Renewable energy sources in Greece and the EU – a quantitative assessment and policy conclusion towards, and beyond, 2020

Simone Steinhilber

Fraunhofer Institute for Systems and Innovation Research ISI

http://www.isi.fraunhofer.de

simone.steinhilber@isi.fraunhofer.de

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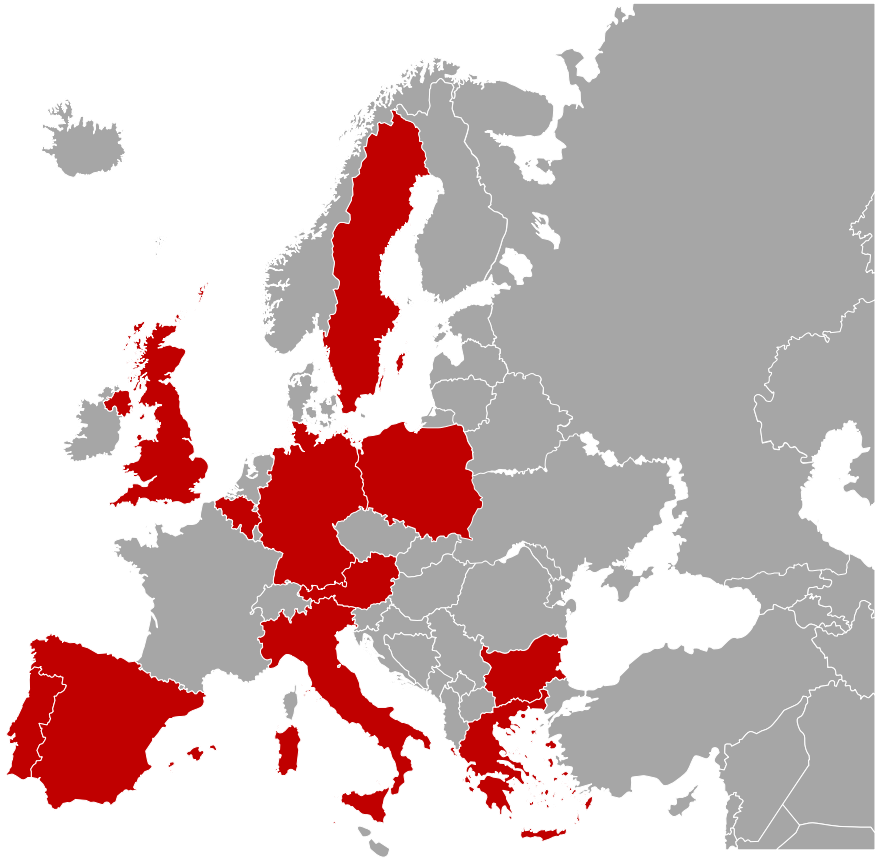
- The Keep-on-Track! Project:
  - 17 Partners:
    - **EREC**
    - EUFORES
    - BBH
    - eclareon
    - EEG (TU Wien)
    - Fraunhofer ISI
    - 11 nat. RES Associations
  - 3 Year Project (2012-2015)



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Outline of the presentation

1. Past progress of the EU-27
2. Is Europe / **Greece** on track? – first quantitative assessments
3. Will the implemented supports schemes be sufficient for the envisaged 2020 goals?
4. Barriers
5. Conclusions and recommendations

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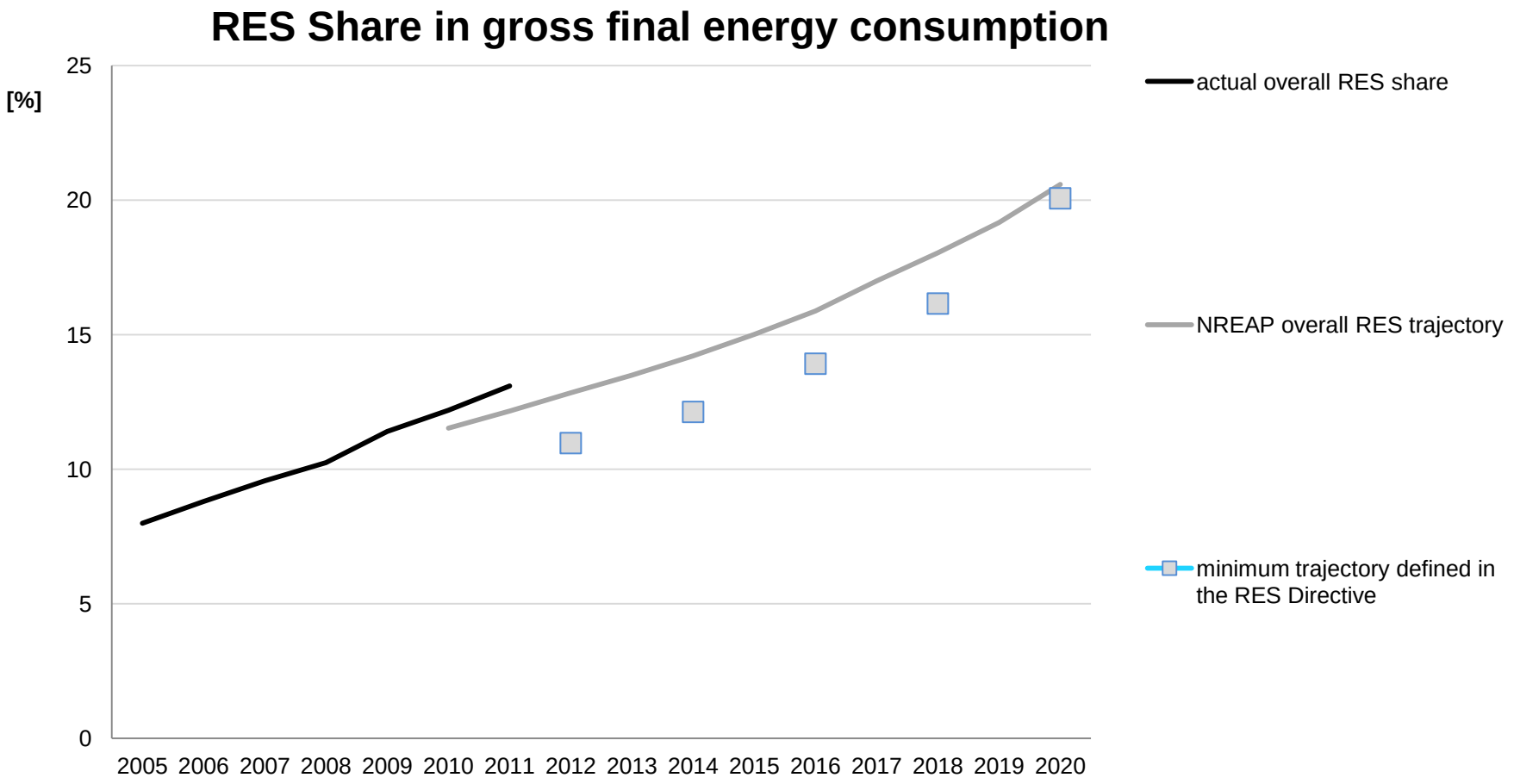
The EU is on track so far...



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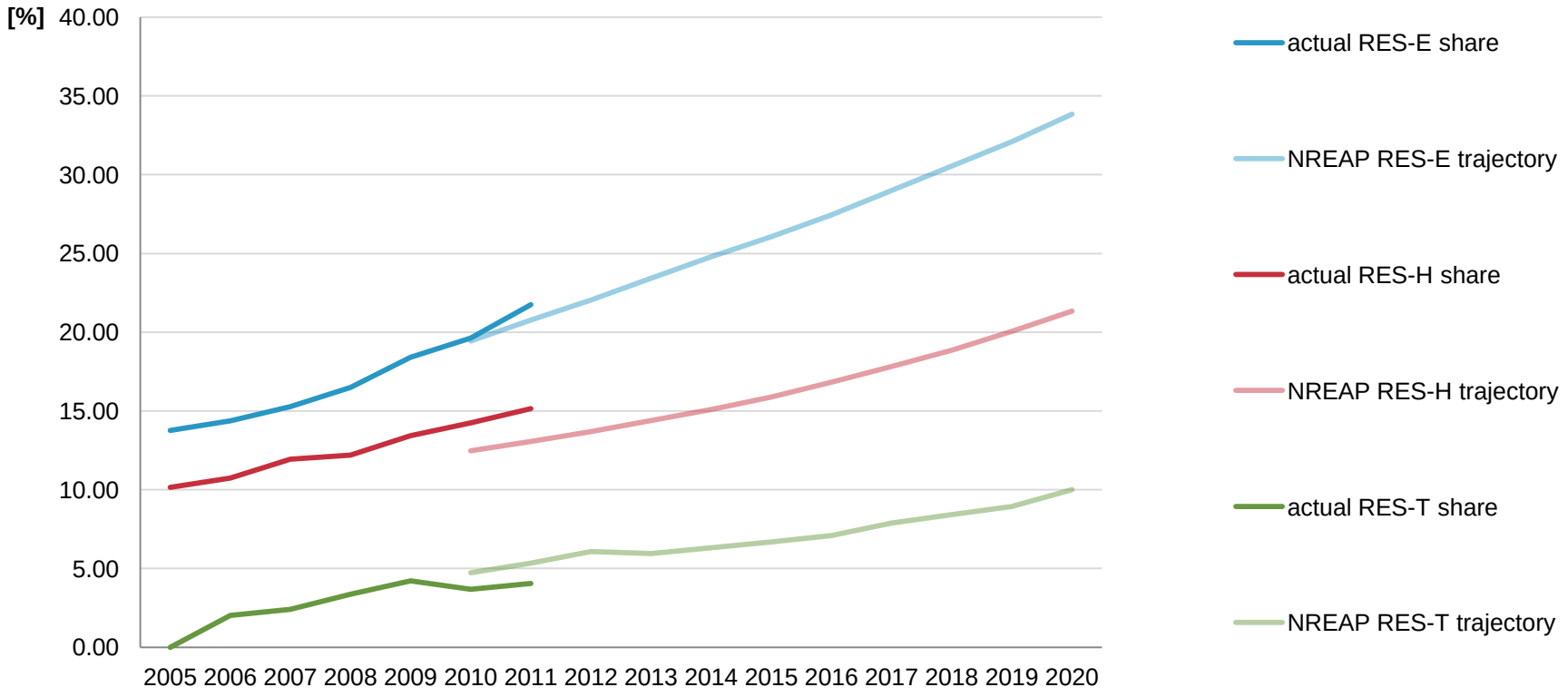
…with the transport sector below planned developments



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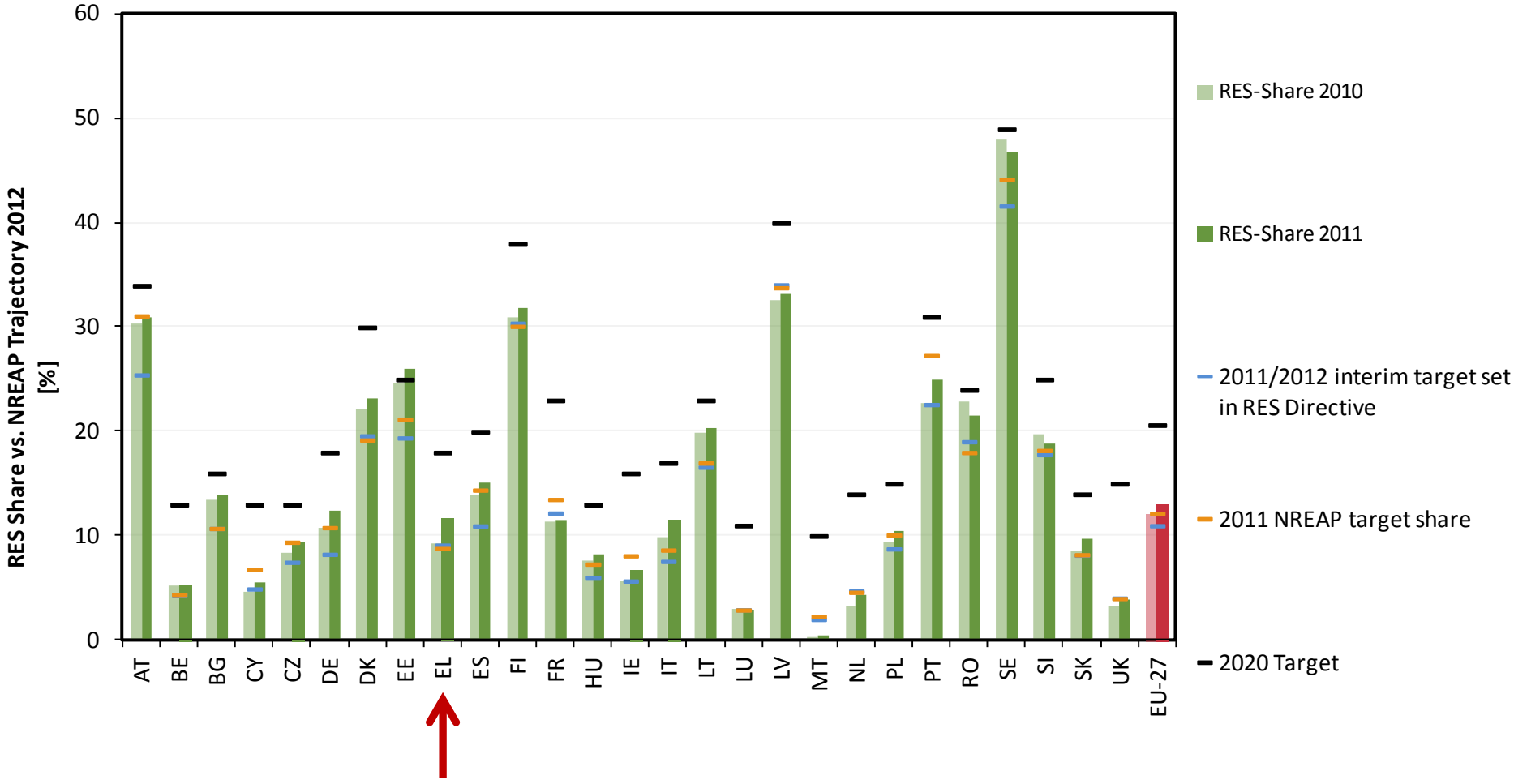
Planned vs. actual deployment: Status 2011



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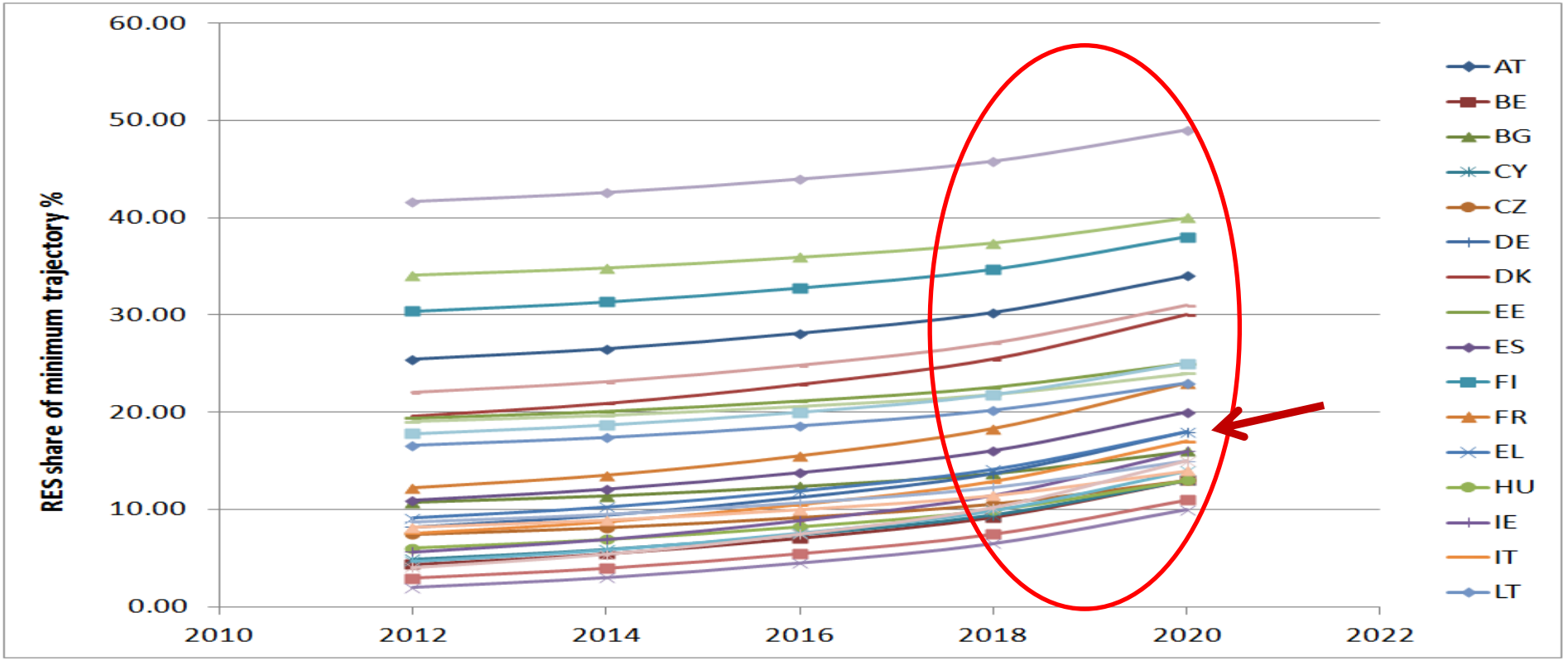
NREAP trajectories: How Member States expect to meet the target in 2020



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 data

- The actual RES generation 2011 already exceeds the 2011/2012 interim target in almost all Member States. Exceptions are UK, NL, MT, LU, LV, FR.

- RES-E: 13 MS did not meet the indicative 2011 NREAP targets
  - including EL, most significantly due to less wind and solid biomass contribution

- RES-H&C: only 4 MS underachieve on indicative 2011 NREAP targets
  - Slightly more generation from solid biomass and biogas, much less bioliquids than planned.
  - EL achieved its NREAP target

- RES-T: 18 MS underachieved on indicative 2011 NREAP targets, including EL
  - Many MS overestimated use of renewable electricity in the transport sector

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Greece: First quantitative assessments based on 2011 figures

- Greece had a share of 11.57 % renewables on gross final energy consumption
- The RES-electricity generation amounted to 14.6% in 2011 (dominated by hydro power – 54%, and onshore wind – 37% and the rest mostly PV) – NREAP: 15.7% ✖
- The RES-heating and cooling share was 20.1% in 2011, of which 75% in the household sector and 25% in the industry sector – NREAP: 15.7% ✔
- RES in transport contributes only to 1.8% in 2011 – mostly due to biodiesel. No bioethanol, very limited renewable electricity in transport –NREAP: 3.3% ✖

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Expectation for EU: Modeling results for EU-27 in the 2020 horizon

Until 2012: Reduced overachievement in year 2012 compared to 2011

Until 2020:

- 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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⇒We need well-designed, effective and cost-efficient policies to reach the European 20% target!

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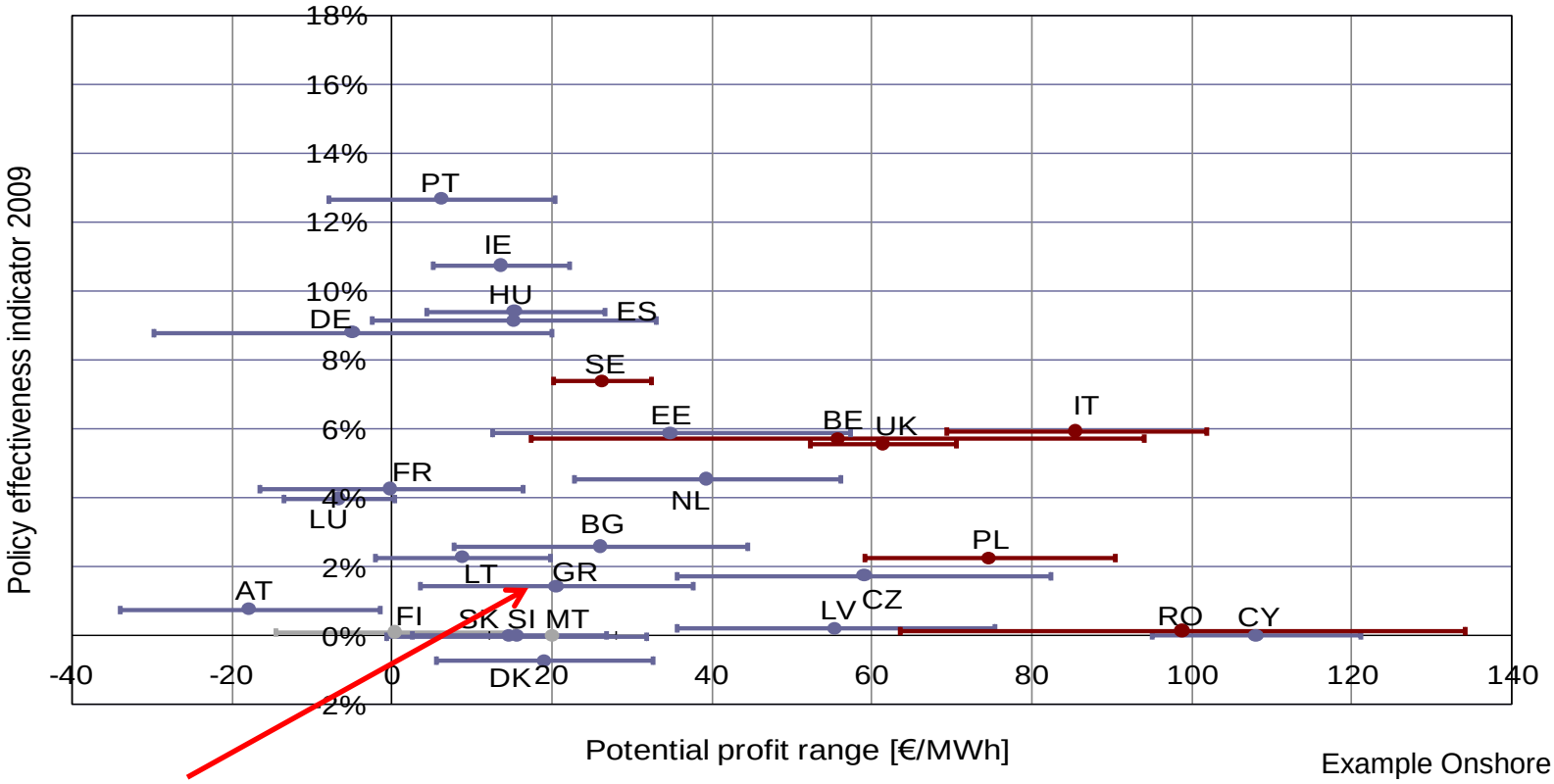
Options: Policy effectiveness versus efficiency



Example Onshore wind.
Source: Reshaping (2011)

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

Profit range: Results from support levels and levelized costs of generation

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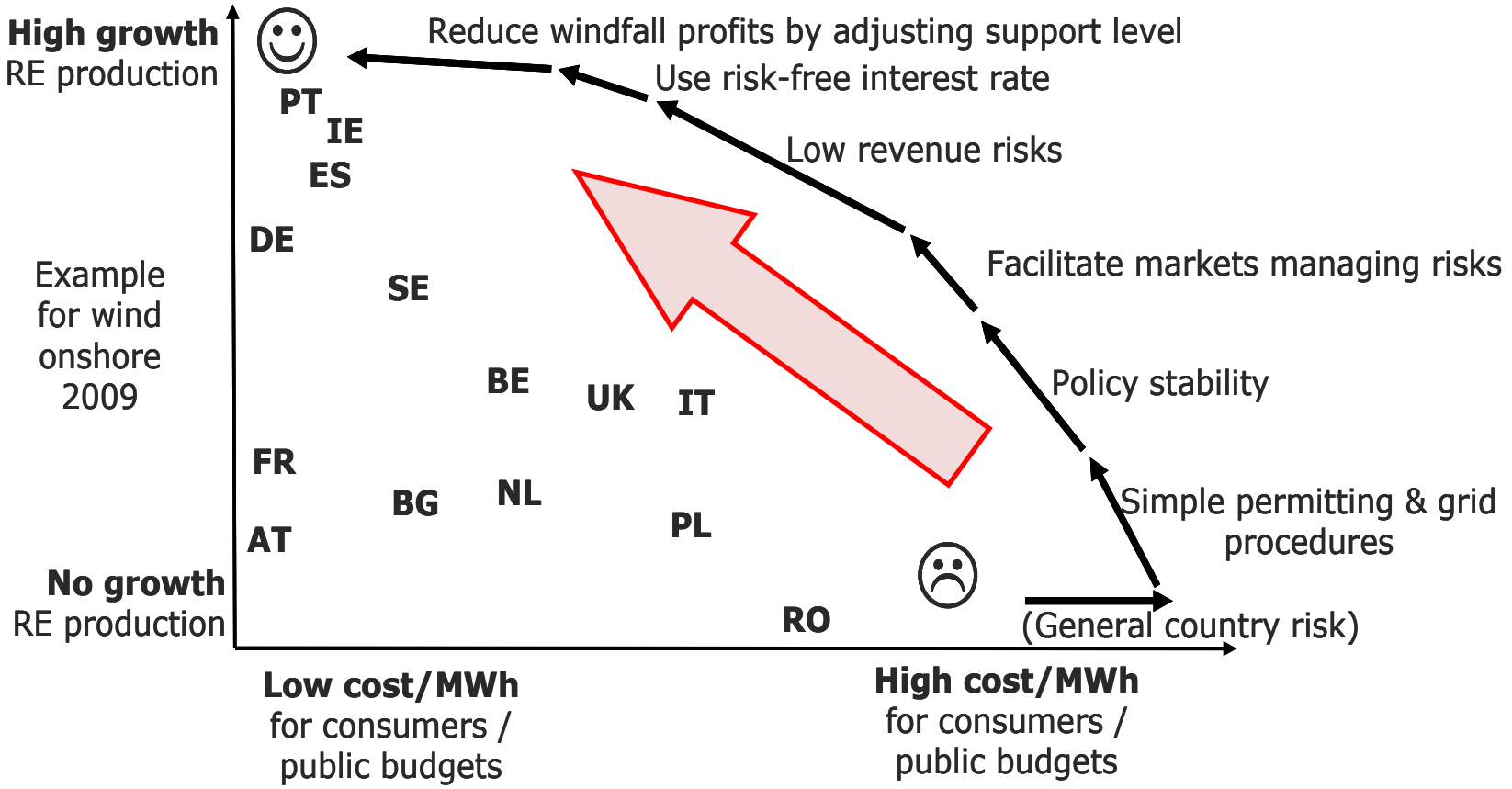
Increase Policy Effectiveness and Efficiency



Source: Rathman et al. (2011) Towards triple-A policies: More renewable energy at lower cost. RE-Shaping report D16.

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Support scheme reliability

Retrospective

Retroactive

Moratorium

Investor confidence

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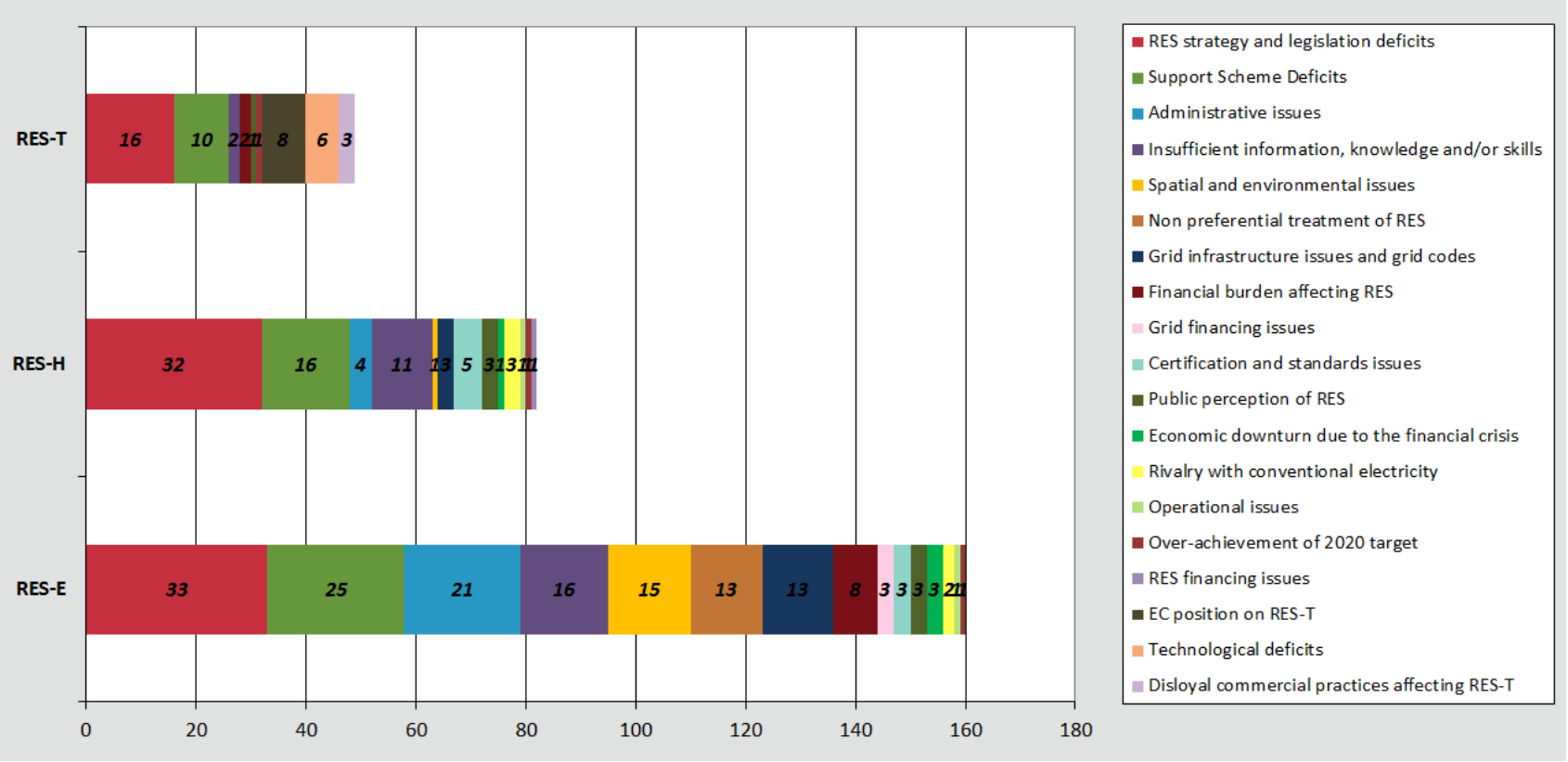
Barriers in the EU-27: The lack of long term visions for RES is perceived as most significant



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We are continuously improving our data on barriers:

NEW!

Interactive online database on barriers to renewable energy and the corresponding policy recommendations

re-frame.eu

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Main obstacles identified in Greece

- growing RES account deficit of the Electricity Market Operator has led to lack of liquidity and delayed payments to RES generators
  - Existing generators find it difficult to pay back their loans
  - Banks are reluctant to provide loans to new RES projects

- The crisis-induced pressure on the government to reduce support costs, which has led to unfavourable policy actions:
  - Levy on existing RES installations (retrospective policy change)
  - Interruption of support to new PV installations (moratorium)

- Grid extension needed, especially between islands and mainland, and with other countries

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Opportunities: Recommendations and conclusions to meet the 2020 target

- **Create a stable and predictable framework for RES**
  - reduce (unproductive) risks for investors
  - Improve efficiency – adjust support levels according to market development
  - Limit support period – consider lifetime and residual value of technology
  - Encourage European cooperation and coordination schemes

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

- **Re-establish true fossil fuel and CO_2 prices**
- **market integration**
- **Provide a thorough analysis of electricity prices and the tariff deficit**

Improving energy efficiency - reducing the overall energy demand

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Thank you for your attention!

Keep-on-Track! project website:
http://www.keepontrack.eu/

RE-Shaping project website:
http://www.reshaping-res-policy.eu/

Interactive online barriers database:
re-frame.eu

Contact

Simone Steinhilber

e-mail: simone.steinhilber@isi.fraunhofer.de

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