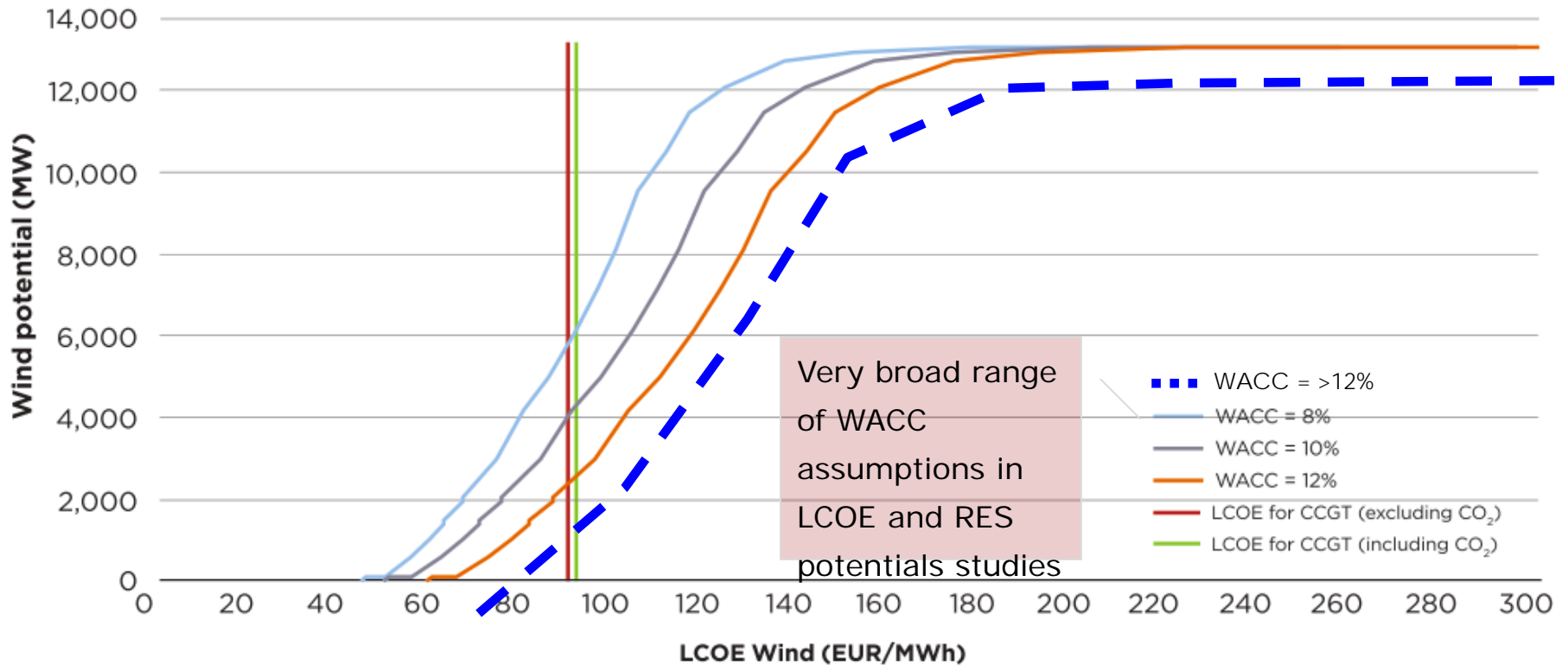


# Estimating WACC for renewable energy in Western Balkans

Mak Dukan  
Starfish Energy  
Co-founder and Consultant



# Wide variation in WACC assumptions affects LCOE and brings uncertainty to private investors



Source: IRENA, Joanneum Research and University of Ljubljana (2017), Cost-Competitive Renewable Power Generation: Potential across South East Europe, International



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# WACC increasing policy: PPA design & granting procedure in BiH



- investor receives final PPA (and support) only after the project has been constructed (in FBiH and RS)
- requirement to pay 1% of investment costs as bank guarantee and submit guarantee within 30 days or receiving preliminary PPA from Operator for Renewable Energy Sources and Efficient Cogeneration
- PPA not viewed by banks as bankable document – lack of experience with large projects and generally weak PPA from investor security perspective



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# WACC decreasing policy: new PPA package Serbia



- “Single PPA” - Ability to conclude PPA immediately after receiving the Temporary Privileged Producer (TPPP) status [1]
- Change-in-law clause – “Changes in legislation which ultimately lead to an increase in producer’s expenses, shall result in the corresponding increase in FIT” [1]
- Political force majeure – if any competent authority fails to issue, upkeep, amend or prolong any public authorization without the fault of the generator or the off-taker, the agreement shall remain in force, but its legal effects shall be suspended for the period of duration of the force majeure event [2] (and the PPA shall be prolonged for the period of event)

[1] Lakovic and Petrovic, Schonherr [2] Mitrovic, Karanovic & Nikolic



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# Risks of new policy design: effect of changing from FIT to FIP in Croatia



- Market with experience in FIT  $\approx$  48 MW solar PV, 26 MW biomass, 28 MW biogas and 412 MW onshore wind etc.
- Renewable energy law ([NN 100/2015](#)) mandates change from FIT to FIP and auctioning > implementation delayed to early 2018 ([NN 123/2016](#))
- What are the effects on risk perception? What are lessons learned for others in Western Balkans?



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# Risks of new policy design: effect of changing from FIT to FIP in Croatia



## Research base

- 8 interviews in total conducted for Pricetag in Croatia
- 3 with heads of project and structural financing departments of major Croatian commercial banks: Unicredit Group (ZABA), Erste Bank, Raiffeisen Bank

## Main conclusion

- Irregular revenue flows from FIP schemes (due to fluctuation in electricity prices) and delays in implementation negatively effects risk perception
- Compared to FIT the envisaged FIP scheme valued as more risky, but with no hard conclusions available due to lack of experience



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# Why should we know more about risk and WACC for RES in Western Balkans?



- Systematics investigation on barriers exists but without direct connection to costs of financing (example: IRENA et al 2017)
- Creation of WACC aware policies could decrease the cost of financing renewables in Western Balkans
- Better WACC understanding enables more precise design of current (FIT) and future (FIP) policy schemes and LCOE estimates



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**Thank you for your attention !**

**Mak Đukan**  
**[mak@starfishenergy.org](mailto:mak@starfishenergy.org)**

**Selska cesta 46**  
**10000 Zagreb, Croatia**

**Ansbacher Str. 45**  
**10777 Berlin, Germany**

**[www.starfishenergy.org](http://www.starfishenergy.org)**



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