Renewable energy sources in Slovakia -
a quantitative assessment and policy conclusion towards, and beyond, 2020

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Outline of the presentation

1. Renewable targets for 2020
2. National NREAP’s trajectories
3. Is Europe / Slovakia on track - first quantitative assessments
4. Will the implemented supports schemes be sufficient for the envisaged 2020 goals?
5. Conclusions
Goal: 20% of gross final energy demand is contributed by renewables in 2020

How the European Commission set the targets... „FLAT RATE“ & „GDP-Variation“
RES-target_{2020} = RES_{2005\%} + 50\%*RES_{NEW\%} + 50\%*“RES_{NEW\%} GDP-weighting“-“first mover bonus“
Pathway: How Member States expect to meet the target in 2020? - the NREAP’s

Rather modest increase in minimum trajectories across all Member States in the early stage but significant increase is expected towards the end of the time period.
Deviation: First quantitative assessments based on 2011 figures

- Strong differences in the deviation of actual (Eurostat) to planned (NREAP) RES share across Member States - -76% (MT) to +42% (BE) BUT +9.5% on EU27 level

- The actual RES generation exceeds the minimum trajectory in NREAP's in almost all Member States, with only 4 slight exceptions (LV, NL, UK, MT).

- Several MS fail to meet the indicative NREAP targets in 2010 in the electricity sector
  - Most significantly due to less wind and biogas contribution

- Notable stronger contribution in RES-Heat sector (+13%) as indicated in the NREAP’s
  - One third more generation from solid biomass and biogas

- Only 11 MS meet their indicative target on RES in the transport sector in 2010
  - Overestimation of renewable electricity in the transport sector (-11% in EU27)
SK: First quantitative assessments based on 2011 figures

- Slovakia had a share of 9.73% renewables on gross final energy consumption
- The RES-electricity generation amounted to 19.76% in 2011 (dominated by hydro power - 79% and the rest biomass energy)
- The RES-heating and cooling contributed by 9.6% in 2011, whereby the major share is observed in the industry sector (65%), only a little in the industry sector (15%) and about 20% is contributed by CHP plants with district heating
- RES in transport contributes only to 0.4% in 2011 - no bioethanol or biodiesel has been observed but only very limited amount of renewable electricity in non-road transport sector (train)
Expectation for EU: Modeling results in the 2020 horizon

- **Reduced overachievement in year 2012 compared to 2010**

- **Current policies appear insufficient** to trigger enough RES development to meet the **target in 2020** - only few countries will meet the target (AT, EE, SK); total RES share about **15.6%**

- New planned policies are expected to increase the RES share to about **16.7%** only - target achieved by BG, SE in addition to before mentioned MS

- **Missing contribution in all sectors** - major difference in the transport sector (-30%)
  - Electricity and heat sector show an about **15%** reduced contribution

- Technology specific CSP, tide and wave as well as on- and offshore wind are expected to contribute less RES-E, like heat pumps and geothermal heat do for RES-H in 2020
Expectation: Modeling results in the 2020 horizon - RES

RES Growth Rate 2010-2011 versus Average Annual Growth Rates Required

Historic growth rate in Slovakia was driven by hydro power generation (37%) and renewable heat in the industry sector (36%)
Expectation: Modeling results in the 2020 horizon - RES-E

RES-E Growth Rate 2010-2011 versus Average Annual Growth Rates Required

- Keeping the current annual growth rate of RES-E allows meeting the target (compared to the growth rate between 2009 and 2010 which was for too small)
- BUT leading behind NREAP in wind onshore, biogas and Photovoltaic
- On EU scale still missing contributions - potential for cooperation mechanisms!

% change in share 2010-2011
average annual growth in share required from 2011-2020
**Expectation: Modeling results in the 2020 horizon - RES-H&C**

- If demand stabilizes, current growth rates exceed RES-H 2020 target in Slovakia
- BUT significant missing contributions of biogas in heating and cooling compared to NREAP in 2011
Expectation: Modeling results in the 2020 horizon - RES-T

RES-T Growth Rate 2010-2011 versus Average Annual Growth Rates Required

- Too little contribution of RES within the transport sector
- All technologies are required to pick up, in order to meet the target by 2020
Opportunities: Recommendations and conclusions to meet the 2020 target

• Financial support deficit
  – Stable framework conditions - reduce the risk
  – Improve efficiency - adjust support options according to market development
  – Limit support period - consider lifetime and residual value of technology
  – Encourage cooperation and coordination schemes

• Mitigation of non-economic barriers
  – Simplify planning and authorization procedure - one stop shop
  – Spatial planning mechanisms for accelerate approvals
  – Harmonize grid connection approaches

• Market integration
  – Integration to balancing markets - gate closure closer to real time
  – Efficient congestion management
  – Efficient cross-border Intra-day markets

• Improving energy efficiency - reducing the overall energy demand
Thank you for your attention!

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