

ASIA PACIFIC ECONOMIC COOPERATION (APEC) CLEAN ENERGY ACTIVITIES

Cary Bloyd
Electricity Infrastructure & Buildings Division
Pacific Northwest National Laboratory
Cary.Bloyd@pnnl.gov



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

Briefing Overview

- ▶ APEC structure
- ▶ APEC Clean Energy Mandate
- ▶ APEC Expert Group on Energy Efficiency and Conservation
- ▶ Aligning Conformity Assessment Efforts for Energy Efficiency Regulations of Motors in the APEC and ASEAN Regions (EWG 13 2018A)



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

What is APEC?

- ▶ The Asia-Pacific Economic Cooperation (APEC) forum was established in 1989 to leverage on the growing interdependence of the Asia-Pacific economies
- ▶ Objective: Promote trade liberalization, trade facilitation and technical assistance
- ▶ APEC Economies account for more than one third of the world's population, 54% of world GNP and 44% of world trade

www.apec.org



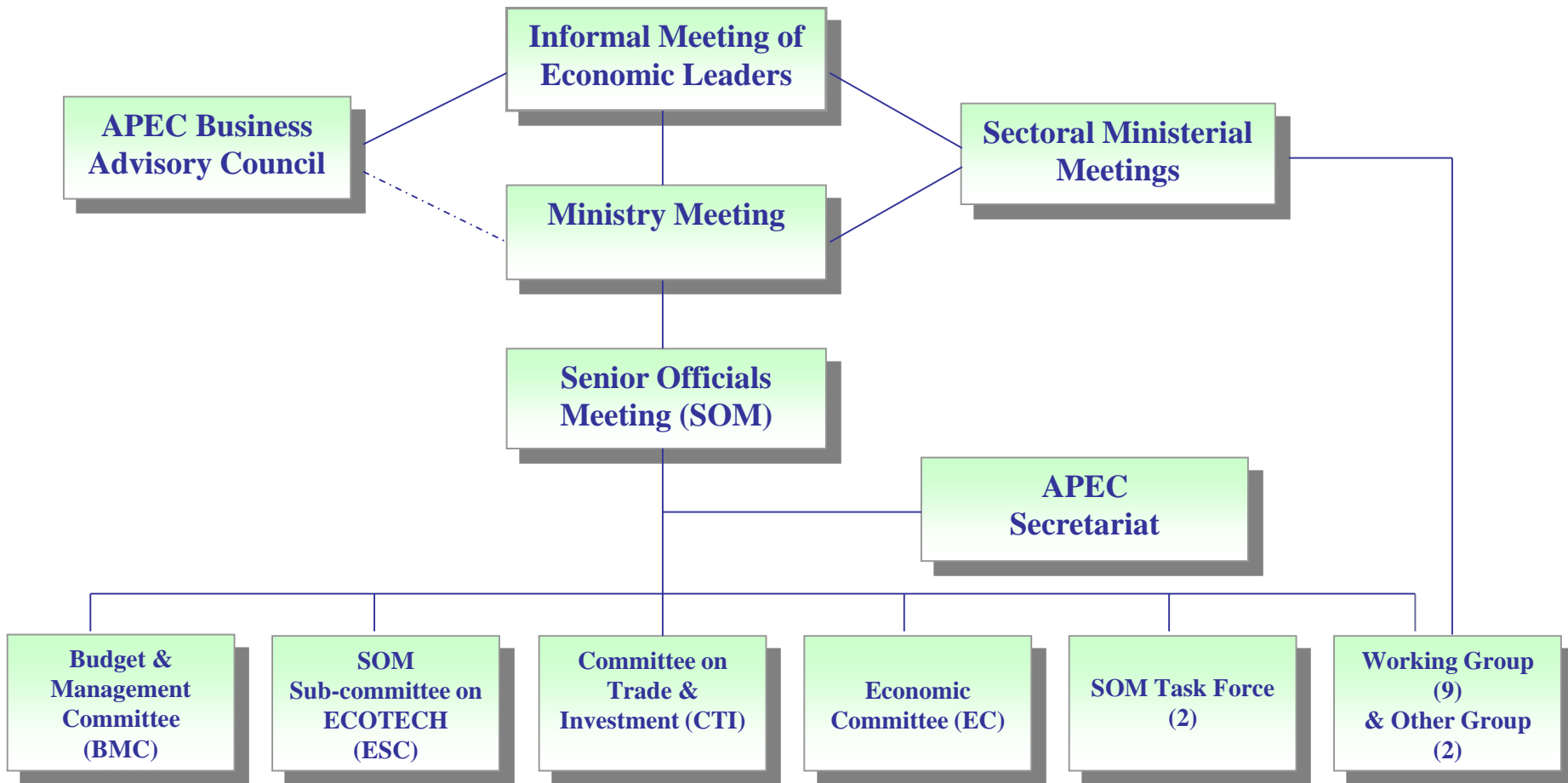
Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

APEC Member Economies span the Pacific



Asia Pacific Economic Cooperation



There are fifteen working groups that operate under the SOM Steering Committee on Economic and Technical Cooperation (ECOTECH)

- ▶ Agricultural Technical Cooperation
- ▶ Anti-Corruption and Transparency
- ▶ Counter-Terrorism
- ▶ Emergency Preparedness
- ▶ Energy Working Group (EWG)
- ▶ Health
- ▶ Human Resources Development
- ▶ Expert Group on Illegal Logging and Associated Trade
- ▶ Ocean and Fisheries
- ▶ Policy Partnership on Science, Technology and Innovation
- ▶ Policy Partnership on Women and the Economy
- ▶ Small and Medium Enterprises
- ▶ Telecommunications and Information
- ▶ Tourism
- ▶ Transportation

The U.S. has Played a Leadership Role in APEC

- ▶ The U.S. hosted the first annual APEC Economic Leaders Meeting in 1993 in Blake Island, Washington
- ▶ The President attends the annual Economic Leaders meeting
- ▶ U.S. APEC activities are led by an APEC Ambassador who is supported by the Bureau of East Asian and Pacific Affairs at the Department of State
- ▶ The Secretary of Energy attends the bi-annual Energy Ministerial
- ▶ DOE IA represents the U.S. at the bi-annual Energy Working Group meetings
- ▶ The U.S. was the APEC Energy Working Group Lead Shepherd (April 2009-September 2016)
- ▶ The U.S. has Chaired five APEC technical Groups
 - Expert Group on Energy Efficiency and Conservation
 - Expert Group on New and Renewable Energy
 - Expert Group on Clean Fossil Energy (current)
 - APEC Biofuels Task Force
 - APEC Energy Resiliency Task Force (current)

www.ewg.apec.org



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

The Energy Working Group is supported by 8 sub-fora groups

- Expert Group on Clean Fossil Energy (EGCFE) – Chair: USA
(www.egcfe.ewg.apec.org)
- Expert Group on Energy Efficiency & Conservation (EGEEC) –
Chair: China (www.egeec.apec.org)
- Expert Group on Energy Data & Analysis (EGEDA) – Chair: Japan
(www.ieej.or.jp/egeda/)
- Expert Group on New and Renewable Energy Technologies
(EGNRET) – Chair: Chinese Taipei (www.egnret.ewg.apec.org)
- Asia Pacific Energy Research Center (APEREC/Japan)
(www.ieej.or.jp/aperc/)
- APEC Sustainable Energy Center (APSEC/China)
(<http://www.apsec.org.cn/apsecen/>)
- Low Carbon Model Towns Task Force (LCMT)- Chair: Japan
(2010-)
- APEC Energy Resiliency Task Force (ERTF)- Co-Chairs:
Philippines/U.S. (2015-)

Clean energy goals are provided by APEC Leaders and energy ministers



.... We therefore reaffirm our aspirational goals to reduce aggregate energy intensity by 45 percent by 2035 and double renewable energy in the regional energy mix by 2030 to achieve sustainable and resilient energy development within the Asia-Pacific.

(2015 Leaders' Declaration, Manila, Philippines 19 November 2015)



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

Projects are conducted by writing proposal to the APEC Secretariat in Singapore (funding amounts for Project Session 2, 2018 are listed)

- ▶ APEC funds 100-150 projects each year with up to \$16 million being committed per year
- ▶ Projects follow a two-year cycle and at any point in time up to 170 projects are being implemented
- ▶ Proposals go to one of three funds
 - APEC General Project Account Account (\$848,600)
 - The most general fund used to address APEC priorities
 - APEC Support General Fund (\$925,542)
 - Australia \$15 Mill; China \$2.6 Mill; Korea \$2 Mill; Russia \$1 Mill; U.S. \$0.8 Mill
 - Directed at capacity building in development APEC economies
 - APEC Trade Investment and Liberalization Fund (TILF) (\$406,359)
 - Donated by Japan, and directed at projects directly related to trade, such a equipment standards

APEC Support Sub-Funds including Project Session 2, 2018 funding amounts (1)*

- ▶ Human Security (2006) \$283,867
 - Counter-Terrorism, health Security, Energy Security
 - Russia \$1,840,000; Chinese Taipei \$2,250,000; Australia \$717,700
- ▶ Energy Efficiency and Low Carbon Measures (2009) \$1,448,300
 - Japan \$16,700,000; Chinese Taipei \$500,000, U.S. 392,000
- ▶ Supply Chain Connectivity (2014) \$1,994,682
 - U.S. \$1,000,000; China \$500,000; Australia \$470,300, Chinese Taipei \$200,000, Hong Kong, China \$150,000, New Zealand \$118,670, Singapore \$100,000
- ▶ Mining (2015) \$127,070
 - Australia \$915,573
- ▶ Free Trade Area of the Asia-Pacific and Global Value Chains (2015) \$489,375
 - China \$3,000,000 over 5 years)

*<https://www.apec.org/Projects/Funding-Sources>

APEC Support Sub-Funds (2)

- ▶ Innovation Development, Economic Reform and Growth (2015) \$460,005
 - China \$2,000,000 over 5 years
- ▶ Connectivity (2015) \$184,385
 - China \$1,500,000 over 5 years
- ▶ Micro, Small and Medium Enterprises (2016) \$378,337
 - Canada \$1.5 million over 3 years
- ▶ Renewed APEC Agenda for Structural Reform (2017) \$1,034,359
 - Australia \$1,500,000
- ▶ Women and the Economy (2017) \$249,000
 - Australia \$751,281, Chinese Taipei \$600,000, U.S. \$500,000, New Zealand \$30,376

APEC Project Cycle

- ▶ Projects for APEC funding can be proposed by any APEC fora
- ▶ The APEC proposal process was changed from once a year to 3 times a year then to 2 times a year beginning in 2014
- ▶ Projects are typically for \$75,000-\$100,000 and have a time span of 1 to 1 ½ years and can be workshops or reports
- ▶ Projects are generally implemented via an RPF developed by the project overseer



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

APEC Expert Group on Energy Efficiency and Conservation (EGEE&C)

- ▶ The U.S. was the first Chair, followed by Singapore, New Zealand, Chinese Taipei, China, New Zealand, and China
- ▶ Approximately 80 projects have been completed since 1992
- ▶ Eight projects were implemented in 2018-2019
- ▶ The 51^{ed} meeting Sept. 10-14, 2018 in Chiang Mai, Thailand
- ▶ Focus project areas have included zero energy buildings, and energy efficiency standards



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by Battelle Since 1965

EWG 13 2018A – Aligning Conformity Assessment Efforts for Energy Efficiency Regulations of Motors in the APEC and ASEAN Regions

- ▶ The project is being led by Pacific Northwest National Laboratory, ICA and UL.
- ▶ The project expands a 2008 project conducted by China on motor efficiency and aims to inform the regulatory and policy environments within APEC and ASEAN of the benefits of harmonization of standards and conformity assessment approaches to facilitate trade of energy efficient electric motors and accelerate progress toward energy intensity reduction in the region.
- ▶ The project has three primary objectives:
 - Identify commonalities and differences in motor energy efficiency standards and labelling efforts in APEC and ASEAN.
 - Advance the ongoing public-private dialogue among APEC and ASEAN economies regarding ways to align motor energy efficiency requirements through the development and use of global standards such as IEC 60034 and more trade-friendly conformity assessment procedures.
 - To address and prevent unnecessary market access barriers for efficient motors, increase the availability and use of energy efficient products in markets worldwide and assist APEC and ASEAN economies meet domestic energy policy objectives.
 - Status: IIEC has been chosen as the project consultant and there will be a project workshop in the September, 2019.
- ▶ The project is supported by EWG 04 2019S, *Workshop on Current Energy Efficiency Requirements for Electric Motors in the APEC and ASEAN Region* which is self-funded by ICA, United for Efficiency (U4E) and UL.