

EU-Maßnahmen zum Erreichen des EU-Erneuerbaren-Ziels - Chancen und Herausforderungen

SUER Fachgespräch

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BERLIN, 14 MARCH 2018



Agora Energiewende – Who we are



Independent think tank with more than 20 energy policy experts

Independent and non-partisan

Project duration 2012-2021

Financed by the Mercator Foundation and the European Climate Foundation

Mission: How do we make the energy transition in Germany, Europe and worldwide a success story?

Scientific assessments

Dialogue

Putting forward proposals

Structure

1.


Renewables State of Play in Europe

2.

State of Play on Gap-Filler / Gap-Avoider

3.

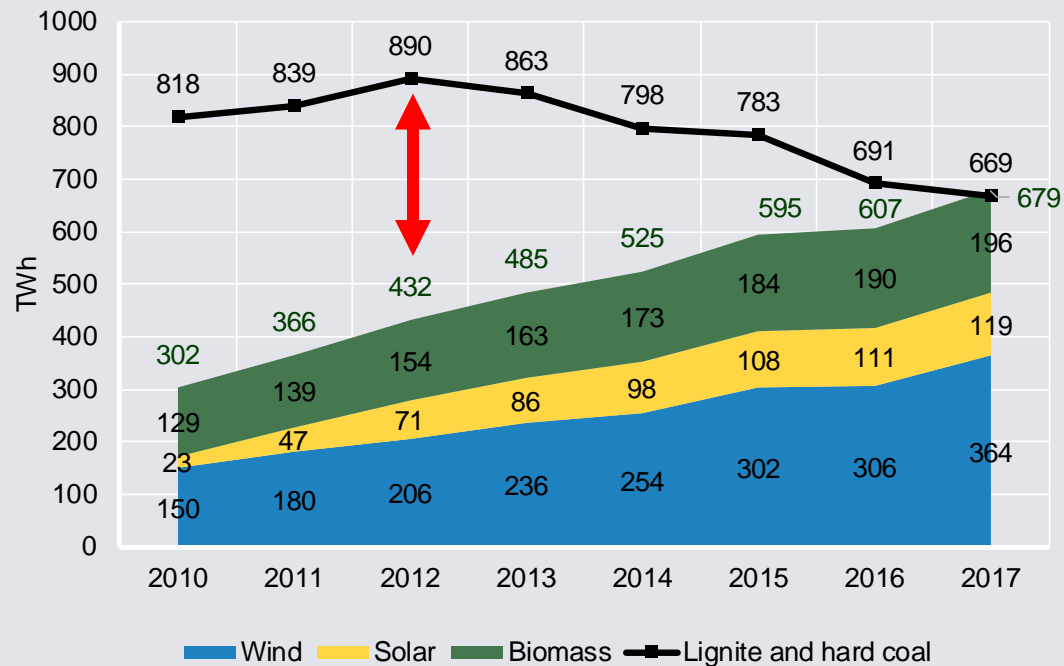
**Examples of EU-level measures: a) reducing RES financing cost to raise ambition;
b) EU-wide or regional auctioning of “missing” RES capacity**



**State of Renewables
in Europe
Focus: Power Sector**

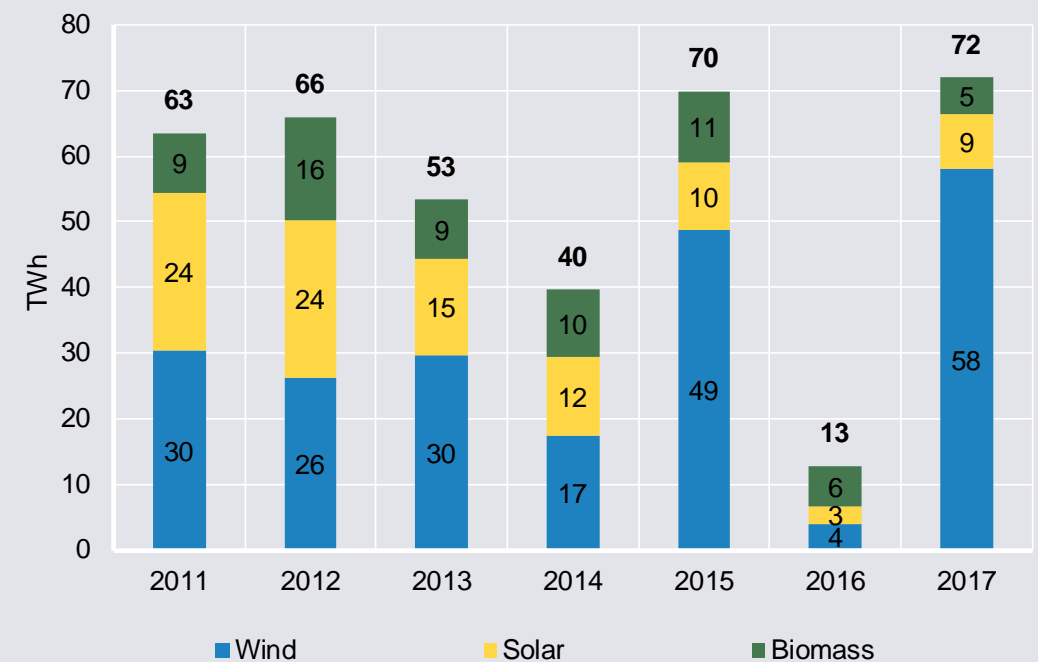
Wind, sun and biomass overtook coal in Europe in 2017! But.....

Renewables versus coal electricity generation



EUROSTAT data to 2015, 2016 and 2017 are own calculations

Changes in non-hydro renewables generation

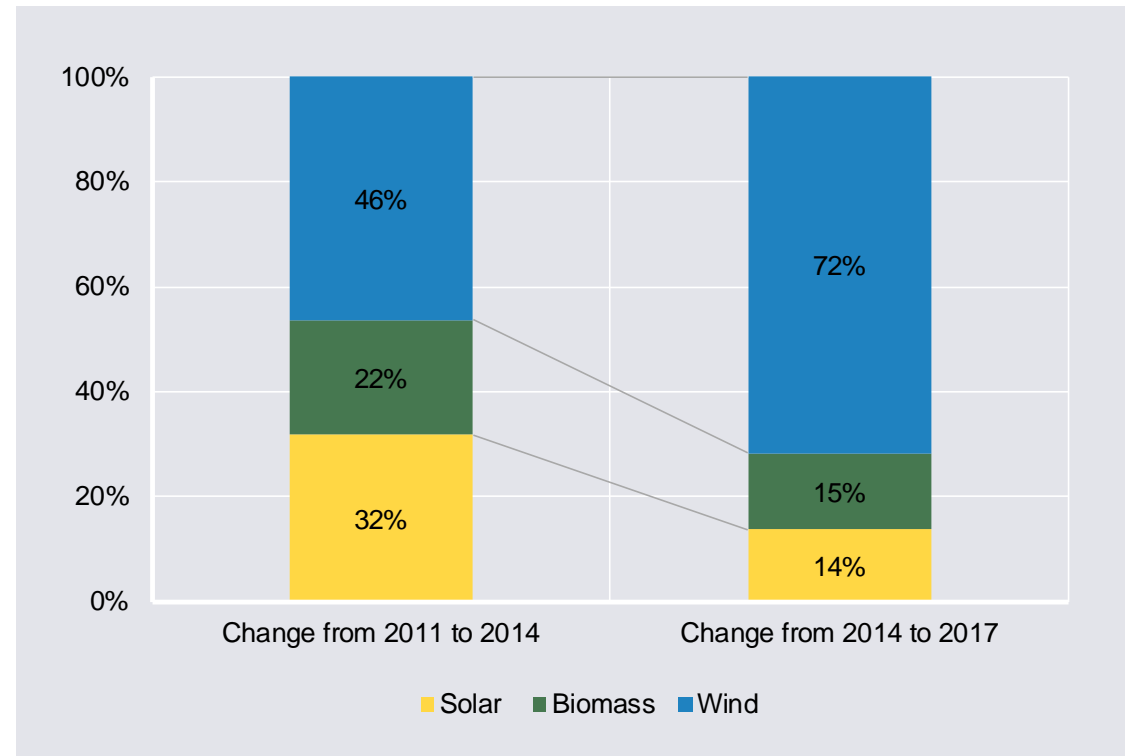


EUROSTAT data to 2015, 2016 and 2017 are own calculations

Renewables growth has got more uneven:

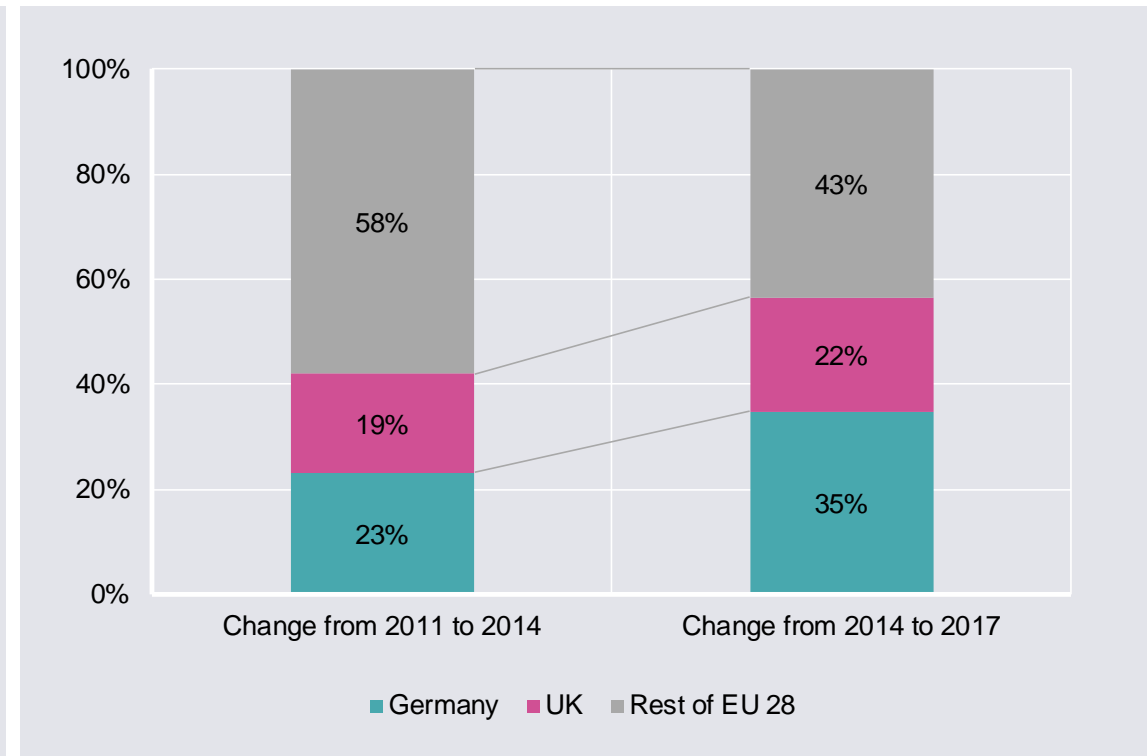
Technologically (focus on wind)
Geographically (focus on DE/UK)

Changes in non-hydro renewables generation by type



EUROSTAT data to 2015, 2016 and 2017 are own calculations

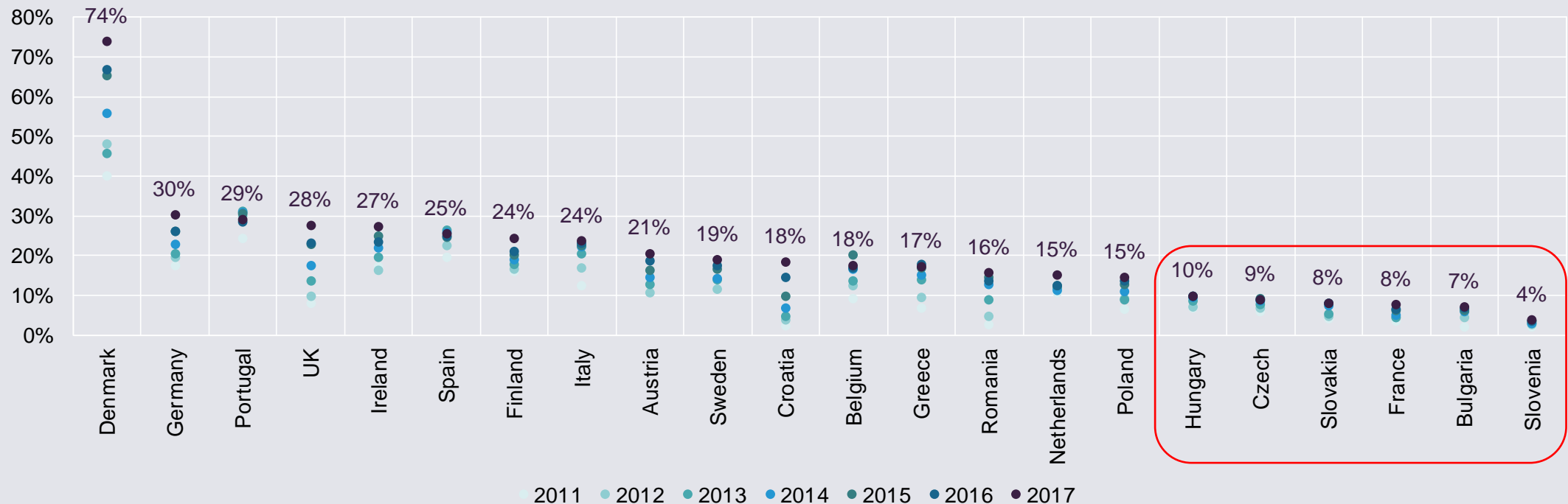
Changes in non-hydro renewables generation by country



EUROSTAT data to 2015, 2016 and 2017 are own calculations

RES Deployment in much of Central and South-East Europe is stagnating at low level despite enormous potential

Wind, solar and biomass as percentage of national electricity production



EUROSTAT data to 2015, 2016 and 2017 are own calculations; LT, LU, CY, EE, LV, M not included due to lower data quality



State of Play on Gap-Avoider and Gap-Filler

Das System des Art. 27 Abs. 1-3

Art. 27 Abs. 1-3	Kommission	Rat	Parlament
Pläne der MS reichen nicht für gemeinsame Zielerreichung auf Unionsebene aus (Abs. 1 bzw. 1a)	KOM ergreift Maßnahmen auf Unionsebene.	KOM schlägt Maßnahmen auf Unionsebene vor und macht von Befugnisübertragungen Gebrauch .	KOM kann im Bereich der erneuerbaren Energien und der Energieeffizienz zu mehr Ambitioniertheit auffordern KOM ergreift Maßnahmen auf Unionsebene.
MS erzielt unzureichende nationale Fortschritte (Abs. 2)	KOM spricht Empfehlungen an MS aus (Berücksichtigung früherer ehrgeiziger Maßnahmen)	KOM spricht Empfehlungen an MS aus (Berücksichtigung früherer ehrgeiziger Maßnahmen)	KOM spricht Empfehlungen aus (Keine Berücksichtigung früherer ehrgeiziger Maßnahmen)
Union läuft Gefahr, ihre Ziele für Energieunion nicht zu erreichen (Abs. 3)	KOM kann allen MS ggü. Empfehlungen aussprechen und gegebenenfalls Maßnahmen auf Unionsebene ergreifen.	KOM kann allen MS ggü. Empfehlungen aussprechen und kann gegebenenfalls Maßnahmen auf Unionsebene vorschlagen und von entsprechenden Befugnisübertragungen Gebrauch machen (nachrangig zu nationalen Maßnahmen nach Abs. 4)	KOM spricht allen MS ggü. Empfehlungen aus (Berücksichtigung ehrgeiziger Bemühungen) und trifft gegebenenfalls Maßnahmen auf Unionsebene ergreifen

Das System des Art. 27 Abs. 4 (Erneuerbare Energien)

Art. 27 Abs. 4	Kommission	Rat	Parlament
MS erzielt unzureichende Fortschritte bzgl. nationalem Plan und Unionsziel in Gefahr (Abs. 4)	MS ergreift zusätzliche Maßnahmen, um die Lücke bis zum Jahr 2024 zu schließen.	MS ergreift zusätzliche Maßnahmen ergreifen, um die Lücke bis zum Jahr 2026 bzw. 2028 bzw. 2030 zu schließen. Möglicher Beitrag zu Finanzierungsplattform ist freiwillig.	Siehe Spalte darunter.
MS erzielt unzureichende Fortschritte bzgl. Nationaler Vorgabe (Abs. 4)	--	--	MS stellt sicher, dass Abweichungen von seinem Zielpfad innerhalb eines Jahres ausgeglichen werden. Beitrag zu Finanzierungsplattform ist freiwillig. KOM trifft gegebenenfalls zusätzliche Maßnahmen auf Unionsebene
MS unterschreitet 2020-Baseline (Abs. 4, 4 a)	MS leistet Beitrag an Finanzierungsplattform	Bei Unterschreitung des 2020-Ziels über die Dauer von einem Jahr müssen innerhalb eines Jahres Maßnahmen ergriffen werden, die ausreichen, um die Lücke innerhalb von zwei Jahren zu schließen.	Lücke muss durch Beitrag zu Finanzierungsplattform geschlossen werden.

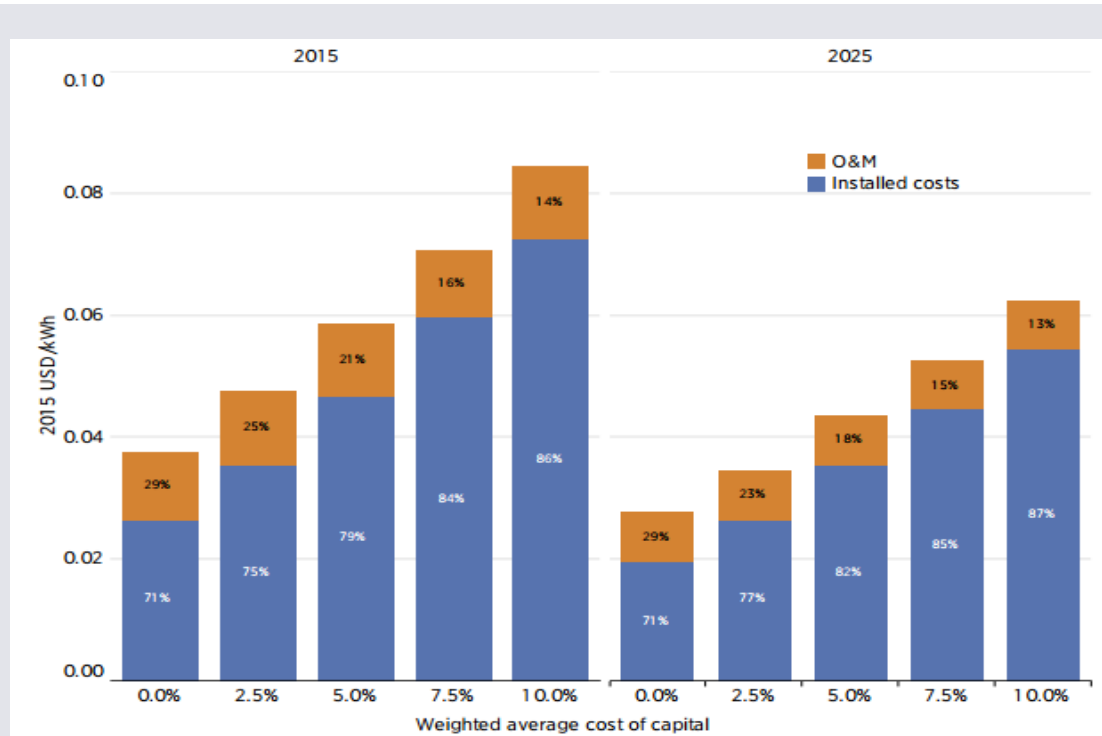
Examples of EU-level measures

**a) reducing RES
financing cost to
raise ambition**



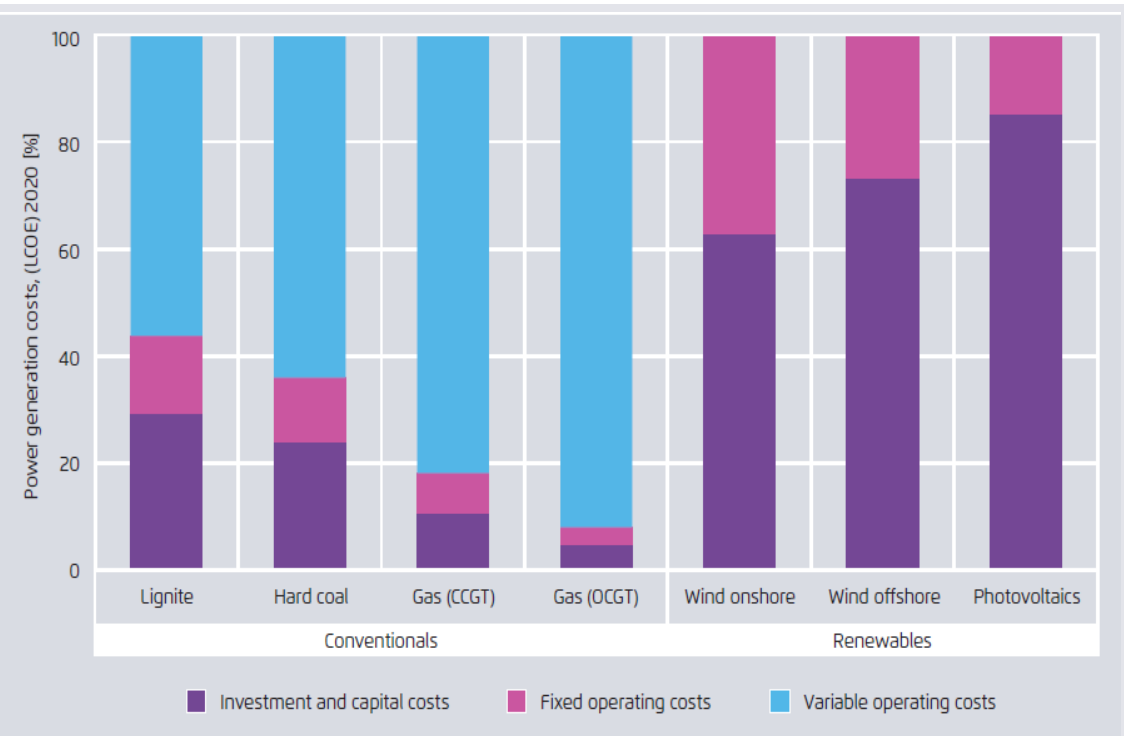
Wind power and solar PV have high upfront investment cost and very low operating cost. Financing conditions for upfront investment are critical for economic viability of RES projects

Sensitivity of LCOE of wind to the cost of capital, 2015 and 2025



Source: IRENA 2016

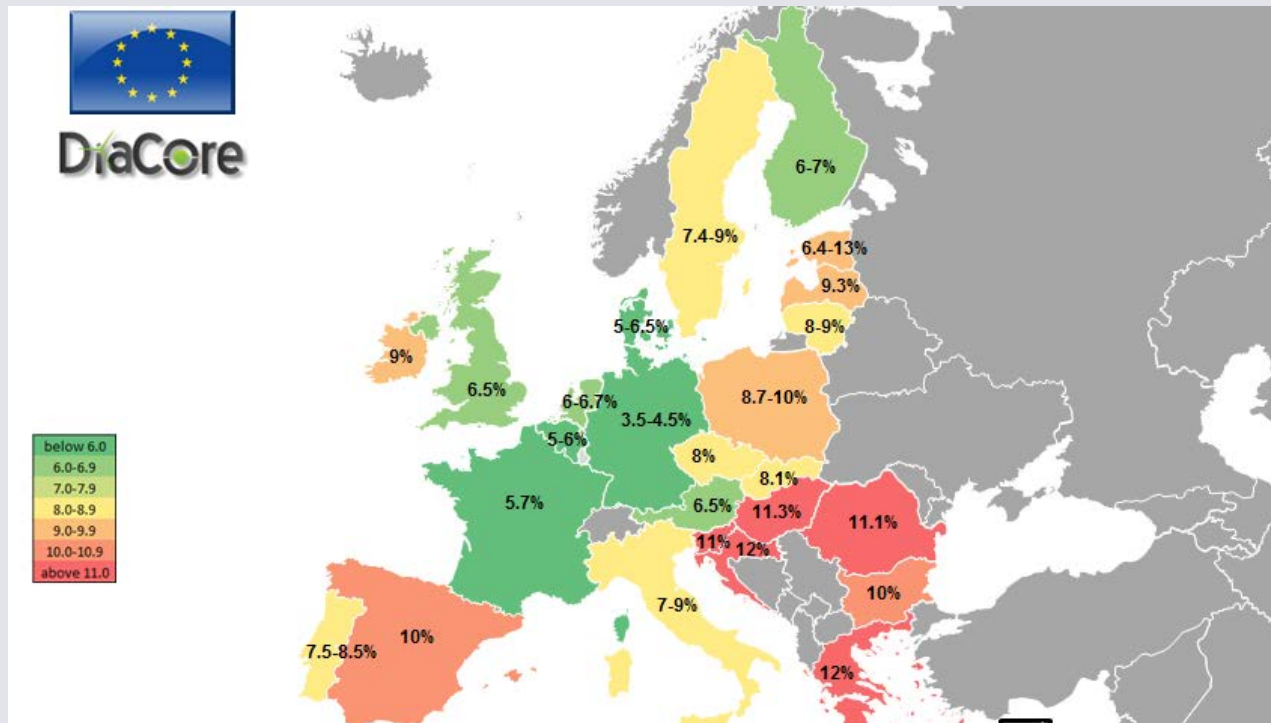
High fixed costs for renewables



Source: Agora, based on IEA/NEA (2015)

High financing cost in Central and South-East Europe make renewables comparatively less attractive than conventional technologies, despite dramatic reductions in technology cost

Cost of capital estimations for onshore wind projects in Europe in 2014



DiaCore (2016)

High cost of capital

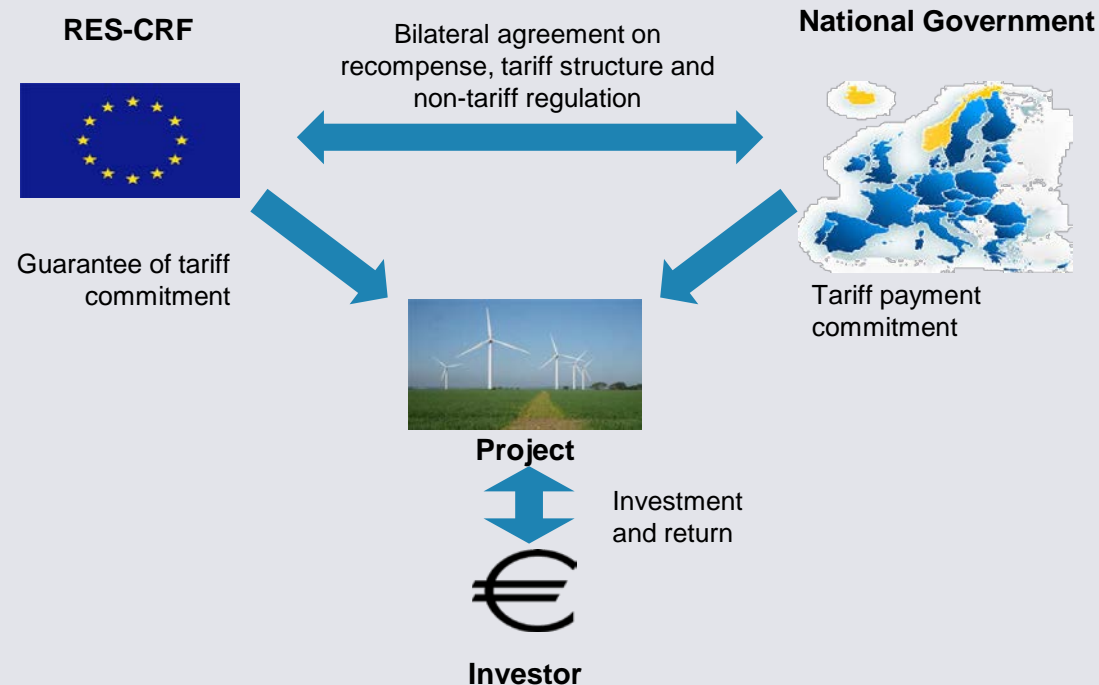
- particularly affect capital intensive RES;
- create economic disadvantage vis a vis conventional technologies (coal, gas)
- increase RES project cost in low GDP Member States;
- reduce RES opportunity.

Transitional support is needed!

Proposal for a „Renewable Energy Cost Reduction Facility”

The RES-CRF is a highly flexible contractual arrangement for underwriting select tariff commitments with a guarantee from a credible institution

Contractual framework of the RES-CRF

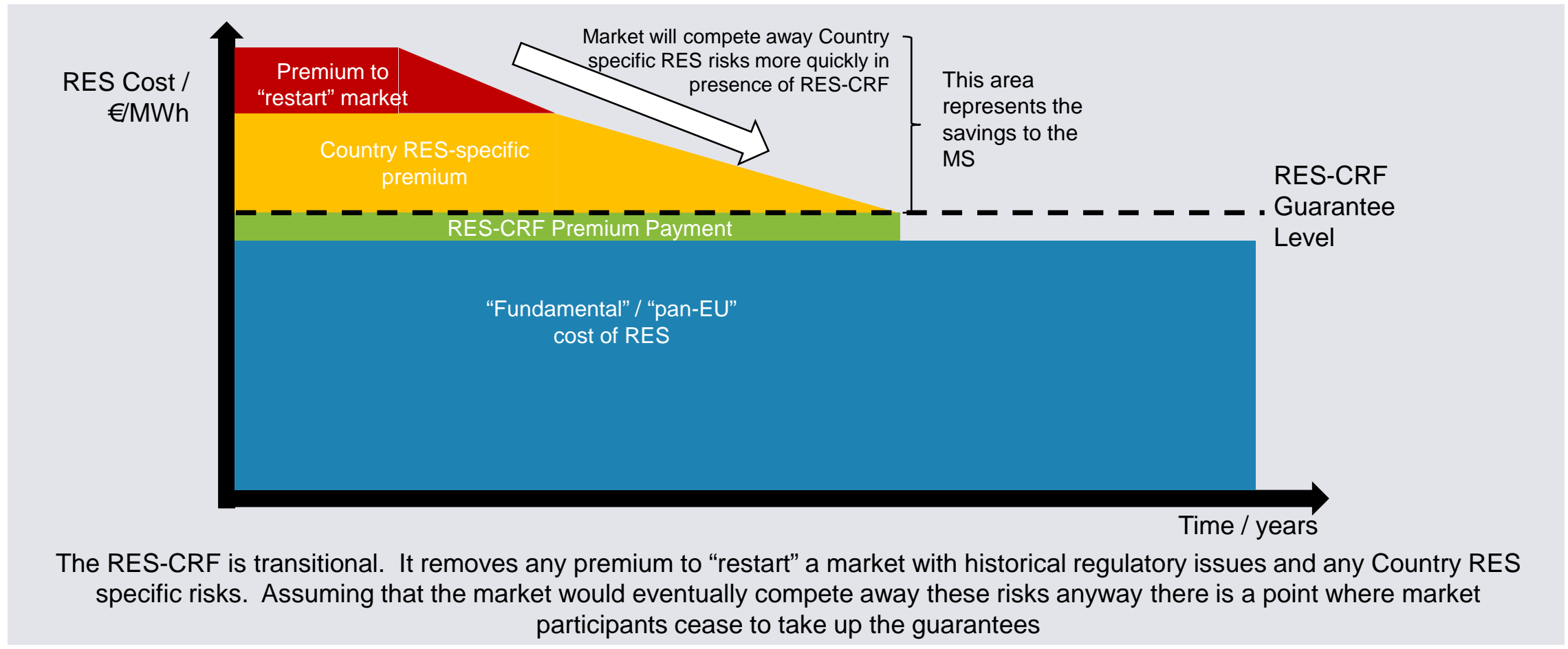


- Country provides RES tariff to projects
- If Country maintains policy RES-CRF is never required, but exists
- Investors have a simple guarantee of payment of the tariff commitment from the RES-CRF
- RES-CRF and country negotiate terms of tariff underwrite and non-tariff performance
- Country undertakes to repay any guarantee payments made by the RES-CRF
- Responsibility for recourse moved from project to RES-CRF

RES-CRF significantly reduces ex-ante risk

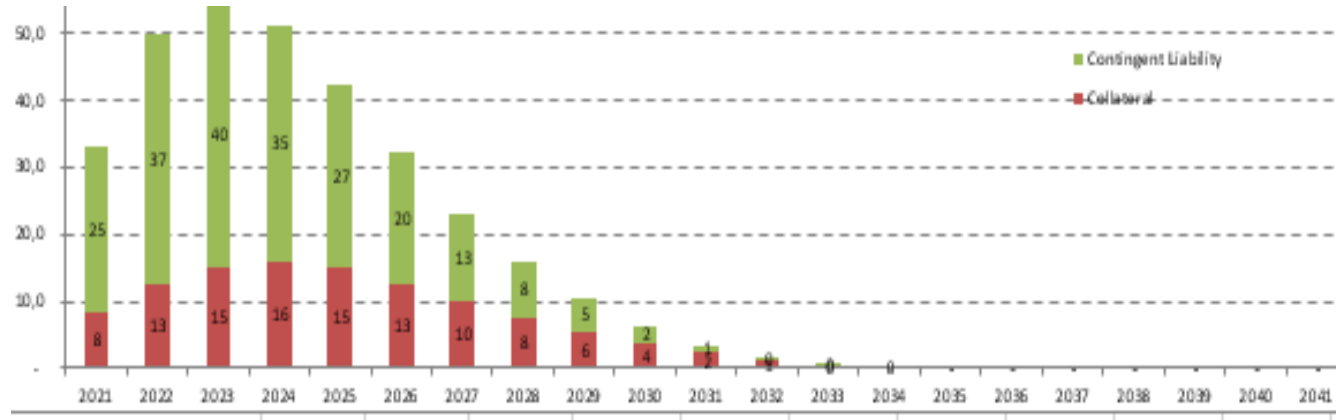
- making project-finance cheaper
- reducing level of market premium payments
- lowering cost to consumers and taxpayers

Main economic benefit of the RES-CRF: A true efficient market is created faster than leaving the market to learn alone

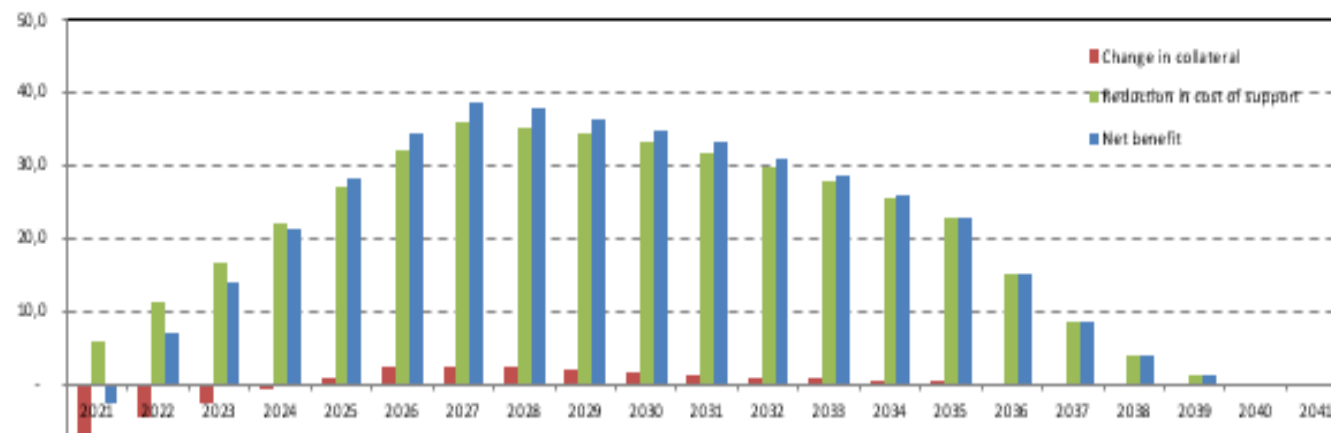


Anticipating benefits of the RES CRF in practice

Example: Greece



Net benefit for Member State (€m)



Assumptions:

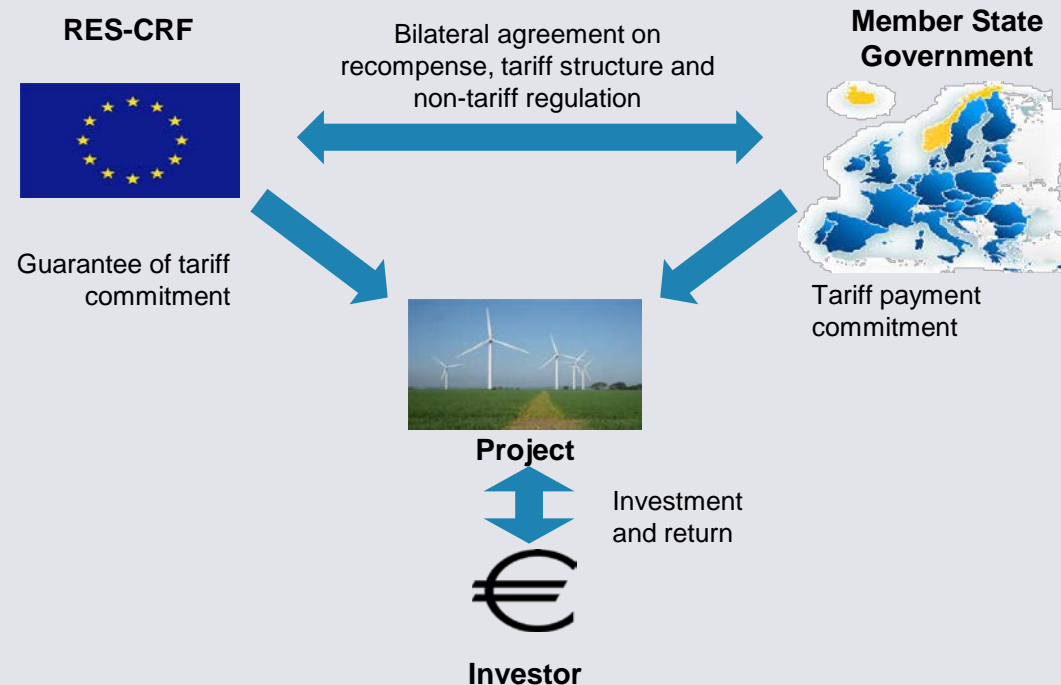
- RES-e capacity increase 0.58 TWh p.a.;
- wholesale electricity price in 2021 of 52 Euro MWh (2% increase p.a.);
- LCOE of RES project w/o RES CRF 87 Euro MWh, w RES CRF 67 Euro MWh;
- 50% of RES-e share covered by RES CRF;
- Collateral requirement 1.5 years

Benefits of RES CRF:

- Undiscounted Net Benefit: 421 million €
- Net benefit discounted at 3%: 319 million €
- Internal rate of return: 351%

Multi-Stakeholder Dialogue on the RES-CRF concept

Contractual framework of the RES-CRF



Agora analysis

Multi-stakeholder Dialogue with private finance, EIB, EU COM, industry and think tanks in 2017.

Key questions

- Will the concept work?
- Difference to existing instruments (eg EFSI)?
- Where would funding come from?
- Link to the EU budget?
- Amount of funds required?
- Economic benefits? Non-economic benefits?
- How to avoid moral hazard?
- How to balance rights and obligations?
- Scope for a Pilot Project?
- ...

A Renewable Energy Cost Reduction Facility...

- will **enable higher ambition** on RES in countries with good geographic conditions and low GDP per capita
- will help **bridge the emerging East-West divide** in the European energy transition.
- is supported by **EU High Level Expert Group on Sustainable Finance**
- could be established on the basis of **Article 3.4 EU Renewable Energy Directive Recast**
- fits to ideas for **innovative finance** in the future EU budget

A **pilot project** developed in partnership between national governments, possibly backed with funds from the current EU budget would prove the practical benefits

Examples of EU-level measures

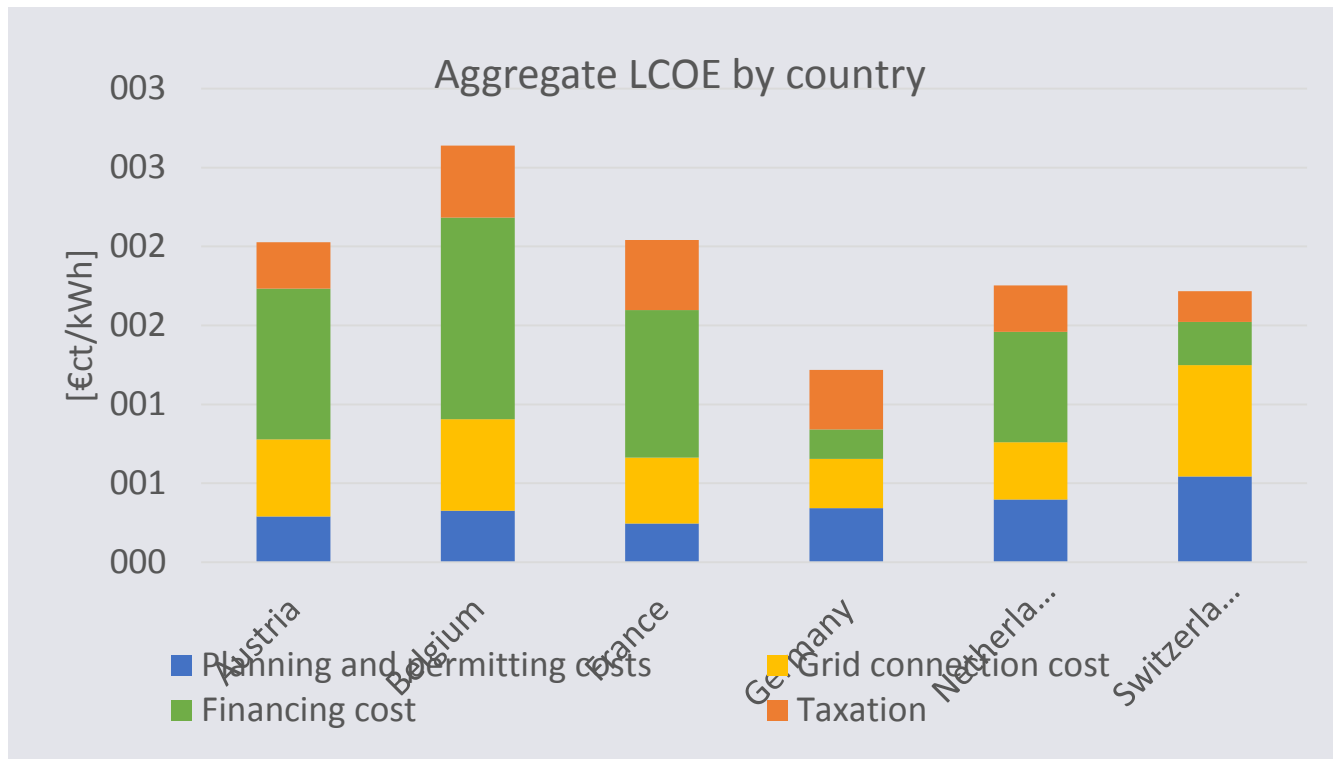
b) EU-wide or regional auctioning of “missing” RES capacity

EU Financing Platform

- The EU Energy Union Governance Regulation will include an „EU gap filler“
- Contributions to the EU Financing Platform most likely voluntary in nature. Member States will use this option
 - i. if national level measures are not possible or not desirable, and
 - ii. using the platform is considered as attractive alternative to national measures.
- The governance and operational rules of the EU Financing Platform will likely be set out in a delegated act (COM, EP) or an implementing act (Council).

The Challenge: Regional or EU-wide auctioning requires more than finance to avoid that projects are realised in only one or two countries

LCOE-Result: cumulated effects of analyzed factors



Ecofys / Eclareon (forthcoming)

- **Cumulated LCOE-impacts show significant differences between countries: 1,22ct/kWh (DE) and 2,64ct/kWh (BE).**
- **Comparison:** overall LCOE range from 6,8ct/kWh (DE) to 8,3ct/kWh (BE)
- **Planning and grid connection costs range from 0,65ct/kWh (DE) to 1,25ct/kWh (CH).**
- **Strong effect of financing costs.**

Initial reflections on elements of a balanced approach to regional auctioning of capacity

- Using all opportunities for regional cooperation and coordination in the Governance Regulation
- Discussing potential for convergence of key factors determining costs of renewable energy projects
 - Assessing most relevant factors determining project cost-calculation for a region;
 - Identifying / Discussing factors that seem suitable for gradual convergence
 - Address distorting factors that are difficult to converge in the auction design (e.g. grid connection regimes; corporate taxation).

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Thank you for your attention!

Questions or Comments? Feel free to contact me:
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Agora Energiewende is a joint initiative of the Mercator
Foundation and the European Climate Foundation.

