11.c.i. Progress toward Energy Intensity Reduction Goal

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Selected Milestones

- To reduce APEC's aggregate energy intensity by 45% percent by 2035.

Honolulu Declaration 2011

EWG Meetings

- APERC has been reporting progress since EWG41 in 2011.

EGEEC49

- APERC reported progress and made suggestions on definitions and data.

53EWG Meeting

- Decided on definition, data, and reporting.

- After reporting three different energy intensity measures using IEA data, agreement was reached at EWG 53 to analyse final energy (excluding non-energy) intensity, using APEC data.

- This measure was first reported at 50th EGEEC in Moscow in October
Notes on data sources

- Energy data collected by ESTO with support from EGEDA (2015 are still preliminary).


- Exceptions:
  - APERC/ESTO estimates for Papua New Guinea’s (PNG) energy consumption.
  - Chinese Taipei and PNG’s GDP data are estimates from the draft APEC Outlook 7th Edition.
The Results
What has happened to intensity since EWG53?

APEC final energy (excluding non-energy) consumption intensity

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<tbody>
<tr>
<td>Change in Final Energy (ex. non-energy)</td>
<td>1.9%</td>
<td>4.1%</td>
<td>1.0%</td>
<td>-1.6%</td>
<td>5.9%</td>
<td>4.5%</td>
<td>1.8%</td>
<td>1.0%</td>
<td>1.5%</td>
<td>0.0%</td>
<td>21.7%</td>
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<tr>
<td>Change in GDP (2011 USD PPP)</td>
<td>5.4%</td>
<td>5.6%</td>
<td>3.0%</td>
<td>0.0%</td>
<td>5.8%</td>
<td>4.4%</td>
<td>4.3%</td>
<td>3.9%</td>
<td>3.8%</td>
<td>3.6%</td>
<td>47.6%</td>
</tr>
<tr>
<td>Change in Final Energy (ex. non-energy) Intensity</td>
<td>-3.3%</td>
<td>-1.4%</td>
<td>-2.0%</td>
<td>-1.6%</td>
<td>0.1%</td>
<td>0.1%</td>
<td>-2.4%</td>
<td>-2.7%</td>
<td>-2.2%</td>
<td>-3.5%</td>
<td>-17.6%</td>
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Source: APERC analysis of ESTO data.

- Final energy consumption intensity (ex. non-energy) has been improving reasonably consistently with the largest reduction from 2014 to 2015.
- Final energy consumption intensity (ex. non-energy) fell 17.6% between 2005 and 2015.
- If the current trend continues, final energy consumption intensity (ex. non-energy) reduction would fall just short of the APEC goal, reaching 44% in 2035 (the APEC goal would be reached the following year).
Energy consumption has decoupled from GDP

Year-over-year changes in GDP, energy consumption, and energy intensity

- Change in Final Energy Intensity (ex. Non-Energy)
- Change in Final Energy (ex. Non-Energy)
- Change in GDP (2011 USD PPP)
Decoupling is a challenge for some economies

Economy changes in energy intensity, 2014-2015

Australia  |  Brunei Darussalam  |  Canada  |  Chile  |  China  |  Chinese Taipei  |  Hong Kong, China  |  Indonesia  |  Japan  |  Korea  |  Malaysia  |  Mexico  |  New Zealand  |  Papua New Guinea  |  Peru  |  Philippines  |  Russian Federation  |  Singapore  |  Thailand  |  United States  |  Viet Nam  |  APEC 21 Total

-8%  |  -6%  |  -4%  |  -2%  |  0%  |  2%  |  4%
OECD/non-OECD economies show similar decreases in energy intensity, 2005-2015.
What does this tell us?

• Change in final energy consumption (excluding non-energy) in 2015 compared with the previous year is only 0.01%...

• ...and growth in GDP (PPP) has been stable for the last three years (3.9%, 3.8% and 3.6%, in 2013-14-15, respectively).

• So in 2015, GDP growth decoupled from energy consumption growth, resulting in a significant energy intensity reduction of 3.5%.
• Trends, which look good, are more important than year-on-year changes (will decoupling continue?).

• Energy efficiency measures are needed to tell us about the underlying causes of changes in energy intensity.

• More useful analysis requires more demand-side data, which can be a challenge (or opportunity…) for APEC members.
Thank you for your kind attention

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