

# WIFO

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## Climate and Energy – Parallel break out session

**Angela Köppl**

EEB Annual Conference: From Sustainability Talk to Policy Walk  
26. September 2016

- **How will Europe's new raft of climate and energy policies speed up the transition to a clean sustainable energy system?**
- **Can Europe remain a global climate leader without increasing its own ambition until 2030?**
- **How will the Energy Efficiency First Principle shape Europe's Energy Union**
- **How to spread practices across Europe?**
- **How to ramp up financing to enable the implementation of the Paris Agreement in Europe?**

## Europe's new raft of climate and energy policies

- The climate and energy framework 2020-2030 basically same structure as 20-20-20 climate and energy package
- Three pillars: GHG target (-40%) split up between ETS sectors and non-ETS sectors, target for the share of renewables in energy consumption (27%) and target for improvement of the energy efficiency (27%)
- Unlikely that this will suffice to reach decarbonisation in 2050 - reductions so far to a considerable extent due to economic downturn and efficiency improvements in new member states
- EU needs to increase ambition in order to regain credibility in climate leadership

## Areas for action:

- **EU ETS is not working sufficiently**
- **Missing an EU wide CO2 price signal for non-ETS sectors – proposal for an amendment to the energy tax directive has been withdrawn**
- **Unsustainable structure of the EU budget – contributes hardly to a decarbonisation strategy. CAP subsidises environmentally unsustainable production structures, cohesion strategy hardly coupled with climate targets**
- **Juncker plan missed opportunity - EFSI does not have special focus on projects supporting socio-ecological transition**
- **Missing innovative mindset for dealing with energy: EU Energy Union Strategy with five dimensions (supply security, fully integrated energy market, energy efficiency, emission reduction, R&D) rests on a view of the energy system focussing on energy flows**

## Can Europe remain a global climate leader?

### Prerequisites and challenges

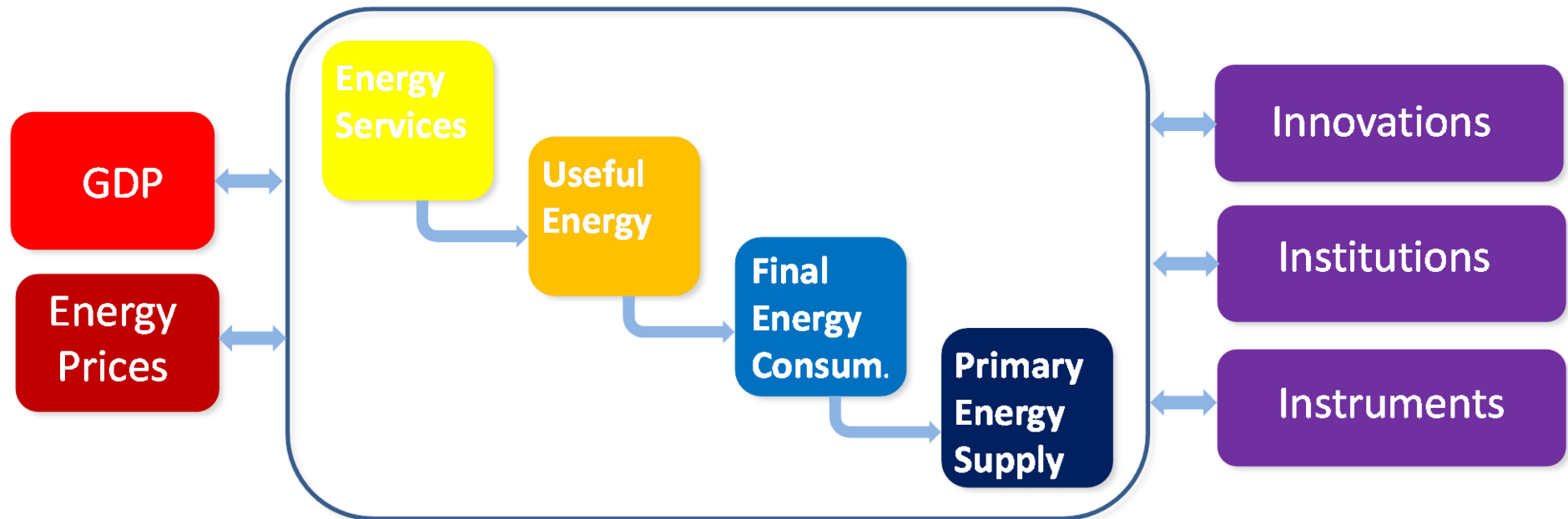
- First touchstone: ratification
- Can Paris be transferred into a genuine impulse for substantial climate policy on the EU and at member state level
- Crucial that transfer starts immediately
- Avoiding lock-in investments
- Taking climate risk into account in investment portfolios and investment decisions
- Exit strategies for fossil industries
- Deal with stress on public budgets in countries that rely to a large extent on revenues from fossils

## Prerequisites and challenges

- **Avoiding lock-in investments**
- **Taking climate risk into account in investment portfolios and investment decisions**
- **Exit strategies for fossil industries**
- **Stress on public budgets in countries that rely to a large extent on revenues from fossils**

## How to spread practices across Europe?

New mindset: Structural analysis of the energy cascade



Q: Köppl –Schleicher, Energieperspektiven 2013.

- A transition to a sustainable energy system requires a new mind set
- This implies a new understanding and analysis of the energy system that systematically places energy services into the centre

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## A broader understanding of the structure: the energy cascade

- Energy services are the top layer of the energy system
- Useful energy consumption describes the quality of energy (thermal, mechanic, electric). The amount needed is determined by the energy service demand and application technologies
- Final energy consumption follows from transformation technologies to provide useful energy
- Primary energy supply is the lowest layer of the energy cascade



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- **Long run transformation of the energy system**
    - ↗ Investment decisions in long living infrastructure determine emissions for decades
  - **Welfare relevant are functionalities/energy services**
    - ↗ The energy system provides relevant energy services like comfortable room temperature
  - **Energy services result from specific application technologies in combination with energy flows**
    - ↗ „Open the Black Box“
  - **Technologies and innovation are main focus**
    - ↗ This includes behavioral change
  - **Different options (combination of stocks and flows) to provide identical energy service**

- **Focus on purpose of energy – what is the desired energy service?**
- **Focus on concrete application and transformation technologies**
- **Focus on which energy source is used for which function**
- **Focus on improvement in energy and resource productivity**

- **Mission innovation: "seek to double its governmental and/or state-directed clean energy research and development investment over five years"**



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**Thank you for your attention**