

# ***RENEWABLE ENERGY COOPERATIVES: GAPS IN QUALIFICATIONS FOR NEW BUSINESS MODELS***

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## **Overview**

Renewable energy cooperatives (RECs) have developed as important drivers of the transition towards a sustainable energy system: The democratic organization and governance of regional RE projects through RECs foster their acceptance and drive their development (Ohlhorst 2018; Klagge et al. 2016; Yildiz et al. 2015). This holds true for various European countries (Viardot et al. 2013).

After a phase of fast growth (Kahla et al. 2017; Yildiz et al. 2015), however, RECs in Germany and in other European countries (Harnmeijer 2016) are facing problems due to disruptive changes in legislation, technological and market developments. They have to find new business models while there are time restrictions - REC managers mostly work on a voluntary basis - and concerns about their qualifications (Herbes et al. 2017). Therefore, our study for the first time looks at the qualifications of the management board members of RECs in Germany and tries to contribute to answering the following research questions (RQ):

- (1) Do RECs plan for new business models? Which models do they favor?
- (2) How well do REC managers think they are qualified for new business models?
- (3) What are the qualifications of management board members with regard to implementing new business models?
- (4) Is there a difference in self-perception between those planning for new business models and those who are not?

## **Methods**

Drawing on the literature on human capital (Becker 1993), top-management (Latukha and Panibratov 2015; Oechsler et al. 2008) and current challenges for RECs (Herbes et al. 2017; Klagge et al. 2016), supplemented by expert interviews, we identified eleven requirement areas especially relevant for new business models, namely:

- Energy technology related know-how;
- Business know-how (i.e. cost-benefit analysis, financing options);
- Legal know-how (i.e. with regard to contracting);
- Project development and management;
- Marketing and public relations;
- Sales;
- Employee management, human resources and leadership;
- Strategy and business planning (i.e. with regard to business concepts or risk management);
- Know-how on cooperative businesses (i.e. requirements, decision-making);
- Tax know-how;
- Renewable energies.

Contacting more than 700 RECs via three regional cooperative associations for an online survey yielded answers from 187 management board members ('Vorstand') from 125 different RECs. Based upon their educational and professional experience, we calculated the human capital of single management members and aggregated them on the board level. We used descriptive statistics and Mann-Whitney-U-Tests for the analysis of human capital structures and differences in the perception of board qualifications.

## Results

Almost half of the surveyed managers stated that their REC is planning a change or expansion of their business model(s). The most favoured approaches include direct sales of electricity to consumers and mobility-related services (RQ1). More than  $\frac{3}{4}$  of the respondents think that the overall qualification of the REC management team meets the requirements of new business models well or very well (RQ2). However, regarding human capital we found two areas in which the respondents show clear shortcomings: sales and marketing & public relations (RQ3). This is especially problematic as tasks relating to these competencies are usually not outsourced and are highly relevant for the envisaged business models. Interestingly, managers from RECs that are planning new business models rate the board's overall qualification significantly higher than managers from RECs that are not. Looking deeper into this, we could not find any significant differences in the evaluation of the management board's marketing and sales capabilities between those planning for new business models and those who are not (RQ4).

## Conclusions

Our results show that - despite of changing and challenging conditions for RECs - still a large share wants to develop their business further: Almost half of the surveyed RECs are currently planning to change or expand their business model. At the same time, our findings reveal a quite optimistic evaluation of the own competencies for new business models - despite of the identified shortcomings and even more optimistic for those already planning for new business models.

Overall we can therefore conclude a divergence between changing requirements, necessary competencies and self-assessment: new business models, which are already planned for, require new skill sets, which are currently covered insufficiently. This divergence might endanger the forthcoming of the cooperative movement in the renewable sector. Our results are a good starting point in order to recognize existing gaps, to remedy them in the future (e.g. by developing training programmes) and to ensure a prolonged engagement of these important civil actors in the energy transition.

## References

- Becker, Gary (1993): Human capital – a theoretical and empirical analysis with special reference to education. 3rd edition. Chicago: The University of Chicago Press.
- Harnmeijer, Jelte (2016): Community Energy in the UK, 2016: The Beginning of the End? In *WWEA Quarterly Bulletin* 2016 (1 - Community Wind Special), pp. 36–39. Available online at [http://www.wwindea.org/download/wwea\\_quarterly\\_bulletin/Bulletin\\_WWEA2016%EF%BC%8D01small.pdf](http://www.wwindea.org/download/wwea_quarterly_bulletin/Bulletin_WWEA2016%EF%BC%8D01small.pdf), checked on 2/26/2018.
- Herbes, Carsten; Brummer, Vasco; Rognli, Judith; Blazejewski, Susanne; Gericke, Naomi (2017): Responding to policy change: New business models for renewable energy cooperatives – Barriers perceived by cooperatives' members. In *Energy Policy* 109, pp. 82–95.
- Kahla, Franziska; Holstenkamp, Lars; Müller, Jakob R.; Degenhart, Heinrich (2017): Development and State of Community Energy Companies and Energy Cooperatives in Germany. Lüneburg (Working Paper Series in Business and Law, 27), checked on 1/22/2020.
- Klagge, Britta; Schmöle, Hanna; Seidl, Irmi; Schön, Susanne (2016): Future of German energy co-operatives. In *Raumforschung und Raumordnung* 74 (3), pp. 243–258. DOI: 10.1007/s13147-016-0398-3.
- Latukha, Marina O.; Panibratov, Andrei Yu. (2015): Top management teams' competencies for international operations: do they influence a firm's result? In *Journal of General Management* 40 (4), pp. 45–68.
- Oechsler, Walter A.; Schmidt, Christian; Paul, Christopher (2008): Charakteristika von Vorstandsmitgliedern – Humankapitalsignale bei der Besetzung von Positionen im Top-Management. In *Zeitschrift für Management* 3 (3), pp. 199–224. DOI: 10.1007/s12354-008-0030-8.
- Ohlhorst, Dörte (2018): Akteursvielfalt und Bürgerbeteiligung im Kontext der Energiewende in Deutschland: das EEG und seine Reform. In Lars Holstenkamp, Jörg Radtke (Eds.): *Handbuch Energiewende und Partizipation*. Wiesbaden: Springer Fachmedien Wiesbaden, pp. 101–124.
- Viardot, Eric; Wierenga, Todd; Friedrich, Bernhard (2013): The role of cooperatives in overcoming the barriers to adoption of renewable energy. In *Energy Policy* 63, pp. 756–764. DOI: 10.1016/j.enpol.2013.08.034.
- Yildiz, Özgür; Rommel, Jens; Debor, Sarah; Holstenkamp, Lars; Mey, Franziska; Müller, Jakob R. et al. (2015): Renewable energy cooperatives as gatekeepers or facilitators? Recent developments in Germany and a multidisciplinary research agenda. In *Energy Research & Social Science* 6, pp. 59–73. DOI: 10.1016/j.erss.2014.12.001.