

Policy Instruments to Support RE Industrial Value Chain Development (RE-ValuePolicies)

CEM4 – SideEvent

April 16, 2013

Hall Magnolia, India Habitat Centre, Lodhi Road, New Delhi

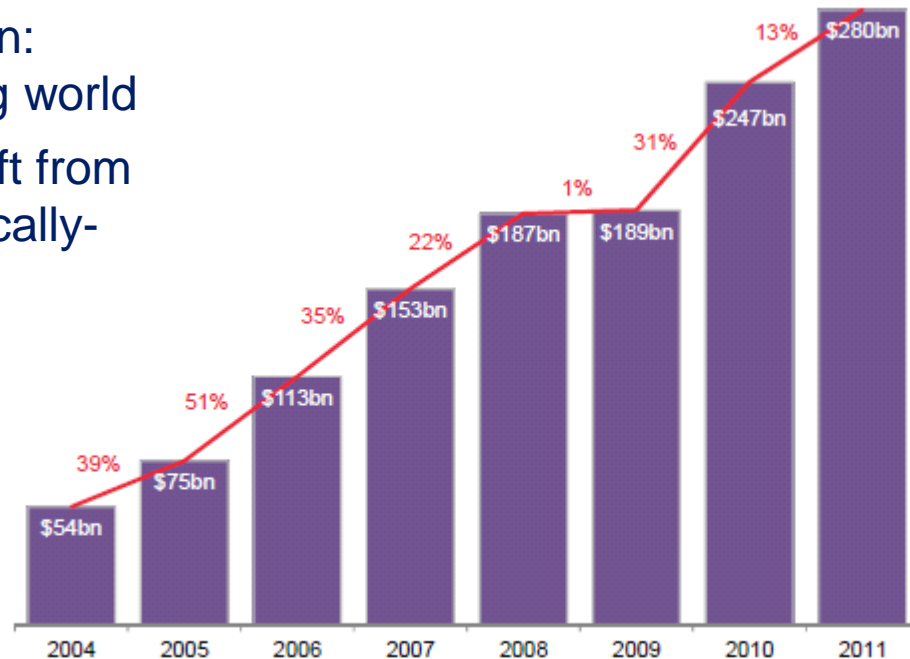
Ulrike Lehr

Overall objective

- ToR: Carry out a study on the possible instruments to support the renewable energy industrial value chain - the study aims to assess a basket of cross-cutting policy instruments (innovation, labour, industrial, finance, export, etc.) which could complement the currently used set of RE policies, in order to enable countries to maximise the economic benefits of the further development of the RE industry.
- ToR: What is the impact of RE deployment and the RE sector on economic value creation? How can policy instruments (structural policy, labour market policy, research & innovation policy, industrial policy, export policies) facilitate the development of a domestic RE sector and enhance this impact? How do these instruments interact at national and international level? - The envisaged RE-ValuePolicies study aims to find answers to these questions.

■ Success of RET:

- Spectacular (>\$1tr) amounts in clean energy investment (2004-2012) (Bloomberg 2012)
- Geographic diversification: Developed -> Developing world
- Cost competition: the shift from policy-driven to economically-driven growth



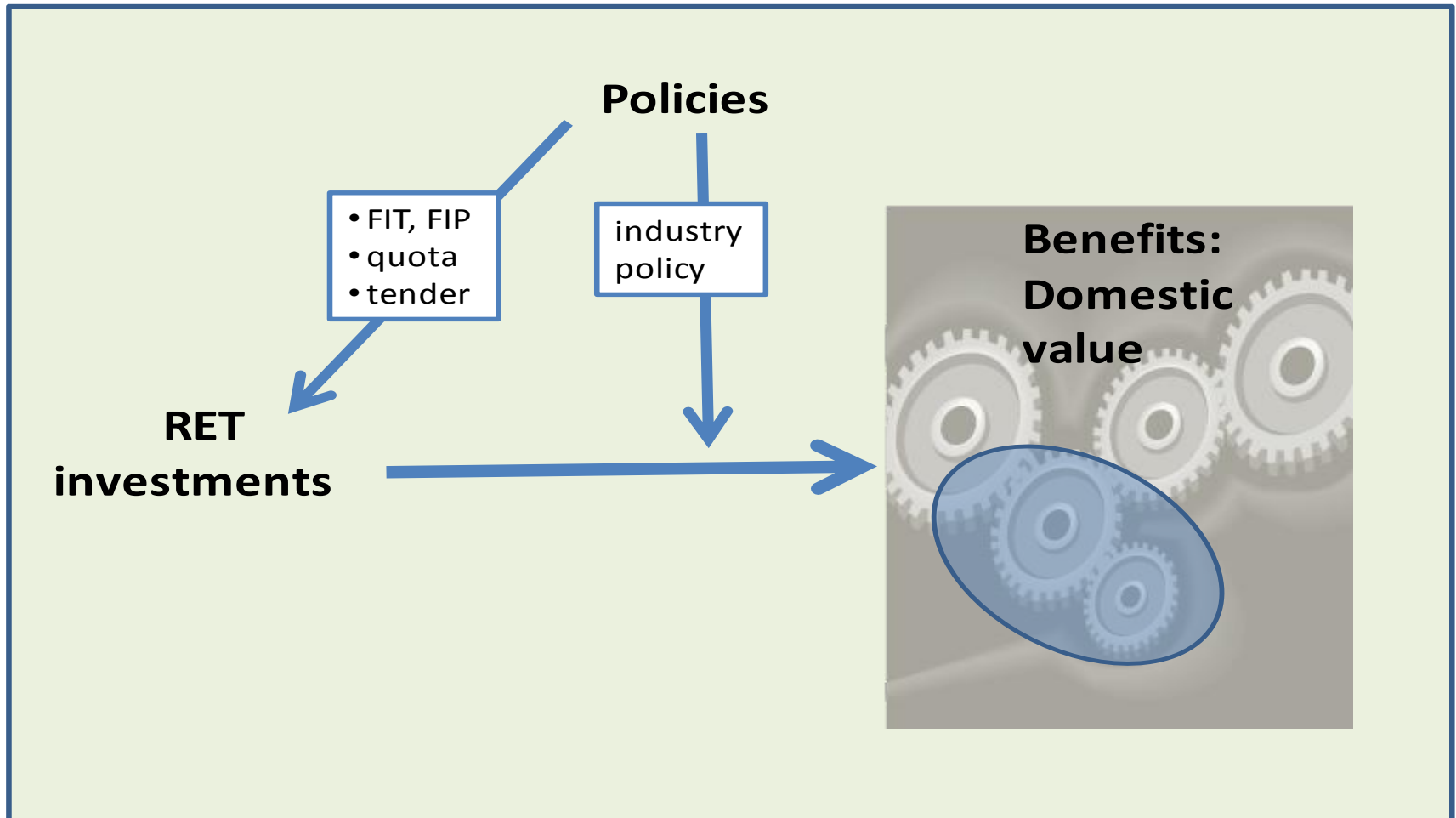
Note: Includes corporate and government R&D, and small distributed capacity. Adjusted for re-invested equity. Does not include proceeds from acquisition transactions

Source: Bloomberg New Energy Finance

- Has this been an economic success in the respective countries?



Objective



Regional scope – time horizon – RET - policy

- OECD – IEA – RETD countries
- Next 5 years – next 10 years
- All RET – focus on wind and solar
- All policy sectors. « Industrial policy » = all policies that either help to attract an industry along the value chain or help to keep it
- Success = industry exists

Project objectives: why, what and how?

RET value chain: Definition								
	Relevant policy areas							
				Education and training	Subsidy regimes	Trade policy	Policy interactions	
RET specific questions	<div style="background-color: #007bff; color: white; padding: 20px; text-align: center;"> Support of industrial clusters: whole chain; integration </div>							
Where can benefits be captured along the value chain?								X
How can countries determine in which industries they can be competitive?								
Other sectors								
Economic results								
							General	
							SME	
							Capabilities	

Link to IRENA EcoValue Project

- Input WP2 => Definitions of value-added; value chain

- Input WP3 => Report on
 - Opportunities along the value chain

 - Identification of niches

 - Overview of policies that worked:
 - In OECD / IEA / RETD countries

 - In other economic sectors in industrialized countries

First results: definition of value-added

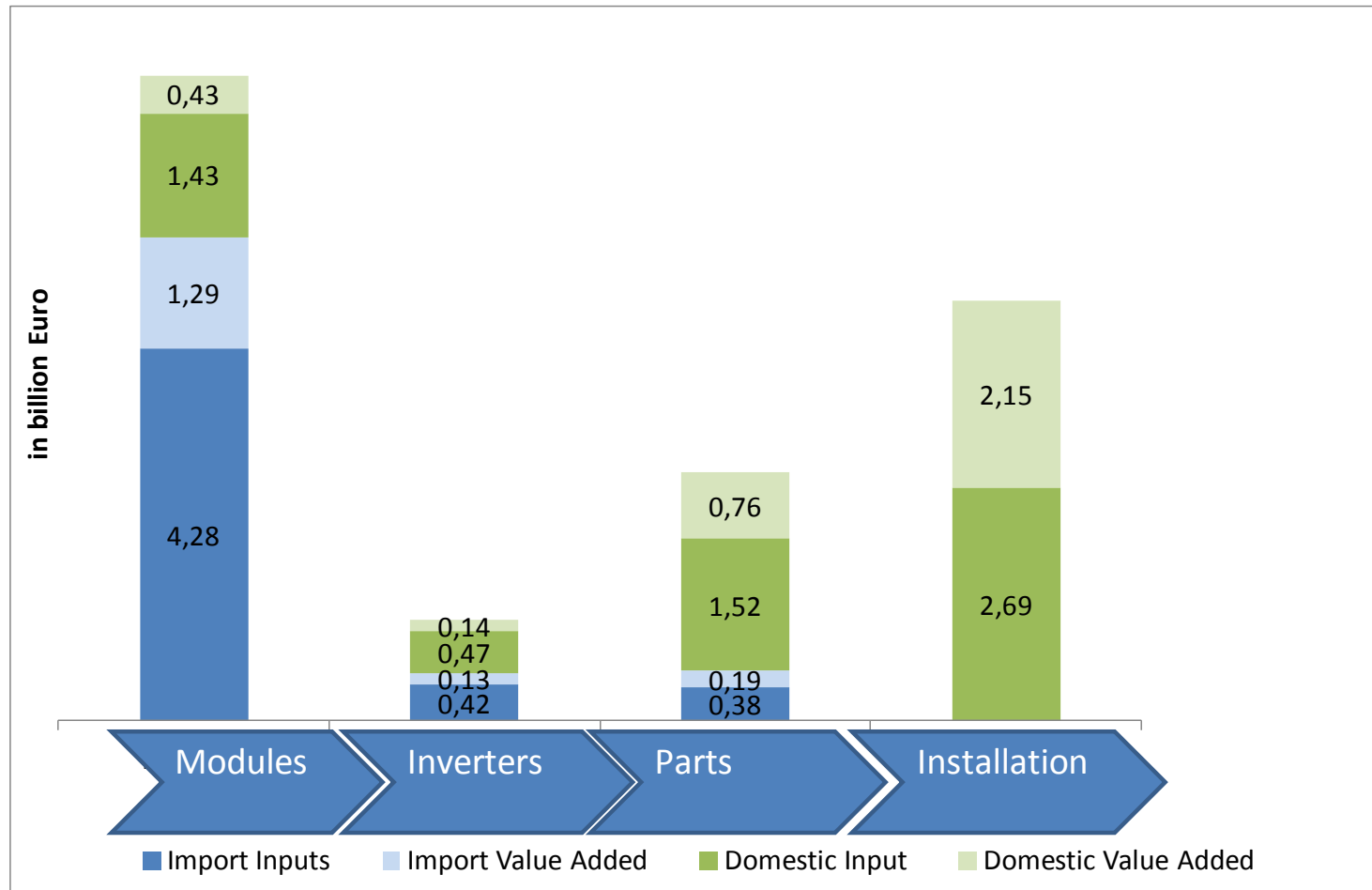
- Value creation is at the center of economic activity, be it of countries or firms.
- Micro-economic definition (firms): amount of money which remains in the firm after all payments for material inputs, services from others, interests on loans and taxes are settled
- Meso-level (economic sector): production value of the sector minus all purchases of inputs (at basic prices) from domestic providers or from imports
- Macro-economic definition (economy): sum of value-added over all sectors (plus taxes, minus subsidies) = GDP

Value-chains (supply chains) – more than first round effects!



	e.g. Steel	e.g. Inverters	Trucks	e.g. cables	e.g. replace module	e.g. removal
Inputs	Ore	Copper	Inputs structure automotive	Copper	Input structure module	Transport
	Energy	Diode		Plastic		Container
	Machinery	Transistor		Energy		Environmental tests
	Small parts	Capacitor				
		
Value added:	~ 20%	~ 25%	~ 18%	~ 33%	~ 20%	15% - 40%

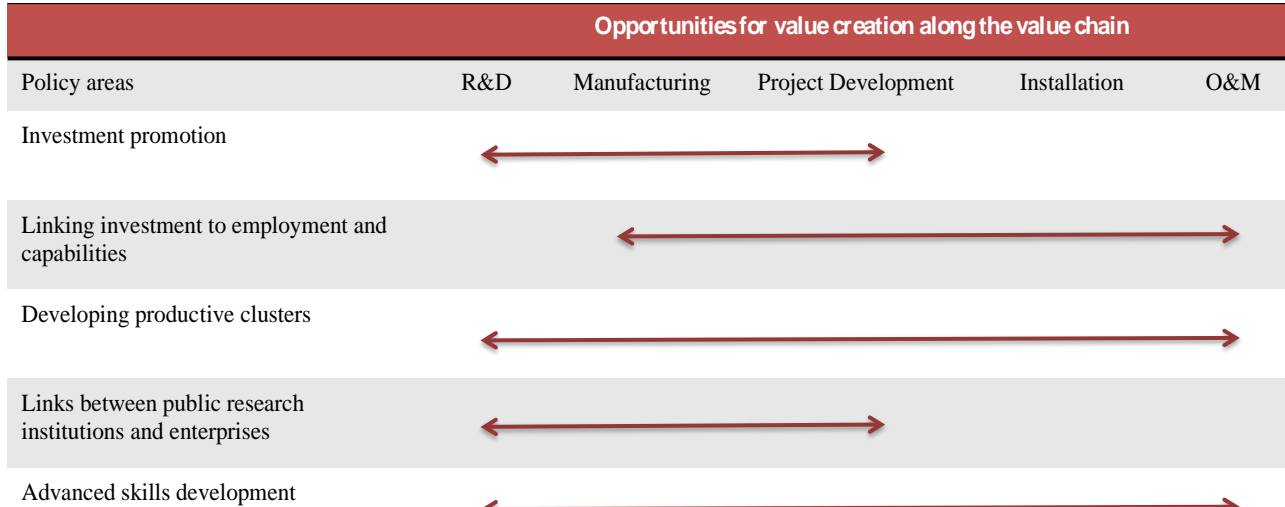
First results: First and second round effects PV value chain Germany (2012)



Coverage in inception report

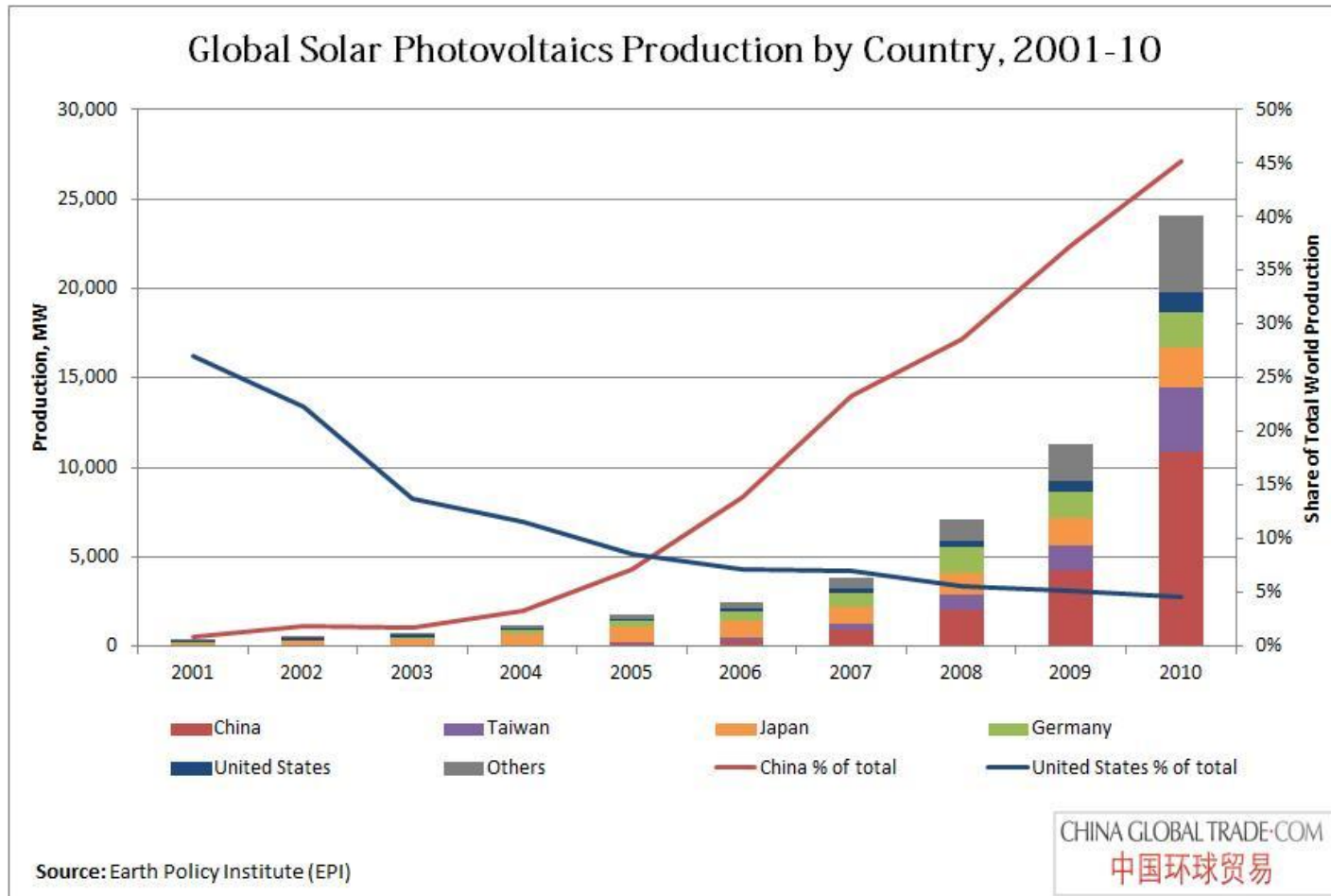
- What is the use of developing a national RE industry?
 - PV: currently 100% overcapacity, easily shipped and transported; today's capacity suffices for even the more ambitious PV deployment scenarios (E[r]) => opportunities up-stream and down-stream
 - Wind: currently 30% overcapacity, higher transport costs – more detailed in later report
- Where are the opportunities along the value chain?
 - PV: up-stream: inverters, parts => metal; electrics/electronics industry; down-stream: installation and inputs therein => deployment!
- The more specialized, the more dependent on (regional or global) deployment => multiple use products industries are more robust
- Other sectors: Automotive, aircrafts

Coverage in inception report



Policy areas	Best practice examples
Investment promotion	Costa Rica, Canada
Linking investment to employment and capabilities:	
- Local content requirements	Ontario
- Supplier development programs	Ireland, Singapore, Mexico
Developing productive clusters	California, Germany
Links between public research institutions and enterprises	Germany, Canada
Advanced skills development	Malaysia, Spain

Finding the right niche – success stories



Finding the right niche – success factors

	Proximity to existing production	Skilled workforce	Cluster quality	Integration along the value chain
Metals	++	++	+	+
Machinery	+++	+++	+++	+
Electrical devices	++	++	+	++
Electronic parts	+++	+++	++	++
Process and controls	++	++	++	+
Construction preparation	+	+		
Installation, construction	++	+		+++
Trade, whole sale		+	+	++
Banks		+		++
Insurance		+		+
Industrial services	++	+++	++	+++

First (tentative) conclusions

- Industries spin off industries!
- Create an “industrial environment”!
- Infrastructure matters!
- LCR can only be a start!
- Governmental commitment impresses investors!
- Take all citizens with you!
- Who is worth rescuing?
- Don't wait until you have to rescue.



THANK YOU!

For additional information on RETD

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Contact: IEA_RETD@ecofys.com