Human and Social Capital of Board Members of Renewable Energy Cooperatives in Germany

Results of an online survey (version of April 23 2018)

Institute for International Research on Sustainable Management and Renewable Energy (ISR)

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Management Summary

- Male, university degree, in their mid fifties
- Education and professional experience above German average, gaps in sales and marketing
- New business models targeting energy frequently
- Confident with regard to qualifications for new business models
- Good networks, but not for sales and marketing
Background

- Boom of renewable energy cooperatives (RECs) in Germany mainly founded on the business model of generating electricity in PV installations and feeding it into the public grid based on the Renewable Energy Act (REA)

- This business model has become largely obsolete due to changes in the REA; RECs looking for new business models

- REC management members perceive lack in qualification and time as well as increased risk as barriers for realizing new business models (results of a previous NGU project)
Research questions

• Who are the management board members and supervisory board members of RECs in Germany (demographic characteristics)

• How are management board members paid (main job, part-time job, voluntary work)?

• What are the qualifications of management board members and supervisory board members with regard to implementing new business models?

• Which networks do they have? Can networks compensate for qualification gaps?

• How do they rate the qualifications of the management board and the supervisory board in total?

• Which support structures do exist (advisory committees, project groups)?
Survey Results: Human and Social Capital among Board Members of German RECs

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Response rates

- The true population, i.e. the total number of RECs in Germany as well as the number of mgt. board members and supervisory board members at the time of the survey are unknown

- The following figures are estimations:
  - **Germany:**
    - Number of energy coops (not only RECs) stood 2016 at 1.024 (Kahla et al. 2017); RECs in our sample: 125, i.e. at least 12% of all RECs
    - The average number of management board members in our sample is 2.77, for all 1.024 energy coops in Germany we estimate the total number of mgt. board members at 2.836; mgt. board members in our sample: 187, i.e. at least 6.6% of all mgt. board members in Germany

- **Federations involved in our study** (bwgv, GVB, Verband der Regionen)
  - RECs in the federations involved: 761; RECs in our sample: 125, i.e. 16% of RECs in the federations involved
  - The average number of management board members in our sample is 2.77, for all 761 energy coops in Germany we estimate the total number of mgt. board members at 2.108; mgt. board members in our sample: 187, i.e. at least 8.9% of all mgt. board members in the RECS from the federations involved
Calculation of human capital score (HCS) (1/2)

11 Cumulative HC scores for individual B

+ 11 Cumulative HC scores for individual A

+ 11 HC scores from voc. training

Duration training 1 (e.g. vocational training)

Coverage of 11 qualification requirements in vocational training

+ 11 HC scores from BSc course

Duration training 2 (e.g. BSc. course in business)

Coverage of 11 qualification requirements in BSc course

+ 11 HC scores from occup. activity

Duration of occupational activity 1 (additional activities included where applicable)

Coverage of 11 qualification requirements in occ. Activity 1

+ 11 HC scores from REC management

Duration REC management activity (fulltime equivalent)

Activity areas in REC management

11 HC scores for the management board (in this case two board members)
Calculation of human capital score (HCS)(2/2)

- Qualification requirements / qualification areas:
  1. Technical know-how
  2. Business know-how (e.g. cost-benefit analysis, financing options)
  3. Legal know-how (e.g. with regard to contracting)
  4. Project development and management
  5. Sales
  6. Marketing and public relations
  7. Employee management, human resources, leadership
  8. Strategy and business planning (e.g. with regard to business concepts or risk management)
  9. Cooperatives as a legal form (e.g. requirements, decision-making rules)
  10. Tax know-how
  11. Renewable energies

- For each training step / educational stage as well as for each occupational activity / job we asked for the coverage of each qualification requirement (Likert scale from „no coverage“ to „very strong coverage“), we also matched the activities in the REC with the requirements
Planned new business models

44% of all RECs who answered this question (n=121) are currently planning to change or expand their business models (according to their management board members)

Number of mentions, multiple answers were possible

- Supplying electricity to tenants of a specific building
- e-mobility, car-sharing
- Charging station
- Electricity sales
- Contracting
- Production and sales of local heat
- Investment into wind power projects
- Energy-related consulting services

n = 72 RECs
Analysis of management board members‘ answers
Sociodemographic features of individual mgt. board members

Gender
- Female: 6.0%
- Male: 94.0%

Age
- Median = 56 years

Employment situation
- Primary employment (fulltime)
- Primary employment (part-time, w/o mini jobs)
- Marginally employed, 400-Euro job, mini job
- Not employed

Job experience
- Median = 26 years

Children
- No own children: 19.4%
- Own children: 80.6%

Individual net income
- Number of mentions

Survey Results: Human and Social Capital among Board Members of German RECs
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Individual educational attainment of management board members

60% of management board members have a university degree

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Activities in the REC

**Membership**

- Median = 6 years
- n = 185

**Management board position**

- Median = 6 years
- n = 185

**Employment status in the REC**

- Primary employment: 60.3%
- Secondary employment: 14.7%
- Volunteer with expense allowance: 18.5%
- Volunteer without expense allowance: 6.5%
- n = 184

**Weekly time spent for REC mgt.**

- Median = 8 hrs per week
- n = 169

**Remuneration (income share)**

- 0%: 46.6%
- 1 - 20%: 40.8%
- 21 - 40%: 4.9%
- 41 - 60%: 3.9%
- 61 - 80%: 1.9%
- 81 - 100%: 1.9%
- n = 103
Activity areas in the REC

Activities (as is)

Number of mentions, multiple choice possible
n = 187

Activities (preferred)

Number of mentions, multiple choice possible
n = 173
Management board: Number of members

Average: 2.77 management board members per REC
Human capital score: overview of requirement areas

Average individual HCS (all management board members in the survey)

<table>
<thead>
<tr>
<th>Category</th>
<th>Survey Results</th>
<th>Valid answers (n)</th>
<th>Standard deviations (s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical know-how</td>
<td></td>
<td>182; s = 14,27</td>
<td></td>
</tr>
<tr>
<td>Renewable energies</td>
<td></td>
<td>183; s = 12,99</td>
<td></td>
</tr>
<tr>
<td>Tax know-how</td>
<td></td>
<td>181; s = 11,18</td>
<td></td>
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<tr>
<td>Know-how on cooperative businesses</td>
<td></td>
<td>181; s = 13,17</td>
<td></td>
</tr>
<tr>
<td>Strategy and business planning</td>
<td></td>
<td>183; s = 13,43</td>
<td></td>
</tr>
<tr>
<td>Employee management, HR, leadership</td>
<td></td>
<td>182; s = 12,92</td>
<td></td>
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<tr>
<td>Marketing and public relations</td>
<td></td>
<td>181; s = 10,96</td>
<td></td>
</tr>
<tr>
<td>Business know-how</td>
<td></td>
<td>183; s = 14,17</td>
<td></td>
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<tr>
<td>Legal know-how</td>
<td></td>
<td>183; s = 12,47</td>
<td></td>
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<tr>
<td>Project development and mgt.</td>
<td></td>
<td>181; s = 12,17</td>
<td></td>
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<tr>
<td>Sales</td>
<td></td>
<td>181; s = 10,97</td>
<td></td>
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</tbody>
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Valid answers (n) and standard deviations (s) in parentheses
Evaluation of qualifications by the management board members (1)

Evaluation of the aptitude of the mgt. board (cumulative) with regard to new business models
The board is .... up to the implementation of new business models

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>not</td>
<td>1.2%</td>
</tr>
<tr>
<td>hardly</td>
<td>21.4%</td>
</tr>
<tr>
<td>well</td>
<td>63.7%</td>
</tr>
<tr>
<td>fully</td>
<td>13.7%</td>
</tr>
</tbody>
</table>

n = 168
Evaluation of qualifications by the board members (2)

Evaluation of the aptitude of the mgt. board (cumulative) in the 11 qualification areas

- Renewable energies (n = 169)
- Tax know-how (n = 168)
- Cooperative businesses (n = 167)
- Strategy and business planning (n = 168)
- Employee management / HR / human resources (n = 156)
- Marketing and public relations (n = 167)
- Sales (n = 167)
- Project development and management (n = 166)
- Legal know-how (n = 169)
- Business know-how (n = 170)
- Technical know-how (n = 169)

Percentage of answers per qualification area

Valid answers (n) in parentheses
Networks: memberships of management board members

Membership in political parties

- No membership: 30.3%
- Membership: 69.7%

Memberships in clubs / associations

- No membership: 19.6%
- One membership: 14.0%
- Two memberships: 16.2%
- Three memberships: 22.9%
- Four memberships: 15.6%
- Five or more memberships: 11.7%

n = 175
n = 179
Networks: overview of requirement areas

Average number of contacts per person (all management board members in the survey)

Valid answers (n) and standard deviations (s) in parentheses
Support structures

**Supervisory board (size)**

- 3 board members: 9.4%
- 4 board members: 13.7%
- 5 board members: 13.7%
- 6 board members: 12.0%
- 7 board members: 28.2%
- 8 and more board members: 23.1%

Average: 5.26 supervisory board members per REC

**Advisory Committee**

- With adv. Committee: 10.5%
- Without: 89.5%

n = 124 RECs

**Project groups**

- With project groups: 33.6%
- Without: 66.4%

n = 125 RECs

**Purpose**

- Consulting / advice
- Support
- Networking outside the REC
- Project development and realization
- Preparation for taking over the office of a mgt. board member

- Support with regard to specific technologies
- Marketing / public relations / sales
- Support in administrative tasks
Analysis of supervisory board members‘ answers
Sociodemographic features of individual supervisory board members

**Gender**
- Female: 10.1%
- Male: 89.9%

**Age**
- Median = 57 years

**Employment situation**
- Primary employment (fulltime): 24.7%
- Primary employment (part-time, w/o mini jobs): 6.5%
- Marginally employed, 400-Euro job, mini job: 6.5%
- Not employed: 66.7%

**Job experience**
- Median = 29 years

**Children**
- No own children: 15.3%
- Own children: 84.7%

**Individual net income**
- Number of mentions

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Individual educational attainment of supervisory board members

70% of supervisory board members have a university degree
Activities in the REC

**Membership**
- Median = 6 years
- n = 96

**Management position**
- Median = 5 years
- n = 97

**Weekly time spent for REC mgt.**
- Median = 3 hrs per week
- n = 77

**Employment status in the REC**
- Secondary employment: 2.0%
- Volunteer with expense allowance: 2.0%
- Volunteer without expense allowance: 96.0%
- n = 100
Activity areas in the REC

Activities (as is)

- Technology (energy)
- Business administration, finance
- Project development and management
- Marketing and public relations
- Employee management, HR
- Other

Number of mentions, multiple choice possible
n = 100

Activities (preferred)

- Technology (energy)
- Business administration, finance
- Project development and management
- Marketing and public relations
- Employee management, HR
- Member services
- Other

Number of mentions, multiple choice possible
n = 91
Human capital score: overview of requirement areas

Average individual HCS (all supervisory board members in the survey)

Valid answers (n) and standard deviations (s) in parentheses
Evaluation of qualifications by the supervisory board members (1)

Evaluation of the aptitude of the mgt. board (cumulative) with regard to new business models

The board is .... up to the implementation of new business models

<table>
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<td>hardly</td>
<td>17,1%</td>
</tr>
<tr>
<td>well</td>
<td>68,3%</td>
</tr>
<tr>
<td>very well</td>
<td>13,4%</td>
</tr>
</tbody>
</table>

n = 82 supervisory board members
Evaluation of qualifications by the supervisory board members (2)

Evaluation of the aptitude of the supervisory board (cumulative) in the 11 qualification areas

- Renewable energies (n = 82)
- Tax know-how (n = 80)
- Cooperative businesses (n = 80)
- Strategy and business planning (n = 80)
- Employee management / HR / leadership (n = 74)
- Marketing and public relations (n = 79)
- Sales (n = 80)
- Project development and management (n = 80)
- Legal know-how (n = 80)
- Business know-how (n = 83)
- Technical know-how (n = 81)

Percentage of answers per qualification area
Valid answers (n) in parantheses
Networks: memberships of supervisory board members

**Party membership**
- No membership: 28.7%
- Membership: 71.3%

**Memberships in clubs / associations**
- No membership: 5.4%
- One membership: 23.9%
- Two memberships: 14.1%
- Three memberships: 22.8%
- Four memberships: 21.7%
- Five and more memberships: 12.0%

n = 94

n = 92
Networks: overview of requirement areas

Average number of contacts per person (all supervisory board members in the survey)

Valid answers and standard deviation in parantheses
Conclusion (1/2)

- Almost half of all RECs under survey is planning to implement new business models, primarily sales of energy and services.
- Management board members and supervisory board members are older and better educated than the German population and have a higher income.
- The human capital profile of both management board members and supervisory board members has gaps, especially in marketing and sales. These are also the areas in which most respondents would not like to work in the REC.
Conclusion (2/2)

• Generally, the respondents rated the boards‘ qualifications high, but see the gaps in marketing and sales. Overall, respondents see management boards and supervisory boards as being up to the task regarding new business models

• Gaps in management board members‘ qualifications are neither compensated by supervisory boards nor by their networks

• Most management board members (60%) fulfill their positions as volunteers and invest one full day per week for this. Supervisory board members invest three hours per week

• Only a minority of management boards and supervisory boards are supported by advisory committees and work groups / project groups
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