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The South Asia Group for Energy

South Asia is transforming how the region's energy systems can meet growing demand while responding to the impacts of climate change. Adoption of advanced energy solutions and state-of-the-art planning will be key to enabling South Asia's successful energy transition.

The **South Asia Group for Energy (SAGE)** is a consortium consisting of the U.S. Agency for International Development (USAID) and three U.S. Department of Energy national laboratories: Lawrence Berkeley National Laboratory (LBNL), National Renewable Energy Laboratory (NREL), and Pacific Northwest National Laboratory (PNNL).

Through SAGE, governments, public institutions, and private sector partners in South Asia can access best-in-class energy expertise from U.S. national labs to support long-term planning and strategic development and receive consultation on complex energy challenges.

SAGE activities are designed to support South Asia's clean energy transitions and climate resilience through the following objectives:

- Improving energy and climate planning, policy, and regulations
- Enhancing knowledge and adoption of new and evolving technologies
- Strengthening technical institutions across India and South Asia.

Learn more and explore SAGE resources by visiting www.sarepenergy.net/sage.

Solutions To Transform South Asia's Energy Sector

Regional analysis and energy modeling: SAGE conducts modeling and analysis to understand the extent of climate impacts on South Asia's electricity load and generation and support South Asia chart its path to decarbonization, resilient power systems, and achieving the region's climate and clean energy targets.

Knowledge creation on emerging themes: SAGE leverages current and prior research to develop knowledge products, such as technical reports and white papers, that educate key stakeholders on the importance and relevance of emerging energy sector topics.

Strengthened national institutions: SAGE reinforces institutional and human capacity in South Asia through collaborative research, partnerships, and training on how to integrate results into relevant decision-making processes.

Support to U.S.-India Sustainable Growth Pillar: SAGE is working side-by-side with NITI Aayog and other institutions in India to expand energy data, connect energy modeling to policymaking through the India Climate and Energy Modeling Forum, and enhance understanding of key development topics, such as just coal transitions.

Research Focus of Climate Change Impacts on South Asia



SAGE research focuses on better understanding the impacts of climate change on grid infrastructure, human behavior, and renewable energy generation in South Asia.

SAGE 1.0 Program Impacts

During the first phase of SAGE, the labs collaborated with the Ministry of New and Renewable Energy and its technical institutions, the National Institute of Wind Energy (NIWE) and the National Institute of Bio-Energy (NIBE), on several key pieces of analysis.

Renewable energy forecasting: NREL and NIWE partnered to advance NIWE's renewable energy forecasting capabilities by implementing a model for predicting solar radiation to improve dispatch capabilities for utility-scale solar plants. This project enables higher solar penetration in South Asia because improved forecasting reduces the cost of operational electricity generation by reducing reserve requirements.

Sustainable farming: PNNL and NIBE evaluated the impact on air pollution of changes in agricultural waste burning, estimated water use and savings potentials from improved irrigation practices, and assessed changes in food prices based on crop yields and competition

between biomass and food crops. These insights support policy and business decisions on biomass deployment by identifying cost-benefits associated with increased sustainable farming practices and environmental impacts of addressing agricultural waste burning.

Cookstove emission standards: LBNL and NIBE worked together on improving and certifying their biomass cookstoves testing laboratory. This comprehensive initiative supports market development for high-performance and low-emission biomass cookstoves by enabling stove testing of high quality and reliability, and in turn will improve human health outcomes for the millions of people in India who cook their meals on biomass cookstoves.

An integral aspect of the collaborations with these national institutions includes technical insights through research and capacity building between the teams.

Partner With SAGE

SAGE can work with USAID Missions and other country stakeholders to identify solutions, experts, and work programs that fit their unique needs and priorities. Submit questions or expressions of interest to:

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