



REGULATORY INSTRUMENTS TO DELIVER THE FULL POTENTIAL OF RENEWABLE ENERGY SOURCES EFFICIENTLY Reinhard Haas, Hans Auer,

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1 Introduction



CORE MOTIVATION:

Policy targets for an INCREASE of RES-E!

(e.g. to increase the share of RES to 20% until 2020)





MAJOR PROBLEM: Correct design of policy

- with respect to:
- renewable targets
- Financial incentives
- Credibility for investors
 Transfer costs!

Energy 2. Survey on policy TU Strategies

		REGULATORY	VOLUNTARY
Capacity- driven strategies	Generation-based	Gobera-based ande	• National generation targets
	Investment focused	• Bidding/Tendering	• National installation or capacity targets
Price- driven strategies	Generation-based	feed-in tariffs,fate based incentivesNet metering	 Green Power Marketing Green tariffs Solar stock exchange
	Investment focused	 Rebates Soft loans Tax incentives	 Contracting Shareholder progr. Contribution Bidding
Other		_	 NGO-marketing Selling green buildings Retailer progr. Financing Public building prog.







THE ISSUE OF TRANSFER COSTS

All regulatory promotion schemes (Quota-based TGC systems, tendering systems, Feed-in tariffs) create an artificial market

and cause

transfer costs (additional costs)





It is important to minimize these additional transfer costs. Why?

These additional costs have finally to be paid by the electricity customers

(regardless which promotion scheme is chosen)



Method of approach (EU-project GREEN-X)



STATIC COST RESOURCE CURVES



How to minimise transfer TU For Costs (EU-project GREEN-X) CHISCHE UNIVERSITÄT WIEN







The lower the additional costs (=transfer costs) are which have finally to be paid by electricity customers

the higher will be public acceptance

the larger will be the amount of additional electricity generated from RES.





An example from the conventional electricity market:

Currently in several countries (e.g. Germany, Belgium) customers are fed up with the high profits the large incumbent utilities make in the "free" market

they request a re-regulation of electricity prices!





(=effectiveness)













Guarantee-of-Origin trade TU



















Two possibilities of off-shore

grid connection:





Status quo: Different boundaries between DG/RES power plant and the grid infrastructure



Large-Scale Distributed Generation

Different DG/RES-E Connection Boundaries







instruments & competition (1)

- conventional electricity market: To maximize profits utilities merge to avoid competition
- hard to imagine that a European-wide TGC market will work disconnected from these large incumbents
- TGC markets: Why should competition work if it does not in the conventional electricity market?
- Utilities/generators are in favour of TGC because they can make more money and control the market, the construction of new plants much better







- Careful design of a strategies: by far the most important success criteria!
- There should be a clear focus on NEW

IMPROVE THE CURRENT SYSTEMS!

and-go" approaches















- Meeting emissions reduction targets requires development of a broad portfolio of renewable energy technologies.
 These technologies are at different cost levels.
- The experience gained so far has demonstrated that the costs of technologies fall with increasing experience.

• The proposed Directive does not directly encourage Member States to pursue policies which contribute towards the development of such a portfolio. It would be valuable to envisage complementary policy measures to meet this objective.







- Instead of harmonisation: Stimulate/Foster competition between promotion schemes/between countries: Which system/where provides new RES-E capacities at lowest costs for society?
- Exchange of lessons learned: Improvement of strategy design must build on learning
- Currently, a well-designed (dynamic) FIT system provides a certain deployment of RES-e fastest and at lowest costs for society. We expect GO Trade to be a very expensive way to promotes RES
- However, for sustainable policy -> parallel focus on demand-side conservation of high priority!







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