

# De-risking on-shore wind in SEE: Serbia as a case study

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# The framework of this presentation: Western Balkans Energy Transition Dialogue project

Donor: Austrian Federal Ministry of Sustainability and Tourism

Implementing organisation: Agora Energiewende, Germany

Partners:

NERDA, Bosnia and Herzegovina; INDEP, Kosovo;

MACEF, Macedonia, Green Alternative, Montenegro;

ASOR and RES Foundation, Serbia



 Federal Ministry  
Sustainability and Tourism



RES Foundation  
Partnerships  
for Resilience



## South East Europe Energy Transition Dialogue

Donor: German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUB); The European Climate Initiative (EUKI)

Implementing organisation: Agora Energiewende, Germany

Partners:

Center for the Study of Democracy, Bulgaria;

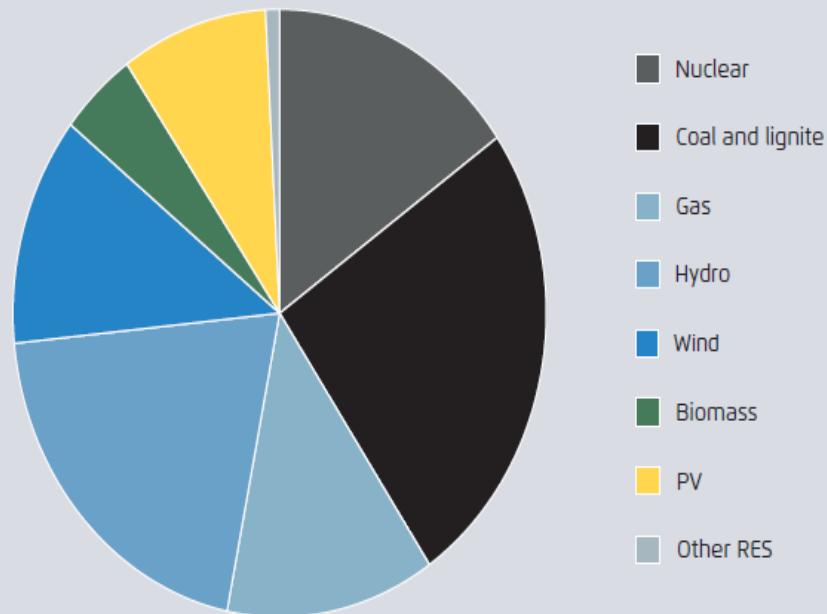
University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia;

The National Observatory of Athens (NOA), IERSD, Greece; Energy Policy Group, Romania



## 50% of installed SEE coal generation capacity to be replaced by 2030 → huge opportunity for WB-6 energy transition

Generation mix in SEE in 2030

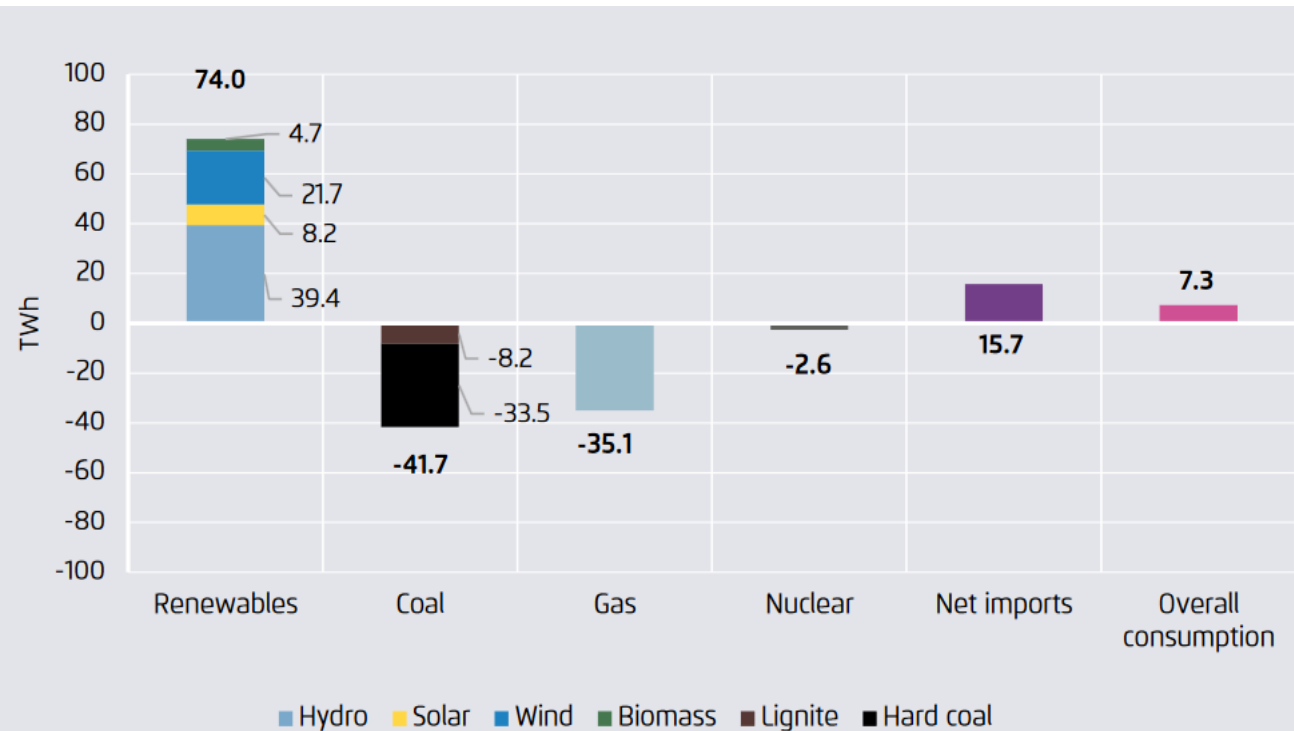


- By 2030, 57% of electricity in Europe's power grids will be from RES
- For Southeast Europe (SEE), this implies a RES-E share of 50% in 2030
- The age structure of lignite plants in the region will support this transition as 50% of the region's generation capacity needs replacement due to their age and noncompliance to emission standards
- Solar photovoltaics (PV) and wind power – driven by significant cost reductions – will contribute to more than half of the RES-E production in Europe in 2030
- For SEE, wind and PV will contribute some 65% to the RES-E generation

REKK, The Southeast European power system in 2030: Flexibility challenges and benefits from regional integration (2019)

## RES and not gas replace coal and lignite in the EU

Changes in EU28 electricity generation from 2017 to 2018



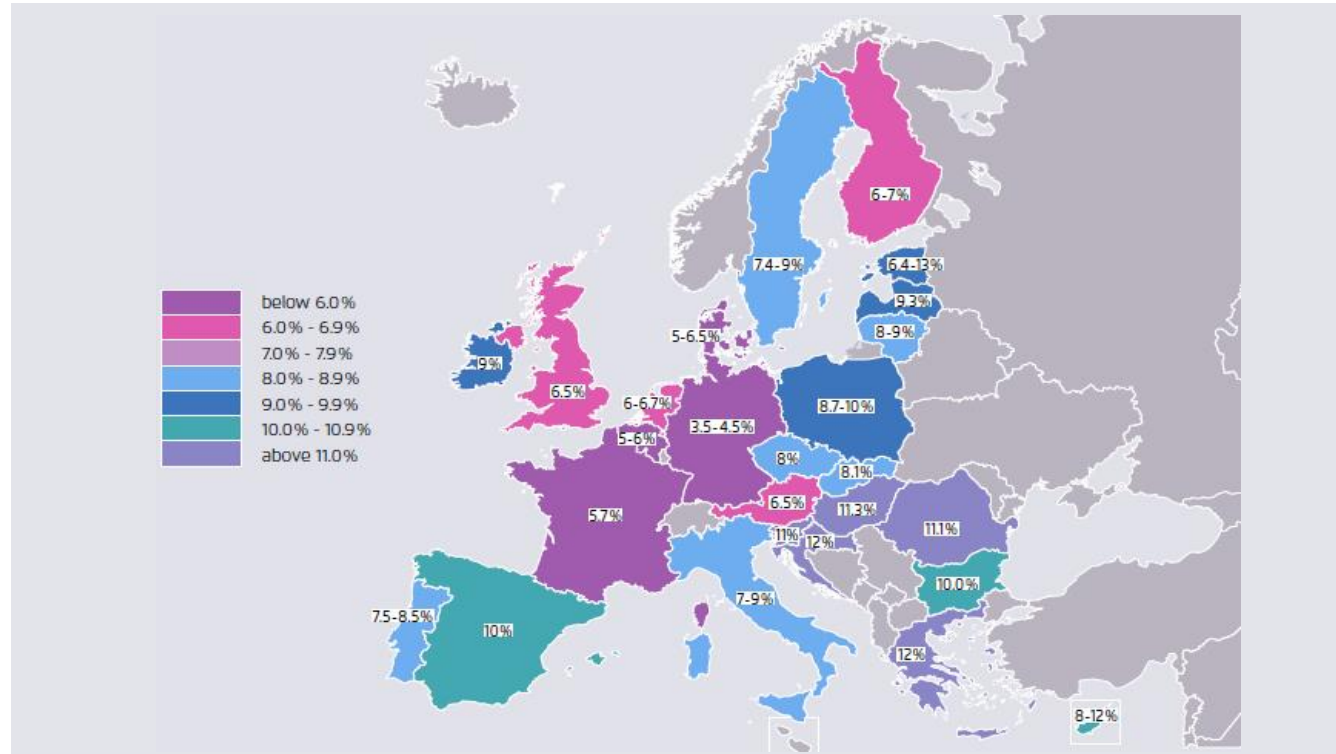
EUROSTAT data to 2016; own calculations for 2017 and 2018

- Gas generation fell by 5% due to more hydro in Spain, Italy and France. UK gas generation fell for the 2<sup>nd</sup> year in a row as off-shore wind is booming
- **The 9% fall in hard coal in 2018 was due to RES, not an increased reliance on gas**
- In the four main countries where hard coal generation fell in 2018 - Germany, UK, Spain Italy - gas generation also fell
- In 2018, only one gas plant was commissioned in the EU: Płock in Poland (0.6 GW). This compares to 21 GW of CCGTs commissioned in the US. Only 5 GW commissioned in the EU since 2016, and less than 3 GW under construction



## The investment challenge for RES: Lowering the financing costs for scaling up low technology cost RES

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



DiaCore (2016)

Renewable energy is now cheaper than coal when investing in new power capacity – if there is a robust regulatory framework and smart financing helps to reduce costs

- Robust implementation of the EU RES Directive and related best practices
- Use of new financing opportunities under the Multiannual EU Budget 2021-2027: Financial “de-risking” of renewable energy investments with a “RES CRF”

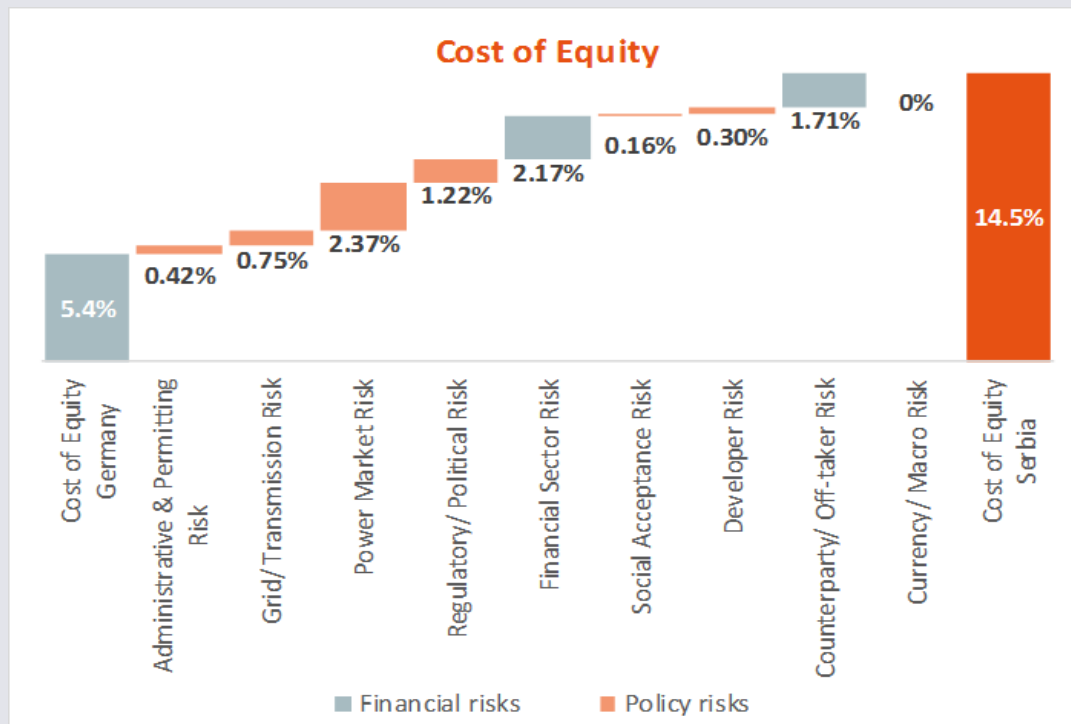
## Upcoming study: De-risking onshore wind investments in South Eastern Europe

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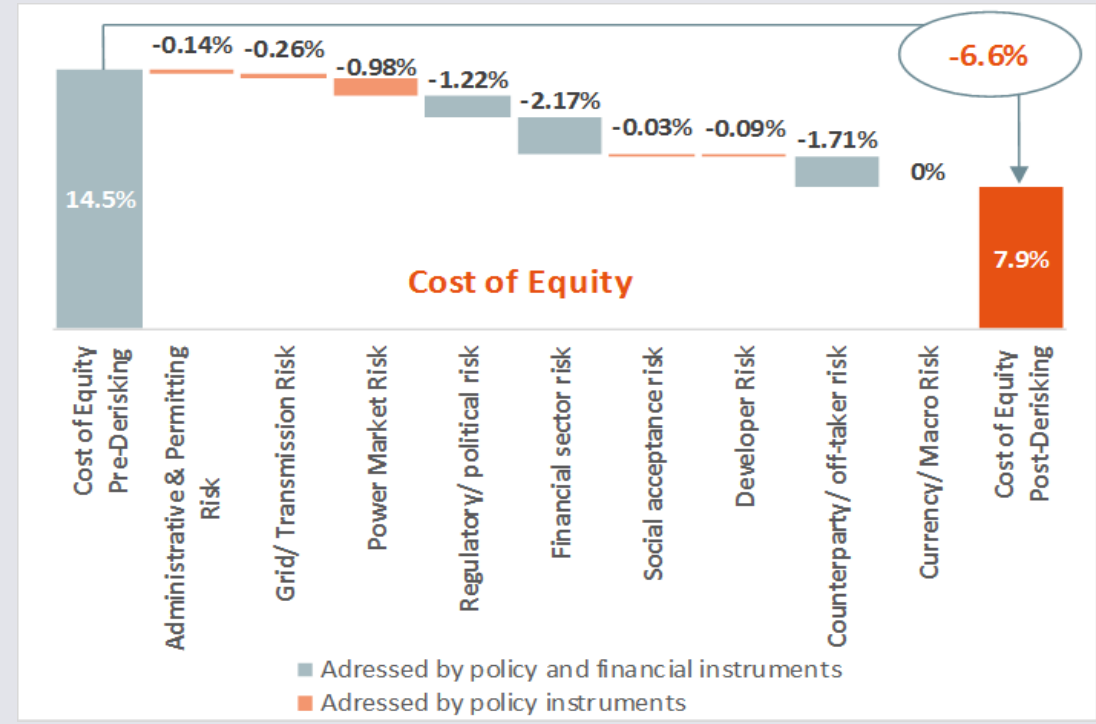
- Illustrate potential impact from a renewable energy Cost Reduction Facility (CRF) and other public instruments on the financing costs of renewable energy in SEE
- Exemplary case studies: Onshore wind in Greece and Serbia
- Quantify incremental investment costs for wind due to higher risks in SEE compared to best in class EU country
- Determine LCOE for fossil technology versus onshore wind in a pre- and post-derisking environment
- Publication: September 2019

# The capital cost challenge for renewables: How SEE countries can reap benefits of low technology-cost RES

Pre-derisking financing costs for onshore wind comprising Cost of Equity in Serbia



Post-derisking financing costs for onshore wind comprising Cost of Equity in Serbia



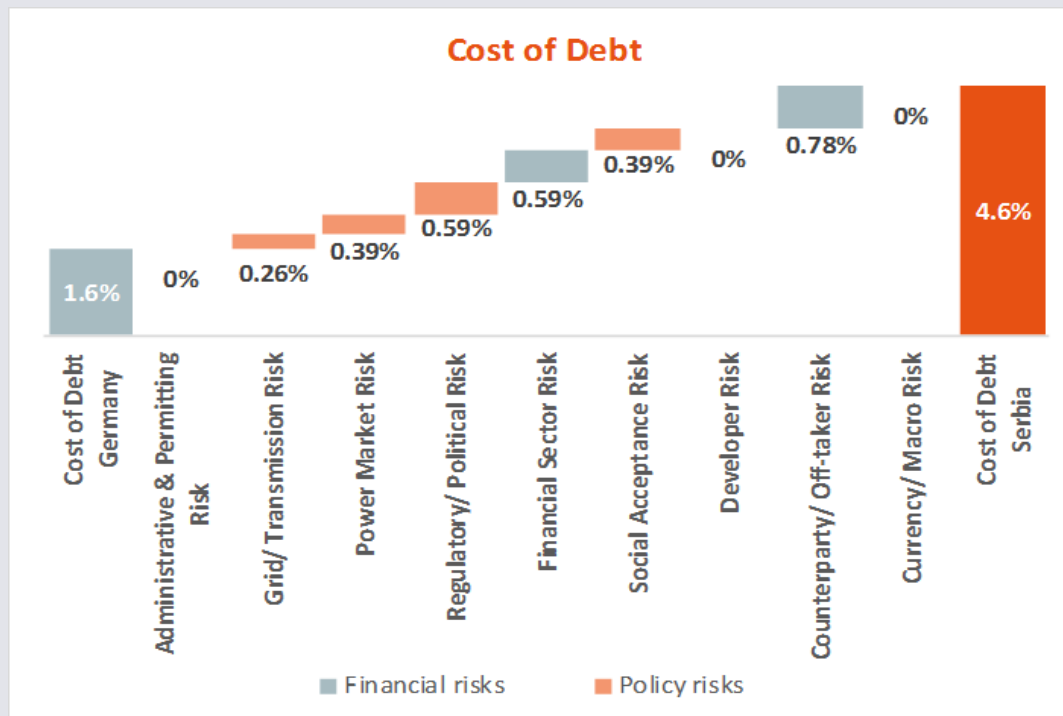
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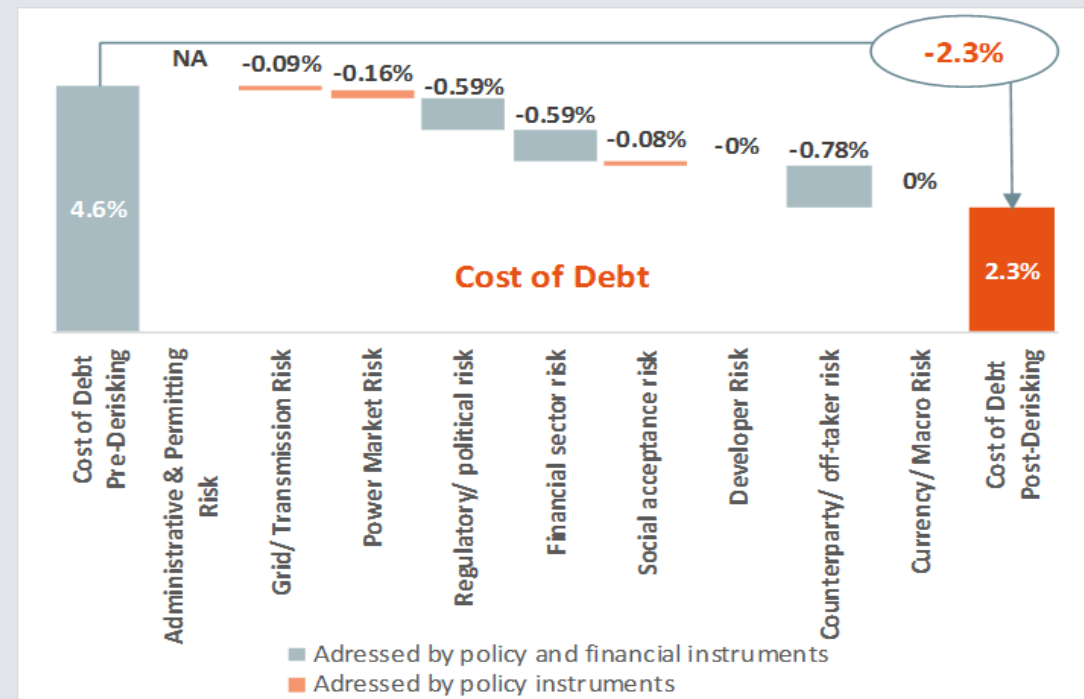


# The capital cost challenge for renewables: How SEE countries can reap benefits of low technology-cost RES

Pre-derisking financing costs for onshore wind comprising Cost of Debt in Serbia



Post-derisking financing costs for onshore wind comprising Cost of Debt in Serbia

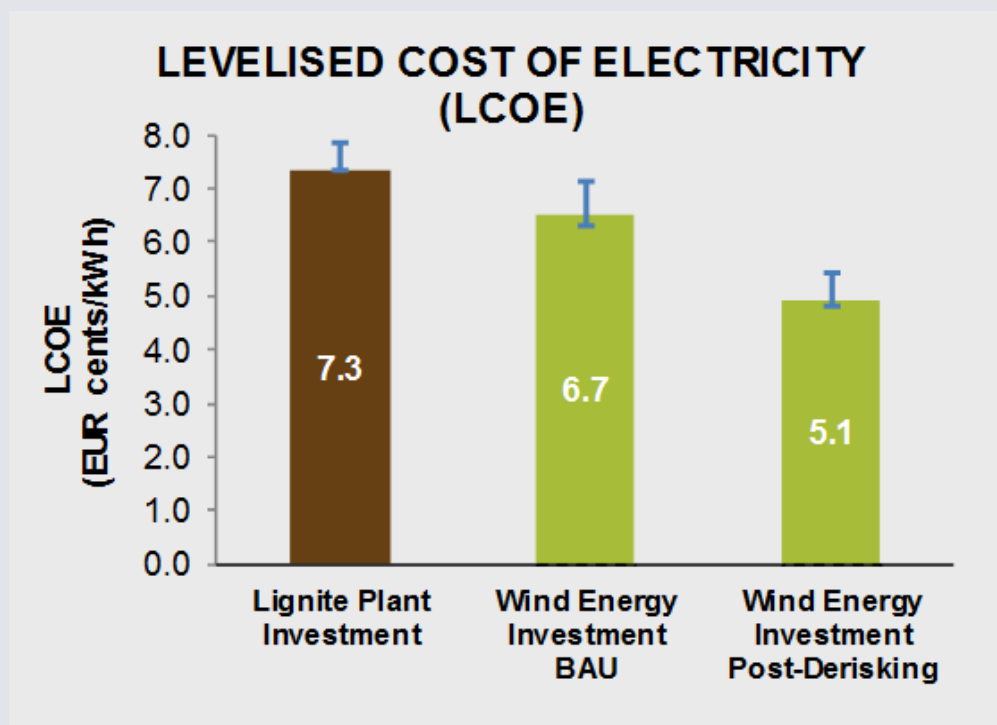


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# Financial and policy derisking have a strong influence on financing costs, lowering LCOEs of onshore wind energy in Serbia by 20 percent

LCOE comparison, lignite vis-a-vis onshore wind in Serbia





NewClimate Institute (2019)

- Serbia case study: Derisking measures can lower Cost of Equity by 6.6% points and Cost of Debt by 2.3% points
- **A RES Cost Reduction Facility** – currently considered under the EU policy framework - is estimated to be able to reduce CoE by 3 and CoD by 1.1% points, reducing financing risks by 40%
- Other key derisking instruments: stable and certain RES remuneration scheme, long-term RES targets, liquid balancing and intraday markets
- LCOEs for onshore wind in a post-derisking environment fall well under those for lignite

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# Thank you for your attention!

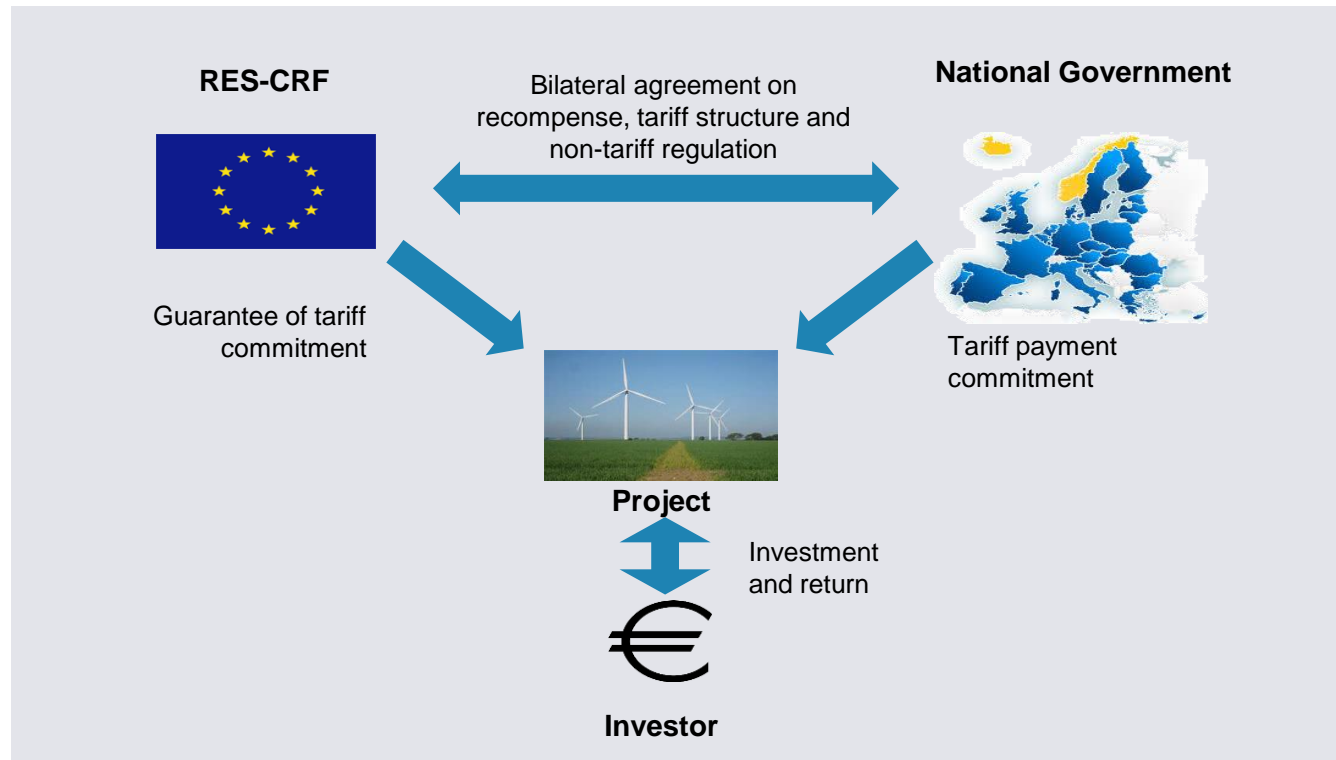
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Agora Energiewende is a joint initiative of the Mercator  
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# Lowering the cost of capital of RES (Energy Union Governance, RES Directive, new MFF): A new financing instrument for underwriting select tariff commitments with a guarantee from a credible institution

## Contractual framework of the Renewable Cost Reduction Facility (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