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

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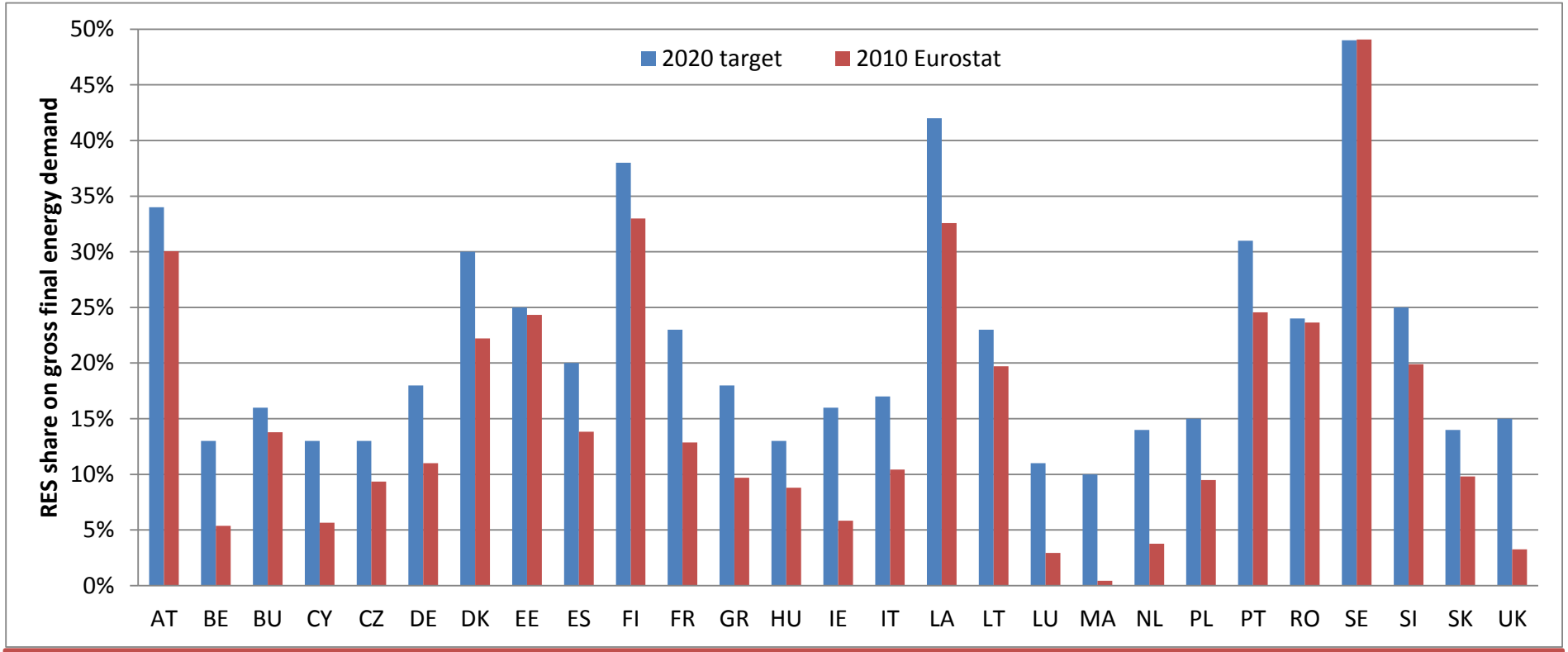
Goal: 20% of gross final energy demand is contributed by renewables in 2020



How the European Commission set the targets … „FLAT RATE“ & „GDP-Variation“

$RES\text{-}target_{2020} = RES_{2005\%} + 50\% * RES_{NEW\ \%} + 50\%$*“$RES_{NEW\ \%}$ GDP-weighting“-“first mover bonus“

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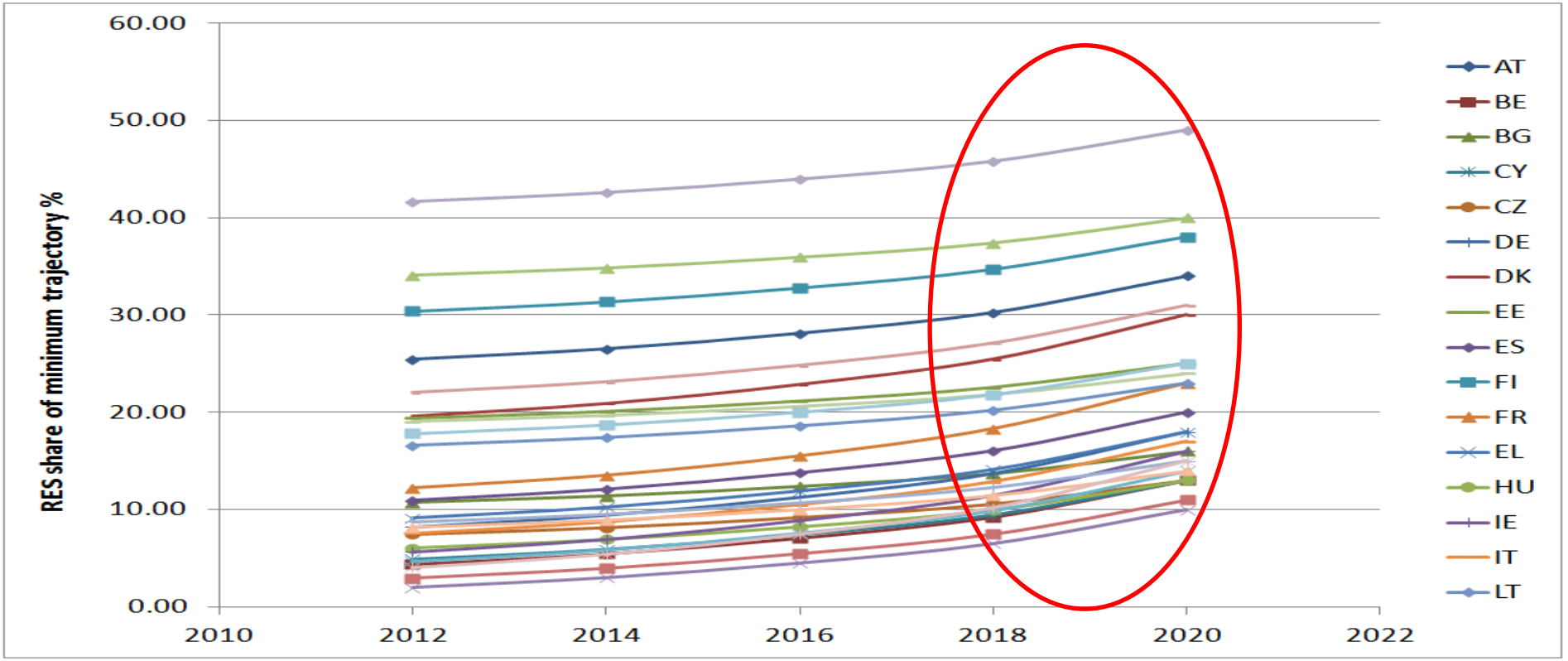
Pathway: How Member States expect to meet the target in 2020? – the NREAP's



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.**

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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)

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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)

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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

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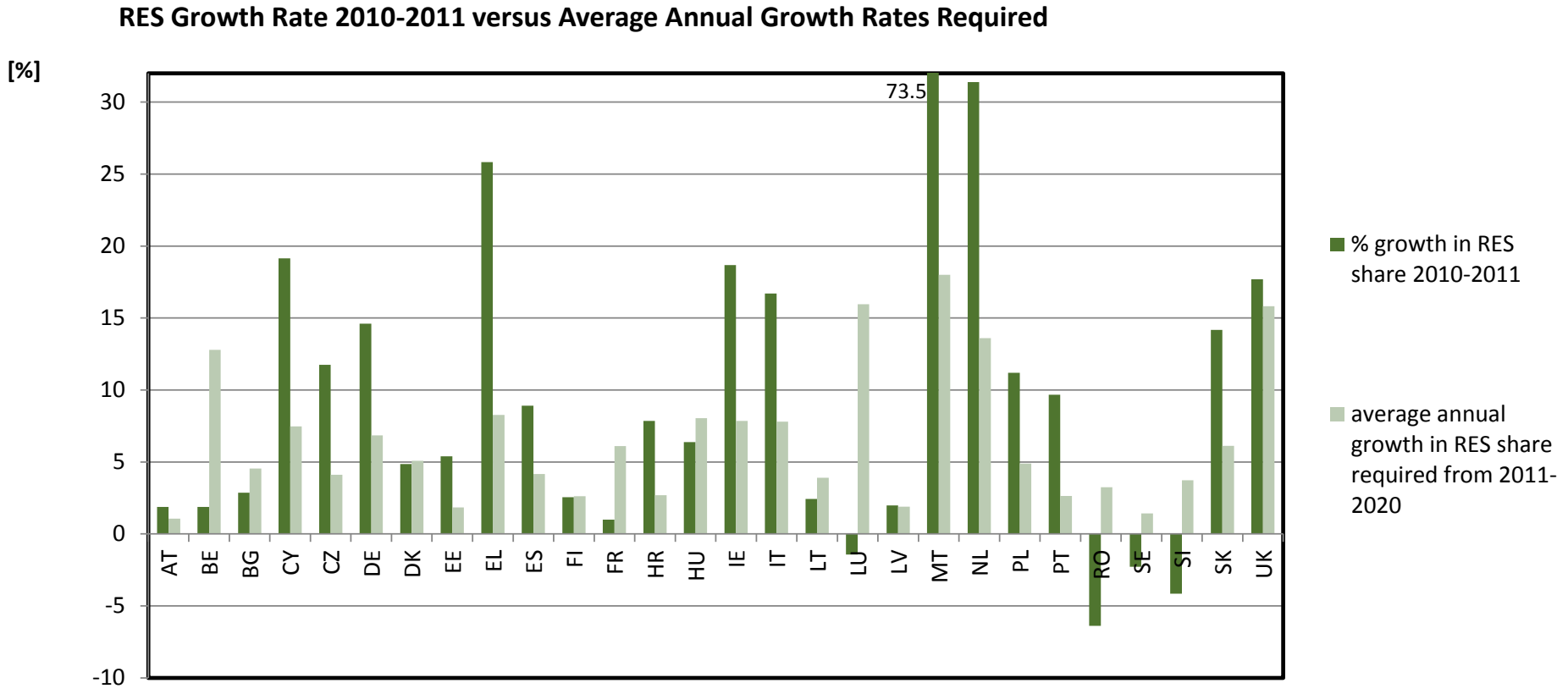
Expectation: Modeling results in the 2020 horizon - RES



- Historic growth rate in Slovakia was driven by hydro power generation (37%) and renewable heat in the industry sector (36%)

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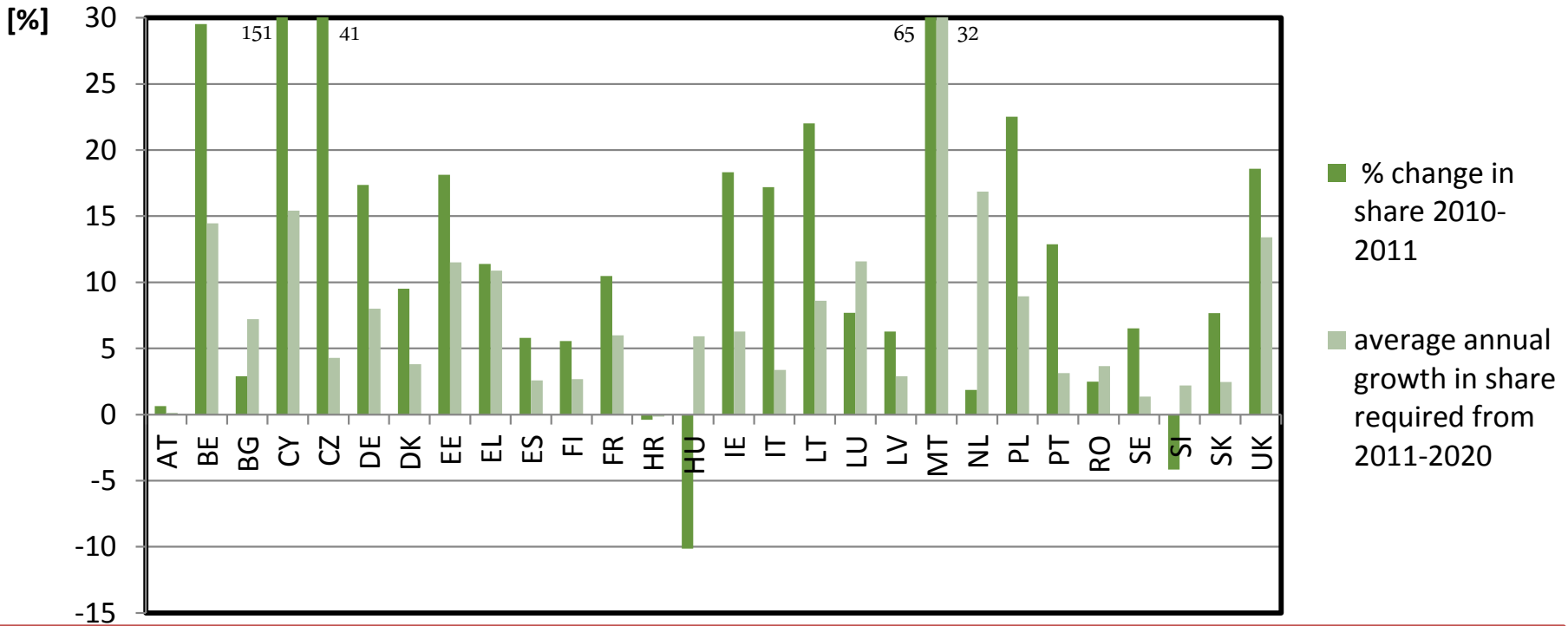
Expectation: Modeling results in the 2020 horizon – RES-E

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!

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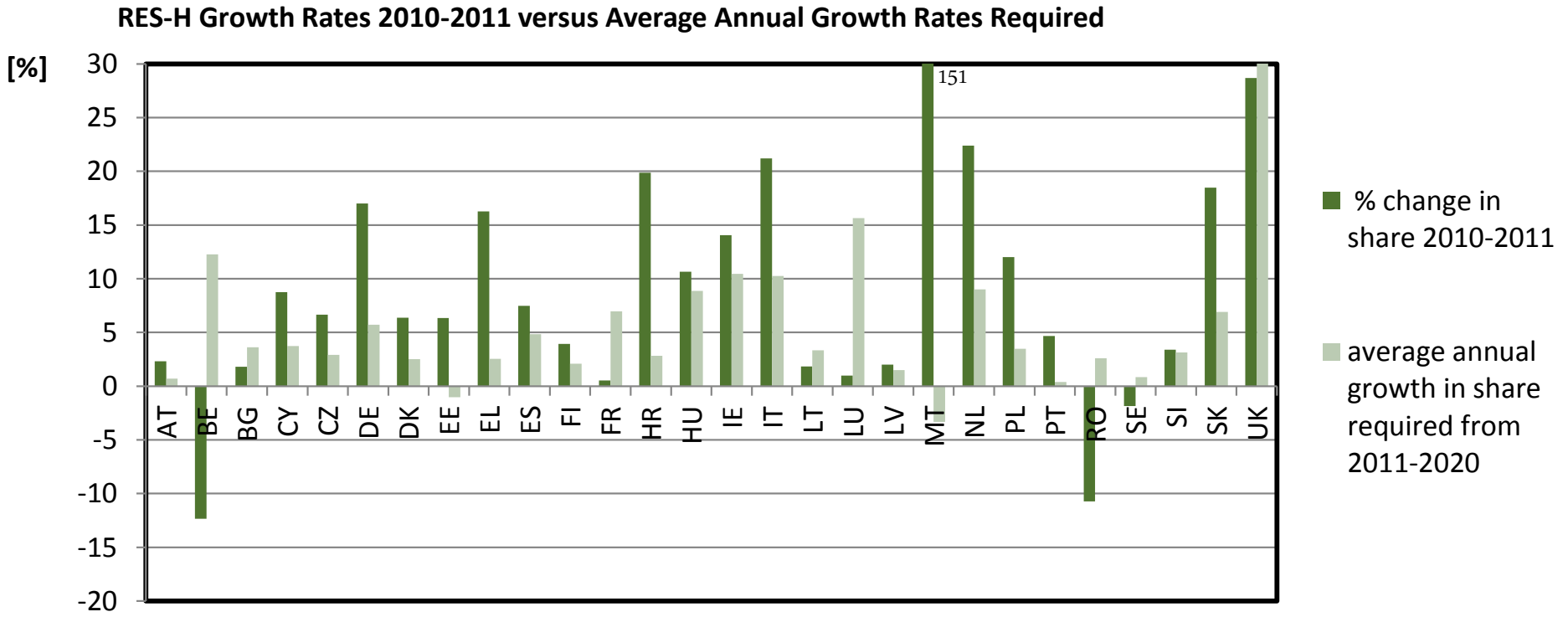
Expectation: Modeling results in the 2020 horizon – RES-H&C



- 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

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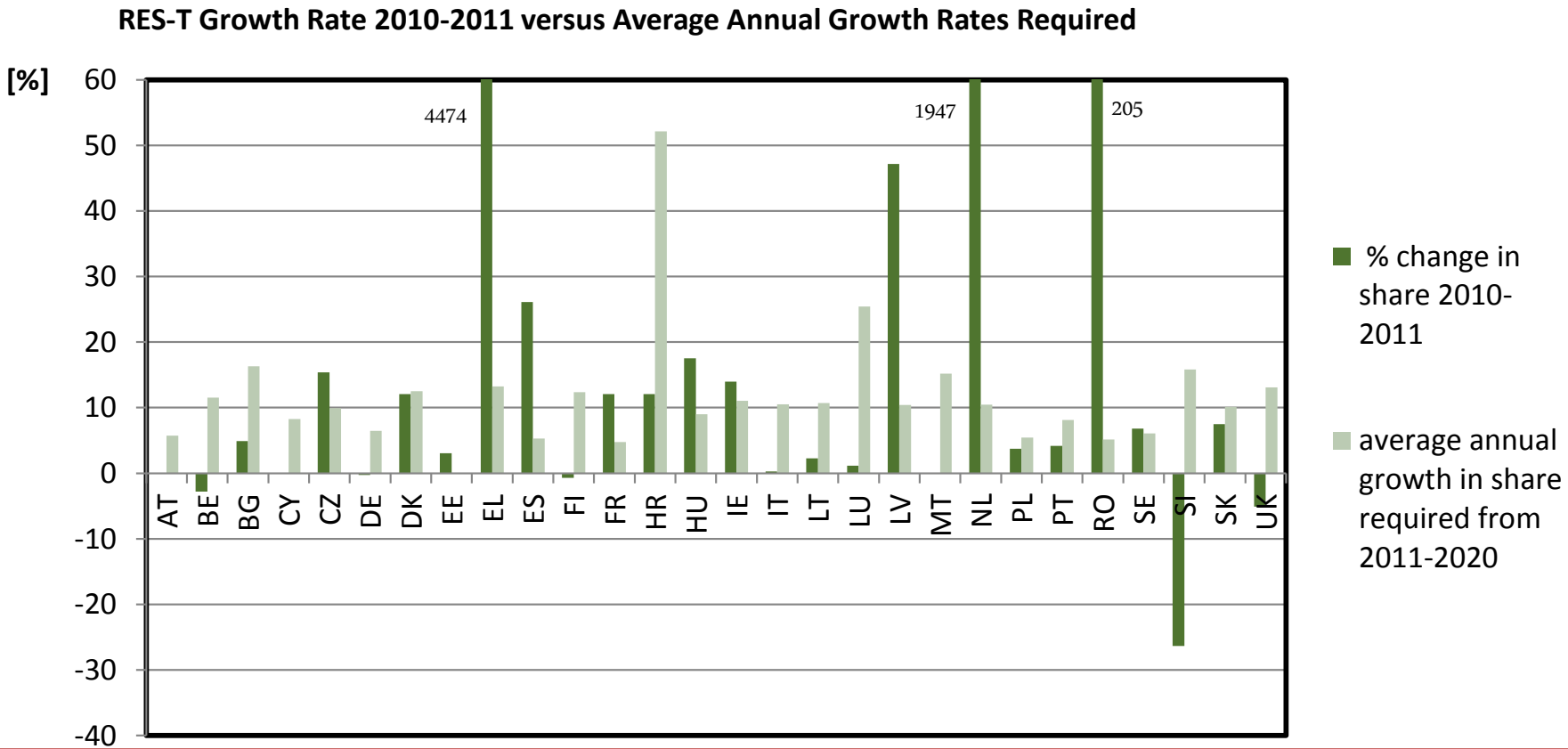
Expectation: Modeling results in the 2020 horizon – RES-T



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

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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**

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Thank you for your attention!

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