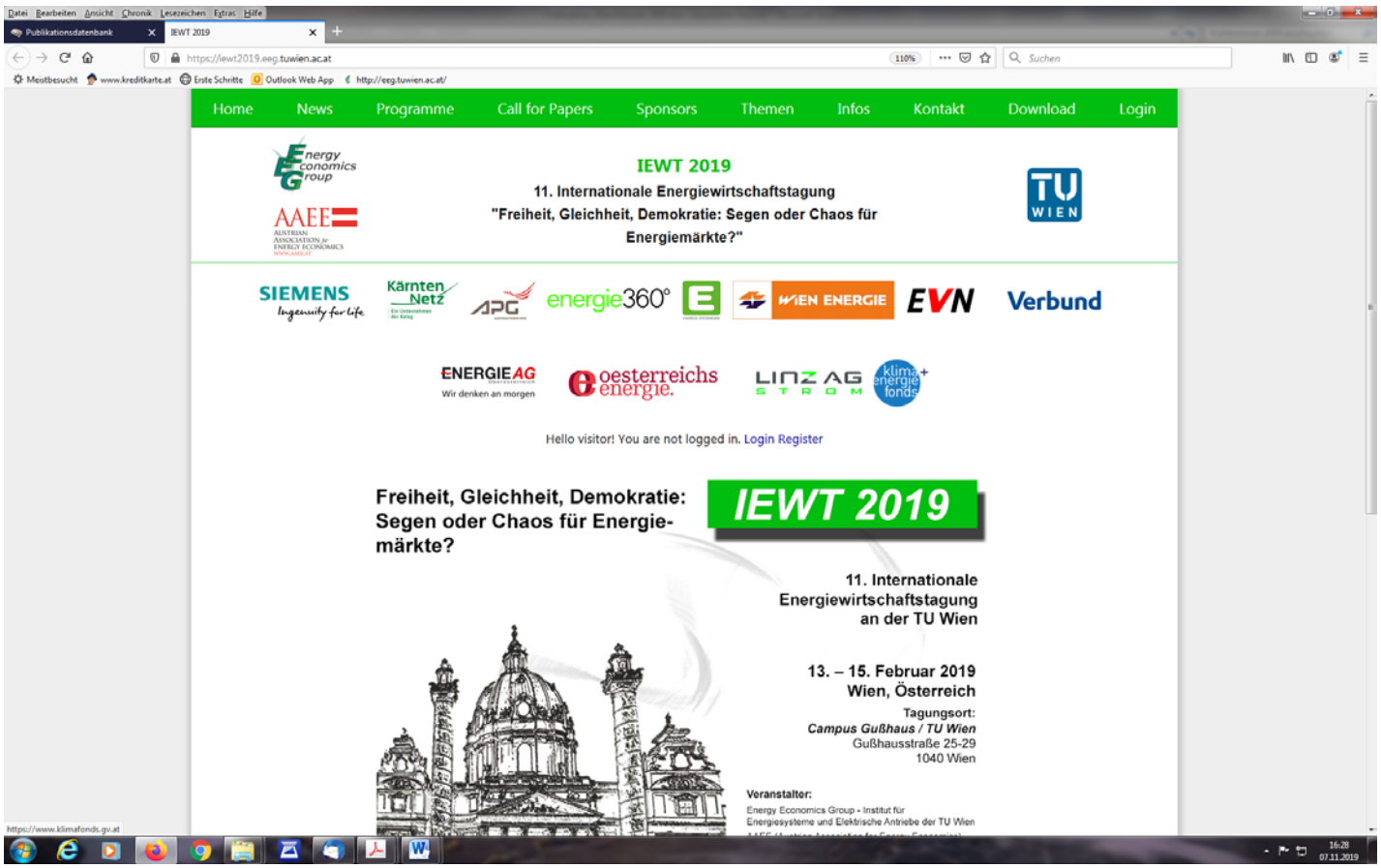
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Energy Economics Group • Institut für Energiesysteme und Elektrische Antriebe der TU Wien

Study on 2030 overall targets
(energy efficiency, renewable energies, GHG emissions reduction)
for the Energy Community

Nationale Benchmarks für ein europaweites Ausbauziel von erneuerbaren Energien bis 2030

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Why are national benchmarks needed?

- Ensuring concrete Member States' contributions to the EU-wide 32% RES target

  Member States should set their post-2020 renewable energy pledges and trajectories in their national energy and climate plans considering the indicative benchmarks, and develop the enabling policy frameworks in line with the revised RES Directive.

- Providing an efficient monitoring and enforcement system (Possible gap avoider/filler mechanisms)

  Allowing an effective coordination of Member States' efforts towards the target of at least 32%

  If Member States deviate from their trajectories and a gap between the aggregated national commitments and the overall 32% target is identified, the European Commission (EC) must be able to propose corrective measures

  The EC should first broker cooperation mechanisms as they can achieve cost-effective fulfilment of the EU-wide target. If they are insufficient to fill the gap, the EC should use existing and new EU funds as trigger mechanisms to incentivise the collective RES engagement.

  Financial support from existing funds (e.g. Modernisation Fund) should be only granted on the condition that Member States comply with their RES pledges and thus give their fair share in achieving the common 27% target.

- Give an indication on the required effort for candidate countries

Renewable energy until 2030

- On 30 November 2016 the European Commission published a package of proposals for legislative measures for the time horizon from 2020 to 2030 called "**Clean Energy for all Europeans**" commonly referred to as the **winter package**.
- It aims at further promoting the **clean energy transition** while developing the internal market for energy and thus fostering the Energy Union.
- An ambitious political agreement on increasing renewable energy use in the EU has been taken: In a Statement of the European Commission (STATEMENT/18/4155) it was declared that the new regulatory framework includes **a binding renewable energy target for the EU for 2030 of <u>32%</u>** with an upwards revision clause by 2023.
- At this point (6 September 2018), **no agreement has been taken on the exact approach to be used for an effort sharing**, nor on the binding character of MS pledges.
- → The lack of binding national targets was however also addressed by the European Parliament. Amendments adopted by the European Parliament on 17 January 2018 on the proposal for a recast of the RED include a **newly designed formula**
  (see Amendment 111 - Proposal for a Directive … Article 3 – paragraph 2).

Renewable energy until 2030

- To increase the RE share at CP level according the **formula set out in Annex Ia** of the Amendments adopted by the European Parliament on 17 January 2018.
- This approach follows **an integrated concept that takes into account:**
  - ✓ the differences in economic development,
  - ✓ the potential for cost-effective RE deployment, and
  - ✓ the interconnection level in the European Network of Transmission System Operators for Electricity (ENTSO-E) across the EU and the EnC.
- This approach strictly follows the formula set out in Annex Ia
- When including all Contracting Parties of the Energy Community (CPs), the applied approach **distributes the efforts across all CPs** (and EU Member States) **while maintaining the RE ambition level as presumed at EU level** (i.e. to aim for (at least) **32% RE** as share in gross final energy demand)
- The shown results in this presentation **do not represent the official EU 2030 benchmark**
  - Missing official least-cost scenario for the EU 28 countries used for the potential-based contribution
  - The data and formula used for calculating the interconnection-based contribution is unclear

The details of the calculation

Amendment 270, Proposal for a directive Annex Ia (new) - Text proposed by the Commission

1. A Member State's targets for 2030 shall be the sum of the following components, each expressed in percentage points:

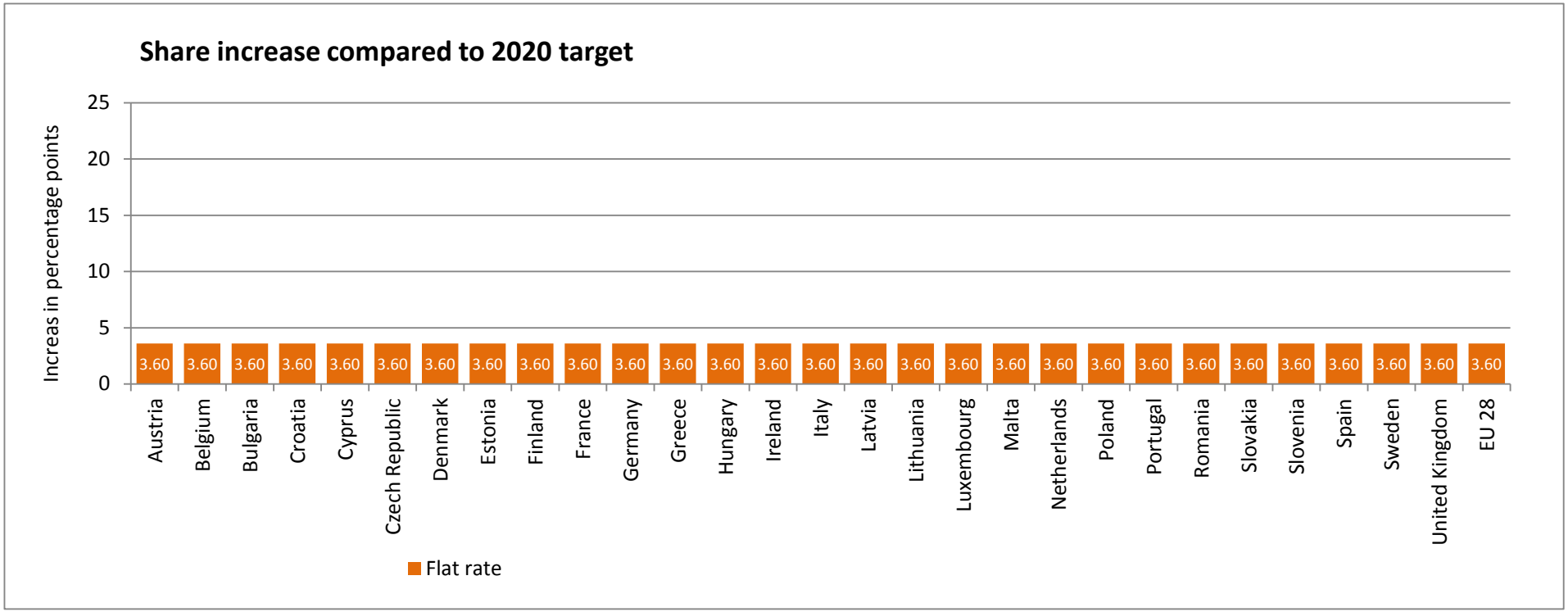
(a) the **Member State's national binding target for 2020** as set out in Annex I of the Directive COM(2016) 767 final/2.

(b) a **flat rate contribution** ("C_{Flat}");

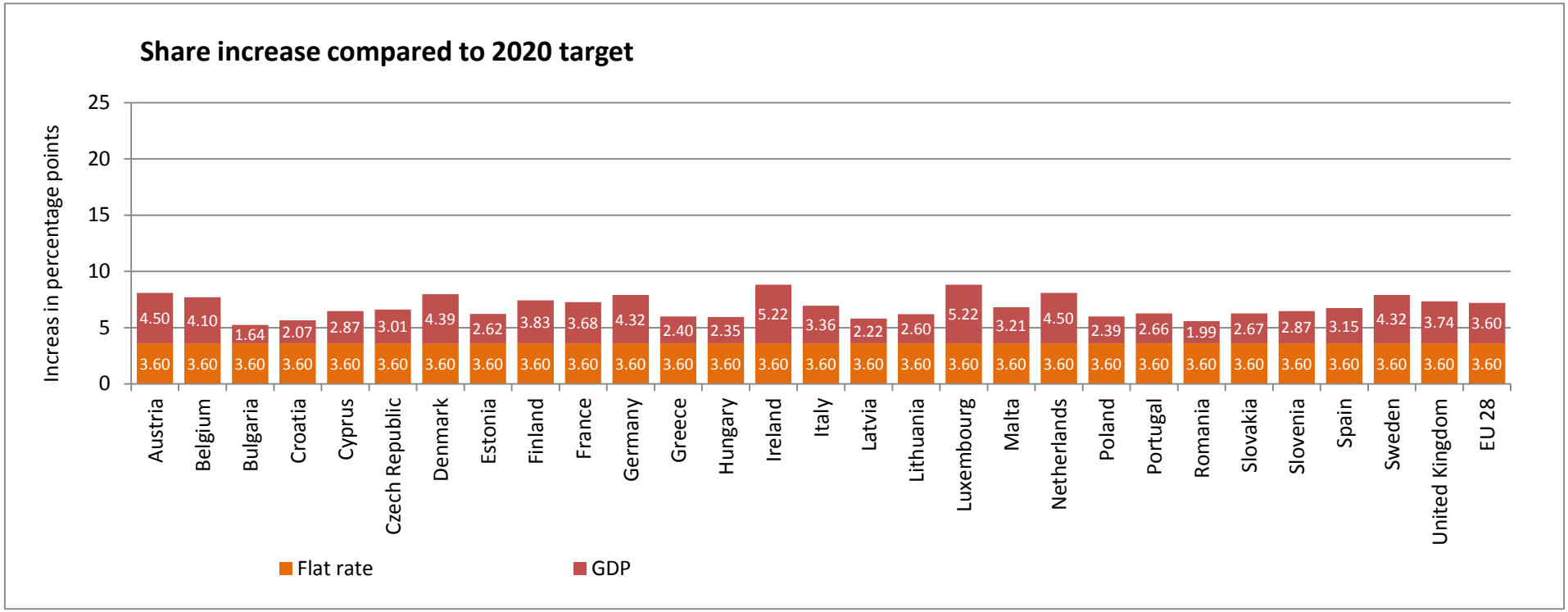
(c) a **GDP-per-capita based contribution** ("C_{GDP}");

(d) a **potential-based contribution** ("$C_{Potential}$");

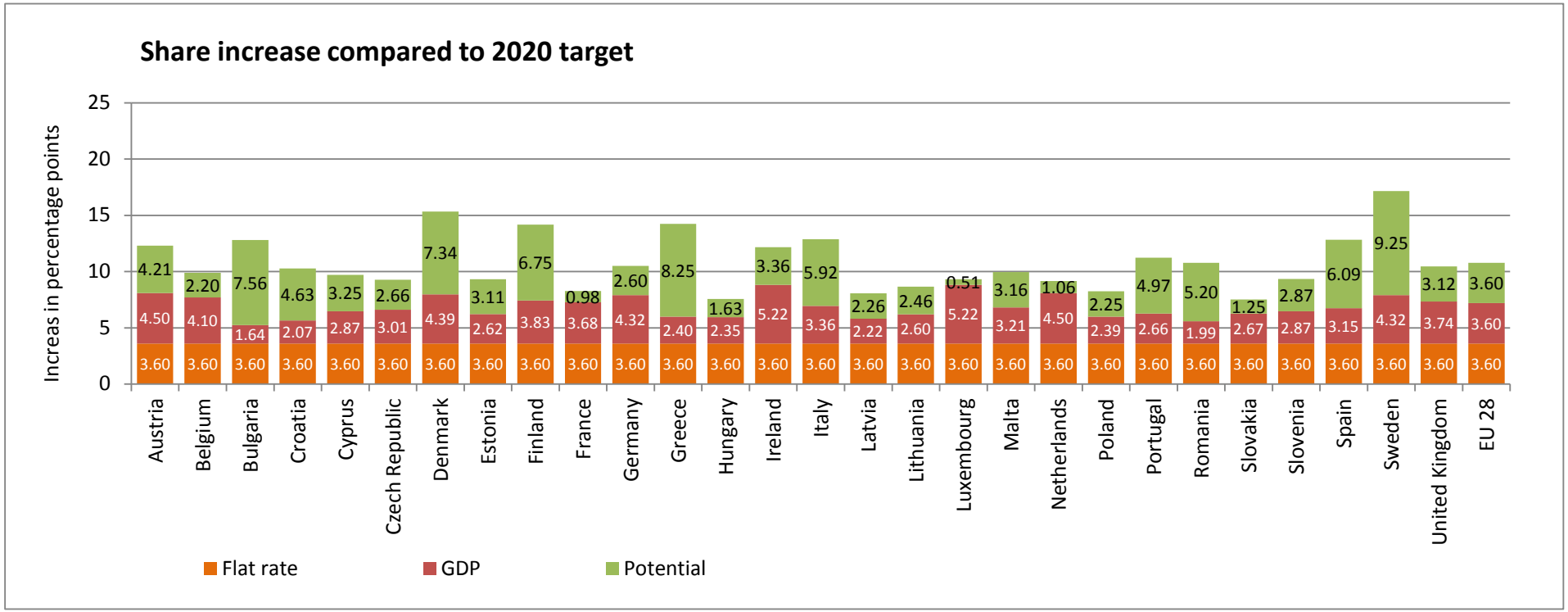
(e) a **contribution reflecting the interconnection level** of the Member State ("$C_{Interco}$").



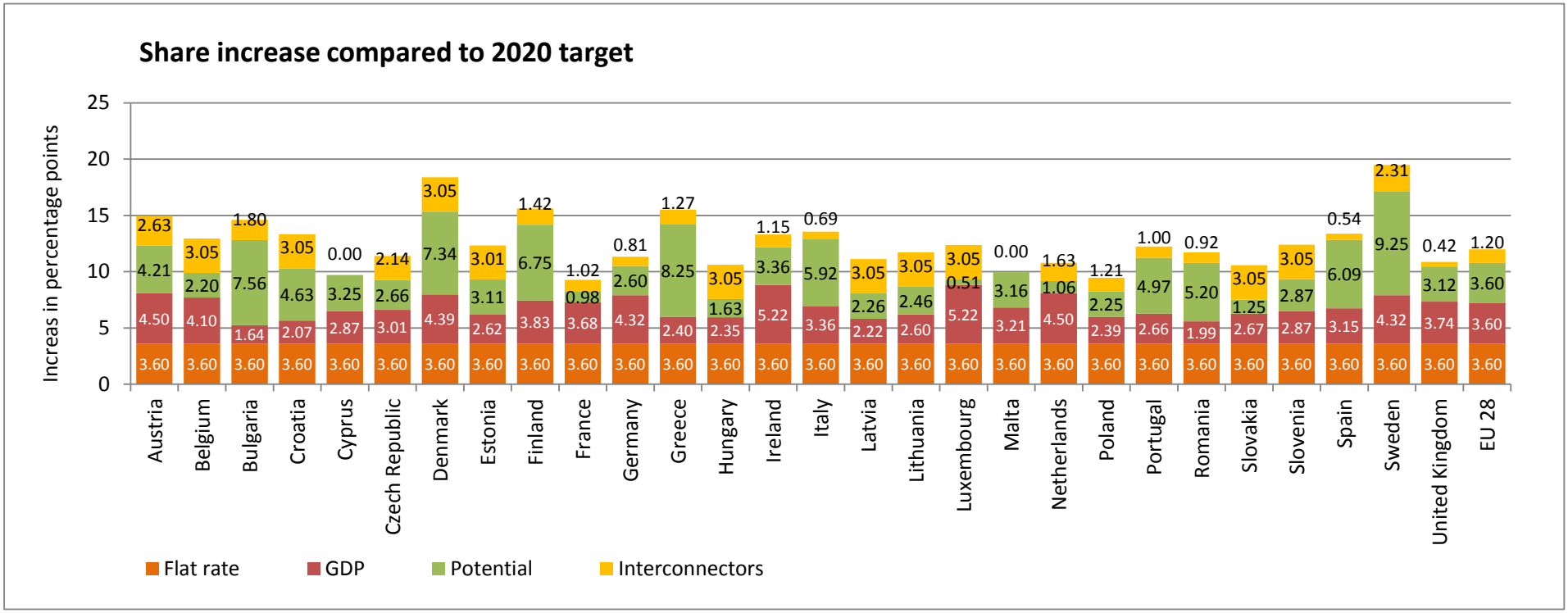
2. $\mathbf{C_{Flat}}$ shall be the same for each Member State. All Member States' C_{Flat} shall together **contribute 30 %** of the difference between the Union's targets for 2030 and 2020.



3. C_{GDP} shall be allocated between Member States based on a GDP per capita index to the Union average, where for each Member State individually the index is **capped at 150 % of the Union average**. All Member States' C_{GDP} shall together **contribute 30 %** of the difference between the Union targets for 2030 and 2020.



4. $C_{Potential}$ shall be allocated between Member States based on the difference between a Member State's RES share in 2030 as shown in PRIMES EUCO…. scenario and its national binding target for 2020. All Member States' $C_{Potential}$ shall together **contribute 30 %** of the difference between the Union targets for 2030 and 2020. (→ Least cost allocation)



5. $C_{Interco}$ shall be allocated between Member States based on an electricity interconnection share index to EU average, where for each Member State individually the interconnection share index is **capped at 150% of the EU average**. All Member States' $C_{Interco}$ shall together **contribute 10%** of the difference between the EU targets for 2030 and 2020.

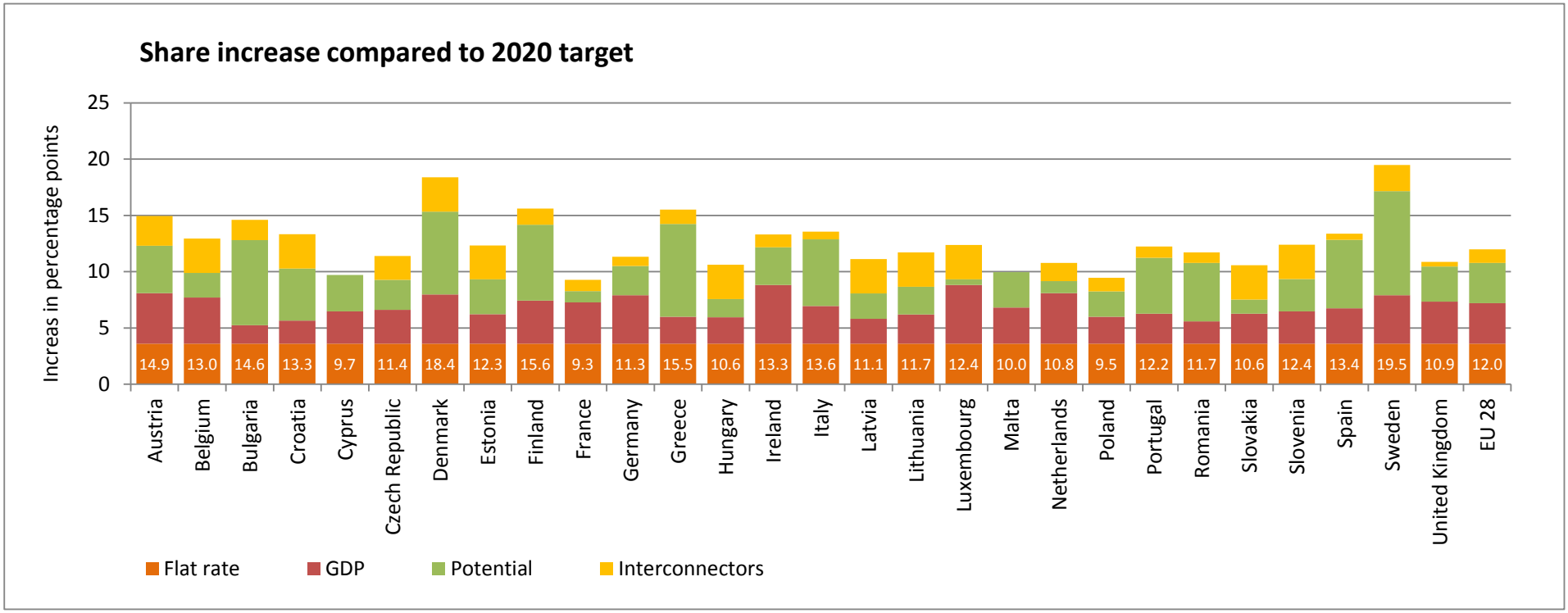


Figure: Resulting RE share net increase between 2020 and 2030 for all Member States according to the proposed target setting approach (i.e. a "four component" approach).

(Source: EUROSTAT, 2019; own calculations)

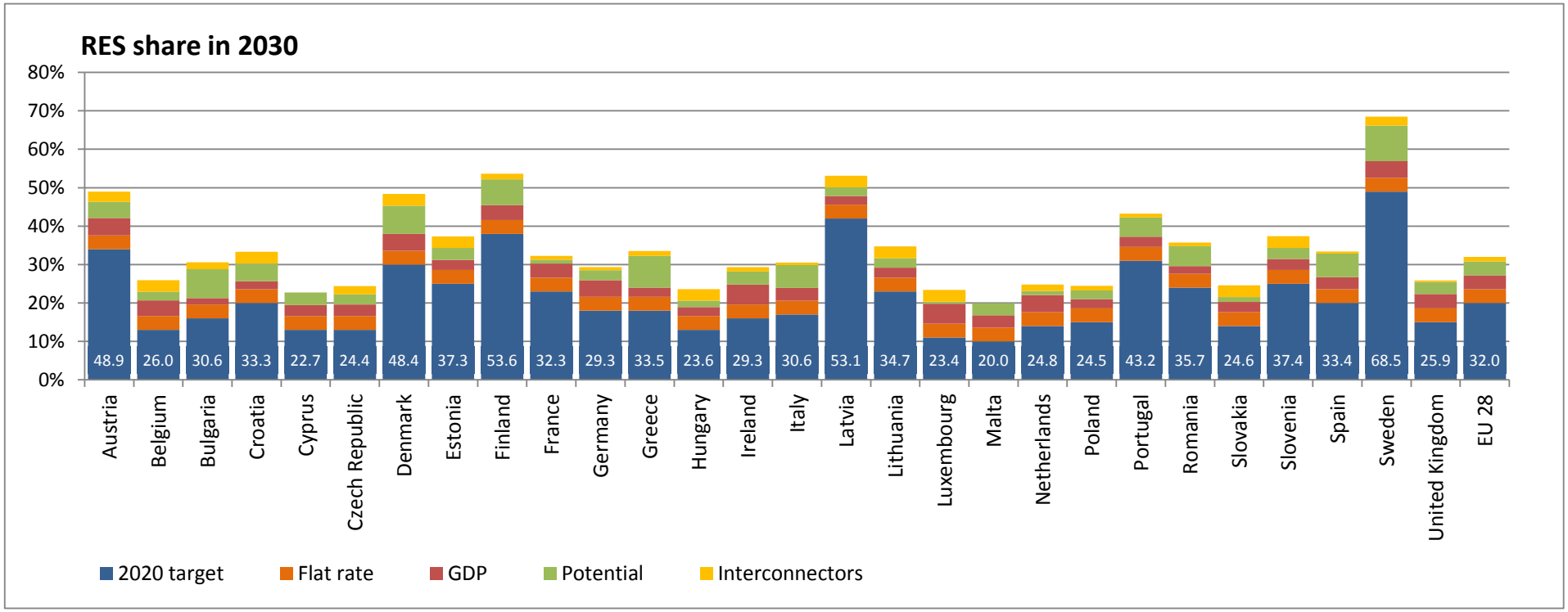


Figure: 2030 RE Targets according to the proposed target setting approach (i.e. a "four component" approach).

(Source: EUROSTAT, 2019; own calculations)

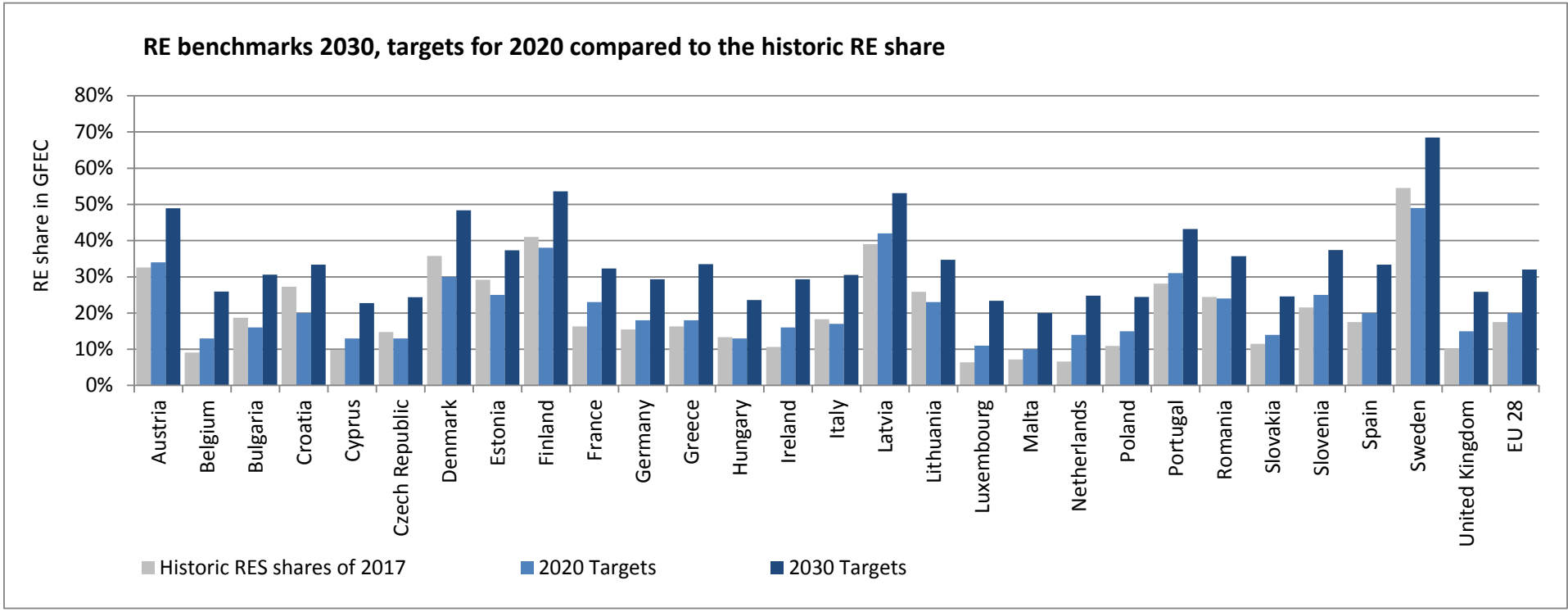


Figure: Comparison RE shares per Member State. The historic RE share for the year 2015 (grey) in gross final energy consumption (GFEC) is compared to the 2020 target (light blue) and 2030 target (dark blue).

(Source: EUROSTAT, 2019; own calculations)

A first comparison to (draft) NECPs

Austria in 2017: 32,6%; 2020 target: 34%; **2030 NECP: 45-50%; Benchmark for 2030 48,9%**

Czech Republic in 2017: 14,8%; 2020 target: 13%; **2030 NECP: 20.8%; Benchmark for 2030 24,4%**

Denmark in 2017: 35,8%; 2020 target: 30%; **2030 NECP: 48%; Benchmark for 2030 48,4%**

Estonia in 2017: 29,2%; 2020 target: 25%; **2030 NECP: 42%; Benchmark for 2030 37,3%**

Finland in 2017: 41,0%; 2020 target: 38%; **2030 NECP: 50%; Benchmark for 2030 53,6%**

Germany in 2017: 15,5%; 2020 target: 18%; **2030 NECP: 30%; Benchmark for 2030 29,3%**

Lithuania in 2017: 25,8%; 2020 target: 23%; **2030 NECP: 45%; Benchmark for 2030 34,7%**

Conclusions

- National benchmarks are an essential element to ensure an EU target achievement of 32% renewable energy in gross final energy consumption by 2030
- Providing an efficient monitoring and enforcement system (Possible gap avoider/filler mechanisms)
- Allowing an effective coordination of Member States' efforts towards the target of at least 32%
- This approach follows an integrated concept that takes multiple perspectives into account, to ensure a fair benchmark calculation
- Are needed to give an indication on the required effort for candidate countries

Literature

Amendments adopted by the European Parliament on 17 January 2018 on the proposal for a directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (recast) (COM(2016)0767 – C8-0500/2016 – 2016/0382(COD))(1) (Ordinary legislative procedure – recast) http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT%20TA%20P8-TA-2018-0009%200%20DOC%20XML%20V0//EN&language=EN

Resch et al. (2018) Study on 2030 overall targets (energy efficiency, renewable energies, GHG emissions reduction) for the Energy Community, https://rekk.hu/downloads/projects/MC_Annex16a_122017.pdf

EUROSTAT (2019) Shares tool, https://ec.europa.eu/eurostat/web/energy/data/shares