

# 3-1. Follow-up PREE in Indonesia

## APERC Workshop

The 64th Meeting of APEC Energy Working Group (EWG64)  
31 October 2022 (GMT+8)

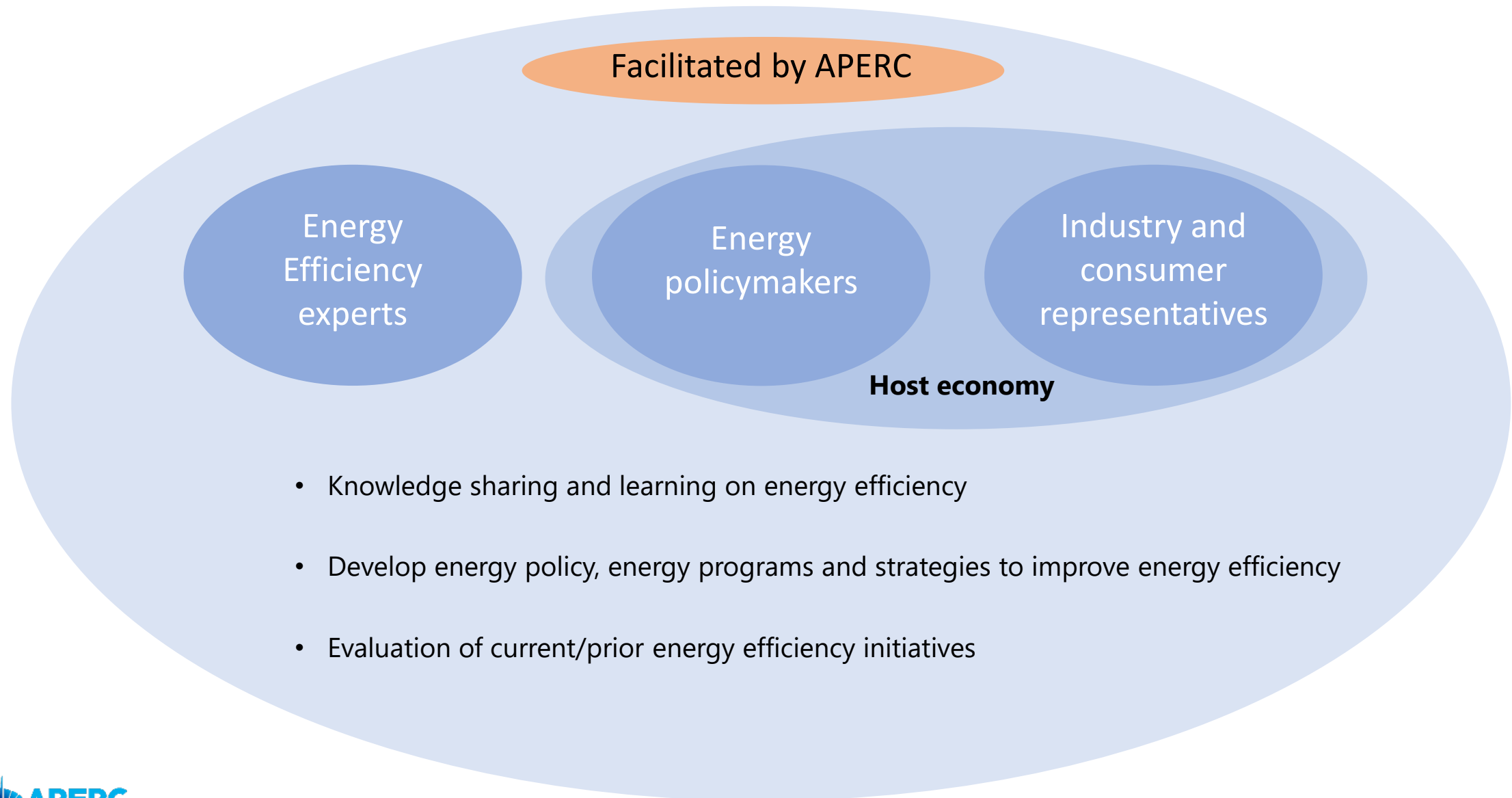
Mathew Horne, Senior Researcher



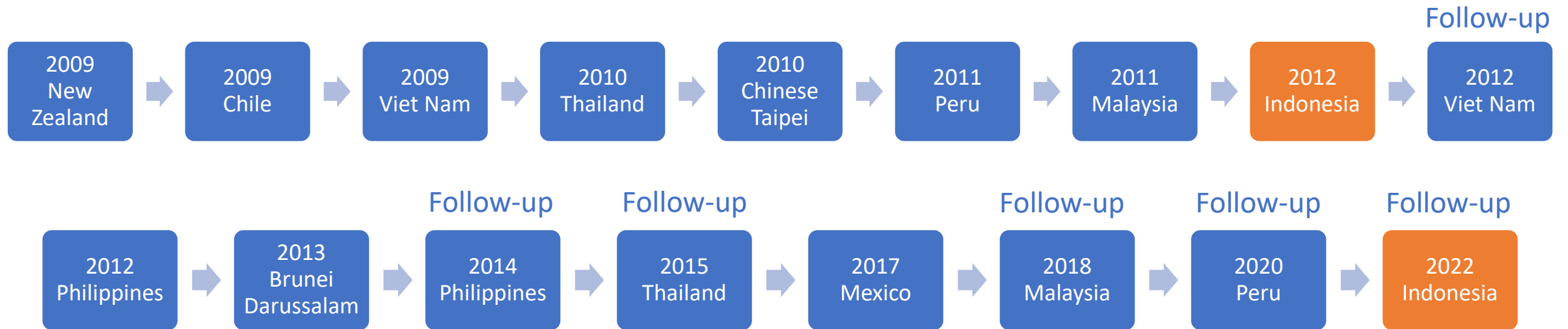
# Outline

- What is the Peer Review on Energy Efficiency (PREE)?
- What has happened since the initial PREE in Indonesia (2011)?
- Follow-up PREE in Indonesia (2021)
- Recommendations

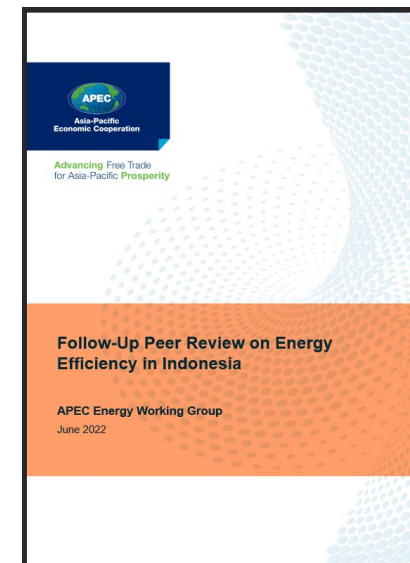
# What is Peer Review on Energy Efficiency?



# PREE report publications dates

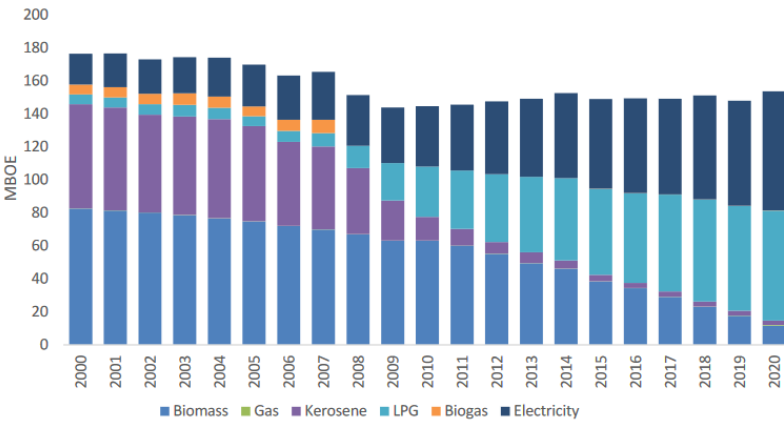


- Follow-up PREE Indonesia event was scheduled to occur July 2020  
→ Postponed to November 2021 (online format for the first time)
- Report was published June 2022

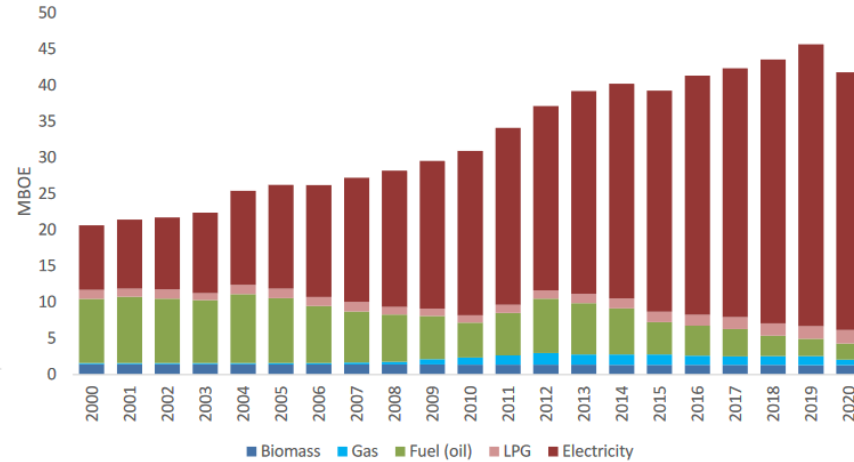


# What has happened since the first Indonesia PREE (2011)?

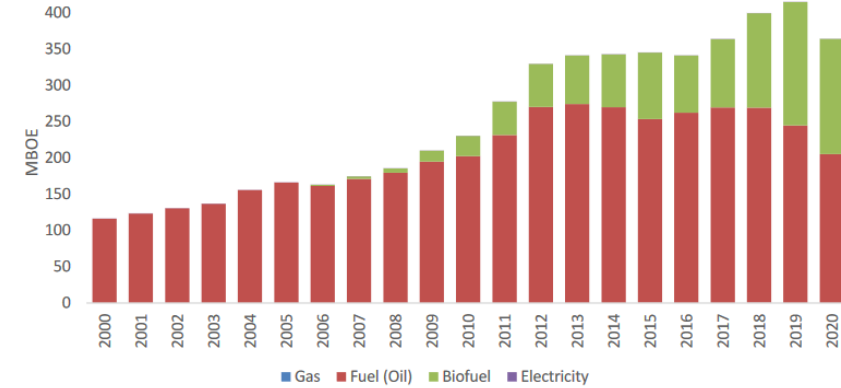
## Residential



## Commercial



## Transport



- Indonesia's economy had been growing by more than 5% for the decade before COVID
- Biomass and kerosene consumption has been supplanted by LPG and electricity in households  
→ fuel switching and greater efficiency led to flat energy consumption growth
- Electricity has become far more prominent in the commercial sector
- Significant growth in transport sector has been supported by biofuels

# What has happened since the first Indonesia PREE (2011)?

- The initial Indonesia PREE has been influential in assisting energy policy development and implementation

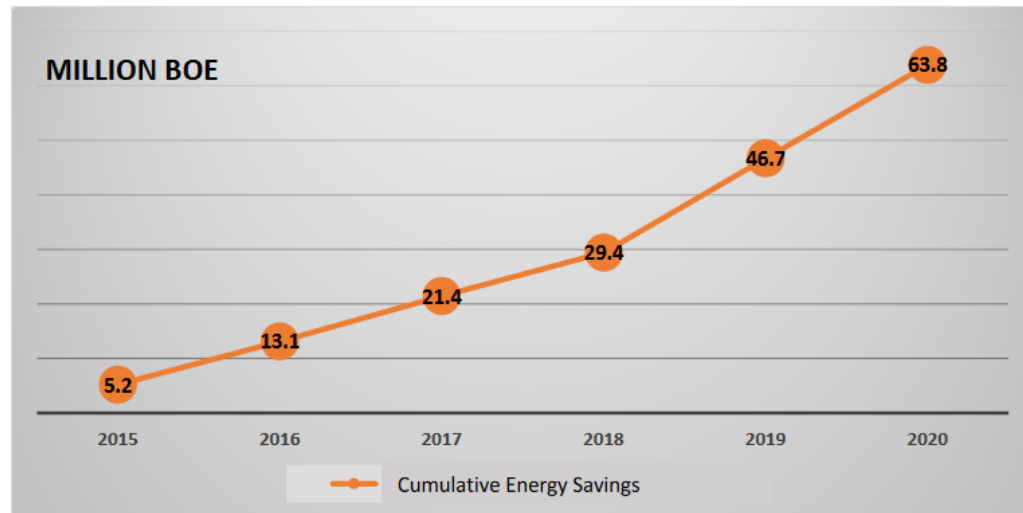
**Table 1 – Buildings sector recommendations from PREE Indonesia in 2011**

<b>Recommendation number/descriptions</b>	<b>Existing conditions</b>
<p><b>Recommendation 32 &amp; 35</b> The MEMR should play a more active role in energy conservation and energy efficiency improvement in the commercial and residential sectors, as the role of the Ministry of Public Works seems limited.</p>	Set up the draft SNI for buildings and encourage building owners to apply the ISO:50001 for buildings;
<p><b>Recommendation 34</b> <i>Emphasise energy management of large-scale public and government buildings.</i></p>	Energy conservation obligations for government buildings
<p><b>Recommendation 33</b> Develop energy building codes and building EE&amp;C regulations for commercial building, including regulatory compliance and enforcement processes</p>	Green building regulation and standard had been issued by the Ministry of Public Works (Ministry of Public Works Regulation No. 2/2015); Developing and campaigning Net Zero Energy Building (NZEB) and smart metering for buildings
<p><b>Recommendation 36</b> Enhance the foundation of EE&amp;C in the building sector, including energy data collection and analysis, and energy-saving potential study, et cetera.</p>	Preparing the data collection in the Revision of Gov. Reg. No. 70/2009 on Energy Conservation regarding the mandatory building 500 TOE

# What has happened since the first Indonesia PREE (2011)?

- There has been improvements in how energy is used in Indonesia

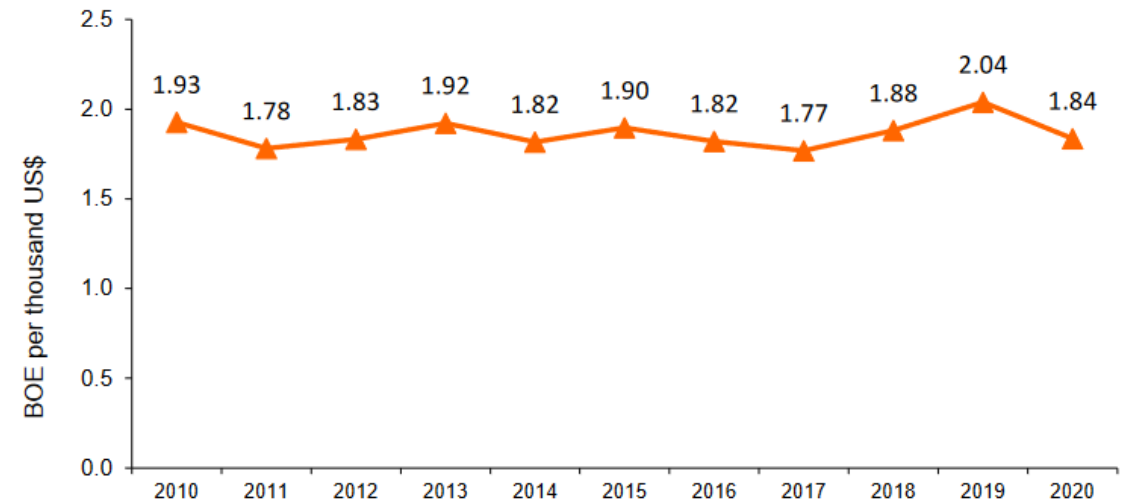
Figure 2-23: Energy saving achievement, 2015–2020



Note: 63.8 million BOE savings is equal to 6.4% of energy use in the hypothetical BAU scenario in 2020

- But rising living standards have offset energy efficiency improvements  
→ Energy intensity for the last decade has been relatively flat

Figure 2-15: Primary energy intensity, 2010–2020

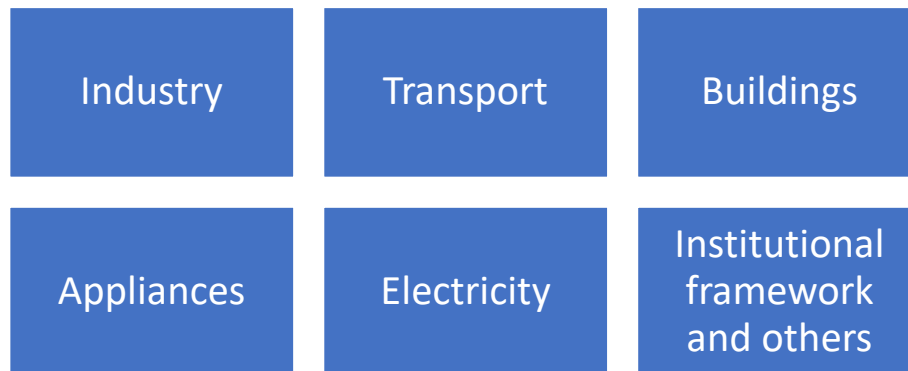


Source: Handbook of Energy and Economic Statistics of Indonesia 2020.

# Follow-up PREE Indonesia recommendations

- Presentations and discussion with Indonesia economy representatives
- Led to 40 recommendations from **energy efficiency experts**

- Spanning



- Builds on recommendations from PREE 2011

## ENERGY EFFICIENCY EXPERTS

Expert	Economy
Dr Meng Liu	China
Dr Terrence Surles	USA
Professor Masaaki Bannai	Japan
Albert Dessi	Australia
Dr William Chung	Hong Kong, China



# Sample of recommendations for Industry

## Energy Management Systems

- Lower energy consumption threshold for these programs to apply
- Awards or incentives for companies to participate
- Support energy managers and personnel

## Energy Audits

- Less frequent but more detailed
- Better defined standards using international references
- Consideration of payback periods

## Energy Service Companies

- Government backed financing scheme to support this industry
- Risk sharing strategies can support establishment of ESCO industry and drive energy efficiency improvements

# Sample of recommendations for Transport

## Electric vehicles

- Government marketing of all available electric options (not just luxury brands that dominate media)
- Consideration and support for charging infrastructure
- Luxury vehicle tax could support financing for BEV vs ICE cost differential

## Fuel efficiency

- Fuel efficiency in grams of CO<sub>2</sub>-equivalent  
→ Technology agnostic
- Fuel efficiency standards can be more beneficial than limiting ICE
- Support for refineries to upgrade their plants and improve fuel quality

## Trucking

- Support eco driver training
- Support trials of energy efficient technologies and publish results
- Energy audits; MEPS
- Speed limits for trucks on highways

# Sample of recommendations for Buildings

## Building codes

- Life-cycle cost effective energy efficient measures
- MEP certificate for all building and apartment owners
- Online benchmarking

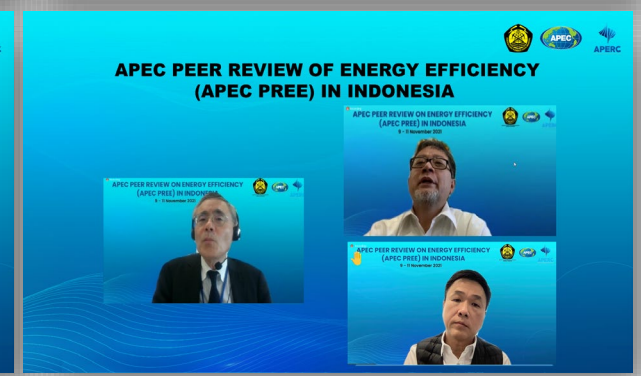
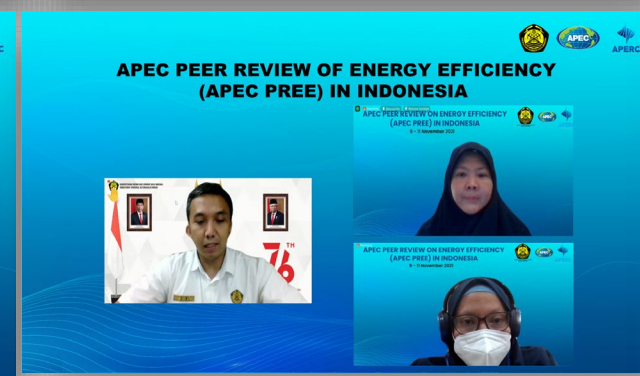
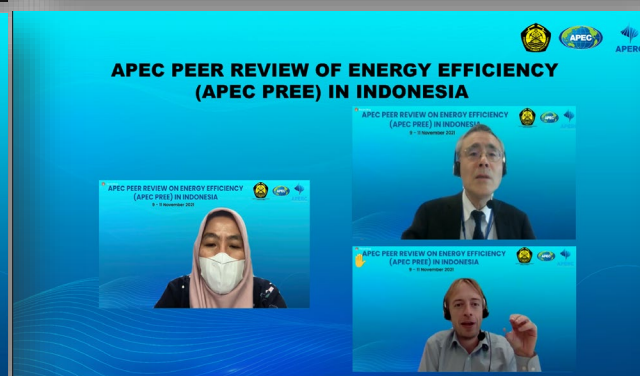
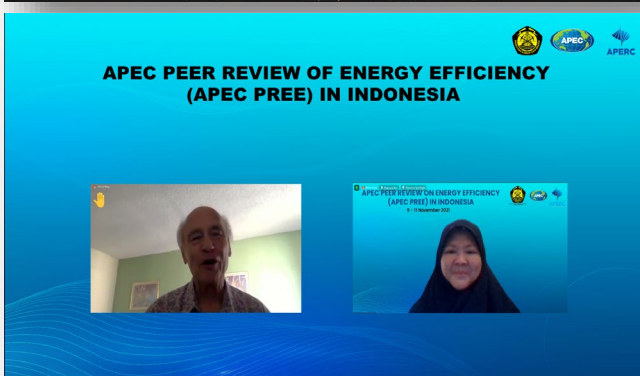
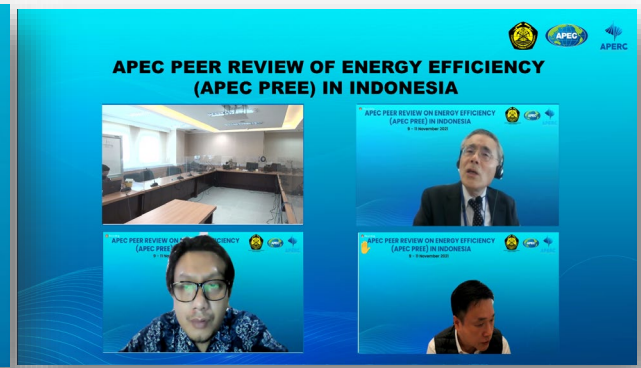
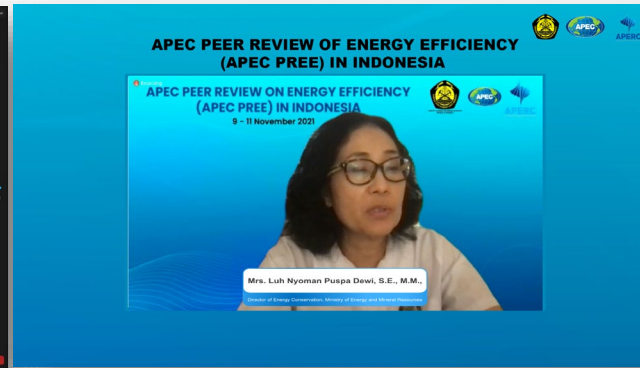
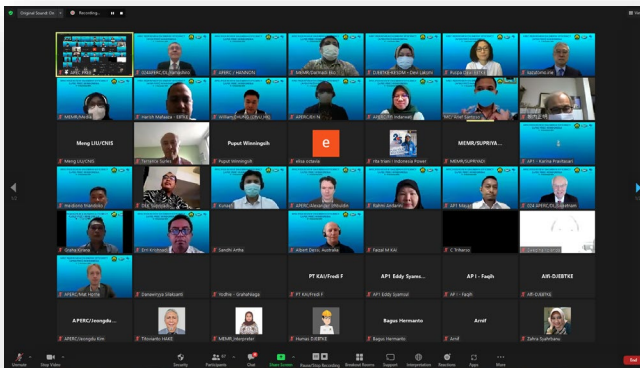
## Energy efficiency revolving fund

- Dedicated entity collects and re-invest funds in new energy efficiency projects
- Could be financed by sustainable sources such as tariff on inefficient buildings

## Appliances

- Consideration for carbon tax or VAT on inefficient equipment
- Research and development to support green and efficient cooling
- More wide-ranging MEPS and labels covering industry and commercial

# The hybrid event in November 2021



**Thank you.**

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