Influence of wind energy plants on tourism in Germany

Prof. Dr. Heinz-Dieter Quack

Berlin, March 27, 2019
Agenda

1. Thematic classification
2. Current discourse
3. Results of the online survey
4. Discussion
5. Future prospects
Wind turbines - impact on scenery aesthetics and nature experience

• Nature-loving forms of tourism require sensitivity

• General interest in nature-loving forms of tourism, ranking of the holidays types and activities surveyed:
  - Experience spectacular landscape (1., 72%, 41.5M*)
  - Staying in the nature (2., 71%, 40.7M*)
  - Hiking (16., 43%, 24.6M*)
  - Riding the bicycle (18., 40%, 23.0M*)

• Nature and landscape as space for deceleration and exploitation of physical and mental health

• e.g. focus on hiking as a health enhancing activity

• Particularly attractive landscapes, viewpoints, townscape, certified qualitative hiking trails and sensitive areas under species-protection regulation and even areas beyond protected landscape are fundamentally affected

Source: Institut für Management und Tourismus (IMT), 2013

* Extrapolation of the absolute volume of potential interested parties (number of persons)
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Overview of relevant present studies as of 2008

- Braunová, V. (2013): Impact Study of Wind Power on Tourism on Gotland. Uppsala University Campus Gotland (MSc. in Wind Power Project Management)
- Glasgow Caledonian University (2008): The Economic Impacts of Wind Farms on Scottish Tourism. A report for the Scottish Government
- IG Windkraft (2014): Windkraft und Tourismus
- IfR Institut für Regionalmanagement (2012): Besucherbefragung zur Akzeptanz von Windkraftanlagen in der Eifel
- Massachusetts Department of Environmental Protection/ Massachusetts Department of Public Health (2012): Wind Turbine Health Impact Study
- NIT (2014) (Hrsg.): Einflussanalyse Erneuerbare Energien und Tourismus in Schleswig-Holstein
- Regeneris Consultig (2014): Study into the Potential Economic Impact of Wind Farms and Associated Grid Infrastructure on the Welsh Tourism Sector
- The Mountaineering Council of Scotland (2014): Wind farms and changing mountaineering behaviour in Scotland
## Comparable empirical studies on the acceptance of wind energy plants in tourism

<table>
<thead>
<tr>
<th>Study</th>
<th>Year</th>
<th>Reference</th>
<th>Sample</th>
<th>Acceptance*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institut CSA – Consumer Science &amp; Analytics</td>
<td>08-09 2003</td>
<td>Languedoc-Roussillon</td>
<td>1,033</td>
<td>90-92%</td>
</tr>
<tr>
<td>Glasgow Caledonian University</td>
<td>2008</td>
<td>Scotland</td>
<td>700</td>
<td>93-99%</td>
</tr>
<tr>
<td>Frantál / Kunc</td>
<td>2009</td>
<td>Czech Republic</td>
<td>156</td>
<td>75%</td>
</tr>
<tr>
<td>SOKO</td>
<td>2009</td>
<td>Germany</td>
<td>2,000</td>
<td>71%</td>
</tr>
<tr>
<td>BMU</td>
<td>2011</td>
<td>Germany</td>
<td>2,031</td>
<td>79%</td>
</tr>
<tr>
<td>IfR</td>
<td>2012</td>
<td>Eifel, Germany</td>
<td>1,326</td>
<td>87%</td>
</tr>
<tr>
<td>CenTouris</td>
<td>2012</td>
<td>German low mountain ranges</td>
<td>977</td>
<td>72%</td>
</tr>
<tr>
<td>Landry et al.</td>
<td>2012</td>
<td>North Carolina Coast, USA</td>
<td>361</td>
<td>92%</td>
</tr>
<tr>
<td>Braunová</td>
<td>2013</td>
<td>Gotland, Sweden</td>
<td>611</td>
<td>92%</td>
</tr>
<tr>
<td>NIT</td>
<td>2014</td>
<td>Germany</td>
<td>6,070</td>
<td>91-98%</td>
</tr>
<tr>
<td>Institut für Geographie Gießen</td>
<td>2014</td>
<td>Vogelsbergkreis, Hesse, Germany</td>
<td>1,040</td>
<td>62%</td>
</tr>
<tr>
<td>Ostfalia University</td>
<td>2013-2015</td>
<td>German hiking destinations</td>
<td>643</td>
<td>55%</td>
</tr>
<tr>
<td>Aschenbrand / Grebe</td>
<td>2014-2015</td>
<td>Northern Hesse</td>
<td>257</td>
<td>72%</td>
</tr>
</tbody>
</table>

* Acceptance = ‘I am not feeling bothered’
The younger the participants, the higher the level of acceptance

How do you feel about wind turbines in the Eifel?

Subject to the age of the interviewees

- not disturbing
- disturbing but acceptable
- disturbing
- very disturbing
- not specified
The acceptance in holidays destinations is lower than the acceptance in general.
The feeling of disturbance depends on the perception of the respective holiday region and the type of landscape

Perceived as disturbing in the holiday destination

Factors affecting the sensitivity of the landscape:

- Protection value / identity
- Aesthetic quality
- Land use / character

Source: NIT 2014 based on the national survey Reiseanalyse
Summary of the results

• The sensitivity of interference with wind turbines increases with increasing age, decreasing distance and growing number of turbines.

• Various studies show that the presence of wind turbines has little influence on the travel decision. According to these studies, tourists rarely decide against a holiday destination because of wind turbines being installed.

• The attitude towards a destination does not change even after the construction of further wind turbines.

• Wind turbines in holiday regions are less accepted than wind turbines in general, wind turbines are least accepted by the local population.

• So far, there is one study which proves that the installation of plants has a negative effect on tourism, in the sense of declining numbers of visitors. However, the statistically significant effects are manageable in terms of strength and impact.

• Direct effects of wind turbines on health have not yet been proven.
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Wind turbines and its effects on the scenery

• According to 73% of the participants surveyed, wind turbines dominate the landscape, which makes it no. 2 after the cyclists / mountain biker (76%).

• Only half of them is feeling disturbed by wind turbines (45%). They are feeling a lot more disturbed by rubbish in the landscape (87%), nuclear of coal-fired power plants (79%), noise due to airplanes (75%) or regular traffic (74%).

• If there is a disturbance by wind turbines, it is above all the dominance in the landscape (98%) and the interference with the view (77%), followed by the noise (53%) and shadowing (42%).
The embedding in the landscape is decisive

- 36% are feeling very disturbed and 13% rather disturbed if wind power plants are clustered by the wayside. 27% are feeling very disturbed and 18% rather disturbed if wind power plants are clustered in the distance or on the horizon. Having solitary wind power plants in the distance or by the wayside, less participants felt disturbed (60%).

- Along motorways, railway lines or high-voltage lines wind power plants are mostly accepted (90%). According to 53% wind turbines are disfiguring the landscape, but 56% do not mind hiking having wind turbines in sight. According to 48% wind turbines can be understood as a landmark visible from afar which helps to find their way on the hiking trail.

- 43% even think that due to wind power plants the landscape is more interesting and 40% experience the landscape as more diversified. According to 43% wind turbines blend harmoniously into the landscape.
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It’s the scientist who matters!

• Each study has its own research design, therefore the results are only comparable to a limited extent
• A generalization on the impact of wind energy on tourism is not possible
• The topic enjoys a high social and political relevance and is emotionally charged.Commissioned studies should therefore be critically scrutinized
• Landscape assessment is always a matter of subjectivity. Therefore, it is necessary to consider the context variables of the respective study
It depends on the region!

- The effects of wind energy plants on tourism depend on the respective reference, the spatial conditions and the embedding in the landscape.

- An evaluation of the specific embedding in the respective landscape is necessary in order to preserve the aesthetic quality and uniqueness of the landscape.

- Tourism regions should conduct own surveys or market research analyses or commission a study.
It´s the perspective that matters!

• The intensity of the nature experience and sensitivity towards interferences in the landscape varies among tourism target groups, e.g. hikers vs. wellness vacationer

• In any case, a precise path optimization and visitor guidance is required, taking free visual axis and relevant viewing locations into account

• „The findings of all tourism research should be seen within the context of tourism as a growth industry and thus any limited negative impact is likely to be an impact on growth rather than on current levels of tourism” (Aitchison 2012)
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Wind turbines as attractions?

In the region of Lake Neusiedl (Austria-Hungary) a cycle path of more than 50 km can be found. The „Windradweg“ B29 leads from Lake Neusiedl through several wind farms. The experience with the integration of those wind farms into the tourism concept have been extremely positive.

Travel guide „Discover Renewable Energies“

The Baedeker travel guide offers 160 travel destinations to discover renewable energy spots in Germany.
Conclusion and recommendations

• The assumption that wind power plants have a priori negative effects on tourism is not sustainable from the point of view of tourism research

• The construction of new wind power plants requires a high degree of sensitivity in terms of economic, nature conservation regulation, landscape aesthetic and touristic concerns, e.g. zoning concept “Altmühltal”, visibility analysis UNESCO World Heritage Upper Middle Rhine Valley

• In addition, information and communication by addressing present and future target groups is of crucial importance for the acceptance of renewable energies.
Thank you very much!

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