

KYUNGMIN LEE

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EDUCATION

Ph.D., Energy and Environmental Policy, University of Delaware, USA (2025)

M.C.P., Environmental Studies, Seoul National University, South Korea (2018)

B.A., Economics, Sungshin Women's University, South Korea (2014)

PUBLICATIONS

* equal contribution, † corresponding authors

Peer Reviewed Journal Articles

3. **Lee, K.**, Yun, S.J.[†], & Park, S.A. (2025) Varied Drivers for Reducing CO₂ Emissions in Countries with Legislated Carbon Neutrality Targets: A Kaya Identity Clustering Analysis. *Environment, Development and Sustainability*. Doi: <https://doi.org/10.1007/s10668-025-06223-2>
 - Awarded the Best Student Paper Award from the NECoPA 2023 Fall Conference.
 - Awarded the 2022 Excellence Research Award from the Korea Safety Health and Environment Foundation.
2. Arjunan, P., Dobler, G., **Lee, K.**, Miller, C., Biljecki, F., & Poolla, K.[†] (2021, November). Operational characteristics of residential air conditioners with temporally granular remote thermographic imaging. In *Proceedings of the 8th ACM international conference on systems for energy-efficient buildings, cities, and transportation* (pp.184-187). Doi: <https://doi.org/10.1145/3486611.3486659>
1. **Lee, K.**, & Yun, S.J.[†] (2018). Positive Effects and Problematic Conditions of Adopting the Benefit Sharing Mechanism in Renewable Energy Projects: Focusing on the Case of Onshore Wind Farms in Jeju Island. *Space & Environment: Vol.65*. (pp.227~270). Doi: <https://doi.org/10.19097/kaser.2018.28.3.227>
 - Featured in the *Monthly Electrical Technology & Information* 2019 January [[CrossRef](#)]

Papers Under Review

2. **Lee, K.**, Yun, S.J.[†], & Myeong, J.Y. (2025) Proposing a Value-Sharing Mechanism for Wind Power: Impact of Benefit-sharing and Community Engagement on Acceptance and Environmental Awareness. *Energy Research & Social Science* (Revised and Resubmitted).
1. Nathanael, W. B., Park, Y., Jeung, J., **Lee, K.**[†] (2025) Artificial Neural Network Analysis on District-Level Air Quality and Subjective Happiness in South Korea. *Environmental Impact Assessment Review* (Revised and Resubmitted).

Work in Progress

3. **Lee, K.**, & Dobler, G.[†] A Novel Approach to Assessing the Efficacy of Policy-driven Urban Energy Demand Reduction via Proximal Infrared Remote Sensing.
2. **Lee, K.**, Powers, T., & Dobler, G.[†] Privacy-preserving Spatio-temporal Data Aggregation for Energy-End Use in City.
1. **Lee, K.**, & Dobler, G.[†] Urban Heat Island Effect and Structural Form of City Using Proximal Remote Sensing.

Policy Reports

4. Cho, H., Lim, Y., Kim, S., Jeong, H., & **Lee, K.** (2019) Technical Assistance for the Development of an Urban Adaptation Plan for Kurunegala Project, D4.1 Report on the Results of Climate Change Risk and Vulnerability Assessment. CTCN Requests No. 2018000009 Vol 3. UN Climate Technology Centre and Network, & Korea Environment Institute.
3. Cho, H., Rubio, C., Jeong, H., **Lee, K.**, & Odawa, S. (2019) Technical Assistance for the Development of an Urban Adaptation Plan for Kurunegala Project, D4.2 Climate Change Risk Assessment Guidelines. CTCN Requests No. 2018000009 Vol 4. UN Climate Technology Centre and Network, & Korea Environment Institute.
2. Kim, G., & **Lee, K.** (2016). A Comparative Study of Humanitarian Programs for Climate Refugees. *Energine Focus*: Vol.69 Energy Climate Policy Institute; Republic of Korea.
1. Kim, T., Maeng, J., Park, J., & **Lee, K.** (2014). A Study on Environmental Assessment Guideline for Site Selection of Offshore Wind Farm Project. Korea Environment Institute.

PRESENTATIONS AND INVITED LECTURES

Conference Panel Paper/Poster Presentations

- 2025
- Revisiting Easterlin Paradox: Main Drivers of Sustainability for Subjective Happiness in South Korea 2020-2023. *Public Management Research Conference (PMRC)*. Seoul, South Korea. Poster. June 2025. (Accepted)
 - Did Finance and Engagement Increase Acceptance and Environmental Awareness? *American Society for Public Administration (ASPA)*. Washington DC. Panel Presentation. March 2025. (Accepted)
- 2024
- A Novel Approach to Assessing the Efficacy of Policy-driven Urban Energy Demand Reduction via Proximal Infrared Remote Sensing. *Conference on Neural Information Processing Systems (NeurIPS) 2024 Workshop on Tackling Climate Change with Machine Learning*. Vancouver, Canada. Poster. December 2024.
 - Insight to Action: Optimizing Carbon Emissions and Cost Reductions for Household Energy Demand Using Machine Learning. *Conference on Neural Information Processing Systems (NeurIPS) 2024 Workshop on Tackling Climate Change with Machine Learning*. Vancouver, Canada. Poster. December 2024.
 - Behavioral Metrics and the Limits of Aggregation for Anonymization and Privacy Preservation Policy. *Association for Public Policy Analysis & Management (APPAM)*. National Harbor, Maryland, USA. Panel Paper. November 2024.
 - Monitoring HVAC Use Behavior in Buildings and Energy Policy Using Proximal Infrared Images. *Association for Public Policy Analysis & Management (APPAM)*. National Harbor, Maryland, USA. Poster. November 2024.
 - Did Financial Benefit-sharing and Community Engagement Increase Residential Acceptance of Windmills and Environmental Protection Awareness? *Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA)*. Washington DC, USA. Panel Paper. November 2024.
 - Monitoring HVAC Use and Behavioral Metrics for Energy and Privacy Policy Using Proximal Infrared Images. *Chungnam National University Conference of Advanced Technology (CCAT)*. Virtual Presentation. Panel Paper. November 2024.
 - Proposing a Value-Sharing Mechanism for Wind Power: Impact of Benefit-sharing and Community Engagement on Acceptance and Environmental Awareness. *Northeast Conference on Public Administration (NECoPA)*. New York City, USA. Panel Paper. November 2024.
 - Analyzing Benefit-Sharing Mechanisms for Wind Farms in Jeju Island: A Framework and Survey. *Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA)-Asia*. Seoul, South Korea. Poster. June 2024.

- 2023
 - Privacy-Preserving Spatio-Temporal Data Aggregation for Energy End Use in City. *Urban Association Affairs (UAA)*. New York City, USA. Panel Paper. April 2024.
 - A Novel Approach to Assessing the Efficacy of Policy-driven Urban Energy Demand Reduction via Proximal Infrared Remote Sensing. *Association for Public Policy Analysis & Management (APPAM)*. Atlanta, Georgia, USA. Panel Paper. November 2023.
 - Drivers of CO2 Emissions Trends in Countries That Have Legislated Carbon Neutrality Targets. *Northeast Conference on Public Administration (NECoPA)*. Virtual Presentation. Panel Paper. November 2023.
- 2022
 - An Exploratory Study on Carbon Neutrality Monitoring Models and Scenarios for the Establishment of a Sustainability Assessment System: A Comparison of Korea and Countries Enacted Legally Binding Agreements. *Korea Safety, Health, and Environment Foundation*, Virtual Presentation. Panel Paper. November 2022.
- 2018
 - An Influence of the Benefit Sharing Mechanism to the Local Acceptance and Environmental Awareness: Focusing on the Case of Onshore Wind Farms in Jeju Island. *Bio-resources, Energy, Environment, and Materials Technology International Conference*. Hongcheon, South Korea. Poster. June 2018.
 - An Exploratory Study on Positive Effects of and Problematic Conditions of Adopting the Benefit Sharing Mechanism: Focusing on the Case of Onshore Wind Farms in Jeju Island. *Korea Environmental Policy and Administration Society*. Seoul, South Korea. Panel Paper. February 2018.
- 2016
 - A Study on Impacts from Price Subsidy and Tax Policy of EVs in South Korea. *Korea Environmental Economics Association International Conference*. Seoul, South Korea. Panel Paper. June 2016.

Invited Lectures / Guest Speakers

- 2024
 - Novel Approach to Assessing the Efficacy of Policy-driven Urban Energy Demand Reduction via Proximal Infrared Remote Sensing. *Principles of Urban Data Science (SPPA720)*. Biden School of Public Policy and Administration. University of Delaware. September 2024.
- 2023
 - Computational Social Science for Energy and Environmental Policy. *Department of Public Administration*. Chungnam National University. October 2023.
 - Data-Driven Policy Making For Disaster Management. *Department of Public Administration*. Chungnam National University. April 2023.
- 2021
 - Overview of Data Science and Machine Learning Tools in the Energy and Environmental Policy Field. *Department of Public Administration*. Chungnam National University. November 2021.
- 2020
 - A Case Study of Machine Learning Applications in Energy and Environmental Policy. *Department of Public Administration*, Chungnam National University. October 2020.

Symposiums

- 2024
 - Detection of Building Energy End-Use Via Proximal Infrared Remote Sensing and Computer Vision. *UD DARWIN Symposium*. February 2024.
- 2023
 - Detection of Building Energy End-Use Via Proximal Infrared Remote Sensing and Computer Vision. *UD Data Science Symposium*. September 2023.
- 2021
 - Extraction of Air Conditioner Unit Indicators from Proximal Infrared Remote Sensing of Buildings. *UD Data Science Symposium*. November 2021.

Keynote Address

- 2023
 - Data-Driven Policymaking for Energy and Environmental Policy. *Harvard Data Science Initiative*. December 2023.
- 2022
 - An Exploratory Study on Carbon Neutrality Monitoring and Scenario Evaluation: Comparative Analysis of Korea and Countries that Enacted Carbon Neutrality. *Naiioth Debriefing Conference*. November 2022.

HONORS AND AWARDS

Scholarships & Fellowships

2023-24	University of Delaware, Doctoral Fellowship for Excellence 2023–2024 (~\$30,000)
2022	University of Delaware, Summer Doctoral Fellowship (\$4,500)
2019-23	University of Delaware, Tuition & Assistantships
2015-16	Seoul National University, Merit-based & Work-Study Scholarships
2011-13	Sungshin Women’s University, Merit-based Scholarships

Grants & Awards

2025	Peter A. Larson Prize (\$1,000)
2024	Korean Association for Policy Studies (KAPS) - Association for Public Policy Analysis & Management (APPAM) Third Place Award (\$50) UD Travel Grant Awards (\$3,000)
2023	Northeast Conference on Public Administration (NECoPA) Best Student Paper Award (\$140)
2022	Korea Safety Health and Environment Foundation, Environmental Research Forum, Excellence Research Award (\$250)
2015	Korea Energy Climate Policy Institute Research Grant Competition Award (\$1,550)

Government & International Recognitions

2024	Climate Change AI In-Person Summer School (\$1000)
2022	Aspen Institute, Future Leaders Climate Summit Cohort (Travel Award)
2016	Ministry of Environment of Korea & Korea Environment Corporation, Global Environmental Leaders Program, UN Internship Support (~\$6,000)
2016	Korea Meteorological Administration, International Meteorological Expert Program, UN Internship Support (~\$3,600)
2014	Korea National Assembly Climate Change Forum, Climate Change Academy, Excellence Award (Travel Award, UNFCCC COP20 Observer)

TEACHING EXPERIENCE

University of Delaware , Teaching Assistant <i>Undergraduate Level Courses (2019-2022)</i>	Aug. 2019 – Dec. 2022
Crafting Public Policy (UAPP225)	
Non-Governmental Actors: Interest Groups	Spring 2022
Environmental and Energy Policy	Spring 2021
Policy Implementation and Regulatory Rule-Making	Spring 2020
Introduction to Energy and Environmental Policy (ENEP250)	
Global Environmental Law and Policy/Climate Policy/Seminar	Fall 2022
Study Team Workshop	Spring 2022
Environmental Law and Policy	Fall 2020
Political Economy of the Environment (ENEP410)	
Global Capitalism and the Environment	Fall 2021
Environmental Sustainability: Political and Economic Analysis (ENEP410)	
Global Financing: Climate Change and the Least Developed Countries	Fall 2019

WORK EXPERIENCE

Research/Teaching Assistant, University of Delaware | Aug 2019 – Present | Delaware, USA
Research Assistant, Korea Environment Institute | Apr 2019 – May 2019 | Sejong, South Korea
International Affairs Specialist, Korea Marine Environment Management Corporation | Jun 2018 – Sep 2018 | Seoul, South Korea
Program Support Intern, UNEP | Mar 2017 – Aug 2017 | Geneva, Switzerland

Environmental Affairs Intern, UNESCAP-ENEA | Sep 2016 – Feb 2017 | Songdo, South Korea
Research Assistant, Seoul National University | Sep 2015 – Aug 2016 | Seoul, South Korea
Research Intern, Korea Environment Institute | Aug-Dec, 2014 | Sejong, South Korea

SERVICE ACTIVITIES

Journal Review

Quality & Quantity (Q&Q) 2025
Policy Studies Journal (PSJ) 2023

Conference Service

American Society for Public Administration (ASPA) Section on Professional and Organizational Development (SPOD), Board Member at Large, 2025-2027
Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA)-Asia, Session Moderator, June 2024
Association for Public Policy Analysis and Management (APPAM) Data Science Community, Member, 2023-2024

Department and University Service

UD Climate Change Hub, Climate Fellow, 2023-Present
UD Data Science Institute, Graduate Fellow, 2021-Present
UD Computational Social Science Association, Acting President, 2022-2023
UD Biden School Student Association, Secretary, 2021-2022
UD Korean Graduate Student Association, Officer, 2021-2022
UD Energy and Environmental Policy Student Association, Alumni Chair, 2020-2021

Community Service

UD Center for Global Programs & Services, Korean Culture Night, Volunteer, 2024
NAIOTH, Research & Thesis Writing Training Program Mentor, 2023-Present
Annual Delaware Korean Festival, Volunteer, 2021
BigWave - Korean Youth Climate Change Network, Co-founder & Steering Committee, 2016-2019

MEMBERSHIP & TRAINING

Association for Public Policy Analysis and Management (APPAM)
Public Management Research Association (PMRA)
Urban Affairs Association (UAA)
American Society for Public Administration (ASPA)
Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA).

Summer Institute in Computational Social Science (SICSS)-Korea 2024, Korea Advanced Institute of Science and Technology (KAIST) and KDI School of Public Policy and Management
Climate Change AI In-Person Summer School 2024, Mila-Québec AI Institute

LANGUAGES

English (Fluent), **Korean** (Native)

SKILLS

Programming & Tools: Python (Main), R, STATA, SPSS, ArcGIS, LaTeX
Artificial Intelligence/Data Science: Neural Networks, Object Detection
Quantitative Methods: Geospatial Analysis, Statistics
Qualitative Methods: Survey Design, In-depth Interviews