

PCREEE Elevator Pitch

High-level Luncheon Event “Mission Transforming Island Lives! The Network of Regional Sustainable Energy Centres for Small Island Developing States”



Organization:



Pacific Centre for Renewable Energy and Energy Efficiency

SE4ALL Centre of Excellence to Promote Sustainable Energy Markets, Industries and Innovation

The Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) was inaugurated on 26 April 2017 in Nuku'alofa, Tonga, at the margins of the Third Pacific Regional Energy and Transport Ministers' Meeting. The center works towards integrated and inclusive markets for sustainable energy products and services by promoting economies of scale and equal progress between countries through regional exchange, tools and methodologies. PCREEE has a strong private sector mandate and promotes activities with high relevance for domestic businesses, entrepreneurs and industry. PCREEE is co-hosted by the Pacific Community (SPC) and the Government of Tonga and operates under the umbrella of the two coordinating mechanisms for the Framework for Action on Energy Security in the Pacific (FAES) – the Pacific Energy Oversight Group (PEOG) and the Pacific Energy Advisory Group (PEAG). PCREEE receives technical support by UNIDO under the umbrella of the Global Network of Regional Sustainable Energy Centers (GN-SEC) and financial assistance by the Governments of Austria, Norway and Republic of Korea.

Electric Mobility (E-Mobility) Policy and Program for the Pacific Island Countries and Territories (PICTs)

Challenges to be addressed

As small and remote economies, Pacific Island Countries and Territories (PICTs) share many similar challenges. They have limited natural resources. Their economies lack diversification and they suffer disproportionately from large distance to major markets. The dependence on imported fossil fuels contributes to their difficult fiscal situation and leads to high energy costs for families and key island industries. Following the diesel track implies, less jobs, less opportunities for the youth and less resources to adapt to climate change. A rapid transformation towards renewable energy and energy efficiency is required. In this context, the Third Pacific Regional Energy and Transport Ministers' Meeting adopted a 100% renewable energy vision. Renewable energy based e-mobility concepts can play an important role to reduce fossil fuel dependency in the transport sector.

The global electric vehicle (EV) market is growing exponentially. In 2017, the global stock of electric cars surpassed 3 million vehicles. Around 40% of the global electric car fleet is in China, while the European Union and the United States each accounted for about a quarter of the global total. Electric cars accounted for 39% of new car sales in Norway in 2017. Electrification of other transport modes is also developing

quickly, especially for 2-wheelers and buses. In 2017, sales of electric buses were about 100.000 and sales of two-wheelers are estimated at 30 million (both mostly in China).

By considering the changing policy environment for Internal Combustion Engine Vehicles (ICEVs) and the pace of EV cost reductions (CAPEX) due to dropping lithium battery prices, experts expect the standard electric car to reach cost parity by 2021 in Europe and China. It is projected that by 2040, 35% of new car sales globally and 25% of the world's car fleet will be electric cars. If based on locally available renewable energy sources, e-mobility offers an opportunity to decrease fossil fuel imports and spending (contributes to energy security), to enhance transport affordability (due to lower OPEX of EVs), to localize parts of the transport value chain and to reduce air, noise and GHG emissions.

However, currently the e-mobility market in PICTs remains underdeveloped. Due to the complexities in the power and transport sectors, e-mobility faces manifold barriers on the demand (consumer) and supply(ier) side. Some of these barriers origin from policy and regulation (e.g. fossil fuel subsidies, high duties/taxes on car imports), lack of monetary and non-monetary incentives, weak coherence and integrated planning in the transport and power sectors, technical limitations (e.g. grid stability), lack of knowledge and data, qualification gaps, lack of access to EVs and technology innovations, economic and financial constraints (e.g. CAPEX of EVs and charging infrastructure), lack of financial/insurance products and business models.

Currently, most national energy, climate and industrial development policies of PICTs do not include targets and support modalities for renewable energy based e-mobility concepts. Moreover, most utilities do not consider e-mobility in their demand projections and renewable energy integration plans. An integrated approach that promotes the simultaneous expansion of renewable energy power generation, e-mobility and electrical storage is required. Currently, the efforts of PICTs to introduce e-mobility solutions are fragmented, hardly integrated and none-inclusive.

Project Objectives, outcomes/outputs, budget and key partners

The Fourth Pacific Regional Energy and Transport Ministers' Meeting, held from 18 to 20 September 2019, in Apia, Samoa, requested SPC/PCREEE, the United Nations Industrial Development Organization (UNIDO) and SIDSDOCK to assist Pacific Island Countries and Territories (PICTs) in the development of a regional electric mobility (e-mobility) policy and program and to promote SIDS-SIDS cooperation and exchange on e-mobility and renewable energy power systems under the umbrella of the Global Network of Regional Sustainable Energy Centres (GN-SEC).

An integrated approach that promotes the expansion of renewable energy power generation, e-mobility and electrical storage simultaneously can have mutual benefits and mark a paradigm shift in the power and transport sectors of PICTs. A harmonized regional approach can help to address existing barriers more effectively and at lower cost. It can promote equal progress and standards between countries and create the needed economies of scale to influence international vehicle supply chains and investments in charging infrastructure and e-mobility based business models.



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The regional policy will outline the short-term and long-term vision of PICTs with regard to integrated e-mobility and renewable energy power markets. The policy will contribute to the 100% renewable energy vision of the region and reconfirm the “climate leadership” of PICTs also in the land transport sector. It will propose regional e-mobility targets by 2030 and 2050 and include a regional implementation and monitoring framework with concrete priority actions. The policy will address the nexus between the Framework for Action on Energy Security in the Pacific (FAESP), the Framework of Action on Transport Services (FATS), as well as the Framework for Resilient Development in the Pacific (FRDP).

The PCREEE e-mobility program will address existing barriers through targeted regional actions in the areas of policy and regulation, knowledge management and awareness, qualification and certification, demonstration of technology and business models, as well as the promotion of investment, entrepreneurship and innovation. The program will be closely linked to international e-mobility initiatives operating under the Paris Declaration on Electro-Mobility and Climate Change (e.g. Clean Energy Ministerial IEA EVI Initiative, UN Environment’s E-Mobility Program). The program will include south-south and triangular cooperation with other SIDS regions and pioneering e-mobility countries (e.g. China, Norway, US, individual EU countries) within the Global Network of Regional Sustainable Energy Centers (GN-SEC). Currently, CCREEE and ECREEE are involved in similar e-mobility initiatives.

The PCREEE e-mobility program has an estimated grant budget of EUR 5 million and will leverage significant investment and finance from the private sector, development and commercial banks.

Expected transformative impact

Renewable energy based e-mobility solutions have the potential to transform island lives. If based on locally available renewable energy sources, e-mobility offers an opportunity to decrease fossil fuel imports and spending (contributes to energy security), to enhance transport affordability (due to lower OPEX of EVs), to localize parts of the transport value chain and to reduce air, noise and GHG emissions. Limited driving distances, high fossil fuel (import) costs, significant renewable energy potential, and the need for grid storage solutions make PICTs, an interesting place to invest in e-mobility concepts. E-mobility can represent a paradigm shift in PICTs if the technical characteristics and regulatory frameworks of the transport and power sectors are smartly integrated. This requires strong cooperation between the key stakeholders in the power and transport sectors. Combined with digital innovations (e.g. internet of things) and the shift of vehicle ownership to shared modalities, e-mobility concepts open up opportunities for new business models, such as vehicle-to-grid (V2G) and grid-to-vehicle (G2V), in the long-term.

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