

## SEI Asia theme: energy futures



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Energy demand in Asia is expected to increase significantly over the next few decades as economies grow, populations rise and urbanization continues. Some of this increasing demand will be met through continued use of fossil fuels. This business-as-usual approach, however, is unsustainable. Communities in Asia are becoming wary of energy development that increases air pollution, landscape destruction and livelihood disruption. A more progressive approach to energy is needed, with a policy range supporting a diversity of technologies and allowing diverse modes of energy provision. This will require building new skills and capabilities, ensuring systems are adaptable, and encouraging the formation of innovative and responsive electricity supply companies.

SEI Asia's Energy work supports decision makers at all levels in the energy production and supply chain. We focus on providing research tailored to their concerns and on building their capacity to foster a just transition to low-carbon energy systems; one that ensures adequate, reliable, and affordable energy services are available to all. Our work contributes directly to UN Sustainable Development Goal (SDG) 7 calling for affordable and clean energy and it enhances knowledge on how SDG7 relates to achieving a range of other SDGs.

### Areas of work and projects

SEI Asia's Energy work provides evidence, supports dialogue and enhances capacity for alternative energy development through our Long-range Energy Alternatives Planning (LEAP) scenario modelling, political economy and ecology analysis, and socio-technical approaches to innovation systems thinking. We focus on research, policy engagement and capacity development in three areas:

#### 1. Informing and influencing energy planning and governance

- **Transport air pollution scenarios in Thailand:** As part of SEI's Low Emissions Development Pathways (LED-P) initiative, we use SEI's LEAP scenario modelling tool in partnering with Thailand's Pollution Control Department to explore the health and climate impacts of different strategies to reduce transport-related air pollution in Thailand.
- **Energy financing risks in Southeast Asia:** Under SEI's Initiative on Global Finance, we are investigating how energy investors view climate risks associated with Southeast Asia's power sector and financial risks of potential stranded assets.
- **Energy infrastructure development under China's Belt and Road initiative:** This work proposes a participatory approach to mitigating potential adverse social and environmental consequences of energy infrastructure investments in Southeast Asia under China's Belt and Road initiative.

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## 2. Fostering innovation and diffusion of low-carbon energy technologies

- **Scaling-up bioenergy in Indonesia:** As part of the EU Horizon 2020 project on “Transition pathways and risk analysis for climate change mitigation and adaptation strategies” (TRANSrisk), SEI is leading a case study on risks and uncertainties around bioenergy pathways in Indonesia.
- **Cookstove health messaging in Cambodia:** Using Cambodia as a case study, this work sought to generate new knowledge in regard to effective health messaging on cookstoves and how such messaging might interact with other drivers of cookstove and alternative-fuel adoption.

## 3. Exploring interactions between energy and economy, environment and society

- **Mining closure and societal change:** Under SEI’s Initiative on Fossil Fuels and Climate Change, we are seeking to understand social, economic and political responses to the decline of extractive industries by drawing on global experiences.
- **Gender equality in the renewable energy sector:** This work explored the business case for achieving gender equality in the renewable energy sector, using a case study on Myanmar.