

# David Hill

## Managing Consultant



### Professional Summary

David Hill joined EFG as a Managing Consultant at the start of 2020, after 22 years of employment with VEIC, most recently as Director of Distributed Resources and a VEIC Policy Fellow. He is known nationally for his advancement of sustainable energy program design and evaluation, and renewable energy policy. David has been the principal investigator and led analysis teams for multi-year stakeholder informed studies on solar market and decarbonization pathways and scenarios. David provides expert testimony and regulatory support; participates in international, national, and state boards; leads policy committees and conferences; provides comprehensive studies of the economic, technical, and achievable potentials for sustainable energy programming; and supports program budget planning and implementation. He has led or significantly contributed to the design and development of efficiency and renewable energy programs with annual budgets of \$100+ million for initiatives in New Jersey, Washington DC, New York, Vermont, Arizona, and Maryland. He has clients in more than a dozen states and six countries; several of them are international organizations.

### Experience

January 2020 – present: Managing Consultant, Energy Futures Group, Hinesburg, Vermont (VT)

2014 – 2019: Director, Distributed Energy Resources, Policy Fellow, VEIC, Burlington, VT

2010 – 2014: Managing Consultant, VEIC, Burlington, VT

2008 – 2010: Deputy Director, Planning and Evaluation, VEIC, Burlington, VT

2000 – 2008: Senior Consultant, VEIC, Burlington, VT

1998 – 2000: Consultant, VEIC, Burlington, VT

1993 – 1998: Research Associate, Tellus Institute and the Boston Center of the Stockholm Environment Institute

### Education

Ph.D., Energy Management and Policy Planning, University of Pennsylvania, Philadelphia, Pennsylvania (PA), 1993.

- Fulbright Scholar: Research on energy decision-making in rural Nepal, 1991 – 1993.

Master's, Appropriate Technology and International Development, University of Pennsylvania, Philadelphia, PA, 1989.

B.A., Geography and Political Science, Middlebury College, Middlebury, VT, 1986.

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## Selected Projects (from more than 100)

**Institute for Energy Economics and Financial Analysis.** Lead author, for “*Critical Elements in Short Supply: Assessing the Shortcomings of National Grid’s Long-Term Capacity Report*”, study calling into question proposed natural gas pipeline investment for New York City region.

**Massachusetts Executive Office of Energy and Environmental Affairs.** Senior advisor for team creating Low Emissions Analysis Platform (LEAP) integrated scenario modeling to inform Massachusetts efforts to reach greenhouse gas reduction targets.

**Pennsylvania Department of Environmental Protection.** Led team creating scenario modeling using the Low Emissions Analysis Platform (LEAP) model in support of two- and half-year study “*Pennsylvania’s Solar Future*”. Presentations for modeling review and collaborative stakeholder feedback at more than half a dozen stakeholder meetings and webinars.

**U.S. Department of Energy.** Principal Investigator for a three-year SunShot Initiative Solar Market Pathways study, investigating the technical, regulatory, and business model implications of getting 20 percent of Vermont’s total electric supply from solar by 2025.

**Sun Shares.** Created and launched, and responsible for management and business development of, a community solar business subsidiary to provide “Easy and Affordable Solar for Employers and their Employees,” 2015 – present.

**New Jersey Clean Energy Program.** Program design and policy advisor for the renewable energy program for more than a decade.

**Rhode Island Office of Energy Resources.** Strategic Advisor on State Energy Plan and System Reliability Procurement and Distributed Generation programs.

**Alaska Energy Authority.** Principal consultant for two studies on renewable and energy efficiency financing and funding strategies.

**New York State Energy Research and Development Authority (NYSERDA).** Twice led the renewable energy analysis for 20-year forecast of energy efficiency and renewable energy potential, 2003 and 2012.

**World Bank.** Expert consultant on a short-term study of efficiency and micro- / mini-grid opportunities in Tanzania, 2014.

**Arizona Public Service.** Managed a rapid assessment and redesign of PV and solar hot water incentives, 2009.

## Testimony as Expert Witness

Expert witness at technical working groups and before commissions on renewable energy and energy efficiency initiatives in Vermont, New York, New Jersey, Maryland, Pennsylvania, Nova Scotia and Ontario.

2020 *Dominion Energy South Carolina, 2020 Integrated Resource Plan.* Expert witness testimony before the South Carolina Public Service Commission submitted on behalf of Southern Alliance for Clean Energy and the South Carolina Coastal Conservation League on the characterization

- and analysis of energy efficiency and demand response in Dominion's 2020 IRP. Docket No. 2019-226-E.
- 2019 *Efficiency One 2020-2022 DSM Plan: Portfolio Diversification and Lighting Transition*. Expert Witness Testimony submitted on behalf of Efficiency Nova Scotia, to the Nova Scotia Utility and Review Board, Matter 09096.
- 2018 *In the Matter of an Application by Nova Scotia Power for Approval of its Advanced Meter Infrastructure Project*. Expert Witness Testimony submitted on behalf of Ecology Action Center, to the Nova Scotia Utility and Review Board, Matter 08349.
- 2018 *Becoming an Advanced Solar Economy*. Testimony before the Vermont House Committee on Energy and Technology, Montpelier.
- 2017 Maryland Public Service Commission. On behalf of Office of People's Counsel on EmPOWER Maryland Utilities 2018-2020 plans. Presentation and testimony, October 25-26, 2017.
- 2016 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015 Semi Annual (Q3 and Q4) Review*. Presentation and testimony, May 4, 2016.
- 2015 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015 Semi Annual Review*. Presentation and testimony, October 14-15, 2015.
- 2014 Maryland Office of People's Counsel, EmPOWER Maryland. *Written Comments on 2015-2017 Utility Proposed Plans*. Presentation and testimony, October 21-22, 2014.
- 2014 Maryland Office of People's Counsel, EmPOWER Maryland. Evaluation of Semi-Annual Reports - Case Nos. 9153-9157. Presentation and testimony, April 7, 2014.
- 2013 Pennsylvania Public Utility Commission. On behalf of the Office of Consumer Advocate, regarding Petitions of the Pennsylvania Power Company for Approval of its Act 129 Phase II Energy Efficiency and Conservation Plan (Docket Nos. M-2012-2334395 and M-2012-2334392); Petition of Metropolitan Edison Company (Docket No. M-2012-2334387); and Petition of West Penn Power Company (Docket No. M-2012-2334398). Written testimony. January 8, 2013.
- 2013 Maryland Office of People's Counsel, EmPOWER Maryland. *Written comments on 2012 Q3-Q4 Semi-Annual Report*. Presentation and testimony, October 2-3, 2013.
- 2011 Maryland Office of People's Counsel. *Utility-Specific Comments on the 2012-2014 EmPOWER Maryland Program Plans*. Case Nos. 9153-9157. Written testimony. October 19, 2011.
- 2011 Maryland Office of People's Counsel. *Written Comments on 2010 Annual Reports, and Q4 2010 reports*. Case Nos. 9153-9157. Presentation and testimony. March 31, 2011.
- 2011 Maryland Public Service Commission. On behalf of the Maryland Office of People's Counsel. *Comments on the 2012-2014 EmPOWER Maryland Utility Program Plans*. October 2011.
- 2009 Pennsylvania Public Utility Commission. On behalf of the Office of Consumer Advocate, regarding Petition of Duquesne Light Company for Approval of Its Energy Efficiency and Conservation and Demand Response Plan, Docket No. M-2009-2093217. August 7, 2009.
- 2005 Ontario Energy Board. On behalf of Green Energy Coalition, regarding Hydro One Networks and Brampton Conservation and Demand Management Plans. February 4, 2005 (written comments) and February 17-18, 2005 (testimony).

- 2005 Pennsylvania Public Utility Commission. On behalf of Penn Future, regarding net metering standards. Written comments and testimony. June 2005.
- 2005 Pennsylvania Public Utility Commission. On behalf of Penn Future. Written testimony and comments on interconnection standards. April 2005.
- 2005 Testimony to the Vermont State Legislature House Committee on Energy and Natural Resources on Vermont's Solar and Small Wind Incentive Program. February 9, 2005.

## Selected Presentations

- 2017 Sun Shares, Easy and Affordable Solar for Employers and their Employees, American Solar Energy Society, Solar 2017, Denver.
- 2017 Vermont Solar Market Pathways, American Solar Energy Society, Solar 2017, Denver.
- 2016 *Oxymoron: Harmonizing Distributed Energy Integration Realities with Policy Frameworks*. Solar Power International.
- 2015 World Bank, International Conference on Energy Efficiency in Cities, Puebla New Mexico. Invited Panel speaker on Efficiency Vermont and Third Party Administration Model. February, 2015.
- 2015 *Vermont Solar Market Pathways*. Presentations at Solar 2015 (State College, Pennsylvania), and Renewable Energy Vermont Conference.
- 2014 New York State Energy Research and Development Authority (NYSERDA), Renewable Energy Potential Study Results, Albany, NY.
- 2013 *Transformative Energy Planning*. Invited speaker at Innovations in Renewable Energy Symposium, Metcalf Institute for Marine and Environmental Reporting, Narragansett, Rhode Island.
- 2012 World Renewable Energy Forum, 2012 – Welcome Address and Introduction of Keynote Plenary Speakers. American Solar Energy Society, Denver.
- 2012 *Efficiency Vermont: A Successful Statewide Clean Energy Utility Model*. Presented at the 2012 Business of Clean Energy in Alaska Conference, Anchorage.
- 2011 Nova Scotia Feed In Tariff Forum: Invited speaker for two panels addressing Regional Coordination and Export Potential and International Feed-in Tariffs.
- 2011 *Integrating Renewable Energy and Efficiency Services*. Presentation to the Clean Energy States Alliance Fall 2011 Meeting, Washington, DC.
- 2010 *The Potential for Energy Efficiency and Renewables as Resources in Wholesale Capacity Markets*, Presentation at EUEC 2010 Conference, Phoenix, AZ.
- 2008 “Technology and Policy; Getting it Right.” Solar Power International, Invited panel speaker. San Diego, California.
- 2008 *Solar Market Transition in New Jersey: Promise and Progress towards Sustained Growth*. Solar 2008, American Solar Energy Society.
- 2008 *Review of Efficiency Vermont Administrative Structure and Experience*. Penn Future 2008 Clean Energy Conference, May 2008.

- 2006 *Scoping Analysis of Potential Photovoltaic Contributions Towards Offsetting Transmission System Upgrades in Southern Vermont.* Solar 2006, American Solar Energy Society.
- 2006 *Growing New Construction Markets for Photovoltaics: Recent Strategies and Activities from LIPA's Solar Pioneer Program.* Solar 2006, American Solar Energy Society, 2006.
- 2005 *Market Response to Photovoltaic Incentive Offerings: An Analysis of Trends and Indicators.* Presented at the International Solar Energy Society Solar World Congress, 2005.
- 2003 *Solar Energy Value and Opportunities in Vermont,* Invited Session Panel Moderator and Speaker, 2nd Annual Power for a New Economy Conference, Burlington, Vermont, October 8, 2003. Renewable Energy Vermont.
- 2003 *Renewable Energy Case Studies: Redefining the Models, Refining the Messages, and Getting the Word Out,* Invited Session Panel Moderator, Solar 2003 National Solar Energy Conference, Austin, Texas June 22, 2003. American Solar Energy Society.
- 2002 *Transforming Markets for Customer Sited Clean Renewable Energy: Connecting Field Experience with Lessons from the Efficiency World,* Invited Session Panel Moderator, Solar 2002 National Solar Energy Conference, Reno, Nevada June 18, 2002. American Solar Energy Society.
- 1997 *IDENTIFY: Improving Industrial Energy Efficiency and Mitigating Global Climate Change.* Software and paper prepared for the United Nations Industrial Development Organization, presented at the 1997 ACEEE Summer Study on Energy Efficiency in Industry.
- 1997 *E2/FINANCE: A Software System for Evaluating Industrial Eco-Efficiency Opportunities,* sponsored by the U.S. Department of Energy. ACEEE 1997 Summer Study on Energy Efficiency in Industry.
- 1995 *Process Evaluation of Three Gas Utility Commercial Industrial Demand Side Programs.* Prepared for the Colonial Gas Company, and presented at ACEEE 1995 Summer Study on Energy Efficiency in Industry.

## Selected Publications

- 2017 Smart Electric Power Alliance, 51<sup>st</sup> State Initiative, *Role of Utilities in the Transforming Energy Economy of the 51st State,* September 2017.
- 2016 *Vermont Solar Market Pathways: From a Developed to an Advanced Solar Economy.* A Phase II Roadmap document prepared for the *Smart Electric Power Alliance 51<sup>st</sup> State Initiative.*
- 2016 *Vermont Solar Market Pathways,* Vols. 1-4. U.S. Department of Energy, Sun Shot Initiative, Office of Energy Efficiency and Renewable Energy. Award DE-EE-0006911. [www.Vermontsolarpathways.org](http://www.Vermontsolarpathways.org).
- 2016 *Energy Efficiency Program Evaluation and Financing Needs Assessment.* Report prepared for the Alaska Energy Authority, May 2016.
- 2015 *Michigan Renewable Resource Assessment.* Final Report, prepared for the Michigan Public Service Commission Staff under agreement with the Clean Energy States Alliance. April 2015.
- 2012 *Renewable Energy Grant Recommendation Program: Process and Impact Evaluations.* Principal in Charge for comprehensive two-volume study. Alaska Energy Authority.

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- 2011 “Solar in Nepal: Small Systems, Big Benefits.” *Solar Today*. July / August 2011.
- 2011 “National Clean Energy Standard: Congress Needs to Design It Properly.” Perspective with Shaun McGrath and Jeff Lyng. *Solar Today*. July / August 2011.
- 2010 “National RPS Now!” *Solar Today*. July / August 2010.
- 2009 “Carbon Regulation: What’s the Most Effective Path?” *Solar Today*. June 2009.
- 2009 “Policy Recommendations for the 111<sup>th</sup> Congress: Tackling Climate Change and Creating a Green Economy.” Prepared by the American Solar Energy Society Policy Committee.
- 2008 “Pennsylvania Solar Assessment.” Final Report, November 25, 2008. Incorporated into American Council for an Energy-Efficient Economy, *Potential for Energy Efficiency, Demand Response, and Onsite Solar Energy in Pennsylvania*. ACEEE Report No. E093. Washington, DC: ACEEE, April 2009.
- 2008 “Solar Market Transition in New Jersey: Promise and Progress towards Sustained Growth.” *Proceedings of Solar 2008*, American Solar Energy Society.
- 2004 “Cost Effective Contributions to New York’s Greenhouse Gas Reduction Targets from Energy Efficiency and Renewable Energy Resources.” *Proceedings of 2004 ACEEE Summer Study on Energy Efficiency in Buildings*.
- 2002 “The Ten Percent Challenge: A Participatory Community Scale Climate Campaign.” *Proceedings of 2002 ACEEE Summer Study on Energy Efficiency in Buildings*. Volume 9, (with Tom Buckley, Jennifer Green, and Debra Sachs).
- 2000 “Implementing and Monitoring Community-Based Climate Action Plans.” *Proceedings of 2000 ACEEE Summer Study on Energy Efficiency in Buildings*. Volume 9, pp. 149-160 (with Tom Buckley, Mark Eldridge, Debra Sachs, and Abby Young).
- 1998 *Eco-Efficiency Financing Resource Directory*. Electronic web-site, and printed directory prepared for the Environmental Protection Agency, Region I, New England.

## Leadership

- 2017 – 2019 Energy Coop of Vermont, Board Member and Treasurer.
- 2013 Solar 2013, “Power Forward, Baltimore Maryland.” Chair of Conference Advisory Committee responsible for recruiting and coordinating four main conference plenary sessions.
- 2012 – 2013 American Solar Energy Society (ASES), Chair of the Board.
- 2012 Policy Track Chair for the World Renewable Energy Forum, Denver, Colorado, May.
- 2009 – 2012 ASES Policy Committee, Board Member and Chair.
- 2007 Vermont Governor’s Climate Change Committee, Member of the Plenary Working Group.
- 2000 – 2010 Renewable Energy Vermont, Founding Board Member, Past Board Chair.



## Regulatory and Other Governmental / NGO Documents

- 2000 – 2012 *New Jersey's Clean Energy Programs – Honeywell Team Program Plans.* Led team on designing and implementing of Renewable Energy Program plans and initiatives. Many program plans and strategies for transition to market-based incentives.
- 1998 – 2008 *Long Island Power Authority's Clean Energy Initiative.* Lead Technical and Senior Advisor on Renewable Energy Plans, including the Solar Pioneer Initiative and Residential Energy Efficiency Programs.
- 2000 *The Climate Action Plan: A Plan to Save Energy and Reduce Greenhouse Gas Emissions,* Lead author for the Burlington (Vermont) Climate Protection Task Force.
- 1998 *Home Weatherization Assistance Program Environmental Impact Analysis.* Prepared for the Ohio Department of Development, Office of Energy Efficiency.
- 1997 *Achieving Public Policy Objectives Under Retail Competition: The Role of Customer Aggregation.* Prepared for the Colorado Governor's Office of Energy Conservation.
- 1997 *IDENTIFY: Improving Industrial Energy Efficiency and Mitigating Global Climate Change,* software and paper. For the United Nations Industrial Development Organization.
- 1997 *Review of the Swaziland Energy Information System and Report on LEAP Training Activities.* Prepared for the Ministry of Natural Resources and Energy, Government Kingdom of Swaziland.
- 1996 *Evaluation of the IDB's Policies and Practices in Support of Renewable Energy and Energy Efficiency: A Report to the Inter-American Development Bank.* Brower and Company and Tellus Institute.
- 1996 *Action Plan for the Massachusetts' Industrial Services Program (ISP),* prepared for the Sustainable Industries Initiative of the Corporation for Business Work and Learning.
- 1995 *Framework for National Energy Planning: Mission Report,* The Republic of Maldives. United Nations Department for Development Support and Management Services.
- 1994 *The SEI / UNEP Fuel Chain Project: Methods, Issues, and Case Studies in Developing Countries. Venezuela Case Study.*
- 1994 *Future Energy Requirements for Africa's Agriculture (Sudan Case Study).* Report to the African Development Bank by the UN Food and Agriculture Organization.
- 1994 Report to the Idaho Public Utility Commission on Suggested Cost Allowances for the Idaho Power Company's DSM Programs. Prepared for the Idaho Public Utilities Commission, Tellus Report No. 94-177.
- 1994 Review of Pennsylvania Electric Company's 1995 Demand Side Management Filing. Prepared for: Pennsylvania Office of Consumer Advocate. Tellus Study No. 94-071.
- 1994 Review of Union Electric Company's Electric Utility Resource Planning Compliance Filings. Prepared for: The Missouri Office of Public Counsel. Tellus Study No. 93-300.
- 1994 *Incorporating Environmental Externalities in Energy Decisions: A Guide for Energy Planners.* A Report to the Swedish International Development Agency. SEI-B Report No. 91-157.

### Other Qualifications

**Nepal, Himalayan Light Foundation.** Installed solar lighting systems in 3 remote health clinics and 3 homes, 2010.

**Advanced PV Installation certificate.** Solar Energy International, 2010.

**Peace Corps volunteer.** Sierra Leone, 1984 – 1986.

#### Languages

- Nepali: ILR Level 3, speaking; ILR Level 2, reading
- Krio and Mende (Sierra Leone): ILR Level 2, speaking

#### Software competency

- LEAP (Low Emissions Analysis Platform), Stockholm Environment Institute. Former trainer and current Principal Investigator of team using scenario modeling on three projects.
- NREL System Advisor Model. Financial and technical modeling tool for renewable energy systems.