

**Mark B. Glick**  
Chair, Hawai'i Energy Policy Forum  
Specialist on Energy Policy & Innovation  
Hawai'i Natural Energy Institute  
University of Hawai'i at Manoa

**GOV. MSG. NO. 504**

### **Career Summary**

- Leads the Hawai'i Energy Policy Forum and Hawai'i Natural Energy Institute's energy policy practice in support of energy transitions and decarbonization efforts in Hawai'i through projects, publications, technical assistance and counseling.
- As State Energy Administrator (2011-2016), participated in drafting and supporting passage of the nation's first 100 percent renewable portfolio standard and established Hawai'i's \$150 million green bank, the Green Energy Market Securitization ("GEMS") program.
- As Director of Economic Development, Office of Hawaii Affairs, contributed to improving the economic well-being of Native Hawaiians by establishing the Hawai'i Procurement Technical Assistance Center; restructuring the Native Hawaiian Revolving Loan program; and managing the Community Based Economic Development program.
- As owner of a consulting firm, conceived and supported negotiation of the Texas Commitment strategy in 1992 to retain operations of General Motors' Arlington Assembly plant slated for closure. Advised Texas Governor Ann Richards and Cathy Bonner, the Director of the Department of Commerce, on the successful strategy to maintain operations of the facility which today produces 1,200 vehicles daily and employs more than 5,600 employees. <https://www.nytimes.com/1992/01/12/business/a-crusade-to-save-the-soul-of-arlington.html>

### **Education**

Master of Science, Public Management and Policy; Carnegie-Mellon University, 1986  
Bachelor of Arts, Mathematics; Lamar University, 1983

### **Professional Experience**

**12/16/16 to Present**

#### ***Specialist on Energy Policy & Innovation***

**Hawai'i Natural Energy Institute, University of Hawai'i at Manoa**

Develops and manages programs focused on design and optimization of energy transition policy, deployment and associated innovation-based economic growth in Hawai'i and the Asia Pacific region. Key programs, research and educational initiatives include:

- Hawai'i Energy Policy Forum – Leading Hawai'i's oldest energy stakeholder alliance to support Hawai'i's energy transition from fossil fuels vis-a-vis a team of HNEI staff, graduate research assistants and community volunteers.
- Smart Grid/Microgrid Policy & Technology Innovation - Developed, co-managed, and secured extramural funding to design and build an advanced

microgrid with Seoul National University, LG Electronics, Gwangju Institute of Science and Technology, Encored Inc. and the Natural Energy Laboratory of Hawai'i ("NELHA"), with source funding from the government of South Korea.

- Regional Partner to the National Renewable Energy Laboratory ("NREL") in U.S. Department of Energy's Energy Transition Initiative Partnership Program ("ETIPP") With the assistance of Maine and Alaska partners, enlisted Hawai'i, Maine and Alaska Congressional delegation support resulting in passage of a line-item appropriations proviso for this effort; and subsequently winning a competitive solicitation to evaluate and support innovative energy transition technical assistance and research as a subcontractor to NREL.
- Energy Policy Guidance and Technical Assistance for the City & County of Honolulu's Healthy and Resilient Buildings Initiative - Served the Energy Program Director for the City and County of Honolulu in creating the Healthy and Resilient Buildings Initiative, initially supported by the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") and managing public health and energy assessments that identify energy efficiency and indoor air quality improvement measures targeted to sectors deeply impacted by the Coronavirus pandemic and the consequent collapse in local economic activity and tourism.
- Energy Policy Advisor in Vietnam - Provided energy policy consultations in Vietnam under the USAID Vietnam Low Emission Energy Program ("V-LEEP") in a collaboration with NREL to inform and advise the Electricity and Renewable Energy Authority ("EREA") and government of Vietnam with analysis and decision-making for a Renewable Energy Portfolio Standard ("RPS") mechanism and its respective implementation roadmap. Authored and co-authored guidance documents and reports and collaborated with NREL on advisory meetings and discussions with leading national executive branch agencies and jurisdictions, utilities, and energy stakeholders.
- Advanced Undergraduate Instruction - Created and taught recurring Spring Semester university class, OCN 321/PPC 340/ SUST 323: Applied Principles of Environmental & Energy Policy, that explores how policies affect energy systems by assessing and evaluating intended impacts through qualitative research, data analysis, and life cycle analysis; and taught OCN 499 as an undergraduate thesis advisor.

## **Past Professional Experience**

**10/14/11 to 12/15/16**

### ***Administrator, Hawai'i State Energy Office Department of Business, Economic Development, and Tourism***

Directed Hawai'i's executive branch agency responsible for coordinating energy policy, planning and resources for the State of Hawai'i. Selected highlights of the five-year tenure leading Hawai'i's clean energy transformation efforts include:

- Contributing to the drafting and passage of the nation's first 100 percent renewable portfolio standard and interim goal of 30 percent RPS by 2020.
- Overseeing all energy related regulatory filings and testimony before the U.S. Congress and the Hawai'i State Legislature on behalf of the Hawai'i Department of Business, Economic Development and Tourism (DBEDT).
- Establishing the \$150 million GEMS green bank and serving as Vice Chair of the Hawai'i Green Infrastructure Agency overseeing GEMS.
- Exceeding Hawai'i's 2015 interim renewable portfolio and energy efficiency portfolio standards by 8 percentage points.

- Leading the nation for five consecutive years in the per capita value of energy savings performance contracts.

**7/23/10 to 10/14/11**

***Energy Project Manager and Senior Advisor  
Hawai'i State Energy Office, DBEDT***

Managed \$9.59 million in American Recovery and Reinvestment Act-funded projects to increase the number of renewable energy and energy efficiency installations in Hawai'i and created the GreenSun Hawai'i low-interest loan program with broad participation by Hawai'i financial institutions and credit unions.

**8/16/05 to 3/15/10**

***Director of Economic Development  
Office of Hawaiian Affairs (OHA), Honolulu, Hawai'i***

Developed and managed business development, financial, grant, and training & technical assistance programs to improve the lives of native Hawaiians. Primary accomplishments included the innovative restructuring of the \$28 million Native Hawaiian Revolving Loan Fund program, overseeing the formation of the Hawai'i Procurement Technical Assistance Center, and managing the Consumer Micro Loan and the Consumer Based Economic Development (CBED) Grant programs.

**7/21/03 to 8/16/05**

***Director, Office of Board Services, OHA***

Managed a division of the Office of Hawaiian Affairs ensuring fulfillment of the policies and actions of the Board of Trustees. Established an Action Item Monitoring & Reporting process and Records Management Program. Managed agency facilities in O'ahu, Maui, Moloka'i, Hawai'i and Kaua'i and provided oversight of contracts for capital grants. Responsible for publishing the Native Hawaiian Data Book.

**May 1996 to July 2003**

***President, GANA INC., Austin, TX***

Co-founded and led a business systems integration and consulting firm dedicated to establishing alternative fuel transportation, including pioneering efforts in the marine environment. Served the U.S. Department of Energy, the Gas Research Institute, Keyspan Energy Delivery, Pacific Gas & Electric and the New York City Department of Transportation on development and deployment of clean fuel and emissions reduction projects in Boston, San Francisco and New York City.

- Formed a strategic partnership with Keyspan Energy Delivery and the Urban Harbors Institute – University of Massachusetts Boston to develop a comprehensive natural gas ferry initiative in Boston Harbor.
- Assisted in passage of California SB-428 creating the San Francisco Bay Water Transit Authority and the associated partnership with CALSTART, PG&E, and the Gas Research Institute to pursue Clean Marine Opportunities for use on the new water transit system for the San Francisco Bay area.
- Advised the Federal District of Mexico in developing a price of LNG and CNG for retail fuel vehicle sales.

**March 1994 to May 1996**

***President, Global Environmental Technologies, Inc., Austin, TX***

Served as chief executive of a firm that assembled fuel stations dispensing natural gas vehicular fuel. Negotiated international letters of credit & project financing for major projects. Built and delivered what was at the time the world's three largest containerized CNG refueling stations under contract to the country of Bangladesh.

Served as Acting CEO and crisis manager of the firm's publicly-traded corporate parent.

**January 1991 to March 1994**

**President, 4E Technologies, Inc., Austin, TX and Los Angeles, CA**

Co-founded and served as managing partner of a 12-person consulting firm dedicated to cost-effective environmental solutions for air, water and soil. Created the "Texas Commitment" for the Governor of Texas, a successful strategy to maintain operations of a General Motors vehicle assembly plant. Conceived and coordinated the formation of EcoTrans Industries, Inc., an \$8 million joint venture with Southern California Gas Company to produce the first vehicle ever certified by EPA to the Inherently Low Emission Vehicle standard.

**October 1987 to January 1991**

**Executive Assistant to the Commissioner, Texas General Land Office, Austin, TX**

Served as senior Advisor to the Texas Land Commissioner, an appointed position to a statewide elected official responsible for managing more than 20 million acres of state-owned lands and waters. Supported and monitored all of the Commissioner's work outputs and represented the Commissioner in his absence at public functions and policy-making forums. Was a key member of the Commissioner's senior management team for an agency with 600 employees and a \$20 million operating budget. Helped establish and manage the agency's energy resource initiatives, including creation of the State of Texas' acclaimed alternative fuels program.

Accomplishments included:

- Assisted in writing and gaining passage of 1989 Texas Clean Air Act amendments.
- Assisted in writing and gaining passage of 1990 federal Clean Air Act Amendments.
- Supporting agency efforts to secure designation of the Wider Caribbean as a special area under MARPOL Annex V and establishment of Texas' comprehensive oil spill response program.
- Raising \$1.1 million from a consortium of 10 electric and gas utilities to build GMC Sierra pickup trucks operating on CNG in the first commercial natural gas vehicle rollout by a major auto manufacturer.

**August 1986 to October 1987**

**Special Assistant for Economic Development & Systems Planning, Office of the Chancellor, Lamar University System; Beaumont, TX**

Assisted the Chancellor with university system reorganization and special projects. Authored two studies for the University's John E. Gray Institute on economic development opportunities for the software and plastics industries in S.E. Texas.

**June 1977 to August 1984**

**Assistant Operator, Port Arthur Refinery, Gulf Oil Corporation; Port Arthur, TX**

Served as Assistant Operator and temporary assignments as Operator of petrochemical units in Gulf Oil's largest refinery.

**Selected Publications**

Mark B. Glick, Eileen Peppard, and Wendy Meguro. "Analysis of Methodology for Scaling Up Building Retrofits: Is There a Role for Virtual Audits? Energies, MDPI, September 17, 2021.

Rae-Kyun Kim, Mark B. Glick, Keith R. Olson, and Yun-Su Kim. "MILP-PSO Combined Optimization Algorithm for an Islanded Microgrid Scheduling with Detailed Battery ESS Efficiency Model and Policy Considerations," *Energies*, MDPI, April 13, 2020

Taedong Lee, Mark B. Glick, Jae-Hyup Lee, "Island Energy Transition: Assessing Hawai'i's Multi-level, Policy-driven Approach," *Renewable & Sustainable Energy Reviews*, February 2020

Jae-Won Chang, Gyu-Sub Lee, Hyeon-Jin Moon, Mark B. Glick, Seung-Il Moon  
"Coordinated Frequency and State-of-Charge Control with Multi-Battery Energy Storage Systems and Diesel Generators in an Isolated Microgrid," *Energies MDPI* 2019, 12(9), 1614

Kotub Uddin, Matthieu Dubarry, Mark B. Glick. "Reconciling Ostensibly Contradictory Studies on Lithium-ion Battery Degradation Due to Vehicle-to-Grid Operation." *Energy Policy*, February 2018

Jenny Heeter, Bethany Speer, Mark B. Glick, "International Best Practices for Implementing and Designing Renewable Portfolio Standard (RPS) Policies," April 16, 2019, Journal: Web. @article{osti\_1507986, doi:10.2172/1507986. <https://www.osti.gov/biblio/1507986>

Lori Bird, Bethany Speer, Jenny Heeter, NREL; Mark Glick, Hawai'i Natural Energy Institute. "Preliminary Design of RPS for Vietnam." USAID Vietnam Low Emission Energy Program (V-LEEP), October 2018

Glick, Mark B. Chapter in the book, *Smart Grid Law & Policy (Part 2, Chapter 4)* published by Seoul National University, October 2017

Glick, Mark B.; "*Supporting Hawai'i's Clean Energy Transformation.*" Chapter II of *Perspectives on the Development of Energy and Mineral Resources – Hawai'i, Mongolia and Germany*; Dick Pratt, Editor Mongolia Press. 2016

Farrell, Alex, Mark B. Glick. *Natural Gas as a Transportation Fuel: Energy and Environmental Benefits in Urban Ferry Service*, presented at the Transportation Research Board 2000 Annual Meeting and published in *Transportation Research Records*, 2000

## **Testimony**

### ***U.S. Congress***

**7/14/15** - Testified as Hawai'i State Energy Administrator before the U.S. Senate Energy and Natural Resources Committee in a hearing on islanded energy systems: energy and infrastructure challenges and opportunities in Alaska, Hawai'i and the U.S. Territories about Hawai'i's energy transformation policies, strategies, and programs.

**2/12/14** - Testified as Hawai'i State Energy Administrator before the U.S. Senate Energy Subcommittee hearing on "Lessons from State Efficiency and Renewable Programs" about suggested actions the federal government could take to support job creation and innovation at the state and local level based on the Hawai'i experience.

### ***Hawai'i Legislature***

**2003 to 2016** – Testified before the Hawai'i Legislature on more than 200 legislative proposals (list available upon request) relating to energy, economic development and the environment as Administrator of the Hawai'i State Energy Office, an officer of the Office of Hawaiian Affairs, and chair of the Sierra Club Hawai'i Chapter.

## **Professional & Civic Affiliations**

- Board of Directors, Washington Place Foundation (2011 – present)

- The National Association of State Energy Officials (NASEO) Affiliate Member (2016 - present)
- Board of Directors, Malama Learning Center (2020 - present)
- Member, Biden for President Climate Energy and Environment Policy Committee; and Climate Governance Subcommittee (2020).
- NASEO Board of Directors; (2012-2016); Vice Chair (2016).
- Vice Chair, Board of Directors, Hawai'i Green Infrastructure Authority (2014-2016)
- Member, Hawai'i Energy Policy Forum (2005-2016)
- Strategic Advisory Board Member, Energy (Elemental) Excelsior (2012-2016)
- Vice President, Board of Directors, Friends of Honolulu (2008-2015)
- Senior Associate, Urban Harbors Institute, University of Massachusetts Boston (1999-2012)
- Chairman of the Executive Committee, Sierra Club Hawai'i Chapter (2008-2011)
- Native Hawaiian Revolving Loan Fund Board member (2007-2010)
- Hawai'i Community Based Economic Development Advisory Council member (2005-2010)
- Board of Directors, Secretary, KAHEA: The Hawaiian-Environmental Alliance (2002-2010)
- Committee Member, US Coast Guard Alternative Fuels Project Committee (1996-1997)
- Member, Natural Gas Advisory Committee, Texas Air Control Board (1993-1994)
- Member, Federal Fleet Conversion Task Force Working Group on Federal, State and Local Programs and Regulations (1993)
- Member, Natural Gas/Electric Utility Dialogue Group (Coordinated by CONSAD Research Corp. and the US Environmental Protection Agency - 1989-1991)
- Member, Gas Research Institute NGV Technology Project Advisory Group (1989-1991)
- Founding Member, Clean Air Texas (established by the Texas Land Commissioner in 1988)
- Member, Natural Gas Policy Group (Coordinated by the World Resources Institute - 1988)