For our environment

Umwelt Bundesamt

Input presentation on the topic

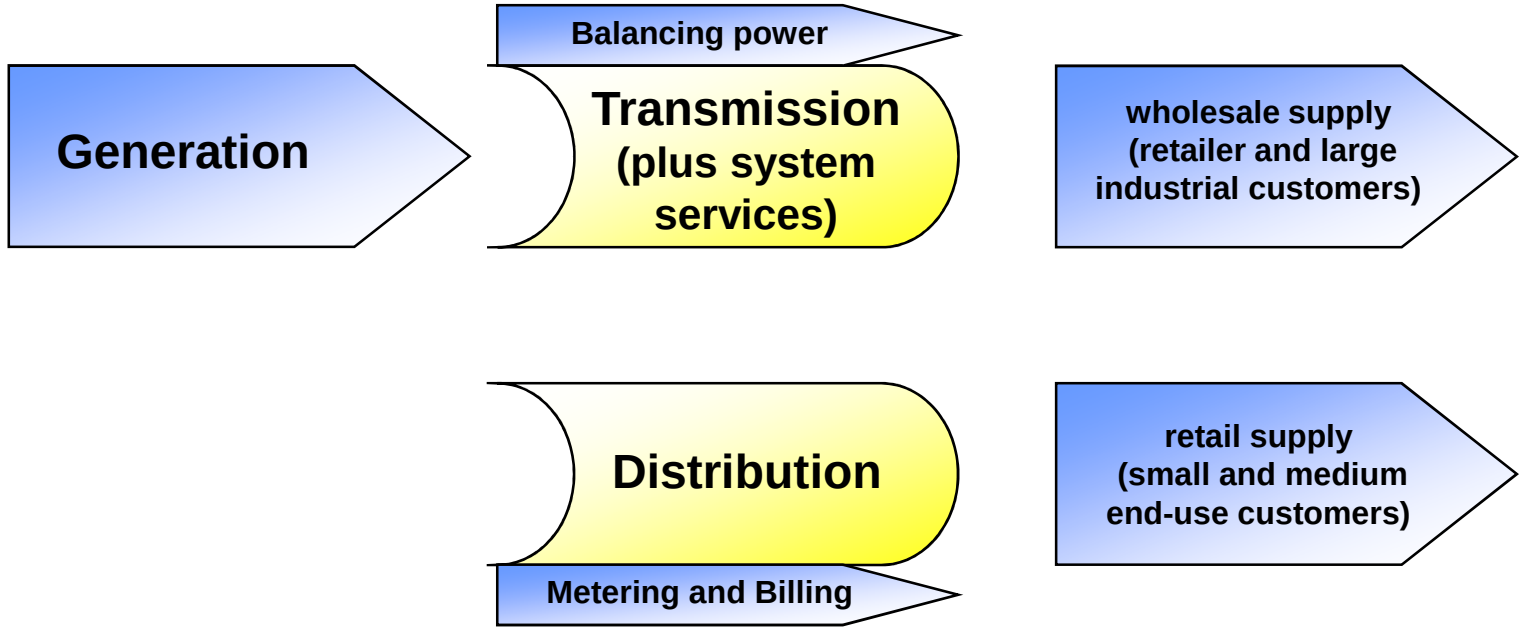
„Supporting and hindering framework conditions for decentralized actors – Overview on the status and the perspectives in Germany”

Prof. Dr . Uwe Leprich
Head of Department I 2:
Climate Protection and Energy

Stakeholder Dialogue with „Decentralized Actors“,
2nd Council Meeting of the German-Japanese Energy Transition Council – GJETC
Berlin, 24 January 2017

Decentralized actors

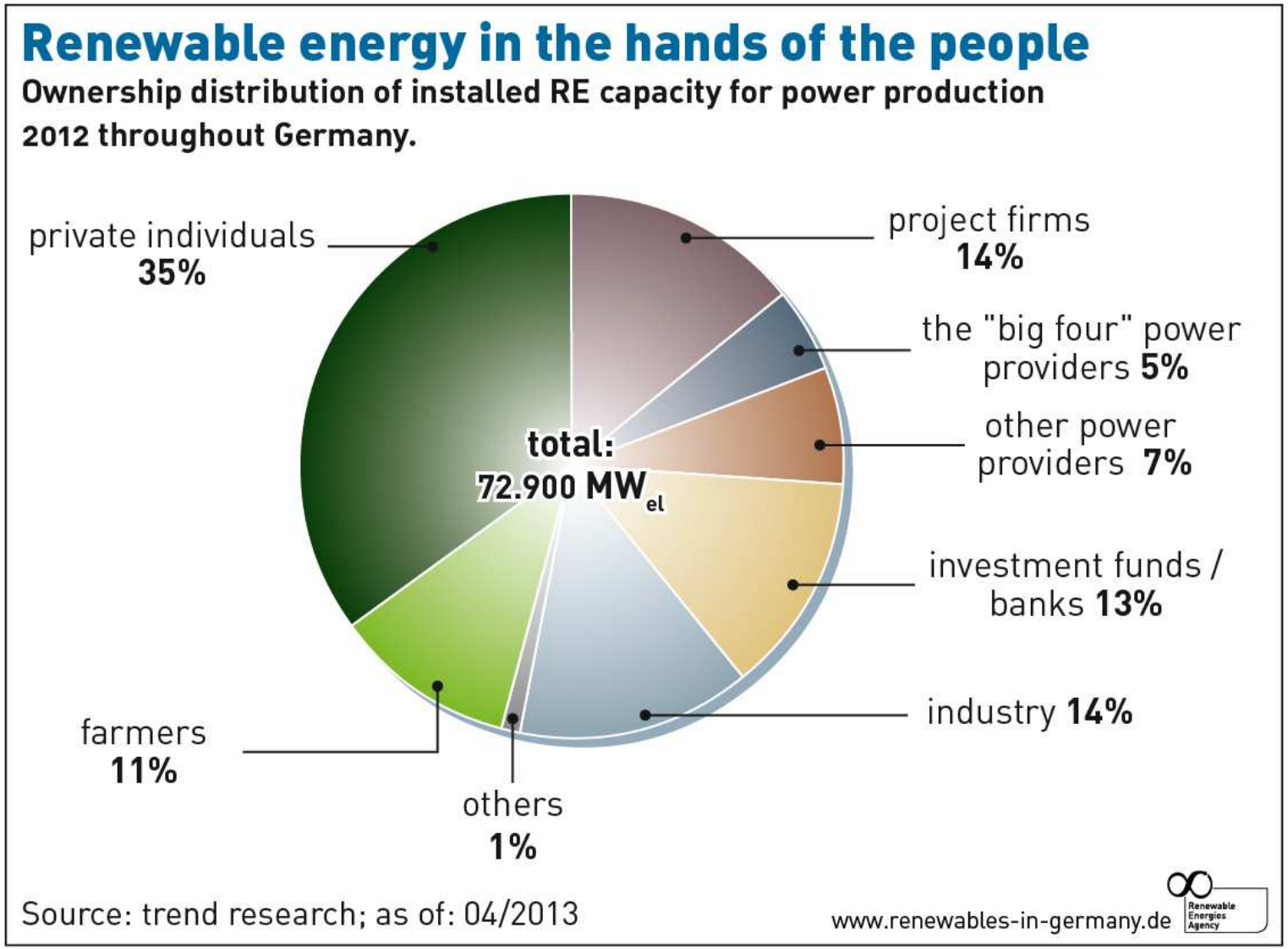
The unbundled value chain of the electricity sector



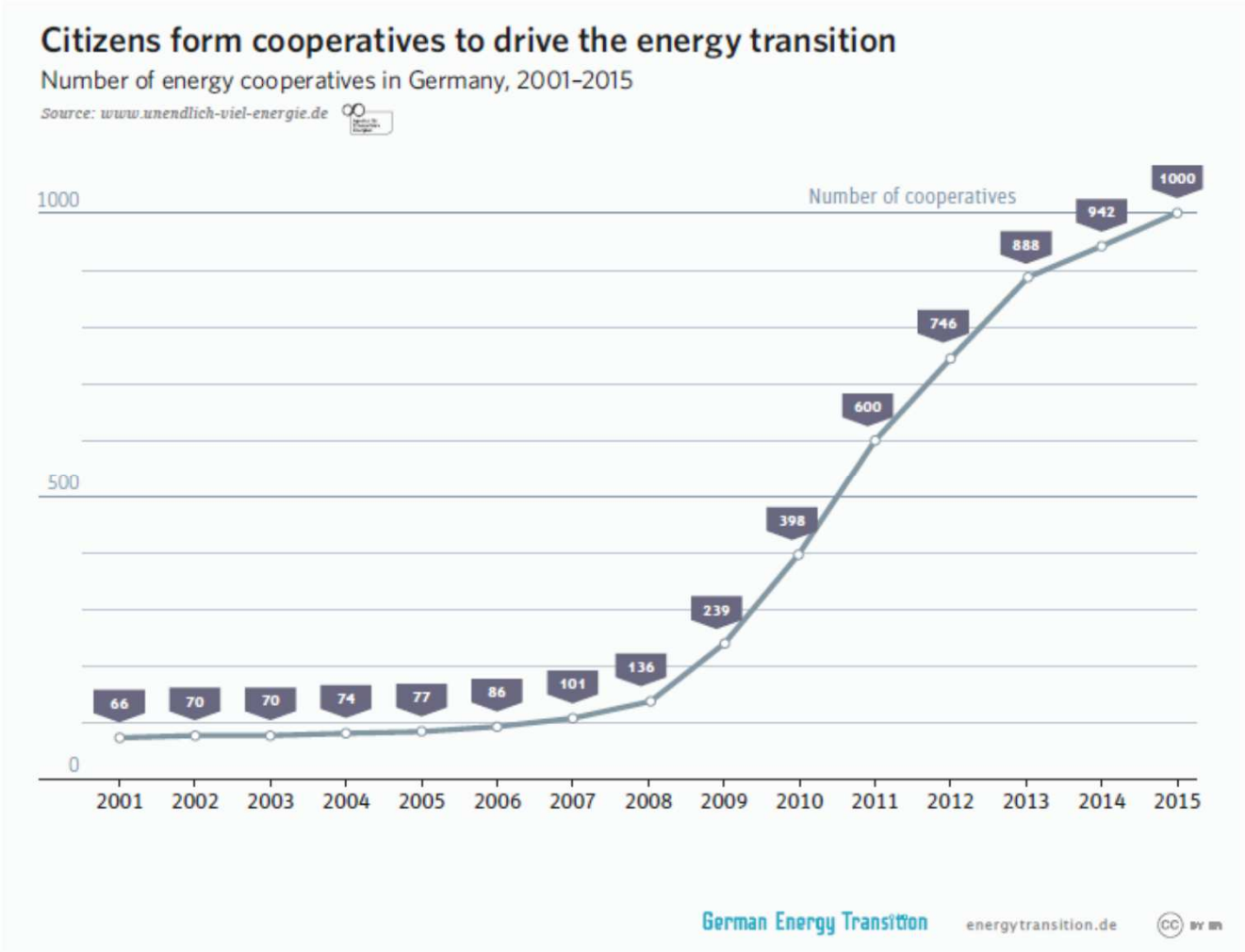
Decentralized actors in the German electricity sector

Generators			
> 1,5 Mio.	PV		private individuals
	Small CHP		cooperatives
	Wind		project firms
Network operators			
875	distribution network		municipal utilities
	feed-in network	Main Actors	regional utilities
	micro grid		
suppliers/retailers			
>1.200	community-based		municipal utilities
	regional		regional utilities
	nation-wide		new suppliers
			housing societies
			self-generators

Actors of the German Energy Transition



The rapid development of cooperatives



Municipalities, cities and regions in the German Energiewende

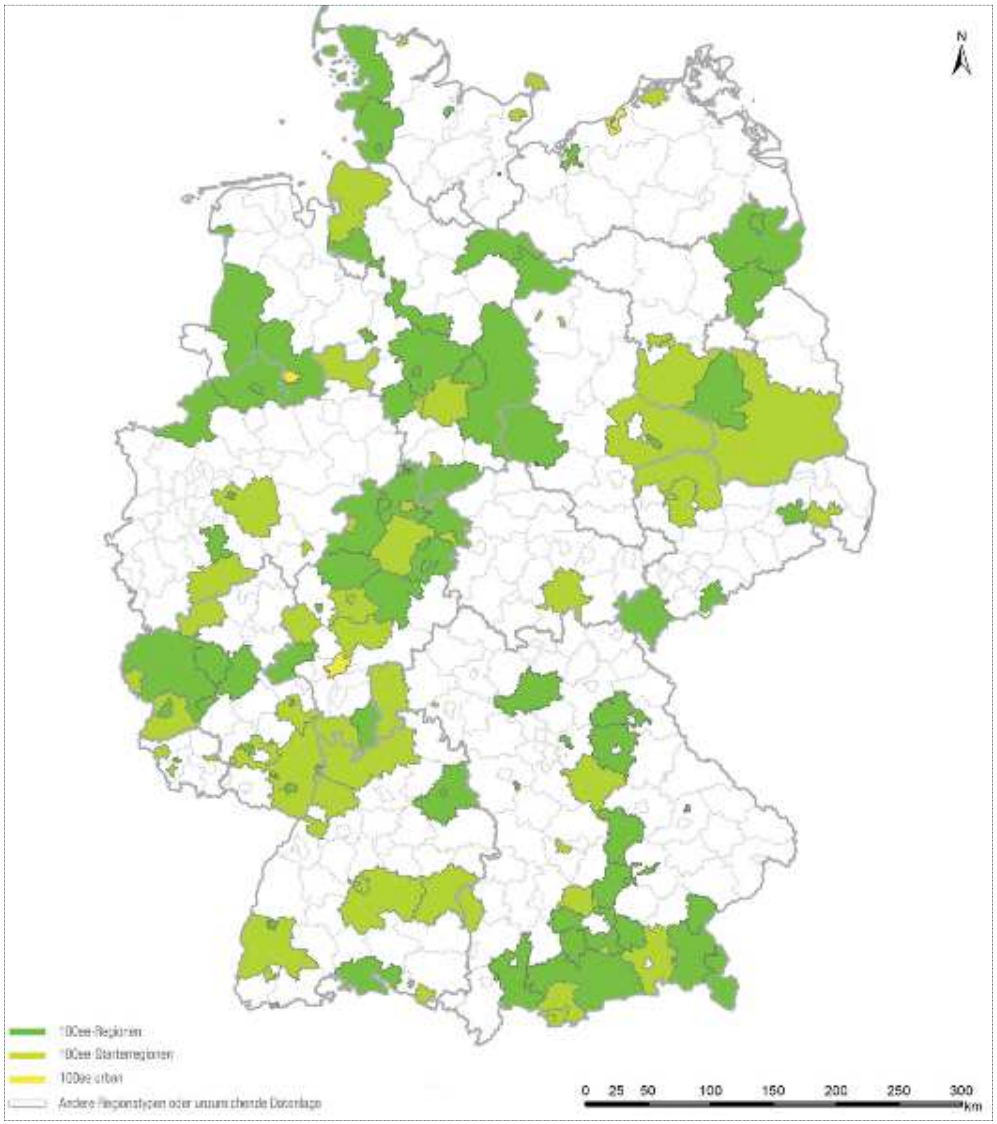
- 100% Renewable Energy Regions and Cities: 152 (Oct. 2016)
- Masterplan Regions 100% climate protection*: 42 (since 2012)
- Climate protection managers*: 280 (2013)
- Climate protection concepts*: 1421 (between 2008 and 2013)
- Climate protection projects*: about 4500 in 3000 communities (2013)

To be compared with

- About 12.000 communities in Germany
- About 900 Stadtwerke (50 of which have CHP, partly coal-fired)

* funded by national climate initiative (BMUB)

Geographical Distribution of 100% regions



100ee erneuerbare energie region

Number of Regions

total: 150 regions, with

- 100ee-regions: 90
- 100ee-Starter regions: 59
- 100ee urban: 3

Corresponding

24 Mio. inhabitants and

125.000 km^2 total area

(as of October 2016)

Framework conditions

Framework conditions (1)

supporting fc	hindering fc
legal stability through laws	not sufficient remuneration
* Renewable Energy Sources Act	auctions (risks; transaction costs, ..)
* CHP law	network congestion
priority network access	monument protection
low connection charges	

(small) generators

supporting fc	hindering fc
neutrality of network operators through unbundling	cross subsidization of bundled suppliers / network operators
growing churn rates	low margins
green/regional business cases	phlegmatic customers

(new) suppliers

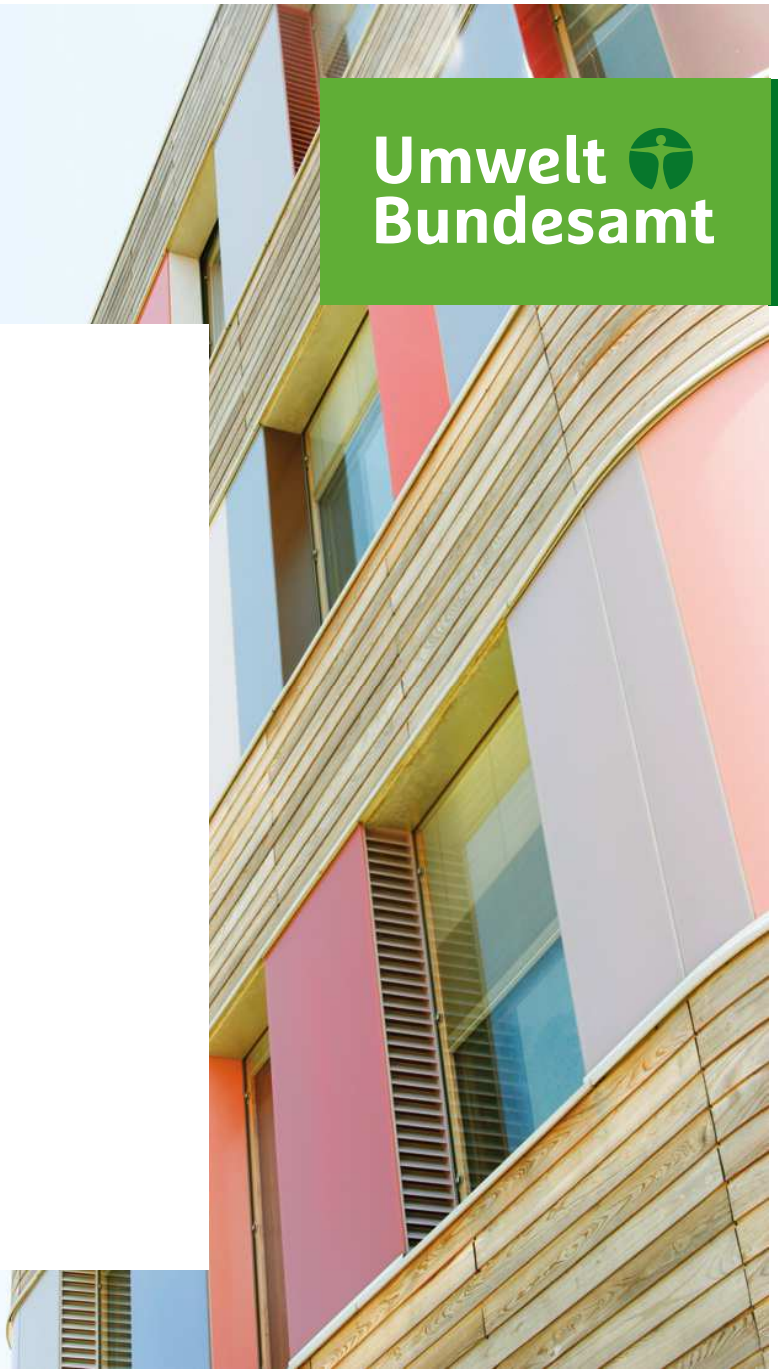
Framework conditions (2)

supporting fc	hindering fc
public acceptance	lacking know how and staff
public financial support	small budgets
decentralised technologies	contracts with non-local utilities

(municipalities, regions)

Perspectives

- The shares of renewables and CHP on total electricity generation in Germany will continuously grow
- While decentralised technologies (PV, CHP, wind, ..) have good chances, small companies might loose market shares to larger ones
- Network companies (DSOs) will become a key player for a more decentralised supply-demand balance; they will have to get “smarter” with the help of information/communication/control technologies (ICCT)
- Suppliers will have to develop customer-tailored service packages; here as well ICCT and digitalization will play a growing role
- Area-specific suppliers will face growing competition through self-consumption, housing societies (“neighbour electricity”) and platform companies (“blockchain approaches”)
- Municipalities, cities and regions will continue to stride for a higher degree of autonomy and for the utilization of local and regional options



Thank you very much!

Uwe Leprich
uwe.leprich@uba.de

www.uba.de