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**John Byrne** is Director of the Center for Energy and Environmental Policy (CEEP) and Distinguished Professor of Energy and Climate Policy at the University of Delaware. He has contributed to Working Group III of the United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC) since 1992. The Panel was awarded the 2007 Nobel Peace Prize. He is chairman of the board of the Foundation for Renewable Energy and Environment (FREE), an international organization established to promote a better future based on energy, water and materials conservation, renewable energy use, environmental resilience, and sustainable livelihoods. He is co-founder and co-executive director of the Joint Institute for a Sustainable Energy and Environmental Future, an innovative research and policy advocacy organization headquartered in South Korea with the mission of promoting sustainable policy options in East Asia. He is also a founding member of and served as the first research chair for the *International Solar Cities Initiative* – a pioneering program to assist cities around the world in building sustainable futures. In 2011, Dr. Byrne was appointed Distinguished Professor of Sustainable Energy at the Daegu Gyeongbuk Institute of Science and Technology, a new university created by South Korea to lead its plan for green energy technology and policy development. He received a Fulbright Senior Lecturer/ Researcher Award to teach environmental policy at the Graduate School of Environmental Studies, Seoul National University and to conduct research on a National Greenhouse Gas Abatement Strategy for the Korea Energy Economics Institute. Dr. Byrne has been recognized by the Chinese government for his expertise in environmental and energy policy and his name appears on China's foreign expert registry. He was appointed a Policy Advisor to the Environmental Forum of the Korea National Assembly (the only non-Korean to serve in this capacity) and he has held advisory appointments with China's State Environmental Protection Agency, the Chinese Academy of Sciences, The Energy and Resources Institute (TERI in India) and the Korea Energy Economics Institute, among others. His work in the U.S. includes service as an advisor to the National Council for Science and the Environment (U.S.) and the Interagency Working Group on Environmental Justice, coordinated by the U.S. EPA. He conceived the Sustainable Energy Utility (SEU) model and co-chaired the nation's first SEU (created by the Delaware General Assembly) during 2007-2012. He is the architect of its innovative sustainable energy finance program which executed its first tax-exempt bond sale in 2011 with a rating of AA+. This bond model recently received U.S. White House recognition as part of the Obama Administration's Better Buildings Challenge. Dr. Byrne created the first undergraduate and graduate degrees in the United States in the combined area of energy and environmental policy and a recent external review conducted by a committee of internationally respected scholars rated the CEEP graduate program among the three best in the field. His work has been funded by the World Bank, UNDP, UNEP, the W. Alton Jones Foundation, the Asia Foundation, the Blue Moon Fund, the National Science Foundation (U.S.), U.S. Department of Energy, the National Renewable Energy Laboratory, and the U.S. Environmental Protection Agency, among others. Dr. Byrne is co-editor in chief of the invitation-only journal, *Energy and Environment*, a WIRE reference work series published by Wiley & Sons. Since 1983, he has been the editor of the annual book series *Energy and Environmental Policy*, published by Transaction Books. His recent books for the series include: *Green Energy Economies*, an assessment of the prospects for and barriers to a paradigm shift in the energy economy; *Energy and Environment: The Policy Challenge*, which addresses the global warming debate; *Environmental Justice*, which examines international linkages between social and environmental inequality; and *Transforming Power*, an exploration of the prospects for, and social and environmental (especially carbon) implications of, significant changes in the world energy system. He has published 18 books and over 160 research articles.



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### **POSITIONS HELD**

Director, Center for Energy and Environmental Policy, University of Delaware, 1984-present.  
Co-executive Director, Joint Institute for a Sustainable Energy and Environmental Future, 1998-present.  
Distinguished Professor of Energy and Climate Policy, University of Delaware, 2009-present.  
Chairman of the Board and President, Foundation for Renewable Energy and Environment, 2012-present.  
Distinguished Professor, Daegu Gyeongbuk Institute of Science and Technology (a national university created by the Republic of Korea in 2010), 2011-present.  
Co-chair, Sustainable Energy Utility Oversight Board, 2008-2012 (created the first-in-the-nation Energy Efficiency Bond Series, S&P rated AA+; \$73 million in bond proceeds).  
Distinguished Professor of Public Policy, University of Delaware, 2004-2009.  
Professor, Graduate School of Urban Affairs and Public Policy, University of Delaware, 1992-2004.  
Director, M.A. and Ph.D. Program, Graduate School of Urban Affairs and Public Policy, University of Delaware, 1993-1996.  
Associate Professor, Graduate School of Urban Affairs and Public Policy, University of Delaware, 1986-1992.  
Assistant Professor, Graduate School of Urban Affairs and Public Policy, University of Delaware, 1982-1986.  
Director, Energy Policy Research Group, University of Delaware, 1981-1984.  
Visiting Assistant Professor, Center for the Study of Values, University of Delaware, 1981-1982.

### **HONORS AND SPECIAL APPOINTMENTS**

IPCC: contributed since 1992 to Working Group III of the Intergovernmental Panel on Climate Change (IPCC) and work is published in IPCC assessments which led to greater global awareness of the problem. The 2007 Nobel Peace Prize was awarded to the IPCC.  
Contributing Author, Working Group III, Intergovernmental Panel on Climate Change, 1992-2007.  
United Nations Observer status, granted to CEEP for matters related to the Framework Convention on Climate Change and the Commission on Sustainable Development, 2000-present.  
Member, Executive Board, International Solar Cities Initiative, 2000-present.  
Environmental Expert, China National Foreign Expert Agency Register, 1997-present.



Co-editor-in-Chief, Energy and Environment. A WIRE reference work series published by Wiley & Sons, 2009-present.

Consulting Editor-Energy, Global Challenges. Published by Wiley & Sons, 2015-present.

Member, Council of Energy Research and Education Leaders and Council of Environmental Deans and Directors of the National Council for Science and Environment, 2009-present.

General Editor, Energy and Environmental Policy, book series published by Transaction Publishers, 1982-present.

Co-editor, Bulletin of Science, Technology and Society, 2004-2010. (Member, Editorial Board, Bulletin of Science, Technology and Society, 1994-2003.)

Member of the Board, International Association of Science, Technology and Society, 2005-2010.

Member, Board of Directors, Urban Environmental Center, 1997-2010.

American Institute of Architects (AIA) Delaware Sustainability Award, 2009.

Author, Undergraduate Program Policy Statement for a Bachelor of Science in Energy and Environmental Policy. Proposal approved May 2009.

Co-founder and Principal, Urban Health and Environment Learning Project (UHELP – a collaborative organization created to address environmental justice concerns in Wilmington, Delaware – see <http://www.urbanhelp.org>), 2003-2009.

Member, Board of Directors, Environmental Market Solutions, Inc. 2001-2008.

Policy Advisor, Environmental Forum, Korea National Assembly, 1998-2002.

Evaluator, Social Science and Humanities Research Council, Canada, 2001.

Member, Advisory Board, U.S. Council for Science and the Environment, 1999-2001.

Special Advisor, Sustainable and Peaceful Energy Network of Asia, 1998-2004.

Author, Graduate Program Policy Statement for a Master of Energy and Environmental Policy and a Ph.D. in Energy and Environmental Policy. Appointed by the Provost of the University of Delaware to chair a university-wide committee to create a new multi-college graduate program in energy and environmental policy. Proposal approved October 1997.

Special Advisor, The Energy Research Institute (TERI – formerly the Tata Energy Research Institute), 1994-1997.

Member, Advisory Board, Asia Energy Institute, 1994-1997.

Fulbright Senior Lecturer/Researcher Award, jointly affiliated with Seoul National University and the Korea Energy Economics Institute, 1995.

Evaluator, U.S. Environmental Protection Agency, Science to Achieve Results Program, 1999.

Evaluator, National Science Foundation/Lucent Technologies Industrial Ecology Fellowship Program, 1997.

Member, Energy and Environmental Systems Committee, Oak Ridge Associated Universities Council, 1990-1994.

Member, Editorial Board, Energy Sources, 1989-1993.

Excellence in Teaching Award, University of Delaware, 1988.

Postdoctoral Fellow, Center for the Study of Values, University of Delaware, 1980-1981.

## **DEGREES**

Ph.D., Urban Affairs and Public Policy, University of Delaware, 1980.

M.A., Urban Affairs and Public Policy, University of Delaware, 1973.

B.A., Economics, University of Delaware, 1971.



## RECENT PUBLICATIONS

### Books and Journals

Advances in Bioenergy: The Sustainability Challenge. 2016. Co-editor with Peter D. Lund, Goran Berndes and Iacovos A. Vasalos. Chichester, UK: John A. Wiley & Sons. ISBN: 9781118957875.

Green Energy Economies: The Search for Clean and Renewable Energy. 2014. Co-editor with Young-Doo Wang. Volume 10 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Sustainable Energy Utilities: New Energy Strategy for the New Climate. 2009. Co-editor with Kristen Hughes. Special issue of the Bulletin of Science, Technology and Society, Vol. 29, No. 2.

Transforming Power: Energy, Environment and Society in Conflict. 2006. Co-editor with Noah Toly and Leigh Glover. Volume 9 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Water Conservation-Oriented Rates. 2005. With Young-Doo-Wang and William J. Smith Jr. Denver, CO: Water American Works Association.

Energy Revolution: Toward an Energy-Efficient Future for South Korea. 2004. Co-author with Young-Doo Wang, Hoesung Lee, Jung Wk Kim and Jong-dall Kim. Seoul, South Korea: Maeli Kyung Jae.

Environmental Justice: Discourses in International Political Economy. 2002. Co-editor with Cecilia Martinez and Leigh Glover. Volume 8 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Energy Controversy – Part II: Reversing Course. 2002. Guest co-editor with Steven M. Hoffman. Special issue of the Bulletin of Science, Technology and Society, Vol. 22, No. 2. Sage Publications.

Energy Controversy – Part I: Change and Resistance. 2001. Guest co-editor with Steven M. Hoffman. Special issue of the Bulletin of Science, Technology and Society, Vol. 21, No. 6 (December). Sage Publications.

Governing the Atom: The Politics of Risk. 1996. With Steven M. Hoffman. Volume 7 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Energy and Environment: The Policy Challenge. 1992. Co-editor with Daniel Rich. Volume 6 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Toward Sustainable Energy, Environment and Development: Institutional Strategies for Indonesia, South Korea, Malaysia and Thailand. 1991. With Young-Doo Wang et al. Prepared for ESMAP/World Bank. A joint report of the Center for Energy and Environmental Policy, University of Delaware, the Korea Energy Economics Institute and the Environmental Planning Institute, Seoul National University.

Energy, Environment and Sustainable World Development: Energy Options for the Year 2000. 1991. Special issue of Energy Sources, Vol. 13, No. 1. Co-editor with Steven M. Hoffman.

Proceedings of the International Symposium on Energy Options for the Year 2000: Contemporary Concepts in Technology and Policy. 1988. Four volumes. Co-editor with Jorma Heinonen, Eino Kainlauri and Daniel Rich. Newark, DE: Center for Energy and Environmental Policy, University of Delaware.



Planning for Changing Energy Conditions. 1988. Co-editor with Daniel Rich. Volume 4 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

The Politics of Energy R&D. 1986. Co-editor with Daniel Rich. Volume 3 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Families and the Energy Transition. 1985. Co-editor with David A. Schulz and Marvin B. Sussman. Special issue of Marriage and Family Review 9/1-2 (Fall). Republished in book form by Haworth Press (1986).

Energy and Cities. 1985. Co-editor with Daniel Rich. Volume 2 in the Energy and Environmental Policy series. New Brunswick, NJ and London: Transaction Publishers.

Technology and Energy Choice. 1983. Co-editor with Mary Helen Callahan and Daniel Rich. Volume 1 in the Energy and Environmental Policy series. Newark, DE: Center for Energy and Environmental Policy.

The Solar Energy Transition: Implementation and Policy Implications. 1983. Co-editor with Daniel Rich, Allen M. Barnett and Jon M. Veigel. Boulder, CO: Westview Press for the American Association for the Advancement of Science.

## Articles and Chapters

"Are solar cities feasible? A review of current research." Under review. John Byrne, Job Taminiau, Jeongseok Seo, Joohee Lee and Soojin Shin. International Journal of Urban Sciences. (invited).

"Multivariate analysis of solar city economics: impact of energy prices, policy, finance, and cost on urban photovoltaic power plant implementation." 2017. John Byrne, Job Taminiau, Kyung Nam Kim, Jeongseok Seo. Wiley Interdisciplinary Reviews: Energy and Environment e241 doi: 10.1002/wene.241

"Clean energy transition-our urgent challenge: an editorial essay." 2017. John Byrne and Peter D. Lund. Wiley Interdisciplinary Reviews: Energy and Environment e243 doi: 10.1002/wene.243

"Sustainable Business Model Innovation: Using Polycentric and Creative Climate Change Governance." 2017. J. Taminiau, J. Nyangon, A.S. Lewis and J. Byrne. In Collective Creativity for Responsible and Sustainable Business Practice, Ziska Fields ed. Hershey, PA: IGI Global. Pp. 140-159 doi: 10.4018/978-1-5225-1823-5.ch008

"An assessment of price convergence between natural gas and solar photovoltaics in the U.S. electricity market." 2016. Joseph Nyangon, John Byrne and Job Taminiau. Wiley Interdisciplinary Reviews: Energy and Environment e238 doi: 10.1002/wene.238

"A solar city strategy applied to six municipalities: integrating market, finance, and policy factors for infrastructure-scale photovoltaic development in Amsterdam, London, Munich, New York, Seoul, and Tokyo." 2016. John Byrne, Job Taminiau, Kyung Nam Kim, Jeongseok Seo and Joohee Lee. Wiley Interdisciplinary Reviews: Energy and Environment, v5: 68-88 doi: 10.1002/wene.182

"Reconsidering growth in the greenhouse: the Sustainable Energy Utility (SEU) as a practical strategy for the twenty-first century." 2016. Job Taminiau and John Byrne. In Green Growth, Dale, Mathai and Puppim de Oliveira (eds). London: Zed Books: pp. 233-252 and 306-309.

"A Polycentric Response to the Climate Change Challenge: Relying on Creativity, Innovation, and Leadership." 2015. Job Taminiau and John Byrne. Position paper prepared for the Twenty-first Session of the Conference of Parties (COP-21), held in Paris, under the UN Framework



Convention on Climate Change. Newark, DE: Center for Energy and Environmental Policy, University of Delaware.

“A Review of Sustainable Energy Utility and Energy Service Utility Concepts and Applications: Realizing Ecological and Social Sustainability with a Community Utility.” 2015. John Byrne and Job Taminiau. *Wiley Interdisciplinary Reviews: Energy and Environment*, doi: 10.1002/wene.171.

“Review of dynamic pricing programs in the U.S. and Europe: Status quo and policy recommendations.” 2015. Z. Hu, J-H Kim, J. Wang and J. Byrne. *Renewable and Sustainable Energy Reviews*. Vol. 42: 743–751.

“A review of the solar city concept and methods to assess rooftop solar electric potential, with an illustrative application to the city of Seoul.” 2015. J. Byrne, J. Taminiau, L. Kurdgelashvili, K. Kim. *Renewable and Sustainable Energy Reviews*. Vol. 41: 830–844.

“The Promise of a Green Energy Economy.” 2014. J. Byrne, J. Taminiau and Y-D. Wang. In *Green Energy Economies: The Search for Clean and Renewable Energy*, J. Byrne and Y-D. Wang eds. Pp. 1-17. (see Books and Journals).

“Drivers for Change.” 2014. J. Taminiau, Y-D. Wang and J. Byrne. In *Green Energy Economies: The Search for Clean and Renewable Energy*, J. Byrne and Y-D. Wang eds. Pp. 349-358. (see Books and Journals).

“Energy and environment is defined by its cross-disciplinary basis.” 2014. P. Lund and J. Byrne. *WIRE Energy and Environment*. Vol. 3. Jan/Feb: 1-2.

“International Energy Policy in the Aftermath of the Fukushima Nuclear Disaster: An Analysis of Energy Policies of the U.S., U.K., Germany, France, Japan, China and Korea” 2013. Y-D. Wang, J. Byrne, L. Kurdgelashvili, et al. Seoul, South Korea: Korea Energy Economics Institute.

“Review of wind power tariff policies in China.” 2013. Z. Hu, J. Wang, J. Byrne and L. Kurdgelashvili. *Energy Policy*. Vol. 53: 41-50.

“High Efficiency Photovoltaics: On the Way to Becoming a Major Electricity Source.” 2012. X. Wang, J. Byrne, L. Kurdgelashvili and A. Barnett. *WIRE Energy and Environment*. Vol. 1, No. 2: 132-151.

“Social change to avert further climate change: Defining the scale of change and principles to guide a new strategy.” 2012. J. Byrne, L. Kurdgelashvili and J. B. Taminiau. *WIRE Energy and Environment*. Vol. 1, No. 1: 17-40.

“Energy strategies to confront climate change.” 2012. P. Lund and J. Byrne. *WIRE Energy and Environment*. Vol. 1, Jul/Aug: 1-2.

“A Reformulation of ‘Success’ in the Climate Change Negotiations.” 2012. J. B. Taminiau and J. Byrne. *Joint Implementation Quarterly*. Vol. 18, No. 1: 11-14.

“The Role of Policy in PV Industry Growth: Past, Present and Future.” 2011. J. Byrne and L. Kurdgelashvili. In *Handbook of Photovoltaic Science and Engineering*. A Luque and S. Hegedus, eds. Hoboken, NJ: Wiley and Sons. Chapter 2.

“The Value of Module Efficiency in Lowering the Levelized Cost of Energy of Photovoltaic Systems.” 2011. X. Wang, L. Kurdgelashvili, J. Byrne and A. Barnett. *Renewable and Sustainable Energy Reviews*. Vol. 15: 4248-4254.

“Shifting from the Economics of Obesity to Sustainable Energy.” 2010. John Byrne, Francis Hodsoll and Kristen Hughes. *Renewable Energy World*. February 22.

“Political Economy of Resources.” 2010. Yda Schreuder and John Byrne. *Encyclopedia of Geography*. B. Ward ed. Newbury Park, CA: Sage Publications. Pp. 2219-2221.



“States and Localities as Energy Innovation Leaders.” 2010. *Ideas Quarterly*. Vol. 6 (spring):18-19.

“Relocating Energy in the Social Commons: Ideas for a Sustainable Energy Utility.” 2009. With Cecilia Martinez and Colin Ruggero. *Bulletin of Science, Technology and Society*. Vol. 29, No. 2: 81-94.

“Delaware’s Sustainable Energy Utility.” 2009. With Cecilia Martinez. *Delaware Lawyer* (summer): 26-31.

“Undoing Atmospheric Harm: Civil Action to Shrink the Carbon Footprint.” 2008. With Lado Kurdgelashvili and Kristen Hughes. In *Urban Energy Transition: From Fossil Fuels to Renewable Power*. P. Droege ed. Oxford, UK: Elsevier. Pp. 27-54.

“American Policy Conflict in the Greenhouse: Divergent Trends in Federal, Regional, State, and Local Green Energy and Climate Change Policy.” 2007. John Byrne, Kristen Hughes, Wilson Rickerson, and Lado Kurdgelashvili. *Energy Policy*. Vol. 35, No. 9: 4555-4573.

“Evaluating the Potential of Small-Scale Renewable Energy Options to Meet Rural Livelihoods Needs: A GIS- and Lifecycle Cost-based Assessment of Western China’s Options.” 2007. John Byrne, Aiming Zhou, Bo Shen and Kristen Hughes. *Energy Policy*. Vol. 35, No. 8: 4391-4401.

“Economics Comparison of Building Integrated PV in Different Policy Environments: The Cases of New York and Beijing.” 2007. J. Byrne, X. Zhang and A. Zhou. *Proceedings of ISES World Congress 2007*. Pp. 310-314.

“Modern Energy and Modern Society.” 2006. With Noah Toly and Young-Doo Wang. In *Transforming Power: Energy, Environment and Society in Conflict*. J. Byrne et al eds. (see Books and Journals). Pp. vii-xii.

“Energy as a Social Project: Recovering a Discourse.” 2006. With Noah Toly. In *Transforming Power: Energy, Environment and Society in Conflict*. J. Byrne et al eds. (see Books and Journals). Pp. 1-32.

“Hydrogen Highways: Lessons on the Energy Technology-Policy Interface.” 2006. With A. Waegel, D. Tobin and B. Haney. *Bulletin of Science, Technology and Society*. Vol. 26, No. 4: 288-298. Special issue “Hydrogen: Facts and Fictions.”

“Global trends in agriculture and food systems.” 2006. With Marie Trydeman Knudsen (principal author) et al. In Niels Halberg et al (eds.), *Global Development of Organic Agriculture: Challenges and Prospects*. Oxfordshire, UK: CABI Publishing. Pp. 1-48

“Globalization and sustainable development: a political ecology strategy to realize ecological justice.” 2006. With Leigh Glover and Hugo F. Alroe. In Niels Halberg et al (eds.), *Global Development of Organic Agriculture: Challenges and Prospects*. Oxfordshire, UK: CABI Publishing. Pp. 49-74.

“Organic agriculture and ecological justice: ethics and practice.” 2006. With Hugo Alroe (principal author) and Leigh Glover. In Niels Halberg et al (eds.), *Global Development of Organic Agriculture: Challenges and Prospects*. Oxfordshire, UK: CABI Publishing. Pp. 75-112.

“Can Cities Sustain Life in the Greenhouse?” 2006. With Kristen Hughes, Noah Toly and Young-Doo Wang. *Bulletin of Science, Technology and Society*. Vol. 26, No. 2: 84-95. Special issue “Solar Cities: Linking Climate Change and Human Settlement.”

“Break-even Price Estimates for Residential PV Applications in OECD Countries with an Analysis of Prospective Cost Reductions.” 2006. With D. Poponi (principal author) and S. Hegedus. *Energy Studies Review*, Vol. 14, No. 1 (Spring): 104-117.



“Freshwater Management in Industrialized Urban Areas: Water Conservation Practices during Droughts.” 2006. With Young-Doo Wang and William Smith. In *Water: Global Common and Global Problems*. Velma I. Grover, ed. London, UK: Oxford & IBH Publishing Co. Pp. 462-492.

“Ellul and the Weather.” 2005. With Leigh Glover. *Bulletin of Science, Technology and Society*. Vol. 25, No. 1: 4-16. Special issue “Celebrating the Intellectual Gifts and Insights of Jacques Ellul.”

“Commodification of Ghana’s Volta River: An Example of Ellul’s Autonomy of Technique.” 2005. With Lawrence Agbemabiese. *Bulletin of Science, Technology and Society*. Vol. 24, No. 1: 17-25. Special issue “Celebrating the Intellectual Gifts and Insights of Jacques Ellul.”

“Beyond Oil: A Comparison of Projections of PV Generation and European and U.S. Domestic Oil Production.” 2005. With Lado Kurdgelashvili, Allen Barnett, Kristen Hughes and Aaron Thurlow. In D. Y. Goswami and K. Boer, eds., *Advances in Solar Energy*, Vol. 16. Pp. 35-70. Boulder, CO: American Solar Energy Society.

“Island Bellwether: Climate Change and Energy Policy Strategy for Small Island Developing States.” 2005. With L. Glover, V. Inniss and G. Alleng. *Toward Mauritius 2005*. Paper Series No. 2005-2. Sponsored by UNEP/GPA and the Global Forum on Oceans, Coasts, and Islands. Pp. 1-20.

“Assessing the Potential Extent of Carsharing: A New Method and its Implications.” 2005. With T. D. Schuster (principal author), J. Corbett and Y. Schreuder. *Transportation Record: The Journal of the Transportation Research Board*. No. 1927: 174-181.

“Bracing for an Uncertain Energy Future: Renewable Energy and the US Electricity Industry.” 2005. With W. Rickerson, H. Wong, Y-D. Wang and S. Sasser. *Risk Management Matters*. Vol. 3, No. 1: 46-61. Available at

[http://ceep.udel.edu/publications/energysustainability/2005\\_es\\_renewables&risk.pdf](http://ceep.udel.edu/publications/energysustainability/2005_es_renewables&risk.pdf)

“Power Liberalization and Neo-Liberalism: South Korea’s Electricity Reform at a Crossroads.” 2004. With Leigh Glover, Hoesung Lee, Young-Doo Wang and Jung-Min Yu. *Pacific Affairs*. Vol. 77, No. 3: 493-516.

“The Role of Technology in Achieving Environmental Policy Goals in the Maritime Transport System.” 2004. With Melissa Thies, Nicole Cass, et al. *Transportation Record: The Journal of the Transportation Research Board*. No. 1877: 42-49.

“Reclaiming the atmospheric commons: Beyond Kyoto.” 2004. With Leigh Glover, Vernese Inniss, Jyoti Kulkarni, Yu-Mi Mun, Noah Toly, and Young-Doo Wang. In Velma I. Grover (ed.), *Climate Change: Perspectives Five Years After Kyoto*. Plymouth, UK: Science Publishers, Inc. Pp. 429-452.

“Enhancement of sustainability in cities through water conservation.” 2004. With Young-Doo Wang et al. In N. Marchettini et al, eds., *The Sustainable City III: Urban Regeneration and Sustainability*. Boston: WIT Press. Pp. 593-602.

“The potential of solar electric power for meeting future US energy needs: A comparison of projections of solar electric energy generation and Arctic National Wildlife Refuge oil production.” 2004. With Lado Kurdgelashvili, Daniele Poponi and Allen Barnett. *Energy Policy*. Vol. 32, No. 2: 289-297.

“Rethinking reform in the electricity sector: Power liberalization or energy transformation.” 2003. With Yu Mi Mun. In Njeri Wamunkonya, ed. *Electricity Reform: Social and Environmental Challenges*. Roskilde, Denmark: UNEP-RISØ Centre. Pp. 49-76.





“An Institutional Approach to Regional River Basin Management: Conflict Resolution in the US and South Korea.” 2003. With Young-Doo Wang, Kyoo-Yong Lee, William James Smith, Jr., Sara Wozniak, Michael Scozzafava and Joon-Hee Lee. *Korean Journal of Environmental Studies* Vol. 41: 139-155.

“The Clean Development Mechanism and Energy Efficiency Upgrades in Developing Countries: The Case of the Residential Sector in Selected Asian Countries.” 2003. With Young-Doo Wang, Woo-Jin Chung, Jyoti Kulkarni, Aiming Zhou, Hideka Yamaguchi and Kenji Takahashi. *Proceedings of the 3rd International Conference on Energy Efficiency in Domestic Appliances and Lighting*. Turin, Italy, October 1-3.

“The Potential of Solar Electric Power for Meeting Future European and U.S. Energy Needs: A Comparison of Projections of PV Generation and European and U.S. Domestic Oil Production.” 2003. With Lado Kurdgelashvili. *Proceedings of the ISES Solar World Congress 2003*. Vol. 1 (Solar Energy and Society), paper O1 9.

“A Common Future or Towards a Future Commons: Globalization and Sustainable Development since UNCED.” 2002. With Leigh Glover. *International Review of Environmental Strategies*. Vol. 3, No. 1: 5-25.

“Island Sustainability and Sustainable Development in the Context of Climate Change.” 2002. With Vernese Inniss. In *Sustainable Development for Island Societies*, M. Hsiao et al eds. Taipei, Taiwan: Academia Sinica. Pp. 3-29.

“Renewable Energy for Rural Sustainability: Lessons from China.” 2002. With Aiming Zhou. *Bulletin of Science, Technology and Society*. Vol. 22, No. 2: 123-131.

“Less Energy, a Better Economy, and a Sustainable South Korea: An Energy Efficiency Scenario Analysis.” 2002. With Young-Doo Wang et al. *Bulletin of Science, Technology and Society*. Vol. 22, No. 2: 110-122.

“A Brief on Environmental Justice.” 2002. With Cecilia Martinez and Leigh Glover. In *Environmental Justice: Discourses in International Political Economy*, J. Byrne et al eds. (see Books and Journals). Pp. 3-17.

“A ‘Necessary Sacrifice’: Industrialization and American Indian Lands.” 2002. With Steven M. Hoffman. In *Environmental Justice: Discourses in International Political Economy*, J. Byrne et al eds. (see Books and Journals). Pp. 97-118.

“The Production of Unequal Nature.” 2002. With Leigh Glover and Cecilia Martinez. In *Environmental Justice: Discourses in International Political Economy*, J. Byrne et al eds. (see Books and Journals). Pp. 261-291.

“Designing Climate-Sensitive Transport Policy: Lessons from the Delaware Climate Change Action Plan.” 2002. With Leigh Glover. In *Global Change and Transportation: Coming to Terms*, D. Kulash, ed. Washington, DC: ENO Transportation Foundation.

“Designing Revenue Neutral and Equitable Water Conservation-Oriented Rates for Use During Drought Summer Months.” 2002. With Young-Doo Wang et al. *Proceedings of the 2002 Water Sources Conference*. American Water Works Association (CD-Rom). January 27-30. Las Vegas, Nevada.

“Decision-making Frameworks.” 2001. Contributing author. In B. Metz et al eds. *Climate Change 2001: Mitigation*. Contribution of Working Group III to the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). New York: Cambridge University Press. Pp. 601-688.



- "The Postmodern Greenhouse: Creating Virtual Carbon Reductions from Business-as-Usual Energy Politics." 2001. With Leigh Glover et al. *Bulletin of Science, Technology and Society*. Vol. 21, No. 6: 443-455.
- "Short- and Mid-Term Prospects for World Oil Prices Using a Modified Delphi Method." 2001. With Young-Doo Wang et al. Jungku Kim ed., *Factors Influencing World Prices: Alternative Methods of Prediction*. Seoul, Korea: Korea Energy Economics Institute. Pp. 156-206.
- "Economics of Building Integrated PV In China." 2001. With Gerard Alleng and Aiming Zhou. *Proceedings of the Green Buildings Workshop*. Shanghai, China. Environmental Market Solutions, Inc. (Washington, D.C.) and Pacific Energy Research Center, Tongji University (Shanghai, China) (July).
- "Using Economic Incentives to Accelerate Development of Green Technologies." 2001. With Gerard Alleng and Aiming Zhou. *Proceedings of the Green Buildings Workshop*. Shanghai, China. Environmental Market Solutions, Inc. (Washington, D.C.) and Pacific Energy Research Center, Tongji University (Shanghai, China) (July).
- "Community Participation is Key to Environmental Justice in Brownfields." 2001. With Raymond Scattone. *Race, Poverty and the Environment*. Vo. 3, No. 1 (Winter): 6-7.
- "Climate Shopping: Putting the Atmosphere Up for Sale." 2000. With Leigh Glover. In *TELA: Environment, Economy and Society* series: 28 pp. Melbourne, Australia: Australian Conservation Foundation.
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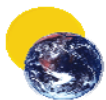
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## **RECENT FUNDED RESEARCH AND PROFESSIONAL ACTIVITY**

Investigator. “Quantum Energy Sustainable Solar Technologies” (QESST). National Science Foundation/U.S. Department of Energy – Engineering Research Center award. Principal Investigator: Dr. Christiana Honsberg, Arizona State University. 2011-present.

Co-principal investigator, “Sustainable Energy from Solar Hydrogen,” National Science Foundation – Integrative Graduate Education and Training (IGERT) grant, 2006-2012.

Principal investigator, “Renewable Energy Analysis and Design Yearly,” Conectiv Power Delivery, 2003-present.

Grant administrator, Endowment from the W. Alton Jones Foundation, 2001-present.

Principal investigator, “Science, Engineering and Technology Research,” Delaware General Assembly, 1994-present.

Principal investigator, “Energy and Environmental Policy Analysis Development Grant,” UNIDEL Foundation, 1992-present.

Principal Investigator, “Post-Fukushima Sustainable Energy Scenarios for East Asia.” Korea Energy Economics Institute and Pace Global Energy. 2011-2013.

Principal Investigator, “International Green Energy Economy Initiatives.” National Council for Science and the Environment and Korea Energy Economics Institute. 2010-2012.

Principal investigator, “Preparation of a Carbon Emissions Inventory and Climate Change Action Plan for the University of Delaware,” University of Delaware 2008 Senior Class Gift, 2008-2012.

Co-Principal Investigator. “An Econometric Model to Measure the Impacts of Carbon Reduction Policies on the South Korean Electricity Sector.” Korea Electric Power Corporation. 2008-2011.

Principal investigator, “A Comprehensive Review of Solar Energy Policy, Market, and Technology Trends.” World Bank, 2008-2010.

Investigator, “New & Renewable Energy & Environmental Policies around the Globe & Implications for the Development of a Carbon-Free Jeju Special Self-Governing Province.” Test & Evaluation Research Center for Clean Energy Development (CCED), Jeju National University, 2009-2010.

Investigator, “Application of the U.S. State Energy Policy and Planning to the Province of Chungnam in South Korea.” Chungnam Development Institute, 2009.

Co-principal Investigator, “Assessment of the 2007 IPCC 4th Assessment Report by Working Group III.” Keimyung University, College of the Environment, 2008-2009.

Investigator, “Development of a Dynamic Model to Analyze Policy Responses to Climate Change Regulations in the Electric Power Industry & Their Impacts on the General Economy of South Korea.” Korea Electric Power Corporation, 2008-2009.

Investigator, “Estimating Vehicle-Miles-Traveled by Vehicle Class for the State of Delaware. Delaware.” Department of Transportation, 2008-2009.

Investigator, “Planning for Sustainable Transportation.” Delaware Center for Transportation, 2008-2009.



Principal investigator, "Foundations for a U.S. Hydrogen Economy: Understanding the Role, Influences, and Relations between Policy, Planning, and Markets," BP Foundation, 2004-2008.

Principal investigator, "Review of Renewable Energy Policies and Resource Potential in East Asian Countries," Korea Energy Economics Institute, 2005.

Principal investigator, "Review of Climate Change Policy Responses of Australia, Japan, the UK and the U.S., Including the Role of Renewable Energy," Korea Energy Economics Institute, 2004-2005.

Principal investigator, "Knowledge Synthesis: Organic Agriculture in a Global Perspective," Danish Research Centre for Organic Farming, 2004-2005.

Principal investigator, "Assateague Barrier Island Education Center Renewable Energy Project," joint U.S. Department of Energy-National Park Service award of the University-National Park Energy Partnership Program to Rochester Institute of Technology and subcontracted to CEEP, 2004-2005.

Principal investigator, "Health, Economic, Energy and Ecological Impacts of Integrated Agricultural Bioenergy Systems for Small Farms in China," Blue Moon Fund, 2003-2005.

Principal investigator, "Review of U.S. Restructuring Experience and Its Lessons for Korea's Electricity Industry," Korea Electric Power Corporation, 2003-2005.

Principal investigator, "Policy Options to Support Distributed Resources," Conectiv Power Delivery, 2003-2005.

Principal investigator, "Review of Energy-based Clean Development Mechanism Projects in Australia, Japan, and the UK," Korea Energy Economics Institute, 2004.

Principal investigator, "Integrated Resource Planning for Nepal: A Capability Assessment," U.S. Agency for International Development award to Academy for Educational Development and subcontracted to CEEP, 2003-2004.

Principal investigator, "Delaware Industries of the Future Initiative," U.S. Department of Energy award to the Delaware Energy Office and subcontracted to CEEP, 2002-2004.

Principal investigator, "Local Natural Energy Resources and Rural Development: Focus on Latin America," UN Institute for Training and Research, 2003.

Principal investigator, "Renewable Energy Analysis," National Renewable Energy Laboratory and U.S. Department of Energy, 2001.

Principal investigator, "Sustainable Energy and Environmental Strategies for Taiwan," W. Alton Jones Foundation, 1999-2002

Principal investigator, "Establishment of a Joint Institute for a Sustainable Energy and Environmental Future in Korea," W. Alton Jones Foundation, 1998-2004.

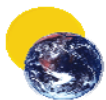
Principal investigator, "Renewable Energy Options for Asia," National Renewable Energy Laboratory and U.S. Department of Energy, 1995-2002 (includes analyses for China and Korea).

Principal investigator, "Preparation of a State Action Plan for Reduction of Greenhouse Gas Emissions," U.S. Environmental Protection Agency, 1997-2000.

Principal investigator, "Economic Analysis of Intermediate Applications of PV in the Buildings Sectors of Industrial Countries," National Renewable Energy Laboratory and U.S. Department of Energy, 1995-2000 (includes analyses for the U.S. and Japan).

Principal investigator, "Restructuring the Korea Electricity Power Corporation: Economic and Environmental Lessons from U.S. Power Pool Experience," Subcontractor to Korea Energy Economics Institute on KEPCO-funded project, 1998-1999.

Principal investigator, "Environmental Benefits of a Targeted Program of Photovoltaic Applications on U.S. Public Buildings: A State-by-State Analysis," National Renewable Energy Laboratory, 1998-99.



Principal investigator, "National Policies and Their Impacts in Reducing CO<sub>2</sub> Emissions of the Republic of Korea," Subcontractor to Hagler-Bailly on USAID-funded project, 1998.

Technical expert, "Sustainable Energy and Environmental Planning," China National Environmental Protection Agency, 1997.

Principal investigator, "Energy and Environmental Policy Analysis Development Grant," UNIDEL Foundation, 1992-2002.

Principal investigator, "Evaluation of Photovoltaic Technology for Utility Applications," National Renewable Energy Laboratory and U.S. Department of Energy, 1991-97.

Co-principal investigator, "Program in Energy, Environment, Resources and Sustainability," a certificate program jointly offered with the Tata Energy Research Institute for mid-career private, public and NGO officials from India, Nepal and Sri Lanka. Supported by USAID, the U.S. Department of Energy and the UN University, 1995 and 1996.

Principal investigator, "CO<sub>2</sub> Mitigation Strategies for the Korean Buildings Sector," Ministry of Trade, Industry and Energy, Republic of Korea, 1995-96.

Co-principal investigator, "Energy-Efficient Spatial Development Strategies for Korea," subcontract with the Korea Energy Economics Institute, 1995-96.

Member, Environmental Regulation Task Force, Office of the Governor, State of Delaware and Delaware Public Policy Institute, 1995-96.

Principal investigator, "Preparation of a State-Level Greenhouse Gas Inventory," U.S. Environmental Protection Agency, 1994-95.

Member, Public Utility Regulation Task Force, Office of Governor, State of Delaware, 1994-95.

Technical expert, "Renewable Energy Options for China." United Nations Development Program and Chinese Academy of Science, 1994.

Technical expert, "Integrated Resource Planning for the People's Republic of China," United Nations Development Program and Chinese Academy of Science, 1993.

Co-principal investigator, "Energy Efficiency and Environmental Protection Institutions in East and Southeast Asia," ESMAP/World Bank, 1990-1991 (joint project with Korea Energy Economics Institute, Republic of Korea and Environmental Planning Institute, Seoul National University).

Co-principal investigator, "Demand-Side Bidding: Potential and Options" (a national survey of U.S. utility industry and state regulatory authorities), Electric Power Partners Program, 1990-1991.

Co-investigator, "Regulatory Policy for Photovoltaics: Utility Impacts and Implications" (a national survey of U.S. utility industry and state regulatory authorities), Electric Power Partners Program, 1989-1990.

Investigator, "A Review of the U.S. Experience in Evaluating Urban Regeneration Initiatives," 1988-1990 (joint project with the University of Reading, United Kingdom).

Principal investigator, "Evaluation of State Weatherization Assistance Programs," Division of Community Services, State of Delaware, 1988.

Co-principal investigator, "Evaluation of Integrated Resource Plans for Delaware," Delaware Public Service Commission, 1986-1990.

Principal investigator, "Energy Policy Analysis Development Grant," UNIDEL Foundation, 1982-1990.

Member, Planning and Program Committees, 1991 International Symposium on Energy and Environment. Co-sponsors: UNESCO, Finnish Ministry of Trade and Industry, VGB Technical Association of Large Power Plant Operators (FRG), Institut Francais du Petrole, and University of Delaware.

Member, Planning Committee, 1989 Global Alliance Forum for Mutual Survival. Co-sponsors: Global Tomorrow Coalition and the University of Delaware.



Chair, Planning Committee, 1988 International Symposium on Energy Options for the Year 2000: Contemporary Concepts in Technology and Policy. Co-sponsors: U.S. Department of Energy, Finnish Ministry of Trade and Industry, Iowa State University, University of Delaware, American Council for an Energy-Efficient Economy, American Society of Heating, Refrigerating and Air-Conditioning Engineers.

Expert staff to Joint Agency Review Committee of the Delaware State Legislature, regarding "sunset" review of the Delaware Public Service Commission, 1984-1985.

Arranger, Environmental Policy Colloquium Series, University of Delaware, 1990-present.

Arranger, International Development Colloquium Series, University of Delaware, 1989-present.

Arranger, Energy Policy Colloquium Series, University of Delaware, 1980-present.

Arranger, Science and Society Lecture Series, University of Delaware, 1995-96.