Post Paris – Herausforderungen für die Klimapolitik

Prof. Dr. Ottmar Edenhofer

„The Paris Agreement and the Future of Fossil Fuels“
BP Forum
Berlin
19. April 2016
The Paris Agreement

Intended Nationally Determined Contributions are inconsistent with the temperature target

Cumulative emissions in GtCO2

-200
0
200
400
600
800
1000
1200
1400

2°C Scenario (2011-2100); IPCC
1.5°C Scenario (2011-2100); IPCC
Intended Nationally Determined Contributions (2011-2030); Minx et al. 2016
The Paris Agreement

Intended Nationally Determined Contributions are inconsistent with current energy-policy

Cumulative emissions in GtCO₂

- 2°C Scenario (2011-2100); IPCC
- 1.5°C Scenario (2011-2100); IPCC
- Intended Nationally Determined Contributions (2011-2030); Minx et al. 2016
- Emissions from existing (light grey) and planned (dark grey) coal-fired power plants; Davis and Socolow 2014, Global Coal Plant Tracker
The current carbon budget

Cumulative emissions in GtCO2

2°C Scenario (2016-2100); IPCC

1.5°C Scenario (2016-2100); IPCC and Minx et al. 2016

Intended Nationally Determined Contributions (2016-2030); Minx et al. 2016

Emissions from existing (light grey) and planned (dark grey) coal-fired power plants; Davis and Socolow 2014, Global Coal Plant Tracker
A renaissance of coal drives the global carbonization.

Steckel, Edenhofer and Jakob, in press
The climate problem at a glance

Resources and reserves to remain underground until 2100 (median values compared to BAU, AR5 Database)

<table>
<thead>
<tr>
<th></th>
<th>Until 2100</th>
<th>With CCS [%]</th>
<th>No CCS [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td></td>
<td>70</td>
<td>89</td>
</tr>
<tr>
<td>Oil</td>
<td></td>
<td>35</td>
<td>63</td>
</tr>
<tr>
<td>Gas</td>
<td></td>
<td>32</td>
<td>64</td>
</tr>
</tbody>
</table>

Source: Bauer et al. (2014); Jakob, Hilaire (2015)
Climate Policy and Poverty reduction - A contradiction?

Water availability

Sanitation

Telecommunication

Access to electricity
ETS lack dynamical cost efficiency

- Falling CO₂ price
- No increase expected before 2020
- Market Stability Reserve will be implemented, but effect might be limited
ETS lack dynamical cost efficiency

- The price expectations for 2020 can serve as a benchmark for the evaluation of the dynamical cost efficiency of the ETS
- There is a gap between expectations and models showing a cost-efficient price of more than 20 €/t CO₂ in 2020

**EUA Nearest Contract and Futures**

![Graph showing EUA Nearest Contract and Futures](image)

**Cost-efficient CO₂ price from models**

![Graph showing cost-efficient CO₂ price from models](image)

Knopf et al. (2013)
Introduction of a price corridor

- Reliable environment for investment decisions
- Instrument: Introduction of an auction reserve price