

## **Philip Eash-Gates, Principal Associate**

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### **PROFESSIONAL EXPERIENCE**

**Synapse Energy Economics, Inc.**, Cambridge, MA. *Principal Associate*, May 2022 – Present, *Senior Associate*, September 2019 – May 2022

Provides consulting and researching services, writes reports and testimony, and performs modeling on a wide range of issues related to the electric industry with a focus on energy efficiency, clean energy technologies, energy policy, high performance buildings, strategic energy management, municipal energy planning, and resource planning.

**Massachusetts Institute of Technology, Trancik Lab**, Cambridge, MA. *Research Assistant*, 2017 – 2019

Developed quantitative models and engineering cost tools to accelerate the performance evolution of clean energy technologies. Proposed innovations to improve technoeconomic analysis of nuclear and solar power systems.

**CVAL Innovations**, Dallas, TX. *Director of Efficiency Projects*, 2014 – 2017

- Recruited and directed an interdisciplinary team of engineers, contractors, and energy analysts to develop and implement customized facility retrofits, achieving an average reduction in energy consumption of 45%.
- Expanded engineering and consulting services to include strategic resource and sustainability planning, building portfolio analysis, and energy systems commissioning.
- Increased company's project capacity and annual energy savings by 300% over 2.5 years.

**City of San Antonio, Office of Sustainability** San Antonio, TX. *Energy Manager*, 2013 – 2015, *Special Projects Manager*, 2012 – 2013, *Senior Management Analyst*, 2009 – 2012

- Created and administered the City of San Antonio's first Energy Management Division.
- Established a revolving Energy Efficiency Fund to capture municipal energy savings and reinvest in projects.
- Successfully secured and managed \$25M in Federal and State grants for energy efficiency and conservation.
- Monitored performance of 3,200 utility accounts and 650 City facilities to develop a master conservation plan.
- Maintained 5-year budget and project pro-forma to fund a comprehensive retrofit program for municipal buildings.
- Developed and implemented performance-driven retrofits to reduce energy and water consumption.

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- Managed a stakeholder review of building energy codes to recommend improvements toward achieving net-zero energy by 2030. Guided the City to adopt the most advanced building energy codes in Texas.
  - Sample community programs managed: low-income residential weatherization program, one-stop sustainability and green jobs training campus, community shade tree program for energy savings.
  - Sample performance metrics: 3,320 residences weatherized; 5,700 shade trees planted for energy conservation; 178 municipal facilities upgraded – advanced lighting technology and controls, retro-commissioning, efficient heating and cooling systems, thermal envelope improvements, water conservation upgrades.

**City of San Antonio, Office of Mayor Phil Hardberger** San Antonio, TX. *Sustainable Energy Analyst*, 2008 – 2009

- Advised the Mayor on the economic, societal, and environmental viability of various energy generation portfolios for the City’s municipal power utility. Recommendations for energy efficiency and renewable energy as an alternative to nuclear and fossil fuel generation were adopted by the City and utility.
- Assisted with the creation of Mission Verde, the City’s first sustainability plan. Developed key initiatives focused on green jobs training and deployment of clean energy technologies.

## **EDUCATION**

**Massachusetts Institute of Technology**, Cambridge, MA  
Master of Science in Technology and Policy, 2019

**Trinity University**, San Antonio, TX  
Bachelor of Science in Engineering Science; Minors in Environmental Studies and Mathematics, 2008

## **ADDITIONAL PROFESSIONAL COURSEWORK**

- Leadership in Energy and Environmental Design (LEED)
- International Energy Conservation Code
- International Performance Measurement & Verification Protocol (IPMVP)

## **CERTIFICATIONS**

- Professional Engineer, Texas Board of Professional Engineers
- Certified Energy Manager, Association of Energy Engineers, ANSI accredited
- Certified Measurement and Verification Professional, Association of Energy Engineers

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## RESEARCH AND PUBLICATIONS

Hopkins A. S., P. Eash-Gates, J. Frost, S. Kwok, J. Litynski, K. Takahashi. “Decarbonization of Buildings.” In *San Diego Regional Decarbonization Framework*, edited by SDG Policy Initiative, School of Global Policy and Strategy, University of California San Diego. March 2022.

Eash-Gates, P., D. Glick, S. Kwok, J. Taberner, R. Wilson. 2021. *A Clean Energy Future for Tampa*. Synapse Energy Economics for Sierra Club.

Bhandari, D., M. Chang, P. Eash-Gates, J. Frost, S. Letendre, J. Litynski, C. Roberto, A. Takasugi, J. Taberner, R. Wilson. 2021. *Exelon Illinois Nuclear Fleet Audit*. Prepared by Synapse Energy Economics for Illinois Environmental Protection Agency.

Eash-Gates, P., K. Takahashi, D. Goldberg, A.S. Hopkins, S. Kwok. 2021. *Boston Building Emissions Performance Standard*. Prepared by Synapse Energy Economics for the City of Boston.

Eash-Gates, P, S. Letendre. 2021. *Decarbonization of Connecticut Towns*. Prepared by Synapse Energy Economics for People's Action for Clean Energy.

Eash-Gates, P, M. M. Klemun, G. Kavlak, J. McNerney, J. Buongiorno, J. E. Trancik. 2020. “Sources of Cost Overrun in Nuclear Power Plant Construction Call for a New Approach to Engineering Design.” *Joule* 4 (11): 2348–2373.

Eash-Gates, P, J. Frost, S. Letendre. 2020. *Advanced Energy Systems Assessment: Evaluating Clean Energy Opportunities for New Multi-Building Construction Projects*. Prepared by Synapse Energy Economics for City of Boston.

Odom, C, P. Eash-Gates, S. Letendre. 2020. *Titan Battery System State of Health Diagnostic Technology Market Assessment*. Prepared by Synapse Energy Economics for Titan Advanced Energy Solutions.

Eash-Gates, P., D. Glick, S. Kwok, R. Wilson. 2020. *Orlando’s Renewable Energy Future: The Path to 100 Percent Renewable Energy by 2050*. Synapse Energy Economics for the First 50 Coalition.

Eash-Gates, P., B. Fagan, D. Glick. 2020. *Alternatives to the Surry-Skiffes Creek 500 kV Transmission Line*. Synapse Energy Economics for the National Parks Conservation Association.

Napoleon, A., J. Hall, J. Kallay, M. Chang, P. Eash-Gates, N. L. Seidman, C. James, D. Torre, D. Brutkoski, J. Migden-Ostrander, K. Colburn, K. Maddux, D. Harlow, M. Power. 2020. *Energy Infrastructure: Sources of Inequities and Policy Solutions for Improving Community Health and Wellbeing*. Synapse Energy Economics, Regulatory Assistance Project, and Community Action Partnership for the Robert Wood Johnson Foundation.

Bhandari, D., P. Eash-Gates, R. Fagan, A. Hopkins, S. Letendre, C. Odom, W. Gonzalez, J. Migden-Ostrander, J. Slinger. 2020. *Battery Energy Storage Study for a renewable and resilient island grid for the Commonwealth of Puerto Rico*. Prepared by Synapse Energy Economics and Regulatory Assistance Project for Puerto Rico Energy Bureau.

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Eash-Gates, P., A. Hopkins, S. Letendre, C. Odom, S. Jayasuriya, M. Koenig, M. Zebovitz. 2020. *Mobile Energy Storage Study for emergency relief operations*. Prepared by Synapse Energy Economics and DNV GL for the Massachusetts Department of Energy Resources.

Eash-Gates, P., J. Kallay, S. Letendre, A. Allison, P. Knight, B. Biewald. 2019. *Power Plant Useful Life: Definitions, Issues, and End-of-Life Approaches*. Prepared by Synapse Energy Economics for the U.S. Environmental Protection Agency.

Eash-Gates, P. 2019. *Modeling barriers to cost change in solar and nuclear energy technologies*. Masters Thesis. Massachusetts Institute of Technology.

Steve Easley & Associates, Pentair Aquatic Systems, AquaStar Pool Products, and City of San Antonio. 2015. *City of San Antonio public swimming pool energy efficiency retrofit*.

Keeping PACE in Texas. 2014. *PACE in a Box: a toolkit for Texas counties and municipalities to create uniform, user-friendly, scalable, and sustainable PACE programs throughout Texas*.

City of San Antonio. 2013. *Stakeholder Sustainable Building Committee energy code report*.

City of San Antonio, Office of Mayor Hardberger. 2009. *Mission Verde: Building a 21st Century Economy*.

City of San Antonio, Office of Mayor Hardberger. 2008. *Review of CPS Energy's Save for Tomorrow Plan for energy efficiency and conservation*.

City of San Antonio, Office of Mayor Hardberger. 2008. *Review of CPS Energy's renewable energy planning*.

## **SELECTED PRESENTATIONS**

Eash-Gates, P. 2021. "How Do We Build When We Build Back: Boston Building Emissions Performance Standard." Presentation at the BARI Conference 2021: Building Back Smarter, April 2021.

Eash-Gates, P. 2018. "Climate Policy and Local Initiatives." Presentation at the MIT Joint Program on the Science and Policy of Global Change, January 2018.

Gates, P. 2013. "Managing energy in San Antonio public buildings." Presentation at the Texas Energy Summit, December 2013.

## **SKILLS**

Software and Tools: Excel, R, MATLAB, eQuest, OpenStudio, Environmental Justice Screening and Mapping Tool (EJSCREEN), CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA), Energy Star Portfolio Manager, Solar Advisor Model, LaTeX, SAP, ProEngineer, Engineering Equation Solver, Adobe Acrobat Professional, Microsoft Office Suite

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## **TECHNICAL ADVISORY COMMITTEES**

- Boston Building Performance Standard Technical Advisory Group
- Build San Antonio Green
- Texas Property Assessed Clean Energy
- City of San Antonio Building-related and Fire Codes Appeals and Advisory Board

## **ORGANIZATIONAL AFFILIATIONS**

- Association of Energy Engineers
- U.S. Green Building Council
- Build San Antonio Green
- South-Central Partnership for Energy Efficiency as a Resource

*Resume updated July 2022*