Financing Renewables: comparison of cost of capital in 28 EU MS

Robert Brückmann, eclareon
Berlin 15.4.2016
Background & Methodology of DIA-CORE Project
DIA-CORE in a nutshell

- Funded by the IEE programme; project duration 36 months (start 01/04/2013)
- Main objectives
  - monitoring MS success in meeting 2020 RES targets
  - providing unbiased and scientifically robust analysis on optimal support strategies
- Work package: Enhancing RES investment
  - Examine the role of risk and its influence on RES investments;
  - Compare costs of capital (WACC) at EU MS level

Partners:
Introducing Weighted Average Costs of Capital (WACC)

What is WACC?

Why is it relevant?

How have we collected it?
Our methodology for comparing costs of capital and risks

Model
- Estimation of costs of capital & ranking of wind onshore-investments risks
- Comprehensive literature study
- Application of RE-frame barriers database (more than 900 listed barriers)
- Draft of 28 EU MS country profiles

Evaluation
- Interviews with financial experts (more than 80 interviews in 26 MS)
- Evaluation of underlying assumptions of model & estimated parameters
- Adaptation of model based on input from interviews

Results
- Aggregation of EU-wide data
- Presentation of results and feedback from more than 300 national experts
- Preparation of deliverables: Country profiles, policy toolbox & final report
Before we start: some caveats

- There are several methods for wind project financing: corporate financing or project financing
- Ongoing changing (often falling) interest rates
- Constant changes of RES market conditions
- Lack of current, significant projects in some EU markets
- Trade secrets
Comparison of costs of capital
WACC estimations onshore wind – approximation based on interviews

WACC across the EU-28
(Interview results for onshore wind)
Impact of costs of capital on RES costs in a system dynamic approach

- Low deployment costs
  - Little support needed
  - Low risk of system change
- High deployment costs
  - Much support needed
  - High risk of system change

Cost of capital

[Logos and other information at the bottom]
Cost of Equity (approximation based on interviews for onshore wind)

Cost of Equity across the EU-28 (interview results for onshore wind)
Cost of Debt (approximation based on interviews for onshore wind)
Debt/Equity Ratios (approximation based on interviews for onshore wind)

Debt/Equity ratio across the EU-28 (interview results for onshore wind)
Conclusions
Huge variation in costs of capital for wind onshore projects in EU Member States

High cost of capital lead to increasing wind onshore deployment costs

Variation in WACC are in particular due to cost of debt and cost/equity ratio

Factors for differing costs of capital are
- Country specific risks
- RES specific risk premium
- Competition between investors
Questions for follow-up?

- Update of information (development of WACC 2014-2016)
- Development of WACC over project cycle (impact of tendering schemes)
- Connection of WACC development with legal changes and existing barriers
- Quantification of WACC – Costs (Price-tag)
More information:

http://www.diacore.eu/

Contact Details:

Work package coordinator:
Lucie Tesnière & Paul Noothout
Ecofys
E-mail: l.tesniere@ecofys.com

Robert Brückmann & Filip Jirouš
eclareon
E-mail: rb@eclareon.com

Barbara Breitschopf & Mario Ragwitz
Fraunhofer ISI
E-mail: barbara.breitschopf@isi.fraunhofer.de