

# KYUNGMIN LEE

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## EDUCATION

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|------------|---|-----------------|
| <b>PhD</b> | Univesity of Delaware, Energy and Environmental Policy  | (Expected) 2025 |
|            | Dissertation: The Impact of Human Behaviors and the Built Environment on Energy Use and Heat in Cities. |                 |
| <b>MCP</b> | Seoul National University, Environmental Studies  | 2018            |
| <b>BA</b>  | Sungshin Women's University, Economics  | 2014            |

## RESEARCH FOCUS

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Environmental Policy, Eergy Policy, Climate Policy, Urban Planning, Urban Informatics, Economic & Community Development

Data Science, Machine Learning, Computer Vision, Remote Sensing

## PUBLICATIONS

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\* -Indicate lead author/mentor Publicatoin

### *Peer Reviewed Journal Articles*

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).
1. \* **Lee, K.**, & Yun, S. (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: 10.19097/kaser.2018.28.3.227
  - Featured in the *Monthly Electrical Technology & Information* 2019 January

### ***Papers Under Review***

2. \* **Lee, K.**, Yun, S.J., & Park, S. Clustering drivers of carbon dioxide emissions trends in countries that have legislated carbon neutrality targets based on Kaya Identity (Under Review)
1. \* **Lee, K.**, Yun, S.J., & Myeong, J.Y. Will benefit-sharing increase renewable energy acceptance and environmental awareness?: A case of onshore wind farm communities in South Korea

### ***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.**, Dobler, G., & Powers, T. 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. *Enerzine 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)

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## **PRESENTATIONS AND INVITED LECTURES**

### ***Conference Panel Paper / Poster Presentations***

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. June 2024.

Privacy-Preserving Spatio-Temporal Data Aggregation for Energy End Use in City. *International Conference on Urban Affairs (ICUA)*. New York City, USA. 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. November 2023.

Drivers of CO2 Emissions Trends in Countries That Have Legislated Carbon Neutrality Targets. *Northeast Conference on Public Administration (NECoPA)*. Virtual Presentation. November 2023.

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. November 2022.

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. 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. February 2018.

A Study on Impacts from Price Subsidy and Tax Policy of EVs in South Korea. *Korea Environmental Economics Association International Conference*. Seoul, South Korea. June 2016.

### ***Invited Lectures***

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.

Overview of Data Science and Machine Learning Tools in the Energy and Environmental Policy Field. *Department of Public Administration. Chungnam National University*. November 2021.

A Case Study of Machine Learning Applications in Energy and Environmental Policy.  
*Department of Public Administration, Chungnam National University.* October 2020.

### ***Symposiums***

Detection of Building Energy End-Use Via Proximal Infrared Remote Sensing and Computer Vision. *UD DARWIN Symposium.* February 2024.

Detection of Building Energy End-Use Via Proximal Infrared Remote Sensing and Computer Vision. *UD Data Science Symposium.* September 2023.

Extraction of Air Conditioner Unit Indicators from Proximal Infrared Remote Sensing of Buildings. *UD Data Science Symposium.* November 2021.

### ***Keynote Address***

Data-Driven Policymaking for Energy and Environmental Policy. *Harvard Data Science Initiative.* December 2023.

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**

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### ***Research Fellowships***

2023      University of Delaware, Doctoral Fellowship for Excellence 2023–2024  
(~\$30,000)

2022      University of Delaware, Summer Doctoral Fellowship (\$4,500)

### ***Research Grants/Awards***

2023      Northeast Conference on Public Administration (NECoPA) 2023, 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 Program Competition, Grant Award (\$1,550)

### ***Honors***

2022      Aspen Institute, Future Leaders Climate Summit Cohort (Travel Award)

- 2016 Korea Meteorological Administration, International Meteorological Expert Program, UN Internship Fellowship Award (~\$3,600)
- 2015 Ministry of Environment of Korea & Korea Environment Corporation, Global Environmental Leaders Program, UN Internship Fellowship Award (~\$6,000)
- 2014 Korea National Assembly Climate Change Forum, Climate Change Academy, Excellence Award (Travel Award, UNFCCC COP20 Observer)

***Academic Distinctions / Scholarships***

- 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

**RESEARCH EXPERIENCE**

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|   |                       |
|---|-----------------------|
| <b>University of Delaware</b> , Research Assistant    | Feb. 2023 – Present   |
| <b>Korea Environment Institute</b> , Researcher       | May 2019 – Jun. 2019  |
| <b>Seoul National University</b> , Research Assistant | Sep. 2015 – Aug. 2016 |
| <b>Korea Environment Institute</b> , Research Intern  | Apr. 2014 – Dec. 2014 |

**TEACHING EXPERIENCE**

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|  |                       |
|--|-----------------------|
| <b>University of Delaware</b> , Teaching Assistant<br><i>Undergraduate Level Courses (2019-2022)</i> | Aug. 2019 – Dec. 2022 |
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**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)**

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|---------------------------------------|-----------|
| Global Capitalism and the Environment | Fall 2021 |
|---------------------------------------|-----------|

**Environmental Sustainability: Political and Economic Analysis (ENEP410)**

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|--|-----------|
| Global Financing: Climate Change and the Least Developed Countries | Fall 2019 |
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## RELEVANT WORK EXPERIENCE

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|---|-----------------------|
| <b>Korea Marine Environment Management Corporation</b><br>International Affairs Specialist, <i>International Cooperation Team</i>   | Jun. 2018 – Sep. 2018 |
| <b>United Nations Environment Program (UNEP)</b><br>Intern, <i>Green Growth Knowledge Platform</i>  | Mar. 2017-Aug. 2017   |
| <b>United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)-<br/>East and North-East Asia Office (ENEA)</b><br>Intern, <i>Environmental Affairs</i> | Sep. 2016 – Feb. 2017 |

## SERVICE ACTIVITIES

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### *Journal Review*

**Policy Studies Journal (PSJ)**, 2023

### *Conference Service*

**APPAM Data Science Community**, Steering Committee Member, 2023-2024

### *Department and University Service*

**UD Climate Change Hub**, Climate Fellows, 2023-2024

**UD Computational Social Science Association**, Acting President, 2022-2023

**UD Data Science Institute**, Graduate Fellow, 2021-2023

**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*

**NAIOTH**, Research & Thesis Writing Training Program Mentor, 2023-Present

**Korean Youth Climate Change Network BIGWAVE**, Steering Committee Member, 2016-2019

## PROFESSIONAL & ACADEMIC AFFILIATIONS

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**Association for Public Policy Analysis and Management (APPAM)** Member, **Public Management Research Association (PMRA)** Member, **Urban Affairs Association (UAA)**, Member, **American Society for Public Administration (ASPA)** Member, **Association for Research on Nonprofit Organizations and Voluntary Action (ARNOVA)** Member, **American Planning Association (APA)** Member, **Society of Policy Scientists** Member

## LANGUAGES

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**Korean** (Native), **English** (Proficient), **French**, **Chinese** (Beginner)

## COMPUTER SKILLS

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*Python (Main)*, R, LaTeX, STATA, SPSS, ArcGIS