



Consumer Willingness To Pay (WTP) Research

for

National Grid

January 2012

Consumers' Willingness to Pay (WTP)

Introduction

National Grid has commissioned Accent, an independent market research agency, to conduct consumer willingness to pay (WTP) research as part of its consultation process under the RIIO framework.

This document has been prepared by Accent to set out the recommended approach for providing robust willingness to pay estimates for mitigating the visual impact of electricity transmission infrastructure.

Research Objectives

The objectives of the research are to establish how willing electricity household consumers are to pay for mitigating the visual impact of existing transmission infrastructure in designated landscapes (National Parks and AONBs), enabling an estimated WTP value to be derived from the analysis of the consumer research. This is required in order to inform the value of any allowance that Ofgem may provide for such investment under RIIO-T1.

While existing transmission lines form the primary focus of this research, the study will also take the opportunity to explore consumers' relative preferences between the visual amenity mitigation options of new versus existing lines.

Summary of Study Design

Accent's approach comprises a programme of ten extended deliberative focus groups and 1,000 quantitative and stated preference (SP) interviews across England, Wales and Scotland. Extended focus groups of 120 minutes duration are being undertaken, as it is felt that the issues under discussion are likely to require more deliberation than would be allowed in a standard group format. A phone-post/email-phone approach is being undertaken for the quantitative work because this allows for a higher degree of random sampling and, consequently, more robust data. This follows current WTP best practice.

Issues for Consideration

The main area for consideration is how to ensure participant understand the electricity transmission companies' activities. Accent has conducted many studies for clients in the electricity industry – including Ofgem – where a similar situation exists e.g. with the Distribution Network Operators (DNOs) in both the gas and electricity markets. It has been found to be very helpful to use clear, simple show material to demonstrate the relationship of producers, transmitters, distributors and suppliers, which participants can refer back to at any time to ensure they understand the chain.

Qualitative Approach

Focus groups will be conducted across England, Wales and Scotland because any allowance to address the visual impact of existing infrastructure will be funded, under the current charging methodology, by all GB consumers. The focus groups will provide findings in their own right, add depth and colour to the quantitative findings and, importantly, inform the framing and design of the quantitative and SP survey.

Group Format

Extended focus groups of 120 minutes duration are recommended as it is considered that the issues under discussion are likely to require more deliberation than would be allowed in a standard group format. Table 1 below shows the proposed group locations.

Table 1: Group Formats and Locations

Location	Area	Locations
Midlands	Urban	Coventry
South West	Urban/rural	Plymouth
South	Rural	Arundel
London	Urban	Central
East of England	Urban/rural	Ipswich
North East	Rural	Scarborough
North West	Urban	Manchester
Wales	Rural	Carmarthen
Scotland	Urban	Glasgow
Scotland	Rural	Perth

Group Profiles

Accent will recruit participants to ensure national representation by age, gender and socio-economic grouping (SEG), and will draw up the group profiles once the group format has been agreed. Each group will comprise a mix of gender, with the groups then defined by SEG and age.

Group Recruitment

The recruitment questionnaire will be drafted to include all questions necessary to meet the group structure. People will not be recruited if they have recently taken part in another focus group. Accent will recruit 12 participants for each group, allowing for some drop out and with the expectation that eight will attend.

Topic Guide

It is very important to set this research (both qualitative and quantitative phases) in the context of household affordability so that derived WTP is as realistic as possible. It is also considered important to establish participants' levels of engagement with the environment e.g. whether or not they have any outdoor pastimes or pursuits, membership of relevant associations etc. The main topic areas will include:

- Affordability (consider main household bills and changes in expenditure in past 12 months and expected changes in the forthcoming months and years; prioritise bills)
- Level of engagement with the environment and the extent to which they value visual amenity in different types of areas (local *cf* further afield)
- Explanation of the structure of the electricity industry with show material
- Satisfaction with service levels
- Views on impact of transmission infrastructure on the environment
- Discussion of alternatives e.g. undergrounding, planting trees, choosing other routes, new pylon design etc, and associated cost implications; establish preferences
 - specific landscapes: e.g. National Parks, AONBs, and rural areas generally
 - preferences between mitigation of impact of current versus new infrastructure
- Willingness to pay: explore reasons for willingness/unwillingness to pay and highest amount considered (for individual mitigation measures, transmission assets and service development).

Quantitative Approach

Accent recommends a phone-post/email-phone approach for the quantitative survey. The research will be conducted among electricity consumers aged 16 years or more who are responsible, solely or jointly, for paying their household's electricity bill. This approach was recommended in the recently published UKWIR manual on how to undertake WTP research in the water industry. It has also been used by Ofgem in previous price reviews.

Sampling

Accent will conduct 1,000 interviews among a sample of electricity consumers that is representative of the England, Wales and Scotland population in terms of region/location, age, gender and SEG.

Accent will purchase random sampled lists from an approved supplier for the survey work. Accent has sophisticated telephone unit software in place which ensures that sample is selected entirely randomly (or according to random quotas) from the sample database. This random approach is expected to produce a nationally representative sample. However, the data can be weighted if necessary.

Stated Preference

General marketing analysis is coming to see the use of choices between realistic alternatives as being the most reliable means of eliciting preferences because respondents are placed in types of 'choice' situations in which they are familiar. More than 10 years ago, a report prepared for the UK Treasury (Cave et al, 1993) recommended the use of stated preference techniques over direct willingness to pay methods for the valuation of changes in quality of public services generally. Earlier this year, Accent and NERA undertook a comprehensive programme of research for UKWIR designed to develop a common framework for carrying out WTP surveys in the water sector.

Accent will use stated preference (SP) discrete choice experiments (DCE) to obtain willingness-to-pay estimates for different types of mitigation of the visual impact of transmission infrastructure. SP DCE is a technique to establish the relative importance of different attributes in the provision of a good or service.

The categories of mitigation to be covered in the survey include screening, new pylon design, undergrounding, paying for something else to be dismantled in exchange, and re-routing. These measures are for existing power lines only.

Accent proposes two exercises of up to eight paired choices each. The first exercise will determine a relative value for each individual mitigating measure and the second will provide values for different degrees of mitigation, where total undergrounding is presented as the 'gold standard' (regardless of whether this is achievable in practice).

SP techniques involve the presentation of hypothetical choice situations where each alternative – in this case different options regarding transmission service and mitigating measures – are described by attribute levels. The attribute levels will be combined using principles of experimental design to define different packages of transmission infrastructure, mitigating measures, environments and a monetary cost, which respondents will then be asked to evaluate.

The outputs from SP analysis provide estimates of:

- the relative importance of each of the attributes
- the trade-offs or marginal rates of substitution that respondents are willing to make between the attributes, providing indirect measurements of willingness-to-pay.

Questionnaire

Accent's initial thoughts are that the likely structure of the questionnaire would be:

- attitudes towards the environment
- background questions about affordability, electricity consumption and experiences
- value of visual amenity in different types of areas
- stated preference exercises
- demographics.

The questionnaire is expected to last around 25-30 minutes.

Deliverables

Accent will provide National Grid with a full written report and presentation of the research findings. The research findings are to be open, transparent and produced in a format which can be provided to Ofgem and published for National Grid's wider stakeholder community. Given this, questionnaires, supporting material, the final report and final presentation, and all data tables will be published on the National Grid website.

Accent's Credentials

Accent has a wealth of relevant expertise including a wide-ranging portfolio of research for clients in the utility sectors, including regulators, distributors and suppliers, alongside extensive experience in willingness to pay research in the context of price control submissions.

Accent's key strengths include:

- extensive experience of research in the utilities sector and other regulated markets
- a known understanding of the price control review context and methodological requirements
- the prominence of Accent (and the proposed team) in this area of research, driven by the quality and success of their Stated Preference (SP) work in these areas:
 - qualitative work for National Grid Gas Distribution in 2011 as an input to their price review preparations; Ofgem's DPCR4 research programme; Ofgem's Quality of Telephone Call Handling Survey
 - worked with 13 water companies to provide their prioritisation and willingness to pay data for their last Period Review '09 (PR09); the company recently worked with UKWIR to produce a framework for best practice in applying SP for the water industry's next price review
 - worked with Defra on a stated preference survey to establish consumer valuations across a number of dimensions in the water environment (the Water Framework Directive)
 - undertook work for Postwatch to value aspects of the Universal Service Obligation (USO) and subsequent worked for the European Commission to undertake a similar programme of work in Italy, Sweden and Poland
 - Accent was invited to write a user manual for the Competition Commission on the application of SP and other elicitation approaches.

Accent has put together a very experienced core project team. All have worked on similar research, including studies for Ofgem looking at willingness to pay in the electricity distribution market and pricing review work for water companies. Accent has added to this core team a globally respected Stated Preference academic who specialises in environmental areas.