Assessing the cumulative effect of INDCs

Implications of Paris Workshop Spring 2016
Markus Hagemann, 03rd of May 2016, Maryland
Overview

1. Determining national emission pathways

2. Aggregating to global emission pathways

3. Moving forward
### Assessing national pathways 1 – Current Policy Scenarios

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Variations /Examples</th>
<th>Challenges in quantification</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is implemented and should be considered?</td>
<td>Targets vs. Policies; implementation barriers</td>
<td>What to include; might also vary largely by country</td>
</tr>
<tr>
<td>Quantifying policies without a quantitative target</td>
<td>Price policies (Feed-in tariffs), standards (car, buildings)</td>
<td>Estimate emission impact</td>
</tr>
<tr>
<td>Policy diversity</td>
<td>Scattered policies, state vs national policies</td>
<td>Require detailed analysis</td>
</tr>
<tr>
<td>Separate out other trends</td>
<td>Fuel price trends, market trends</td>
<td>Might have negative or positive impact on result</td>
</tr>
</tbody>
</table>

6/28/16
## Assessing national pathways 2 – Pledges/INDCs

### Table:

<table>
<thead>
<tr>
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<th>Variations / Examples</th>
<th>Challenges in quantification</th>
<th>Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incomplete coverage</td>
<td>Sectors not covered</td>
<td>Emission estimates range widely (e.g. international aviation)</td>
<td>INDCs miss 8% of global emissions</td>
</tr>
<tr>
<td>Uncertain projections</td>
<td>Business-as-usual/ reference scenarios, intensity</td>
<td>When scenarios undefined projections differ largely</td>
<td>75 INDCs</td>
</tr>
<tr>
<td>Non-GHG metrics in targets</td>
<td>RE targets, intensity targets</td>
<td>Data not provided</td>
<td>8 INDCs (incl. China and India)</td>
</tr>
<tr>
<td>Land use related emissions</td>
<td>Accounting vs. Include directly</td>
<td>Unspecified accounting rules</td>
<td></td>
</tr>
<tr>
<td>Historical emissions</td>
<td>Different GWPs, GTPs; data sources</td>
<td>Sources vary, metrics to translate GHG into CO2e vary</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Hover over the coloured bars for a pop-up with the fair emissions range per effort sharing category. More information [here](#).*

*Emissions level in 2020 resulting from conditional/unconditional pledge. This differs from the Kyoto pathways as it depicts final 2020 levels whereas the Kyoto emissions allowances consider the average level of emissions over the second commitment period (2013-2020).*

Source: Rogelij et al. Forthcoming
Assessing national pathways 3 – Adequacy - Fairness

» Challenges
  » Harmonizing studies
  » Grouping approaches
  » Defining Ranges

Note: Hover over the coloured bars for a pop-up with the fair emissions range per category.

* Emissions level in 2020 resulting from conditional/unconditional pledge. This differs from the Kyoto pledges, as Kyoto emissions allowances consider the average level of emissions over the second commitment period.
Aggregating global pathways

Source: Rogelij et al. Forthcoming

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<tr>
<td>Country coverage</td>
<td>Varying coverage of analysis</td>
<td>Countries without INDCs, too many countries to quantify</td>
</tr>
<tr>
<td>Same challenges as with national INDCS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessed modelling studies:
- Climate Action Tracker
- PBL / The Netherlands
- IEA (complemented)
- LSE / UK
- Univ. of Melbourne / Australia
- DIA / Denmark
- Climate Interactive / USA
- PNNL / USA
- JRC / European Union
- UNFCCC INDC Synthesis
- estimated range per study
Aggregating global pathways – extending beyond 2030

CAT Current Policy Projections (high)

Year

MtCO2eq

Selected Scenarios  Representative  80% Range  CAT Analysis  CAT 2013 Method

30 December 2014

www.newclimate.org
Outlook – INDC ambition

Signs that INDCs of countries covering relevant emissions might overachieve targets

• Major emitter conservative in INDC – current policies already reach or surpass INDCs (China/India)
• Important market trends have surpassed our expectation (RE) – other might follow (Transport)
• Subnational actions go beyond INDCs but are not accounted yet (see next slide)
• Co-benefits drive emission reductions at a large scale

HOWEVER small developing countries need significant support to reach INDCs
Further reading/ sources

» www.Climateactiontracker.org


» Rogelj et al paper (forthcoming) Perspective : Paris Agreement climate proposals need boost to keep warming well below 2 °C

» Oeko Insitute et al. (forthcoming) Non-UNFCCC mitigation initiatives – Project for the German Environmental Agency (UBA)


Thank you for your attention!

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Outlook - How can non-state actors help increase ambition