Resources for the *Energiewende*

Synergies and trade-offs between resource efficiency and decarbonisation/energy efficiency

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Political Context at EU level

- **Energy and resource prices** both likely to increase over time on world market
- Thus need to adapt our economic structures („**green growth**“, „eco-efficient economy“). Key point in Europe 2020 strategy, **Flagship** Initiative: Resource-efficient Europe and **Roadmap** to a resource-efficient Europe. **Circular Economy** package
- Encourage through **choice of efficient instruments** => market-based instruments to promote energy and resource efficiency, curb pollution, encourage innovation
- Follow-up through **European Semester:** Annual Growth Survey; Country-specific recommendations
- **Energy mix** is decision for Member States

2030 Climate and Energy Policy Framework

- **Council agreement** of 23/24 October. Targets:
- At least 40% domestic reduction in **GHG** emissions by 2030 compared to 1990 (43% ETS sectors, 30% non-ETS, over 2005) . Increased reduction factor for cap from 2021. National reduction targets for non-ETS 0% to -40% (over 2005).
- Binding EU-level target for **RES**: at least 27% by 2030. MS can have more ambitious targets and provide support.
- Indicative EU target of 27% increase in **energy efficiency** by 2030 compared to projections. Review by 2020. COM to propose priority sectors. MS free to set higher national targets.
- Priority to improve **interconnections** with targets for 2020 and 2030 and regional focus.

The Circular Economy Package

- Circular economy **communication**: Follow-up of Resource-efficiency flagship and roadmap as well as 7th EAP.
- **Waste target review**: Legislative proposals on various directives. Simplification and better co-operation between MS and COM to improve implementation.
- Tailor-made approaches for **specific waste streams:** marine litter, phosphorous, CDW, food, hazardous and plastic waste.
- In 7th EAP, the EP and MSs agreed to call for establishment of **indicators and targets** for RE. COM suggests GDP/Raw Material Consumption (RMC) as most suitable for target.
- Complementary initiatives on Green **Employment**, Green Action Plan for **SMEs**, RE opportunities in **building sector**.

Synergies between decarbonisation, energy efficiency and resource efficiency

- Energy efficiency – **no regrets option** for environment and economy. E.g. energy efficiency of buildings
- Energy efficiency can lower **water use**
- Decarbonisation of energy production reduces **climate change impact**, e.g. on biodiversity or green infrastructures
- Co-benefit from decarbonisation in terms of **air quality** and vice versa – Meeting RES and EE targets reduces costs of achieving air quality targets.

Resource efficiency helps to increase energy efficiency

- Increased recycling, lean manufacturing, longer lifetimes of products have **significant energy-saving and GHG-reduction potential**. Also reduced land and water use.
- Example: Recycled **aluminium** only requires 5% of energy of virgin aluminium
- Example: **Construction, infrastructure, and buildings**. Improved resource efficiency here has positive impact on energy, material and water use.
  - ➢ Communication on resource efficiency in buildings: Buildings account for 40% of final energy use.
- **Water** abstraction, treatment and transportation require substantial energy.

Possible trade offs between decarbonisation/ energy efficiency and resource efficiency

- Decarbonisation can lead to increased competition over some resources, such as:
  - **Land** for biofuels and energy crop cultivation can compete (directly or indirectly) with land for biodiversity protection or ecosystem services provision.
  - **Water**: increased demand for new hydropower projects, for energy crop cultivation, for cooling power plants.
  - **Air** quality: Small unregulated biomass combustion plants can lead to increased PM emissions and health impacts.
- **Buildings** renovation: Some new materials/material mixes, also used for insulation, may be difficult to recycle later.

➢ Important to **look at whole life cycle** of resource efficiency and decarbonisation route to truly enhance synergies.

Thank you!

http://ec.europa.eu/environment/circular-economy/index_en.htm