Renewable energy sources in Lithuania – 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 / **Lithuania** on track – first quantitative assessments
4. Will the implemented supports schemes be sufficient for the envisaged 2020 goals?
5. Conclusions

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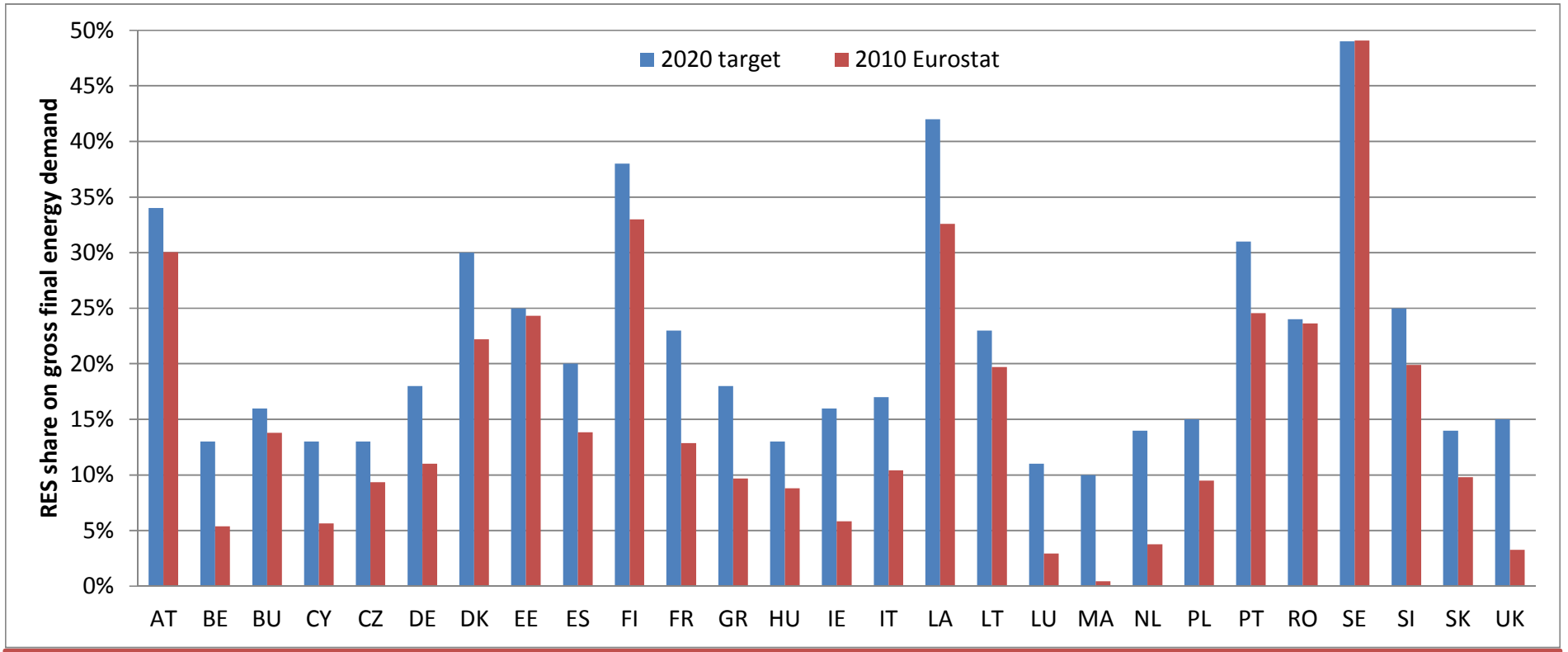
Goal: 20% of gross final energy demand is contributed by renewables in 2020



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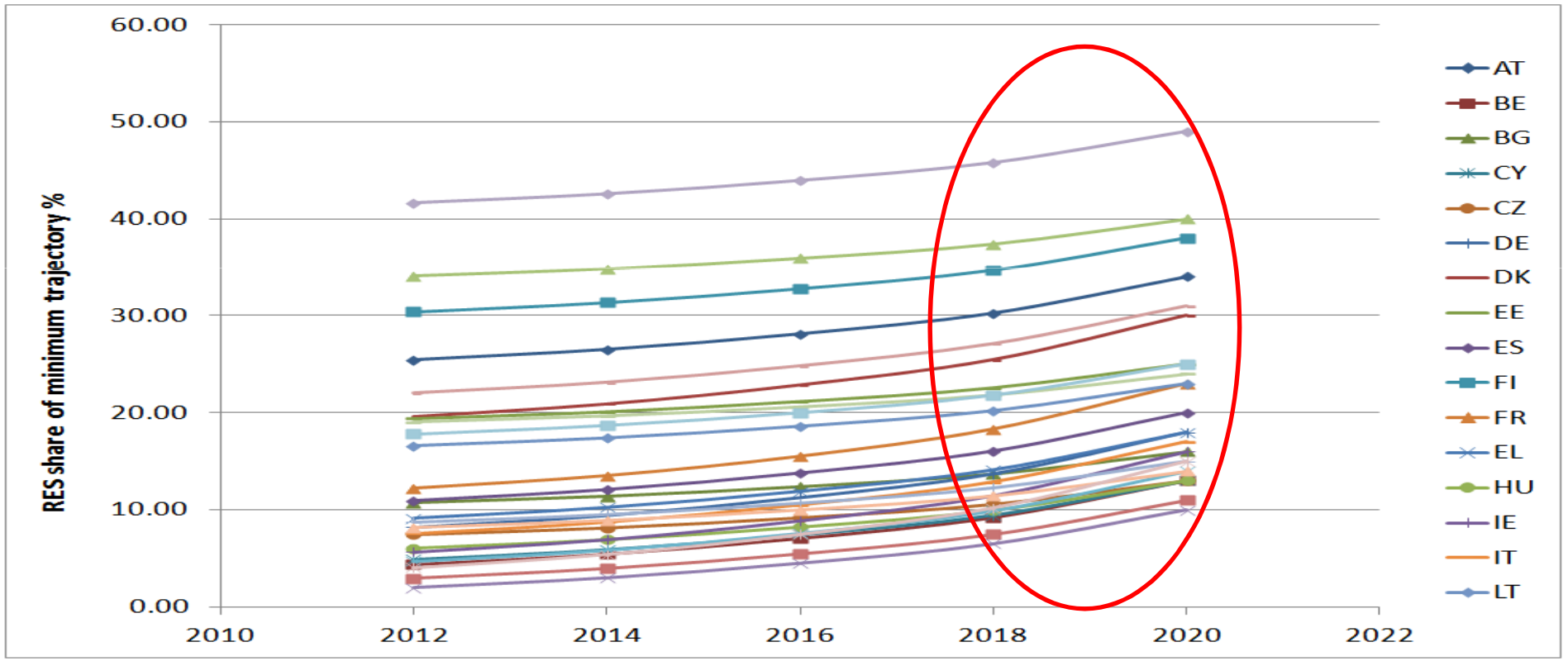
Pathway: How Member States expect to meet the target in 2020? – the NREAP's



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 2010 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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LT: First quantitative assessments based on 2010 figures

- Lithuania had a minimum trajectory of 16.6% in 2010 and achieved 19.72% (+19%)
- The RES-electricity generation amounted to 15.7% in 2010 (25% each of wind onshore and solid biomass and about 50% of biogas) – an deviation of -7.5% mainly due to missing biogas generation
- Notable stronger contribution in RES-Heat sector (34%) as indicated in the NREAP's (+18%) – Much higher biomass contribution, but missing biogas heat generation
- About 4% RES in transport in 2010 in Lithuania indicates 10% less than expected
  - Too little contribution of bio-ethanol and bio-diesel, overachieved electricity in transport sector

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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 in LT: Modeling results in the 2020 horizon

- RES share in 2012: 18.8% (minimum trajectory 16.6%; indicative target 18%)
- Current policies appear insufficient to trigger enough RES development to meet the target in 2020 – only 14.1% to 14.6% RES by 2020 (target 23%)
- New, currently planned policies are expected to increase the RES share to about 15.6% to 16% only
- Missing contribution in all sectors – about 50% in the electricity sector (wind onshore and solid biomass); 35% in the heat sector (more biomass, almost 80% missing of biogas); 80% missing in the transport sector (bioethanol, biodiesel)

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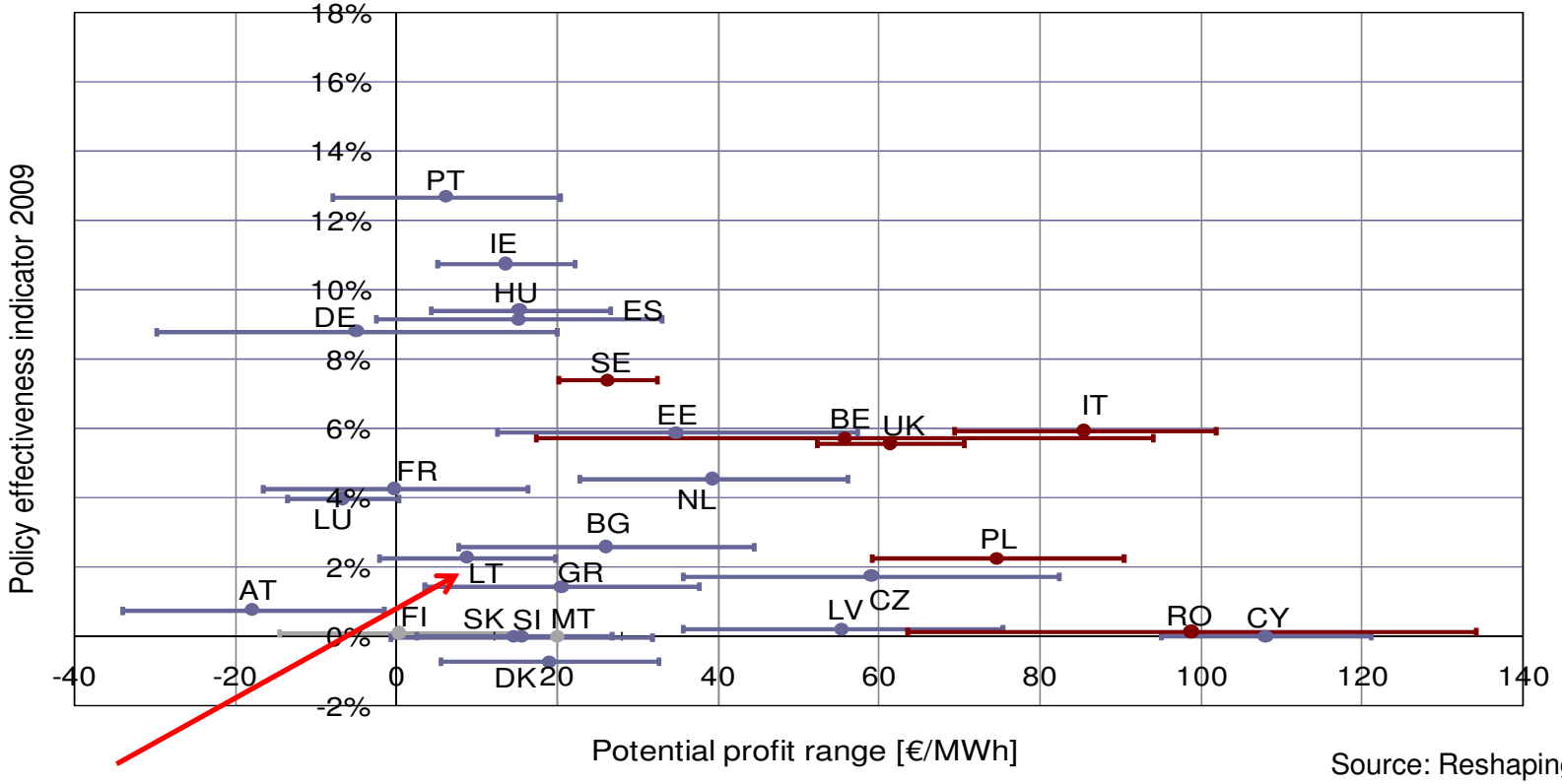
Options: Policy effectiveness versus efficiency



Source: Reshaping (2011)

Effectiveness: How much RES is triggered from the available potential due to support mechanisms

Efficiency: Is the support level appropriate compared to the LCOE's (no over/under compensation)

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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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