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ENERGY AND ENVIRONMENTAL ECONOMICS, INC.

New York, NY

Senior Consultant

Ms. Shah is a member of E3's Climate Pathways and Electrification practice area where she supports projects examining the future of natural gas utilities, clean heating, and other building electrification topics. She supports geospatial electrification forecasting analysis using Forecasting Anywhere, a model developed in collaboration between E3 and Integral Analytics. She has developed research backed heuristics for the propensity for buildings to electrify or for the deployment of chargers in specific locations. She has also researched and outlined the key policy targets and implications for distributional impacts of electrification for Exelon Operating Companies. Lastly, she developed the methodology for classifying building types across utility service territories to better forecast the geospatial allocation of electrification throughout the H3 cells.

Prior to joining E3 she worked on designing low carbon buildings as an Environmental Designer. In that role she applied her analytical skills on energy and carbon models for developing electrification scenarios for projects in the Northeast region. This included understanding the synergies between different building systems to better inform the design and push for implementing energy efficiency strategies in new and existing buildings. Ms. Shah has also worked at a MEP engineering firm, designing electrical systems for complex transit and commercial projects. She holds an M.S. in Energy Science, Technology, and Policy-Applied Studies from Carnegie Mellon University and a Bachelor of Technology in Electrical Engineering from Institute of Technology, Nirma University.

Projects:

Confidential Meter Manufacturer, ESG Reduction Use Cases and GHG Valuation Modeling (2023). Supported the E3 team in investigating and developing valuation methodologies for current and future benefits of the additional use cases (managed EV charging, prepay electricity plans, demand response (DR), and the water/energy nexus) identified by the client. Also played an integral role in formulating a robust Excel based GHG valuation methodology framework for the selected DR and prepay use cases.

NV Energy, Market Potential Study and DER Forecasting (2023). Applied thought leadership in developing heuristic propensity models for new DERs like demand response and energy efficiency for the Forecasting Anywhere tool. Documented propensity model methodology for internal and client use for effective knowledge transfer.

Hawai'i State Energy Office (HSEO), Hawai'i Pathways to Net Zero (2023). Provided analytical support for supplemental analysis required by statute, focusing on land use and transportation planning, agriculture management best practices, and qualitative assessment of customer energy affordability. Analysis incorporated into report to the state legislature evaluating long-term pathways to economywide decarbonization in Hawai'i and recommending new policies to ensure the achievement of the state's decarbonization goals.

New York, NY February 2020 – May 2023

Environmental Designer – Energy Analyst

- Performed technical design analytics to provide carbon mitigation, sustainability, and energy efficiency strategies to support new and existing buildings in meeting benchmarks for emissions, which culminated in a pathway for decarbonization
- Developed advanced energy analysis models and post-processing spreadsheet tools to explore specialized concepts in energy use optimization, like natural ventilation, demand response strategies and electrification schemes for program types like laboratories, museums, academic institutions, offices, hotels, retail, and housing
- Assessed future carbon emissions scenarios based on predicted evolution of the local electrical grid
- Conducted whole building operational carbon and life-cycle cost assessment to provide recommendations based on technoeconomic feasibility of the energy efficiency measures
- Conducted renewable energy assessment to evaluate options and the associated costs to offset energy use
- Oversaw day-to-day project work, advised, and collaborated with design teams to integrate resource efficient initiatives into project designs
- Led dissemination efforts using reports and presentations to communicate sustainability strategies and recommendations clearly and concisely
- Contributed to the design and delivery of training sessions for new employees in the Energy Analysis practice
- Managed operational planning and workflow for a 14-member team in the Energy Analysis practice, resulting in project completion on time and within budget

WSP USA
Building Performance Intern

New York, NY May 2019 – August 2019

- Conducted climate-specific daylight and glare analysis for different building profiles and locations
- Developed presentations and reports using effective data visualization to translate the results from our analysis as part of the sustainability team
- Provided timely technical support for the development of a calculator, specific to the carbon emissions reduction law for buildings in New York, NY

INI INFRASTRUCTURE AND ENGINEERING PVT LTD

Ahmedabad, INDIA June 2017 – May 2018

Electrical Design Engineer

 Designed efficient electrical system for metro stations, multipurpose buildings, and smart city development in India

Education

Carnegie Mellon University

M.S., Energy Science, Technology, and Policy-Applied Studies

Pittsburgh, PA December 2019 Institute of Technology, Nirma University Bachelor of Technology, Electrical Engineering

Ahmedabad, INDIA May 2017