



**Asia-Pacific
Economic Cooperation**

- Peer Review on Low-Carbon Energy Policies (PRLCE) Phase 5 (EWG 02 2023S)

Background

The PRLCE was a response to the Energy Ministers' instruction from their meeting in Fukui, Japan, in 2010 to explore mechanisms to encourage APEC economies to set individual goals and action plans for introducing low-emission power sources, building upon the success of the Peer Review of Energy Efficiency (PREE) with assistance from APERC and relevant technology expert groups"

Modelled on the successful PREE, PRLCE was designed to assist volunteer economies in developing policies that support energy security and environmental protection by promoting low-carbon energy supply (e.g. renewable energies).

Peru volunteered to undertake the seventh PRLCE and one of the first in-person activities of APERC following the COVID-19 pandemic in 2020. The last PRLCE was conducted in Papua New Guinea in 2017.

Objectives

The PRLCE seek to:

- Share experiences and knowledge among APEC economies regarding their strategies, measures and roadmaps for promoting low-emission power sources, and how the government can accelerate their implementations.
- Explore how government can create effective and efficient low-carbon/low-emission energy policies and formulate action plans to achieve the goals, given the diversity and circumstances of individual member economies.
- Identify effective policies to encourage technological innovations and promote large-scale commercialisation.
- Provide recommendations on how the implementation of action plans could be improved with a view to achieving the goals and overcoming impediments in the current plan.
- Explore ways that cooperative efforts among the APEC economies could assist in achieving these objectives.

Main contents

Peru is committed to promoting Low-Carbon Energy, which is reflected in its Nationally Determined Contributions (NDCs). These contributions aim to comply with the agreements and decisions of COP 19, which were ratified during COP 20.

Energy policies are in place that establish the government legal framework, with emphasis on promoting and protecting private investment, minimising social and environmental impacts and encouraging energy markets. The sector also promotes energy efficiency and the development of renewable energies at local, regional, and government levels. The Peruvian energy sector operates within a specific institutional framework that includes various government bodies, regulatory entities, and organisations responsible for overseeing and managing different aspects of the energy industry.

Peru has initiated a movement towards a liberalised energy sector, introducing market-oriented reforms to promote competition, attract private investment, and enhance efficiency in its energy industry. Peru has liquified natural gas (LNG) and renewable energy potentials

that can be exploited. The economy used the renewable energy auction as the mechanism for developing renewable energy projects to diversify the energy fuel mix of the power sector. These auctions involved competitive bidding processes where renewable energy developers submit proposals to supply a certain amount of electricity generated from renewable sources to the grid. Almost all renewable energy projects that are operating in the domestic electricity grid by mid-2023 were developed using this mechanism. In recent years, new projects, such as solar and wind power plants, have been developed independently from these auctions, mostly related to some energy demand projects such as mining.

The economy has made quite a number of significant achievements in improving its low-carbon energy policies. During the peer review, the experts made recommendations that will further help the economy achieve its low-carbon energy goals. Among them were as follows:

- Establish a formal platform for discussing low-carbon energy policy among all the stakeholders of the energy sector. Periodical workshops or seminars, publications of special studies, social media and other tools can be used to disseminate information and promote discussion.
- Enhancing monitoring and evaluation of the implementation of low-carbon energy policies. Inadequate monitoring and evaluation mechanisms make it difficult to assess the impact of renewable energy policies accurately. There is a lack of data on solar water heater deployment, off-grid renewable energy, cogeneration, and distributed generation.
- Identifying the sectors, processes, and actions that could contribute most to reach a low-carbon economy in Peru, to understand the challenge and implications of the NDC goals.
- Because the production of hydrogen is promising in Peru, it is recommended that hydrogen production and market offtakes (customers) be collocated initially.
- Invest in energy storage technologies, such as advanced batteries, to store excess energy during peak production times and release it during periods of low production. This approach would help mitigate the impact of intermittency and contribute to a more stable energy grid. This initiative requires updating the relevant regulatory framework of the electricity market accordingly.
- In relation to Peru's plans to increase low-carbon transportation, consider a long-term plan for transportation decarbonisation including a target of reducing greenhouse gas emissions over time.
- Consider reviewing the current tariff structures and regulatory frameworks to incentivise the injection of surplus energy from distributed renewable energy into the grid. The current regulatory framework should be revisited to ensure the sustainability of distributed generation integration.

Conclusions for APEC

The peer review was generally a useful tool for assessing the economy's low-carbon energy policies. The comments and recommendations given were welcomed by the Peruvian stakeholders, especially since they came from the points of view of peers outside their government. The remaining task now is how to implement the recommendations drawn from the review in developing low-carbon energy policies.

Based upon PRLCE's experience, APERC plans to continue helping member economies in enhancing policy capacities on new and renewable energy by conducting capability-building workshops in cooperation with EGNRET.