Financing Renewables: The impact of changed support schemes on the cost of capital

Barbara Breitschopf, Fraunhofer ISI

DIACORE-CEPS Policy Workshop

Brussels 21.5.2015

Co-funded by the Intelligent Energy Europe Programme of the European Union

Policy Impact Analysis

Objective:

- show what the **impact of policy design** elements is on cost of capital
- cost of capital comprises cost of equity and cost of debt:
- its calculation is based on
  - **interest rate**
  - **return on equity**
  - **equity share**

Policy Impact Analysis: Our Approach

Investment Case: Wind onshore

technical & financial parameters

20 MW wind onshore plant

1.5 Mio € / MW investment

average full load hours: 1900 p.a.

life time of plant: 20 years

policy design elements → changes

sliding FIP over 20 years 8 cent/kWh

reliable, predictable policies and politics

financing paramters → changes?

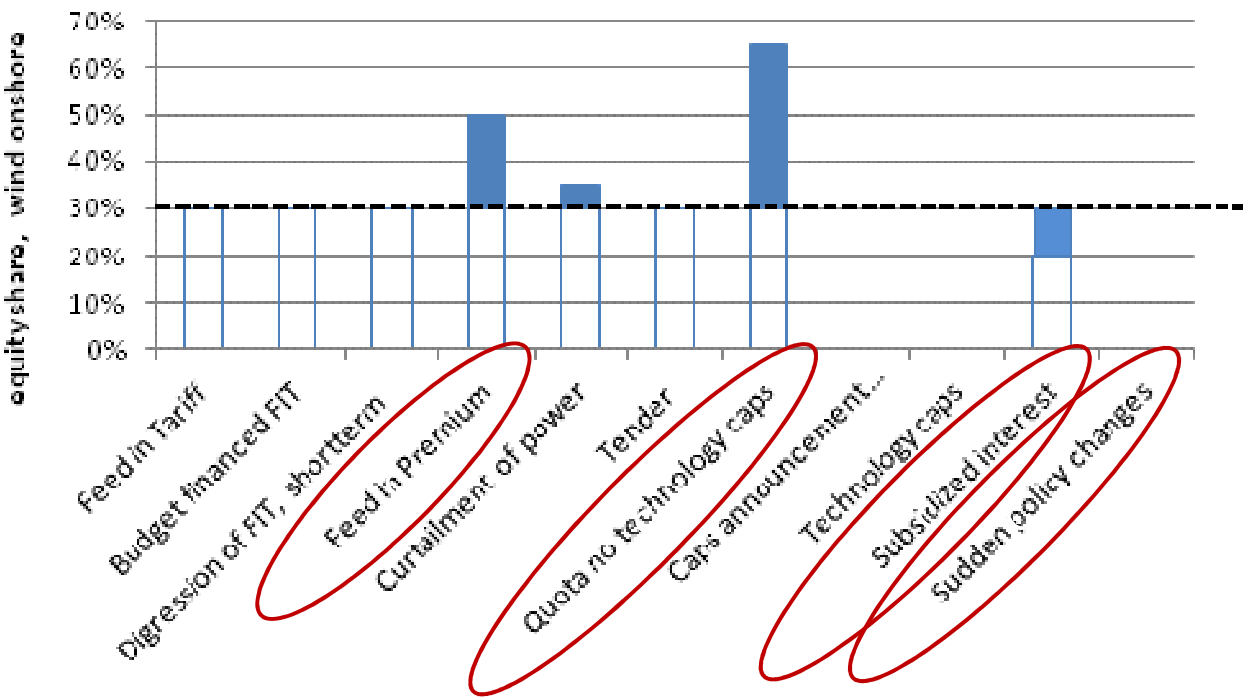
equity share :	20%
min ROE:	10 % p.a.
fixed interest rate:	5 % p.a.

→ we looked at 10 policy changes

Policy Impact Analysis: Pre-test Results

- The **share of equity** will change if a country moves from a consumer financed Feed-in Tariff (FIT) to ……..

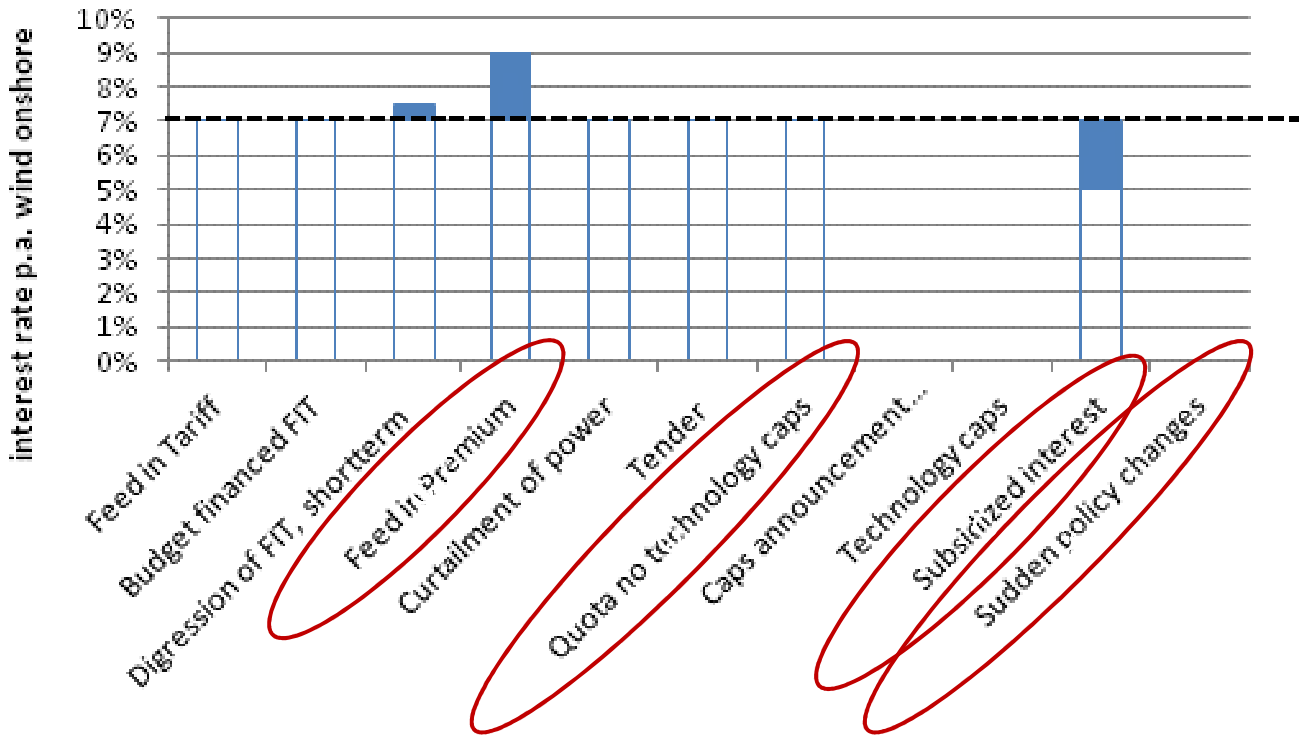
- Example:



Policy Impact Analysis: Pre-test Results

- The **interest rate** will change if a country moves from a consumer financed Feed-in Tarif (FIT) to …..

- Example:



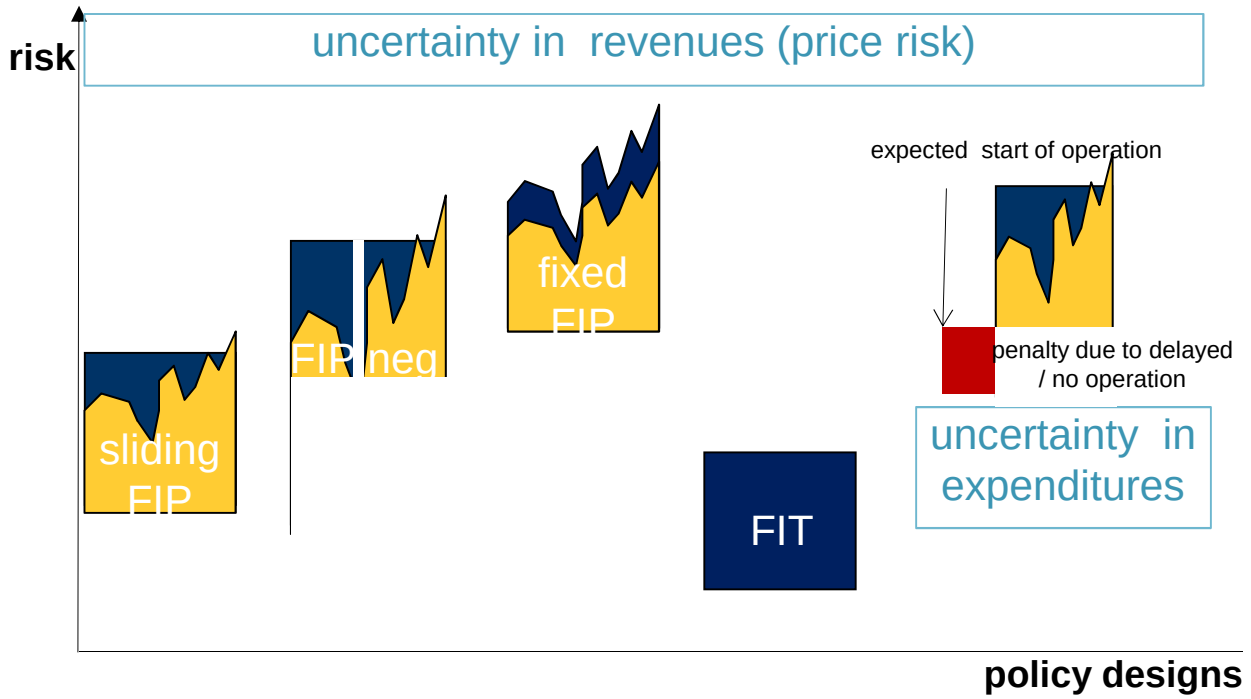
Policy Impact Analysis: Refinded Approach

Changes in policy design – five „policy cases“:

changes of design features lead to uncertainties in

- revenues
- expenditures

→ risks



Policy Impact Analysis: Expected Outcome

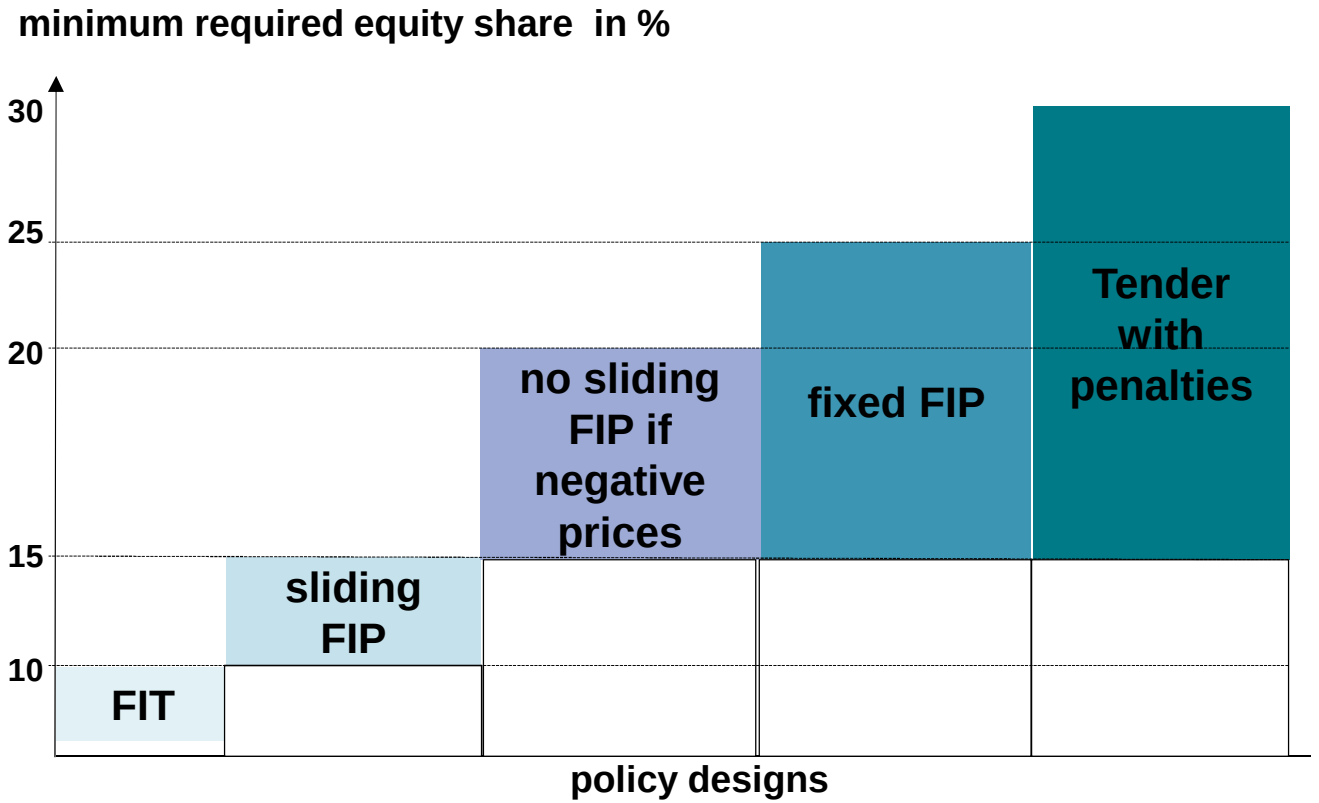
policy changes will be translated into risks →

risks will be translated into :

- interest rate, return on equity, equity share

or

- no financing

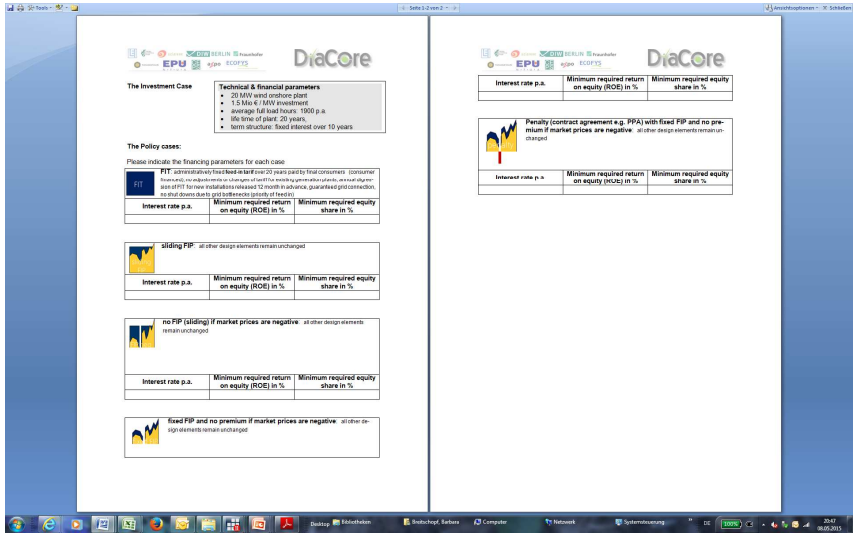


Policy Impact Analysis: Next Step

- our questionnaire

… will be electronically available (DiaCore Webpage, email)

… and can be filled out by those with a background in financing and project development



Policy Impact Analysis: Discussion

- Any questions or comments ?

if not, then:

- Is there a relevant policy design element/feature that is missing in our approach and that might have a high impact on the (un)certainty of revenues or expenditures ?
- Do you agree that the penalty in an auction with sliding feed in premium disposes the highest uncertainty/risk to investors ?
- Which other risks do you consider as relevant and are not addressed by our approach ?

More information:

http://www.diacore.eu/

Contact Details:

Coordinator WP 3:

Lucie Tesnière & Paul Noothout
Ecofys
E-mail: p.noothout@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