Achieving the Paris Climate Goals and thus growing the economy
A scenario-based modelling approach interlinking Austrian value creation and energy consumption

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Experts’ Climate Coffee Break (6 December 2018)
Climate Change Center Austria

Accelerating the Transformation to Carbon-Neutrality
Perspectives on Technology, Economy and Agriculture
Katowice Climate Change Conference, 2-14 December 2018
Achieving the Paris Climate Goals—
A Transition Scenario for Austria

Objective of the Project

Developing, modelling & analyzing new energy scenarios for Austria until 2050

- **WEM Scenario** - with existing measures – May 2016, counterfactual

- **Transition Scenario** achieving at least 80-95% reductions in GHG emissions (2050/1990) by mitigating fossil fuel energy use taking into account an international setting of climate policy after the COP21 in Paris
Transition - 5 Points in 5 Minutes

1. Framework conditions for the Transition Scenario: Collective action, carbon pricing and low-carbon investments
2. Reducing energy consumption: Increasing energy efficiency, fostering behavioural and lifestyle changes
3. Rebuilding the energy system: Electrification and renewable energy deployment
4. Developing a comprehensive transformation narrative
5. Avoiding dangerous climate change
1) Framework Conditions are Key: Collective Action, Carbon Pricing and Rational Decision-Making

The Transition scenario assumes

- **global climate action and commitment** to achieving the objectives of the Paris Climate Agreement to limit temperature rise well below + 2°C
- **external costs of fossil fuel use to be internalized**
- **carbon pricing for rational decision-making**
- **binding regulatory measures**
- **national support schemes** are directed towards decarbonization
- **participation** of diverse stakeholders at different governance levels

- competitiveness and carbon leakage are not an issue
- fostering rational decision-making
  - by investors into carbon neutral innovations
  - by households regarding low-carbon products and services
- climate policy is highly accepted within society
- transition is more than a technological fix, it represents a new mindset
1a) Carbon Pricing

Steep and substantial rise in energy or CO₂ prices according to the carbon content of the specific energy carrier

Prices rise from 2025 onwards (with respect to WEM scenario)

CO₂ price increase leads to effective energy price increases

- 8 €/t CO₂ in 2020
- 40 €/t CO₂ in 2030
- 200 €/t CO₂ in 2050 (in € of 2013)

<table>
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<th>2015</th>
<th>2020</th>
<th>2030</th>
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<td>Coal</td>
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</tbody>
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S: PRIMES, WIFO
2) Reducing Energy Consumption:
Final Energy Demand by Sectors
(Transition Scenario)
3) Electrification and Renewable Energy Deployment
4) Strategies, Instruments and Measures to Transform the Economy in a Sketch
5) Avoiding Dangerous Climate Change and Growing the Economy
Thank you!

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Link to Project Report:

https://www.wifo.ac.at/publikationen/publikationssuche?detail-view=yes&publikation_id=61089