COP-22: Two Degrees and Beyond

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COP-22: The Implementation COP

• Nationally Determined Contributions (NDCs) still being developed and refined
  – (US Signed in April 2016)
• Focus now on developing “rules” for countries in terms of continuing to develop NDCs and score policies
  – “Modalities, Procedures and Guidelines” (MPGs)
• The major agreements have to do with a timetable over the next 4 years, getting to final strategies probably with a 2025 or 2030 target.
• COP 23 (Bonn) will attempt to arrive at more specific agreements on details of NDCs and strategies to achieve them, but it is expected that a final agreement may not be achieved before COP 24.
Transport and (I)NDCs – where do things stand?

160 (I)NDCs

75% explicitly identify transport sector as a mitigation source

63% of NDCs propose transport specific mitigation measures

12% of NDCs include transport mitigation potential

9% of NDCs include transport sector emission reduction target
Future scenarios – land transport CO₂ (based on IEA and broad scenario reviews)
An example of achieving a 1.5 degree (2 billion ton) world (0.25 tons/cap)

Very approximate rates today per 10,000 passenger kms:
- Air (economy): 1.5 tons
- Car 25 MPG on road: 1.5 tons
- Bus w/20 passengers: 0.5 tons
Example NDC comparison: ASEAN
(analysis by Fulton/Arioli)

<table>
<thead>
<tr>
<th>Year</th>
<th>Indonesia</th>
<th>Malaysia</th>
<th>Philippines</th>
<th>Singapore</th>
<th>Thailand</th>
<th>Vietnam</th>
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<tbody>
<tr>
<td>2010</td>
<td>300 BAU</td>
<td>200 BAU</td>
<td>100 BAU</td>
<td>100 BAU</td>
<td>200 BAU</td>
<td>100 BAU</td>
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<td>2030 target</td>
<td>500 BAU</td>
<td>300 BAU</td>
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CO2e, megatonnes
ASEAN NDC per-capita comparison
1. 450 BAU and Low Carbon Studies
2. 60 Countries only
3. 550+ Mitigation Measures
4. In terms of Impact, Avoid and Shift “can” give comparable mitigation impact as Improve strategies
1. For countries with transport emission targets, targets are very close to low carbon scenario (less than 20% variation)

2. Mitigation ambition in current NDCs will not be sufficient to achieve a 2DS within the transport sector by 2030
Land Transport Mitigation Measures Impact

Mitigation (Reduction % from Transport BAU @ 2050)

Avoid
- Landuse Planning: 27%
- Logistics Improvement: 12%
- Mode Shift (Public Transport & NMT): 11%
- Fiscal Measures: 12%
- Freight Mode Shift: 9%

Shift
- Eco-Driving: 2%
- Speed Limits: 5%
- Inspection and Maintenance: 3%
- Public Transport Technology Improvement: 2%
- Passenger Fuel Efficiency Improvement: 16%
- Freight Fuel Efficiency Improvement: 12%
- Biofuels: 17%
- Electric Vehicles: 24%

Improve
Transport Low Carbon Scenarios in Modelling Studies

Key Points,
1. Mitigation tools available, but not “effectively” utilised
2. Mitigation measures in NDCs and low emission scenarios are not “balanced” (ASI/Modes)
3. “Avoid and Shift” can give comparable mitigation impact as “Improve” + “Higher” co-benefits
4. High emission gap in NDCs
Summary (and possibly forgotten) points

1. 2 degrees calls for something like a 50% reduction in CO2 emissions by 2050 v. 1990
2. 1.5 degrees is far more radical: Zero net emissions soon after 2050 or possibly before – 0.25 tons per capita?
3. Seems we will need all of Avoid+Shift+Improve in Passenger & Freight
4. Much current focus on short- and medium-term transport actions that have the potential to yield sustainable development co-benefits
5. Key issue is developing a Macro Road Map for de-carbonizing the Transport sector
6. Next few years: Data, modelling & capacity building critical