Unlocking renewables in Southeast Europe through derisking policies

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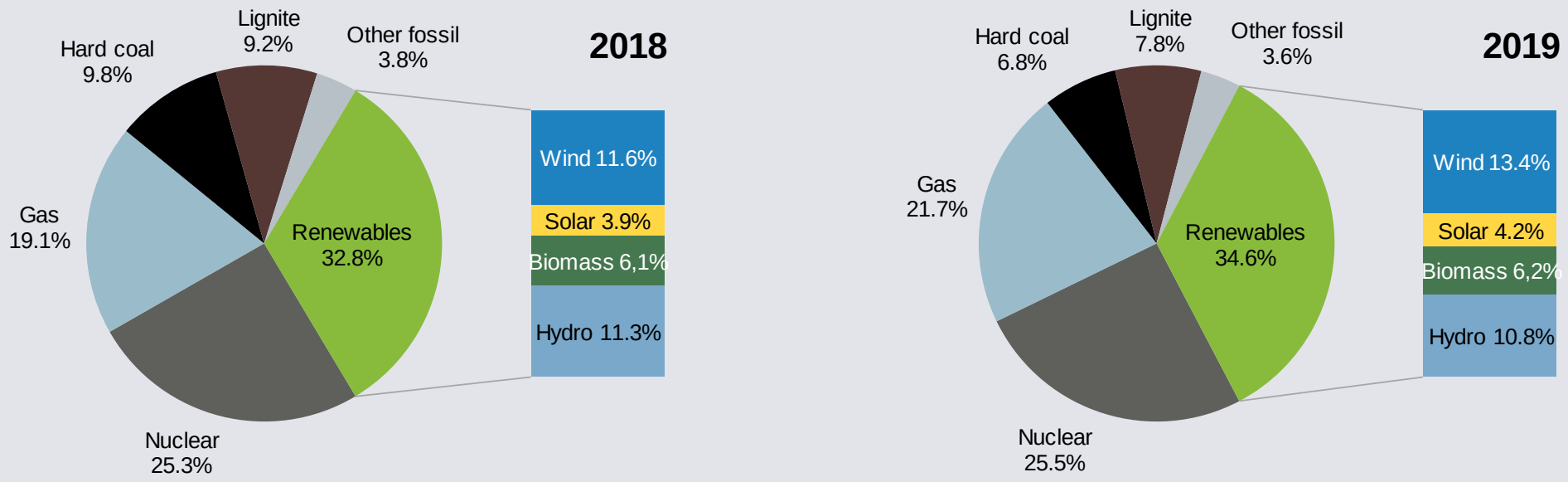
BERLIN, MAY 2020

The EU power mix: Wind and PV on the rise; coal declines

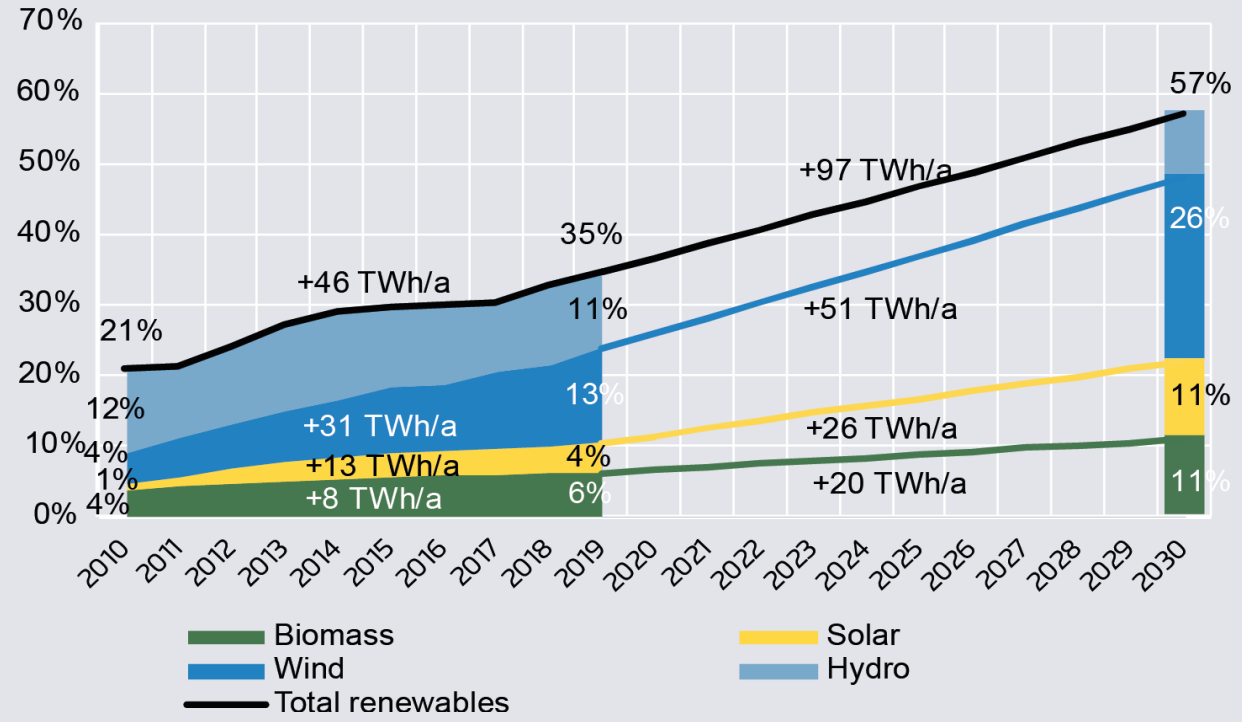
EU 28 generation mix



EUROSTAT data to 2017; Authors' calculations for 2018 and 2019

To reach 2030 energy & climate targets, renewables must be deployed twice the speed from 2020-2030 vs. 2010-2019

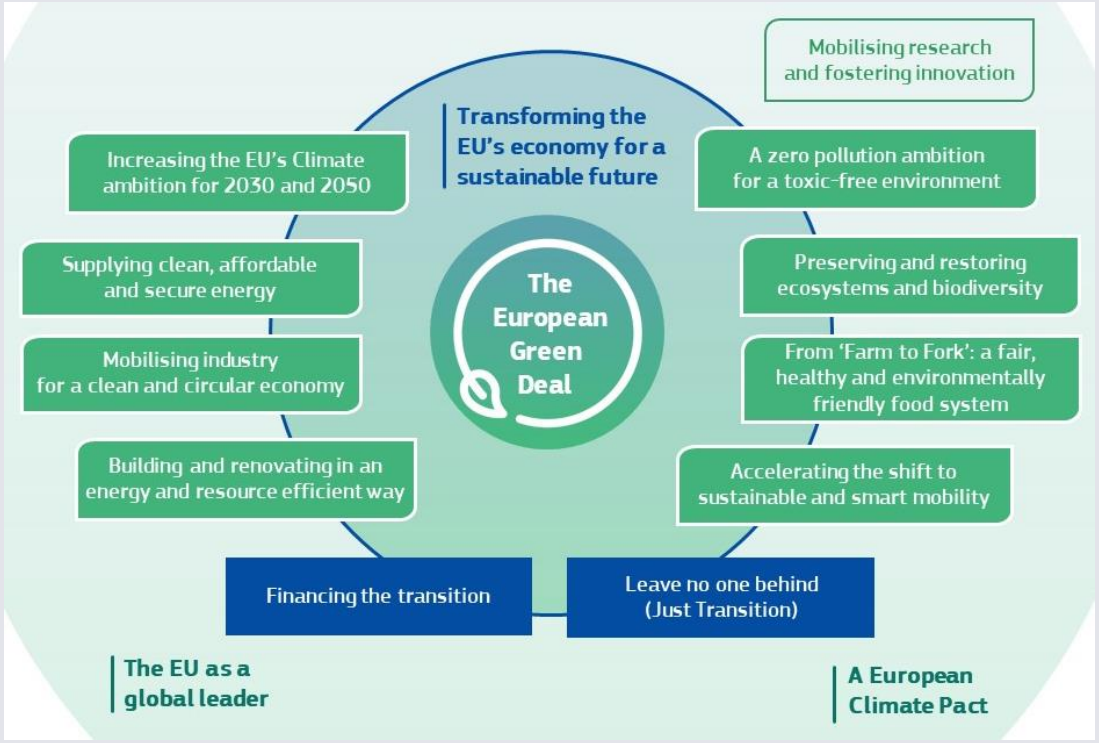
2030 projection of renewable electricity share in European Commission's Long Term Strategy



EUROSTAT data to 2017; Authors' calculations for 2018 and 2019; 2030 projection from "Long Term Strategy", European Commission 2018, dashed lines show projection

The European Green Deal shall enable a robust, just and deep energy transition of the EU

Main elements of the European Green Deal

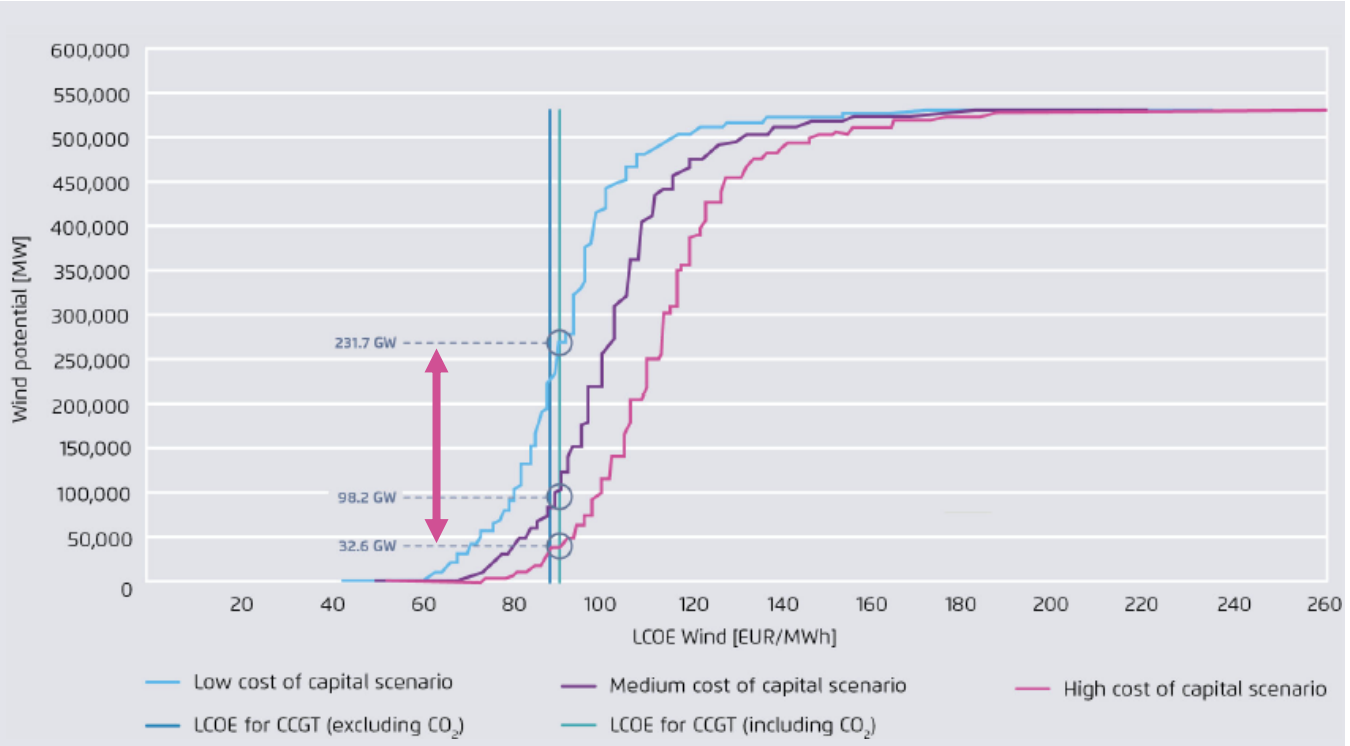


European Commission

- Comprehensive plan to increase the EU 2030 climate target to at least -50%
- Enshrining the 2050 climate neutrality objective into EU law
- Sectoral measures for reduction of emissions & resource consumption (buildings, agriculture, traffic, industry, energy)
- Public and private investments oriented towards climate protection & sustainability
- Just Transition
- Mainstreaming climate policies in international trade

Preconditions for the energy transition in Southeast Europe

Cost-competitive wind potential in SEE as function of cost of capital



IRENA (2017)

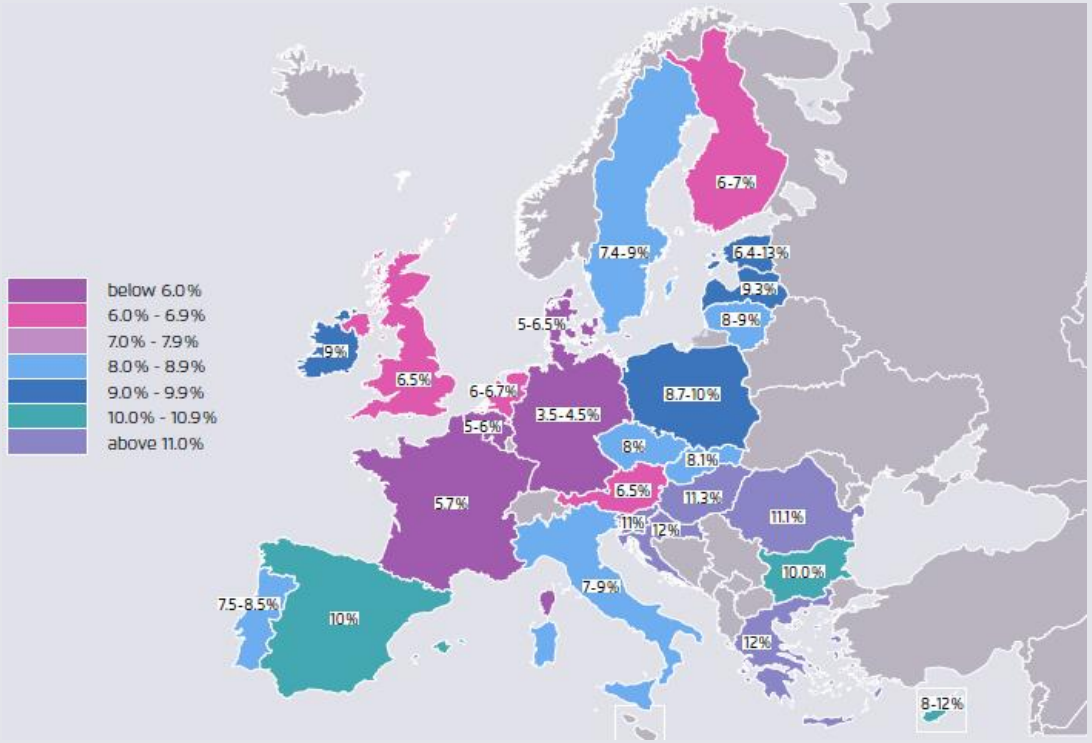
Region has very high renewable energy potential

To unlock deep RES deployment, RES-related opportunities (economic, health, climate, security etc), maximise security of supply and minimize consumer cost, policy should:

- Remove regulatory barriers and lower financing risks for RES (for large and small-scale RES)
- Gradually phase-out coal & lignite
- Plan robustly regarding climate & energy
- Cooperate regionally, reform power markets and pursue market integration

The challenge: Getting robust frameworks and smart financing instruments for scaling up renewable energy

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 risks and costs

→ Robust implementation of the EU RES Directive and related best practices

→ Use of new financing opportunities under the Multiannual EU Budget 2021-2027

- "De-risking" renewable energy investments under InvestEU / WBIF
- Renewable energy projects of European interest
- EU renewable energy financing mechanism

Unlocking Low Cost Renewables in South East Europe

Case Studies on De-risking Onshore Wind Investment: Key findings at a glance

1. **Even when wind and solar conditions are better, investing into renewables in South East Europe is more expensive than in Western and Northern Europe.** The reason: countries in South East Europe face higher financing costs due to perceived higher investor risks. More costly than necessary renewables investments seriously hamper power system modernisation in SEE..

2. **South East Europe could secure low cost renewables by introducing contractual, regulatory and market policies that greatly reduce investor risk and thereby lower financing costs.** "De-risking measures" available to governments will reduce renewable energy project costs to levels comparable or lower than those of fossil fuel investments. Low cost renewable energy projects are thus a real alternative for replacing old and polluting lignite power plants.

3. **De-risking measures will lower the cost of renewable energy projects by 20 per cent. The cost for onshore wind would fall to 46 EUR/MWh in Greece and 54 EUR/MWh in Serbia.** De-risking measures with the highest impact include: (1) the proposed EU budget guarantee mechanism; (2) reliable, long-term renewables remuneration regimes and long-term renewables targets; (3) well-functioning, regionally integrated balancing and intraday markets; and (4) corporate power purchase agreements.

4. **The proposed EU budget guarantee mechanism is a no-regret policy instrument and should be equipped with sufficient resources under the new EU budget 2021-2027.** The budget guarantee alone accounts for 40 per cent of the decline in financing costs attributable to the de-risking measures analysed in this study. Overall, de-risking measures enable the expansion of renewables in South East Europe at lower costs than coal, natural gas or nuclear, with attendant benefits for the climate and for human health

Agora Energiewende (2019)

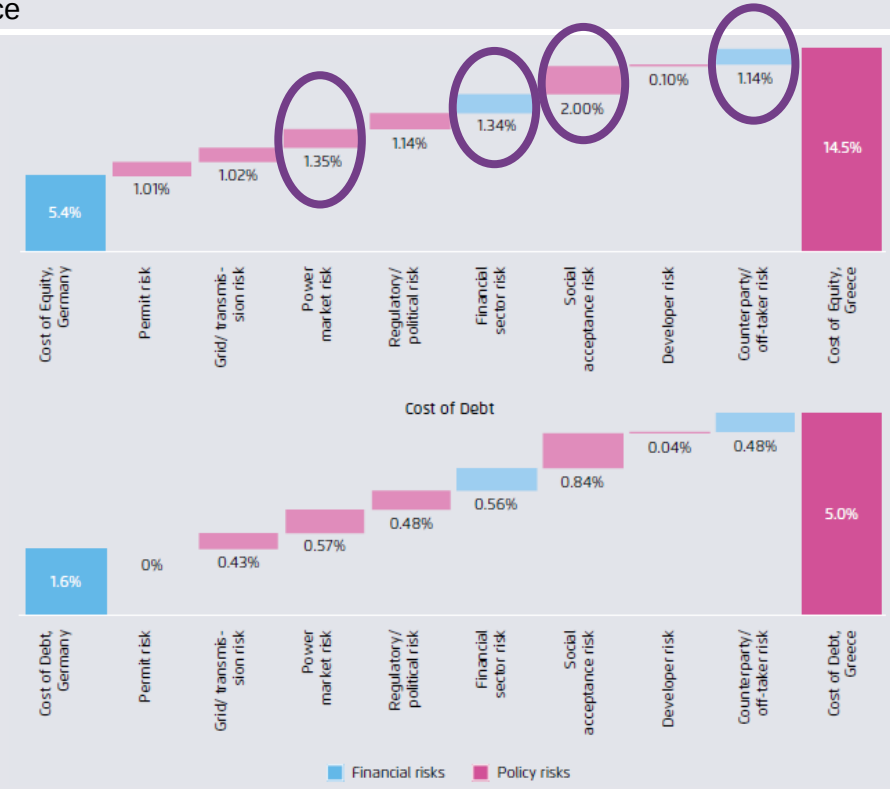
Case studies for onshore wind investments in Greece and Serbia - Methodology

- We analysed how a given set of policy and financial instruments could reduce RES investment risks and associated financing costs, given their adoption in the new EU budget framework and the full implementation of the new EU Renewables Directive and Market Design Regulation
- The Weighted Average Cost of Capital (WACC) is a key metric in this regard. We took a detailed look into cost of equity (CoE) and the cost of debt (CoD) and how they are affected by investors' risk perception.
- As the WACC affects the Levelised Cost of Electricity (LCOE), we also compared the LCOE of planned lignite power plants with those of onshore wind plants
- We quantified how de-risking measures would impact the cost of capital and LCOE of onshore wind plants. Our estimations rely on data from structured interviews with private sector investors and project developers

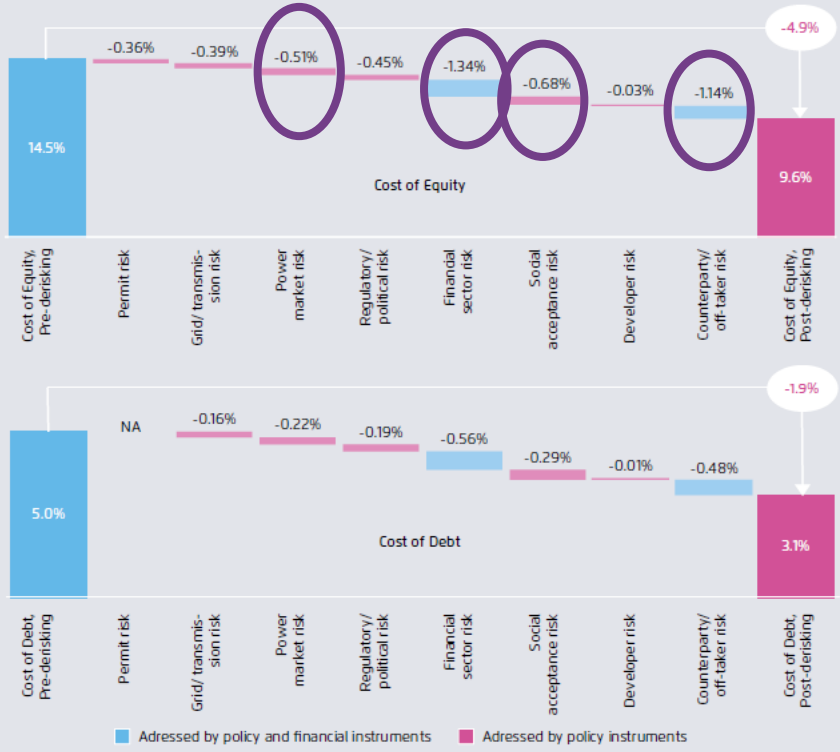
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
European Climate Initiative EUKI
based on a decision of the German Bundestag
Federal Ministry Sustainability and Tourism

Financial and policy derisking can strongly lower cost of capital: Case study Greece

Pre-derisking financing costs for onshore wind (Cost of Equity and Cost of Debt) in Greece



Post-derisking financing costs for onshore wind (Cost of Equity and Cost of Debt) in Greece



NewClimate Institute (2019)

RES have undergone strong cost reductions, making them on a LCOE basis competitive with new fossil fuel investments and in perspective with existing fossil fuel assets. However, as RES investments have high shares of fixed investment cost (above 95%) compared to lower shares for fossil fuel investments (20-40%), RES are particularly sensitive to political, regulatory, and administrative risks. Higher risks directly correspond with higher financing costs. Barriers in SEE regulatory, policy and market frameworks for RES result in higher financing cost than elsewhere in the EU.

Key derisking policies for RES in Greece

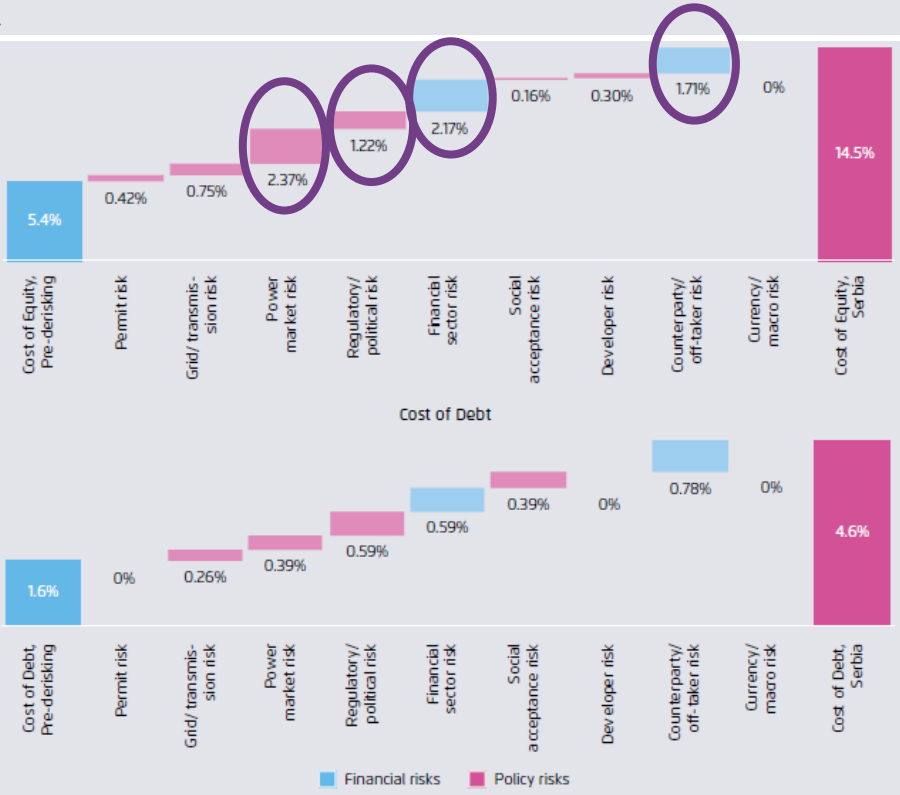
RES investment risks and derisking instruments – Greece

	RISK CATEGORIES	LIST OF DERISKING INSTRUMENTS	
		Policy instrument(s)	Financial instrument(s)
1	Permit Risk	Streamlined permitting	
2	Grid/Transmission Risk	Grid development; up-to-date grid connection code implementation; continuation of shallow-charging approach; establishment of curtailment rules for RES with financial compensation; increase storage facilities	Compensation of curtailed energy at 90%
3	Power Market Risk	Implementing intraday markets and balancing market reform; better market coupling with neighbours	
4	Regulatory/Political Risk	Stable RES remuneration scheme with a long-term schedule for RES auction volumes	
5	Financial Sector Risk	Stable RES remuneration scheme with a long-term schedule for RES auction volumes	RES Cost Reduction Facility
6	Social Acceptance Risk	Public campaigns	
7	Developer Risk	Streamlined processes and good RES framework	
8	Counterparty/Off-taker Risk	Enabling of corporate PPAs	RES Cost Reduction Facility

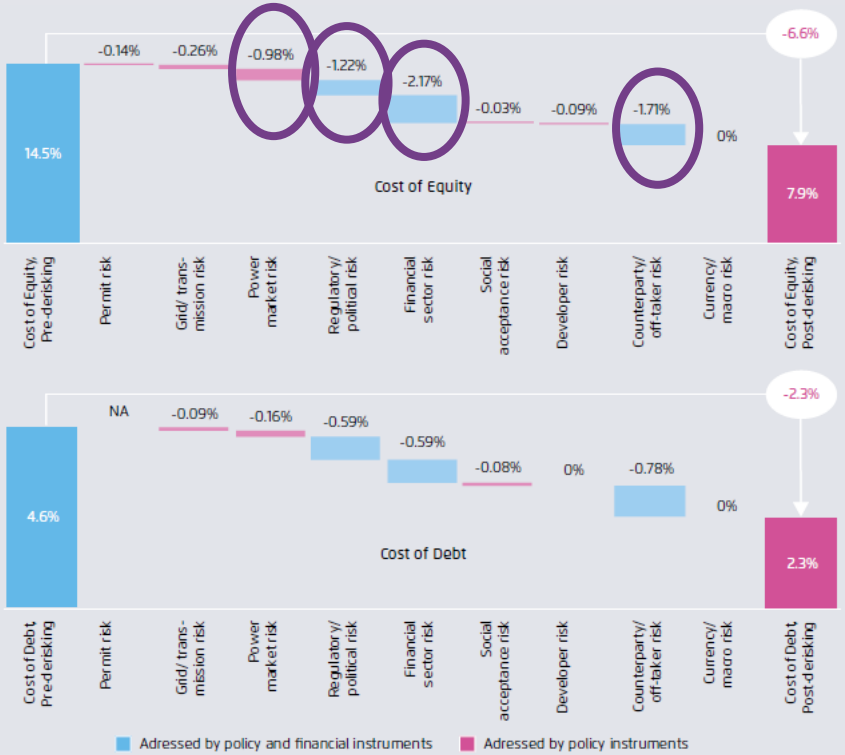
NewClimate Institute (2019)

Financial and policy derisking can strongly lower cost of capital: Case study Serbia

Pre-derisking financing costs for onshore wind (Cost of Equity and Cost of Debt) in Serbia



Post-derisking financing costs for onshore wind (Cost of Equity and Cost of Debt) in Serbia



NewClimate Institute (2019)

Key derisking policies for RES in Serbia

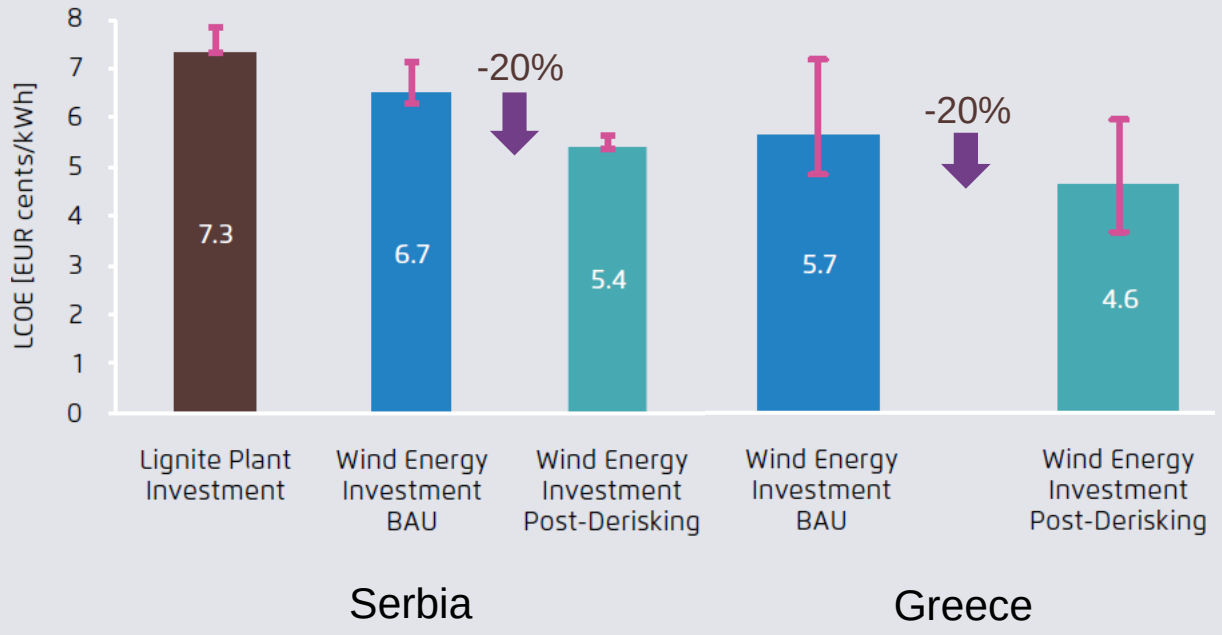
RES investment risks and derisking instruments – Serbia

	RISK CATEGORIES	LIST OF DERISKING INSTRUMENTS	
		Policy instrument(s)	Financial instrument(s)
1	Permit Risk	Streamlined permitting	
2	Grid/Transmission Risk	Grid development; up-to-date grid connection code implementation; continuation of shallow-charging approach	
3	Power Market Risk	Stable RES remuneration scheme; abolishment/reform of fossil fuel subsidies; opening up balancing markets across borders; implementing intraday markets	
4	Regulatory/ Political Risk	Stable RES remuneration scheme; 2030 targets adopted	Curtailment rules with financial compensation
5	Financial Sector Risk	Implementation of RED II	RES Cost Reduction Facility
6	Social Acceptance Risk	Public campaigns	
7	Developer Risk	Streamlined processes and good RES framework	
8	Counterparty/ Off-taker Risk	Revised PPA/CfD structure, including provisions of self-consumption; stable RES remuneration scheme implemented; enabling of corporate PPAs	RES Cost Reduction Facility
9	Currency/Macro Risk	Indexing/inflation adjustments, also for new auctions	RES Cost Reduction Facility

NewClimate Institute (2019)

Derisking measures are key tools for enhancing RES. They lower LCOE of RES by 20% and allow benefitting from dropping technology cost

LCOE comparison, lignite* vis-a-vis onshore wind in Serbia and Greece



NewClimate Institute (2019)

* At current ETS prices of 25 EUR/t CO2, LCOE of new lignite in Serbia would equal 150 EUR/MWh

Derisking measures with the highest projected impact include:

- the proposed EU budget guarantee mechanism under Invest.EU
- reliable, long-term RES remuneration regimes, including long-term RES targets
- provisions to allow corporate PPAs
- Open, well-functioning and regionally integrated balancing & intraday markets

An EU budget guarantee alone accounts for some 40 % of the estimated financing cost decline in Serbia and Greece

A guarantee scheme in the WBIF is already implemented

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Thank you for your attention!

Questions or Comments? Feel free to contact me:

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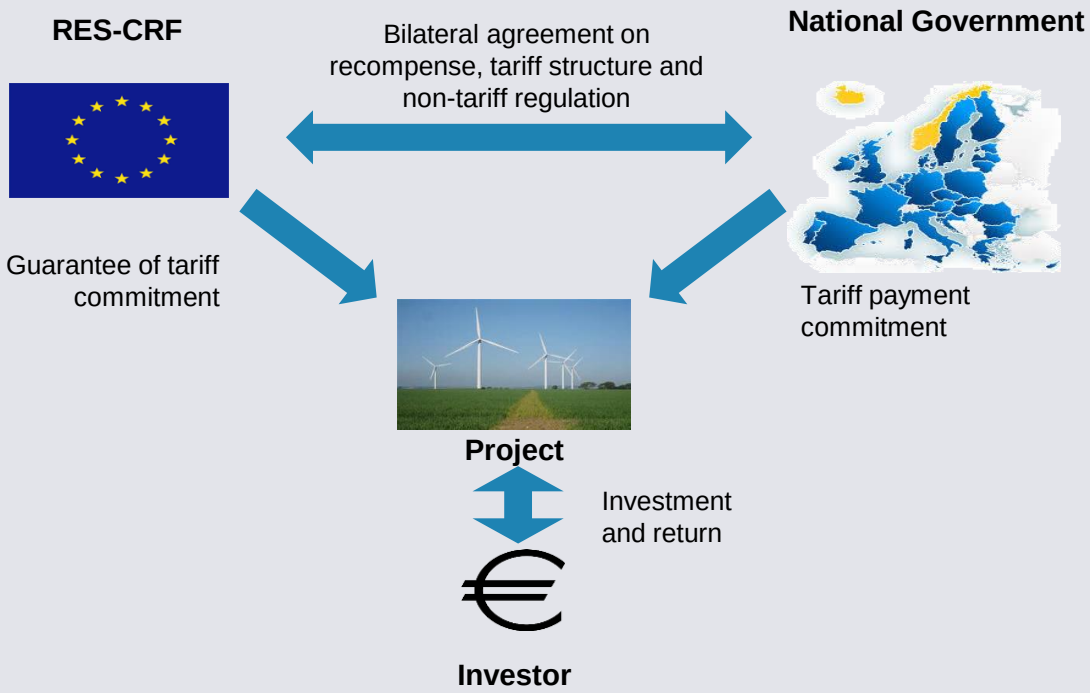
Agora Energiewende is a joint initiative of the Mercator Foundation and the European Climate Foundation.

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 Renwable Cost Reduction Facility (RES-CRF)



Agora analysis

- → 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