Additional Information on the Energy Systems Modeling Field

Those who wish to specialize in the Energy Systems Modeling Field will be assigned to the laboratory of Professor Yuji Matsuo at Graduate School of Asia Pacific Studies, Ritsumeikan Asia Pacific University. Information about Professor Matsuo's laboratory is provided below.

Who should apply to this laboratory?

We welcome students who wish to deepen their understanding of various societal challenges, including environmental, resource, and energy issues, from both scientific and social science perspectives, and contribute to addressing these challenges toward the realization of a sustainable society.

In particular, we seek students who are interested in issues such as climate change, energy transitions, resource circulation, and environmental conservation, and who wish to analyze the social, economic, and institutional factors underlying these issues, as well as explore policies and practical solutions to achieve sustainability.

While we have accepted many students conducting mathematical modeling and analysis of energy and power systems, we also support a wide range of quantitative and qualitative research related to the issues mentioned above.

How Will Students Be Supervised and Mentored?

Taking into account each student's research interests and academic background, we aim to develop their ability to formulate appropriate research questions related to sustainability and explore solutions through scientific and logical analysis.

Depending on their research topics, students will develop the ability to comprehensively evaluate various social and environmental aspects using quantitative and qualitative analytical methods.

Research supervision is primarily conducted through seminars led by academic supervisors, where students engage in the entire research process, including literature reviews, formulation of research questions and hypotheses, selection of appropriate research methods, data collection and analysis, numerical modeling and simulation where necessary, and interpretation and dissemination of research findings.

Examples of Research Topics

- Optimization of Energy Mix for Reliable and Sustainable Power in Indonesia's New Capital by 2045
- Assessing Impact of Power Development Plan VIII (PDP8) and Carbon Pricing on Vietnam Power Sector for Period 2025-2050
- Socio-Technical Determinants of Commercial and Industrial (C & I) Solar Scalability in Weak Grid Environments: Evidence from Nigeria with Insights from Japan