



USAID
FROM THE AMERICAN PEOPLE



**KOREA ENERGY
AGENCY**

ASIA CLEAN ENERGY FORUM 2019

PARTNERING FOR IMPACT

17–21 June 2019 | MANILA

SUMMARY REPORT



KNOWLEDGE PARTNER



Table of Contents

01	Overview	01
	Asia Clean Energy Forum 2019	
02	Plenaries	03
03	Thematic Tracks	09
	Energy and Livable Cities	
	Energy and Water Sustainability	
	Energy and Rural Poverty Alleviation	
	Energy and Innovative Finance	
	Clean Energy Trends and Directions	
04	Deep Dive Workshops	20
05	Special Events	22
	ADB on the Ground	
	Dim Sum with Entrepreneurs	
06	Other Events	23
	ADB Clean Energy Day	
	Women in Energy Lunch	
	Energy Leadership Roundtable	
07	ACEF Lunch Talks	24
08	Key Announcements	25
09	Week at a Glance	26

01

Overview

Asia Clean Energy Forum 2019

Each year, the Asia Clean Energy Forum (ACEF) brings together a diverse community of practitioners and implementers at the headquarters of the Asian Development Bank (ADB) in Manila. The participants are energy and climate professionals who are eager to drive change towards a more sustainable energy future. They convene to identify, discuss and find solutions to the key clean energy challenges we face in the region.

The 14th edition of ACEF was held during 17-21 June 2019. The theme was “Partnering for Impact”. For the first time, ACEF had five cross-sectoral thematic tracks—Energy and Livable Cities, Energy and Water Sustainability, Energy and Rural Poverty Alleviation, Energy and Innovative Finance, and Clean Energy Trends and Directions—based on the cross-cutting approach outlined in ADB’s new *Strategy 2030*. Each track included four sessions. The cross-sectoral approach sparked a wider and more inclusive discussion on how Asia’s clean energy community can partner and address key issues in parallel to meet our sustainable development goals.

ACEF 2019 also included 22 Deep Dive Workshops (DDWs), co-organized by a total of 29 partners including ADB, covering diverse topics ranging from electric vehicles to carbon capture to hydro mini-grids. There were also several special events on the ACEF 2019 menu: *ADB on the Ground* and *Dim Sum with Entrepreneurs*, and *ACEF Lunch Talks*.



1,650

Participants



78

Countries



20

Thematic Track Sessions



Over
300

Speakers



22

Deep Dive Workshops

Carbon-neutral and Paper-light

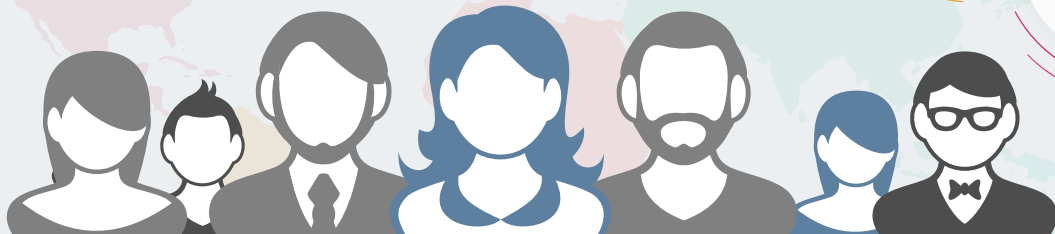
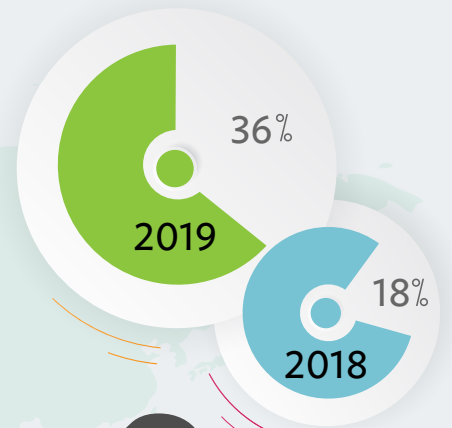
ACEF 2019 was designed to “walk the talk” about being sustainable. All efforts were taken to make the Forum as green as possible. There was no printed agenda; instead people were encouraged to use the Mobile App to access all Forum-related information. The traditional ACEF conference giveaway canvas bags were also missing this year. Instead, ADB purchased offsets for the travel-related carbon emissions of all ACEF participants, to ensure a smaller carbon footprint of the Forum.



ACEF 2019 participants using the Mobile App.

No all-male panels (“Manels”) at ACEF 2019

Share of Women Speakers



Women Participants in ACEF 2019

ACEF 2019 had more than 1,600 participants from 78 countries. More than 40% were female.

Youth Engagement

The ADB Youth for Asia team played a key role in the Forum this year. Nearly 30 youth participants, representing 11 ADB member countries such as Vietnam, Thailand, Cambodia, Afghanistan and India, participated in ACEF 2019 in different roles. This included: a "Crash Course" on sustainable energy and entrepreneurship, and the "Voltage Tank" where the youth pitched their clean energy ideas and solutions to experts. Some members of the ADB Youth for Asia team also served as rapporteurs for the Thematic Tracks.



A Youth for Asia participant at the Crash Course.

02

Plenaries

Opening Plenary: Envisioning the Low Carbon Energy Future

The opening plenary addressed the uncertainties of how energy systems will develop in the future, in the context of mitigating and adapting to climate change, rapid technology developments and global pressures to meet sustainability. Bambang Susantono, ADB's Vice-President of Knowledge Management, provided the welcome remarks which was followed by powerful keynote addresses by Amory Lovins, Co-founder and Chief Scientist, Rocky Mountain Institute and Fiza Farhan, Advisor and Member, UN High Level Panel on Women Economic Empowerment. The plenary also included a thought-provoking panel discussion featuring Amory Lovins, Fiza Farhan and ADB President Takehiko Nakao on pathways for energy sector development and the steps needed to deliver sustainable energy for Asia and the Pacific. Following this, representatives from ACEF's partner organizations—Gloria D. Steele, Acting Assistant Administrator, US Agency for International Development (USAID); Chang Seob Kim, President, Korea Energy Agency (KEA); and Keisuke Sadamori, Director, Energy Markets and Security, International Energy Agency (IEA)—provided their thoughts on how partnerships are critical to delivering the clean energy future.

In addition, Yongping Zhai, Chief of ADB's Energy Sector Group, shared a *Story of Impact* about a solar-based microgrid project in microgrid project in the Philippines, which is helping the local community to thrive, rather than just exist.



Opening Plenary Panel Discussion. From left to right: Amory Lovins, Co-founder and Chief Scientist, Rocky Mountain Institute; Fiza Farhan, Advisor and Member, UN High Level Panel on Women Economic Empowerment; Takehiko Nakao, President, ADB; and Teymoor Nabili, Moderator.



Yongping Zhai, ADB's Chief of Energy Sector, talking to the beneficiaries of the microgrid project supported by ADB.



“A sustainable and secure energy supply is essential for Asia and the Pacific, and is a key part of the fight against climate change.”

Takehiko Nakao
President, ADB

“Youth engagement is a key component of ACEF this year. Innovative solutions for development challenges will be catalyzed by empowering the next generation of energy leaders.”

Bambang Susantono
Vice President,
Knowledge Management, ADB



“The amount of energy saved every year globally is avoiding about twice as much carbon as is the growth in renewable energy.”

Amory Lovins
Co-founder and Chief Scientist,
Rocky Mountain Institute

“When you are giving access to light, you are giving access to life.”

Fiza Farhan
Advisor and Member,
UN High Level Panel on
Women Economic Empowerment



Finance Plenary: Financing Paris-aligned Pathways to the Energy Future

This plenary, moderated by Lotte Schou-Zibell, Chief of ADB's Finance Sector Group, explored strategies for financing the transition from the current centralized, fossil-based energy system to a much more decentralized, low-carbon energy system. ACEF participants heard the visions and perspectives of an impact investor (Vineet Rai, CEO, Aavishkaar); a social and microfinance entrepreneur (Jim Ayala, CEO and Founder, Hybrid Social Solutions); a commercial bank involved in sustainable energy finance (Eunjoo Park-Minc, Chief Advisor and Head of Sustainable Energy Finance, Banco de Oro (BDO), Philippines); and a development financing institution (Michael Barrow, Director-General, Private Sector Operations Department, ADB).

Finally, Woochong Um, Director General, Sustainable Development and Climate Change Department, ADB, shared a *Story of Impact* about the conference giveaway this year—travel-related carbon emissions offsets for ACEF 2019 participants through the purchase of certified emission reductions from an ADB-supported 126 MW hydro project in Bhutan.





“In a lot of places in the world, renewables are the least expensive source of energy and out produce traditional fossil-based energy sources.”

Lotte Schou-Zibell
Chief, Finance Sector Group, ADB

“We need to reimagine, because we cannot do the same thing and expect to change the world. It is time to look for ideas of change through the prism of new actions.”



Vineet Rai
CEO, Aavishkaar



“There are 40,000 communities in the Philippines still without electricity, but we keep pushing the grid. It’s time to push a grid-less solar network to transform rural villages.”

Jim Ayala
CEO and Founder, Hybrid Social Solutions

“We need three A’s to make financing happen: Action, Action, and Action.”



Eunjoo Park-Minc
Chief Advisor and Head of Sustainable Energy Finance, BDO, Philippines



“Over the last three to four years, we’ve seen a massive expansion of private sector funding for renewables project in Asia.”

Michael Barrow
Director-General,
Private Sector Operations Department, ADB

Closing Plenary: Leveraging Disruption for Sustainable Impact

ADB Senior Energy Specialist and ACEF 2019 Co-chair David Elzinga welcomed participants to the final ACEF 2019 plenary which was moderated by Ashok Bhargava, Director, Central and West Asia Energy Division, ADB. This plenary focused on how disruptions in the energy sector can be leveraged to deliver new solutions, with greater impacts. Plenary speakers —Jennifer Holmgren, CEO, LanzaTech; Ruth Yu-Owen, Co-founder, Connected Women and President and CEO, PhilCarbon; Amanullah Ghalib, CEO, Da Afghanistan Breshna Sherkat; and Atsushi Najima, President and Managing Director, Nissan Philippines—discussed how impactful partnerships can help accelerate shifts in how we plan, produce and use energy.



Closing Plenary Panel Discussion. From left to right: Ashok Bhargava, Director, Central and West Asia Energy Division, ADB; Jennifer Holmgren, CEO, LanzaTech; Amanullah Ghalib, CEO, Da Afghanistan Breshna Sherkat; Ruth Yu-Owen, Co-founder, Connected Women and President and CEO, PhilCarbon; and Atsushi Najima, President and Managing Director, Nissan Philippines.



David Elzinga, Senior Energy Specialist, ADB welcoming participants to the final plenary.



“We are not yet breaking the backbone of the carbon trajectory.”

Ashok Bhargava
Director, Central and West Asia Energy Division, ADB

“Winning slowly is the same as losing. We must disrupt the energy system.”



Jennifer Holmgren
CEO, LanzaTech



“The fourth industrial revolution is happening now.”

Ruth Yu-Owen
Co-founder, Connected Women and President and CEO, PhilCarbon

“Electricity can disrupt the challenges of pollution and urbanization.”



Atsushi Najima
President and Managing Director,
Nissan Philippines



“We see Afghanistan as a transit hub for energy between Central Asia and South Asia.”

Amanullah Ghalib
CEO, Da Afghanistan Breshna Sherkat

03

Thematic Tracks

This year we changed our approach to innovative discussions, building on ADB's *Strategy 2030*, which is focused on integrating operations across different sectors. So, unlike previous years where ACEF thematic tracks were based on streams such as energy efficiency, renewable energy and energy access, this year ACEF had five cross-sectoral thematic tracks—an integrated approach that can help to more effectively address the energy needs of Asia.

TRACK 1
Energy and Livable
Cities



Session 1.1: Urban Energy Planning for Smarter Utilities
Session 1.2: Scaling Up E-Mobility as a Platform for Sustainable Urban Transportation
Session 1.3: Heating and Cooling for Buildings in Cities
Session 1.4: New Energy Solutions: Multi-Benefit Opportunities for Cities

TRACK 2
Energy and Water
Sustainability



Session 2.1: Sustainable Energy for Water Supply and Sanitation
Session 2.2: Sustainable Energy Use for Water: Focus on Irrigation
Session 2.3: Sustainable Water Use for Energy: Floating Solar Photovoltaics
Session 2.4: Sustainability Lessons in Hydropower, Offshore Wind, and Pacific Utilities

TRACK 3
Energy and Rural Poverty
Alleviation



Session 3.1: Planning and Building for Climate Resilience and Low-Carbon Growth
Session 3.2: Going Beyond Solar Home Systems: Scaling Up Micro-grids and Mini-grids
Session 3.3: Innovative and Inclusive Microfinance for Renewable Energy
Session 3.4: Innovations in End-use Applications

TRACK 4
Energy and Innovative
Finance



Session 4.1: Global and Regional Trends in the Financing of Clean Energy
Session 4.2: The Role of Governments in Enabling Clean Energy Financing
Session 4.3: Financing of Large-Scale Renewable Energy Projects
Session 4.4: Crossing the “Valley of Death”: Impact and Venture Capital Investments in Early-stage Clean Energy Firms

TRACK 5
Clean Energy Trends
and Directions



Session 5.1: Novel PV Applications and Reaching Grid Parity
Session 5.2: Ocean Energy in the 21st Century
Session 5.3: Bioenergy and Waste-to-Energy
Session 5.4: Renewable Heating, Cooling, and Storage

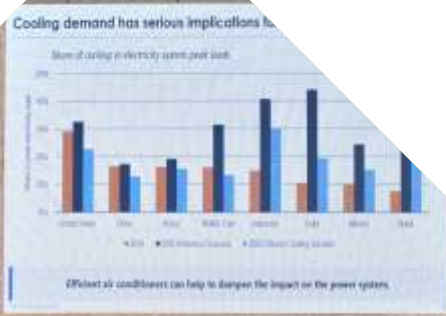
Track 1: Energy and Livable Cities

Our future is defined by cities.

With continued rapid urbanization, our future is defined by livable and resilient cities that benefit all citizens, especially the poor and vulnerable.

Track 1 sought cross-sectoral collaboration between the energy, transport, urban and water sectors of ADB through cross-disciplinary topics and rich interactions. Although many of the elements of dense urban settings such as buildings, mobility, citizen services, and energy resources are physically close, the interconnections need to be driven institutionally with the aid of data-driven planning tools and methods.

Speakers stressed the need for strong partnerships and information-sharing between stakeholders in order to facilitate delivery of the greatest impacts for sustainable energy and thus enable livable cities. The overarching message was that three I's (Indicators, Incentives and Institutions) can drive this change.



Policy, Financing, Consumer's Response
Electric Vehicles and Mobility Services
Technology Program, Business Models
Economic, Environmental and Social
Urban Transportation | Large and concentrated population, Multiple of Urban and Movement.

Priority in Urban Transport Policy

- Economic: Congestion, Accessibility & Connectivity, Energy Security
- Environmental: Climate Change, Consumption (Destruction)
- Social: Inclusiveness, Health & Safety

43 million deaths every year as a result of exposure to ambient (outdoor) air pollution (12 million in South Asia)

Can e-Mobility be a solution?

In Asia and the Pacific, the cost of health effects of air pollution is estimated at USD 17.9 billion in 2012, equivalent to 1% of the region's gross domestic product.

HEALTHY EFFECTS

WTO prediction: Air quality will improve in 100 cities by 2020. That saves a lot of lives.

HEALTHY EFFECTS

HEALTHY EFFECTS



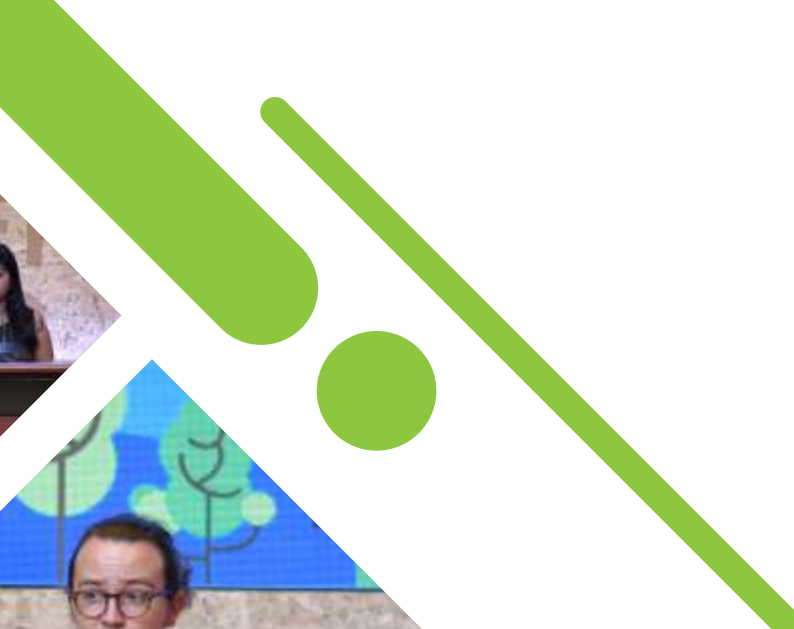


ADB

ENERGY
2019



ASIA CL



Track 2: Energy and Water Sustainability

There is no alternative to water.


The global demand for fresh water will exceed the supply by 40% by 2030. There is a critical need to address the challenges posed by existing institutional structures, policies, and procedures across all levels—subnational, national, regional, and global.

Discussions in Track 2 focused on how optimizing the water-energy nexus is key to achieving Sustainable Development Goals 6 (Clean Water and Sanitation) and 7 (Affordable and Clean Energy). One way to achieve this is by developing effective institutional and financing solutions. Speakers also suggested the need to tailor technologies to market, technical and socio-economic situations as there is no one-size-fits-all solution to address the challenge.

A key message from this Track was that we need to look beyond the cost of doing things and also look at the cost of *not* doing things.








Track 3: Energy and Rural Poverty Alleviation


The poor bear the major brunt of climate change.



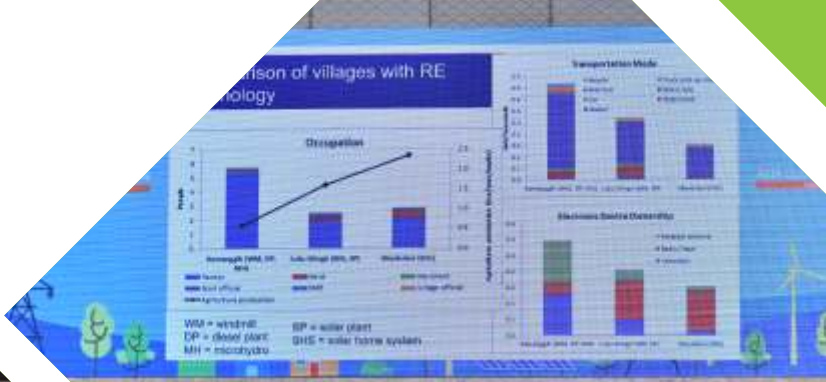
The focus of Track 3 was on how decentralized energy access is necessary for the "last mile" of energy consumers. Now more than ever before, there is a critical need for tools, technologies and approaches to address climate change, to both enhance resilience in poorer communities and achieve sustainability goals.



Higher access to electricity can lead to diversification of employment as well as economic and social improvement. Speakers suggested that it is also important to enhance the technical capacity of youth by training them in clean energy technologies and end-use applications.



Practitioners agreed that it is time to go beyond solar home systems and leverage micro- and mini-grids that can reach the most vulnerable and remote areas. Any transformational change will require a transparent stakeholder process.



- 1. Rakesh Dubey
CEO
S V Creditline Limited
- 2. Nikhil Macost
Managing Director
Finance
- 3. Sanaullah Fathi
Business Leader - Asia & Pacific
Greenlight Planet
- 4. Mayukh
CEO
Milasp Social Ventures



Track 4: Energy and Innovative Finance

The clean energy transition will require financing from across the risk spectrum.

Discussions in Track 4 made it clear that the transition to a low-carbon economy will require the involvement of everyone—from small retail investors investing through crowd-funding platforms to the largest pension funds in the world.

Speakers acknowledged the innovative approaches deployed by governments across the world to scale up clean energy. Some examples include: the role of the government in enabling large solar parks in India, which has led to record low prices for procurement of solar energy; the Green Bank in the UK, which enabled the first set of off-shore wind projects in the UK; and Malaysia's efforts to promote on-bill financing through the utility for commercial and institutional solar rooftop projects.

It was also noted that while incentives are extremely important for changing behavior and scaling up the right kind of investments, they can also cause a lot of harm if they are not well-designed or are abruptly changed. Thus, it is critical to design incentives with the market clearly in mind.

Speakers suggested that innovative contractual agreements called hybrid power purchase agreements are a new promising development, as they can integrate thermal energy or storage with renewables to ensure “firm power” generation.



Crowdfunding Market is Booming at a CAGR of 16.5% From 2019 to 2024



Key Risks

Transition Risk	
<ul style="list-style-type: none"> Shift toward Paris Agreement's "Net Zero" goal by 2050 Changing consumption patterns New competition Product viability and write offs Adaptation costs 	<ul style="list-style-type: none"> Physical damage to assets Disruption to supply chain and production Increased operating costs
<ul style="list-style-type: none"> Liability action Financial liability Regulatory action 	

Source: Mark Carney, Bank of England Governor





Track 5: Clean Energy Trends and Directions

Clean energy is a strategic tool for fighting poverty.

Clean energy is much more than electricity. Typically, however, 99% of clean energy discussions are about electricity generation and not end-uses.

Discussions in Track 5 focused on the need to expand and reinvent our strategy so that we can deliver diversified, multi-dimensional benefits of clean energy including solar, bioenergy, and ocean energy, .

Speakers expressed concerns over accessibility, affordability and equity due to the speed and disparity of clean energy development, particularly in Asian countries. They expressed the need to develop innovative financing mechanisms and government support in order to scale emerging technologies such as ocean energy which has a huge potential in Asia and the Pacific.



...e 2: Set up Pilot Plant.

... UK's
... Catalyst
... and 4

"Rice Straw to Biogas (R2B) Project"

- 7 years, 2017-2023
- Village scale biogas plant, Philippines

04

Deep Dive Workshops

The Deep Dive Workshops (DDWs) were a core part of the Forum this year. ACEF attendees had the choice of participating in 22 DDWs, which are focused sessions designed to give participants in-depth knowledge on specific topics of interest. Each DDW focused on defining, discussing, and brainstorming on a significant problem or opportunity in the clean energy sector.





List of DDWs at ACEF 2019

- Clean Energy Policy, Financing and Innovation (7th ADB-MOTIE Joint Energy Forum)
- Accelerating Clean Energy Technology Transformation with the Private Sector
- Renewable Energy Transition: Is Asia Leading?
- The Twelfth Meeting of Asia Solar Energy Forum (ASEF)
- Hydro Mini-Grids in the Asia-Pacific: Scaling Inclusive Enterprise-Based Approaches
- Scaling up Energy Efficiency with Simplified M&V Meters and ESCO Business Models
- Youth for Asia Voltage Tank
- The Subsidy Swap in Asia: Reforming Fossil Fuel and Electricity Subsidies to Drive a Renewable Revolution
- Integrated Solutions for Livable Cities in Asia Pacific: Multi-Energy Systems and Sustainable Buildings
- Community Energy Systems: Realizing the Potential of People's Partnership in Achieving Energy Access
- Women Power—Smarter, Inclusive Energy Solutions
- Integrated Design for Radical Energy Efficiency
- Urban Microgrids
- The Food-Water-Energy Nexus: Transforming Science for Sustainable Societies
- Grid Integration and System Flexibility: Status and Emerging Trends in Asia
- Asia Wakes Up to CCUS
- Regional Cooperation and Integration (RCI) for Cross-Border Energy Markets
- The Future of Cooling –Promoting Sustainable Cooling through Technology and Policy Innovation
- Utility-Scale Renewables: Challenges in Developing Solar and Wind Energy Projects
- Electric Vehicles
- Next-gen Utilities for a Smart Energy Future
- Achieving Universal Energy Access in the Asia-Pacific Region

05 Special Events

ADB on the Ground

In its second edition this year, the *ADB on the Ground* event was held in a “World Café” format: participants rotated to 26 tables, each showcasing event an innovative ADB project across Asia. More than 200 ACEF participants learned about ADB projects and interacted with ADB staff and country counterparts in this fast-track networking special event!



ACEF participants networking with ADB staff at the *ADB on the Ground* event.

Dim Sum with Entrepreneurs

A rapid-pitch event—*Dim Sum with Entrepreneurs*—was co-organized by ADB Ventures and the Private Financing Advisory Network (PFAN) as a special event at ACEF 2019. The objective was to showcase innovative emerging clean energy solutions, and to catalyse commercial connections. During the 90-minute, dynamic networking and match-making event, 26 clean energy entrepreneurs from 14 different countries pitched and presented their solutions to an audience of more than 300 people.



Entrepreneurs showcasing their products and services at the *Dim Sum* event.

06 Other Events

ADB Clean Energy Day

This was a dedicated half-day event for ADB staff to hear from ACEF 2019 plenary speaker Amory Lovins and to share knowledge across departments and sectors. Yongping Zhai, Chief of ADB's Energy Sector Group, led an engaging discussion with the ADB Energy Directors on how to support *Strategy 2030* and integrate its principles into sector projects.



Yongping Zhai, Chief of Energy Sector Group, ADB leading the discussions with ADB Energy Directors and Amory Lovins at the ADB Clean Energy Day.

Women in Energy Lunch

A special "Women in Energy" luncheon meeting was organized to engage men and women professionals in discussions on the sustainable energy and gender nexus. Led by Deborah Stokes, Vice President of Administration and Corporate Management at ADB, the deliberations at the luncheon meeting will be used to support ADB's gender mainstreaming approach in its energy sector development and investment planning with its DMCs.



Participants at the Women in Energy Lunch discussing gender related issues in sustainable energy.

Energy Leaders Round Table

ADB's Energy Sector group organized a round table event to engage high level ACEF 2019 attendees and ADB senior energy experts in moderated discussions on the latest technology and policy trends and challenges in the energy sector. Led by ADB's Yongping Zhai and Rocky Mountain Institute's Amory Lovins, the round table focused on emerging trends, implementation of ADB's *Strategy 2030* and the development of ADB's Energy Sector's Work Plan.



Deliberations by ACEF 2019 participants and ADB energy experts at the Energy Leaders Round Table.

07

ACEF Lunch Talks



The Ocean Economy

This Lunch Talk provided an overview of ADB's ocean economy initiative which was announced in May 2019. Presentations covered scalable solutions for marine aquaculture, coral propagation, and coastal zone waste-to-energy.

ADB Innovation Challenge

ADB announced its first technology innovation challenge and highlighted three energy-related development challenges: better clean heating and cooling; sustainable renewable energy-based microgrids; and application of artificial intelligence for energy demand management.



Scaling up Clean Energy in Southeast Asia: From Concept to Reality

This Lunch Talk provided a comparative assessment of ongoing regional and national initiatives in green finance to meet sustainable development aspirations in Southeast Asia.

How Are Clean Energy Programs Doing in Asia?

A range of speakers highlighted the importance of assessing clean energy interventions in Asia and the Pacific, in order to optimize the impact of clean energy programs.

08

Key Announcements: Partnering for Impact

Partnership between USAID and ADB

USAID/Asia announced a new clean energy partnership with ADB, as part of its new USAID EDGE program. USAID's contribution of up to \$100 million is expected to leverage up to \$7 billion of investment in clean energy in Asia.



Senior USAID and ADB representatives at the MOU Signing Ceremony.

MOU between ADB and the Korea Energy Agency

ADB and the Korea Energy Agency (KEA) signed their 3rd MOU at ACEF 2019. Through this MOU, ADB and KEA will further strengthen their joint efforts including information exchange, knowledge-sharing, and capacity building of DMCs in the areas of energy efficiency, renewable energy, energy access and climate change issues.



ADB and KEA management at the MOU Signing Ceremony.

UK Funding Extension to ADB's Clean Energy Fund

The UK Government, through its Department for Business, Energy and Industrial Strategy, (BEIS) announced a £9 million extension of funding to ADB's Clean Energy Financing Partnership Facility. The funding will support technical assistance activities for clean energy in the Asia-Pacific region.

Week at a Glance

ASIA CLEAN ENERGY FORUM 2019

17-21 June 2019

	11.00 a.m. - 12:30 p.m.	11.00 a.m. - 12:30 p.m.	12:30 p.m. - 2.00 p.m.	2.00 p.m. - 3:30 p.m.	4.00 p.m. - 5:30 p.m.	6.00 p.m. - 8:00 p.m.		
Monday June 17, 2019	Open Networking	Break	Open Networking	Lunch	Parallel Deep Dive Workshop (Full Day, Half Day or 90 minutes)	Break	Parallel Deep Dive Workshop (Full Day, Half Day or 90 minutes)	ACEF Welcome Reception Women's Reception: 5:30 p.m. - 6:30 p.m.
	Full Day Deep Dive Workshop		Full Day Deep Dive Workshop					
Tuesday June 18, 2019	Envisioning the Low Carbon Energy Future - Part 1 (Plenary)	Break	Envisioning the Low Carbon Energy Future - Part 2 (Plenary)	xxxx	Session 1.1: Urban Energy Planning for Smarter Utilities	Break	Session 1.2: Scaling Up E-Mobility as a Platform for Sustainable Urban Transportation	ACEF Reception (Women's Reception: 5:30 p.m. - 6:30 p.m.)
					Session 2.1: Sustainable Energy for Water Supply and Sanitation		Session 2.2: Sustainable Energy Use for Water: Focus on Irrigation	
					Session 3.1: Planning and Building for Climate Resilience and Low-Carbon Growth		Session 3.2: Going Beyond Solar Home Systems: Scaling Up Micro-grids and Mini-grids	
					Session 4.1: Global and Regional Trends in the Financing of Clean Energy		Session 4.2: The Role of Governments in Enabling Clean Energy Financing	
					Session 5.1: Novel PV Applications and Reaching Grid Parity		Session 5.2: Ocean Energy in the 21st Century	
Wednesday June 19, 2019	Parallel Half-Day Deep Dive Workshops	Break	Parallel Half-Day Deep Dive Workshops	ACEF Lunch Talk: ADB Innovation Challenge (1-2 p.m.)	Financing Paris Aligned Pathways to the Energy Future (Plenary)	Break	Special Event: ADB on the Ground	Reception
Thursday June 20, 2019	Session 1.3: Heating and Cooling for Buildings in Cities	Break	Session 1.4: New Energy Solutions: Multi-Benefit Opportunities for Cities	ACEF Lunch Talk: Scaling up Clean Energy in Southeast Asia: From Concept to Reality (1-2 p.m.)	Special Event: Dim Sum with Entrepreneurs	Break	Leveraging Disruption for Sustainable Impact (Plenary)	
	Session 2.3: Sustainable Water Use for Energy: Floating Solar Photovoltaics		Session 2.4: Sustainability Lessons in Hydropower, Offshore Wind, and Pacific Utilities					
	Session 3.3: Innovative and Inclusive Microfinance for Renewable Energy		Session 3.4: Innovations in End-use Applications					
	Session 4.3: Financing of Large-scale Renewable Energy Projects		Session 4.4: Crossing the "Valley of Death": Impact and Venture Capital Investments in Early-stage Clean Energy Firms					
	Session 5.3: Bioenergy and Waste-to-Energy		Session 5.4: Renewable Heating, Cooling, and Storage					
	Parallel Full Day Deep Dive Workshops	Break	Parallel Full Day Deep Dive Workshops	ACEF Lunch Talk: How Are Clean Energy Programs Doing in Asia? (1-2 p.m.)	Parallel Full Day Deep Dive Workshops	Break	Parallel Full Day Deep Dive Workshop	

LEGEND

 PLENARY SESSIONS	 NETWORKING OPPORTUNITIES
 DEEP DIVE WORKSHOPS	
 SPECIAL EVENTS	

THEMATIC TRACKS

 Energy & Livable Cities	 Energy and Innovative Finance
 Energy & Water Sustainability	 Clean Energy Trends & Directions
 Energy & Rural Poverty Alleviation	

SPONSORS



.Kreate



PARTNERS



Mark your calendar for ACEF 2020

June 15-19, 2020 | Manila

Connect with us on:

- www.asiacleanenergyforum.org/
- www.facebook.com/asiacleanenergyforum/
- www.twitter.com/ACEF2019
- www.linkedin.com/groups/5069172/

Please contact us at:
acef@adb.org for further inquiries