

# Asia LEDSPartnership Forum 2021

## Advancing NDC Implementation and Strengthening Long-Term Strategies

23 August - 09 September 2021 | Virtual Event

# PROCEEDINGS



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## List of Abbreviations

ADB	Asian Development Bank
ADR	Autonomous Delivery Robot
AGC	Automatic Generation Control
AIIB	Asian Infrastructure Investment Bank
ALP	Asia Low Emission Development Strategies
ALU	Agriculture and Land Use Greenhouse Gas Inventory Software
BESS	Battery Energy Storage Systems
BMU	The Federal Ministry of the Environment, Nature Conservation and Nuclear Safety, Germany
BRPL	BSES Rajdhani Power Limited
BTR	Biennial Transparency Report
BURs	Biennial Update Reports
CAID	Climate Action and Inclusive Development Unit, GGGI
CCFLA	Cities Climate Finance Leadership Alliance
CDM	Clean Development Mechanism
CO <sub>2</sub> eq	Carbon dioxide Equivalent
CoP	Community of Practice
COP	Conference of the Parties
DERs	Distributed Energy Resources
DFIs	Development Finance Institutions
DMDP	Dhaka Metropolitan Development Plan
DPV	Distributed Photovoltaics
EPA	Environmental Protection Agency, United States
ETF	Enhanced Transparency Framework
EV	Electric Vehicles
FAME	Faster Adoption and Manufacturing of Hybrid and Electric vehicle
FAO	Food and Agriculture Organisation
FELICITY	Financing Energy for Low Carbon Investment – Cities Advisory Facility
FWG	Finance Working Group
GACMO	Greenhouse Gas Abatement Cost Model
GCoM	Global Covenant of Mayors
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
G-PST	Global Power System Transformation Consortium
GREAT	Green, Resilient, Efficient, Accessible, Thriving principles
GSP	Global Support Programme
GW	Gigawatt
HNEI	Hawai'i Natural Energy Institute

ICAT	Initiative for Climate Action Transparency
ICCCAD	International Centre for Climate Change and Development
ICE	Internal Combustion Engine
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
ITDP	Institute for Transportation and Development Policy
ITS	Intelligent Transport System
KECO	Korea Environment Corporation
LEDS	Low Emission Development Strategies
LEDS GP	LEDS Global Partnership
LRG	Local and Regional Governments
LT-LEDS	Long-term Low Emissions Development Strategies
LTS	Long-Term Strategy
MDBs	Multilateral Development Banks
MPGs	Modalities, Procedures And Guidelines
MRV	Measurement, Reporting and Verification
MW	Megawatt
MWp	Megawatts-peak
NAP	National Action Plan
NDCTIA	Nationally Determined Contributions - Transport Initiative for Asia (GIZ)
NDC	Nationally Determined Contribution
NREL	National Renewable Energy Laboratory
PATPA	Partnership on Transparency in the Paris Agreement
PLN	Perusahaan Listrik Negara, Indonesia
PPP	Public Private Partnership
PV	Photovoltaic
RAACE	Regional Accelerator for Agriculture, Climate and Energy
RE	Renewable Energy
SDG	Sustainable Development Goals
SFOC	Solutions for Our Climate
SLOCAT	Partnership on Sustainable, Low Carbon Transport
TAP	Transformative Actions Program
TUMI	Transformative Urban Mobility Initiative
UITP	Union Internationale des Transports Publics
UN	United Nations
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
VRE	Variable Renewable Energy
WHO	World Health Organization
WRI	World Resources Institute

# Program Structure

TIME	MONDAY 23 AUG 2021	TIME	TUESDAY 24 AUG 2021
16:30 – 18:30 (New Delhi) 18:00 – 20:00 (Bangkok) 20:00 – 22:00 (Seoul, Tokyo)	<b>Inaugural ceremony</b> <b>Plenary 1: Ambitious Long-Term Low Emission Development Strategies (LT-LEDS) and transformational vision</b>	13:00 – 14:30 (New Delhi) 14:30 – 16:00 (Bangkok) 16:30 – 18:00 (Seoul, Tokyo)	<b>Plenary 2: Long-term strategies for raising NDC ambition</b>
<b>Language options</b>	<b>(EN; CHI; ID)</b>	<b>Language options</b>	<b>(EN; CHI; ID)</b>

TIME	WEDNESDAY 25 AUG 2021	THURSDAY 26 AUG 2021	TUESDAY 31 AUG 2021	THURSDAY 2 SEP 2021	TUESDAY 7 SEP 2021	WEDNESDAY 8 SEP 2021	THURSDAY 9 SEP 2021
09:30 – 11:00 (New Delhi) 11:00 – 12:30 (Bangkok) 13:00 – 14:30 (Seoul, Tokyo)	<b>A1: Energy</b> Global Power Sector Transformation (G-PST) and the role of system operators in clean energy transitions  (11:00 – 12:00 Bangkok)	<b>A3: Sub-national Integration</b> National governments' initiatives to support subnational climate actions	<b>B1: LT-LEDS</b> Long-Term Low Emission Development Strategies (LT-LEDS) and green recovery	<b>B3: Transport</b> Impact of the CoViD-19 pandemic on transport: strategies for recovery	<b>C1: Finance</b> Accelerating investments to support NDC implementation and low emission development	<b>C3: Transparency</b> The enhanced transparency framework: guidance for implementation	<b>Asia-Pacific's long term climate ambition: ALP's role and future action</b>
<b>Language options</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>

13:00 – 14:30 (New Delhi) 14:30 – 16:00 (Bangkok) 16:30 – 18:00 (Seoul, Tokyo)	<b>A2: Energy</b> Distributed Energy Resources (DERs) to support energy transition	<b>A4: Sub-national Integration</b> Fund mobilization for sub-national climate actions	<b>B2: LT-LEDS</b> Aligning NDCs and Long-Term Low Emission Development Strategies (LT-LEDS)	<b>B4: Transport</b> Enabling environment for electric mobility in public transport	<b>C2: Finance</b> Global carbon market instruments for achieving climate goals	<b>C4: Transparency</b> Institutional arrangements for robust transparency systems
<b>Language options</b>	<b>(EN; CHI; ID)</b>	<b>(EN; ID)</b>	<b>(EN; CHI; ID)</b>	<b>(EN; CHI; ID)</b>	<b>(EN; ID)</b>	<b>(EN; ID)</b>

## Overview

The Asia Low Emission Development Strategies (LEDS) Forum 2021 was organized from the 23rd of August to the 9th of September 2021, by the Asia LEDS Partnership (ALP) Secretariat and LEDS Global Partnership (LEDS GP), with support from the GIZ, BMU, NREL, and the United States Department of State. The Forum serves as the premier gathering of policymakers, donors, practitioners, and other experts involved in enabling low-emission, climate-resilient development in Asia.

A voluntary regional network, the ALP aims to advance the development of country-led and country-specific strategic plans to promote economic growth, while reducing greenhouse gas emissions without causing trade-offs with other environmental pressures. Today, the ALP is Asia's premier voluntary regional network, comprising organizations and individuals working to advance and implement low-carbon, climate-resilient development. At present, it has 1,275 members (423 member organizations and 852 individual members). The ALP Secretariat is hosted by ICLEI South Asia along with ICLEI Southeast Asia, ICLEI East Asia and ICLEI Kaohsiung Capacity Center (ICLEI KCC). ICLEI is the world's leading network of over 2,500 cities, towns and regions committed to building a sustainable future.

The first ALP Forum was held in Bangkok, Thailand, in 2012 to enhance regional coordination on LEDS and green growth, identify priorities for promoting regional capacity-building and knowledge-sharing, and establish the ALP.

More than 1,600 participants from 53 countries attended 15 virtual sessions at the ALP Forum 2021, which covered critical issues related to energy, sub-national integration, long-term low emission development strategies, transport, climate finance, and transparency. The expert speakers represented ministries and departments from different countries, academia, and international organizations such as USAID, UNDP, UNFCCC, UNESCAP, and WRI, as well as GIZ, IFC, ADB, AIIB, and GGGI, among others.

The nine-day forum included several thematic and interactive sessions designed to foster peer-learning and exchange between Asian and international officials and experts. Expert panel discussions focused on the level of ambition within the NDCs to achieve the below 1.5°C goal of the Paris Agreement, the successes, challenges, and needs of countries in Asia, and themes such as renewable energy, electric vehicles, blended finance, carbon pricing, climate action by sub-national governments, LT-LEDS, multilevel governance and enabling frameworks for LEDS implementation, and strengthening of regulatory frameworks.



## Key Messages

- ✦ The enabling factors for achieving net-zero emissions by 2050 are mainstreaming climate change into laws and policy; allocation of financial resources; horizontal and vertical coordination mechanism and monitoring capacity; and gender mainstreaming under each category.
- ✦ Power system operators are leading agencies for implementing power system transformation, can attract investments, influence policymakers, and have an emerging role in cross-sector electrification.
- ✦ Support power system operators in fast-tracking the adoption of approaches, tools and technologies to accelerate the transition to clean energy.
- ✦ Build road maps for DERs with new policies and regulations, updated delivery and financing models, re-imagined institutional frameworks, enhanced capacity building, and increased technology adaptation.
- ✦ Build multi-level governance with clear mandates for each level; a policy framework to enable action; and understanding of finance needs and vertical integration to track progress on climate action and to attract finance.
- ✦ Local and regional governments need bankable projects, knowledge and tool products, and increased recognition as leaders of climate actions.
- ✦ Capacity building of local governments in terms of technology procurement, financial and resource planning is required.
- ✦ Successful alignment of NDCs and LT-LEDS, including mainstreaming of gender, can ensure better use of available resources.
- ✦ Long term social development needs should be aligned with climate action needs.
- ✦ LT-LEDS can help development of NDC road maps or action plans that embed climate change in national policymaking processes, operationalize activities to reduce emissions and increase resilience, and help identify projects and financing needs.
- ✦ Development partners need to create a long-term platform for stakeholder engagement, capacity building and successful LT-LEDS preparation and implementation, perhaps with the active involvement of National Designated Authorities and Direct Access Entities.
- ✦ The Avoid-Shift-Improve strategy could help recovery in the transport sector by avoiding and reducing the need for motorised travel, shifting to sustainable modes and improving transport modes. 'Avoid' and 'Shift' strategies can account for 40%-60% of transport emission reductions at lower costs than 'Improve' strategies, which require technology integration.
- ✦ In the transport sector, promote renewable energy use; accelerate electrification; build charging infrastructure for EVs and a policy portfolio to accelerate transition through incentives, inclusive solutions, emission standards and phasing out of ICE vehicles.
- ✦ Accelerate private investment and develop bankable and climate-resilience focused pipeline projects.
- ✦ Private sector investment is essential to achieving enhanced NDCs as public sector spending alone cannot support the level of investment needed to achieve country goals and deep carbonization.

- 🌱 Greening the banks is important to accelerate the transition to clean energy and fight climate change.
- 🌱 While implementing a carbon pricing instrument, thought must be given to preventing disproportionate effects on vulnerable communities, addressing competitive concerns such as carbon leakage, and ensuring transformational change rather than incremental reductions.
- 🌱 Embed climate change in system transitions to help countries move away from high-carbon systems; invest in new technologies, markets and innovations.
- 🌱 The Enhanced Transparency Framework is the new extension of the existing MRV practices; the ICA (International Consultation and Analysis) process provides an essential learning opportunity for parties and stakeholders to better prepare for the ETF transition.
- 🌱 Robust institutional arrangements are key for enabling countries to provide reliable, comprehensive and regularly updated information that meets the enhanced reporting requirements.
- 🌱 These institutional arrangements need to be country specific. It is important to focus on the data flows, systems and tools, stakeholders and the decision makers who will implement the actions.

# Inaugural & Plenary 1

## Speakers:

**Mr. Emani Kumar**, Lead Director, Asia LEDES Partnership (ALP), Deputy Secretary General ICLEI and Executive Director, ICLEI South Asia

**Mr. Curt Garrigan**, ALP Co-Chair & Chief, Sustainable Urban Development Section, UNESCAP

**Ms. Caroline Uriarte**, Senior Program Manager, NREL

**Mr. Soumya Chaturvedula**, Deputy Director, ICLEI - South Asia

**Mr. Ian Lloyd**, Senior Advisor for Clean Energy and Innovation Office of Global Change, Bureau of Oceans and International Environmental and Scientific Affairs (OES), US Department of State

**Mr. Till Tibbe**, Policy Officer, BMU

**Mr. Conor Barry**, Team Lead, Intergovernmental Negotiations Unit and NDC, LT-LEDS and Sectorial Support Unit, UNFCCC

**Ms. Aneta Nikolova**, Climate Action Theme Lead, UNESCAP

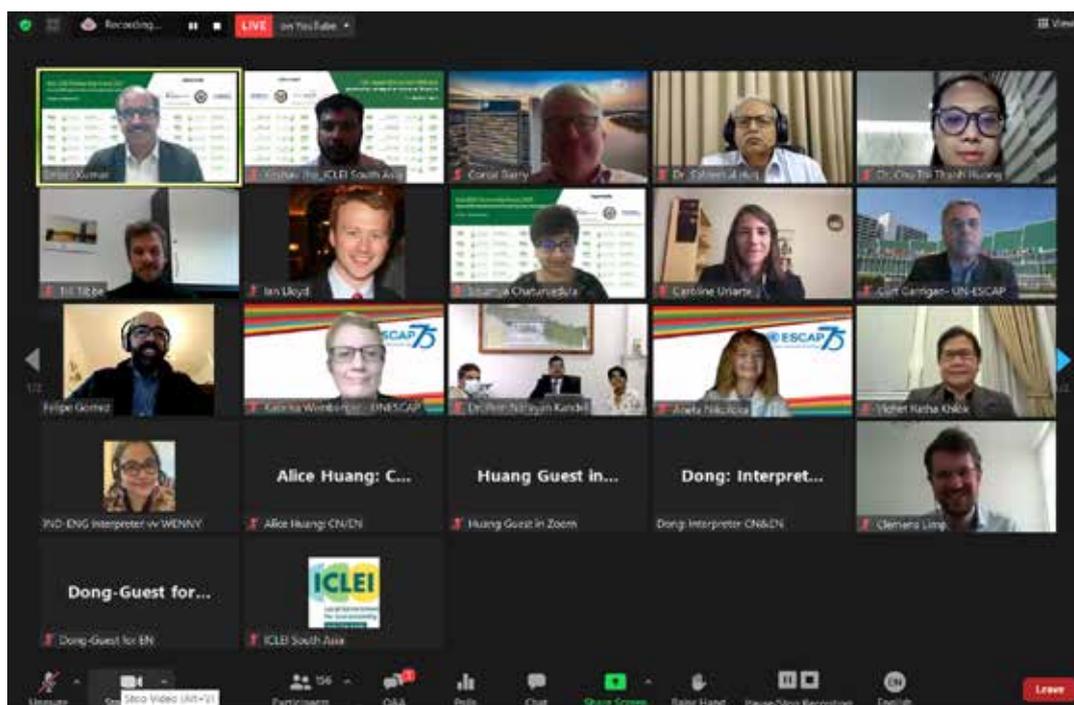
**Dr. Saleemul Huq**, Director, ICCCAD

**Ms. Anand Tsog**, Climate Change Policy Specialist, Climate Change Department, Ministry of Environment and Tourism, Mongolia

**Dr. Pem Narayan Kandel**, Secretary, Ministry of Forests and Environment, Nepal

**Dr. Chu Thi Thanh Huong**, Director, Science Technology and International Cooperation Division, Department of Climate Change, Ministry of Natural Resources and Environment, Government of Vietnam

**Ms. Vichet Ratha Khlok**, NDC Partnership In-country Facilitator, Ministry of Environment, Cambodia



## Ambitious Long-Term Low-Emission Development Strategies and Transformational Vision

The Asia LEADS Partnership (ALP) Forum 2021 commenced on August 23, 2021, with a virtual gathering of about 225 participants and an array of expert speakers. ICLEI South Asia Executive Director and Lead Director of the ALP Mr. Emani Kumar opened the session with a brief overview of the climate change situation in the Asia-Pacific region. He said that with climate change, compared to 2015, the GDP in the region could fall by 3.3 % by 2050, and emphasised that long-term strategies could play a key role in mitigating the climate impacts.

“Climate change is a continuous, rapid threat that cannot be ignored. Long-term strategies and their linkage with NDCs can play a key role in achieving the Paris Agreement goals and support just transition,” Mr. Kumar said.

Delivering the welcome remarks, ALP Co-chair and Chief, Sustainable Urban Development Section, UNESCAP, Mr. Curt Garrigan said that the convening of the forum was timely in the light of the recently released Intergovernmental Panel on Climate Change (IPCC) report, which reveals that the Nationally Determined Contributions (NDC) in the Asia-Pacific are falling seriously short in supporting the Paris Agreement goals. He said that a record 36.7 giga tons of CO<sub>2</sub> emissions were registered in the Asia-Pacific region in 2019. GHG emissions are projected to grow to 50 giga tons by 2060 globally. He gave brief overviews of the upcoming sessions of the ALP Forum and invited the audience’s active participation.

“While countries plan, cities implement. The Asian and Pacific region became majority urban in 2019 for the first time in human history. Multi-level climate governance, vertical integration and also horizontal integration are seen as critical to achieving national ambitions – countries are increasingly realizing the opportunities and benefits presented by planning for and implementing robust multi-level governance processes,” Mr. Garrigan said.

Ms. Caroline Uriarte and Ms. Soumya Chaturvedula gave brief overviews of the work of LEADS-GP and ALP, respectively; how they operate, their objectives, initiatives and projects, and invited the participants to join these forums.

Mr. Ian Lloyd spoke of the United States’ commitment to support developing countries to cut emissions and to achieve net-zero emissions. He mentioned that during the Leaders’ Summit on Climate, held in April, 2021, the US committed to reducing its emissions to 50% by 2030.



He said that the ambition to shift to clean mobility is evident in many Asian countries. The US DOS is especially committed to work with the countries and institutions engaged in the ALP to support the work of key high-ambition regional Communities of Practice (CoP). The DOS will also focus on scaling up the work of the Asia Grid Renewable Energy Community Practice, together with the Global Power System Transformation Consortium (G-PST) on technical and market solutions to enable power systems to manage high levels of variable renewable energy.

“The Asia LEDS Partnership Forum is an excellent opportunity for knowledge creation and exchange as well as peer-to-peer learning,” Mr. Lloyd said.

Mr. Till Tibbe said that long-term strategies, tools, investments and actors are important in combating climate change, and that we should realise the nexus between net-zero targets and the NDCs. He added that we need business, civil society initiatives, government policies, development of zero-emission technology and innovations. He added that knowledge sharing is crucial for implementing climate actions, such as knowledge of net-zero targets and NDCs, and learning from experiences, technologies and mistakes.

Mr. Conor Barry said that globally 120 national governments and over 760 local governments have joined the climate ambitions to show their commitments to achieve net-zero emissions by 2050. He highlighted that the Asian region is critical to the goals of the Paris Agreement, given that it emits more than half of the world’s GHG emissions and is the most rapidly developing region in the world. He said that the low-emission goals of countries should reflect their NDCs, adding that immediate actions such as decarbonisation, sustainable mobility, net-zero buildings and market preparedness are also crucial for policy implementation.

He added that the nations that have not yet submitted their NDCs still have an opportunity to submit ambitious targets prior to COP26.

“Climate change remains the greatest risk for this century – long-term strategies and NDCs by countries need to reflect climate urgency,” Mr. Barry said.

Ms. Aneta Nikolova presented the analysis from the IPCC report on global warming. The analysis says that if countries start contributing actively towards carbon neutrality and focus towards limiting global warming to 1.5 °C, net-zero emissions could be achieved by 2060 -70. She also presented different case scenarios for Asia-Pacific Regional GHG Emission Reductions, adding that with existing NDC pledges, we would not be able to achieve carbon neutrality by 2060.

She pointed out that China, India, the Russian Federation, Indonesia and Japan were amongst the top 10 emitters in 2019. She gave a brief overview of the NDC implementation in the Asia Pacific, adding that the enabling factors for achieving net-zero emissions by 2050 were mainstreaming climate change into laws and policy; allocation of financial resources; horizontal and vertical coordination mechanism and monitoring capacity; and gender mainstreaming under each category. She said that while countries appeared to be taking more action on climate finance, they needed to act on mainstreaming, transparency and coordination too.

Dr. Saleemul Huq said that we could still prevent the worst from happening in the long term with reference to climate change. He said that the NDCs should aim for keeping temperature below 1.5 °C and should be more ambitious; every dollar that is invested should keep climate change into account; and that companies that have profited from pollution should be held accountable.

“We can see the impacts of climate change every single day - forest fire and floods around the world. It is something that is happening, and it is going to get worse at least for the next 10-20 years,” Dr. Huq said.

In the panel discussion on country reports, Ms. Anand Tsog spoke about her country’s experience in defining its NDCs. She mentioned that Mongolia recently submitted an updated plan of NDC implementation and pledged a target of 22.7% of GHG reductions by 2030. She also said that the climate was rapidly changing in Mongolia; in the last eight years, the annual mean air temperature has increased by 2.25 °C, the annual precipitation has decreased by 7% and overall, 77 %of the territory is being impacted by the desertification. The NDC Action Plan will focus on seven sectors of energy, construction, transportation, IPPU, agriculture, waste and forest, she added.

Dr. Pem Narayan Kandel described the long-term policy formulation and NDCs in Nepal. He referred to a study that revealed that on average, 647 people died per year between 1971 and 2019 from climate disasters. He also added that Nepal would need to invest USD25 billion to implement the NDCs.

“Government of Nepal has submitted its second NDCs to the UNFCCC. The action plan focuses on sectors such as forest, energy, transport and e-cooking,” Dr. Kandel said.

Ms. Vichet Ratha Khlok spoke on mainstreaming gender considerations in climate change planning. “The Ministry of Environment is encouraging

women’s participation and working towards implementing gender-inclusive climate action plans for environment protection,” she said.

Ms. Khlok added that the Global Climate Risk Index (1999-2018) placed Cambodia as the 12th most vulnerable country in the world. In a vulnerability assessment (2019), 17.5% of Cambodia’s communes were found to be highly vulnerable. Cambodia has begun to develop its National Adaptation Plan.

Dr. Chu Thi Thanh Huong elaborated on mainstreaming NDC commitments, saying that Vietnam had submitted the updated NDCs in 2020. “Vietnam plans to reduce its total GHG emissions by about 7.3% by 2025, compared to BAU scenario and by about 9% by 2030,” she said.

## Plenary 2: Long-Term Strategies for Raising NDC Ambition

### Speakers

#### Moderator:

**Mr. Jens Radschinki**, *Regional Lead of Regional Collaboration Centre Bangkok (RCC), Bangkok*

#### Overview Presentation:

**Dr. Walter Reinhardt**, *Senior Economist – Pacific, Global Green Growth Institute (GGGI)*

#### Panelists:

**Dr. Joojin Kim**, *Managing Director and Founder, Solutions for Our Climate (SFOC)*

**Prof. YUN Sun-Jin**, *Co-Chairperson 2050 Carbon Neutrality Commission, Republic of Korea*

**Ms. Deepitika Chand**, *Senior Mitigation Officer, The Climate Change and International Cooperation Division (CCICD), Ministry of Economy, Fiji*

**Mr. Ryuzo Sugimoto**, *Director, International Cooperation and Sustainable Infrastructure Office, Global Environmental Bureau, Ministry of the Environment, Japan*

**Ms. Cynthia Maharani**, *Climate Research Analyst, WRI Indonesia*

The second plenary session of the ALP Forum 2021 focused on “Long-term strategies for raising NDC ambition”. The session was moderated by Mr. Jens Radschinski, who said, “The recent NDC synthesis report released by the UNFCCC estimates that the global GHG emissions in 2030 would be 1.5% lower than 2010 levels. However, climate science states that reduction up to 45% as compared to 2010 and net-zero by 2050 is required to meet the Paris Agreement goals of limiting ourselves to the 1.5°C temperature rise.”

Mr. Radschinski said that long-term climate goals need immediate strategies and NDCs and that there is no “one size fits all” solution.

Dr. Walter Reinhardt indicated the growing diversity of countries that are submitting LEDS to the UNFCCC. Of the 31 countries that have submitted LEDS as of August 2021, eight are from developing countries and four are Pacific Island nations. The maximum number of LEDS were submitted in 2020, i.e. 14.

Dr. Reinhardt spoke of the growing quality in LEDS such as alignment with government policies and processes, the ‘pushing on an open door’ phenomenon where governments are prioritising low-emission growth, better modelling, calculation of socio-economic benefits, recognition of gender disparities, linking of mitigation and adaptation, better implementation governance and mobilising of finance as well as more robust monitoring frameworks and their outcomes, among others.

The panel discussion that followed had representatives from four Asia-Pacific countries that have already submitted their LEDS. They spoke of the need for political will, lifestyle changes and for ensuring that all stakeholders are on board for the implementation of the LEDS to reach the net-zero goal.

Mr. Joojin Kim said that according to Climate Analytics, South Korea would reduce its emissions by 43% to 59% by 2030, over 2017 levels, and would be net zero by 2050. He pointed out the growing climate ambition in the Korean government, as reflected in the statements being made by different government functionaries and documents over the past few months. Mr. Kim spoke of the contentious issue of coal power plants, which contribute about 4% of the emissions. Six coal power plants are under construction, and assuming an operational period of 30 years for each, they would continue to operate beyond 2050, the target year for net zero.

“We are trying to help the government to find an easy way to deal with this issue,” he said. The compensation for closing a coal power plant would not be difficult, he said, as the fair market value of a plant was a lot lower than its construction cost. But the question was to find the money to expedite the retirement of the coal power plants, he pointed out.

Prof. Yun Sun-Jin spoke about Korea’s draft Carbon Neutrality Scenarios, which guide mid-term goals for achieving carbon neutrality and mid- and long-term energy plans. She said that there had been polarising reactions to the three scenarios prepared, adding that it was important for more citizens to discuss these issues. The first two scenarios do not meet the net zero goal, but the goal of all three is carbon neutrality. She said that if the use of fossil fuels and emissions continued, then the goal of net zero would not be achieved.

Prof. Sun-Jin highlighted that a greater momentum on the net-zero target would be next to impossible unless there was significant citizen consent on the subject. Hence, in the development of the 2050 Carbon Neutrality Scenarios, consultations with the Citizens’ Council for Carbon Neutrality were conducted, which included representatives from different stakeholder groups, with most prominent being youth representatives.

Raising a pertinent point, she said, “We should change our approach. The question should not be whether we can achieve net-zero emissions by 2050, but how we will achieve it.”

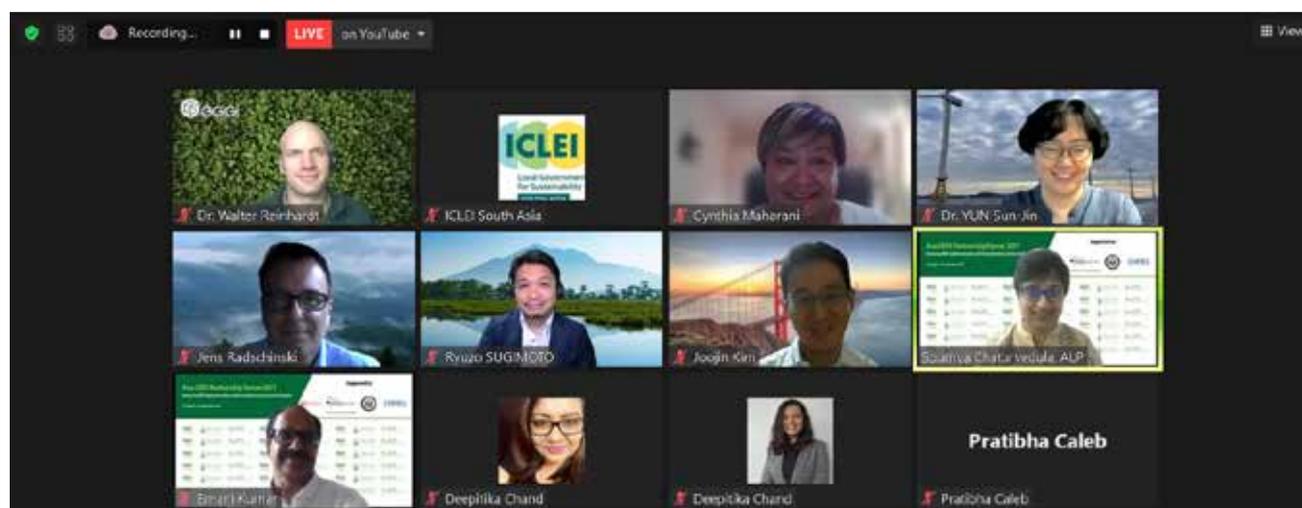
Mr. Ryuzo Sugimoto said that under Japan’s plan for global warming counter measures, solar and wind energy would be promoted. A change in the people’s mindset was crucial for achieving carbon neutrality in Japan, as 60% of the GHG emissions were due to household consumption. Japan’s Regional Decarbonization Roadmap aims to create at least 100 decarbonized regions by 2030, which could be replicated nationwide in a domino effect. Additional policy measures include local government action plans to set targets for implementation of measures and introduction of a certification system of regional decarbonisation to be implemented by municipalities.

Ms. Cynthia Maharani spoke about the inadequate climate ambitions of Indonesia, adding that the country had confirmed that it would not raise ambitions till 2025. Indonesia is expected to see a peaking of GHG emissions in 2030, reaching 540 million ton of CO<sub>2</sub> equivalent by 2050, with land use and forestry sector becoming net sink.

“We encourage the government to raise ambition by adopting low carbon development (high) to achieve net zero development,” she said. The problem was, she added, that there was a 60% finance gap for climate mitigation in Indonesia, following the pandemic. She said that a strong collaboration between horizontal and vertical levels in government was needed, in addition to clarity of sub-national government roles and bottom-up implementation pathways.

Ms. Deepitika Chand gave an overview of LEDS in Fiji, with four scenarios of increasing ambitions. The development of the LEDS strategy has brought some benefits, she said, such as outlining the importance of gender mainstreaming, creation of green jobs and ensuring low-carbon transition that does not impact Fiji’s unique ecosystems.

“Fiji has submitted to the UNFCCC its long-term strategy (LTS) titled Fiji Low Emission Development Strategy 2018-2050, across all economic sectors,” she said. She emphasised that it is a ‘living document’ that would be periodically updated to ensure validity, transparency and accuracy over time.



# A1: Energy – Global Power Sector Transformation (G-PST) and the Role of System Operators in Clean Energy Transitions

## Speakers

**Introduction to G-PST, critical role of system operators and their connections to policymakers:**

**Ms. Barbara O'Neil**, *Grid Integration Manager, NREL, US Department of Energy*

**Perusahaan Listrik Negara (PLN Indonesia) Renewable energy integration plans, challenges and collaboration with G-PST:**

**Mr. Suroso Isnandar**, *General Manager, Java Bali Grid Dispatching Centre, PLN – Indonesia State Electricity Company*

**Facilitator (Open Discussion):**

**Mr. Nikhil Kolvepatil**, *Senior Manager, ICLEI South Asia/ALP*

The first session on energy at the ALP Forum 2021 opened with a presentation by Ms. Barbara O'Neil on PST and the role of system operators. She said that the G-PST was set up because “we wanted a consortium of system operators and technical institutes” that focused on providing support to power system operators with advanced low-emission solutions and because technical and engineering knowledge is not being created or transferred to them at the speed and scale required to support the global energy transition.

The challenges in PST include perceived high costs, lack of institutional support, vested interests, and a perception that variable renewable energy (VRE) is unreliable. “We want the ability to include renewable energy in systems; this works by reinforcing political advocacy solutions, market, policy and regulatory solutions and also technical solutions,” Ms. O'Neil said. She added that system operators are important because “the buck stops with them to provide reliable and stable power”.

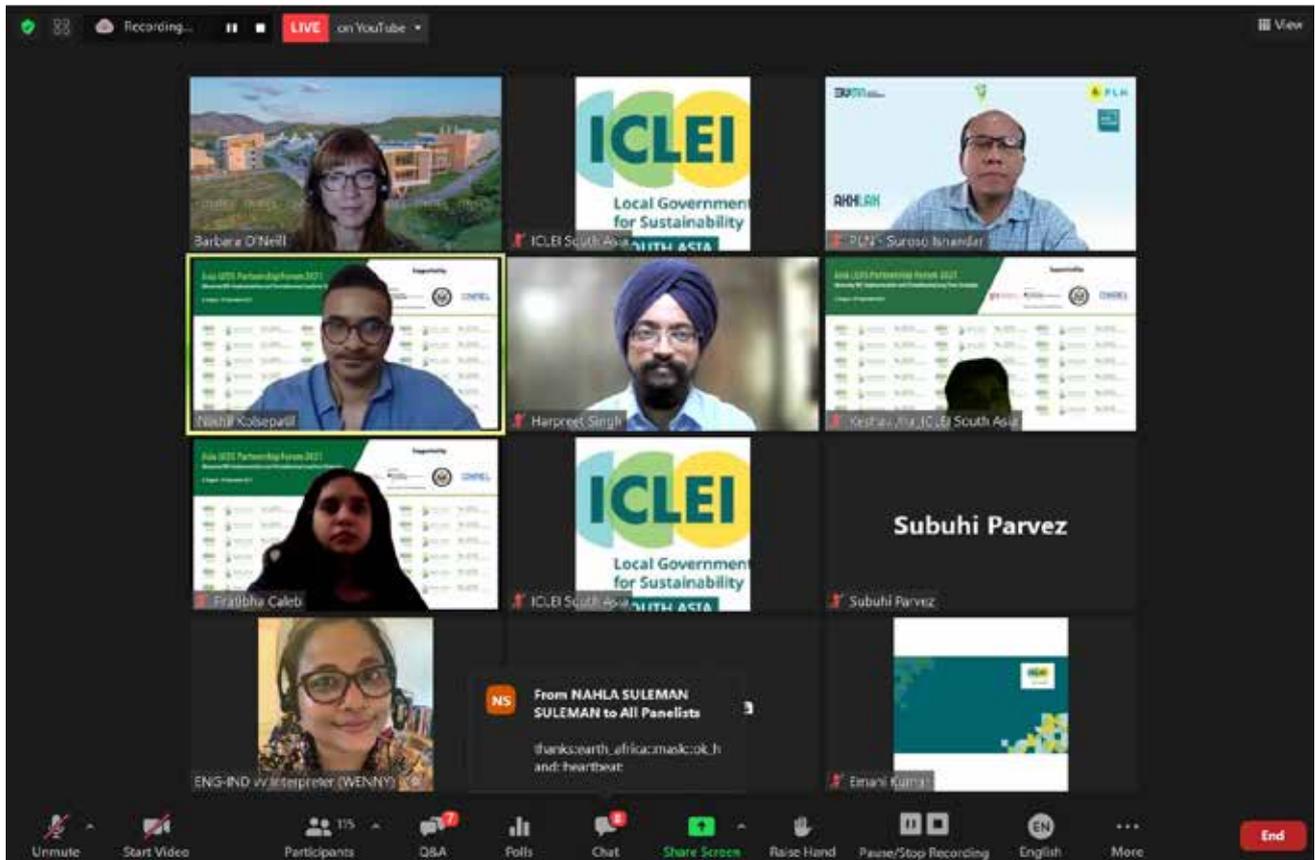
“Once we give them confidence to work with VRE, we can also attract private sector investment such as from domestic solar and wind power developers. Let's call on big money and governments to fund this and tell them that this is where the rubber meets the road,” she said.

The resulting change will bring research innovation, sharing of tools and knowledge and customized solutions. “The same standards cannot be applied everywhere; let's look for local solutions,” she pointed out. These will lead to impacts such as significant private investment in advanced power systems; reduced energy and delivery costs for consumers, and significant emissions reductions for the power sector. The G-PST advances action in five key areas: research and peer learning, technical assistance, workforce development, localized technology adoption support, and open data and tools.

Mr. Suroso Isnandar spoke on PLN's integration plans and challenges. Indonesia's total power generation capacity currently is 63 GW, with renewable energy capacity of 7.9 GW and energy mix of 13.02%; the country aims to increase these figures to 74 GW, 17 GW and 23%, respectively. Mr. Isnandar said the country has abundant power resources across its islands, in terms of hydropower and geothermal and other sources of energy. The 2021-30 period will see an additional 38.2 GW of power plants, majority of which would be of renewable energy. No new additional coal-based plant would be set up after 2022, except the ones already on contract. “Indonesia is targeting to close all coal-based power plants by 2060,” he said. To enhance energy efficiency, the country is switching from sub-critical to ultra-critical power plants. This can also control emissions; co-firing is also being introduced to further control emissions. Battery Energy Storage Systems (BESS) are also being built for controlling frequency regulations in the grid.

He mentioned the challenges of VRE penetration into the grid, such as output variability, intermittency in both demand and generation of power, ineffective grid code compliance, among others. He also gave an overview of how the Sulawesi and Java grids are trying to overcome these

challenges to adapt to renewable energy technologies and to optimize the potential of existing ones. “Optimizing the use of existing technologies (SCADA/EMS, Forecast system, AGC) will support greater VRE integration with the power grid,” he said.



## A2: Energy – Distributed Energy Resources (DERs) to Support Energy Transition

### Speakers

#### Moderator:

**Mr. Mark B. Glick**, *Specialist, Energy Policy and Innovation, HNEI*

#### Roadmap for Distributed Energy Resources (DERs):

**Mr. Santiago Enriquez-Soltero**, *Senior Environmental and Climate Change Specialist, Abt Associates*

#### Case Studies:

**Ms. Dana Kenney**, *Principal Associate, Clean Power Asia, Abt associates*

**Mr. Marc M. Matsuura**, *Senior Smart Grid Program Manager, HNEI*

**Mr. Abhishek Ranjan**, *VP & Head – Renewable & DSM Initiatives, BSES Rajdhani Power Ltd, New Delhi*

**Dr. Adarsh Nagarajan**, *Group Manager, Power System Design and Planning, NREL*

**Mr. Nikhil Kolvepatil**, *Senior Manager, ICLEI South Asia/ALP*

The second energy session focused on Distributed Energy Resources (DERs) to support energy transition. DERs are resources connected to the distribution system close to the electricity load, and include distributed photovoltaic solar, wind, combined heat and power, micro grids, micro turbines, storage technologies, and others. DERs have the potential to provide services to customers, distribution grids, and the electric system, but DER growth may present challenges.

Recommendations for creating a roadmap for DERs in developing countries and examples carried out in the Asian countries were presented during the session. Mr. Mark B. Glick, who moderated the session, discussed how DERs were increasingly becoming a source of lighting in rural areas. In his presentation, he mentioned that 940 million people are without energy access, and that the energy demand has risen 2.5 times since 1990.



He added that as a means of accelerating progress towards the SDG-7 goal of universal electricity, DERs required multiple actions and innovations. These include new policies and regulations, updated delivery and financing models, re-imagined institutional frameworks, enhanced capacity building, increased technology adaptation, and expanded cross sector-linkages.

“DERs are emerging as a critical part of energy transition. There is a new political momentum for energy transition as countries raise their climate ambitions,” Mr. Glick said.

Mr. Santiago Enriquez-Soltero spoke about the roadmaps of DERs. He started off by explaining some of the benefits of DERs, which include reducing costs, new

capital investments in centralized infrastructure, providing access to electricity in areas where traditional infrastructure would be prohibitively expensive, and potential for better service reliability and power quality. With DERs, there is increased energy security and improvement in the balance of trade for countries that rely on imported fuels for power generation, and there is increased reliance on RE resources that produce little or no air and water pollution and GHG emissions.

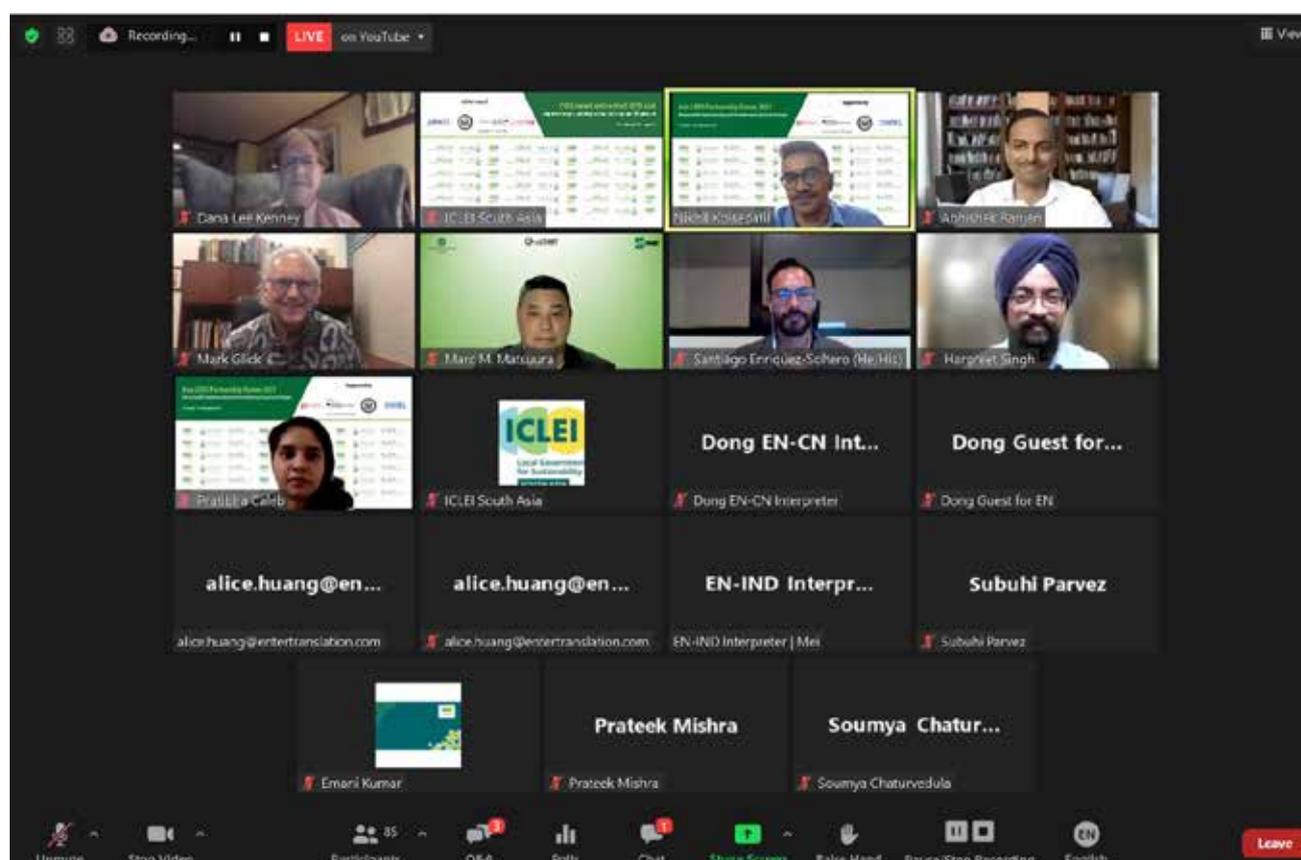
Mr. Enriquez-Soltero also shared some challenges of DERs. There is a risk of mismatch between supply and demand of electricity, changes to utility business models, increased complexity of grid operations, and data management and cyber security risks. He then explained that a DER roadmap is essentially a guidance document or action plan, which identifies national or sub-national goals, targets, and milestones for DERs. It is often used as a synonym for a plan, but may be less prescriptive on timelines for achieving targets, and may address all types of DER technologies or a limited subset.

The benefits of DER roadmaps are that they can be useful to government planners and regulators, utilities, grid operators and market operators in making improved decisions on DER investments and use. Further, they can help utilities develop consensus on objectives, targets, technologies and location-specific priorities and plans for procurement, financing and implementation of investments and programs. The road maps also represent the interests of diverse stakeholders in the planning stage, which can reduce regulatory delays and increase public and private investment and consensus for implementation.

Ms. Dana Kenney spoke about her organisation's initiatives, which are funded by USAID. The Clean Power Asia Program, which began in June 2016, focuses on grid connected RE, including DER, mainly in low-income countries and in South-east Asia. This includes high RE scenarios planning, improving policy enabling environment and mobilizing investments.

"In the last five years, the program has managed to achieve higher Low Emission Power (LOP) targets with more than 9,000 MW clean energy installed or reaching financial closure, and prevented more than 90 million tons of CO2 equivalent in GHG emissions from being released," Ms Kenney said.

She also presented the success stories of the program initiatives to promote Distributed Generation (DPV), BESS and EVs in Philippines, Thailand and Vietnam. Backed by political will, Vietnam was able to rapidly overtake both Thailand and the Philippines in terms of DPV installed capacity.



She concluded that the key lesson from their work was the need for “capacity building and information distribution to equipped professionals to better position them to implement the policies”.

Mr. Marc M. Matsuura presented on Hawaii’s journey of implementing DERs, with case studies about implementing them in its islands. “With the right grid codes and advancements in inverter technologies, we can increase the capacity of distributed PV, which can be connected to the grid,” he said. Walking through the DER interconnection process with the grid, he said that in 2013, there were around 4,000 applications per month from customers willing to connect DERs with grids.

As grid codes and utilities evolved in Hawaii, the capacity limits increased from 15% of the circuit peak load in 2013 to 250% of DML transient voltage in 2014.

Mr. Abhishek Ranjan spoke about the initiatives and experience of the DISCOM in implementing distributed PV & EV technologies. He mentioned that DERs play a significant role in energy transition. “Rooftop solar, managed EV charging, energy storage and demand side management including demand response, together offer a very good platform to effect the energy transition,” Mr Ranjan said. He mentioned the National Electricity Policy 2021, where the Government of India has recognised DER as a resource. Mentioning the evidence from the COVID-19 scenario in Delhi, he said that when activities are limited or backed-up with sustainable energy, an energy transition occurs.

He said that in 2019-20, 64% of the energy requirements by their consumers were met with coal power and only 3% by RE, while in 2021-22, the coal stake has reduced to 53% and the RE stake has increased to 18%. “The rooftop solar PV potential in Delhi is 2000 MWp. In the BSES area, the RTS capacity installed has exceeded 100 MWp”, Mr. Ranjan said. He also presented a study conducted by NREL and BSES on EV charging, according to which the ideal time for EV charging is between 2 AM and 9.30 AM. He added that with regulatory approval, BRPL is implementing community-based BESS ~ 1 MWh (at six DT locations).

Dr. Adarsh Nagarajan spoke about NREL’s initiatives in India. The NREL and USAID, with BRPL in New Delhi, have conducted three studies and published reports for preparing distribution utilities for the future, which includes frameworks for solar PV, storage and demand side management, among others. The studies provide details about the impact of emerging technologies on system voltages. To visualize future situations, NREL has developed a tool called “EVOLV”. NREL has also conducted a study for unlocking demand side management potential. “The advanced framework developed is reusable for any utility,” Dr. Nagarajan said.

## A3: Subnational Integration – National Governments' Initiatives to Support Subnational Climate Actions

### Speakers

#### Moderator:

**Ms. Maryke van Staden**, Director of ICLEI's Bonn Center for Local Climate Action and Reporting (carbonn Climate Center), ICLEI World Secretariat

#### South Korea: planning and implementation of 2050 carbon neutral strategy:

**Ms. Seon-Hee KIM**, Assistant Manager, GHG Reduction Division, Korea Environment Corporation (KECO)

#### Nepal: Climate Change Initiatives

**Dr. Arun Prakash Bhatta (Ph. D.)**, Under Secretary (Technical), Nepal Climate Change Support Program (NCCSP), Ministry of Forests and Environment (MoFE), Nepal

#### Vietnam: Green growth strategy:

**Dr. Nguyen Thi Dieu Trinh**, Deputy Director General, Department of Science, Education Natural Resources, Ministry of Planning and Investment, Vietnam

#### Bangladesh: Urban resilience project:

**Mr. Abdul Latif Helaly**, Project Director, Urban Resilience Project: Rajdhani Unnayan Kartripakkha (RAJUK), (The Capital Development Authority of Bangladesh)

The first session on sub-national integration was moderated by Ms. Maryke van Staden. She said that the potential of sub-national governments to enhance national climate goals can be gauged from their commitments, targets, action plans, actions and finance availability. She added that horizontal and vertical coordination of each level of government, with each having a clear mandate or role to play, could help get a clearer global picture of climate action. Ms. van Staden spoke of the CDP-ICLEI Unified Reporting System, which helps collect information about plans, actions, performance and climate and energy commitments. The reporting system reviews data, points out mistakes and makes recommendations on climate action.

Ms. van Staden spoke of the need for multi-level governance, with clear mandates for each level, a policy framework to enable action, understanding of finance needs, and vertical integration to track progress and attract finance by proving that policies are in place and targets are being met.

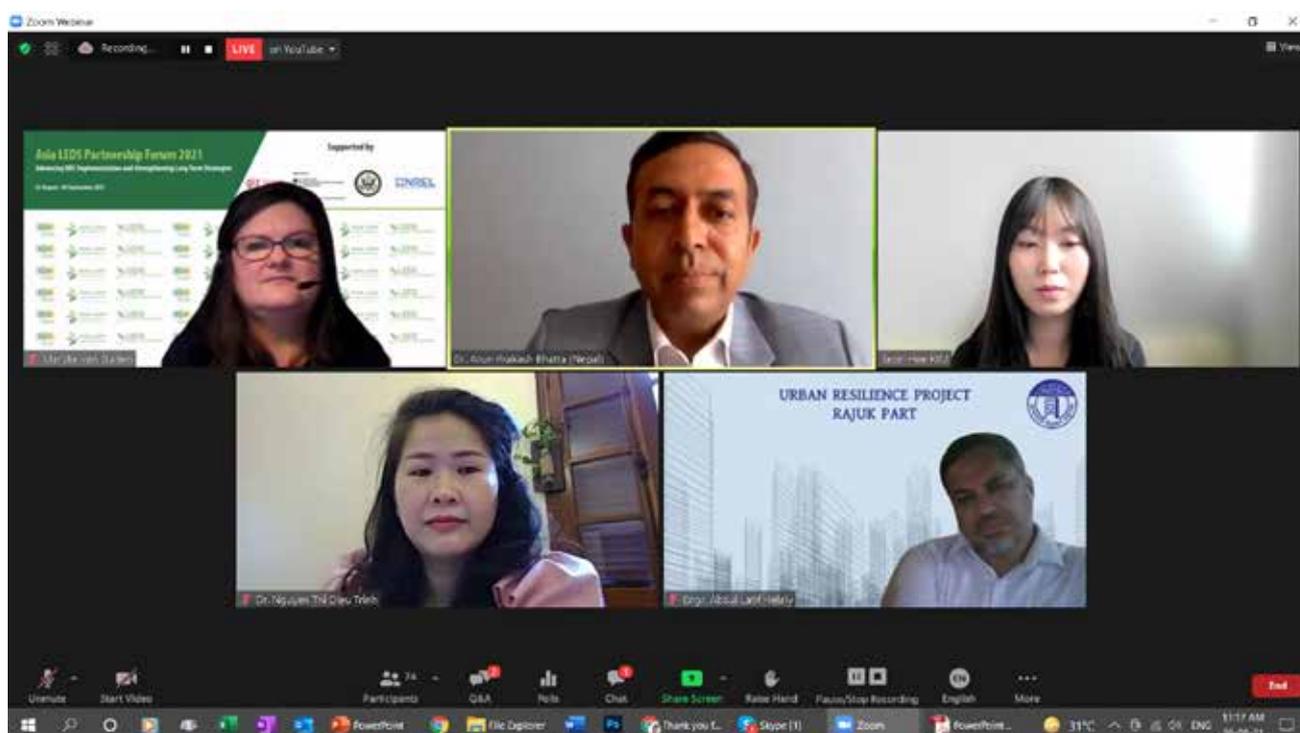
Ms. Seon-Hee Kim made a presentation on the Government of the Republic of Korea's carbon net-zero support for local governments. She said that the Korean government has established the National Greenhouse Gas Emission Reduction Goal and, in December 2020, formulated 'National 2050 Carbon Net Zero Strategies' and submitted them to the UN. Korea aims to reduce its carbon emissions by 24.4% by 2030, over the 2017 levels. KECO is supporting the government to achieve its carbon net-zero 2050 goals by providing consulting for GHG reduction, GHG inventory calculation and training and supporting a carbon net zero society of local governments. The consulting for GHG reduction involves targets, content and standards that help establish a General Plan for Carbon Emission Reduction and Climate Change Adaptation.

Dr. Arun Prakash Bhatta gave an overview of Nepal's vulnerability to climate change impacts due to its unique topography, nature-based livelihoods, and poverty levels, among other factors. Nepal has been working on climate change response since 1994 as a signatory to the UNFCCC. A National Adaptation Plan of Action has been developed to mainstream climate into national development programs and to address developmental challenges. A climate change budget code has been developed and adopted by seven ministries that are preparing policies, legislation and plans of action related to climate change. Dr Bhatt said that new guidelines for climate-resilient planning and budgeting have been developed, besides climate change and disaster management committees. However, there is a lack of finance and capacity to roll out adaptation activities and meet NDC targets, and climate budget training is at program-level tagging by the federal ministries only, and not at the provincial and local levels.

Dr. Nguyen Thi Dieu Trinh described the formulation and implementation of the Green Growth Strategy and Action Plan as the key drivers to achieve Vietnam’s national targets. Vietnam recently updated its green growth strategies and included components such as green financing instruments and laws on environment protection, including legal frameworks for focusing on climate resilience city plans and renewable resources.

However, there are limitations in access to finance as well as capacity challenges to take climate-resilient actions in terms of budgets and prioritizing of financial flows. Local authorities face challenges in using resources effectively, and it is difficult for the private sector to measure investment.

Mr. Abdul Latif Helaly spoke about a comprehensive approach being developed for urban earthquake resilience in the Dhaka Metropolitan Development Plan (DMDP) area. Risk-sensitive land-use planning for sustainable development in the DMDP area has been prepared to reduce the impacts of seismic activities. The new strategy includes mitigation measures, risk management, a focus on saving lives and resources, and a proactive, comprehensive approach. An infrastructure resilience center has been set up to support the resilience and mitigation work in Bangladesh.



## A4: Sub-National Integration – Fund Mobilization for Subnational Climate Action

### Speakers

#### Moderator:

*Dr. Eszter Mogyorosy, Head Innovative Finance, ICLEI World Secretariat*

#### Cities Climate Finance Leadership Alliance (CCFLA):

*Ms. Laura Jungman, Senior Consultant, CCFLA*

#### Financing Energy for Low-carbon Investment - Cities Advisory Facility (FELICITY):

*Dr. Gan Dirgantara, Senior Advisor, Climate Change, GIZ Indonesia*

#### Innovative financial solutions for sub-national governments:

*Mr. Joojin Kim, Managing Director and Founder, Solutions for Our Climate (SFOC), Republic of Korea*

*100% Renewable energy:*

*Mr. Rohit Sen, Head, Climate & Energy Action, ICLEI World Secretariat*

#### International Finance Corporation's (IFC's) cities program in the Asia region:

*Ms. Aurelie Chardon, Regional Lead - Cities, Asia Pacific, IFC*

The second session on sub-national integration, focusing on 'Fund mobilisation for sub-national climate action' was moderated by Dr. Eszter Mogyorosy. She said that there was a huge gap in the availability and accessibility of funds for climate actions by local and regional governments. Around USD 93 trillion investment is needed for low-carbon infrastructure projects to reach global goals; USD 5 trillion is required every year for urban climate finance, with an annual investment gap of more than USD 1 trillion.

Dr. Mogyorosy said that the lack of bankable projects was the key reason for inadequate financing access for local and regional governments (LRG). Additionally, investors are largely interested in financing international/large-scale projects and not in enabling the environment/climate action planning/project scoping space. Other bottlenecks that LRGs face in accessing funds include lack of fiscal and technical capacity, limited autonomy, electoral changes, and difficulties in engaging the private sector and in meeting investor requirements such as creditworthiness and co-financing.

However, she said that there were opportunities in terms of growing finance flows, increased recognition to LRGs as leaders of climate action, global initiatives that support cities such as GCoM and CCFLA, knowledge and tool products, and new project preparation facilities such as the Transformative Actions Program (TAP) and the Gap fund.

In her presentation, Ms. Laura Jungman introduced CCFLA as a multi-level and multi-stakeholder alliance that aims to close the investment gap for urban and sub-national climate projects. Its members include more than 60 public and private financial institutions, including government and international organizations, research groups, city networks and city representatives. It is a platform for members to exchange expertise in urban climate and also acts as a creator of knowledge in key areas in urban climate finance.

Ms. Jungman spoke about The State of Cities Climate report 2021, developed by CCFLA, which presents comprehensive estimates of global urban climate finance, while analysing present frameworks and solutions to mobilise it for low-carbon development. The report establishes that between 2017 and 2018, USD 384 billion was invested as urban climate finance, far lower than the USD 5 trillion needed annually to meet global goals. The study shows a split of 60:40 in private and public funding, with domestic and national government finances being the major sources. The largest amount of urban climate finance was invested in East Asia and Pacific region (USD 162 billion), while in South Asia, it was only USD 4 billion.

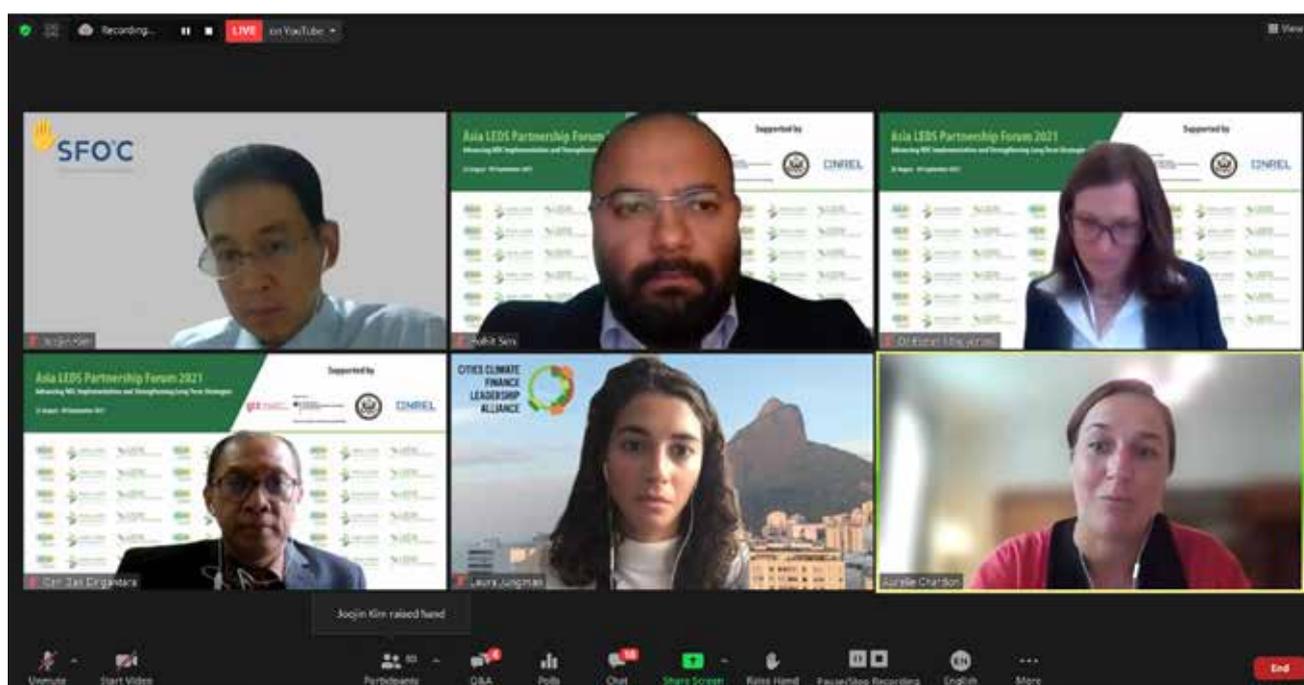
Dr. Gan Dirgantara made a presentation on FELICITY (Financing Energy for Low Carbon Investment – Cities Advisory Facility), a project funded by Germany’s BMU and implemented in Mexico, Brazil, Ecuador and Indonesia, with support from GIZ and European Investment Bank. The project aims to prepare low-carbon infrastructure projects for cities that are bankable for international financing institutions, with a focus on project feasibility, structuring and preparation.

FELICITY will support the Government of Indonesia and sub-national governments to prepare a possible financing scheme for infrastructure development in line with the national government’s plans to implement a low-carbon approach to infra-development as part of the NDC and SDG goals. Six innovative financing models have been introduced: PPP, Private, municipal bonds, assignment to state-owned enterprise (SoEs), foreign loans with government guarantee and municipal lending.

Mr. Joojin Kim spoke about the actions taken by Chungnam province in Korea to prevent new coal plants from being set up and to close down old ones. Korea has 60 coal power plants, which have had several environmental impacts. Chungnam had minimal authority on the power sector, which is controlled by the national government. In 2019, however, the province made the national government cancel life-time extension of 4,500 MW coal plants and expedite the closure of 1,000 MW coal plants. This was replicated in other provinces - eight of them are now members of the Powering Pas Coal Alliance, which is a group comprising 122 countries, cities, regions and organisations aiming to accelerate the phasing-out of coal-fired power stations. Chungnam’s effort also facilitated changes in the financial sector; ‘no coal’ commitment is now an important requirement for financial institutions for collaboration (depository services) with sub-national governments. More than 100 financial institutions have made this ‘no-coal’ commitment.

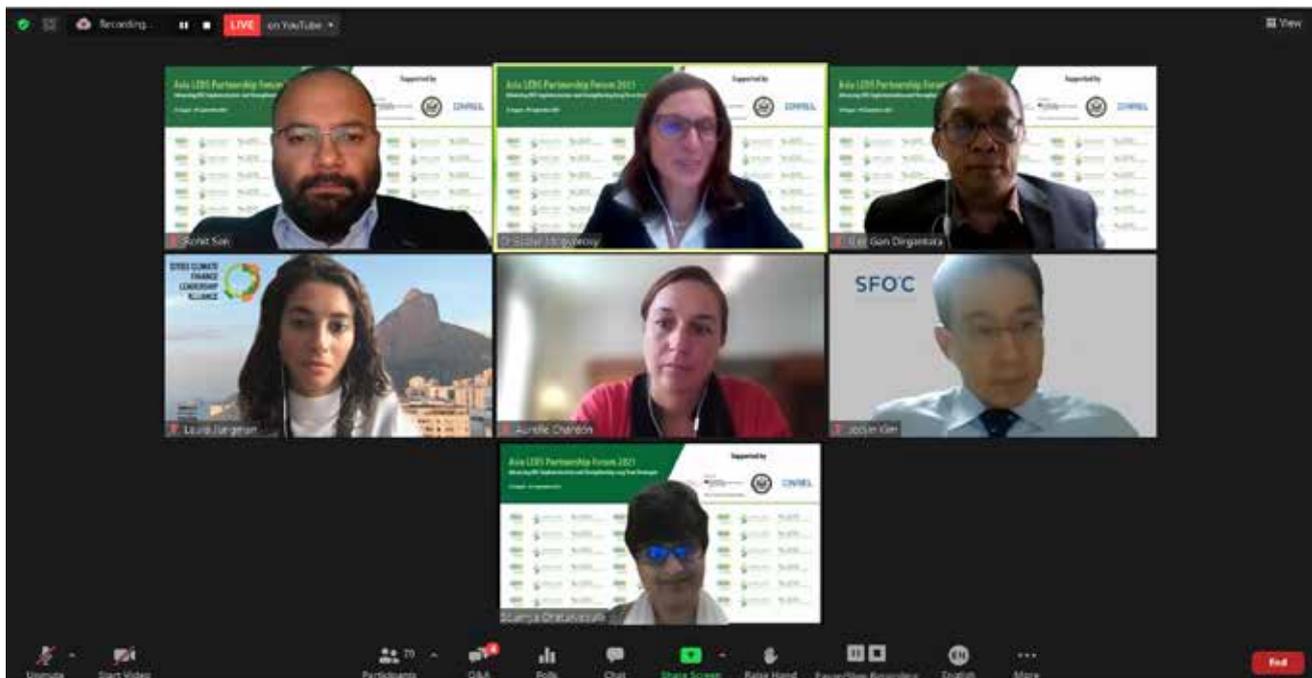
Mr. Rohit Sen said that 1.1 billion people lacked access to energy globally, with cities responsible for 65% of the energy demands. He said a possible solution for reducing emissions was to get cities to drive energy transitions. They can lead renewable energy transition by setting 100% RE targets (globally, 350+ targets have been set by 300+ cities). He said cities could drive such changes by acting on public policies such as EVs, building codes, EE measures, and district heating and cooling. The drivers for sub-national governments to promote RE include energy security, reduction of carbon emissions and fossil fuel consumption, revenue from sales and export of RE, jobs creation and stimulation of the local economy. Mr. Sen said that CLEI had introduced the 100% Renewable Cities and Regions initiative, under which two actions - 100% Renewables Cities and Region Network and 100% Renewables Cities and Region Roadmap project - have been launched.

Ms. Aurelie Chardon said that 35% of the World Bank’s investment needs to have a climate impact, adding that cities have a crucial role to play in service delivery. The IFC provides finance to cities without any sovereign guarantees (based on their credit worthiness) so that they can be more independent without relying much on sovereign governments. Between 2003 and 2021, the IFC provided USD 2.3 billion through 54 projects.



IFC's solutions include providing funds, helping sub-national governments access other commercial sources of finance, and creating investment opportunities for them by developing sustainable pipelines of bankable transactions. It also helps build capacity and develop projects, supports sub-national governments with structuring PPPs and attracting private investments and expertise. For instance, it has given the city of Izmir in Turkey a sustainability-linked long-term loan worth more than USD 100 million over a decade, making a huge impact on carbon emissions and services delivery (water), besides addition support during the pandemic.

During the Q&A session, responding to a query as to how banks could be encouraged to take up green financing, Ms. Jungman said that the first thing that needed to change was the narrative that green is not profitable. She said that investing in green infrastructure, especially in sectors such as energy and transport, can be just as profitable. Many projects are financially viable, but need to be made bankable and be able to access capital. She said that for projects in sectors where there was a lot of uncertainty, concessional capital could reduce the risk and uncertainty, especially when considering innovative financial models.



# B1: Long-Term Low Emission Development Strategies (LT-LEDS) and Green Recovery

## Speakers

### Opening Remarks & Facilitator:

**Mr. Deo Gabinete**, *Regional Manager, NDC Partnership Support Unit, RCC Bangkok*

### Overview Presentation:

**Ms. Hannah Muthoni Ryder**, *Regional Climate Change Expert, Environment and Development Division, UNESCAP*

### Speaker Presentations:

#### Economic advisory initiative of NDC partnership for green recovery plans and packages:

**Mr. Deo Gabinete**, *Regional Manager, NDC Partnership Support Unit, RCC Bangkok*

#### Experiences from countries on LT-LEDS and the process of preparing LT LEDs:

**Ms. Diana Alejandra Quezada Avila**, *Green Recovery Lead, Climate Action and Inclusive Development Unit (CAID), GGGI*

#### Global overview of COVID-19 recovery packages - particular focus on India:

**Mr. Deepak Krishnan**, *Associate Director, Energy Program, WRI India*

#### Achieving post-pandemic green growth in the South Asia region:

**Mr. Manjeet Dhakal**, *Head, LDC Support Team, Climate Analytics*

The first session on LT-LEDS, moderated by Mr. Deo Gabinete, emphasized that countries needed to focus on mainstreaming climate action hand-in-hand with economic recovery plans. Pandemic recovery should be seen as an opportunity to step up climate action, he said. While the funds most countries put aside for COVID-19 action would not cover the finance needed for climate action, countries need to realize that the successful alignment of NDCs and LT-LEDS can ensure better use of available resources.

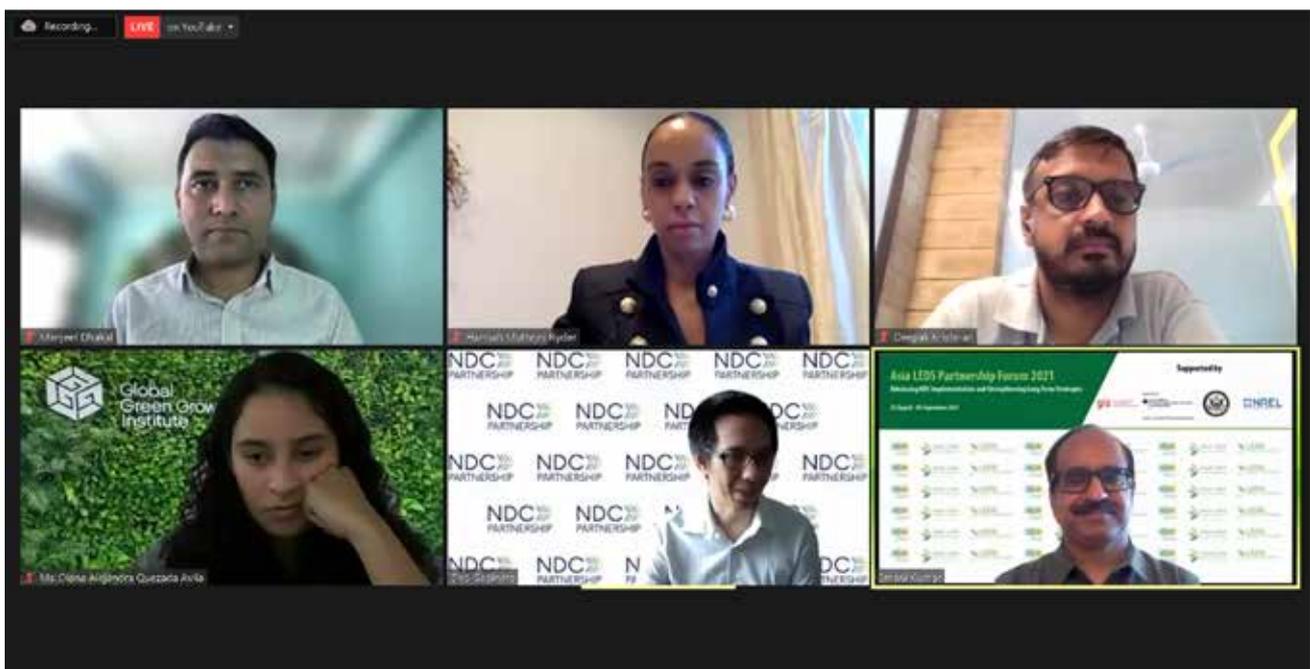
In her presentation, Ms. Hannah Muthoni Ryder said that in 2020, New Zealand was the only country in the Asia-Pacific region to bring in new policy actions in six sectors during the pandemic, though five of these were new sectors and not aligned with those already in its NDCs. In contrast, 19 countries in the region introduced just one or no new policies, half of which were not in NDCs. Some, but not all of these 19 countries, were low-income or least developed countries. That said, the largest emitters in the region - India, China and Japan - seemed to be taking action. Ms. Ryder said that a UNESCAP analysis found several significant gaps in ensuring a “green recovery” throughout the Asia-Pacific region. It also made several recommendations on how governments could adjust their behaviour and actions, in particular through the six inspiring examples of China in the energy sector, the Philippines in transport, Palau in tourism, Kazakhstan in agriculture, Afghanistan in water, and Myanmar in healthcare.

Mr. Gabinete gave an overview of the NDC Partnership Economic Advisory Initiative, a global coalition of countries and institutions that was launched last year to provide a broad range of services ranging from technical assistance to financing implementation. One of its initiatives is to embed economic advisors in 34 developing countries; 42 advisors have already been embedded in 30 countries so far. Their scope of work includes assessing the impact of the new economic situation on climate, supporting cost analysis of new NDCs, designing fiscal instruments to stimulate green growth, and incorporating low-carbon plans into stimulus plans. In Sao Tome and Principe, for instance, the embedded advisor has integrated climate considerations into project cycles, while in Jordan, more than 100 potential green recovery actions have been identified, which informed the finalization of a new USD 500 million loan for a World Bank Program-for-Results project. “We are also serving key emerging themes such as digital economy, social inclusion and sustainable government procurement,” Mr. Gabinete said.

The experiences of GGGI member countries in preparing LT-LEDS was the focus of the presentation by Ms. Diana Alejandra Quezada Avila. She said that country performances in achieving SDGs should be measured to assess the socio-economic co-benefits of policy measures related to the SDGs as well as the NDC targets and investments, under the different LT-LEDS scenarios. Because green recovery measures aim to support and accelerate the achievement of SDGs, the GGGI's Green Growth Index and its simulation tool as well as the LEDS scenarios developed by using them, also provide guidance in this direction. She added that translating the NDCs and national climate strategies into transformational bankable projects that can secure financing and ultimately increase public and private sector capital flows through the development of NDCs is key for implementation.

Mr. Deepak Krishnan said that post-pandemic recovery is becoming greener over time, particularly in energy, where clean energy commitments are increasing. In the past year, the proportion of public money committed to clean energy has increased. Some countries, such as Canada, India, the US and some European Union countries are making more green investments today, as compared to last April, as they move from rescue to recovery spending. However, the world is not doing enough, Mr. Krishnan said, as per various green stimulus trackers. For instance, in India, public transport needs improvement with multi-modal integration and incentives offered for low and eventually no-emission vehicles; adaptability against climate vulnerabilities for both urban and rural residents needs to be built; and innovative financial schemes to help reduce energy demand need to be developed.

Mr. Manjeet Dhakal said that there were multiple benefits and co-benefits of the coal phase-out. Utilization of solar and wind power could satisfy the needs of almost all South and Southeast Asian countries many times over, he added. The harmonization of LT-LEDS, NDC, SDG, and NAP is necessary, and SDG linkages and just transition methods in LTS should be included.



## B2: Aligning NDCs and Long-Term Low Emission Development Strategies (LT-LEDS)

### Speakers

#### Facilitator:

**Ms. Diana Alejandra Quezada Avila**, *Green Recovery Lead, Climate Action and Inclusive Development Unit (CAID), GGGI*

#### Speaker Presentations:

##### **UNFCCC's initiatives to support countries in aligning NDC and LT-LEDS:**

**Mr. Jens Radschinski**, *Regional Lead, RCC Bangkok*

##### **Aligning NDC and LT-LEDS:**

**Dr. Stelios Grafakos**, *Principal Economist, GGGI*

##### **Integrating gender, intergenerational justice, nature-based solutions and emerging technologies in LT-LEDS:**

**Prof. Joyashree Roy**, *Bangabandhu Chair Professor, Asian Institute of Technology*

##### **Cambodia's experience in aligning LTS and NDCs:**

**Ms. Vichet Ratha Khlok**, *NDC Partnership in-country Facilitator, General Secretariat of the National Council for Sustainable Development, Ministry of Environment, Cambodia*

##### **Indonesia's experience in aligning LTS and NDCs:**

**Ms. Anggi Putri Pertiwi**, *Planner, Directorate of Environmental Affairs, Ministry of National Development Planning, Government of Indonesia (BAPPENAS)*

In the second session on LT-LEDS, facilitated by Ms. Diana Alejandra Quezada Avila of GGGI, the urgent need to improve the capacity of countries in understanding LT-LEDS and its linkages with NDCs was highlighted. Experts said that countries needed to learn from their peers on how to successfully integrate NDC and LT-LEDS. There is a strong need for gender mainstreaming and consideration of women and other marginalized sections and international equity, while aligning NDCs and LT-LEDS. Additionally, development partners need to provide local economic, social and environmental insights and create a long-term platform for stakeholder engagement, capacity building, and successful LT-LEDS preparation and implementation.

Mr. Jens Radschinski emphasized the importance of facilitating support for climate action towards the implementation of countries' NDCs, with a focus on markets and mechanisms. He pointed out that the initial NDC synthesis report covers NDCs from only 75 countries that communicated a new or updated NDC before the end of last year, and shows that the total GHG emissions in 2030 will be just 0.5% lower than in 2010. Globally, more than 120 national governments and over 760 local governments have joined the Climate Ambition Alliance to show their commitment to achieve net-zero emissions by 2050. Last year, from Asia, China, Japan and Republic of Korea announced their mid-century net-zero emissions goals; Korea, Indonesia, Republic of Marshall Islands and Fiji have submitted their long-term strategies as well. "NDCs and long-term strategies are key policy signals for domestic and international investors and economic actors. It is critically important that the long-term trajectory is clearly highlighted in the NDC to signal to all actors across the economy, to be able to align their actions and investments with the goals of the Paris Agreement," Mr. Radschinski said.

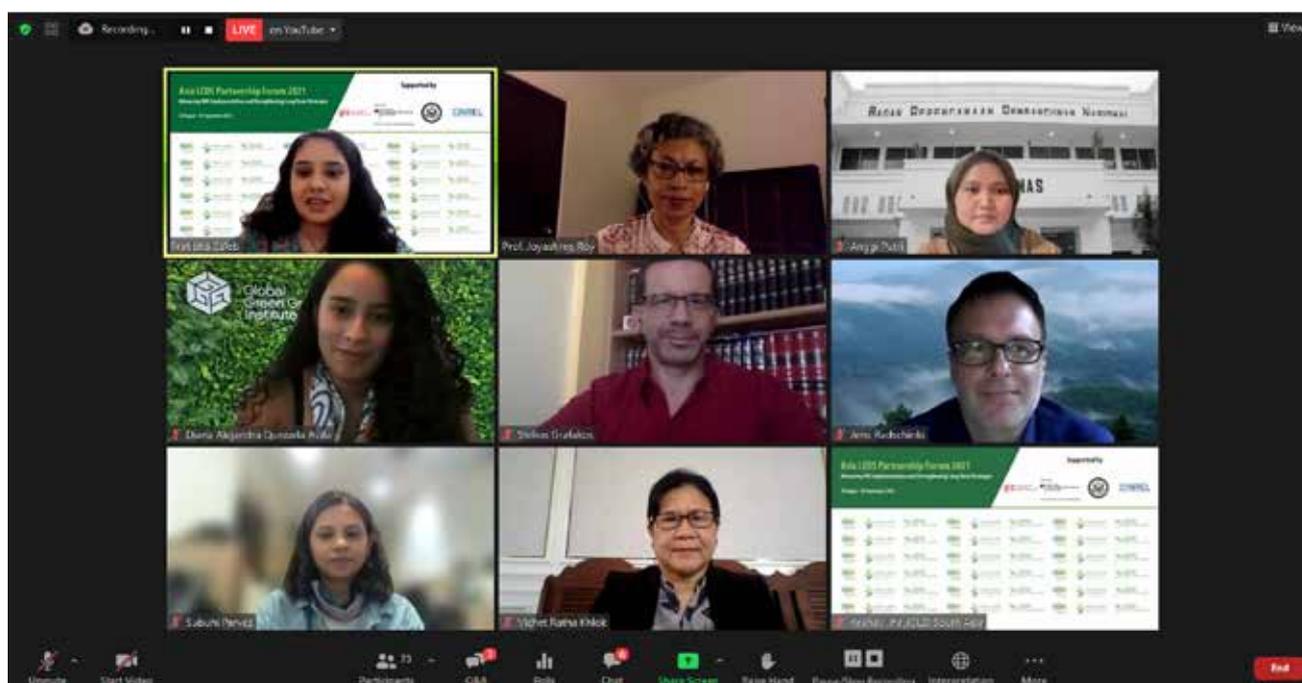
Dr. Stelios Grafakos said that LT-LEDS could be an important step towards the development of NDC roadmaps or action plans that embed climate change in national policymaking processes, operationalize activities to reduce emissions and increase resilience, and help identify projects and financing needs. The long-term perspective laid out in LT-LEDS is useful for designing the shorter-term actions of NDCs, and could help

identify obstacles and barriers to implementing climate change mitigation and adaptation. The LT-LEDS provides the necessary direction for the enhancement of NDC and reinforces actionable, achievable and ambitious NDCs, Dr. Grafakos said.

Prof. Joyashree Roy was of the view that the game-changing solution of zero-carbon electricity and green hydrogen needed to be ramped up across the Asian continent. She said the question was how justice and equity could be ensured in the transition to a sustainable and green economy. “NDCs need to include justice-in-transition issue and should not ignore women’s role and participation in new emerging opportunities in energy transitions and women’s empowerment, specifically to enhance social acceptance. National capacity assessment in implementation is also a major gap in LT-LEDS,” she said.

Providing a country perspective, Ms. Vichet Ratha Khlok said that her country was focusing on poverty reduction and stable economy development, while addressing climate change on the principle of ‘Common but Differentiated Responsibilities and Respective Capabilities’. It is also strengthening existing institutions and increasing transparency in procurement for NDC implementation.

Ms. Anggi Putri Pertiwi said that in order to avoid the “Middle Income Trap” arising from the current economic crisis, Indonesia requires economic transformation to be its long-term strategy. By transforming into a green economy, Indonesia will have an economic structure that is more resilient to shocks, and can actively participate in global trade that pays attention to environmental sustainability issues. The economic recovery from the COVID-19 pandemic must be a momentum for Indonesia to transform into a more sustainable economy, as part of the implementation of a green and low-carbon economy, she said.



## B3: Transport – Impact of COVID-19 Pandemic on Transport: Strategies for Recovery

### Speakers

#### Moderator:

**Dr. Sanjini U. Nanayakkara**, *Staff Scientist, National Renewable Energy Laboratory*

#### Overview presentation:

##### Indonesia's experience in aligning LTS and NDCs:

*Ms. Angela Enriquez, Senior Associate, SLOCAT Partnerships [10 minutes]*

#### Speakers

##### Indonesia's experience in aligning LTS and NDCs:

**Mr. Agnivesh Pani**, *Assistant Professor, Department of Civil Engineering, Indian Institute of Technology IIT (BHU) Varanasi*

**Ms. Angel Cortez**, *Research, SLOCAT*

##### Long-term strategies in transport sector:

**Ms. Derina Man**, *Senior Managing Consultant, Climate Change and Sustainability, ICF*

#### Current status of transport sector in Asian countries linking with CoViD-19 impact on transport sector and proposed strategies:

**Mr. Mel Francis Eden**, *Consultant for Asian Development Bank*

##### Country presentation on their responses to CoViD-19 on transport sector:

**Mr. Trinawat Suwanprik**, *Local Coordinator for Achieving Low Carbon Growth in Cities through Sustainable Urban System Management in Thailand & Chiang Mai Municipality*

The ALP Forum's transport sessions on strategies for recovery from the impact of the COVID-19 pandemic and on electric mobility in public transport were held on the 2nd of September 2021.

The first session, moderated by Dr. Sanjini U. Nanayakkara, focused on how the pandemic has changed travel behaviour and the required long-term recovery strategies.

Ms. Angela Enriquez spoke on the transport demand, emissions impacts and policy responses in Asia. She said that globally, the transport sector was the fastest-growing fossil fuel combustion sector in 2010-2019, and the second highest contributor of CO2 emissions globally. The Asian region recorded the highest transport emission growth compared to other regions, with an increase of 41%, and also saw car ownership increase by almost 87% (3 times the global average) in 2015-2019. Four of the five most congested cities in 2019 were also in Asia, including Bengaluru, Mumbai and Pune in India.

Explaining the impact on the pandemic, Ms. Enriquez said that the transport sector's emissions fell almost 19.4% below 2019 levels (1.5 gigatons in 2020), with the greatest reductions in international aviation, domestic aviation, international shipping and ground transport (road and railways). Public transport usage dropped by 90% (March-August 2020), while para-transit services were impacted, driverless technology for contactless delivery surged and pedestrian and cycling infrastructure expanded. In the Asian region, shared mobility services were impacted heavily and their usage reduced. Some countries made rapid recoveries, though, such as Mongolia, Korea and Vietnam.

Ms. Enriquez emphasised Avoid-Shift-Improve strategy for recovery: Avoiding and reducing the need for motorised travel; shifting to sustainable modes; and improving transport modes. These strategies can account for 40%-60% of the transport emission reductions at lower costs than

‘Improve’ strategies, which require technology integration. She said that political ambitions must increase and investment of about USD 40.5 trillion would be needed for low-carbon transport pathways till 2030.

Mr. Agnivesh Pani presented on “Advancing NDC Implementation and Strengthening the Long-Term Strategy”, including the changes due to the COVID-19 pandemic (such as shifts in consumer behaviour and perceptions on automation), how this can be leveraged to improve last-mile delivery using Autonomous Delivery Robots (ADRs), cargo bikes and crowd shipping.

Mr. Pani said that consumers had started relying more on e-commerce and that this behaviour (about 43%) may continue beyond the pandemic. As a result, last-mile delivery services are strained to meet this demand (especially in case of grocery deliveries). These deliveries contribute to 40% of the logistics cost, add to congestion, and generate about 158.4 g CO<sub>2</sub> per km per order. Thus, it is important to manage and reduce emissions from last-mile delivery modes. He said that potential solutions already being used are autonomous delivery robots in North America, crowd shipping in Asia, self-service delivery lockers in Asia and e-cargo bikes in Latin America and the Caribbean countries.

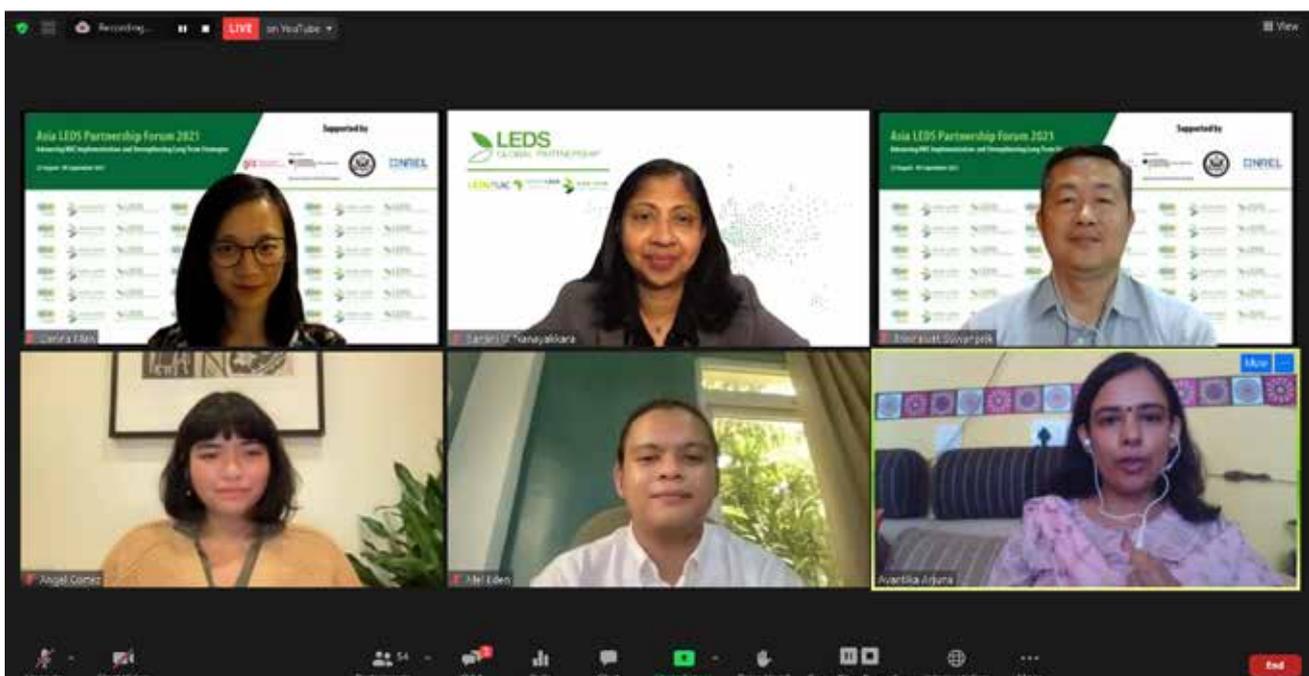
ADRs are an efficient mode for last-mile delivery of light-weight commodities. USA, China and the UK have used delivery robots, though there are many challenges and research is required at the demand as well as supply side.

Crowd shipping is the last-mile delivery of freight packages by using underutilised passenger transport and services. In this method, the product travels through a series of shared modes before being delivered. Since there are no dedicated delivery trips, it significantly reduces the carbon cost of deliveries.

Self-service delivery lockers involve the consumer travelling to a common location to collect their products, a cost-saving, environmental solution that also avoids postal address-related confusion. Cargo bikes can carry up to 100 kg and may be used in cities to cut last-mile delivery costs by 45%, such as by Zomato in India.

Ms. Angel Cortez spoke on case studies from Asia and Latin America on Renewables and Transport regarding recovery from the pandemic impact. Transport holds the highest share (32%) for global energy demand, and renewable energy contributes the lowest share (3%). There is an opportunity to integrate renewable systems into transport through recovery from impacts of COVID-19, with benefits including reduction in emissions, along with a positive impact on local socio-economic setup. Solar rickshaws in Delhi, India, are a good example of integrating RE in transport systems. In Romblon, the Philippines, 100 e-scooters have been launched, and they are charged by wind power, reducing the dependence on fuel imports. In Montevideo, Uruguay, 20 e-buses have been launched and 97% of the country’s electricity demand is sourced from renewable sources.

Ms. Derina Man made a presentation on long-term strategies in the transport sector, which may include alternative fuel vehicles to reduce emissions. There are six key steps of LTS planning process: setting a goal/vision; determining GHG emission baseline; identifying mitigation/



adaptation process; determining implementation pathways; implementing selected strategies; and monitoring and evaluating the implementation.

Mr. Mel Francis Eden spoke on the current status of the transport sector in Asian countries, the COVID-19 impact on the sector and proposed strategies. He presented the ADB's Asian Transport Outlook that has developed about 435 transport policy documents and has 548 transport related goals and targets. The sharable database includes data on mobility patterns and travel restrictions information (from Oxford University); a tool has also been developed to produce customisable charts.

Data shows that three modes of mobility - walking, driving and public transport - had decreased during the pandemic; driving recovered first, followed by walking and public transport to some extent. Mobility patterns of India show that increased number of COVID-19 cases have always been preceded by increased level of mobility. In Vietnam, walking has recovered faster as compared to driving.

Data also shows that transport sector interacts with COVID-19 in terms of cases and restrictions. It also shows how active mobility has an opportunity to support transport in general while public transport is recovering. Thus, investing in active transport would not only help in recovery but also in moving towards green recovery, building back better and decarbonisation.

Mr. Trinnawat Suwanprik presented on the country response to the pandemic in the transport sector, with a focus on Chiang Mai. There are 22 organisations working on transport and have developed an application for urban transit and another for smart payments to combat the spread of infections. About 9,500 passengers using public transport in Chiang Mai per month in 2019, fell to about 1,000 per month after a lockdown was imposed in 2020 i.e. almost a 90% decrease during the pandemic. The new normal in Chiang Mai includes designated bike lanes, sidewalks and street furniture to integrate micro mobility.



## B4: Transport – Enabling Environment for Electric Mobility in Public Transport with a Focus on Developing Countries

### Speakers

#### Moderator:

**Mr. Nikola Medimorec**, *Data & Research Analyst, SLOCAT*

#### Overview presentation: Learnings from clean bus initiative under TUMI project:

**Mr. Rohan Shailesh Modi**, *Advisor, TUMIVolt, GIZ*

#### Speakers:

#### Decarbonizing transport sector in Asian countries:

**Mr. Indradip Mitra**, *Lead of NDC TIA, GIZ*

#### Policies and programs in transport sector promoting clean air - case study of Asian countries:

**Ms. Glynda Bathan Baternina**, *Deputy Executive Director, Clean Air Asia*

#### Policies and programs in transport sector promoting clean air - case study of Asian countries:

**Dr. Sanjini U. Nanayakkara**, *Staff Scientist, NREL*

#### A country representative on how is their country moving ahead on low emissions, net zero pathways:

**Ms. Sarathanjali Manoharan**, *Deputy Director (Air Resources Management and National Ozone Unit), Ministry of Environment, Government of Sri Lanka*

#### A brief presentation on Mobility CoP:

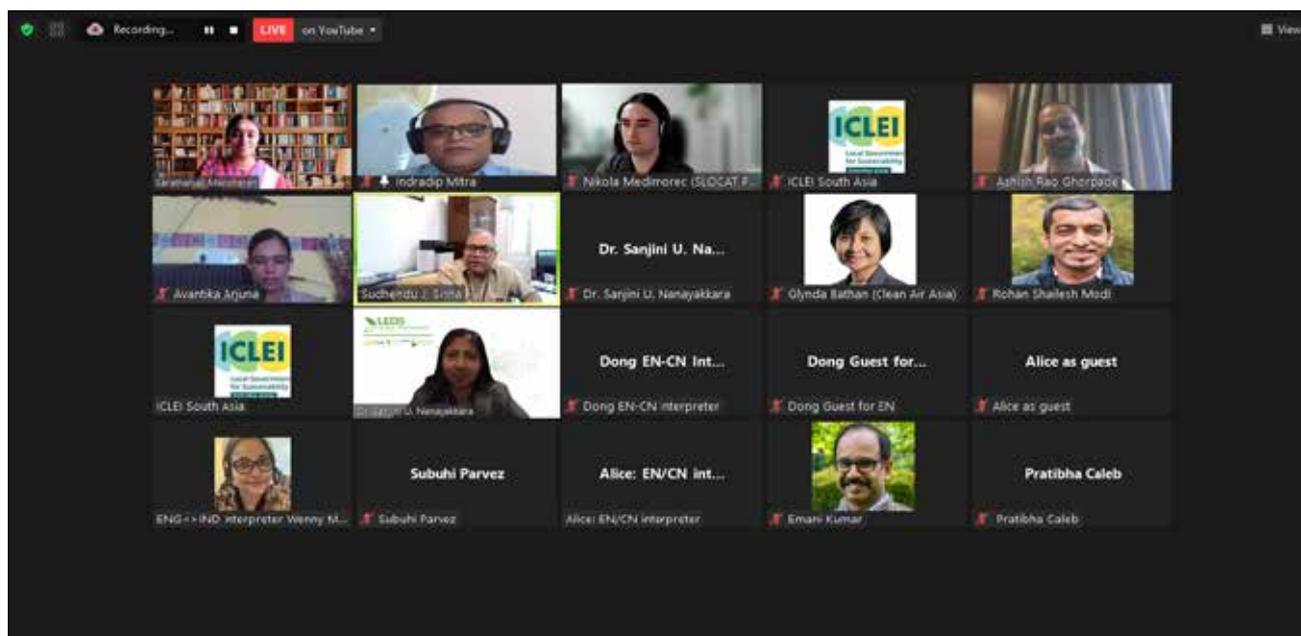
**Mr. Ashish Rao Ghorpade**, *Deputy Director, ICLEI South Asia*

In the second session on transport, moderated by Mr. Nikola Medimorec, the discussions focused on EV-related projects and ongoing initiatives in the Asia-Pacific region, local bus initiatives, decarbonising the transport sector, policies and programs for promoting clean air and the benefits of transition towards zero emissions.

Mr. Medimorec initiated the discussions by speaking on the need for enabling environments for electric mobility in public transport with a focus on developing countries. The first enabling factor is to phase out/ban the use of fossil fuel based vehicles by a target year. According to SLOCAT, 19 countries have targeted to ban fossil fuel-based vehicles by 2050.

There were about 10 million e-cars on the road, and more than 600,000 e-buses operating in over 400 cities, as of 2020. China operates around 95% of the world's e-bus fleet. Mr. Medimorec said that the key opportunities for e-mobility in Asia include two and three-wheeler EVs, which are low hanging fruits, collective transport (e-buses, taxis), freight transport (which contribute almost 40% of road transport-related emissions), and all these modes combined with renewable energy.

Mr. Rohan Shailesh Modi presented the learnings from clean bus initiative under the TUMI project, which is supporting 20 deep-dive cities to establish a mentee city network and aims to set up a 100-city network by the end of 2022. The project is being implemented by C40, GIZ, ICLEI, ITDP, UITP and WRI, with support from Germany's Federal Ministry for Economic Cooperation and Development.



Best practices and experiences will be shared through peer learning platforms and other bilateral meetings; a robust coalition of private and public sector partners has been established in the deep-dive cities, and e-bus targets and work plans would be created. Twenty deep-dive cities have been identified, including seven from Asia.

The TUMI 500+ city program involves linking structured regional mentee city networks to a global knowledge hub, setting up a global knowledge platform for peer-to-peer learning and establishing a pool of regional experts for ad-hoc technical and legal support of cities.

Mr. Intradip Mitra spoke about decarbonising the transport sector in Asian countries and gave an overview of the NDC Transport Initiative for Asia. With GHG emissions from transport in Asia contributing almost 25% of the global transport related emissions, NDC-TIA addresses several issues in the transport sector in China, Vietnam and India. The strategy includes identifying pathways for modelling and calculations for long-term strategies, and fostering micro concrete actions related to mobility. A council has also been formed to visualise changes, shift the narrative and engage with leaders.

Mr. Mitra said that shifting the gear towards zero-carbon sustainable transport has six major dimensions, of which one is accelerating electrification with renewable energy. Examples of e-mobility progress include a study of TCO of e-trucks and optimisation of e-bus systems in China; a national e-mobility strategy and economical-technical norms for e-buses being developed in Vietnam; and development of a national digital library on green mobility, supporting Delhi for developing public and private EV charging networks and power market reforms in India.

Ms. Glynda Bathan Baternina made a presentation on policies and programs in the transport sector that promote clean air in Asian countries. More than 90% of Asian cities do not meet WHO annual air quality guidelines. She mentioned the example of the city of Shenzhen, China, where a control centre tracks the vehicle utilisation rate and energy efficiency of 16,000 e-buses and 22,000 e-taxis. Previously, diesel buses comprised about 0.5% of the city fleet and contributed about 20% of its transport emissions. Now, it has about 17,000 e-buses, the largest in the world, which has reduced bus emissions. The factors that helped the city to switch to EVs were national and local subsidies; leasing arrangement with bus manufacturers to reduce their upfront cost; optimised charging and operations, opening up of charging facilities to private vehicles, and night-time charging; and securing of life-time warranty of batteries from manufacturers. The city met its air quality goals in 2016-17, while bus operators gained increased ridership.

Ms. Baternina also mentioned the example of Kolkata, India, where about 1,500 diesel buses contributed about 33% of the city's emissions. With the help of the FAME scheme and policy measures that the state has already implemented, it aims to shift fully to e-buses by 2030. Some of the factors that have aided Kolkata include well-planned location of charging stations and operation schemes (mix of slow and fast chargers). However, the challenges include location of new chargers to accommodate more buses, frequent tripping of chargers and securing renewable energy supply for charging e-buses.

The third case study was of Pasig City, Metro Manila, Philippines, where electric 2-wheeler and 3-wheeler vehicles are used for parcel delivery and small freight delivery. The challenges there include lack of clarity about routes where these electric vehicles are allowed to operate and inadequate availability of charging infrastructure.

Dr. Sanjini U. Nanayakkara spoke about the Asia Clean Mobility High Ambition Leadership Group and the benefits of transition towards net-zero pathways. The leadership group is a new initiative aimed at transitioning to clean mobility and enabling countries to shift to net zero carbon transport systems. There are many drivers for the shift to EVs and each country may have different goals and targets. The most common goals are reduced emissions, better economic growth, and improved air quality and health. Considering the population and congestion in some of the Asian countries, even if we convert every ICE vehicle to EV, the traffic congestion issues will not be solved. We need to think of better ways to transport people who rely on personal vehicles.

Net zero transport strategies also have additional benefits like new jobs, and reducing mortality and damage caused by climate change along with a reduction in emissions. However, the key challenges here are ambitious regulations, making charging stations cost-effective and easy-to-find, and providing incentives to create increased demand.

The Asia Clean Mobility High Ambition Leadership Group, launched in 2021, aims to enable the Asia-Pacific region's economies to transition towards net zero emissions transport systems through inclusive solutions and support local economic development. The group will provide advisory and technical support, and subject matter assistance to these countries.

Ms. Sarathanjali Manoharan presented on Sri Lanka's journey towards low emissions and net zero pathways, with a focus on e-mobility. She spoke on the status of transport sector in Sri Lanka, electric public transport, its drivers, barriers and readiness for e-mobility, present status and key considerations for the strategic plans. The transport sector consumes 69% of the oil and petroleum products and contributes 16% of the GHG emissions. Inefficient public transport leads people to use private vehicles, adding to traffic congestion and accidents.

The drivers for EV adoption in Sri Lanka include a policy portfolio to accelerate transition through incentives, emission standards, development of supporting infrastructure and phasing out of ICE vehicles.

The barriers for EV adoption include information barriers (lack of awareness and range anxiety), economic barriers (high upfront cost, business viability), regulatory (tariff-related issues) and technical barriers (lack of charger standards, grid stability and battery performing issues as most of the vehicles are reconditioned).

Sri Lanka has over 5,400 e-cars, 2,300 e-bikes and over 40,000 hybrid vehicles; 90% of these vehicles use Li-ion batteries, so the country has to import spare parts from other countries.

There has been an increase in hybrid vehicles due to a tax incentive introduced in 2011. After 2014, the tax on EVs was waived off. However, 90% of these vehicles were reconditioned and required battery replacement within a few years of import. There are no e-battery importers in Sri Lanka, a key concern, and no formal method of recycling/reusing batteries and other parts.

In 2021, Sri Lanka received an initial project preparation grant from GEF for e-mobility. The country's NDCs have been revised to include a dedicated sector on e-mobility. The country has also received GGGI support for a feasibility study on implementing ITS in public transport in Colombo, focusing on the EV aspect. Cabinet approval has been sought for using EVs and a strategic action plan will be developed which will include modes of transport for which EVs are viable, energy mix, manufacturing facilities, charging infrastructure, end-of-life of parts, employment opportunities and funds.

Mr. Ashish Rao Ghorpade made a brief presentation on the Clean Mobility CoP, facilitated by ALP. The Clean Mobility CoP involves nine countries and more than 60 participants, and the ongoing activities include assistance to Asia Clean Mobility High Ambition Leadership Group, support to Chiang Mai city on improving ridership, and a study of post COVID-19 recovery in countries focusing on mobility.

Mr. Sudhendu J. Sinha provided insights on India's plans for promoting e-mobility. The FAME scheme has been restructured, raising interest in EVs especially in the two-wheeler segment, and it is planned to aggregate the demand for and to support about 300,000 three-wheelers. Vehicles will be ordered in bulk, with the aim to reduce the upfront cost and increase affordability.

In nine cities, old buses will be phased out and replaced by e-buses. The idea is to create nine 'lighthouse cities' for a snowball effect on other cities. Facilities manufacturing advanced chemical cells will be identified and infrastructural and financial incentives will be offered. Instead of charging stations, charging points should be installed in residential areas and office spaces, and on electric poles, from where 2/3-wheelers can be charged. This is planned to be developed in four to six months.

# C1: Finance – Accelerating Investments to Support NDC Implementation and Low Emission Development

## Speakers

### Panel Discussion 1: LEDS GP Finance Working Group's initiatives to support countries in accessing finance for NDC implementation

#### Moderator:

**Ms. Joanne Manda**, Senior SDG Investment Advisor, UNDP and Finance Working Group (FWG) Co-Chair, LEDS GP

#### Panelists:

#### Regional Accelerator for Agriculture, Climate and Energy (RAACE):

**Dr. Sanjini U. Nanayakkara**, Staff Scientist, NREL [6 minutes]

#### Clean Energy Investment Accelerator:

**Mr. Marlon Apanada**, Southeast Asia Engagement Lead for Energy & Climate, WRI and FWG Co-Chair, LEDS GP [6 minutes]

#### ALP-NDC Finance Community of Practice: Technical Assistance and Trainings:

**Ms. Joanne Manda**, Senior SDG Investment Advisor, UNDP and Finance Working Group (FWG) Co-Chair, LEDS GP [6 minutes]

### Panel Discussion 2: The role of national and international development finance institutions (DFIs), Multilaterals and Bi-laterals in financing NDCs and LEDS- funds, potential sectors, projects countries

#### Moderator:

**Mr. Marlon Apanada**, Southeast Asia Engagement Lead for Energy & Climate, WRI and FWG Co-Chair, LEDS GP

#### Panelists

**Mr. Karan Mangotra**, Senior Climate Change Specialist, The World Bank Group

**Dr. Dhruva Purkayastha**, Director, The Climate Policy Initiative, India

**Dr. Radhika Lal**, SDG Finance Policy Advisor and Team Lead, UNDP BRH Bangkok

**Mr. Ping Yean Cheah**, Senior Strategy Officer (Urban), Asian Infrastructure Investment Bank

The ALP Forum sessions on accelerating investments to support NDC implementation and on global carbon market instruments, were held on 7th of September 2021. The first session discussed translating climate change action into implementation with the help of innovative finance. The key messages that emerged were that private investment needs to be accelerated; bankable and climate-resilience focused pipeline projects should be developed; and embedding climate change in system transitions will help countries to adapt and move away from high-carbon systems and invest in new technologies, markets and innovation.

Ms. Joanne Manda, who moderated the first panel discussion on “LEDS GP Finance Working Group's initiatives to support countries in accessing finance for NDC implementation,” emphasised in her opening remarks that it was important to accelerate private sector investment in LEDS and NDCs. She spoke on the core objectives and pillars of work of the finance working group of LEDS-GP.

Dr. Sanjini U. Nanayakkara made a presentation on the Regional Accelerator for Agriculture, Climate and Energy (RAACE) program that supports the mobilization of climate financing by accelerating the development of bankable, climate-focused project pipeline. It focuses on community-scale projects on topical areas of common interest to countries defined by regional communities of practice. The program embeds regional

experts in Asia, Africa and Latin America and the Caribbean region, who play a facilitating and advisory role in supporting project developers and government officials.

Mr. Marlon Apanada highlighted the power of the private sector to drive energy transformation. He said that private sector investment was essential for achieving enhanced NDCs as the public sector's spending alone could not support the level of investment needed to achieve country goals and deep carbonization. He said, "The Clean Energy Investment Accelerator works with large energy buyers from the private sector to thrust sustainable market transformation, being aware that government alone lacks the resources to invest in low-carbon energy infrastructure at a scale needed to avoid the worst impacts of climate change. Particularly at this critical moment, as governments develop COVID-19 recovery plans, there is an urgent need for private sector champions to promote country-focused green growth."

In the second panel discussion, moderated by Mr. Apanada, the focus shifted to "The role of national and international development finance institutions (DFIs), Multilaterals and Bi-laterals in financing NDCs and LEDS - funds, potential sectors, project countries." Mr. Karan Mangotra, Senior Climate Change Specialist of The World Bank Group, spoke about the World Bank Climate Change Action Plan 2021-25, released during the pandemic period, which reaffirms its commitment to set bold strategic directions for climate action on mitigation, adaptation and implementation. The World Bank is assisting countries in raising their NDC ambitions and developing long-term strategies through a variety of finance and technical support facilities. For FY 2021-25, the Bank has set a climate finance target of 35% on average to support green, resilient, and inclusive development, and for IDA and IBRD, it will allocate at least 50% of climate finance to adaptation over the next five years.

Dr. Dhruva Purkayastha said that the US India Clean India Finance – Project Preparation facility has been fairly successful, adding that "we need to bridge the gap between finance and projects". He said the role of DFIs and MDBs was huge, and that DFIs needed to finance NDC areas where investors are hard to find. MDBs and DFIs have access to finance at lower costs, so they need to explore possibilities to support NDC interventions and strategies. It was important to look at blended finance, where MDBs can play an important role. He said that a huge amount of investment was needed to decarbonize Asia, which is vulnerable and has a huge need of energy-intensive cooling and heating.

Dr. Radhika Lal said, "Climate-responsive public finance continues to be key, both in and of itself and also to stimulate private investment through fiscal, regulatory and policy measures and facilitating de-risking as well as to effectively leverage international climate finance and innovative finance, including green bonds, in the shift to LED. Complementary to this is promoting private sector and investments to be more SDG and climate-aligned and all that goes with that, including the importance of practice assurance standards in this regard to undermine green washing and focusing on the development of bankable project pipelines." She said that a three-part focus should look at climate-responsive investible opportunities, use of innovative financing instruments such as SDG bonds, green and blue bonds.

Mr. Ping Yean Cheah said, "Post-pandemic, infrastructure connectivity projects need to adopt higher technical standards and best practices that would accelerate economic recovery, sustainable development and climate resilience." He added that nearly 20% of the AIIB-wide USD 20 billion portfolio is aligned with the Green, Resilient, Efficient, Accessible, Thriving (GREAT) principles, and spoke about the Multi-lateral Co-operation Center for Development Finance, a multilateral initiative comprising multiple contributors and IFIs to address the challenge of infrastructure connectivity.



## C2: Finance – Global Carbon Market Instruments for Achieving Climate Goals

### Speakers

#### Introduction:

**Mr. Kundan Burnwal**, Advisor, Global Carbon Markets – India

**Mr. Maximilian Friedrich**, Junior Advisor, Global Carbon Markets

**Ms. Lydia Ondraczek**, Project Lead, Carbon Market Project, GIZ Germany

In the second session on finance, experts said that climate change/GHG emission rise has been a result of market failure, and that the costs of emissions are not included in economic activities. Putting a price on carbon is extremely important since most of the countries have submitted their NDCs and estimates show that the world is falling short of the efforts needed to curb rising temperature levels. Carbon pricing is an instrument that can help cut emissions in an efficient way and thereby contribute to the increase of ambition.

Mr. Kundan Burnwal said that finance flows to align with the Paris agreement cannot be met by public finance alone and that private finance needs to play a major role. The primary aim of carbon pricing is to internalize the external costs of pollution by putting a price of a ton of CO<sub>2</sub>e emitted. Shifting private finance into climate neutrality can be achieved only if CO<sub>2</sub> is priced high enough as companies need an incentive to invest in net-zero technologies.

The instruments and mechanisms for carbon pricing encompass domestic and international actions. Domestic actions include carbon tax, emissions trading systems and energy subsidy reforms. International actions include voluntary carbon markets, Article 6 of the Paris Agreement and linked emissions trading systems. Between domestic options of emissions trading and carbon tax, the former is more complex for implementing, along with uncertainty in prices. Emissions trading, however, provides certainty in emissions reductions. After many pilot attempts since 2010, China has announced a national level ETS governing the power sector. Revenue-neutral carbon tax approaches, where the carbon tax collected is used for welfare projects, have more acceptability.

Mr. Burnwal said that while implementing a carbon pricing instrument, thought must be given to preventing disproportionate effects on vulnerable communities, addressing competitive concerns such as carbon leakage, and ensuring transformational change rather than incremental reductions. Currently, carbon pricing mechanisms cover only 20% of the global emissions.

Mr. Maximilian Friedrich highlighted the key stumbling blocks concerning global carbon markets governance, such as questions on how to transition leftover credits under CDM to Article 6 provisions and concerns around double counting.



## C3: Transparency – The Enhanced Transparency Framework: Guidance for Implementation

### Speakers

#### Facilitator:

**Mr. Jigme**, *Manager, MRV/ETF Support Subdivision, Transparency Division, UNFCCC*

#### Panelists

#### **ETF after Katowice (status of negotiations, comparison old / new system, NDC progress tracking):**

**Dr. Bernd Hackmann**, *Programme Officer, Transparency Division, UNFCCC*

#### **Capacity assessment report: common challenges in the region:**

**Ms. Fatima-Zahra Taibi**, *Senior Advisor, UNEP DTU Partnership*

#### **Market place: tools**

#### **Greenhouse Gas Abatement Cost Model (GACMO) tool:**

**Dr. Denis Desgain**, *Head, Mitigation Analysis and Data Management*

#### **ICAT - Policy assessment guides:**

**Dr. Henning Wuester**, *Director, Initiative for Climate Action Transparency (ICAT)*

#### **Biennial Transparency Report (BTR) Roadmap Tool:**

**Dr. Mirella Salvatore**, *Natural Resources Officer (Climate Change), NDC Enhancement Support (NEST) Team, Office of Climate Change, Biodiversity and Environment, Food and Agriculture Organization of the United Nations (FAO)*

#### **US Environmental Protection Agency (EPA) Templates:**

**Mr. Leandro Buendia**, *Consultant, ICF*

The ALP Forum's first session on transparency focused on the enhanced transparency framework (ETF). Experts agreed that the ETF is the extension of the existing MRV and that the ICA process (existing MRV arrangements) provides an essential learning opportunity for parties and stakeholders to better prepare for the ETF transition.

Opening the session, Mr. Jigme said that transparency is a core commitment embedded in the convention and the Paris Agreement and is viewed as a key mechanism for trust and confidence building amongst parties and a tool to promote effective implementation of climate action. He said that under the ETF, all countries would operate under the same set of rules and guidelines, with flexibilities to certain group of countries. The ETF also provides support to developing countries to transition from the current MRV regime.

The challenges in this transition include weaker institutional arrangements, issues around unavailability of data, limited technical capacity to select and apply appropriate tools and methodologies, and limited domestic buy-in resulting in weaker policy buy-in and awareness of national stakeholders.

A recent survey by the UNFCCC of 22 countries found that 16% of the respondent countries indicated very limited knowledge of the ETF; 59% were familiar with the theme but not enough to start planning and implementation, and 25% claimed to possess enough knowledge. The fact that 75% of them are not confident indicates the potential challenges of ETF implementation.

Countries have only 3.5 years left to submit the 1st Biennial Transparency Report (BTR). Fortunately, most countries have some work ongoing in terms of National Communications and Biennial Update Reports (BURs), which will help them understand the status and draw a plan that puts them in a position that will help BTR preparation in the future.



Dr. Bernd Hackmann said that there was often a disconnect between what has been negotiated and agreed upon at international platforms and the knowledge available to implement these decisions at the country level.

The Katowice COP adopted MPGs for implementation of ETF, which are a very substantial set of guidelines for countries on what needs to be done, how ETF transition can take place, the principals to follow and what ETF should look like (adopted modalities, procedures and guidelines (MPGs), dates for BTRs and reviews, and support (financial and technical) to developing countries).

The ETF is facilitative, non-intrusive and non-punitive; respects national sovereignty; facilitates improved reporting/transparency over time; promotes Transparency, Accuracy, Completeness, Comparability, Consistency (TACCC) to build trust and generate data for guiding informed decisions; makes sure certain targets are reached; avoids double counting; and ensures environmental integrity. There are elements in ETF that allow parties to use certain flexibilities based on their national capacities. MPGs specify the flexibility available for specific provisions and countries can clearly indicate use of flexibility.

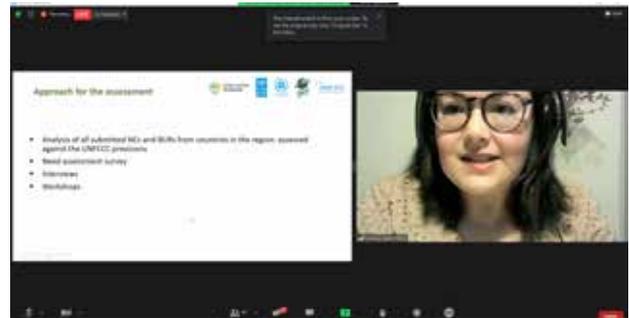
COP26/CMA3 is expected to deliver the last tally of the rules under the Paris Agreement that are relevant for the ETF, such as rules on Article 6, common time frames of NDCs, related to the CGE, and operational aspects of the Katowice MPGs on Article 13 on transparency. More than 1/3rd of the developing countries have submitted their BURs, which can serve as the basis for ETF transition.

Dr. Hackmann's key messages were: ETF constitutes an enhancement - same set of guidelines for all Parties, but is not completely new; it recognizes different starting points; there is flexibility for developing countries that need it; a robust institutional arrangement is a key factor of success; developing country parties continue to require support (technical and financial); 2024 is not far in the future: The best preparation for the future is taking action today.

Ms. Fatima-Zahra Taibi spoke about the Global Support Programme (GSP), jointly implemented by UN Environment and UNDP, to support developing countries on National Communications (NC), GHG inventories, mitigation and V&A analysis, and BURs. The GSP provides technical support on demand basis and complements the work of other supporting organizations.

UNEP DTU recently conducted an analysis of all submitted NCs and BURs from countries in the region: assessed against the UNFCCC provisions and prepared two reports. The findings are as follows: Most countries in South East Asia (SEA) have submitted at least one NC while some have not submitted their BUR; most countries in South Asia have made their second NC submission; these submissions are the result of many years of work done under MRV framework under the convention; countries in South Asia need to use IPCC 2006 guidelines to be compliant with ETF MPGs.

Common gaps in the content of the NCs and BURs are: unavailability of clear TORs of various committees, task groups, and/or expert/thematic working groups involved in the preparation of the NC and BUR; lack of details on the overall institutional arrangements for the implementation,



monitoring of adaptation/mitigation priorities; unavailability of procedures for managing uncertainties in inventory data and GHG emission calculations; adaptation measures not being evaluated in terms of costs, practicability, environmental and cultural appropriateness; unavailability of costs associated with the GHG reductions/mitigation projects.

The challenges include: absence of sustainable institutional arrangements where roles, responsibilities and frequency of reporting for all involved in transparency are clearly defined and institutionalized; treatment of NC & BUR (and BTR by extension) preparation as a one-off project where the infrastructure put in place is lost when the project ends; most of the countries do not have dedicated teams (or very small) for transparency and officials find it difficult to allocate time with their core work; high turnover leading to loss of knowledge and capacity; unavailability of data; lack of awareness from the data providers' side on how the data is used and the benefits from providing it; and lack of capacity in modelling and mitigation assessment.

Dr. Denis Desgain made a presentation on the GACMO model (Greenhouse Gas Abatement Cost Model), an Excel-based modelling tool developed at UDP. It aims to provide countries, mainly developing countries, a tool to carry out rapid but accurate evaluations of the GHG emissions impact of a variety of mitigation options.

GACMO is a “bottom-up” modelling tool which means that the GHG emissions projections are based on mitigation options implemented on the ground (not on macro data defined at national level such as macro-economic data). GACMO is usually used to establish a baseline/reference scenario and a mitigation scenario based on a set of mitigation options chosen by a country. The emissions calculations carried out with GACMO are based on the methodologies and emission factors established by the IPCC, as well as the methodologies established in the framework of the Clean Development Mechanism (CDM). The main data required to use GACMO are of the sectoral energy consumption of fossil fuels and electricity. A user can choose from approximately 119 mitigation actions listed in the tool, organized into 24 categories of activities. Using these, a user can develop mitigation scenario towards the years 2025, 2030 and/or 2050.

Dr. Henning Wuester said that they had developed, and collaborated with partners, to roll out a set of practical methodologies and tools to provide effective support to partner countries, and indirectly support non-partner countries, in their transparency efforts. ICAT's Toolbox covers key aspects such as NDC tracking, assessment of sustainable development impacts and transformational change potential, and data management. Ten Policy Assessment Guides assess the impacts of climate policies and actions. These are a series of methodologies for assessing the GHG emissions, sustainable development and transformational impacts of policies and actions in an integrated and comprehensive manner across all levels of governance.

ICAT has developed the following tools to facilitate the application of guides: (1) CAAT: aggregation of action at the sub-national level and by

non-state actors; allows integrating of these actions; (2) SCREEN: developed for the economic crisis due to the COVID-19 pandemic; assesses the short-term economic recovery potential of climate action in the context of a developing country; and (3) TRACE: assesses co-benefits of emission reduction measures in the transport sector.

Dr. Mirella Salvatore spoke about The Biennial Transparency Report Guidance and Roadmap Tool, jointly developed by the Partnership on Transparency in the Paris Agreement (PATPA) and the Food and Agriculture Organization of UN (FAO). The tool aims to guide developing countries in planning the preparation of their first BTR and participation in the Technical Expert Review (TER). It facilitates the long-term planning and the necessary institutional arrangements that countries should have in place to guarantee the sustainable implementation of this report; ensures a smooth transition from reporting of BUR to BTR; and guides the design and set-up of the transparency system underpinning the BTR process.

The main elements of the tool are: (1) Stocktaking: helping countries to map out the current in-country reporting arrangements; (2) ETF requirements mapping: guiding countries to understand the new requirements and planning for the BTR implementation; and (3) Roadmap generation: providing a summary of the necessary steps leading up to the BTR with indicative required time period to achieve the capacity development needed. The tool was launched on 26 and 27 October 2021.

Mr. Leandro Buendia spoke about the National GHG Inventory System, which is the way each country organizes and structures all the steps and elements needed to estimate, report, review, archive, and improve estimates of GHG emissions and removals.

The system's templates include the steps to design and build a system for developing and advancing GHG inventories in a way that reflects the national circumstances. These templates are consistent with IPCC "good practices" and UNFCCC guidelines for national GHG inventory development, including the modalities, procedures, and guidelines for future reporting of national GHG inventories under the ETF. The templates provide a step-by-step approach to plan and facilitate the inventory development process and serve as a key tool in documenting the system for future inventory teams.

The Agriculture and Land Use Greenhouse Gas Inventory Software (ALU) was developed based on experiences in United States Environmental Protection Agency-led capacity building projects. ALU guides the compiler through the process of inventory analysis for the Agriculture, Forestry and Other Land Use Sector; provides data management capabilities and prevents obvious errors; provides utilities that encourage good practices; is based on the methods in the IPCC National Greenhouse Gas Inventory Guidelines; and includes internal checks to ensure data integrity.

## C4: Transparency – Institutional Arrangements: Key Component for Robust Transparency Systems

### Speakers

#### Opening remarks:

**Ms. Simone Gotthardt**, *Partnership on Transparency in the Paris Agreement (PATPA)*

#### Overview Presentation:

##### **Institutional arrangements for transparency systems – options and benefits**

**Mr. James Harries**, *Technical Consultant – Climate Action Planning and Transparency, Ricardo Energy & Environment*

#### Panel Discussion:

**Ms. Ratnasari Wargahadibrata**, *Ministry of Environment and Forestry of Indonesia/ KLHK, Member of Compliance Committee under Kyoto Protocol Enforcement Branch*

**Ms. Anand Tsog**, *Senior Specialist in Climate Change Policy, Ministry of Environment and Tourism, Mongolia*

**Ms. Sandee Recabar**, *Chief, Implementation Oversight Division, Climate Change Commission-Climate Change Office, the Philippines*

**Dr. Sugumari Shanmugam**, *Under Secretary Climate Change Division, Malaysia*

In the second session on transparency, experts agreed that robust institutional arrangements are key to enable countries to provide reliable, comprehensive and regularly updated information that meets the enhanced reporting requirements, and to ensure requisite improvements on a regular basis.

Mr. James Harries said in his presentation on “Institutional arrangements: options & benefits” that transparency systems consist of legal, procedural and institutional arrangements. Institutional arrangements consider relations between people and institutions to ensure sustainable preparation of GHG inventory, BURs and NCs of appropriate quality. The key principles for institutional arrangements are that no one-size-fits-all and the best approach will vary between country to country, though there are some common elements such as that they should be long-term and sustainable. Transparency/MRV is not just about the systems, it’s about the people.

The introductory thematic presentation was followed by a lively discussion with four experts from Mongolia, Indonesia, Malaysia and the Philippines.

Ms. Anand Tsog said that Mongolia’s GHG Emission Inventory is being updated following the international accounting and reporting framework; the MRV and transparency system has been established; and that cross-sectoral approach is necessary to optimize the MRV system. “We are focusing on establishing a cross-sectoral committee of experts, climate change experts in each ministry, on improving the legal and policy environment in the long term. The key focus is utilizing the existing system,” she said.

Ms. Ratnasari Wargahadibrata said that the establishment of institutional arrangements is important for coordination of MRV activities. “The commitment of local leaders is important for us. It is difficult to coordinate with them on climate issues,” she said.

Ms. Sandee Recabar said that climate budget tagging is an important tool for the Government of the Philippines to accelerate climate resilient development. All departments and agencies in the Philippines need to submit their projects to the Climate Change Commission for review and approval. “Relationships matter for effective institutional arrangements and that institutional arrangements serve as a blueprint to implement transparency as they guide on who should do what and when,” she said.

Dr. Sugumari Shanmugam identified the challenges in Malaysia as institutional, human and financial capacity, adding that there is a need to establish a legal framework and for communication and coordination with the private sector and the public. She said that the single most effective aspect to improve institutional arrangements is that there should be buy-in from all relevant stakeholders.

To summarize, it is clear that challenges and solutions are very diverse and country specific. Therefore, peer-to-peer exchange and learning from the experiences of other countries is very helpful. All agreed that a cross-sectoral approach is necessary to optimise the MRV system. Further, capacity building and relationship building is central to long-term and sustainable institutional arrangements, given that transparency/MRV is about people and not just systems.



# Closing Plenary – Asia-Pacific’s Long-Term Climate Ambition: ALP’s Role & Future Action

## Speakers

### Moderator:

**Mr. Ron Benioff**, Executive Director, LEDS GP

### Panel discussion: Long Term Priorities of the Asia Pacific region – A stakeholder’s perspective

### Panelists

**Dr. Nguyen Thi Dieu Trinh**, Deputy Director General, Ministry of Planning and Investment, Vietnam

**Dr. Pem Narayan Kandel**, Secretary, Ministry of Forests and Environment, Nepal

**Mr. Merlin Lao**, Senior Program Manager, ICLEI East Asia Secretariat

**Ms. Caroline Uriarte**, Senior Program Manager, NREL

**Ms. Angela Enriquez**, Director of Analysis, Planning and Performance, SLOCAT

**Mr. Marlon Apanada**, Southeast Asia Engagement Lead for Energy & Climate, World Resources Institute and FWG Co-Chair

**Mr. Felipe Gomez**, Technical Coordinator, LEDS GP (GIZ)

**Ms. Aneta Nikolova**, Climate Action Theme Lead, UN ESCAP

In a panel discussion on the key challenges for South-east Asian countries in achieving their NDCs, moderated by Mr. Ron Benioff, Dr. Nguyen Thi Dieu Trinh said that Vietnam’s government is trying to prepare a legal framework to implement the updated NDC targets and to prepare economic and financial packages for the business sector. She highlighted the challenge of arranging resources for climate change targets and for supporting businesses, apart from other challenges such as technology transfer, cash flows and transport logistics. She added that the government has to work with both big companies and small and medium enterprises, as both have different needs, and that digital transformation and production lines need to be improved and reviewed.

She spoke of the need for financial initiatives such as green bonds, and of information such as about which are the low hanging fruit in financial services. She also discussed the importance of technology transfers for vaccines, and pointed out that vaccination and healthcare are key issues in regional initiatives.

Dr. Pem Narayan Kandel said that the key challenges in achieving NDCs are the need to reform governance to align policies with the NDCs; lack of adequate resources and data; need for efficient technology for climate change mitigation and adaptation; clean mobility; the cost of ensuring quality production; financial mechanism at the regional level; and south-south sharing of technology.

Mr. Merlin Lao identified the big gap in energy mix and the difficulties in the transition process as the challenges. He said that in China, the challenge is to upgrade small industries. He added that in East Asia, the target audience needs to be understood, along with their needs and financial considerations.

The Steering Committee/LEDS GP working group members made presentations on the different working groups. Ms. Caroline Uriarte, Senior Program Manager, NREL, spoke about the Energy Working Group and its involvement in accelerating the clean energy transition by focusing on energy storage, barriers, transmission and distribution costs, and in raising awareness about renewable energy.

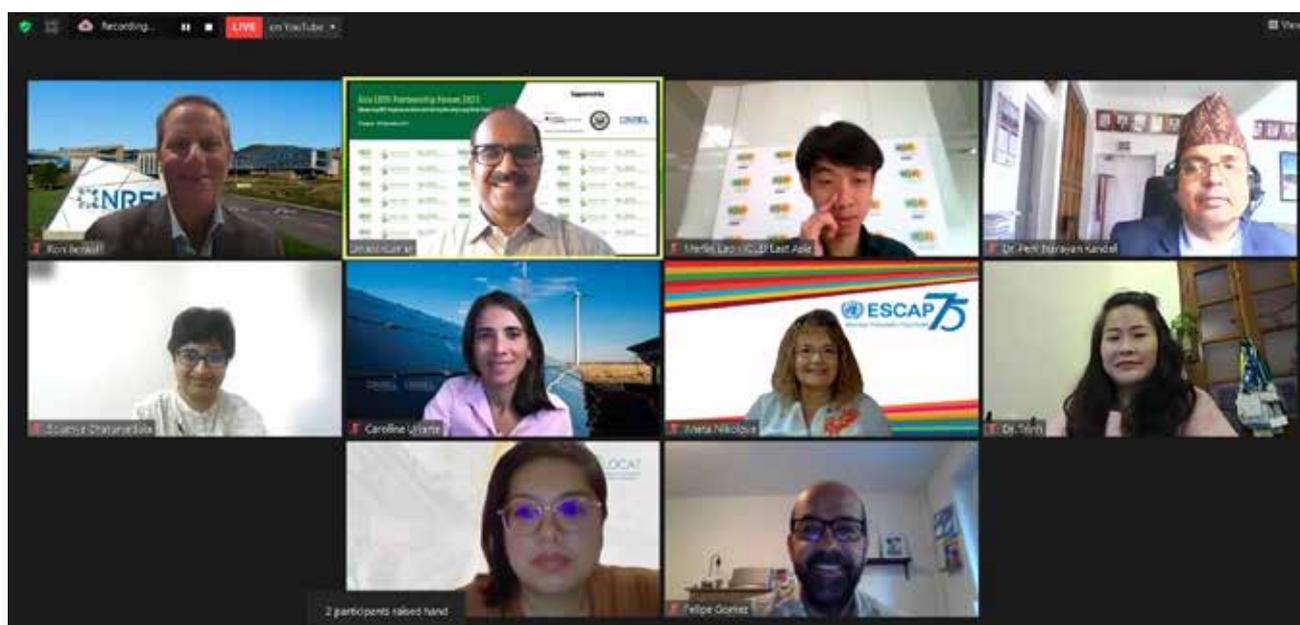
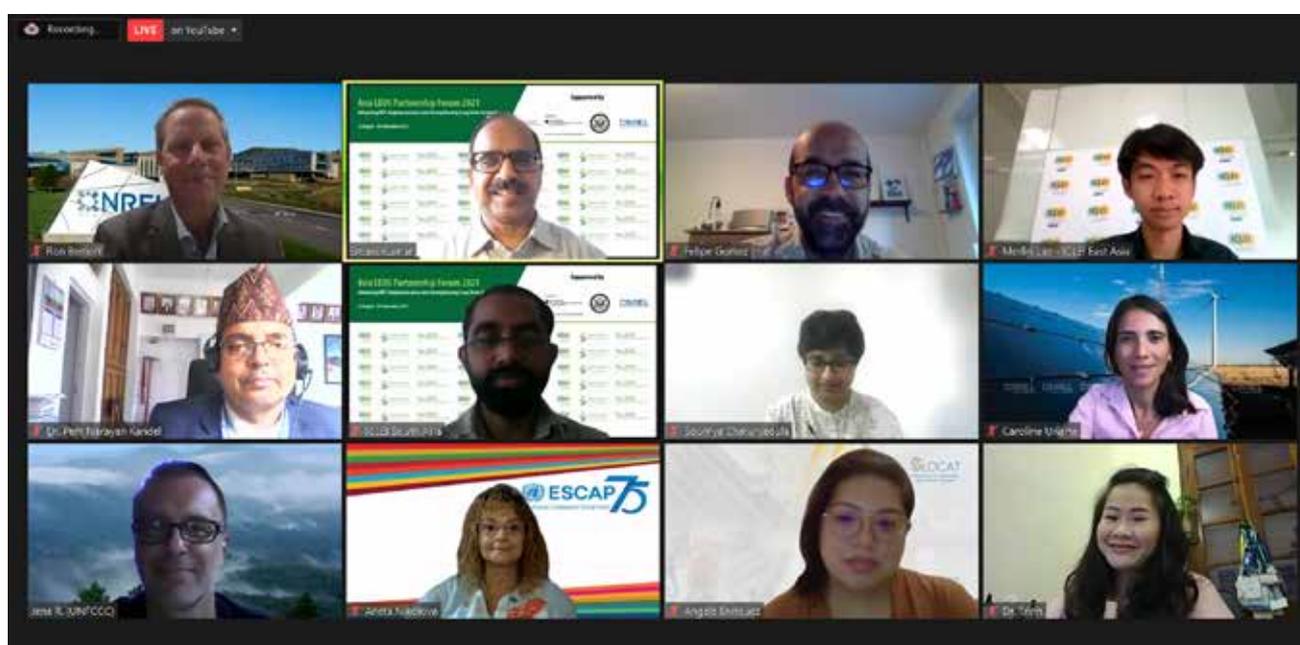
Ms. Angela Enriquez spoke about the Transport Working Group, and its efforts to hold trainings and webinars, and about the Asia Clean Mobility High Ambition Leadership Group, a new initiative of 10 countries, in which high-level leaders will discuss priorities.

Mr. Marlon Apanada presented on the Finance Working Group. He said that while much of the finance that is needed is available, transformative change would come from leadership that is unprecedented, has imagination for deploying low-carbon solutions, and sees opportunity in investments.

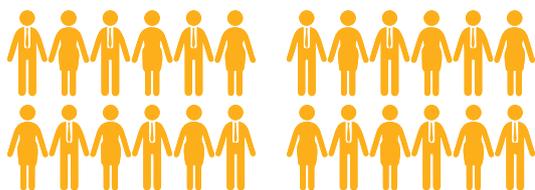
Mr. Felipe Gomez said that the Asia Clean Mobility High Ambition Leadership Group would provide tools and training, technical assistance and an opportunity to connect policy makers and established partnerships.

Ms. Aneta Nikolova said that ESCAP is looking forward to working with LEDS, adding that there is a need to help countries become more courageous with their NDCs. She added that many countries would end up with more emissions in 2030, as compared to 2019 levels. LT-LEDS is needed to revise the current NDCs. She said that funds need to be channelled to the local level, and carbon pricing applied to stimulate the low-carbon economy.

The ALP Forum 2021 concluded with the announcement of ALP’s new 22-member Steering Committee for the period from 1st of September 2021 to 31st of August 2023.



## ALP Forum 2021 at a Glance



**1600+**  
Participants



Åland Islands | Australia | Bangladesh | Belgium | Bhutan | Botswana | Brazil | Cambodia | Chad | China  
Ecuador | Egypt | Ethiopia | Fiji | France | Germany | Greece | Honduras | India | Indonesia | Italy | Japan  
Kenya | Libya | Malaysia | Mauritania | Mongolia | Mozambique | Myanmar | Nepal  
New Zealand | Nigeria | Pakistan | Panama | Philippines | Republic of Korea | Rwanda | Serbia | Singapore  
South Africa | Spain | Sri Lanka | Sudan | Sweden | Thailand | The Comoros | The Gambia  
Trinidad and Tobago | United Kingdom | United States | Vietnam | Zambia | Zimbabwe

**15**

Sessions



**95**

Speakers

(45 Female & 50 Male)



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