Executive Summary

D5.3 Public acceptance of alternative hydropower solutions

In many parts of Europe, the public becomes more engaged in questions about the future energy supply of nations and regions. This also applies to the development and operation of hydropower. Public perceptions may influence the realization of projects, including the refurbishment of existing small and large hydropower plants.

In this report, we present results from four European case studies on the public acceptance of hydropower. Q-methodology was used as a means to identify public perceptions and preferences on the modernization, expansion or conversion of hydropower facilities in Europe. The Q-methodology, which is rooted in both qualitative and quantitative research, is a way to systematically study subjectivity or opinions. It is used for studying discourse between different stakeholders in the public sphere and is viewed as a helpful tool in policymaking.

We conducted interviews with citizens in the case study towns Vila Real (Portugal), Toulouse (France), Landshut (Germany) and Örnsköldsvik (Sweden). These towns represent regions with very different geographical characteristics that pose particular challenges for operators seeking to modernise and develop hydropower.

In order to detect relations between opinions on hydropower and the variables age, gender, level of education, country, hydropower knowledge and purchase of green electricity, we applied canonical correspondence analysis (CCA). The analysis revealed that the country where the interview took place was the most important variable to explain differences in respondent's agreement to the 25 statements used for the interview. Age also influenced the views on hydropower, whereas the remaining explanatory variables were less important in the analysis.

Our results show that a number of similar opinion patterns exist in each case study region. This allowed us to group the respondents into different types of perspectives (or "world views"). Each perspective represents a different opinion, characterised by similar values and perceptions. Specifically, our results reveal that similar perspectives, focusing on the same key issues, exist across the case study towns. These are: (1) hydropower is a climate-friendly energy source and a crucial component for an energy transition; (2) hydropower (potentially) harms river ecosystems; (3) local hydropower plants should bring benefits to the region, and/or should be operated by companies based in the country.

Overall, our study results indicate that hydropower production is not a highly contested topic for the local residents of the four case study regions. However, within the perspectives that we identified, conflicting views exist on a number of issues, namely ecological effects, ownership questions and changes in electricity prices. These points of conflict may drive public debates on hydropower and influence public acceptance. Therefore we believe that it is useful for hydropower operators and planners as well as for politicians to be aware of these issues and consider them in their decisions.

As the negative environmental impacts of hydropower are a central issue in public opinion, designing and implementing environmental mitigation measures presents an opportunity to address public concerns. To this end, operators and political decision-makers will have to develop strategies that demonstrate how specific mitigation measures may enhance the ecological status of the river ecosystem.

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