ISR Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen

The next big thing or too big for us? New business models for renewable energy cooperatives – barriers in the perception of cooperatives' members

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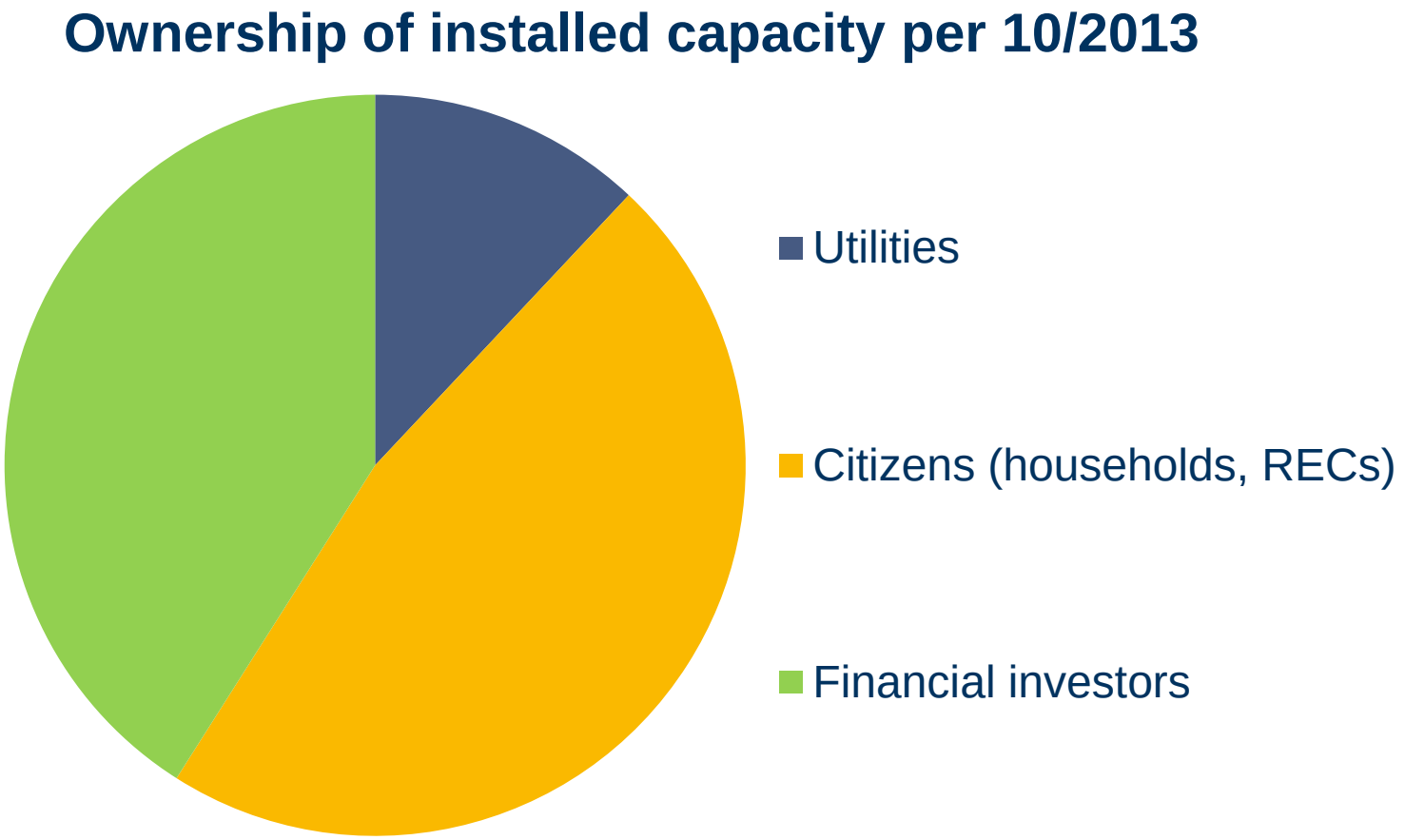
BIEE Conference, Oxford, September 2016

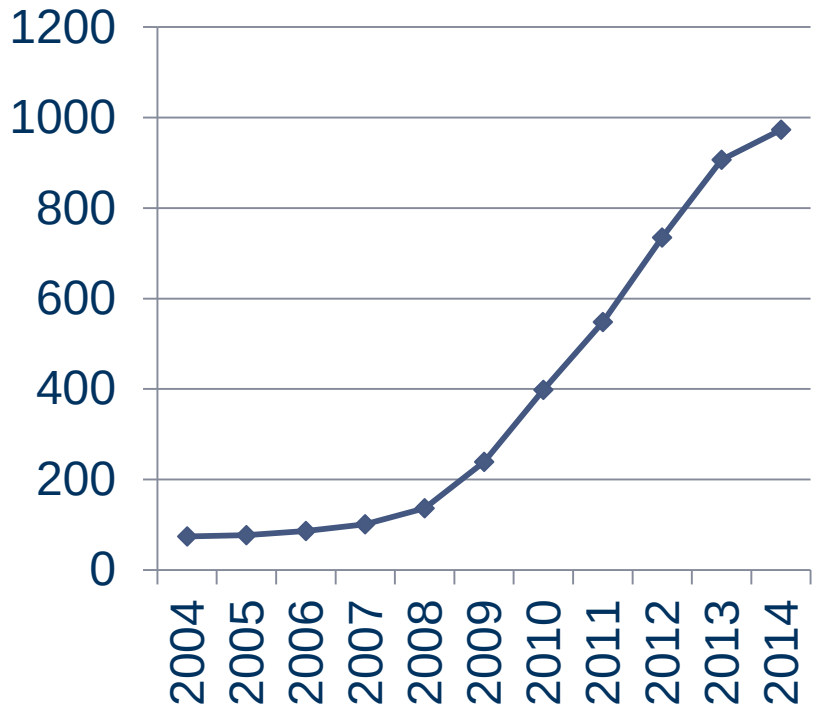
Owners of RE facilities in Germany



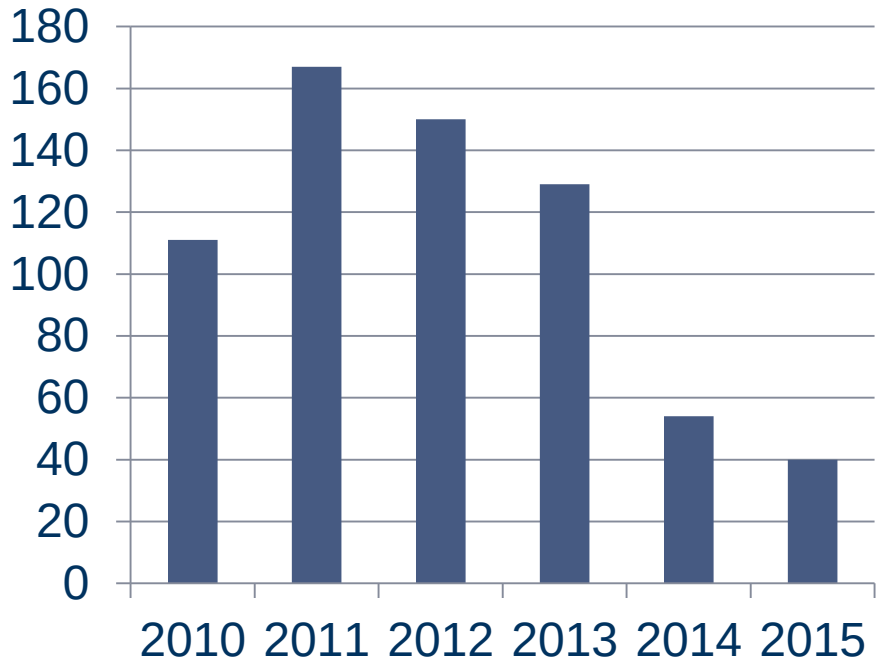
Source: trend:research; Leuphana Universität Lüneburg

Fast growth of RECs until 2014

Number of RECs in Germany

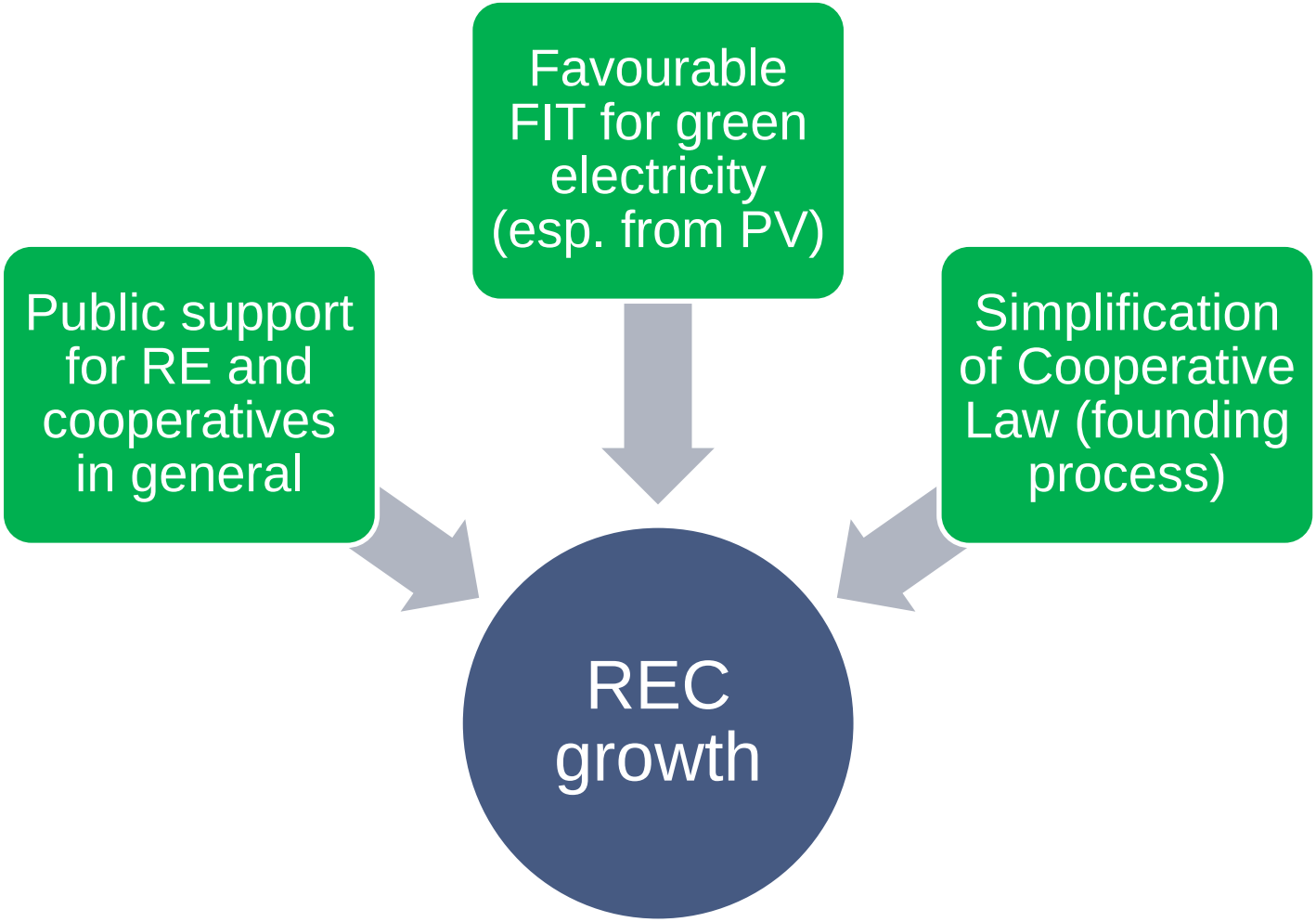


Number of newly established RECs

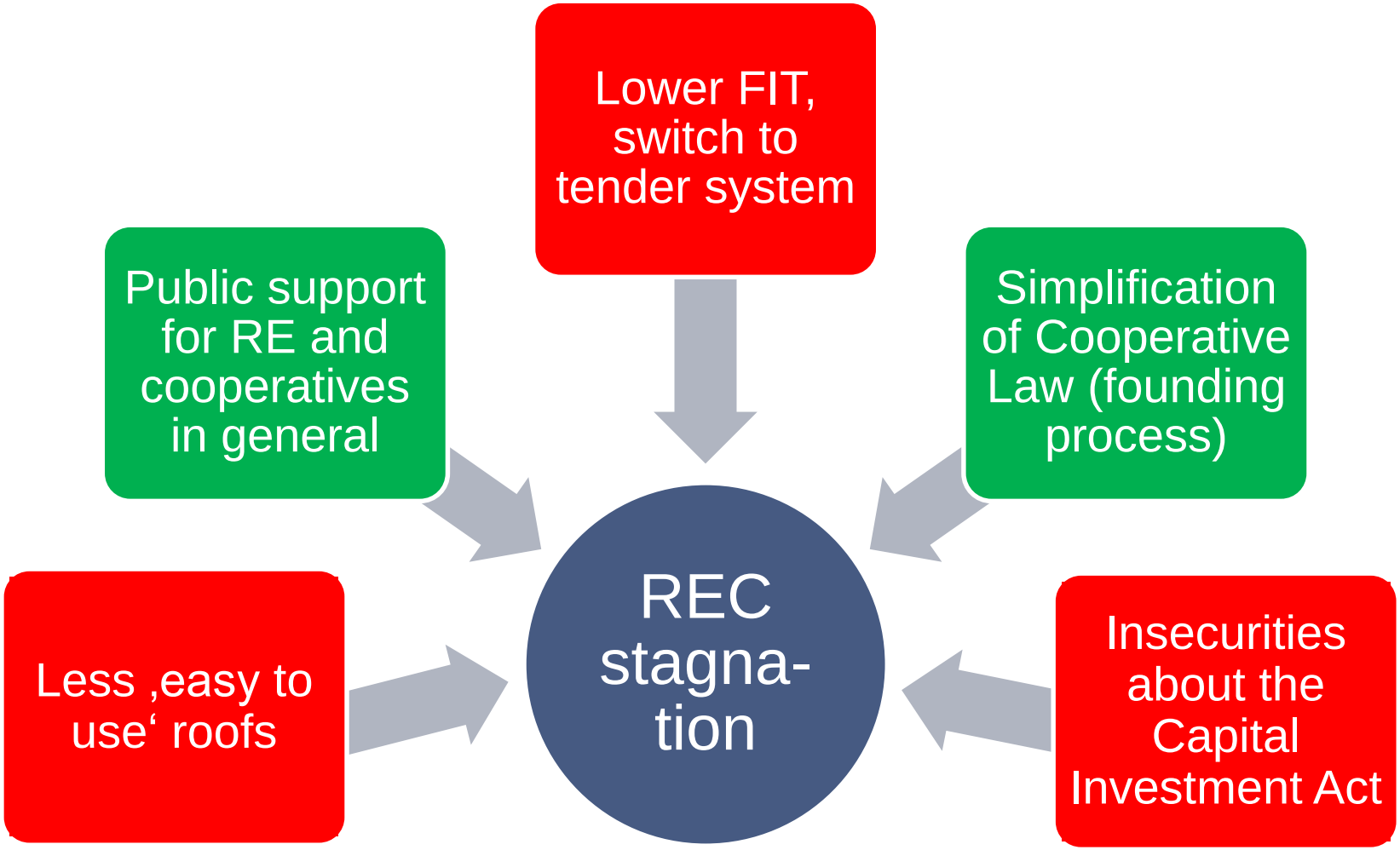


Sources: Klaus Novy Institut 2014, DGRV 2016, Leuphana 2016

Factors influencing REC growth in Germany



Barriers for further growth



Research questions

- Which potential business models do members and management contemplate for their REC?
- How do they judge these business models for their REC, especially: which barriers do they see?

Empirical investigation

April - September 2014

Participant observation in general assemblies: 15

January - August 2015

Interviews with various actors in RECs: 38

October 2015

Expert interviews: 4

Case selection:

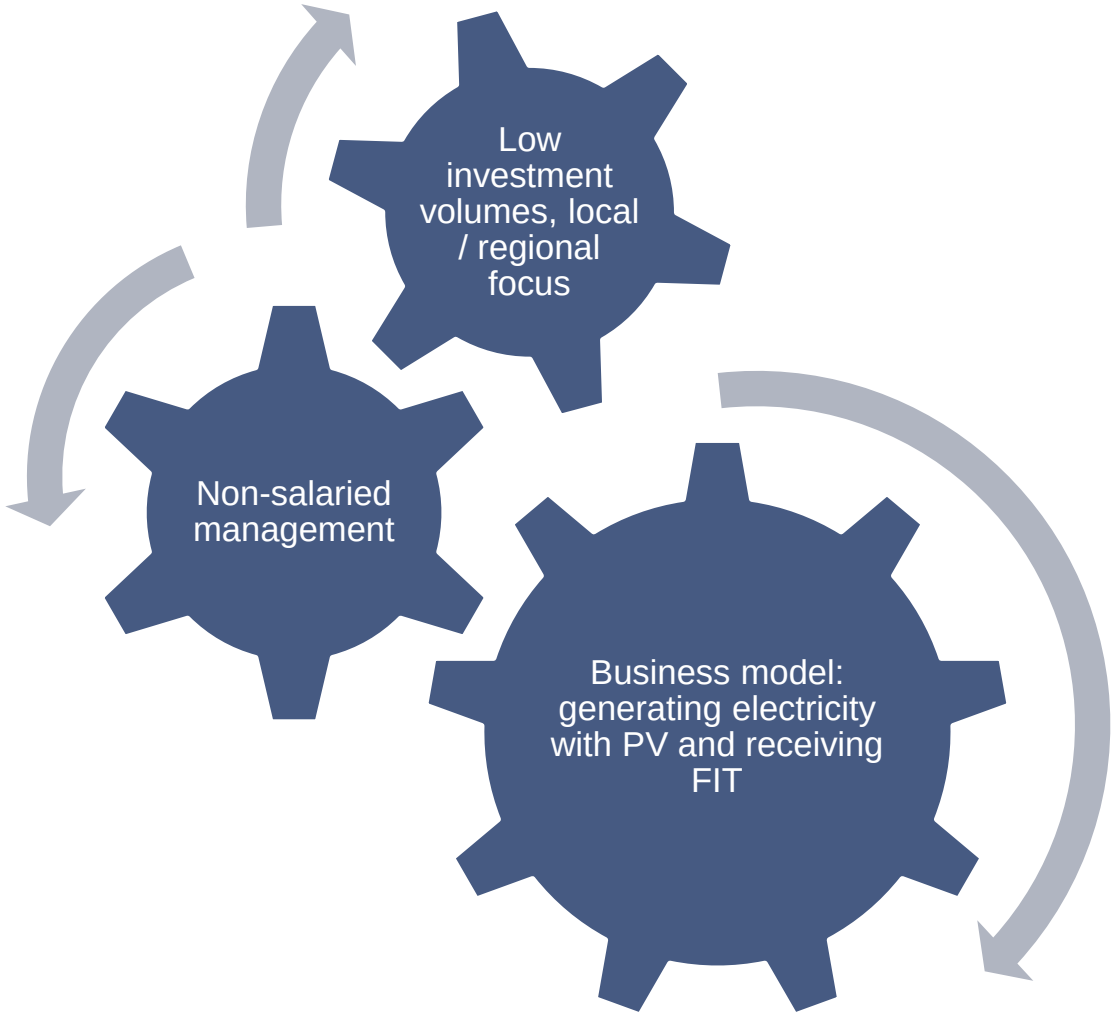
a) Existing RECs in Baden-Württemberg, Nordrhein-Westfalen, Niedersachsen and Rheinland-Pfalz.
   Broad coverage: Size, urban vs. rural context, business type, etc.

a) One failed REC (has been dissolved)

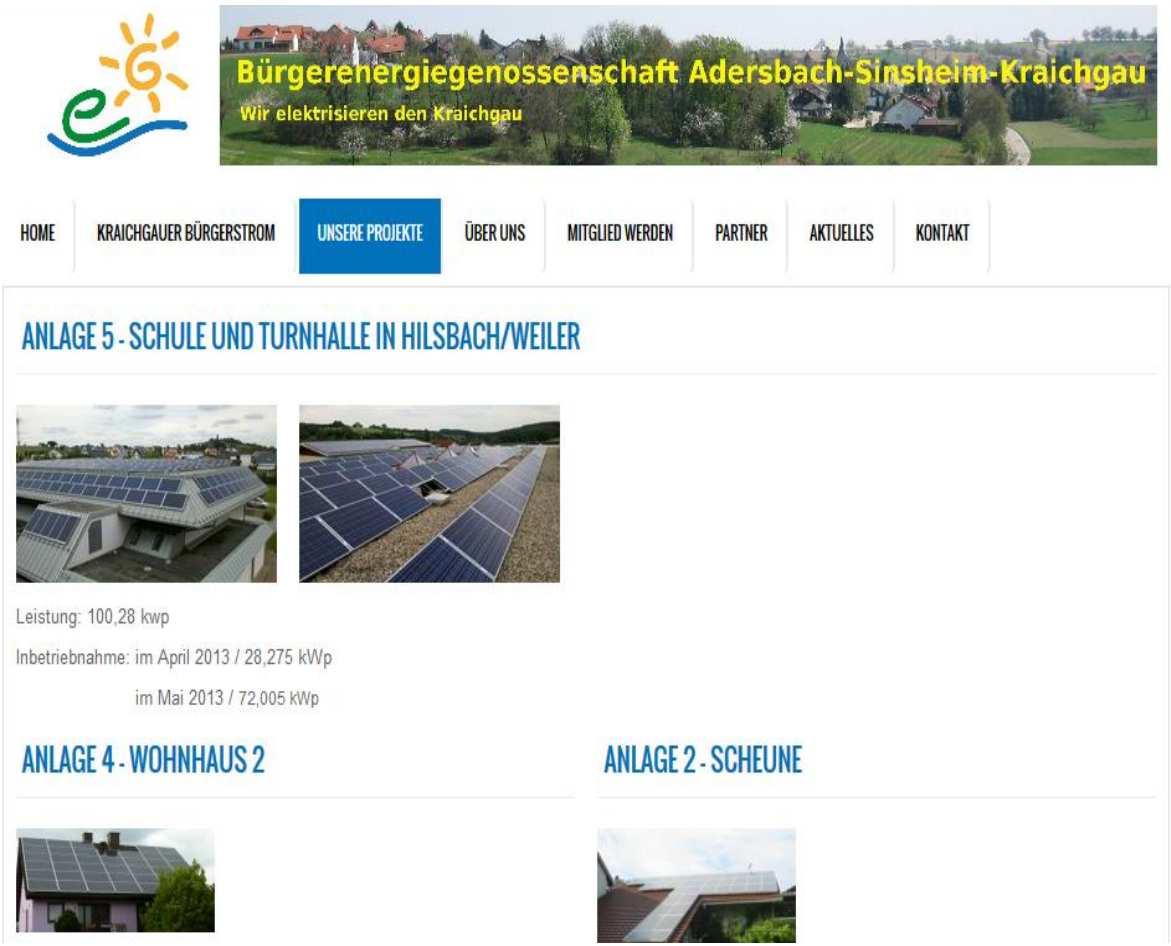
Cases

No.	Number of members	Setting	Business type	Share price	Founded in	Cooperations (e.g. with local utility)
1	53	Big city	PV	100 EUR	2013	no
2	78	Small city	PV	500 EUR	2012	no
3	82	Rural	PV	250 EUR	2010	no
4	109	Small city	PV	1.000 EUR	2011	yes
5	119	Big city	PV	100 EUR	2012	no
6	140	Rural	PV	100 EUR	2010	no
7	146	Big city	PV	250 EUR	2011	no
8	148	Big city	PV (wind)	50 EUR	2010	no
9	160	Small city	PV (wind, hydro)	250 EUR	2011	no
10	166	Rural	District heating, biogas	500 EUR (x5)	2011	no
11	247	Rural	PV	100 EUR	2009	no
12	267	Big city	PV	100 EUR	2012	no
13	281	Small city	PV	500 EUR	2009	yes
14	469	Rural	PV	500 EUR	2009	yes
15	597	Rural	PV, district heating, e-mobility	500 EUR (x2)	2008	no

Characteristics of most German RECs



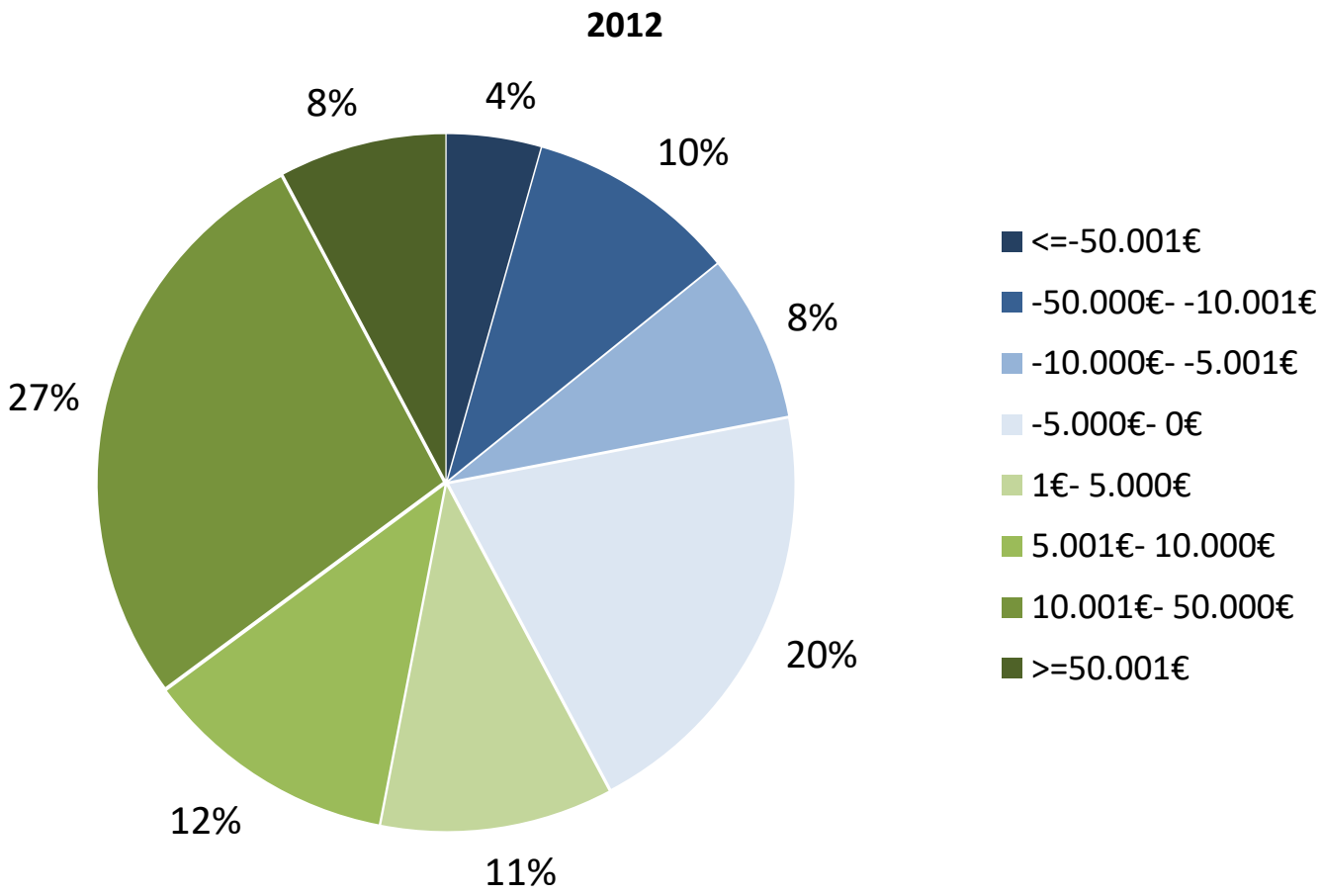
A typical REC in Baden-Wuerttemberg



- Founded in 2010
- 174 members
- 5 PV installations
- Total capacity: 142 kWp

Source: http://www.buergerenergie-ask.de

Only 35% of RECs earned more than EUR 10 k p.a.



Source: Debor 2014

Business model structure

Main elements	Value propo-sition	Customer interface	Infrastructure	Revenue model / financial model
Sub-elements		Target customers / customer segments	Key activities	Revenue streams
		Customer relation-ships	Key resources	Cost structure
		Channels	Key partners	

Source: Osterwalder 2004, Osterwalder et al. 2005

Business model „green electricity retail“

Main elements	**Value proposition** *Green power from local sources*	**Customer interface**	**Infrastructure**	**Revenue model / financial model**
Sub-elements		Target customers *Own members / regional consumers*	Key activities *Production, marketing*	Revenue streams *Sales, price per kWh*
		Customer relationships *Based on reg. context*	Key resources *RE installations, regional network*	Cost structure
		Channels *Internet / directly*	Key partners *Utilities / service providers for administration*	

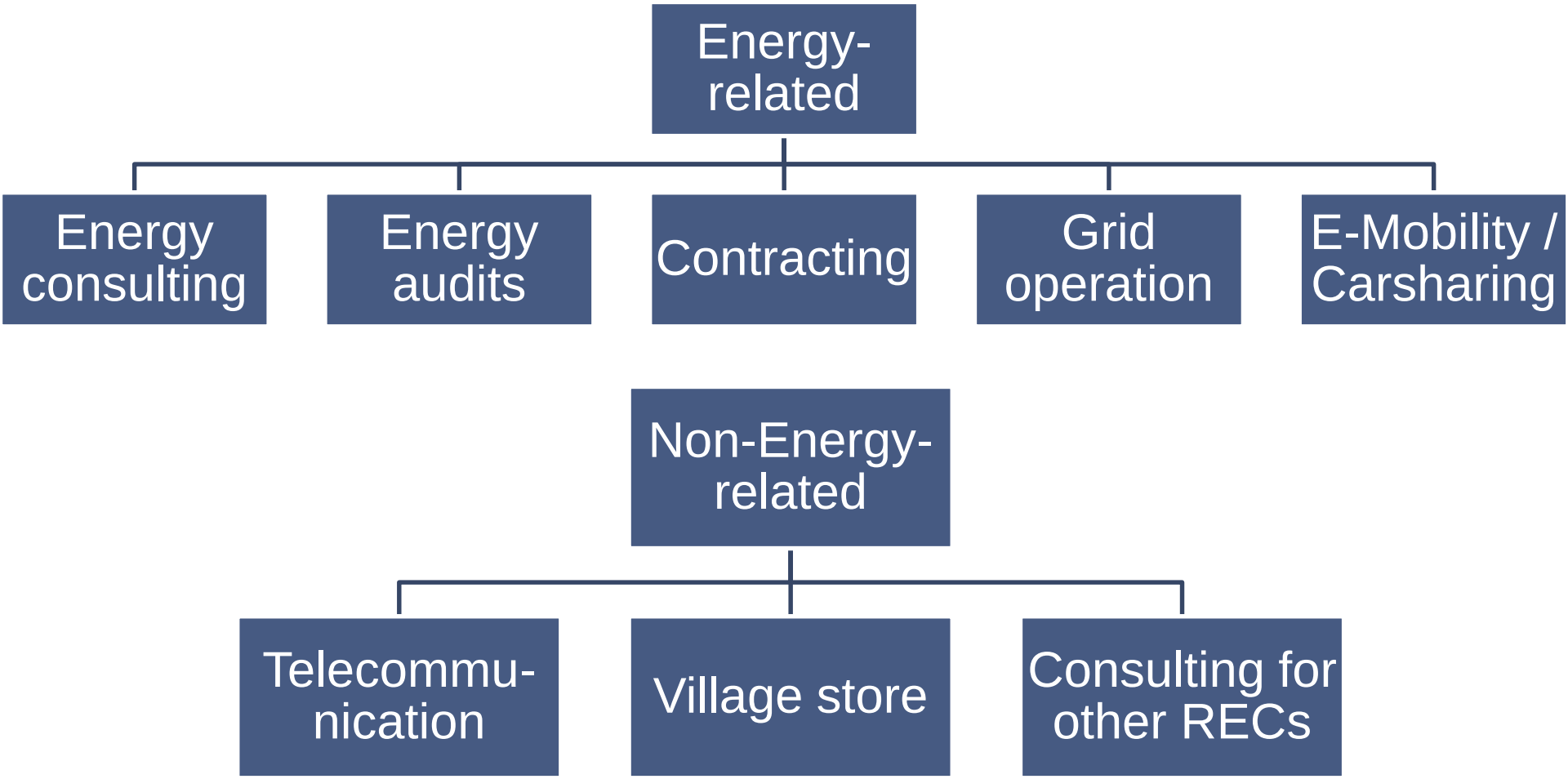
Regional electricity brands by RECs

Source: http://www.bermeg.de/portal/01.05.html

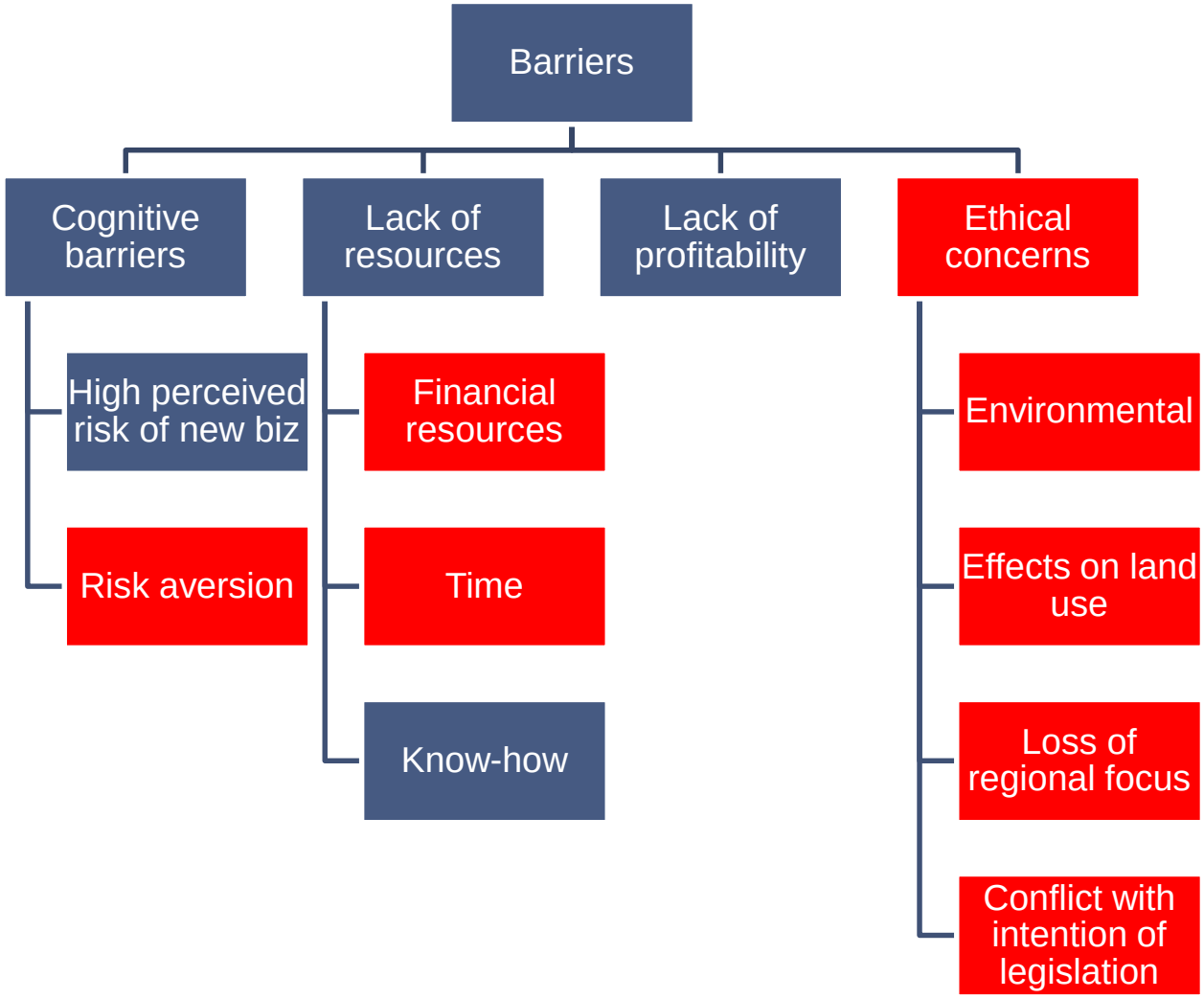
Business model „wind project minority investment“

Main elements	Value proposition	Customer interface	Infrastructure	Revenue model / financial model
Sub-elements	*Investment in renewables with limited risk*	Target customers / customer segments *None*	Key activities *Taking a minority stake in large wind projects* *Raising capital from members*	Revenue streams *Dividends from the investment*
		Customer relationships *None*	Key resources *Local network for raising capital* *Financial know-how*	Cost structure
		Channels *None*	Key partners *Project developers, utilities*	

Other potential activities for RECs



Barriers



New barrier

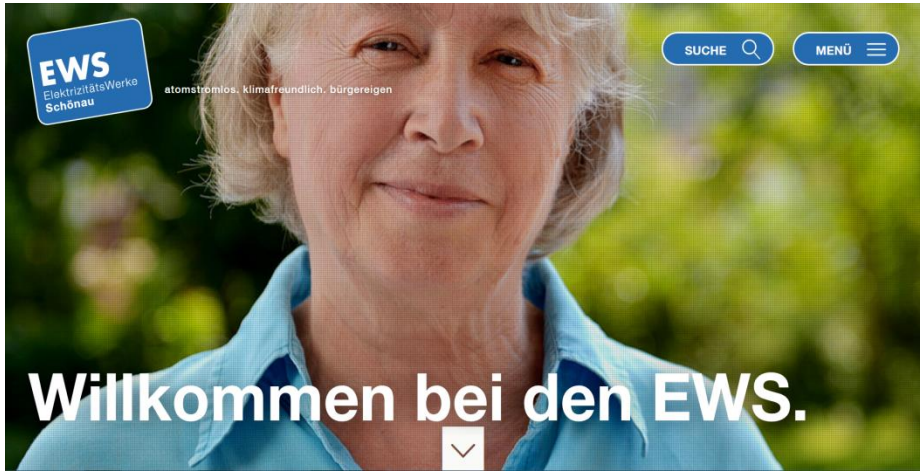
Strategies for overcoming the identified barriers

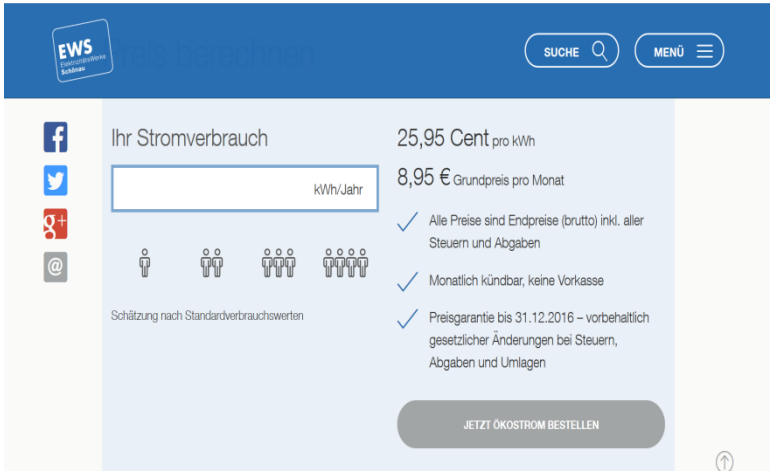
- Cooperation strategies / partners
  - (Municipal) utilities
  - Other RECs
  - Project developers
  - Housing cooperatives
- Professionalization, employing salaried management
- Careful handling of ethical concerns

Outlook: RECs potential future role

- Probably many mergers and closures of RECs in the next years
- RECs can be attractive partners for utilities in building local green energy brands (customers value local origin and RECs as producers)
- District heating and maybe storage are also potential growth options

EWS: a successful REC from the South West





Source: https://www.ews-schoenau.de

Other ISR research projects

- Marketing of green electricity
  - Content analysis of green energy providers‘ websites
  - ~480 providers under review, >600 products analysed
- Willingness to pay for green electricity
  - Neuroscience-based
  - Differentiation between different types of RE
- Green energy cooperatives (ongoing)
  - Marketing / business models
  - Conflicts
- Employees’ initiatives for green energy in the workplace

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