

Curriculum Vitae


Saeed Esfandi

Energy & Environmental Policy Research Fellow |
Researcher of Smart Solar Cities | LEED Green Associate | Scientific Reviewer

1. Foundation for Renewable Energy and Environment (FREE), New York City, NY, USA.
2. University of Delaware, Newark, DE, USA.

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 Google Scholar

 ResearchGate

 LinkedIn

Education

Ph.D. Candidate and Research Fellow, Energy and Environmental Policy

Sept. 2022 - Present

University of Delaware, Newark, DE, USA.

Dissertation: “Navigating the Transition from Smart Cities and Solar Cities to Smart Solar Cities: Developing an Integrated Assessment Framework for Leading U.S. Cities”

Advisor: Prof. John Byrne

GPA: 3.97

Ph.D., Urban Planning

Jan. 2016 - Sept. 2022

School of Urban Planning, College of Fine Arts, University of Tehran, Iran.

Dissertation: “Assessing the Impact of Megaproject-Based Development in Tehran’s District 22 on the City’s Urban Carrying Capacity”

Primary Advisor: Dr. Farshad Nourian, **Co-Advisor:** Prof. Mohammad Mehdi Azizi

GPA: 3.67

M.Sc., Urban Planning

Sept. 2012 - Sept. 2015

School of Urban Planning, College of Fine Arts, University of Tehran, Iran.

Thesis: “A Carrying Capacity-Based Decision Support System for the Optimal Spatial Distribution of Mega Malls in Tehran”

Advisor: Dr. Farshad Nourian

GPA: 3.87 (Top 10%)

B.A., Urban Planning

Sept. 2008 - Jul. 2012

Faculty of Architecture and Urbanism, Imam Khomeini International University of Qazvin, Iran.

GPA: 3.88 (Top Student)

Research Interests

- Smart City–Solar City Integration
- Machine Learning Applications for Data-Driven Urban Energy Planning and Policy
- Urban Spatial Planning for Energy Resilience and Efficiency
- Urban Energy Transition
- Planning for Net-Zero Energy and Carbon-Neutral Cities/Neighborhoods/Districts
- Nature-Based Solutions for Urban Energy and Climate Resilience

Skills

- **Team Work & Collaboration:** Proven ability to learn and contribute to interdisciplinary research on urban planning, energy policy, smart city, and solar city initiatives.
- **Project & Grantee Management:** Experienced in managing grantees, coordinating multi-stakeholder partnerships, and overseeing collaborative research and policy projects.
- **Research & Technical Writing:** Proficient in drafting and reviewing research papers, grant proposals, technical reports, and policy briefs for academic, governmental, and nonprofit audiences.
- **Data Analysis:** Proficient in advanced data cleaning, wrangling, visualization, and statistical analysis using R; experienced with large and complex datasets for urban planning and energy research.
- **Spatial Analysis:** Skilled in geospatial data processing, spatial modeling, and visualization using ArcGIS Pro for urban energy and environmental policy research.
- **Graphic Design & Layout:** Proficient in Adobe InDesign for designing high-quality visual materials, including research figures, infographics, and publication-ready layouts.

Peer-Reviewed Publications

- Esfandi, S.**, Tayebi, S., Byrne, J., Taminiau, J., Giyahchi, G., and Alavi, S. A. (2024). Smart Cities and Urban Energy Planning: An Advanced Review of Promises and Challenges, *Smart Cities*, 2024, 7(1):414-444. <https://doi.org/10.3390/smartcities7010016>
- Alavi, S.A., **Esfandi, S.**, Khavarian-Garmsir, A.R., Tayebi, S., Shamsipour, A., and Sharifi, A. (2024). Assessing the Connectivity of Urban Green Spaces for Enhanced Environmental Justice and Ecosystem Service Flow: A Study of Tehran Using Graph Theory and Least-Cost Analysis, *Urban Science*, 8 (1), 14. <https://doi.org/10.3390/urbansci8010014>
- Tayebi, S., Alavi, S. A., **Esfandi, S.**, Meshkani, L., and Shamsipour, A. A. (2023). Evaluation of Land Use Efficiency in Tehran's Expansion between 1986 and 2021: Developing an Assessment Framework Using DEMATEL and Interpretive Structural Modeling Methods, *Sustainability*, 15(4):3824. <https://doi.org/10.3390/su15043824>
- Tayebi, S., Feizizadeh, B., **Esfandi, S.**, Aliabbasi, B., Alavi, S. A., and Shamsipour, A. A. (2022). Neighborhood-Based Urban Water Carrying Capacity Assessment: Analysis of the Relationship between Spatial-Demographic Factors and Water Consumption Patterns in Tehran, Iran, *Land*, 11(12), 2203. <https://doi.org/10.3390/land11122203>
- Tayebi, S., **Esfandi, S.**, Bahraini Moqadam, S., and Sharifi, A. (2022). Investigating the Role of Neighborhood Development Offices (NDOs) in the Resilience of Deteriorated Urban Neighborhoods Against the COVID-19 Pandemic: An Empirical Study of Tehran, Using A Hybrid Balanced-Based Assessment Framework, *Urban Science*, 6(4), 77. <https://doi.org/10.3390/urbansci6040077>
- Esfandi, S.**, Rahmdel, L., Nourian, F., and Sharifi, A. (2022). The Role of Urban Spatial Structure in Energy Resilience: An Integrated Assessment Framework Using a Hybrid Factor Analysis and Analytic Network Process Model, *Sustainable Cities and Society*, 76, 103458. <https://doi.org/10.1016/j.scs.2021.103458>
- Esfandi, S.**, and Nourian, F. (2021). Urban Carrying Capacity Assessment Framework for Mega Mall Development. A Case Study of Tehran's 22 Municipal Districts, *Land Use Policy*, 109 (October), 105628. <https://doi.org/10.1016/j.landusepol.2021.105628>
- Bahramian, F., Akbari, A., Nabavi, M., **Esfandi, S.**, Naeiji, E., and Issakhov, A. (2021). Design and Tri-objective Optimization of an Energy Plant Integrated with Near-zero Energy Building Including Energy Storage: An Application of Dynamic Simulation, *Sustainable Energy Technologies and Assessments*, 47 (October). <https://doi.org/10.1016/j.seta.2021.101419>
- Hamed, K., Sadeghi, S., **Esfandi, S.**, Azimian, M., and Golmohamadi, H. (2021). Eco-Emission Analysis of Multi-Carrier Microgrid Integrated with Compressed Air and Power-to-Gas Energy Storage Technologies, *Sustainability*, 13(9), 4681. <https://doi.org/10.3390/su13094681>
- Esfandi, S.**, Baloochzadeh, S., Asayesh, M., Ehyaei, M.A., Ahmadi, A., Rabanian, A.A, Das, B., F. Costa, V., and Davarpanah, A. (2020). Energy, Exergy, Economic, and Exergoenvironmental Analyses of a Novel Hybrid System to Produce Electricity, Cooling, and Syngas, *Energies*, 13(23), 6453. <https://doi.org/10.3390/en13236453>
- Nourian, F., and **Esfandi, S.** (2016). Priority Analysis of Locating the Earthquake Crisis Management Supportive Bases According to Land Based Classification Standards (LBSCS) using TOPSIS Technique (Case Study: District 1, Region 6 of Tehran), *Journal of Emergency Management*, 4(2), 55-72. [20.1001.1.23453915.1394.4.2.5.5](https://doi.org/10.1001.1.23453915.1394.4.2.5.5)

Technical Reports

- Taminiau, J., Byrne, J., Grover, D., and **Esfandi, S.** (2023). The Social Geography of the Solar Renewable Energy Credits (SREC) Market, FREE Report 2023, Available at SSRN: <https://ssrn.com/abstract=4749039> or <http://dx.doi.org/10.2139/ssrn.4749039>
- Taminiau, J., Byrne, J., Grover, D., and **Esfandi, S.** (2023). Strategies to Broaden Employment Opportunities in the Green Energy Economy: Estimated Job and Public Health Impacts of the Inflation Reduction Act and Bipartisan Infrastructure Law, FREE Report 2023, Available at SSRN: <https://ssrn.com/abstract=4749282> or <http://dx.doi.org/10.2139/ssrn.4749282>

Selected Conference Papers and Presentations

- Esfandi, S.** (2024). Smart Cities and Urban Energy Planning: Promises and Challenges, 9th DENIN Environmental Research Symposium, Delaware Environmental Institute, Newark, DE, USA.
- Esfandi, S.**, and Mehraie, P. (2017). Assessing the Rasht Comprehensive Plan Using the Strategic Environmental Assessment (SEA) Approach, 4th International Conference on the Environmental Planning and Management, University of Tehran, Iran.
- Esfandi, S.** (2017). Evaluation of Traffic Capacity of Tehran's 22 Districts for Optimal Locating of Mega Malls. 16th International Conference on Traffic & Transportation Engineering, Tehran, Iran.

Research Experience

1- Research Fellow (Full-time)

Sept. 2022 – Present

Foundation for Renewable Energy and Environment (FREE), New York City, NY, USA.

- Explore the integration of solar cities and smart cities, developing innovative strategies to enhance energy efficiency and resilience in U.S. urban systems.
- Engage in collaborative research initiatives on energy efficiency, equity, and climate justice, delivering actionable insights for advancing a just energy transition in the U.S.
- Leverage advanced GIS and data analytics to identify spatial patterns and trends, supporting evidence-based policymaking for the U.S. solar energy landscape.
- Contribute to research proposals, technical reports, policy briefs, and grants.
- Present research findings at conferences and industry events, fostering dialogue with experts and stakeholders.

2- Researcher and Urban Planner (Full-time)

Mar. 2019 – Jul. 2022

Department of Architecture and Urban Planning, Tehran Urban Research and Planning Center (TURPC), Municipality of Tehran, Tehran, Iran.

- Authored policy reports integrating data-driven insights into sustainable urban planning in Tehran.
- Developed RFPs and supervised seven research projects funded by TURPC.
- Developed urban energy policy recommendations in collaboration with municipal decision-makers and stakeholders.
- Advised six graduate students on theses supported by TURPC, addressing energy, climate change, and urban sustainability.
- Organized more than 10 workshops, conferences, and seminars on urban planning and development in Tehran.

3- Research Assistant (Part-time)

Sept. 2016 – Aug. 2022

Assistant to Dr. Farshad Nourian, School of Urban Planning, University of Tehran, Tehran, Iran.

- Mentored 13 graduate and undergraduate students on research projects and thesis development, fostering academic growth and research skills.
- Published two original research papers on urban energy resilience and urban carrying capacity topics.
- Contributed to the development of research proposals, grant applications, and funding submissions for academic and policy projects.
- Presented research findings through posters and oral presentations at national and international conferences.

Professional Experience

1- Urban Planner (Full-time)

Jul. 2016 - Mar. 2019

Urban Development and Architecture Deputy, Municipality of Tehran's District 5, Tehran, Iran.

- Led feasibility studies and impact assessments to guide urban planning decisions and prioritize development projects in District 5.
- Oversaw planning initiatives to ensure compliance with municipal regulations and alignment with District 5's strategic development goals.
- Authored planning guidelines and strategic recommendations contributing to the formulation of District 5's Master Plan.
- Analyzed spatial and demographic data to inform zoning code revisions and optimize land use planning.

2- Urban Planner (Part-time)

Apr. 2013 - Mar. 2016

Part Consulting Architects, Planners and Engineers, Tehran, Iran.

- Contributed to the development of Tehran's District 11 Master Plan through research-driven planning strategies.
- Conducted in-depth site analyses for urban regeneration projects.
- Led field investigations and surveys to collect primary data, supporting comprehensive impact assessments.
- Analyzed spatial and demographic trends to create data-driven visualizations, aiding urban planning decision-making.

Teaching Experience

1- University Lecturer (Part-time)

Sept. 2015 - Feb. 2016

Department of Urban Planning, Pardis Branch, Islamic Azad University, Tehran, Iran.

- Instructed a 5-credit undergraduate course, Urban Planning Studio 1, for a class of 15 students.
- Designed and organized course materials, hands-on exercises, and field trips to enhance students' experiential learning.
- Provided personalized feedback to improve students' analytical, problem-solving, and urban planning skills.
- Fostered a collaborative classroom environment, fostering critical thinking, communication, and negotiation skills.

2- Instructor and Co-founder of Urban Planning Department (Part-time)

Apr. 2013 - Mar. 2015

Iranian Architecture Center, Tehran, Iran.

- Designed and led multiple courses and workshops, training approximately 50 graduate and undergraduate students for national university entrance exams in urban planning and urban design.
- Delivered interdisciplinary practical training to 35 architecture and urban design students, equipping them with essential skills for professional practice.

Honors and Awards

- **Awarded a 4-year Fellowship** by the Foundation for Renewable Energy and Environment (FREE) to pursue a Ph.D. in Energy and Environmental Policy at the University of Delaware, Newark, DE, USA, 2022-2026.
- **Best Paper Award** at the 13th Festival of Research and Innovation in Urban Management, Tehran, Iran, 2021.
- **Ranked 1st** in Tehran Municipality's Top 100 Urban Planning and Architecture Expert Exam (1,403 participants), 2019.
- **Distinguished Staff Award** at the Tehran Urban Research and Planning Center (TURPC), Tehran, Iran, 2019.
- **Top Student Award**, Iran's National Elites Foundation (INEF), Tehran, Iran, 2018.
- **Ranked 1st** in National University Entrance Exam for Urban Planning (Master's Degree) among 3,033 participants, 2012.
- **Graduated 1st in the department** (top student) with a GPA of 18.16, Imam Khomeini International University of Qazvin (Bachelor's Degree), 2012.

Record of Service Activities

1- Editorial and Review Activities

- **Guest Editor**, Special Issue titled "The Energy and Environmental Implications of Smart Cities," MDPI journal of *Energies*.
- **Editorial Board Member**, Elsevier journal of *Social Sciences & Humanities Open*.
- **Reviewer**, Elsevier journals: *Sustainable Cities and Society*, *Land Use Policy*, *Habitat International*, *Environmental Impact Assessment Review*, *Energy and Buildings*, *Energy Reports*, *Energy for Sustainable Development*, and *Energy Research & Social Science*.
- **Reviewer**, Taylor & Francis journal: *Geo-Spatial Information Science*.
- **Reviewer**, Springer Nature journals: *Clean Technologies and Environmental Policy*, and *GeoJournal*.
- **Reviewer**, SAGE journal: *Urban Affairs Review*.
- **Reviewer**, Frontiers journal: *Frontiers in Sustainable Cities*.
- **Reviewer**, MDPI journals: *Sustainability*, *Systems*, *Buildings*, *Forests*, and *Land*.
- **Reviewer**, *Greenbuild International Conference & Expo 2024 & 2025, USA*.
- **Poster Judge**, *10th Annual DENIN Environmental Research Symposium, University of Delaware, Newark, USA, 2025*.

2- Professional Memberships

- U.S. Green Building Council (USGBC)
- American Planning Association (APA)
- Association for Public Policy Analysis & Management (APPAM)
- Congress for the New Urbanism (CNU)
- International City/County Management Association (ICMA)
- The American Association for Science and Technology (AASCIT)

Selected Certifications and Credentials

- Grant Assistance Program (GAP), Institute for Public Administration (IPA), University of Delaware, May – August 2025.
 - Responsible Conduct of Research (RCR), CITI Program, Credential ID: 66850107, January 2025.
 - Complete Guide to R: Wrangling, Visualizing, and Modeling Data, Project Management Institute (LinkedIn), November 2024.
 - Supervised Learning in R: Regression, DataCamp, November 2024.
 - Spatial Data Science: The New Frontier in Analytics, Esri, September – October 2024.
 - Certified Peer Reviewer, Elsevier, September 2024.
 - Visualizing Geospatial Data in R, DataCamp, September 2024.
 - LEED Green Associate, Green Business Certification Inc. (GBCI), Credential ID: 11526606-GREEN-ASSOCIATE, April 2023 – Present.
 - International Winter School on Energy Systems, Resilience and Climate Change, Sharif University of Technology, Credential ID: AT-00-ME-19571, February 2021.
 - Advanced Course in Smart and Sustainable Low Energy Buildings, Stockholm School of Energy, 7.5 Credits Course, Credential ID: SSE-ASE20211006, October 2020 – January 2021.
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