial and service positions.