

# ASIA CLEAN ENERGY FORUM 2019

**PARTNERING FOR IMPACT**

17–21 June 2019 | Manila



## Deep Dive Workshop

Friday, 21 June 2019, 9:00 a.m. – 5:30 p.m.

*Multifunction Hall 1*

## Electric Vehicles Led Energy Transformation



### Point of Contact:

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### Background

Bloomberg NEF forecasts that by 2040, there will be “559 million EVs on the road” and “55% of all new car sales and 33% of the global fleet will be electric”. Some argues that despite the impressive growth—1 million in 2015, to 2 million in 2017 to over 3 million in 2018—it will take decades before half the global market will be EVs.

Today, Peoples Republic of China (PRC) has the largest electric car market and leading the world in EV adoption, and Norway has the largest market share of about 50%, the other developing countries must catch up and this Deep Dive Workshop will light up that path.

### Objective

The objective, which is beyond simply raising awareness of EV, is to enable and engage participants and help them develop project ideas for large scale adoption of EVs. The idea is to start an electric car revolution at the bottom of the income pyramid in our DMCs which can trigger faster and wider market adoption side by side as the developed world brings in the Tesla, BMW i3, Chevy Volt or the Nissan Leaf at the top of the pyramid.

### Benefits to ADB:

Under Strategy 2030, at least 75% of the number of ADB projects will support climate change mitigation and adaptation by 2030 and promote gender equality. Electric vehicle adoption as a new technology will create opportunity for both targeting climate change and gender equality.

Widespread vehicle electrification could dramatically reduce carbon pollution from transportation and help the development member countries to achieve their climate targets

## Benefits to ACEF Participants:

- Understand the EV revolution and its role in:
- Reducing emissions, reduce noise pollution and improve air quality;
- Improve energy security in oil importing countries;
- Opportunities for new investment and develop new business

## Indicative Agenda

08:30am –  
09:30am

### Opening Session:

Opening Remarks, Senior ADB Official

### Guest Speaker

Amory Bloch Lovins, Chairman and Chief Scientist, Rocky Mountain Institute

### Keynote: Why our future matters?

Atty Benjamin “Benhur” Abalos Jr., Former Mayor, City of Mandaluyong  
Julia Andrea R. Jerota, a teenager’s view of 2040

09:30am – 10:45am **Session 1: Debunking EV Myths**

The session will discuss common concerns and questions by the panelists in an open dialogue format.

### Panelists:

TC Green, EV Researcher  
Susan Lim, Senior Transport Specialist, ADB  
Dan Millison, ADB Expert  
Karthika Nair, Mahindra Electric

**Moderator:** Eun young So, Energy Specialist, ADB

10:45am –11:15am  
Virtual EV Rally (pick  
your favorite and  
take part in a virtual  
race)

During the coffee break participants will pick one of 10 EVs and watch this 20-minute actual race across Europe. The “winning” team will be announced after lunch.

11:15am–12:30 pm

### Session 2: The transformational power of EVs

This will analyze impact of EVs on today’s energy sector, climate change mitigation, use of oil, and other sectors.

Participants will learn impact stories from cities and countries that are transforming their world and their vulnerabilities through large scale EV use. The session will highlight the impact EVs are causing in early adopter countries and plans for large scale EV adoption by 2030.

**Panelists:**

Andre Djokosoetono, PT Blue Bird  
Jeslyn Jerota, Youth Speaker  
Victor Ranyis, Sarawak Energy  
Dr. Thusitha Sugathapala  
Vignesh Nandakumar, Aspada

**Moderator:** Carolyn Dedolph Cabrera, ADB

2:00 pm – 3:15 pm    **Session 3: Business Opportunities in EV**

We will hear from startups, equity investors, and OEM manufacturers.

Session expects to cover: EV retrofit, EV charging (including solar and mobile charging); EV leasing, EV fleet management, battery recycling, battery assembly and second life batteries.

**Panelists:**

Bhaskar Deol, Mynergy  
Robin Hughes, Clean Vehicle Solutions (Asia) Limited  
Samia Tariq, Investment Specialist, ADB  
Gabby Villoria, GerWeiss, Young Entrepreneur

**Moderator:** Susan Roth, ADB

3:45 pm – 5:00 pm    **Session 4: EVs and future**

This session will allow the participant to enter the future of EV and get glimpse of 2030 and beyond. Scenario will be based on current trends and policy commitments covering both top down and bottom up efforts

Panelists will help participants portray a collective picture for the world of 2030—with at least 50% new EVs worldwide and its impact on society.

Video Presentation: solar and wind power tricycle, Mac Flauta

**Panelists:**

Yong Chen, International Renewable Energy Agency  
Greg McGarvie, ACE-EV Group, Australia  
Mark Andrew Tieng, BYD Philippines  
Anthony C. Agoncillo, Meralco  
Rebecca P. Plaza, Plaza Partners

**Moderator:** Sohail Hasnie, ADB

**Closing:** Yongping Zhai, Chief of Energy Sector Group, ADB



### **Amory Bloch Lovins**

Chairman and Chief Scientist, Rocky Mountain Institute

Working at the cutting edge of science and environmental and energy policy across the globe for the past 30 years, Amory B. Lovins is widely recognized as one of the most important scientists and thinkers of his age. An Oxford don at the extraordinarily young age of 21, he has gone on to receive nine honorary doctorates and hold positions at some of the most prestigious academic institutions in the world.

Working as a team with his wife Hunter Lovins, Mr. Lovins has been honored with prizes including the Right Livelihood Award (often called the “alternative Nobel Prize”) and TIME magazine’s Heroes for the Planet Award. He has also received the Nissan Prize for the invention of superefficient ultralight hybrid cars, a program that has had more than \$10 billion committed to it. Amongst many other awards he has received the Benjamin Franklin Medal from the UK Royal Society of Arts and honorary membership of the American Institute of Architects.

Together, the Lovinses co-founded the Rocky Mountain Institute, an independent non-profit, applied research center of which he is now Chairman and Chief Scientist. The Institute itself is a giant laboratory, with buildings designed by Mr. Lovins accomplishing astonishing energy savings, which led to him helping redesign more than \$30 billion worth of facilities for many companies and government agencies.

Mr. Lovins has given expert testimony to governmental agencies across the world and briefed 19 heads of state. His publications include 29 books, several hundred papers and poetry, landscape photography and music. He has served on many high-level US government committees and is a Fellow of the American Association for the Advancement of Science.

Addressing virtually every major company which has an interest in energy use, Mr. Lovins’ clients have included Accenture, BP, Coca-Cola, GM, Hewlett-Packard, Lockheed Martin, Mitsubishi, Texas Instruments, Westinghouse, Xerox, the Australian, Canadian, Dutch, German, and Italian governments, 13 states, Congress, and the U.S. Energy and Defense Departments.

**Benhur Abalos**

Former Mayor, City of Mandaluyong

**Professor/Lecturer** – UP-NCPAG (University of the Philippines, National College of Public Administration and Governance), DAP (Development Academy of the Philippines, LGA (Local Government Academy)

**Outstanding City Mayor** - Local Government Leadership Award (LGLA), Awarded by the Senate and Congress of the Philippines, University of the Philippines, Ateneo School of Government - Ateneo de Manila, La Salle Institute of Governance – DLSU, Center for Governance Development Academy of the Philippines, San Carlos University, Mindanao State University and Kalayaan College, October 13, 2003

**FORMER PRESIDENT**, in concurrent capacity (2007-2010)

Union of Local Authorities of the Philippines, an umbrella organization of leagues of governors, vice-governors, board members, city/municipal mayors and vice-mayors, councilors, barangay chairmen that traditionally has been headed by a governor.

**FORMER PRESIDENT**, League of Cities of the Philippines, comprising of the 143 cities in the Philippines

United Nations Public Service Award in recognition of his excellent performance as a public servant in initiating Project TEACH, a program that extends free services and intervention to children with special needs of indigent families. Awarded by the United Nations thru its Division for Public Administration and Development Management, Medellin, Colombia, June 25, 2015

**Julia Andrea R. Jerota**

She is 14 years old and currently in junior high school. In her spare time, she likes to read books, watch Netflix and enjoys public speaking. She plans to travel the world, meet new people and experience new cultures.

She is proficient both in English and Mandarin languages and a recipient of the China Summer Camp Scholarship Program at Sun Yat sen University. To hone her public speaking skills, she is an active member of Toastmasters International.

**TC Green**

EV Researcher



**Susan Lim**  
Senior Transport Specialist

Susan has nearly 20 years of experience in the transport sector, including traffic and revenue studies, non-motorized transport planning and design, transport master plans, and road construction and rehabilitation. Currently she is the team leader in designing the Gui'an New District Smart Transport Project and the policy study on Integrated Transport Development in Xiong'an New Area in the People's Republic of China



**Dan Millison**  
ADB Consultant

Dan Millison is the Manager of Transcendery L.L.C., a private consultancy established in 2008 to provide sustainable infrastructure solutions. He has helped mobilize well over \$10 billion investment in energy and transport infrastructure, including more than \$1 billion of co-financing from the Clean Technology Fund, the Scaling Up Renewable Energy Program, and the Green Climate Fund. He was formerly a senior energy specialist at Asian Development Bank, and previously worked in the environmental services and oil and gas industries. He holds a M.S. in Civil Engineering and a B.A. in Geological Sciences, both from Northwestern University in Evanston, Illinois.



**Nair Karthika**  
Strategy & Business Development, Mahindra Electric

Karthika has been in her current role at Mahindra Electric, India for the past 5 years. Her role was primarily focused on exploring and developing new markets in the commercial segment for electric vehicles (EVs) and enabling eco-system development for EVs. Currently, she leads the electric three-wheeler product & IoT platform and electric three-wheeler growth opportunities from export markets. Karthika has a bachelor's degree in Computer Science followed by a Master's in Management Studies in Marketing from the University of Mumbai.

**Andre Djokoesetono**

Director, PT Blue Bird TBK

Prior to Blue Bird, Andre has been the Chairman in Indonesia Road Transport Organization and Head Committee for Land Transportation at Indonesia Chambers of Commerce.

**Jeslyn Jerota**

Student, Ateneo Confucius Institute

She loves to watch Animal Planet and Discovery channel and this made her fall in love with Science and Technology. To further explore her interest in science, she joined as a camper in Coral Triangle Day Science Camp sponsored by the Department of Environment and Natural Resources and Department of Science and Technology.

She is currently in junior high school and a student at the Ateneo Confucius Institute, where earned a scholarship for the 2019 China Summer Camp at Sun Yat-sen University. She enjoys public speaking and is an active member of Toastmasters International.

**Viktor Ranyis**

Senior Manager, Sarawak Energy Berhad

Victor graduated from University of Leeds, UK in Mechanical Engineering. Prior to joining Sarawak Energy in June 2018, Victor has worked for Shell Malaysia for 27 years. He has diverse Oil & Gas working experiences as Mechanical Design Engineer, Maintenance Engineer and various Project Management roles in Malaysia and a joint venture Enhanced Oil Recovery (EOR) Technology Project in Oman. In addition to leading the EV Program in Sarawak Energy, Victor is a Senior Manager in Business Development Department, for the early development of Kaltara Hydropower Project, a joint venture hydropower project in Kalimantan Utara, Borneo.

**Dr. Thusitha Sugathapala**

Senior Lecturer, University of Moratuwa

Dr. Thusitha Sugathapala is a Senior Lecturer in Mechanical Engineering of the University of Moratuwa; and a Chartered Engineer. He obtained the BSc Engineering Degree from University of Moratuwa and PhD from University of Cambridge. He served as the Head of the Department of Mechanical Engineering, and the Director General of Sri Lanka Sustainable Energy Authority. Dr. Sugathapala's research areas of interest cover both energy and environment fields, including renewable energy; energy efficiency; and air quality management. He has served several national level committees; conducted national and regional level research programmes; and involved with development of policies and regulations.



**Vignesh Nandakumar**  
Partner, Aspada Investments

Aspada Investment Advisors is focused on building out the cleantech, renewable energy and environment verticals. Vignesh has 15 years of experience in technology development and renewable energy, in initiating, sustaining and building new businesses across India, Thailand, and South Africa. He has a successful track record of delivering businesses with over \$500M in revenue and a GW of contracted renewable energy assets. He was responsible for M&A origination and business development for a NASDAQ listed entity for the APAC and sub-Saharan African markets.



**Bhaskar Deol**  
Mynergy

As founder of Mynergy, my work is focused on solving challenges of finding sustainable finance solutions for decentralized energy assets, including rooftop solar energy, minigrids, and electric mobility. Our goal is to help companies in developing countries gain access to new means of financing, including crowd financing.

At Natural Resources Defense Council, I supported development of clean energy policies for acceleration of renewable energy and energy efficiency across Indian states. I also worked on international climate policy, including the Montreal Protocol and United Nations Framework Convention for Climate Change. Prior to this, I worked as a sustainability consultant helping corporate customers reduce their carbon footprint. I am currently based in Amsterdam, spearheading Mynergy's participation in Rockstart's Smart Energy 2018 Accelerator Program.



**Robin Hughes**  
Clean Vehicle Solutions (Asia) Limited

Robin has over 40 years of experience in transport economics, international treasury, and structured finance in Europe and Asia. For the past 20 years, he has been in the "Alternative Fuels" Industry, concentrating on the public transport sector. He is responsible for all clean energy projects, business strategy, and marketing. He enjoys close relationships with persons at the highest level of government, diplomatic and commercial activities. Currently, his company is launching a portfolio of new BEV that meets the policy of the replacement of old polluting public transport vehicles in the Philippines. Robin has recently published research papers on: "Automotive Alternative Fuels", "BEV as a Transport mode in the Philippines", "Sustainable Public Transport EV for marginalised borrowers in Emerging Markets"



**Gabby Villoria**  
COO, GerWeiss

Gabby Villoria began working in the Electric Vehicle industry in 2009 when he was just 14 years old. Since then, he has received technical trainings in the US and China specializing in advanced Drive and US Lithium Battery Systems, while taking up Electronics and Communications Engineering at De La Salle University. Currently, he holds the dual titles of Chief Operating Officer and Chief Technology Officer for GerWeiss Motors Corp and has personally designed and assembled over 100 US made lithium battery packs and vehicles being used in the GerWeiss Electric Vehicle Ecosystem. He has represented the company in UN sponsored events and other international events as an expert in Electric Vehicle Mobility solutions. He is currently spearheading the expansion of the company to other cities directly marketing to the tricycle drivers, he has a unique grassroots perspective on the plights of the Tricycle Drivers and the impact electric vehicles can have on them, including negotiations and partnership with local and international investors. He is also responsible for ensuring the 100% collection rate for partner banks who provides 100% financing to all drivers.



**Satish Rajagopalan**  
Head of Strategy & Business Development at Mahindra Electric Mobility Limited, Mahindra Electric

Satish is a business leader and an entrepreneur with over 25 years of experience defining product, market, vision and strategy across high growth and start-up environments. Hold successful background of year-after-year success in achieving revenue, profit, and business growth objectives.



**Samia Tariq**  
Investment Specialist, ADB

At ADB, Samia works on private sector infrastructure investments across Central, South and West Asian countries. Prior to joining ADB, she was an Executive for the Operational Transaction Services team at EY, London working on the operational aspects of pre and post merger and acquisition (M&A) deals. Samia has 10 years of experience in business development particularly in corporate and project finance. Samia's current projects include LNG related infrastructure, gas and renewable energy based power generation, power distribution and transmission



### **Yong Chen**

Programme Officer, IRENA

Mr. Chen is a Programme Officer at the International Renewable Energy Agency's (IRENA) Innovation and Technology Centre (ITC) in Bonn, Germany. He leads the sustainable urban energy programme within IRENA and is responsible for building on the established in-house expertise related to urban energy-related issues. He is currently creating a knowledge framework for addressing urban energy challenges with renewable-centric solutions aimed at advancing the transition of urban energy systems towards a clean, low-carbon future.

Previously, Yong spent six years as a Regional Programme Officer for Asia and the Pacific with the Country Support and Partnership team at IRENA's Headquarters in Abu Dhabi, United Arab Emirates. He is not only profiled the Agency in the region by facilitating the adoption and use of IRENA's knowledge products, but also led and contributed to the technical assistance and thematic studies in the Asia- Pacific region.

For four years, Mr. Chen has been appointed in his personal capacity as Chair/Co-chair of the Renewable Energy Track for the Asia Clean Energy Forum (ACEF) of the Asian Development Bank (ADB). Mr. Chen has advised the ACEF Steering Committee on the shaping of thematic topics, creation of programmes, review of applications, selection of speakers for the Renewable Energy Track, and ACEF plenary closing session reporting, among other duties of the Chair/Co-chair. Mr. Chen has also represented IRENA as a speaker and/or a moderator at numerous key energy-related conferences and workshops.

Prior to joining IRENA, Mr. Chen spent 15 years as a researcher with Stockholm Environment Institute (SEI) and worked as a consultant in the field of energy and environment with a focus on renewable energy technologies and policies

### **Greg McGarvie**

Managing Director, ACE EV Group

Greg McGarvie has a background in business, marine education and training sciences. He was instrumental in the early development of a number of regional and international environmental organizations. The ACE-EV Group is creating great Australian opportunities with eMobility solutions developed by German and Swiss design engineers. ACE-EV Group is part of a Global Strategy with German and Taiwanese corporate partners.



**Mark Andrew Tieng**  
BYD Philippines

Mark is the Managing Director of Solar Transport and Automotive Resources Corp, which distributes BYD, Build Your Dreams, the largest manufacturer for New Energy vehicles in the world for the last 4 years. One of the first Electric Vehicle owners in our country, he has been driving electric cars since 2014. He is an advocate for greener mobility and is excited to bring sustainable change to our world.

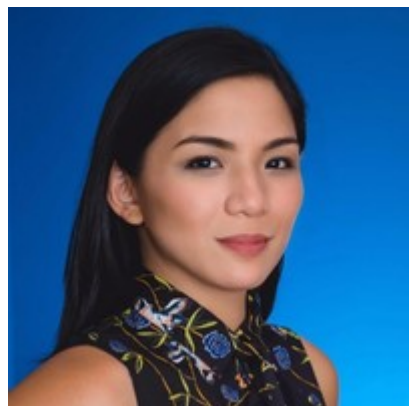


**Anthony C. Agoncillo**  
Meralco

Tonichi Agoncillo has been with MERALCO for 19 years and he has been involved in the company's initiatives in the electric vehicle (EV) field for the past 10 years, as well as assisting the local EV industry in the same amount of time to grow into what it is today.

Helping organize the 1st Philippine Electric Vehicle Summit in 2010 which led to the establishment of the Electric Vehicle Alliance (EVA), the partnerships he forged with local players brought forward a string of EV deployments which include electric shuttles used as a means of transport for Meralco, Ateneo, La Salle and the Quezon City LGU to name a few. He likewise drew on the electrical engineering expertise within Meralco to locally develop EV charging pods to cater to the requirements of eTrikes and eJeeps, and put up in 2013 the first showcase of a fully operational grid-tied EV charging station complemented with solar and wind sources within the Meralco compound.

With the current advancement in EVs, both in the vehicle and charging space, Tonichi is now forging ahead in the study of deploying fast chargers, including the potentials of V2G (vehicle-to-grid), in line with the expected influx of higher technology EVs in the country.



**Rebecca Plaza**  
Plaza Partners

Rebecca Plaza is the founder of Plaza + Partners, an interdisciplinary team of architects, interior designers and urban planners, working together to develop sustainable design solutions that are sensitive to the end users needs and aspirations, supported by rigorous research and attention to detail. Since its establishment in 2015, the practice has worked on numerous public markets, community and commercial centers, hotels and civic buildings.

Alongside this, Rebecca is the Festival Director of the annual Anthology Architecture and Design Festival, a three day event that brings together over 5000 local and international practitioners in the built environment in hope for creating better, socially relevant architecture. Prior to this,

Rebecca worked at two of Britain's top architectural firms: Jestico + Whiles and John McAslan and Partners. Rebecca graduated from the University of Bath where she was awarded the Sir Basil Spence Design Prize by HRH Prince Edward for exceptional multi-disciplinary design.

Rebecca did design and research programs at the Architectural Association in London and The University of Hong Kong. She was awarded the Gold Medal in the 2016 Asia's Young Designer Awards and named one of Lifestyle Asia's 30 Gamechangers of 2017 and featured as People Asia's People of the Year 2017. She is a Global Shaper of The World Economic Forum.

## Supporting Activities

This event is organized by the Energy Division of the Central and West Asia Department (CWEN-CWRD) in close coordination with the Sustainable Development and Climate Change (SDCC) Department of ADB.

Other interactive activities will also be available to support the main workshop:

### Physical EV exhibit

- 3 exhibition stalls will present EV technologies from around the world, with the industry experts to answer questions.
- Some electric vehicles: BYD EV, e-trikes will be on display for an Instagram photo competition at the main ADB Foyer.

### Social Media

- All sessions will be broadcast through ADB Corporate Facebook Live. Some of the contents may also be used as a podcast later.
- A Twitter Wall and potentially an Instagram Photo competition for the exhibit may be included.

### Youth and Women participants

- Each session will be represented by young professionals and balanced gender participation.

### Quality of Presentation

- Presentation topic will be current, presentations will be precise, and audience will be encouraged to interact and the whole workshop will be tightly moderated.