

**EUROPEAN COMMISSION
DG RESEARCH**

**SEVENTH FRAMEWORK PROGRAMME
THEME 5 - Energy
ENERGY.2010.5.2-1: CCS - storage site characterisation**

Collaborative Project– GA No. 256705



SiteChar
Characterisation of European CO₂ storage
Deliverable N° D8.1
Qualitative and quantitative social site characterisations

Deliverable No.	SiteChar D8.1	
Deliverable Title	Qualitative and quantitative social site characterisations	
Nature	Report	
Dissemination level	Public	
Lead Beneficiary	ECN	
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Due date	October 2011	delivered on 27th October 2011



Acknowledgement

This deliverable is part of the SiteChar project: <http://www.sitechar-co2.eu>, Work Package 8. This project is filed at ECN under project number 5.1046. The deliverable is registered under ECN report number ECN-O-11-071.

The lead authors of Sections 6.3, 6.4, and 6.5 are Simon Shackley, Rodrigo Ibarrola and Leslie Mabon with review and additions by Fiona Hepplewhite. Information on the geological site comes from the British Geological Survey. The authors would also like to express particular thanks to Nicolas Krzyzanowski, Statistical Service, Scottish Government, for providing the data from the Scottish Household Survey. We also thank Sohel Ahmed for supplying Figure 6.1.



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Summary

1.1 Background and research approach

At local level, public support has proven crucial to the implementation of CO₂ capture and storage (CCS) demonstration projects. Whereas no method exists to guarantee public acceptability of any project, a constructive stakeholder engagement process does increase the likelihood thereof.

Social site characterisation can be used as an instrument to explore, plan and evaluate a process of active and constructive local stakeholder engagement in a prospective CCS project as a parallel activity to technical site characterisation. It roughly consists of a formative research phase to get acquainted with the area followed by a series of public information and engagement activities.

This deliverable presents results from the first phase for the social site characterisations of a prospective CCS site in Poland (onshore) and the UK (offshore), using qualitative as well as quantitative research methods, as a first step to planning of local public engagement activities and evaluation of these activities that will be undertaken by this consortium at both sites in the near future.

Although the term 'social site characterisation' actually refers to the entire process of formative research and subsequent public outreach, and hence to the complete package of awareness work undertaken as part of SiteChar, in the present deliverable the term only refers to the formative research activities as undertaken up to now and as described in this deliverable.

The qualitative part of the social site characterisation consisted of (1) a description of relevant social site characteristics such as local history; (2) interviews with relevant local stakeholders; (3) a media analysis of local newspapers. The quantitative part of the social site characterisation consisted of surveys using representative samples to characterise the local population in terms of awareness, knowledge and perceptions of CCS, felt involvement in decision making, extent of local activism, level of trust in representatives and organisations, and most-used information sources.

1.2 Site comparison

Whereas there are some similarities between both sites, there are also some salient differences that will affect the public engagement process. Regarding similarities, both sites are largely rural with a few major towns and the general public is largely unaware of CCS in general and of local plans for CCS. At both sites, the local public generally has positive expectations about CCS. Unemployment is the major issue of concern at both sites whereas climate change is not among the main issues of concern.



Regarding differences, initial knowledge levels among stakeholders are higher at the UK site than at the Polish site. At the UK site, the positive expectations of CCS are strongly related to the expectation that CCS will bring jobs to the region. This expectation is not present among the local Polish public and stakeholders. Finally, the media debate is more extensive in the UK than in Poland. Whereas the purpose of the media analysis was to analyse the debate in local newspapers, in the Polish case the researchers had to resort to national newspapers because the local newspapers hardly write anything about CCS.

1.3 Polish case results

The Polish site consists of two districts that have successively been occupied by different neighbouring countries during the 20th century. Historical circumstances have led to the closing of businesses and difficult neighbourly relations between the two districts due to particular differences in mindset. The region is unattractive for investors and as a result, unemployment is high. In the telephone surveys most local citizens indicated that unemployment is their main local issue of concern, followed by lack of (public) transport and poor infrastructure. Environment is no priority issue and to date the region has no environmental NGOs, although there are several nature reserves which also offer opportunities for outdoor tourist activities. Tourism however is only a minor part of the local economy, which is mainly due to a lack of accommodations in the area. Initiatives are undertaken to intensify tourism.

The local issue of CCS was only mentioned by 0.5% of the people surveyed. Awareness of CCS in general as well as of local CCS is low, with respectively 73% and 85% indicating that they had never heard of it. At the same time, the local Polish do expect that CCS will be of high personal relevance for them. Regarding expectations of CCS, its main perceived advantage is that it will be better for the environment. This is, however, also the main perceived disadvantage, which may indicate that people actually do not know that well what to expect of CCS. This impression is strengthened by the second-most often expected advantage of CCS, that it will 'reduce toxic waste'. Second, third and fourth most often mentioned disadvantages all relate to risks of CO₂ leakage.

Among stakeholders, too, CCS technology and the plans for carbon storage are still largely unknown. Only one interview partner, an employee of a gas mine, had heard of plans for the implementation of CCS in the region. Most stakeholders responded neutrally to the idea that CCS could possibly be applied in the area in the future. As the greater part of the interviewees were not acquainted with the technology they were unable to articulate advantages or disadvantages and did not want to commit to either a positive or negative position toward CCS technology.

Stakeholder questions were related to the technical process of capture, transport, and storage of CO₂, the risks and environmental impacts of CCS, how the project would be funded and why this particular region was chosen. Concerns were related to the risk of CO₂ leakage, e.g. possible contamination of the ground water reservoir of one of the towns that is located on top of one of the prospective storage sites. Two stakeholders mentioned to expect local protests because the local public does not want to be "guinea pigs" for an unexplored technology – an argument heard



before in Barendrecht, the Netherlands. CO₂ was described as toxic, dangerous, poisonous, polluting and pathogenic.

Citizens are informed about important decisions and developments through local newspapers and weekly press conferences in the municipal offices, but cases of public involvement in decision making are rare. Protests against projects and undertakings are rare too and are usually very local, i.e. restricted to single villages.

1.4 UK case results

The Moray region is cohesive and reasonably uniform culturally with strong communities and neighbourhoods. It has fewer social and health problems than Scotland as a whole. Local issues of concern are unemployment, the (at time of surveying) expected closure of one of the nearby Royal Air Force bases, which is a major employer, and the lack of local facilities and activities for young people in the area.

Awareness of CCS in general is higher than in Poland, with 39% having heard of it and 18% also knowing something about it. For local CCS these numbers are 31% and 15%. At the same time, perceived personal relevance of local CCS is lower than in Poland. Regarding expectations of CCS, the main perceived advantage is that it will bring jobs to the region. The main perceived disadvantage is effects of leakage of CO₂ on marine life. The second and third most often mentioned advantages were that CCS will be better for the environment and improve the local economy. Second and third most often mentioned disadvantages were negative impacts on fishing and negative visual impact. The area considers its coastline an asset for tourism, with dolphin spotting as one of the key activities advertised.

Stakeholders at the UK site are already more knowledgeable about CCS than stakeholders at the Polish site, and they expect to be involved/consulted. The key priorities for stakeholders are related to local economic issues such as jobs, enterprise, and inward investment. To the extent that CCS will bring the above it is welcomed by most stakeholders. The area is already used to offshore operations. The offshore environment is seen as a resource – fish, oil, offshore renewable (large-scale wind projects), to some it would only make sense then to also look into CCS. Thus objection to infrastructural development seems unlikely provided it would fit ongoing developments in the region.

UK stakeholders had all heard of CCS and knew that it was about storing carbon. They asked a large number of detailed questions, e.g. where the CO₂ pipelines would be located. Among the interviewed there is some doubt whether CCS will bring many new jobs to the area, but CCS is seen as an opportunity to revitalise local ports. Environmental issues need to be assessed but are unlikely to be a show-stopper. If consulted, local publics will be likely to see value for job creation and enterprise. Points of concern are the issue of integration with other operations, the impacts on fishing industry, and possible objections from environmental protection organisations.



In local media, there are more positive than negative messages on CCS. The technology is seen as creating a new industrial sector, an aspect that is more important than CCS being a way of reducing carbon emissions and tackling climate change. Doubts exist about economic viability, but unlike for example in the Netherlands there is not so much concern about safety or diversion from renewables.

1.5 Implications for future public engagement activities

As part of the public awareness work in the SiteChar consortium, several future public engagement activities have been planned including the setup of public information websites on generic and site-specific CCS, local Focus Conferences to be held in March and April 2012, information meetings, and eventually a second survey to evaluate the results of the public engagement activities.

As expected, baseline levels of awareness and knowledge of CCS are low at both sites. Apart from site-specific information on CCS, general information on CCS and its wider context (CO₂, climate change) will have to be provided to the local public.

In line with expectations from previous research, risks of CCS will be a prominent topic - specifically health and environmental impacts. Possible risks will have to be addressed and discussed openly and taking into account low knowledge levels and misperceptions about CCS, CO₂, and climate change. For example, the present research as well as previous studies indicate that characteristics of CO₂ are not evident to the lay public and may need explanation before the technology of CCS can be understood. Possible risks will have to be addressed openly.

Another result that is in line with previous research is the importance of neutrality and reliability on the part of the organisers of public engagement activities. To this end, it is recommended that the planned information provision to the public through websites and information meetings includes providing comprehensible information about the SiteChar project, the research team responsible for the public awareness work within this consortium, and the activities the team has planned for the area. One of the most important next steps will be to decide for both sites which local stakeholders and organisations to involve in the planning of activities. The present research provides suggestions for stakeholders that are seen as trustworthy by the local community and information sources that are favoured by people in the local community to obtain information about regional developments.

Furthermore, an understandable general explanation of CCS should be provided along with site-specific introductions to the project; questions asked by local stakeholders and the local public can be the basis for a FAQ webpage. Particularly in the UK, management of expectations will be important and more specifically regarding the number of jobs that CCS may bring to the region.

1.6 General implications for CCS in the EU

The present deliverable demonstrates how social site characterisation can provide insight in the way local CCS plans will be perceived by the local stakeholders



including the local public. Using a combination of qualitative and quantitative methods, the research presented in this deliverable provides insight in:

- The level of awareness and knowledge of CCS;
- Presence of misconceptions on CCS, CO₂, and related concepts;
- Questions and concerns about CCS;
- Expectations of local CCS plans;
- The most effective (preferred and trusted) communication channels;
- The most important and trusted organisations/ stakeholders;
- Relevant developments in the area that may affect the opinion of local CCS plans.

These results can be used to start up the process of information provision (draft a FAQ page, address misconceptions, manage expectations, etcetera), and public engagement (involve stakeholders, select proper location and format, etcetera).

An important general lesson that can be drawn from this research exercise is that social site characterisation provides crucial information of the local context in which CCS plans will be launched, which can be quite different across countries and even within countries across sites. Although there are general 'best practice' approaches to social site characterisation which clearly describe the steps to follow, the implementation of each step should be tailored to the area in question.

Doing this properly requires intensive interaction between members of the public engagement team. Ideally this team has a multidisciplinary background, however multidisciplinary teams also need more time to understand and come to terms with one another. This had better be kept in mind when planning a social site characterisation process.

Another important realisation is that the more limited time and resources are for conducting research, the more heavily the team will have to rely on readily available information that can be obtained by desk research. Such information was much easier to obtain in the UK than in Poland. Availability of information at the start of social site characterisation is an important aspect to keep in mind when making cost estimates and planning resources for public engagement in specific countries.

These lessons need to be incorporated in and addressed by communications and engagement strategies in planning for every CCS project to give local stakeholders (including the general public) the opportunity to get involved and develop an informed opinion about local CCS plans.



2 Introduction

This report describes results of in-depth social site characterisation activities at two sites: a CCS onshore site and a CCS offshore site. The onshore site is the Załęcze&Żuchłów site application (Poland - WP5) and the offshore site is the North Sea Moray Firth site (UK - WP3).

For each of these sites, research and implementation of outcomes of local communication and engagement activities will be conducted in separate but interdependent phases, which are described below. In all phases, local partners will perform supporting activities. For the Polish site this will be PGNiG and AGH; for the Scottish site this has yet to be determined.

The present deliverable describes results from WP8, task 8.1, for which local circumstances relevant to local public engagement in CCS have been researched using a combination of qualitative and quantitative methods. The task consists of two parts that have been carried out simultaneously, using similar methodologies at both sites to the extent possible but taking into account local differences between both sites:

Part I, qualitative site characterisation, is subdivided into three parts:

1. Describe relevant social site characteristics such as local history, notably when it comes to the realisation of large infrastructural or industrial operations,
2. Conduct interviews with relevant local stakeholders,
3. Conduct a media analysis of local newspapers.

Part II, quantitative site characterisation, consists of surveys using representative samples to characterise the local population in terms of awareness, knowledge and perceptions of CCS, media use, and trusted local information sources.

These research methods are complementary. Both qualitative and quantitative research approaches are performed to characterize the local population in terms of awareness, knowledge, attitude and perceptions of CCS, media use, and trusted local information sources. With the qualitative methods, complete information can be collected on the presence of ideas, views, etcetera on CCS whereas quantitative methods are used to assess their frequency of occurrence and thus their 'salience' to the community as a whole.

This document is structured as follows. After a description of the research background (chapter 3) and the general research approach followed for parts I and II (chapter 4), results of the research will be described respectively for Poland (chapter 5) and the UK (chapter 6). Results will be discussed in chapter 7 and implications will be addressed for further work within the SiteChar project as well as beyond.



3 Research background

This chapter provides context to the present research by summarizing recent findings on awareness, knowledge and perceptions of CCS (3.1); summarizing what is known about the effects of information provision (3.2); the relevance of social site characterisation to determine what information should be provided to a local community to effectively engage them in the process of project development (3.3). Country-specific context to this research can be found in 5.1 for the Polish case and in 6.1 for the UK case.

3.1 Awareness, knowledge, and perceptions of CCS

Public awareness of CCS is on the rise within Europe (European Commission, 2011; De Best-Waldhober et al., 2011; Upham and Roberts, 2011; Oltra et al., 2010) as well as worldwide (Reiner, et al, 2006; Itaoka et al., 2008). However levels of public knowledge about the technology show no significant signs of increase (Brunsting et al, 2011; De Best-Waldhober and Daamen 2011; Ashworth et al., 2009; Ha-Duong, Nadaï & Campos, 2008; Itaoka et al., 2008; Reiner et al, 2006; Sharp, Jaccard & Keith, 2006).

A recent study by Pietzner et al. (2011) showed that less than 3% of respondents correctly identify mitigation of global warming as the only goal of CCS among a list of several environmental problems, including ozone depletion and acid rain. Another recent survey on perceptions of CCS and related concepts among lay people (Paukovic et al., 2011) found that people do not only hold misperceptions about CCS but also about concepts related to CCS such as CO₂, electricity production methods, and the share of fossil fuels in their country's energy mix.

At local level, public support has proven crucial to the implementation of CCS demonstration projects, as recently demonstrated by the public's reaction to CCS projects in amongst others the Netherlands (Brunsting et al., 2011), Germany (Dütschke, 2011), and Poland (Breukers et al., 2011). Several demonstration projects have met with strong public opposition. The first Dutch CCS demonstration project of onshore CO₂ storage near the city of Barendrecht, the Netherlands, was cancelled due to the opposition of local politicians and public, which to an important extent could be ascribed to perceived procedural injustice (Brunsting et al., 2011).

It is clear from the above that if local CCS projects are to take off, the public should be properly consulted and involved. Given the general low knowledge levels however, information provision on CCS as well as on the background of this technology is necessary if the local public is to be involved in a CCS discussion in a constructive and useful manner.

3.2 Effects of information on CCS

Research into the effects of information on the lay public on opinion about CCS has shown mixed results (for an overview and explanation, see Paukovic et al., 2011 and Brunsting et al., in press). In some cases public opinion became more positive after information, in other cases it became more negative, in yet other cases no significant change was observed. However, in studies applying a systematic approach to testing



information effects using an Information-Choice Questionnaire (ICQ; De Best-Waldhober et al., 2006, 2008), it was found that when provided with trustworthy, high-quality information that is validated by experts from different research fields, people will use this information to form their general opinion about CCS.

Yet another important lesson can be drawn from these studies. Even though respondents' overall evaluations of CCS were largely based on the information they received about the consequences of CCS, this information did not explain their overall evaluations of CCS entirely. This means that in evaluating CCS, people also use information that is not seen or deemed relevant by experts.

Indeed, other studies have found that lay people can have ideas about CCS and related topics which are generally not thought of and not addressed by experts and which sometimes are factually inaccurate (Palmgren 2004; Wallquist et al., 2009, Paukovic et al., 2011). People may hold inaccurate and sometimes frightful ideas about CO₂, for example that it can alter DNA of organisms (Wallquist et al., 2009) or that it may cause cancer (Paukovic et al., 2011). These studies also demonstrate that people have many questions and uncertainties about the risks of CCS, such as possible CO₂ leakage and its consequences. A recent replication of the ICQ (Paukovic et al., 2011) demonstrated that concerns about the safety of CO₂ storage persist even after people have received valid and balanced information on CCS.

While the aforementioned studies demonstrate that the presence of sufficient knowledge about CCS and topics related to CCS cannot be assumed in a lay audience, they also demonstrate that the type of beliefs held by people as well as how these beliefs affect their overall opinion of a technology are difficult to foresee and may be difficult to understand by experts. Furthermore, results show the prominence of risk perceptions of CCS. A final factor of importance that can be added from previous studies is the role of trust in information sources (Bradbury et al, 2009; Terwel et al, 2009). For an extensive overview of factors influencing the effects of information, see Brunsting et al. (in press).

It can be concluded from the above that proper public outreach needs to live up to three requirements. Firstly, communication must be informed by research into the current perceptions and information needs of the local public. Secondly, the issue of risk perceptions is likely to be prominent in the discussion. Thirdly, public engagement processes must involve information sources that are trusted by the public and are seen as reliable sources of information. A method to identify public needs, risk perceptions, and stakeholder characteristics is social site characterisation. This approach will be explained in the next section.

3.3 Social Site Characterisation

Social site characterisation is the process of repeatedly investigating public awareness and opinion of a CCS project, changes therein over time, and underlying factors shaping public opinion as a parallel activity to technical site characterisation (Wade & Greenberg, 2009). Social site characterisation can be used as an instrument to plan and evaluate an approach for actively engaging local stakeholders in prospective CCS projects.



The use of social site characterisation as a necessary tool to inform project design and implementation consists of a series of steps encompassing formative research and subsequent planning, designing, conducting and evaluating a series of public outreach and engagement activities. The process has been described by multiple toolkits and guidelines, each with their own focus, theoretical basis, area of application, degree of integration into the general project management cycle, etcetera. Examples include the guidelines of NETL (2009), WRI (2009), CSIRO (Ashworth et al., 2011), ESTEEM (Raven et al., 2009), and IISD (2007). Several studies have been conducted to compare these toolkits and guidelines, outlining differences and similarities (Breukers et al., 2011; Shackley & Evar, 2010; Hammond & Shackley, 2011). Project teams can use the outcomes of these comparative studies to determine which tool best suits their situation. Breukers et al. (2011) also stress the importance of taking into account the internal organisational processes that may complicate effective cooperation, especially within multidisciplinary teams.

Key to social site characterisation is collecting information to answer two questions: (1) who are the stakeholders or interested parties?; (2) what factors drive their perceptions of and attitudes towards CCS? (Wade & Greenberg, 2009). In the next chapter we outline our approach to social site characterisation for the present research, which combines elements of the approaches just referenced. Central to the present deliverable is presenting the methodology and results of the formative research and its implications for subsequent planning, designing, conducting and evaluating a series of public outreach and engagement activities.



4 Research approach to social site characterisation

The first step to social site characterisation is to define a set of criteria by which sites can be characterized in terms of their socio-political and economic features, properties and histories in order that their suitability for a CO₂ storage project in their vicinity (broadly speaking) can be assessed. To this end, a 'shopping list' was created of topics and questions we would need to address to obtain a detailed description of each site (see Appendix I). In short, the shopping list contained the following topics:

1. A description of the area's recent history, encompassing: key industrial and economic development; landscape and land-use changes; population changes; political dynamics and important events; infrastructural developments;
2. A description of the area's present situation, encompassing: socio-political features; socio-political background and dynamics; political affiliations and changes; economic features; industrial and other Infrastructure (including CCS); environmental, biodiversity and landscape assets

Because it is hard to say in advance which topics are most relevant to the description of a particular site, and also because it was apparent from the start that this would to some extent be different for both sites, the 'shopping list' was only meant as a rough guidance and it was agreed that in the country case study reports only findings would be reported that would turn out relevant to the specific site. To give one example, whereas ethnicity and migration in and out of the area seemed potentially relevant issues to the UK site it was clear from the start that this would not be the case for Poland. Due to these differences between sites, the focus of the site information in the country reports will differ at some points. Particular topics may be present in one report whereas they are absent in the other, or they may be treated more extensively in one report than in the other.

The second step to social site characterisation is to collect data on the topics on the shopping list. The choice to study only two of the five sites within the SiteChar project in-depth has enabled the use of a combination of qualitative and quantitative social research techniques that require a great amount of effort, time, and expertise, but that are at the same time the most effective in producing reliable, consistent, and detailed lessons regarding effective public engagement strategies to be used on the present sites as well as on other sites in other countries. Besides desk research to obtain readily available information, the following combination of empirical methods was used:

- Interviews with relevant local stakeholders;
- Media analysis of local newspapers;
- Survey to measure baseline awareness and perceptions of local CCS plans.

The structure of this chapter is as follows. In section 4.1 the general approach to the interviews will be described. In section 4.2 the general approach to the media analysis will be described. In section 4.3 the general approach to the survey will be described. Country-specific details of the application of these general methodologies to each site will be described in the country reports: chapter 5 (Poland) and chapter 6 (UK).



4.1 Methodology for interviews

The purpose of the interviews was threefold. Firstly, to inform the key stakeholders about the SiteChar project and planned public outreach activities as part of this project. Because the act of interviewing key stakeholders is in fact the start of our public outreach activities, this required us to introduce ourselves and our organisations and explain exactly which activities we plan to undertake in the area. Secondly, to investigate how participants respond to the idea of CCS, particularly their questions and concerns about the technology, and how these may relate to other developments in the area from their perspective (and should therefore be taken into account in future project planning). Thirdly, to verify and add to information collected through other research methods about local needs, concerns, issues, views, and important social structures within the community.

The interview was designed to be a two-way conversation. The interviewer informed respondents about the role of his or her institute in the SiteChar project and the activities that are planned within this project throughout 2012 at the site. The interviewer also explained why the stakeholder's input was needed and how it will be used to make public engagement fit local needs and concerns. The interviewer answered questions about the project and about the possible future role of CCS in the area to the extent possible. Technical questions on CCS were written down and the respondent was promised that answers would be provided later.

An interviewing protocol was developed (Appendix II), but the interviews were semi-structured. Semi-structured interviewing means that the conversation has a natural flow. There is no fixed order for topics and it is not necessary to address all topics in all interviews. Topics in the protocol were swapped, skipped, shortened or lengthened as seemed appropriate during the interview, depending on a respondent's background, experience, knowledge and willingness to discuss particular topics.

To ensure that it would be the respondent indicating the relevance of a topic rather than the researcher prescribing it, the interviewer introduced each new topic with a generic question followed by probing questions in reaction to the respondent. Typically these questions start with: Why ...? What..? Who(m) ...? When....? How.....? or Can you explain....? This technique is used to avoid that any predisposition the interviewer may have about the answer a respondent will give or the significance he or she will ascribe to particular topics (e.g. the extent to which CCS would result in new jobs for the area) to impact the responses (in response to a question such as "will CCS be important in terms of new jobs" it will be very hard for the respondent to deny this – the question already implies the expected answer).

As a result of this approach, whereby the respondent has significant influence on the course of the conversation, the application of the interviewing protocol in Poland was not fully identical to its application in the UK. One of the causes of difference is that the UK site has a much higher degree of industrialization, generally resulting in stakeholders being more knowledgeable about CCS and related topics already than in Poland.



The interviews were conducted after completion of survey data collection at each site (see 4.3), in the period June-July 2011. The interviews lasted from 1 up to 3 hours (mainly depending on availability of the respondent) and were audio-taped. It was agreed that at least 6 interviews should be conducted, but that the precise number of interviews would be dependent on the number of relevant key stakeholder groups that would be identified for each site. We aimed to interview at least one stakeholder from each key stakeholder group such as: local members of parliament, regional parliament, town council, district or community council; NGOs; church; civic groups; other groups such as the local 'chamber of commerce'.

4.2 Methodology for newspaper analysis

Local newspapers were analyzed to investigate how often and in what way newspapers have written about CCS in recent years. The rationale for focusing on newspapers is that these reflect all opinions that are present in the media landscape. Furthermore, newspapers are important opinion shapers. A recent Dutch study on opinion shaping among lay people on CCS (Paukovic et al., 2011) showed that of all media involved in the research (television, radio, internet, and newspapers), time spent on reading newspapers had the strongest relation with awareness of and attitude towards CCS.

A common approach to media analysis is to make a selection of relevant titles and within those titles analyze only a specific subset of articles using keywords to identify relevant articles. Because limited time was available for the social site characterisation, a pragmatic approach was chosen to the selection of newspapers. The choice of newspapers was restricted to titles that were easily accessible, either through the paid service LexisNexis or to freely accessible online news archives.

For each of the sites an inventory was made of the number of articles, frequency of messaging and changes through time, specific events giving rise to increased reporting on CCS, stakeholders mentioned and their positions, and arguments used. Details on the media analysis method as well as a detailed overview of results are reported in 5.5 for Poland and in 6.5 for the UK.

4.3 Methodology for the survey

The purpose of the survey was to obtain baseline data on present awareness of and perceptions of local plans for CCS as well as to characterize the sites in terms of their demographic, socio-political and economic features.

Initially, as the SiteChar DOW states, we intended to use the unobtrusive surveys not only to measure awareness, knowledge and perceptions of CCS but also of CO₂, climate change, and CO₂ emission reduction options. We eventually let go of this idea for two reasons. Firstly, as stated in chapter 3, previous research has already demonstrated that general public awareness and knowledge about issues related to CO₂ are generally low. There were no reasons to assume this would be different in the sites under study in SiteChar. Secondly, in the survey design phase, it has been proven difficult if not impossible to maintain the cover of a general neighbourhood satisfaction survey while at the same time including a relatively high number of questions on climate change, energy transition, and CO₂. A final, more practical



issue is that the survey would have been too long and that we would have to remove other questions that seemed more relevant to the research goal.

The survey, consisting of telephone interviews, was conducted in both Poland and the UK by market research firms among a representative sample of the local population, in the period May-June 2011. In addition, a small weight factor was applied to the responses to ensure complete representativeness of the answers to the larger population in terms of gender, age, and education. A weight factor is a value assigned to each case in the data file, which is used to make statistics computed from the data more representative of the population. The value indicates how much each case will count in a statistical procedure. For example, a weight of 2 means that the case counts in the dataset as two identical cases. Weights can be fractions (e.g. a case may also be counted 1.34 times), but they are always positive and greater than zero. Ideally weights are as small as possible, as this means the dataset was already fairly representative to begin with. In the datasets reported on in the present report, weights varied between 0.57 and 1.50 for the Polish survey and between 0.43 and 2.40 for the UK survey, indicating that the data are of high quality.

People are likely to evaluate local development of CCS in the context of other ongoing local developments or the absence thereof. Therefore, the present survey took the shape of a local area satisfaction survey. In the survey, local was defined to the respondents as *'the area within about 20 miles or 20 minutes drive from your home.'* Apart from local plans for CCS, two other local issues were included in the questionnaire. Data from the qualitative site characterisation (e.g. media analysis) were used to identify local industrial developments (e.g. extractive industries, renewable energy), infrastructural, commercial, or domestic service developments (e.g. roads, new buildings), and environmental developments (e.g. nature reserves) that are or may become a source of local tension or controversy and may thus impact people's satisfaction with their living environment and may transfer to feelings about yet other developments involving a.o. CCS.

At both sites we eventually identified one 'high-profile' development which had given rise to local discussion and media attention, and one 'low-profile' development which was still in an early stage and had not (yet) been a topic of much debate. The order of issues in the questionnaires was as follows. The issue of CCS was always mentioned first. This way, previous evaluations of other issues could not influence thought about CCS. The high-profile issue was mentioned second, for balance. Respondents would be most likely to have an opinion about this issue and we did not expect them to know or think much about CCS. It is, however, not a good idea to present respondents with a lot of questions they do not know what to answer to. It is known from literature on survey design that people, attempting to be cooperative, will always try to answer questions even if they actually do not know the answers or if they do not have a strong opinion (Bishop et al., 1986; Schuman & Presser, 1981). For this reason, there should be a good balance between easy-to-answer and difficult-to-answer questions. To achieve this in the present survey, we put the high-profile issue second and the low-profile issue, about which people were also unlikely to know much, third. The three topics were introduced by informing respondents as follows:



There are several plans for development in your area. Some of these plans are still on the drawing board whereas others are already being put in place. We now would like to ask you questions about some of these plans. It is fine if you tell us you have never heard of a plan we refer to. Some plans are in an early stage of development so we would not be surprised if you have not heard of them.

The survey contained questions about the following topics: Satisfaction with local area; Attachment to local area; Issues facing the area; Issue I - Carbon capture and storage; Issue II (high profile); Issue III (low profile); Felt involvement in decision making; Extent of local activism; Trusted representatives and organisations; Most often used information sources; Personal information (e.g. occupation). Details on the methodology and the local issues are explained in 5.6.1 for Poland and in 6.6.1 for the UK.



5 Country report: Polish case

5.1 National and local context of CCS

The nature of the Polish power sector is defined by two key characteristics: Firstly, it is heavily coal and lignite dependent. Secondly, its generating fleet is very old and will require almost total replacement in a few years. Illustrating the first point, in 2009 almost 90% of Poland's electricity was produced from coal and lignite with only 3% from natural gas, and 6% from renewable energy sources (Bellona Foundation, 2011). This energy mix is the result of Poland's very rich domestic lignite resources that have long provided cheap domestic energy, and promise to remain abundant long into the future. At the same time, being in line with the European Union and its environmental ambitions is a key political issue. For the two aforementioned reasons, CCS is heralded by Polish government as well as representatives of the energy sector as a promise for the future.

5.1.1 National policy on CCS and ongoing activities by industry

The coal intensity of electricity generation in Poland is not only a legacy of the past, but also a conscious choice of consecutive Polish governments. As the most abundant energy resource in the country, coal is considered an important pillar of Poland's energy security. Polish Energy Policy until 2030 a document published in 2009 by the Ministry of Economy, states that "National resources of hard and brown coal play an important role of energy security stabilisers" (Ministry of Economy, 2009). In this strategic document the Polish government plans a rational and effective management of coal deposits and the continuous use of coal as the main fuel for power plants. To uphold a substantial share of coal in energy production and reduce the greenhouse gas emissions, Poland will have to use Clean Coal Technologies, e.g. carbon capture and storage technology (CCS). Therefore the policy document outlines the need for active participation in the initiative of the European Commission to construct large-scale CCS installations.

Initially, two CCS installations have been planned for Poland in Bełchatów and in Kędzierzyn. The Bełchatów power plant is the largest lignite power plant and the largest single source of carbon emissions from this kind of power plants in Europe. The Bełchatów demonstration project is the first CCS demonstration project in Poland. It aims to apply post-combustion CO₂ capture technology to parts of the new unit. In October 2009, the European Commission allocated 180 million Euro to this project under the European Economic Recovery Program. The second CCS demonstration project in Poland was planned in Kędzierzyn. This first-in-the-world 'Zero-Emission Power and Chemical Complex' that integrates IGCC (Integrated Gasification Combined Cycle) generation technology with CCS was planned for construction at the Kędzierzyn Chemical Plant in Silesia. In March 2011 the project developer company ZAK S.A., decided to withdraw from the project. The reason given for this decision was that this investment exceeds the financial capacities of the company.

The Polish government realised certain CCS supporting programs, e.g. the 'Identifying geological formations and structures for safe CO₂ storage with monitoring



program¹. This national program is currently underway at the request of the Ministry of the Environment. The experience gained from the project and bringing the combined knowledge of all major experts together (e.g. from the Polish Geological Institute and the University of Science and Technology) will contribute the building of a research potential as required to explore and map the potential CO₂ storage sites, develop operation models, and a monitoring and verification system, as well as gather experience in enhanced hydrocarbon recovery using CO₂.

5.1.2 Regulatory requirements for project planning and public participation

The Polish Ministry of Environment is responsible for the coordination of the legislation for CCS. In order to transpose the CCS directive (2009/31/EC) the legislative process with public consultation was initiated in November 2009 and resulted in a proposal of amendment to Polish Geological and Mining Law Act submitted by the Ministry to the Council of Ministers on 25 November 2010 which accepted it in March 2011. The implementation of the CCS directive will also require a number of relevant amendments to other regulations, namely: the Act on Freedom of Economic Activity; the Environmental Law; the Act on Access to Information on the Environment and its Protection, Society's Participation in the Protection of the Environment and Environmental Impact Assessment; Construction Law; the Land Use Act and the Energy Law, which will be amended to allow a CO₂ transmission network and to design an entity to act as the CO₂ transport network operator.

The Ministry proposed that Polish legislation regarding CCS and geological storage be limited solely to supporting and regulating demonstration projects. According to this proposal sequestration will require project developers to obtain a concession from the Ministry of the Environment. The concession will indicate the maximum amount of CO₂ to be stored. Developers will have to monitor the site for at least twenty years post-injection. When the long-term stability of the storage site has been proven (after thirty years), the responsibility for the monitoring will be taken over by the State.

Successful implementation of the project will require acceptance by local government and general public (public consultations) in areas selected for the sequestration and areas through which CO₂ will be transported. The local government will play the main role in the licensing process. A developer will have to present an Environmental Impact Assessment report upon which the wójt (borough leader), or the mayor or the president of the city will have to make an assessment of the environmental conditions. The issuing of the license will be based on the opinion of the European Commission and of the mayor or president of the city, or any other government official having jurisdiction within the license area.

5.1.3 Public awareness and perceptions

Poland is a country of low civic activity. Studies show that the voter turnout, the level of confidence in fellow citizens and the voluntary association membership rate is

¹ Ministry of Environment, 2008. Działania ministerstwa środowiska w celu rozpoznania struktur geologicznych dla podziemnego składowania dwutlenku węgla, Warsaw. Available at: http://www.mos.gov.pl/g2/big/2009_08/e83e155d4a74ba448ff66d41002bcebf.pdf.



lower in Poland than in other OECD countries (Paczański, 2009). Only a small proportion of citizens admit taking any action whatsoever on behalf of their community. However, the Eurobarometer survey (European Commission, 2011), shows that 35% of the Polish citizens would like to be directly consulted and to participate in the decision-making process if an underground CO₂ storage site were to be proposed near to their home.

Awareness of CCS in Poland is very low (77% of citizens never have heard about CCS technology; European Commission, 2011). 49% of the citizens who have heard about CCS agree that the storage of CO₂ will help to combat climate change. On the issues of the regional use of CCS 33% of respondents answered that if CCS was used in their region, they would benefit from it. The most often mentioned positive impacts of local CCS are that it would improve the quality of air (55%) and create jobs (25%). 56% of the citizens answered that they would be concerned or very concerned if a storage site for CO₂ were to be located within 5 km of their home (24% would be not very concerned or not at all, 20% don't know). Regarding trust in information sources, 34% of the Poles have the highest degree of trust in universities and research institutions, 20% in non-governmental organisations, 17% in journalists and only 16% in regional and local authorities when it comes to information about CCS.

In September 2011 – PGE Bełchatów Power Plant Branch has commissioned Poland's largest and state-of-the-art power generation unit based on clean carbon technologies. The 858 MW unit is prepared for cooperation with an installation for the capture, transport and storage of carbon dioxide (CCS). At the moment the CO₂ storage site selection work is running in parallel to the Carbon Capture Plant (CCP) engineering works. Geological examination of two out of the three storage structures under consideration is ongoing. Storage site selection is a crucial issue for the Bełchatów CCS Project as a delay in relation to the original plans is already evident. This delay is caused mainly by problems with the public perception of an underground CO₂ storage. There have been protests against performing the necessary geological examinations. As described in the case study of the Bełchatów case in the NEARCO₂ project (Breukers et, al. 2011, annex 2) this protests was amongst others due to the conflicting stakes that local influential stakeholders already had in the region and to not or too late informing the local public about the activities of the geological investigations.

5.2 SiteChar project context

The present report is a deliverable of WP8 – Advancing Public Awareness. However the work within WP8 is linked to the technical site characterisation undertaken at the site in WP5. The main task of WP5 in the SiteChar project is a comprehensive analysis of possibilities of CO₂ injection into natural gas fields Załęcze&Żuchłów. Realisation of the detailed analysis of available geological data, reservoir and operational performance of a series of laboratory tests and computer simulations will create the best possible scenario for CO₂ injection into deep geological structures.

Implementation of the tasks foreseen in the project will allow for a summary of the costs and benefits of the technology and identification of potential risks. Obtaining



such knowledge will be possible only after finishing all WP5 tasks and the completion of the summary of knowledge generated in the implementation of the other Work Packages of the SiteChar project. Then decisions can be made regarding injection of CO₂ into the Załęcze&Żuchłów gas field.

Only after a positive decision the next stage will be entered that comprises the activities related to obtaining all necessary permits and approvals from relevant authorities and organisations. The next steps in realizing the implementation of CO₂ will depend largely on the acceptance of the project by the local community, local administration and public administration (particularly the authorities of geological and environmental protection) for carrying out the project implementation of the technology of CO₂ injection into geological structures.

Given the early stage of technical site characterisation, at present it is not possible to indicate specific dates of the subsequent steps and the associated communications and engagement activities. For WP8 this underlines the importance of sharing with the public that the CCS activities about which they will be informed are subject of ongoing research of which the outcomes are yet uncertain.

5.3 Qualitative social site characterisation: area description

5.3.1 The area

Załęcze&Żuchłów, the site designated for CO₂ storage, lies 60 km north of Wrocław and 100 km south of Poznań (see Figure 5.1). The area destined for CCS encompasses approximately 1000 km². Administratively the region belongs to the district Góra (voivodeship Lower Silesia) and the municipalities Rawicz and Bojanowo in the district Rawicz (voivodeship Greater Poland)². With only 75,176 (2010) inhabitants the region is sparsely populated compared to the rest of Poland. 52 % of the citizens reside in the four cities Rawicz, Góra, Bojanowo and Niechlów, the remaining 48 % live in a total of 157 villages.

The thin blue line in Figure 5.1 shows the area in which the gas fields are located. The thick red line shows the approximate outline of the 6 communities covered in the social site characterisation.

² Poland currently has 16 voivodships (provinces), 379 powiats (districts) and 2.478 gminas (municipalities).

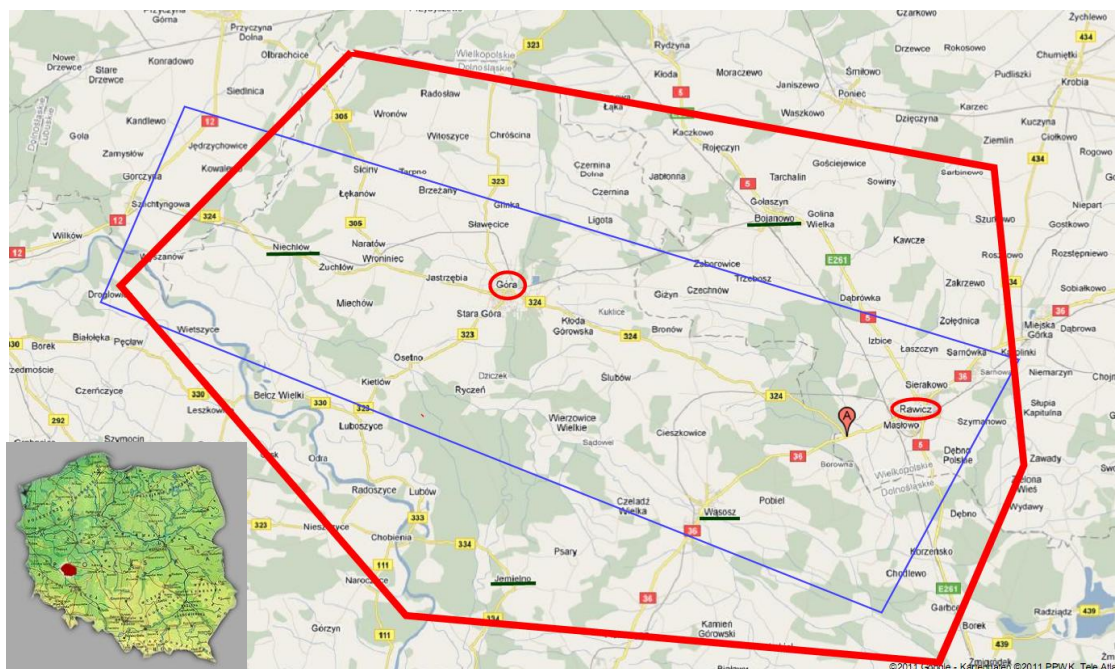


Figure 5.1 Map of the Załęczce & Żuchłów region. The area marked with the thin blue line covers the area with the gas fields and the two administrative seats of the area are circled with a thick red line.



5.3.2 Historical features

The history of the Załęcze&Żuchłów region was strongly influenced by the frequently shifting borders, changes of power and rule and, in the 20th century, administrative reforms. In recent history (until 1945) the region was under Polish, German, Austrian and Czech rule. After World War II the district Góra was attached to Poland, together with the province of Lower Silesia. In the formerly German region resettlers from Kresy (eastern parts of the Second Polish Republic) were established. The resettlement as well as the associated different mind-sets of the people of Góra and Rawicz (different social and cultural background) have made neighbourly relations difficult.

5.3.3 Socio-Economic features

The economically active citizens³ represent 66% of the local population. The average incomes in both districts are lower than the average total Polish income. An average income in the year 2009 in the district Góra amounted to 2464.05 Polish Zloty⁴, which is 74% of the average income in Poland. In the district Rawicz the income is 69% of the average income of Poland. It was 2287.60 Polish Zloty⁵, which corresponds to 69% of the average incomes in Poland. The number of jobs was reduced greatly due to the liquidation of state agricultural farms in the 90s, but also by the closing of businesses in recent years. Accordingly, the rate of unemployment is high (26 % in the district of Góra, 10 % in the district of Rawicz⁶) and so is the rate of migration of young people. The migration statistics in the region show a negative trend. In 2011, 49 persons were moving into the area whereas 155 persons left.

5.3.4 Local economy

The region is predominantly agrarian, farmland accounts for nearly 70 % of the total area. Among the few businesses residing in the area agriculture and food industries are dominant. Despite belonging to the special economic area Wałbrzych "INVEST-PARK"⁷ the region is unattractive for investors due to insufficient traffic, network and communications infrastructure.

The most important employer of the area is the company PHU Pieprzyk, employing nearly 1500 persons in different lines of industry, such as agriculture, the food and furniture industry, fuel production and also the hotel and restaurant business. Other large businesses include the chicken farm Woźniak, the turkey butchery P.P.H. Ubój i Przetwórstwo Indyka Girzewski, the meat-processing company DUDA SA, OSI

³ In Poland: Women in the age from 18 till 60 and men from 18 till 65.

⁴ Statistical Office in Wrocław, 2010. Paid employment and wages and salaries in 2009 in voivodship Lower Silesia. Available at:
http://www.stat.gov.pl/wroc/67_1494_PLK_HTML.htm.

⁵ Statistical Office in Poznań, 2010. Average monthly gross wages and salaries in 2009 in voivodship Greater Poland. Available at:
http://www.stat.gov.pl/poznan/69_529_PLK_HTML.htm.

⁶ Central Statistical Office in Poland, 06.2011. Registered unemployed persons and unemployment rate by voivodships, subregions and powiats.

⁷ Wałbrzych Special Economic Zone "INVEST - PARK" is one of the fastest developing industrial zones in Poland. It was established by Ordinance of Council of Ministry in 1997. It is situated in south-west Poland in Lower Silesia, Opole, Greater Poland and Lubusz voivodship.



Poland Foodworks, the dairy company “Demi”, the fruit and vegetable processing business “Runoland” and the mill in Góra. In addition, there are construction companies and metal processing industries such as RAWAG, Ferpol, ZPB Kaczmarek and the sawmill in Góra. Of further importance for the job market is the retail industry.

Despite large natural gas reserves in the area and the gas production by the company PGNiG via the two mines Załęcze and Żuchłów the production of natural gas is little-known in the region and is not perceived to have a great impact on the regional economy.⁸

Investments to create new jobs are considered most important for the region. Currently a new steel factory is being discussed in Góra. Another topic of importance is the construction of a conference centre in Osetno castle. Large infrastructure projects are being planned and carried out at the moment, e.g. the bridge over the Oder in Ciechanów, a road section of the motorway no. 5 (Poznań - Wrocław), the ring-roads in Góra and Rawicz, the wind park in the district of Góra and the extension of the sewer system. Also several smaller projects are being realised, like the construction of an indoor swimming pool, renovation of cultural centers, kindergartens and schools as well as the construction of parks.

5.3.5 Nature and environment

In the region there are several nature reserves, such as the International Bird Area (IBA) and the Natura 2000- “Dolna Dolina Baryczy”, “Ostoja nad Baryczą” and “Łęgi Odrzańskie” and many natural monuments.

The Barycz Valley is the most important tourist attraction of the region, with several new cycle-, canoe-, walking-, and riding routes. But despite the unique and interesting nature of the region, tourism is only a minor part of the local economy. This is due to a lack of accommodations. There are less than 10 accommodation facilities in the area. The local administration and regional NGOs are planning several marketing campaigns and projects (e.g. Planty Park in Rawicz), financial support for the opening of hotels and guesthouses, the construction of bird watching platforms and the development of a nature atlas for the region.

5.3.6 Political situation and public involvement

At the last general election in October 2011 the Christian-democratic and liberal party Civic Platform (the current governing party) received over 41% of the votes in the area. The Law and Justice party, national conservatives, came second with over 20 % of the votes. The conservative Polish People’s Party and the liberal Palikot’s Movement received 12 and 11.5 % of the votes⁹.

The citizens are informed about important decisions and investment projects through the free local newspaper, district or community websites, flyers and other local media. Once a week a press conference takes place in the municipal offices to

⁸ Source: Interviews with the mayors.

⁹ National Electoral Commission in Poland. Elections 2011. Available at: <http://wybory2011.pkw.gov.pl/wsw/pl/000000.html>.



inform the citizens about recent developments. There is no intensive two-way dialogue between the local administration and the citizens. Most decisions are made by local or city councils and the mayors, only rarely the citizens are included in the process. A case of public involvement was the ring-road in Góra where the citizens could take part in the negotiations for the course of the road. The lack of public involvement does not mean the citizens feel ignored; but rather the dominating opinion (of most of the interviewees) is “we elected the politicians so that they can make the decisions for us”.

The region has approximately 100 societies and organisations, most of them in the social sector. These are senior citizens' clubs, aid organisations for disabled people, children and teenagers as well as educational organisations. To date an environmental organisation does not exist in the area. Despite more than 95 % of the population being catholic, the church is not perceived to have a strong influence on opinions and decision making processes by the respondents we have interviewed (see Table 5.1) Protests against projects and undertakings are rare and remain on a very local level (mostly within single villages). So far only one protest, against the construction of a waste-separation station (in 2000/2001) has been organised.

5.4 Qualitative site characterisation: stakeholder interviews

5.4.1 Overview of stakeholder interviews

The interviews had three important aims: (1) Informing key stakeholders about our plans and to obtain their support and advice on our public engagement activities planned for 2012; (2) Register how participants respond to information about CCS; (3) Obtain information about the site in addition to information from other sources. Interviews were based on a guideline that had been developed in advance (see Appendix I) in which relevant discussion topics were listed.

A list of stakeholders interviewed is given in Table 5.1. We interviewed the representatives of local administration (mayors), industry (mine manager), church (priests) and society (local NGO). In addition, the interviewer had an extensive and informative conversation with a local taxi driver. Insights from this conversation have informed the research, but the conversation has not been audio taped and is thus not part of formal data collection.

We were not able to interview the Ecological Association EKO-UNIA from Wrocław which is the only environmental non-government organisation in the area Załęcze&Żuchłów. Because EKO-UNIA is one of the few ENGOs in Poland, which in an open letter has given its opinion on CCS technology¹⁰, an interview with this organisation could have provided important input for the social site characterisation. Because there are no other environmental organisations in the region that we could interview instead, the perspective of the ENGO on CCS technology is missing.

Table 5.1 List of stakeholders

¹⁰ Oświadczenie organizacji ekologicznych nt. technologii wychwytywania i przechowywania dwutlenku węgla (CCS), 2008. Available at: <http://www.greenpeace.org/poland/pl/wydarzenia/swiat/wylapywanie-co2/>.



Stakeholder (organisation)	Interviewee Role (e.g. councillor)	Description of interviewee
City and Community Office in Rawicz	Mayor	The interviewee is member of city and community government in Rawicz since 17 years.
City and Community Office in Góra	Mayor	The interviewee is a member of city and community government in Góra since 2008.
Parish in Rawicz Community	Provost	Provost of a parish in Rawicz Community.
Gas Mine Żuchłów	Manager	Since 1998 manager in the Gas mine Żuchłów.
Association Local Action Group "Ujście Baryczy"	Chairman	Board member of Association Local Action Group "Ujście Baryczy". The association was founded in April 2008 by representatives of the private sector, the local government and the public. Its main aim is the development of the rural areas by implementing the local development strategy Ujście Baryczy (mouth of the Barycz river).
Parish in Góra Community	Provost	Has been provost of a parish in Góra Community for one year.

5.4.2 Stakeholder perceptions of infrastructural developments

In contrast to the UK site (see 0), where many infrastructural developments take place, it was not necessary to address this topic extensively in interviews at the Polish site. As indicated in previous sections, the overall level of infrastructural development in the region is not high, and every development that brings jobs to the area is perceived to have a positive effect on the region.

5.4.3 Stakeholder perceptions of CCS

The CCS technology and the plans for carbon storage are still largely unknown in the region. Only one interview partner, an employee of a gas mine, knew of plans for the implementation of the technology in the region.

Reactions to the information about the CCS technology and the possibility of its application in the area were mostly neutral. As the greater part of the interviewees were not acquainted with the technology they were not able to debate advantages or disadvantages and did not want to commit to either a positive or negative position toward CCS technology for the future. Only one person reacted positively and without reserves toward the technology.



In the course of the interview, the interviewees often asked questions about the potential risks of the CCS technology. Three participants reacted cautiously and had reserves about the undertaking. The doubts were further enforced when the interviewer informed the respondent that the region might see CCS technology somewhere in the future. Reason for the doubts was not the CCS technology itself but rather the gas CO₂. CO₂ was described as toxic, dangerous, poisonous, polluting and pathogenic. The participants indicated that they would find CO₂ in a liquid state less dangerous, because in their opinion CO₂ in this state is easier to control – “liquid I can see and gas not”. For these reasons some of the interviewees suggested that it would be preferable to transport and store CO₂ in a liquid state.

To the question how the citizens in general would react to the technology most of the interviewees did not want to give a concrete answer. Two persons expected protests. On the one hand they had reservations about a possible groundwater contamination through CCS technology, as the gas fields would lie under the water reservoir of the town Rawicz. On the other hand they can imagine the local population protesting because they do not want to be “guinea pigs” for an unexplored technology.

Apart from negative impacts, positive effects such as the creation of new jobs were also considered.

5.4.4 Stakeholder questions about CCS

In the course of the interviews several questions were asked by the participants about the CCS technology and its effects. These are listed below.

Questions about the CCS technology:

- In which state (liquid or gaseous) is CO₂ transported and stored?
- How and by which means of transportation is CO₂ transported?
- How does liquid CO₂ react when it comes into contact with air?
- How is CO₂ pumped into the earth?
- Can CO₂ be liquefied?

Questions about the effects of CCS technology:

- What dangers does the CCS technology entail?
- Can the CCS technology be dangerous to human health?
- What environmental impacts does the CCS technology have (e.g. pollution of the groundwater resources in Rawicz)?
- Why and according to which criteria was this region chosen? Why an inhabited region?
- How can the inhabitants profit from this technology? Will new jobs be created?

Questions about a possible future CCS project:

- Will this project be concluded with the construction of a CCS-plant in 2013?
- Will this project be funded by the EU?



5.4.5 Stakeholders' recommendations for public outreach

The majority of the participants (mayors, church and NGO representatives) were of the opinion that the local population should be informed about the CCS technology and the SiteChar Project from the beginning, to avoid conflicts and disagreement. Careful attention should be given to the advantages and disadvantages of the CCS technology when communicating with the population. The assignment of this task to independent institutes within the SiteChar consortium was met with general approval. Two interviewees suggested that the detailed information of the population may not only lead to clarification of the topic, but also to new questions about CCS and possibly also objections, because the technology is "still largely unexplored".

Stakeholders advised the researcher to consider the following aspects when preparing the information activities:

- The people not only have to be informed comprehensively, but in such a way that the technology and its impacts are imaginable and comprehensible for everyone ("People are afraid of things they do not understand").
- Possible risks have to be addressed openly.
- The information provision should be done by "neutral institutions" that are not situated in the region, but are nonetheless reliable ("Preferably an acknowledged institution").
- The citizens should be involved and be approached personally (meetings in the community, letters, etcetera).

The majority of the interviewees were of the opinion that information provision should be organized in collaboration with the local administrations. They stated that this would ensure a higher level of credibility and reception among the population. The local administration can act as co-initiator while at the same time staying neutral.

The representative of the local action group offered help but also suggested that cooperation with his organisation can be "less helpful" for our activities, because it's not widely known in the area and does not have a great authority.

Furthermore, the interviewees recommended that the official communication channel through the local administrations be used when contacting the public. Any available information materials should be prepared to be displayed in municipal offices and churches. The church, too, could be used to distribute information. Finally, the internet was recommended to spread information about CCS and the SiteChar-Project. Local newspapers were only recommended to a limited extent as they pursue their own interests. This may run contrary to the project's demand to explain CCS neutrally. Only a marginal role was ascribed to the local radio and television stations for the broadcasting of information.

Community as well as church representatives have offered their support to organise information meetings and focus conferences that are listed as activities in the SiteChar project as part of the public awareness raising activities within WP8 throughout 2012. Cultural centres in Rawicz and Góra and community centres in the surrounding villages are recommended venues for the citizens' information meetings.



5.5 Qualitative site characterisation: media analysis

5.5.1 Selection of newspapers

Originally the aim of the media analysis was to examine how the CCS topic is presented and assessed in the regional newspapers. However in the course of the site characterisation it was found that the CCS technology up to now has never been mentioned in the print media in the region. For this reason two national dailies *Gazeta Wyborcza* and *Rzeczpospolita*, which are also available in the area, were analysed instead of local newspapers.

The period of January 1st, 2003, until July 31st, 2011 was chosen for the media analysis. The selected newspapers are two of the key media in Poland. *Gazeta Wyborcza* (in English 'election newspaper') was established as a result of the round-table discussions which took place in the transition phase of the socialist state to the democratic republic between February 6th and April 5th, 1989 in Poland. At that time the labour union 'Solidarność' received permission to publish a daily for the first democratic elections in Poland (which explains the name) after the era of the communism. Today it is the biggest national Polish daily and is regarded as the most important opinion shaping channel in Poland with an average edition of approximately 500.000 copies and 4.5 million readers. *Rzeczpospolita* (in English 'the republic') is the second-largest national Polish daily newspaper with a printed edition of approximately 157.000 copies and 1.3 million readers. The political line of the *Rzeczpospolita* can be described, in contrast to the left-liberal *Gazeta Wyborcza*, as national-conservative and national-catholic.¹¹

5.5.2 Frequencies and other descriptives of newspaper articles

In total, 148 articles were found. After the further verification from the 148 articles 87 relevant articles were extracted which were included in further analyses. As shown in Figure 5.2, most newspaper articles on CCS have been written in 2008 and 2009. The adoption of the EU Climate and Energy Package as well as the UN Climate Change Conference in Poznań (Poland) were subject to the media debate in the year 2008. In the preparation period of these two events intensive discussions, about the role of the CCS technology in reducing CO₂ emissions, took place. In 2009 the CCS topic was taken up in the newspapers in relation with the planned CCS demonstration plant in Bełchatów and the Zero-Emission Power and Chemical Complex in Kędzierzyn-Koźle.

¹¹ "Left" in Poland means more social-democratic. "Right" is conservative and catholic.

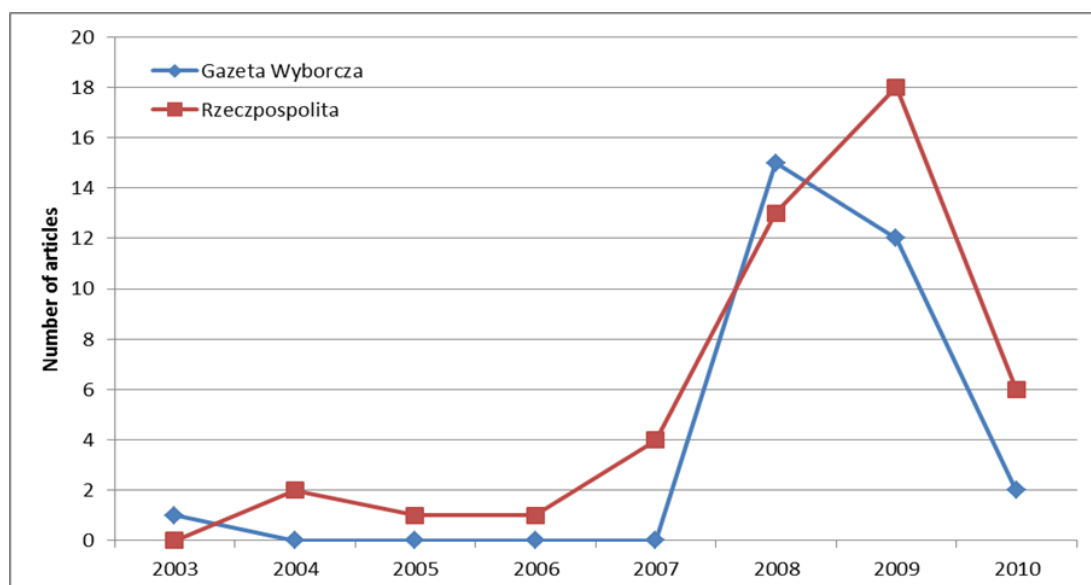


Figure 5.2 Frequency of articles which mention CCS in Gazeta Wyborcza (n=35) and Rzeczpospolita (n=52)

5.5.3 Stakeholders and their positions

Stakeholders were clustered into different groups as displayed in Table 5.2.

Table 5.2 Overview of stakeholder groups

Type of organisation	Organisations
Industry	<ul style="list-style-type: none"> • Energy suppliers (e.g. PGE, Vattenfall, RWE Poland) • Energy producers (e.g. PGE Power Plant Bełchatów) • Banks (e.g. ING Bank Śląski) • Steel industry (e.g. ArcelorMittal) • Trade associations in energy sector (e.g. Eurelectric) • Chemical trade associations (e.g. Polish Chamber of Chemical Industry)
Press	<ul style="list-style-type: none"> • Editors and Journalists from the newspapers (Gazeta Wyborcza, Rzeczpospolita)
Civil society	<ul style="list-style-type: none"> • Environmental associations (WWF, Greenpeace) • Citizens
Education and research system	<ul style="list-style-type: none"> • Research at Universities (e.g. Warsaw University of Technology, University of Technology and Life Sciences in Bydgoszcz) • Extramural research institutions (e.g. Central Mining Institute, Institute of Geological Sciences Polish Academy of Sciences)

Type of organisation	Organisations
Political system	<ul style="list-style-type: none"> Government/Ministries (e.g. Ministry of Economy, Ministry of Environment) Parties/Parliament (e.g. Civic Platform, Law and Order, Parliament) Administrative bodies (e.g. State Mining Authority, Chief National Geologist) EU and world institutions (e.g. European Parliament, IPCC)

In the 87 articles, 127 speaker statements were counted. The statements were given in the context of news, reports, comments and interviews. As Figure 5.3 shows, the largest part of the analysed statements (n=127) are from the sector of *press* (39%, n=49). Furthermore 28 statements (22%) comes from representatives of the *political system*, 22 (17%) from representatives of the *industry*, 21 statements (16.5%) from the *education and research sector* and 7 (5.5%) from the *civil society* sector.

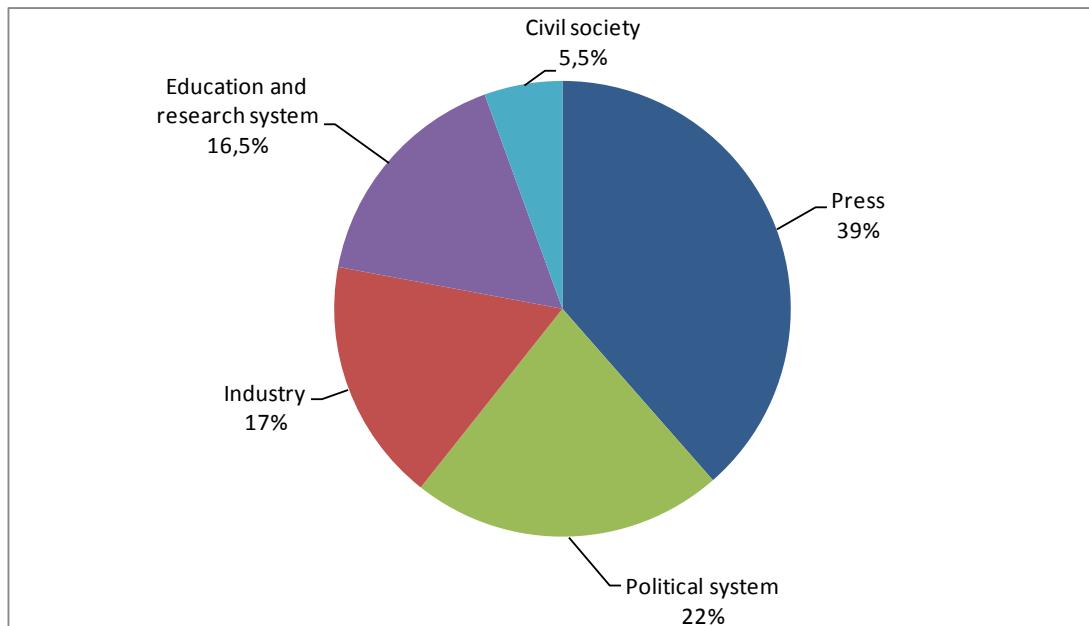


Figure 5.3 Share of statements by type of stakeholder (n=127)

We analyzed which positions the stakeholder groups take towards CCS technology. Five types of responses could be distinguished: *consent*, *conditional consent*, *rejection*, *undecided*, and *indifferent*. The category *undecided* was chosen when both pro- and contra-arguments were expressed which together indicated neither approval nor rejection of the technology. *Indifferent* was chosen if no position could be derived from the stakeholder statements.

As Figure 5.4 shows, 47% of the statements (n=59) in the articles were expressions of *consent* with the CCS technology. a further 6% (n=7) expressed *conditional*

consent, meaning that CCS would be approved only if certain conditions are fulfilled such as reduction of costs, investigation of positive or negative impacts on the environment or the adoption of a legal basis for the use of the CCS technology. 13% (n=17) of the statements *rejected* the CCS technology, 24% (n=31) were *undecided* and 10% (n=13) *indifferent*.

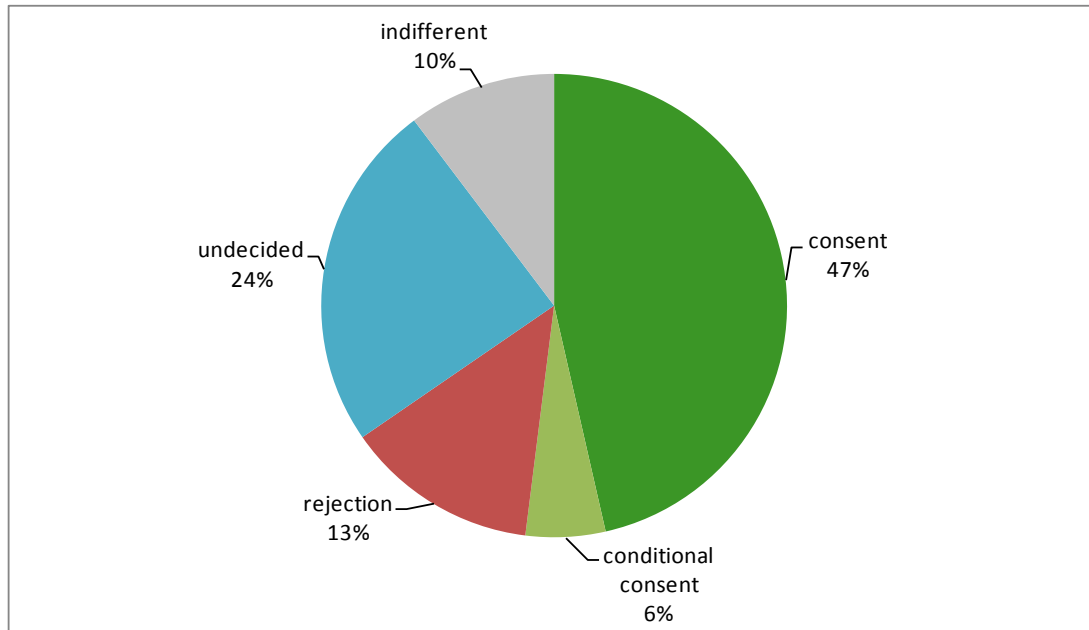


Figure 5.4 Share of statements by position towards CCS (n=127)

Figure 5.5 shows the statements and their position by type of stakeholder. This figure shows that especially statements coming from stakeholders from the *political system* and *industry* often indicate approval of CCS technology. Statements from the *education and research system* are more balanced. The high percentages of undecided and indifferent statements made by the press may reflect a balanced reporting on the subject. The greatest scepticism about the CCS technology was found in the *civil society* group. All statements by this group (n=7) were expressions of rejection.

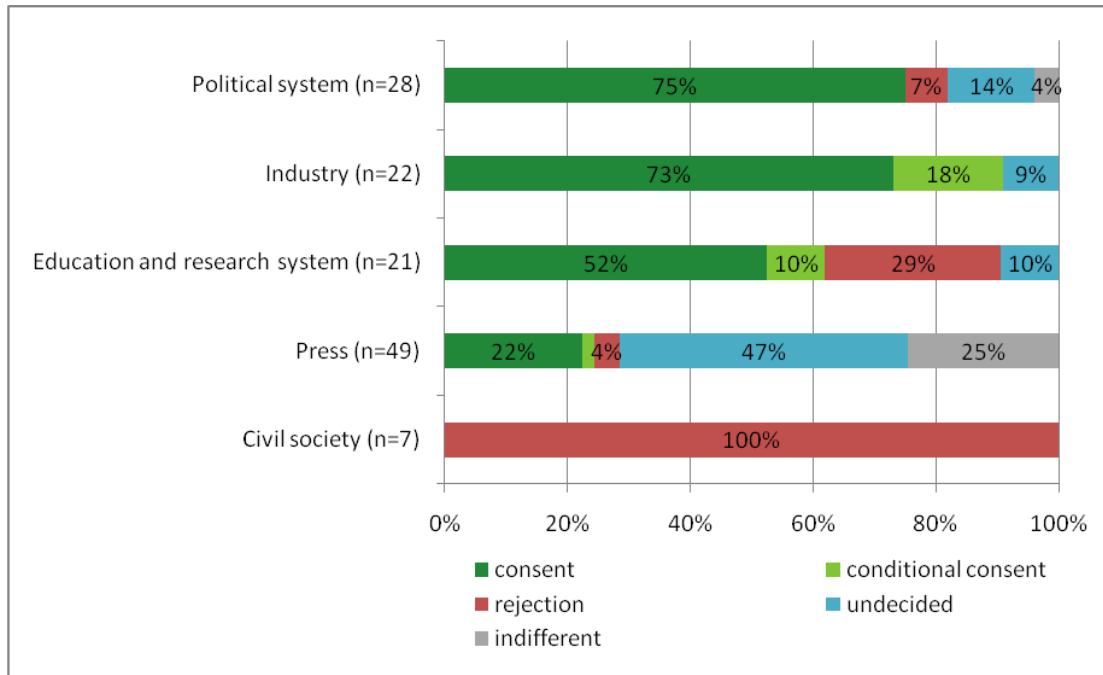


Figure 5.5 Statements and their position towards CCS by stakeholder type

5.5.4 Argumentation used in newspapers

The newspaper articles were analysed for arguments indicating approval or rejection of the CCS technology. In total 298 arguments were counted. Of these arguments 172 (58%) were positive and 126 (42%) arguments were negative. The arguments could be classified into 44 different types of arguments. Of these argument types, 19 (43%) had a positive connotation and 25 (57%) had a negative connotation.

The argument types were clustered into 8 topic fields, which are displayed in Figure 5.6. The most frequently mentioned arguments were from the topic group economy/profitability (24%) followed by climate protection (18%) and safety/risks. The least often mentioned categories were political and legal bases (1%) and Acceptance (0%). Figure 5.6 shows which argument types go under which topic field.

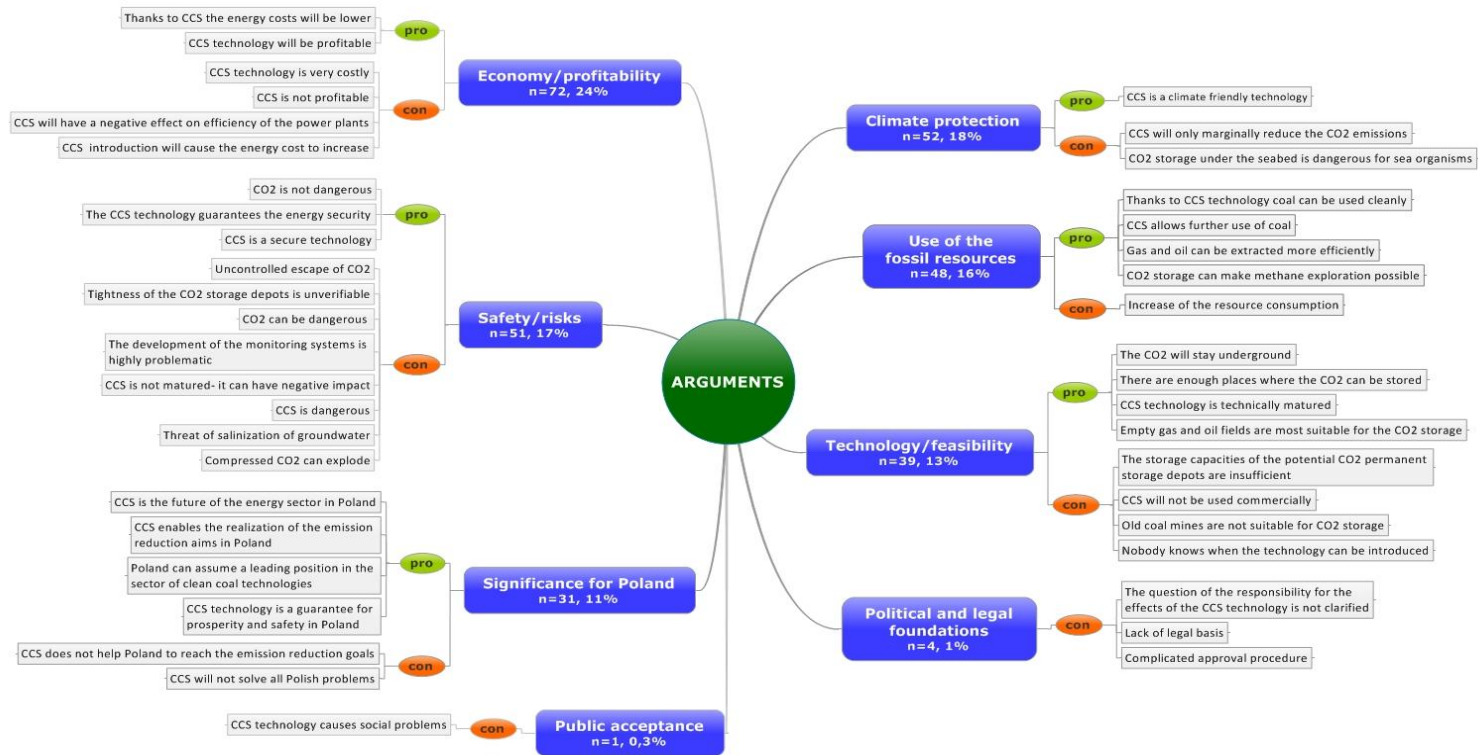


Figure 5.6 Argument types, frequencies, and percentages of total (n=298).

Specifying the most frequently mentioned arguments, the most often mentioned argument was that CCS is a *climate friendly technology* (n=49). With a little distance follows the argument that the *CCS technology is very costly* (n=28) and that *thanks to the CCS coal can be used cleanly* (n=20) and *coal can be used further* (n=14). The top five arguments are represented in Table 5.3. As can be seen in this table, four of the five arguments have a positive connotation.

Table 5.3 Five most frequent arguments (n=298)

Argument	Connotation	Frequency	Percent
CCS is a climate friendly technology	+	49	16.4%
CCS technology is very costly	-	28	9.4%
Thanks to CCS technology coal can be used cleanly	+	20	6.7%
CCS allows further use of coal	+	14	4.7%
CCS technology is a guarantee for prosperity and safety in Poland	+	13	4.4%

Specifying which arguments are made by which stakeholder groups in Table 5.4 the arguments from the topic field of economy/profitability are especially used by representatives from the *press* (28.2%) and *industry* (36.6%). Among the speakers of the *political system* (20.9%) arguments from the subject area use of the fossil resources are most common. The speakers from the *education and research* sector (23.4%) most frequently support their argumentation with the arguments from the topic field technology/feasibility, such as that CCS is technically mature. Arguments from the area of safety/risks, e.g. that CCS is dangerous (65.2%), play the most important role in the argumentation of speaker group from *civil society*.

Table 5.4 Frequency of the topic fields according to the speaker groups (in percent)

Topic field	Total (n=298)	Press (n=103)	Polical system (n=67)	Research system (n=64)	Industry (n=41)	Civil society (n=23)
Economy/profitability	24,2	28,2	14,9	20,3	36,6	21,7
Climate protection	17,4	24,3	17,9	12,5	17,1	0
Safety/risks	17,1	7,8	14,9	18,8	14,6	65,2
Use of the fossile resources	16,1	17,5	20,9	12,5	17,1	4,3
Technology/feasibility	13,1	12,6	13,4	23,4	2,4	4,3
Significance for Poland	10,4	8,7	16,4	7,8	12,2	4,3
Political and legal bases	1,3	1	1,5	3,1	0	0
Acceptance	0,3	0	0	1,6	0	0

5.5.5 Summary of media findings

The focus of the media analysis was how the CCS technology is framed in the national press of Poland, which speakers in the media have and which arguments they use to support their positions.



It can be concluded that the reporting about CCS by the media representatives themselves is balanced, but attention to stakeholder positions is not. Representatives from the politics, the economy and the research receive most attention whereas statements of civil society actors are rather rare.

The majority of the speakers is in favour of the CCS technology and only a small minority rejects the technology. The greatest approval comes from economic and political actors. All representatives from the civil society sector reject the CCS technology.

Some of those who agree with CCS tie their approval to conditions. The most important conditions are motivated economically and regulatory. So the costs for the technology should drop and the legal basis should be established for introduction and application of the technology. Additionally the consequences of CCS for the environment should be examined.

The speaker remarks are characterized by a positively connoted argumentation. CCS is put in the context of climate protection because with the help of this technology energy stored into coal can be generated climate friendly. There is also a political-economic dimension to this reasoning because Poland has great coal deposits which can further be used for energy generation with CCS in a climate friendly way.

Negative connoted arguments are more seldom used in connection with CCS. And when they are used they revolved around the high costs of the technology and the effects on the energy prices and the efficiency of the power stations rather than possible risks. Risks are raised only by the few speakers civil society sector. E.g. it is feared that CO₂ escapes from the storage sites into the environment or affects the groundwater.

Altogether, it can be said that the media response of the Polish press to CCS is positive. The CCS technology is supported by actors on a broad front from politics, business world and research because it connects climate protection with the economic development of Poland in an ideal way. The environmental organisations appear as a strong opponent of the technology, but do not have any weight in the media debate at present.



5.6 Quantitative social site characterisation

5.6.1 Method

The survey was conducted by telephone in the second half of May 2011 by a market research firm in Poland with a good international reputation. The firm used a quota sample to guarantee representativeness on age, sex, and education/employment. The sample only included respondents living in the two districts Góra and Rawicz. See 5.3.1 for more details of the region.

The interviewer introduced the research as a 15-minutes interview about 'life in your local area' whereby local area was defined to the respondents as *'the area within about 20 miles or 20 minutes drive from your home'*. Respondents willing to participate subsequently received some screening questions (postcode, age, gender, employment) to determine if they fit the profile. If so, the interviewer continued with the first question. If not, they were thanked for participation and the interview was ended.

The full questionnaire which displays the questions in original order and coding can be found in Appendix IV. Below is a systematic overview of variables ordered by topic. In this overview, the variables are described as they were used in the analyses. In some cases the variables have been recorded, meaning that the original scores have been reversed to make lower scores mean 'fewer' or 'more negative' (e.g. fewer friends living in area, more negative opinions) and to make higher scores represent 'more' or 'more positive' (e.g. more friends living in area, more positive opinions). The reason for recoding is methodological: Scoring all variables running from low/negative to high/positive facilitates interpretation of relations between variables. Unless otherwise indicated, 'don't know' answers to interview questions have been coded as missing data.

Perception of local area

Perception of the local area was measured with two questions. First, respondents were asked how satisfied or dissatisfied they are in general with their local area as a place to live. Answers ranged from 1 (very dissatisfied) to 5 (very satisfied). Second, respondents were asked how they think that in the next couple of years the local area will develop. Answer options were 1 (get worse), 2 (stay the same), 3 (improve), or 4 (don't know)¹². To create a 'future expectation' scale ranging from 1 (negative expectation) to 3 (positive expectation) a new variable was created in which 'don't know' answers were coded missing.

¹² This item was recorded, meaning that the original scores in the questionnaire were reversed to make the lowest score represent a shorter time lived in the area, a more negative opinion, and so on, and to make the highest score represent a longer time lived in the area, a more positive opinion, and so on. Recoding all variables from low or negative to high or positive facilitates the interpretation of relations between variables.



Attachment to local area

To obtain indicators for the strength of respondents' ties to the area, four questions were asked. First, respondents were asked how long they have lived in the area. Responses ranged from 1 (up to 1 year) to 4 (over 20 years/all my life). Second, respondents were asked how many members of their families live in the area. Responses ranged from 1 (none of them) to 5 (all of them). Third, respondents were asked how many of their closest friends live in the area. Responses ranged from 1 (none of them) to 5 (all of them). Fourth, respondents were asked whether they rent (1) or own (2) their home.

Issues facing the area

To measure what respondents perceive to be important issues and developments in the area, they were asked two questions. First, respondents were asked what they see as the most important issue facing their local area (e.g. local economy, housing, local services). This was an open-ended question allowing for just one answer. The responses were categorized afterwards. To this question, 'don't know' was also categorized as valid answer because it tells something about the way people experience the area. However, people who replied 'don't know' did not receive the second question. The second question asked respondents what they see as other important issues facing their local area. This too was an open-ended question which allowed for multiple answers, which were categorized afterwards. Because multiple answers were possible, each issue was turned into a separate variable (e.g. the variable 'local economy') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). To this question, 'don't know' was also categorized as valid answer because it tells something about the way people experience the area.

Issue I - Carbon capture and storage

The first issue concerned plans for carbon capture and storage in Załęcze&Żuchłów. Respondents received five questions about this issue. First, respondents were asked how much, if anything, before the interview, they knew about plans for carbon capture and storage in Załęcze&Żuchłów. Answers ranged from (1) Never heard about it to (4) I know a great deal. Second, only those respondents who had at least heard about plans for CCS were asked what exactly they had heard about plans for carbon capture and storage in Załęcze&Żuchłów. This was an open-ended questions allowing for multiple answers which were categorized afterwards. Each category was then turned into a separate variable (e.g. the variable 'just that they are looking into it') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). To this question, 'don't know' was also categorized as valid answer because it tells something about people's awareness of CCS. Third, only those respondents who had at least heard about plans for CCS were asked whether, overall, they think plans for carbon capture and storage in Załęcze&Żuchłów would have a positive or negative impact on their local area. Answer options ranged from (-2) very negative through (0) no impact at all to (+2) very positive. Don't know was also coded (6) but not included in correlation analyses. The fourth question depended on the answer given to the third question. If respondents expected no impact at all or did not know, no further questions were asked. If respondents expected a positive impact, they were asked to specify why they thought CCS would have a positive impact. If respondents indicated they expected a negative impact, they were asked to specify why they thought CCS would have a negative impact. This approach was chosen to



ensure proper measurement of what respondents currently think, if anything, about CCS without forcing them to 'make up' any reasons, either positive or negative, in an attempt to provide an answer. It is known from questionnaire design studies that many respondents will try to answer each question even if they actually do not have an opinion. The technique applied in the present questionnaire helps to avoid this effect. The questions about positive and negative impacts were open-ended, allowing for multiple answers which were categorized afterwards. Each positive and negative category was then turned into a separate variable (e.g. the positive variable 'it will bring jobs/employment' or the negative variable 'not a real solution to the climate problem') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). Fifth, only those respondents who had at least heard about plans for CCS were asked how important, if at all, they would say plans for carbon capture and storage in Załęczce&Żuchłów are to them personally. Answer options ranged from (1) not at all important to 4 (very important). Don't know was also coded (5) but not included in correlation analyses. Finally, to obtain an extra measurement of awareness of CCS in general, all respondents were asked how much, if anything, they knew about carbon capture and storage in general before the interview. Answer options ranged from (1) Never heard about it to (4) I know a great deal.

Issue II – Ring road in Góra

The second issue concerned the ring road in Góra. Respondents received five questions about this issue. First, respondents were asked how much, if anything, before the interview, they knew about the ring road in Góra. Answers ranged from (1) Never heard about it to (4) I know a great deal. Second, only those respondents who had at least heard about the ring road in Góra were asked what exactly they had heard about this issue. This was an open-ended questions allowing for multiple answers, but since this topic was not of primary interest to the research the responses have not been categorized and have not been analyzed. Third, only those respondents who had at least heard about the ring road in Góra were asked whether, overall, they think the ring road in Góra would have a positive or negative impact on their local area. Answer options ranged from (-2) very negative through (0) no impact at all to (+2) very positive. Don't know was also coded (6) but not included in correlation analyses. The fourth question depended on the answer given to the third question. If respondents expected no impact at all or did not know, no further questions were asked. If respondents expected a positive impact, they were asked to specify why they thought the ring road in Góra would have a positive impact. If respondents indicated they expected a negative impact, they were asked to specify why they thought the ring road in Góra would have a negative impact. The questions about positive and negative impacts were open-ended, allowing for multiple answers which were categorized afterwards. Each positive and negative category was then turned into a separate variable on which each respondent either scored 0 (not mentioned) or 1 (mentioned). Fifth, only those respondents who had at least heard about the ring road in Góra were asked how important, if at all, they would say the ring road in Góra is to them personally. Answer options ranged from (1) not at all important to 4 (very important). Don't know was also coded (5) but not included in correlation analyses.



Issue III - Wind park in Golinka

The third issue concerned the wind park in Golinka. Respondents received five questions about this issue. First, respondents were asked how much, if anything, before the interview, they knew about the wind park in Golinka. Answers ranged from (1) Never heard about it to (4) I know a great deal. Second, only those respondents who had at least heard about the wind park in Golinka were asked what exactly they had heard about this issue. This was an open-ended questions allowing for multiple answers, but since this topic was not of primary interest to the research the responses have not been categorized and have not been analyzed. Third, only those respondents who had at least heard about the wind park in Golinka were asked whether, overall, they think the wind park in Golinka would have a positive or negative impact on their local area. Answer options ranged from (-2) very negative through (0) no impact at all to (+2) very positive. Don't know was also coded (6) but not included in correlation analyses. The fourth question depended on the answer given to the third question. If respondents expected no impact at all or did not know, no further questions were asked. If respondents expected a positive impact, they were asked to specify why they thought the wind park in Golinka would have a positive impact. If respondents indicated they expected a negative impact, they were asked to specify why they thought the wind park in Golinka would have a negative impact. The questions about positive and negative impacts were open-ended, allowing for multiple answers which were categorized afterwards. Each positive and negative category was then turned into a separate variable on which each respondent either scored 0 (not mentioned) or 1 (mentioned). Fifth, only those respondents who had at least heard about the wind park in Golinka were asked how important, if at all, they would say the wind park in Golinka is to them personally. Answer options ranged from (1) not at all important to 4 (very important). Don't know was also coded (5) but not included in correlation analyses.

Involvement in decision making

To measure how well respondents perceive their interests to be represented in decision-making, they were asked to what extent they think people involved in decisions affecting their local area take into account the interests of local residents. Answers ranged from (1) Not at all through (4) Fully. Don't know was also coded (5) but not included in correlation analyses.

Local activism

To obtain an indication of respondents' own degree of active involvement in the area, respondents were presented a list of activities and were asked to indicate which, if any, of these activities they had undertaken in their local area in the past 12 months. Activities varied in type from cooperative (e.g. 'Helped your council plan what your local area should look like in the future') to reactive (e.g. Participated in public protest activities such as a demonstration') and in intensity from low/easy (e.g. 'Signed a local petition') to more demanding (e.g. 'Gone to a local meeting'). Each activity was a separate variable on which each respondent either scored 0 (not mentioned) or 1 (mentioned).

Trusted representatives and organisations

To obtain an inventory of trusted local and national sources of information, respondents were asked which individuals or organisations, if any, they would



generally trust to represent their interests in decisions affecting their local area. This was an open-ended question allowing for multiple responses which were categorized afterwards. Each category was then turned into a separate variable on which each respondent either scored 0 (not mentioned) or 1 (mentioned).

Most often used information sources

Next, respondents were asked to indicate which sources of information they would use to obtain information about developments in their local area, if they wanted to. Respondents were asked to mention the three sources of information they would most likely consult. This was an open-ended question. Answer categories included types of media (e.g. internet, leaflets), specific media or information channels (e.g. a specific newspaper title or radio channel), names of local representatives (e.g. Councillors), names of national or local institutions (e.g. national government, local task force, project developer), and trusted peer groups (e.g. neighbours).

Personal information

To obtain a profile of the local residents in terms of education and employment, respondents were asked two questions. First, respondents were asked to report the highest level qualification they have. Answers to this open-ended question were categorized by the interviewer on a predefined list of answer options. Second, respondents were asked to indicate in which sector they are employed. Answers to this open-ended question were categorized by the interviewer on a predefined list of answer options (e.g. 'oil and gas', 'farming' or 'retail').

In the next sections, the results of the quantitative site characterisation are presented. The percentages reported will not always exactly sum up to 100% due to rounding off.

5.6.2 Respondents characteristics

In total 1000 respondents participated with somewhat more women than men and (resp. 52% versus 48%). This is comparable to the distribution of males and females in Poland which is 50%-50% (Polish Central Statistical Office: population by sex and age as of 31.12.2010). In Figure 5.7 the educational level distribution of the respondents is shown. Of the Polish respondents, 8% has primary education, 36% secondary school education and 21% has Master level education.

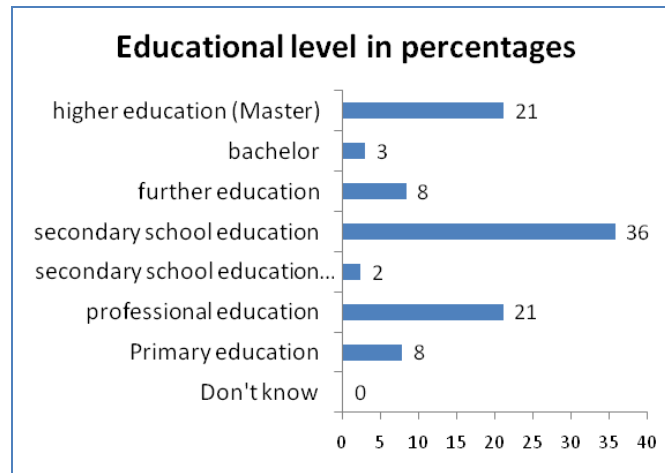


Figure 5.7 Educational level respondents in percentages (n=1000)

As can be seen in Figure 5.8 almost half of the Polish respondents have employment (48%) and 8% of the respondents is unemployed (seeking work). A fourth of the respondents is retired (24%).

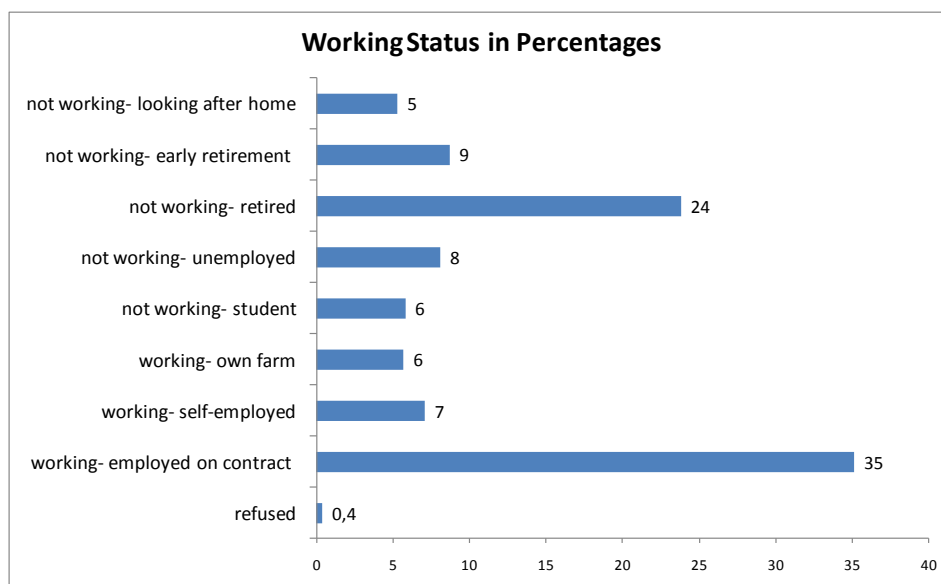


Figure 5.8 Educational level respondents in percentages (n=1000)

Figure 5.9 shows that there is a large diversity in types of employment among the respondents. From the employed part of the sample 4% of Polish respondents work in oil and gas, 15% in farming, 7% in food industry and 7% in construction. Other respondents have employment in education (12%), health (5%), another public sector (15%) or retail (10%). The remaining 23% of respondents mentioned another type of employment (13%) or sector (10%).

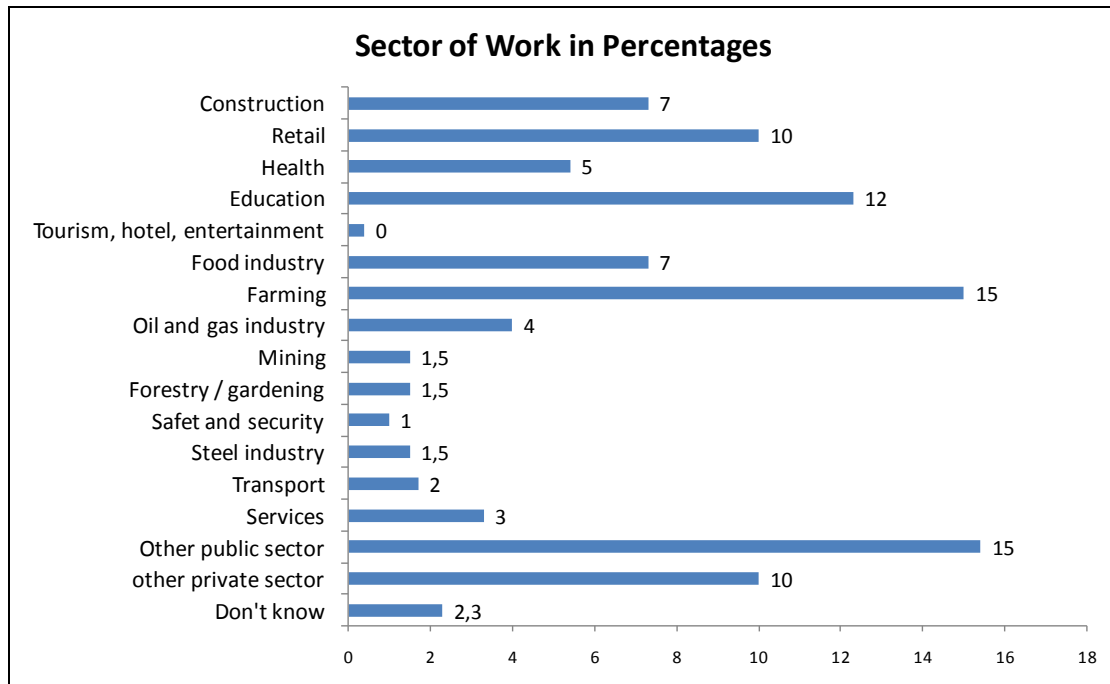


Figure 5.9 Sectors in which respondents work in percentages (n=479)

5.6.3 Attachment to local area

To obtain an indication of the attachment of the respondents to the area four questions have been posed about the local area, whereby local area is defined as the area within 20 miles or 20 minutes drive from home. These were questions concerning home ownership, number of years lived in the local area, number of family members and number of friends living in the local area.

In Figure 5.10 through Figure 5.13 the distributions of the respondents on the separate variables are presented. These show that 78% of the respondents own their homes (including owning a home with mortgage) whereas 13% of the respondents rent their homes (Figure 5.10). By far the most respondents have lived longer than 5 years in the area (97%). In the figure the percentage of people living shorter than one year in the area is so small that it does not show up in the pie chart. Most Polish respondents (83%) have lived in the area over 20 years (Figure 5.11). Almost half of the respondents (48%) have most to all of their family members living in the area (Figure 5.12) and half of the respondents (51%) have most to all of their friends living in the area (Figure 5.13).

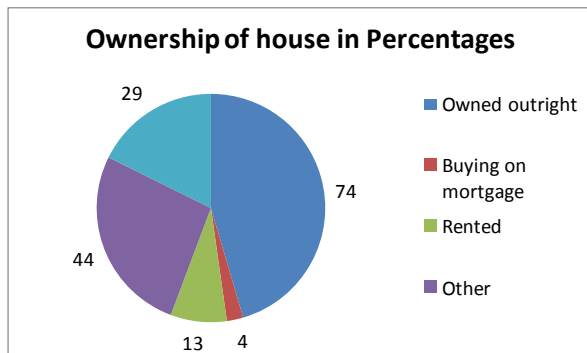


Figure 5.10 House ownership in percentages (n=1000)

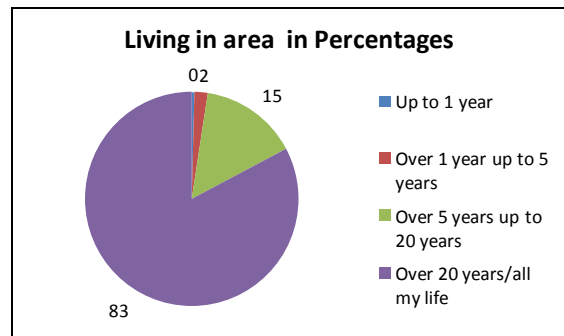


Figure 5.11 Number of years respondents have been living in the area (n=1000)

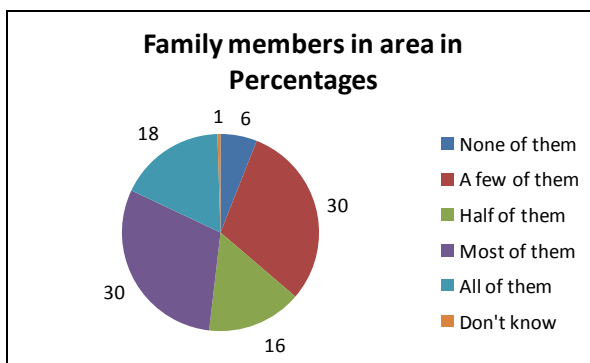


Figure 5.12 Number of family members living in the area (n=1000)

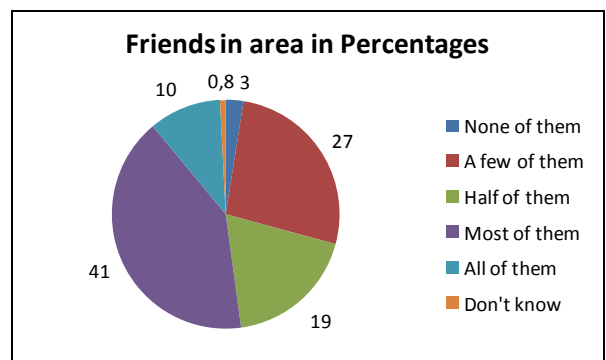


Figure 5.13 Number of friends living in the area (n=1000)

5.6.4 Perception and expectations of the region

As can be seen in Figure 5.14 most respondents (87%) are satisfied with their area and only few (7%) are dissatisfied with their area. Respondents were also asked whether they think the local area will change in the coming years. As shown in Figure 5.15 about two thirds of the respondents expects that the situation will change. 55% of the Polish respondents expects the future situation in their area to improve and 12% thinks it will get worse.

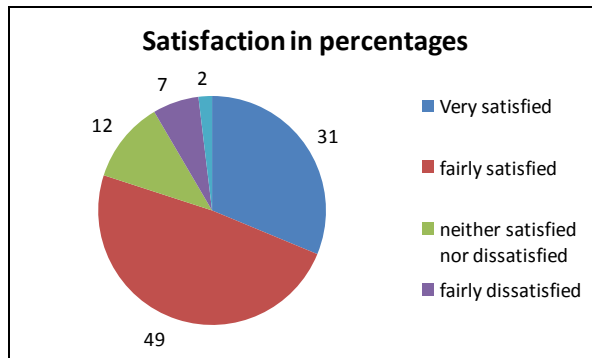


Figure 5.14 Satisfaction with the area in percentages (n=1000)

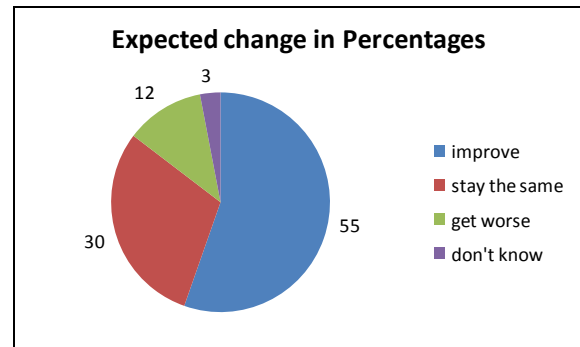


Figure 5.15 Expected change in the area in percentages (n=1000)

Next, respondents were asked about the most important issue facing their local area. This was an open question, which was followed by the question if apart from the most important issue they could think of any other important issues. As can be seen in Table 5.5 in the second column, respondents are **most** concerned about issues concerning unemployment (37%), transport/ public transport (23%) and lack of infrastructure e.g. drainage (7%). These issues are also mentioned most often in response to the question which **other important** issues the local area faces.

This leads to the conclusion that almost half of the Polish respondents is concerned about unemployment (47%) and more than a third is concerned about (public) transport (38%). Environment / climate change and the ring road in Góra are not seen as important issues by most of the Polish respondents (6% and 5% respectively). CCS and the wind farm in Golinka are no issues at all in the area. CCS is mentioned by only 5 respondents and the wind farm by 4 respondents.

Table 5.5 Perceived issues in the area in percentages representing the respondents who viewed the issue as most important (2nd column) or as other important issues (3rd column) and the total percentage of respondents that mentioned the issue either as the most important or as other important issue (3rd column). Issues in **bold** are the issues explicitly mentioned in the survey. The subject 'environment/ climate' is also in bold because of its relation to CCS



Perceived issues in local area Poland	Most important (N=1000)	Other Important (N=925)	Sum¹³ (N=1000)
	%	%	%
Unemployment/factory closure/lack of industry	37	11	47
Transport/public transport	23	16	38
Lack of infrastructure e.g. drainage	7	7	14
ring road in Góra	4	2	5
Lack of facilities/opportunities for young people/young people have nothing to do	3	6	9
Environment/climate change/global warming/pollution	2	4	6
economy/economic situation/credit crisis/crunch	2	3	5
Lack of leisure facilities/entertainment/culture	2	3	4
flood / no melioration	2	1	2
Local government/council tax	1	1	2
Crime/law and order/violence/vandalism/ anti-social behaviour	1	3	4
Lack of pavements/bicycle path	1	1	2
Lack of investment/development in area	1	2	3
countryside/rural life	1	1	2
waste /illegal waste dumps in the woods/disorder in the town	1	1	2
Poverty/inequality	1	2	3
education/schools	1	3	3
Housing	1	2	3
Low pay/minimum wage/fair wages	0	1	2
Morality/individual behaviour/lifestyle	0	1	2
National Health Service/Hospitals/Health care	0	2	2
CCS development	0.3	0.2	0.5
Wind farm	0.1	0.4	0.4

5.6.5 Awareness and attitude towards CCS compared to other issues in area

The respondents were asked three questions which we repeat here for clarity:

- If they had heard about the issue before the survey (awareness), varying from (1) never heard about it to (4) a great deal;
- Only the respondents who are aware of the issue are asked whether they think the issue will have personal relevance, varying from (1) not at all important to 4 very important;

¹³ Due to summing the percentages over n=1000 in the last column and due to rounding off of the percentages the sum is not always exactly the same as the sum of the percentages given in the table.

- The impact of the issue on the local area (impact), varying from (-2) very negative, (0) no impact to (+2) very positive.

As can be seen in Figure 5.16 the awareness of the three issues is not very high. The Ring road in Góra is the best known of the three issues, with a mean awareness score of 2,3. Awareness of both the concept of CCS in general (1.22) and the local plans for CCS (1.45) and of the wind farm (1.64) are even lower. Awareness of local CCS plans is significantly lower than that of the ring road and that of the wind park plans. Only 15% Of the respondents had heard of local CCS plans.

As also can be seen in Figure 5.16 respondents think that the local CCS plans are fairly important to them personally (3,11). The other two issues are seen as slightly important (between not very important and fairly important) for their personal situation, whereby the personal relevance of the ring road (2,58) seems somewhat higher than the wind farm (2,24).

All the three issues, including local CCS plans are perceived as neutral to slightly positive. The ring road is perceived significantly more positive than CCS ($t = -.432$; $df = 95$; $p < .001$; $n = 96$). 61% Of the respondents expect a (slightly) positive impact of CCS on the local area ($M = 0.71$), whereas 72% of the respondents are (slightly) positive about the ring road ($M = 1.13$). No difference was found between expectations of CCS and the wind farm. Of the respondents, 48% are (slightly) positive about the impact of the wind farm on their local area (0.73). (See Figure 5.17).

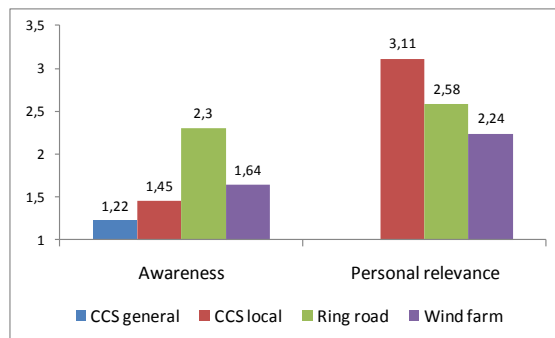


Figure 5.16 The mean score on awareness and personal relevance of issues in the local area. Awareness scores from 1= never heard, 4= a great deal; Personal relevance from 1= not at all important, 4= very important

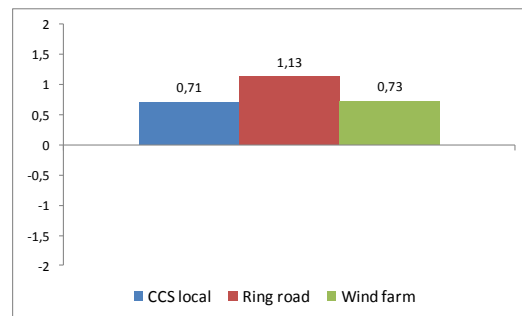


Figure 5.17 The mean score on local impact on area of issues. Impact scores from -2= very negative; via 0= no impact to 2=very positive

5.6.6 Awareness of CCS related to employment and residence

No relation was found between Polish respondents working in various sectors and awareness of CCS plans. Even respondents working in the oil and gas industries are not more aware of CCS plans. No differences were found in the awareness of local CCS between the two districts in which the area is divided.

5.6.7 What respondents have heard about CCS

The 145 respondents who have indicated that they at least have heard about the local CCS plans were asked what they had heard of it. Figure 5.18 shows that 37 of these 145 respondents (25%) has heard 'just that it's going to happen'. Some indicate that they have heard about the local CCS plans that it has to do with stopping CO₂ from entering the atmosphere (9%), installing filters on the stacks (4%), stop pollution (3%), and that it has to do with renewable energy / green energy (3%). Some respondents had heard things about the local CCS plans that are not correct / not related to CCS, like that it has to do with waste dump (8%), or wind farms/turbines (1%).

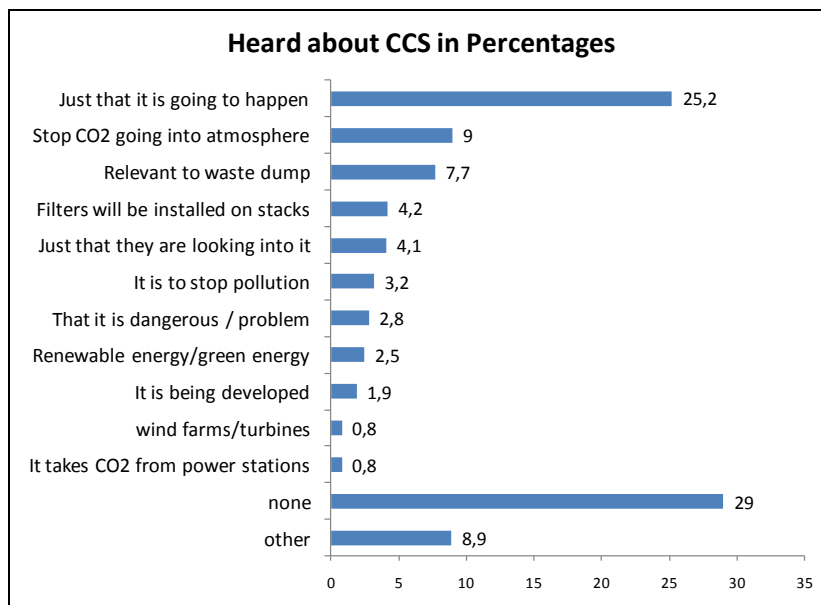


Figure 5.18 What people say they have heard about local CCS plans if they have heard about the plans (n=145)

5.6.8 Arguments/ motives in favour and against local CCS

As described in 5.6.1, only respondents who were positive about CCS were asked about the positive impacts and only respondents who were negative about CCS were asked about the negative impacts. In Figure 5.19 the types of positive impacts expected of a local CCS project are shown for the 89 Polish respondents who indicated to expect a positive impact of local CCS. The respondents could mention more than one argument. By far the most given positive impact of local CCS is that it is better for the environment (53%) and reduces toxic waste (18%). These issues are



not related to some of the most important issues that the local area faces (as shown in Figure 5.19) like unemployment. Only 29 respondents (3%) think that local CCS brings negative impacts like bad for the environment (69%; 20 respondents), that CO₂ will escape to the surface (and suffocate people – 11%; 3 respondents) or that CO₂ will escape to the groundwater (also 3 respondents) (Figure 5.20).

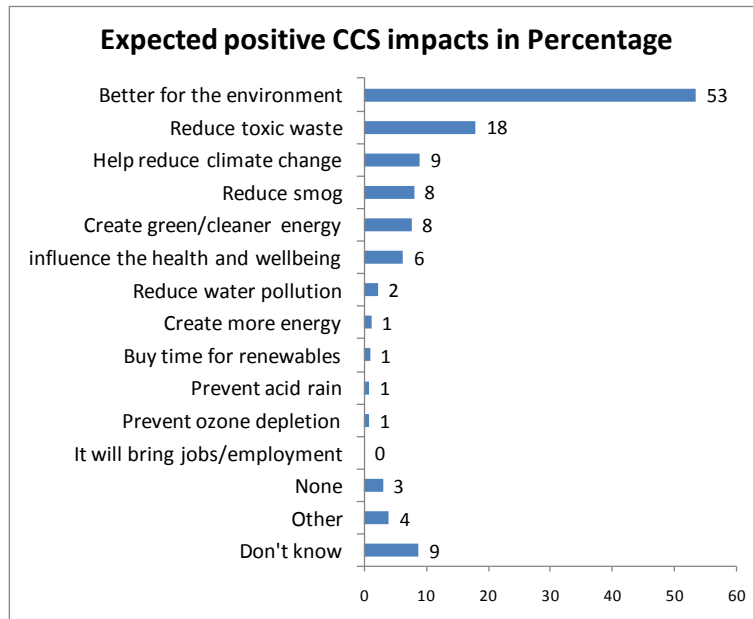


Figure 5.19 Positive aspects of local CCS plans as stated by respondents who are positive about local CCS plans (n=89)

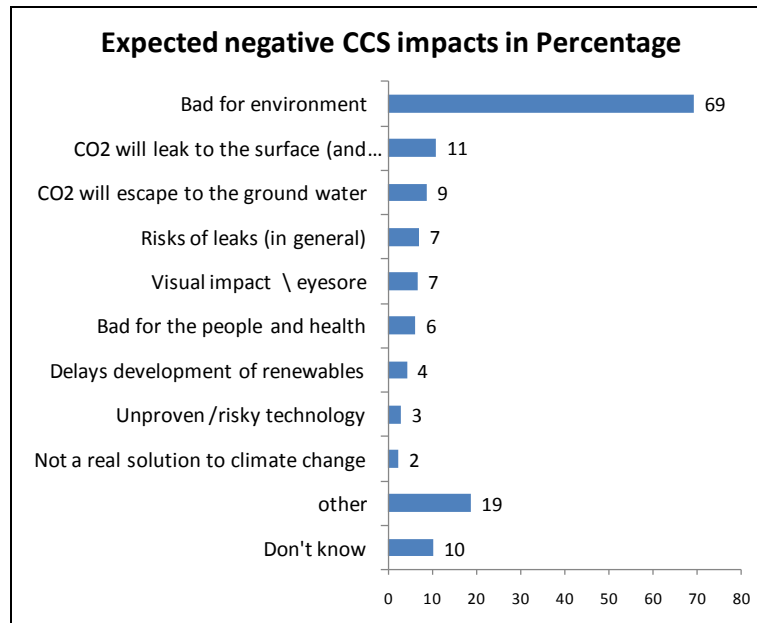


Figure 5.20 Negative aspects of local CCS plans as stated by respondents who are positive about local CCS plans (n=29)

Positive impacts of the Ring Road are expected by 503 respondents. They expect the Ring Road to lead to less traffic in the city (66%), less traffic jams (40%) and cleaner air (11%). These are impacts that the most of the respondents will profit themselves. Only 38 respondents mentioned negative impacts of the Ring Road of which 25 are afraid that the Ring Road will generate more traffic and 7 respondents mentioned the construction of the Ring Road near to their houses.

Since so many respondents expect a positive impact of the Ring Road, it seems logical to expect that this issue is perceived more relevant to people than local CCS. But this hypothesis is not supported by a t-test wherein no significant difference was found in personal relevance between local CCS and the Ring Road. Thus even though more people expect positive impacts, the issue of the Ring Road is not deemed more relevant than the issue of local CCS.

Finally, 170 people expect a positive impact from the wind park and 19 people expect a negative impact. The results of the survey show that the wind park is seen as positive because it produces green/clean energy (54%) and cheaper energy (26%). Only very few (19 respondents) see negative consequences of the wind farm plans of which 4 stated that wind turbines are loud and 3 respondents think they are harmful to human health.

5.6.9 Trust in information sources

Respondents are asked to what extent they think decision makers take into account the interests of the local residents. Overall the Polish respondents seem to have a bit trust in this. On a scale of 1 (not at all) to 4 (fully) the means score is 2.41; that is in between 'a little bit' and 'quite a bit'.



Table 5.6 shows the trust respondents give to individuals and organisations to represent their interests in decisions affecting their local area. Almost a quarter of the Polish respondents say they trust no one on this (23%). And a fifth say they do not know (20%). The most trusted on representing the interests of the local people are the councillors (18%), community authorities (7%) and Soltis (7%).

Table 5.6 Percentages of respondents trusting organisations and persons to represent their interests in decisions affecting their local area. (n=1000)

Organisation/ person	%	Number	Organisation/ person	%	Number
Political parties			Local authorities	1	8
Platforma Obywatelska	2	16	Community council	18	180
Prawo i Sprawiedliwość	1	14	Community authorities	7	70
Sojusz Lewicy Demokratycznej	1	10	Organisations/associations	1	12
Polskie Stronnictwo Ludowe	0	4	Business leaders	0	2
Polska Jest Najważniejsza	0	0	Church/religious leaders	1	5
Samoobrona	0	0	Police/fire service	1	5
Liga Polskich Rodzin	0	0	Social activists	0	4
Other political parties	2	15	Estate council/housing cooperative/residents	1	7
Local MPs (non-specific)			Soltis	6,9	69
Beata Kempa (PiS)	0	0	Environmental organisations	1	8
Wiesław Kilian (PiS)	0	0			
Other local MPs	1	5	Charities	2	17
Local politicians			Local newspapers/journalists	0	1
Jan Kalinowski (Starosta górowski)	1	6	Local news/News on TV	0	0
Zygmunt Wolny (Starosta rawicki)	0	3	Local Radio	0	0
Irena Krzyszkiewicz (Burmistrz Gminy Góra)	6	58			
Zbigniew Stuczyk (Burmistrz Gminy Wąsosz)	2	17			
Tadeusz Pawłowski (Burmistrz Gminy Rawicz)	6	60			
Józef Zuter (Burmistrz Gminy Bojanowo)	2	19			
Jan Głuszko (Wójt Gminy Niechłów)	1	7			
Czesław Potczyk (Wójt Gminy Jemielno)	0	3			
Other local politician	3	26			

Table 5.7 shows the 10 sources of information (either media or people) that are most trusted by respondents for gaining information about developments in the area. The



results show that internet is the most preferred medium of half of the Polish respondents (49%).

Table 5.7 List of preferred sources of information on the basis of 3 spontaneously chosen categories (which therefore can mount up over 100%)

Media use in Poland	%
Internet	49
Życie Rawicza	25
Panorama Leszczyńska	19
Przegląd Górowski (local newspaper)	15
Radio Elka (stacja lokalna)	14
Gazeta ABC (local newspaper)	14
Other local newspapers	10
Family/friends	7
Gazeta Rawicka (local newspaper)	7
Posters/leaflets/information boards	7

5.6.10 Local activism

Participation and communication are both important factors in the SiteChar project. In order to gain insight in the degree of active involvement in the local community several activities were presented to the respondents and they were asked whether they had undertaken any of these activities in the last 12 months. The results in Figure 5.21 show that 23% of the Polish respondents went to a local meeting and 13% of the respondents signed a local petition in the past 12 months. 11% helped their council plan what their area should look like in the future. Over half of the respondents have not taken part at one of local activities.

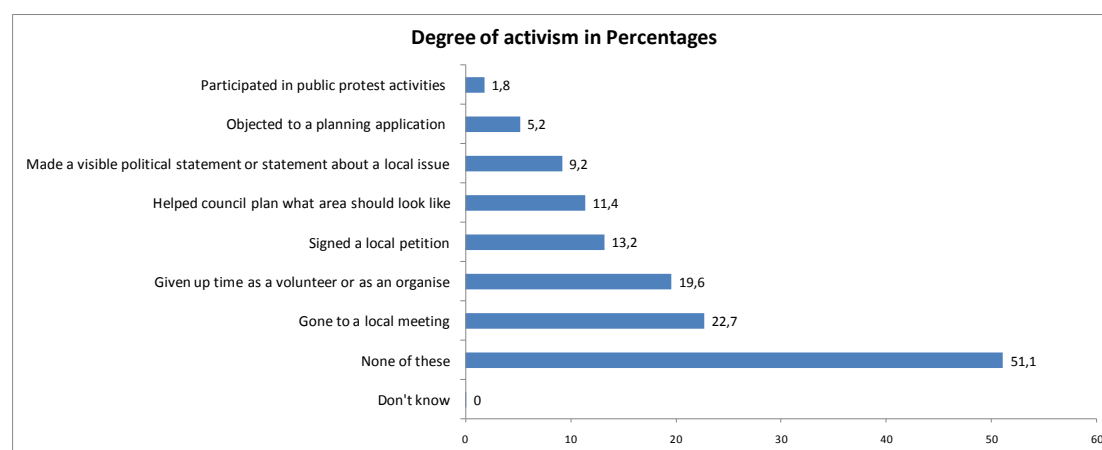


Figure 5.21 Activities undertaken in their local area in the last 12 months by respondents in percentages (n=1000)



5.7 Conclusions

5.7.1 Region characteristics and developments

The results of the interviews with stakeholders reveal that the region where CO₂ might be stored is divided in two districts with difficult neighbourly relations due to the complicated history of the area. (frequently shifting borders). The sparsely populated region is predominantly agrarian and has a high unemployment rate. Investments in the region to create new jobs are considered most important. But the region is highly unattractive for investors due to insufficient infrastructure (traffic, network and communications).

Attempts are being made to intensify tourism. Furthermore, some infrastructure projects are planned or are under construction, for example a bridge over the Oder in Ciechanow, construction of a road section in motorway 5, ring roads and a wind park.

5.7.2 Awareness of local CCS plans and need for information

The awareness of CCS in general and local CCS plans in the region are very low. In the course of the interviews the stakeholders had questions about risks and safety issues of CO₂ storage in the region. Most of the people are unaware of the large gas fields and the gas production in the area.

5.7.3 Expectations of local CCS plans

There are high positive expectations of what CCS may bring to the area (almost all respondents have positive expectations). Most of the Polish respondents rate the CCS-plan as fairly to very important to them personally.

Although there are some doubts (like the costs of CCS), the results of the media analysis show also more positive than negative expectations. Mostly due to being a climate friendly technology that enables continued use of coal.

Reactions in the interviews to information about CCS and the possibility of its application in the area were mostly neutral, due to the fact that the interviewees were not acquainted with the technology. After a short briefing some of the interviewed stakeholders expressed some reservations. They saw CO₂ as toxic and dangerous.

Although unemployment is seen as a main issue in the region, the respondents of the survey did not state explicitly that they expected that local CCS plans will bring jobs to the region. Nonetheless it can be expected to be an issue in public engagement. With CCS the great coal deposits of Poland can further be used for energy generation in a climate friendly way which is good for the Polish economy.

5.7.4 Recommendations for public engagement

Stakeholders' recommendations for public outreach are summarized in Figure 5.22. Furthermore, we will use the lists of trusted stakeholders and the list of preferred

information sources from the country case study reports to inform the public engagement activities at both sites in the remainder of the project.

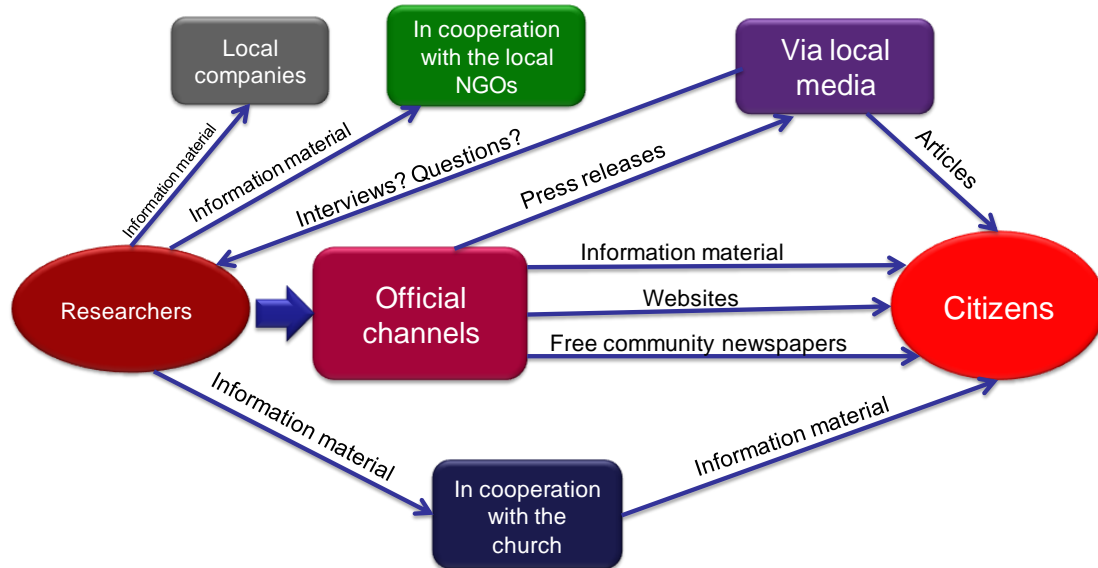


Figure 5.22 Graphical display of Polish stakeholder's suggestions for public engagement



6 Country report: UK case

6.1 National and local context of CCS

6.1.1 National policy on CCS and ongoing activities by industry

CCS has been evaluated in the UK context since the mid-1990s. The British Geological Survey (BGS) led the 'Joule II' study of carbon dioxide storage potential in Europe (for final report, see Holloway, 1996). As carbon reduction targets have become more demanding in successive Energy and Climate Change White Papers and Acts of Parliament, so CCS has assumed greater importance in the national debate on energy and climate change (Winskel, 2012). An early CCS project that was proposed by BP and partners in 2005 at Peterhead in Scotland did not receive sufficient financial support from the, then Labour, Government.

In 2007, the UK Government announced a competition for funding a post-combustion CCS demonstration project. Subsequently, the old (Labour) Government expressed an intention to support three further CCS demonstrations and proposed a CCS levy to be charged on electricity consumers which would pay for implementation of CCS. However, before this levy could be instituted, there was a change in government in 2010 and the new Conservative - Liberal Democrat coalition Government signalled its intent to encourage CCS projects as part and parcel of a far-reaching process of Electricity Market Reform (EMR).

Under EMR (2011) it has been proposed to establish Feed-in Tariffs (FiT) for all low-carbon options, with the FiT being determined by the 'Contract for Difference' – this being the estimated difference between the levelised electricity generation cost for the cheapest option (e.g. natural gas CCGT) and the CCS option. There is also a special payment for increasing electricity generating capacity ('capacity payments'). As yet the details of the new support mechanisms under the EMR have yet to be established. The coalition Government remained committed to the post-combustion CCS demonstration competition, but it is less clear whether the additional three demonstration projects would receive support directly or would be considered as eligible (alongside other low-carbon electricity generation options) under the provisions of the EMR.

The UK Government submitted seven proposals for CCS projects to the European Commission for consideration under the NER300 round of funding. This includes another project in NE Scotland, Scottish and Southern Electricity's Peterhead gas-fired power plant. The main other support mechanism for CCS projects in the UK is from EU funding.

On October 19th 2011, the Government announced that the Scottish Power-Shell-National Grid Longannet proposal for a CCS project in Scotland had been scrapped due to impossibility of securing agreement between all the key partners. With the cancellation of the Longannet project, it now looks likely that the Government will re-allocate the £1 billion it had set aside to an alternative CCS project but it is too early to say exactly what decision-making mechanism would be used.



6.1.2 Regulatory requirements for project planning and public participation

Planning for, and regulation of, CCS involves a range of different agencies. The Department for Energy and Climate Change (DECC) administers applications for consent for power stations in England and Wales. In Scotland, applications to build and operate power stations are considered by Scottish Ministers. Environmental permitting is undertaken by the Environment Agency and the Marine Agency (England & Wales) or Scottish Environmental Protection Agency (SEPA) and Marine Scotland (for projects in Scotland). The Health and Safety Executive (HSE) would regulate any human health and safety dimensions. Public consultation is part of the statutory consultation. A 'regulatory dry run' was conducted in 2010/11 by the Scottish Government which brought all the agencies and bodies which would be involved in CCS regulation together to consider how regulation would proceed.

Where development takes place out with the 12 nautical mile offshore territorial limit, the UK government is the planning authority and the local authority is not involved at all (including with respect to that part of the development taking place within the 12 mile limit and onshore). This may be a potential weakness in project planning for offshore CCS (see 6.4.3).

6.1.3 Public awareness and perceptions

Awareness of CCS in the UK is very low (70% of citizens never have heard about CCS technology; European Commission, 2011). 44% of the citizens who have heard about CCS agree that the storage of CO₂ will help to combat climate change. On the issues of the regional use of CCS 30% of respondents answered that if CCS was used in their region, they would benefit from it. The most often mentioned positive impacts of local CCS are that it would improve the quality of air (49%) and create jobs (35%). 52% of the citizens answered that they would be concerned or very concerned if a storage site for CO₂ were to be located within 5 km of their home (30% would be not be very concerned or not at all, 19% don't know). Regarding trust in information sources, 27% of the UK people have the highest degree of trust in universities and research institutions.

6.2 SiteChar project context

The present report is a deliverable of WP8 – Advancing Public Awareness. However the work within WP8 is linked to the technical site characterisation undertaken at the site in WP3. As part of WP3, a multi-store site in the Moray Firth is being characterized. This involves developing and evaluating a complex storage project that combines storage in both a hydrocarbon field and the associated aquifer. It is envisaged that the hydrocarbon field will provide near term storage capacity, with the aquifers providing greater storage potential at a later stage. The site will be characterized sufficiently to enable a dry-run license application to be submitted to the competent authorities in Scotland for assessment (coordinated by the Scottish Government). A report on the geology of the multi-store will be delivered by the end of December 2011.



The provisional timeline for the activities within WP3 is as follows:

- Draft application to regulators for review - March 2012
- Report of draft permit - May / June 2012
- Final application to regulators for review - December 2012
- Report of final permit application - May / June 2013

The planning of activities undertaken in WP8 has been adjusted to fit this timeline. Public outreach and research activities in the Moray Firth area will be completed well before the end of 2012 to have the results inform the final application in December 2012.

6.3 Qualitative social site characterisation: area description

6.3.1 The area

A map of the region, councils and key settlements is shown Figure 6.1. The purposes of this study, the Moray Firth is defined as the triangle of land and sea which extends between Duncansby Head in the north, Inverness and Beaulieu Firth in the west, Fraserburgh in the east and the foothills of the Cairngorm central massif in the south. The bulk of the population lives in the coastal strip between Inverness and Fraserburgh, concentrated into several cities and towns such as: Elgin (regional centre), Nairn, Forres, Lossiemouth, Banff, Buckie, Invergordon, and Cromarty. This area covers three local authority regions: Moray, Aberdeenshire and Highland Councils. However, this study has focused upon the Moray Council area which includes the majority of the Moray Firth population (excluding Inverness and its environs). The Moray Firth is divided into the Inner Firth (sometimes known as the Firth of Inverness, extending eastwards from Firth of Beaulieu to Chanonry Point) and the Outer Firth. The Moray Firth has 800 km of coastline and the Rivers Ness, Findhorn and Spey all drain into the Firth¹⁴.

¹⁴ Geo-coordinates: Inverness: 57° 29', 58'' N; 04° 13', 43'' W (OS ref: NH664476);
Fraserburgh: 57° 41', 56'' N; 02° 00', 03'' W (OS ref: NH999677). The area is covered by
Ordnance Survey maps 11, 17, 21, 26, 27, 28, 29 and 30.

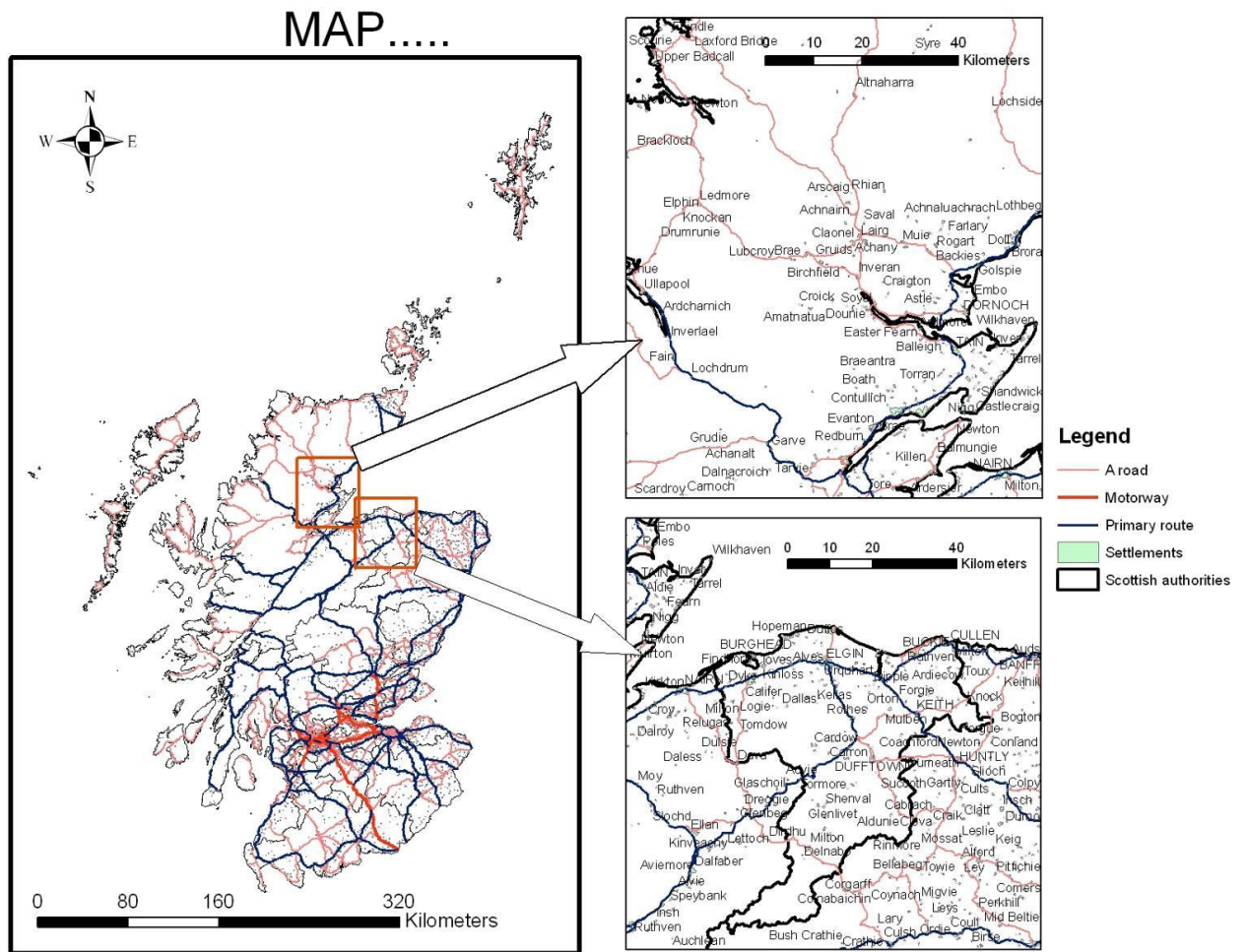


Figure 6.1 Map of the Moray Firth region

6.3.2 Historical features

The Moray Firth is a predominantly rural area which has a long fishing tradition. Major fishing fleets (especially herring) have operated out of its harbours over the centuries, but the traditional fisheries have suffered from over-fishing and have declined enormously. The Beatrice oil field in the Moray Firth was developed and began producing oil in 1976.

6.3.3 Socio-economic features

In 2010, the population of Moray was 87,700, accounting for just under 2% of the population of Scotland. The population of Moray is slightly older than the average for Scotland. Life expectancy in Moray is 78.8 years, with both male (76.7) and female (80.9) life expectancy higher than average for Scotland.

There is a net migration into Moray each year, with the largest flux being in the 16 – 29 age group. By 2030, it is projected that the population of Moray will increase by 2.9%. As for Scotland as a whole, there is an ageing population to 2030. Inward migration explains most of the population change. Appendix V provides figures with the population characteristics.

There are 39,207 households in the Moray area, and 42,241 dwellings. One third are single-occupancy households (slightly lower than for Scotland as a whole). The number of households in Moray is projected to increase by 12% from 2008 – 2033, lower than the increase of 21% over the same time period for Scotland as a whole. This increase is largely accounted for by an increase in single-occupancy dwellings (Figure V.3).

Mean earnings in Moray are 10 to 15% lower than in Scotland as whole (Table V.1). The mean net annual household income levels (2007/8) are: Scotland (£18,600), Moray (£20,000), Highland (£19,950) and Aberdeenshire (£26,300). Distribution of household incomes in Moray, Highland and Scotland are all similar. Aberdeenshire has a noticeably higher mean income, with more households in the higher income brackets. This is probably accounted for by the importance of the off-shore oil and gas sector in Aberdeenshire. Because many people who live in Moray are employed in the oil & gas sectors, based for tax purposes in Aberdeen and Aberdeenshire, household incomes in Moray are higher than the average for Scotland, even while mean earnings in Moray itself are lower than the Scottish average. House prices are lower in Moray compared to all Scotland (Table V.1).

The Moray area has relatively lower unemployment, inequality and poverty than Scotland as a whole (see Table V.1). This is not surprising given that the area is largely rural and the most serious social deprivation in Scotland occurs in urban areas. The proportion of the Moray population which is considered to be 'income deprived', and the proportion of the population seeking job seekers allowance and claiming benefits in the fourth quarter of 2009 is shown in Table V.1. The proportion of the population which was classified as 'employment deprived' in the fourth quarter of 2009 was less than for Scotland as a whole. The distribution of jobs in Moray compared to Scotland as a whole is illustrated in Figure V.5.



6.3.4 Local economy

The Moray economy supports a higher percentage of manufacturing, education and defence jobs compared to Scotland as a whole, and a lower than Scottish average for finance, property, business administration support and service jobs. Food production and processing is an important sector with companies such as Baxters and Macleans Highland Bakery. Whisky distilling is another major sector, the area including part of the world-famous Speyside whisky producing region. Tourism is another important sector, with visiting distilleries, hiking, dolphin & whale watching and visiting historical monuments all important. In the paragraphs below, brief descriptions are given of the area's main activities.

Fishing

The offshore industry has always been important in the Moray Firth. Fishing is now mostly scallops and Norwegian lobster or langoustine (*Nephrops norvegicus*). Fishing occurs within the Firth, and some boats based on the Firth (e.g. at Buckie) fish further out into the open waters of the North Sea. The total catch in the Moray Firth has been approximately 10,000 tonnes per year (2005-2009), with a value of about £10 million a year. Buckie had a catch of 1,900 tonnes (with a value of £3.6 million) in 2009. Nearly all the catch in the Moray Firth is scallops, langoustine and smaller amounts of other shell fish. This is only about 2.5% of the total value of fish landed in Scotland, however (Baxter et al., 2011).

Oil Sector

The Beatrice field in the Moray Firth is the closest to shore of all North Sea oil fields, being located 24 km off the north Moray coast (and visible from the shoreline) with three operating platforms and 84.6 km of pipeline to the Nigg terminal. (On a clear night, the flare from Beatrice can sometimes be seen from the shore). Ithaca Energy purchased the infrastructure and licence for Beatrice from Talisman Energy in 2008 for £10 million. Oil is extracted from c. 2000 m below the seabed. The production volume has decreased from 192,000 tonnes oil (in 2005) to just over 50,000 tonnes (2008)¹⁵ the gross economic value declining from £40 million per annum to just under £20 million during that period. The daily output in 2008 was c. 1800 barrels of oil per day (bopd). The total reservoir is estimated at 495 million barrels of oil, of which 165 million barrels have been extracted as of 2008.

Employment in the offshore oil & gas sector extends beyond Aberdeen and Aberdeenshire into the Moray area. Several stakeholders suggested that the North Sea oil and gas sector has 'plenty of life in it yet' and is not in demise as was predicted just a few years ago. This is partly driven by higher oil prices (with a price of > \$50 per barrel), meaning that North Sea oil production is still profitable. In fact, according to several interviewees, one of the challenges in the North Sea sector is to attract new graduates to be trained and work in the sector. There is some concern that there may be future shortage of skilled staff in both the renewables and oil & gas sectors.

Military

Another important part of the local economy is defence, with, until recently, two major RAF bases located close to Elgin (at RAF Kinloss and RAF Lossiemouth). On 19th October 2010, the UK Government's Strategic Defence & Security Review announced that the Nimrod¹⁶ contract was to be cancelled, putting at risk the future of both air bases. During the next few months, it became clear that RAF Kinloss would likely close while either RAF Lossiemouth or RAF Leuchars (in Fife)

¹⁵ www.decc.gov.uk, accessed 12.08.2011

¹⁶ Nimrod is a type of surveillance aircraft.



would also have to close. The two Moray RAF bases support c. 5710 jobs and bring £158 million per year into the local economy and their closure would have a major impact on the local economy. A vigorous campaign was established to save RAF Lossiemouth (see www.savelossie.org) while the Moray Task Force was set up as a partnership between private, public and community sectors, including Highlands and Islands Enterprise, Moray Council and Skills Development Scotland, to “represent local interests and spearhead campaign efforts” (www.moraytaskforce.com).

The possible closure of RAF Kinloss and RAF Lossiemouth has been the major political issue in the Moray region since the October 2010 announcement. Therefore, this issue was included in the survey as a ‘high impact’ issue (see section 0). On 18th July 2011, well after data collection for the survey had finished (see section 6.6), the Secretary of State for Defence announced that RAF Lossiemouth was to remain, while RAF Kinloss and Leuchars were to be converted into army barracks. This decision was broadly welcomed by the Moray community and provides a reprieve for the area.

Renewables

The renewables energy industry has developed in Moray both on- and off-shore. Onshore wind is fairly well established, driven by generous compensation under the Renewables Obligation, but has begun to be resisted by a vocal minority, as is the case in much of the UK. A proposal to erect 59 turbines each 126 m tall (177 MW capacity) was recently refused by Moray Council on the casting vote of the chair. Objections were received not only from local inhabitants, but also from the Cairngorms National Park and Aberdeenshire Council on the grounds of landscape and accumulative visual impact. The objectors to more on-shore wind in Moray point out that the region already generates more electricity from wind turbines than it consumes. The argument is made by the objectors, therefore, that the region has ‘done more than its bit’.

Biomass is also established in the region, especially the use of organic waste from distilleries. A recent large bioenergy investment (£50 million) has been made in the distilling town of Rothes in Speyside. This is a joint venture between Helius Energy and the Combination of Rothes Distillers, which will see whisky distillery by-products used to fuel a 7.2 MW_e heat and power plant, and liquid whisky by-products used to produce organic fertiliser and animal feed (www.heliusenergy.com, accessed 12.08.2011). The Moray area is quite heavily forested and there is potential for more bioenergy development in the region.

An off-shore wind demonstrator has been constructed adjacent to the Beatrice oil field (2 x 5MW turbines). This is one of the first off-shore wind developments in Scotland. Under the Crown Estate’s Round 3 off-shore wind Leasing Round, a 1.3 GW lease has been awarded to Moray Offshore Renewables Ltd. (MORL), a partnership between EDP Renováveis and SeaEnergy Renewables. The lease covers an area of 520 km², 25 km off the Caithness coast in water of 30 to 60 m depth. Approximately 260 turbines are envisaged, so the infrastructural development will be significant. Some of the turbines might be visible from the land at certain locations. The investment required is estimated to be c. £4 billion. A detailed public consultation is being undertaken, in which the Moray Firth Partnership has played a facilitating role. Several ports along the Moray coast, Buckie in particular, are angling to be the hub for maintenance and support of the off-shore renewables infrastructure. MORL is intending to install the first turbine in 2014 with the first electricity generation taking place in 2016.

Another off-shore development arising from the renewables sector is the construction of a transmission cable. This is known as the SHETL cable after the developer Scottish Hydro Electric



Transmission Ltd (a subsidiary of Scottish and Southern Energy plc). The HVDC cable from Shetland is planned to provide a high capacity electricity connection between the GB Transmission System and renewable energy projects in Shetland. It will connect to the first multi-terminal anywhere in the world (the Moray Firth Hub) and will form part of a subsea transmission network connecting Caithness, Shetland, the Moray coast and potentially the Round 3 Moray Firth off-shore wind farm. The proposed route is across the Moray Firth seabed and will come on shore at Portgordon, from where it will transmit electricity (via an underground HVDC cable) to a sub-station (from 240 kV to 400 kV) at Blackhillock, near Keith. The project is currently going through planning (by DECC) for which an Environmental Impact Assessment is being undertaken. SHETL is a c. £400 million investment.

6.3.5 Nature and environment

The Inner Moray Firth is designated as a Special Area of Conservation (SAC) under the EU Habitats Directive, and as such is subject to a management plan for wildlife conservation purposes. The area designated as an SAC runs westwards of a line from Helmsdale on the north coast to Lossiemouth on the south coast. The Forestry Commission plantation along the coast at Culbin provides opportunities for public recreation including cycling, walking, bird watching and horse riding.

The diversity of marine wildlife is seen as a major environmental asset of the Moray Firth region, in particular the large bottlenose dolphin population and the easily accessible seabird colonies. This has led to the development of local tourism, in particular viewing trips to see the northernmost dolphin population in the UK, e.g. the Whale and Dolphin Conservation Society (WDCS) visitor centre at Spey Bay. The harbour porpoise is another common species in the area, with occasional sightings of minke whale and common dolphin. The population of grey and harbour seals in the Moray Firth is also stable, and interviewed stakeholders pointed to the rich marine biodiversity of the area extending well beyond the most common species. As already noted, fishing in the Moray Firth focuses largely on scallops and Norwegian lobsters.

There is currently some concern, especially among NGOs, as regards the potential effects of off-shore renewable energy development upon marine mammals and bird populations. For example, concerns have been raised regarding the effects of seismic surveying and noise from traffic or construction of off-shore facilities on dolphins, whales and seals. Research is currently underway, under the direction of the University of Aberdeen, into the possible effects of seismic activity, vibration, noise from drilling and other factors associated with off-shore development. The research is funded by Oil and Gas UK, the Department for Energy and Climate Change, and the Scottish Government. Much of the data collection took place over the 2011 summer and the research team are currently in the process of retrieving equipment from the sea bed. The rationale for studying the Moray Firth is that the area is already well characterized. The overarching aims of the project are to consider how all kinds of off-shore development can affect marine wildlife, and to build in mitigation for these effects at the design and planning stage.

6.3.6 Political situation and public involvement

Moray is known as a stronghold of the Scottish National Party (SNP). The SNP's Richard Lochhead, Member of the Scottish Parliament (MSP) for Moray, is the Cabinet Secretary for Rural Affairs and the Environment. (The Scottish Parliament – as opposed to the UK Parliament which meets in London – meets in Edinburgh, and has control over many key aspects of Scottish governance including education, planning and environmental issues). Stewart Stevenson MSP (SNP) for Banffshire and Buchan Coast is the Minister for Environment and Climate Change. The



Westminster (UK) Members of Parliament (MPs) are Angus Robertson (SNP), MP for Moray; and Eilidh Whiteford (SNP), MP for Banff and Buchan. The SNP is also the largest party on the Moray Council, with 10 councillors. However, there are 12 independent councillors, so there is no overall majority on Moray Council. Scottish Labour Party is represented by 2 councillors, as is the Scottish Conservative and Unionist Party, while the Scottish Liberal Democrats have no councillors.

The predominance of the SNP in all elections held since 2007 is clearly evident in voting behaviour in Moray and Banff & Buchan seats (see Figure V.6), with a resoundingly strong performance compared to the other parties in the 2011 Scottish Parliament elections. The Scottish Conservative and Unionist Party appears to be the second most important party in Moray. In the past few years, support for both the Scottish Labour Party and the Scottish Liberal Democrats has declined somewhat in the Moray region.

Because of the strong SNP presence in Moray, and the Scottish Government being led by the SNP, there is a high degree of coordination between local decision-makers and the Government, e.g. with respect to meeting Government renewable energy targets. It was clear from the discussions with stakeholders (see 6.4) that the Moray community is quite self-contained with well functioning Community Councils and Area Forums. The community expects to be consulted about proposed developments at an early stage and will tend to assume that a later-stage development is a 'done deal'. There are also other NGOs in the area focusing upon sustainability, including Transitions Town Forres.

There is less likely to be distrust in the oil and gas sector than in other parts of the UK due to a high level of employment in the region from oil & gas, which is a high paying sector compared to most others. Stakeholders reported that many families in Moray have members who have, or are still, working in the offshore oil and gas sectors and see the sector as a vital part of the local and regional economy. Furthermore, there are well-established procedures by which the oil & gas and fishing industry in Scotland come to a settlement on compensation arising from activities such as off-shore drilling and pipe-laying.

Crown Estates rental of offshore seabed for renewable energy (and in future for CCS) is generating an income that is going to the UK Government. This is a bone of contention as politicians in Moray believe that this rental income should come back into the region. The Scottish Government is making the case to the UK Government for the devolution of the administration and finances of the Crown Estates Commissioners to the Scottish Parliament. This will ensure Scottish natural assets are managed in Scotland for the benefit of all of Scotland's people.

6.4 Qualitative site characterisation: stakeholder interviews

6.4.1 Overview of stakeholder interviews

The interviews had three important aims: (1) Informing key stakeholders about our plans and to obtain their support and advice on our public engagement activities planned for 2012; (2) Register how participants respond to information about CCS; (3) Obtain information about the site in addition to information from other sources. Interviews were based on a guideline that had been developed in advance (see Appendix I) in which relevant discussion topics were listed.

We undertook interviews with a selection of the key stakeholders in the Moray Firth area between June and August 2011. Potential interviewees were contacted by email and/or telephone and



asked for an interview. We also obtained additional names and contact details from interviewees. Through discussions with the Moray Firth Partnership (MFP), an opportunity arose of presenting the SiteChar project to a Board meeting. The MFP brings together a large number of relevant stakeholders in the Moray Firth region. Following the presentation, a discussion was held between the researcher and the six MFP board members present. One telephone interview was also held. It proved impossible to undertake an interview with one company, this being due to their excessive workload at the time.

We used the Interview Protocol as the guide to the interview process. We adopted a semi-structured approach (as is usual in the interpretative social sciences) which meant that we adjusted the questions to the situation and did not necessarily stick to the order of the questions in the protocol. Hence, if a particularly interesting discussion emerged between the interviewer and the respondent, we allowed this to develop organically rather than cutting it off and breaking the respondents' thought processes by artificially changing subject. In that circumstance, we instead built-upon and extended an interesting discussion. We also felt it necessary to adjust the interview to the knowledge, interests and requirements of the respondent who was generously offering their time to us at no cost. Most of our respondents were highly knowledgeable about their region (and, in some cases, about the energy sector, especially oil and gas) and highly experienced in their own areas of activity. All of our respondents had heard about CCS and the majority knew about the basic technical details of the science and technology. In many cases, it would have been impolite to have stuck rigidly to the interview protocol in the face of this knowledge-base. We did cover all the most important topics during the interviews to the extent that time, knowledge and interest permitted.

Table 6.1 lists the stakeholders who were interviewed in the course of preparing this report, and Figure 6.2 gives an overview of the various stakeholders with an interest in CCS in the Moray Firth. The figure is intended to give a brief overview of where each stakeholder stands as regards their interest in the Moray Firth (in onshore aspects or offshore aspects) and their stance on the use of the Firth (enterprise and economy or sustainability and conservation). Further information on each of these stakeholders is provided in the following sections.

Table 6.1 Stakeholder Interviews and Discussions (June – August 2011)

Position	Organisation
Councillor	Moray Council
Council officer	Moray Council
Councillor	Moray Council
Chair	Moray Firth Partnership (MFP)
Vice-Chair	MFP & Area Manager, Scottish Natural Heritage (SNH) South Highland
Retired Harbour Master	Cromarty Firth Port Authority
Former shipyard manager, former regional manager MCA; currently consultant to renewables industry	Self-employed
Retired planner	Aberdeenshire Council
Partnership Manager	MFP
Councillor	Moray Council
Councillor	Moray Council
Head of Science	Whale and Dolphin Conservation Society (WDCS)

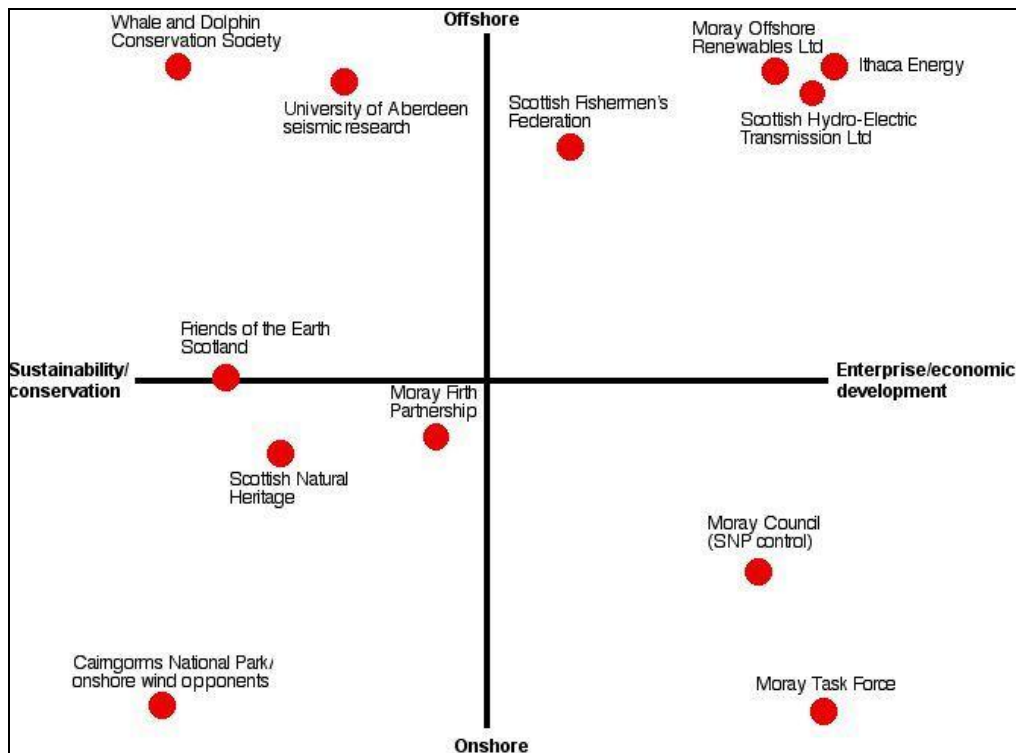


Figure 6.2 Overview of Moray Firth stakeholder standpoints



6.4.2 Stakeholder perceptions of infrastructural developments

The overwhelming impression received from interviews as well as consultation of the local newspapers (see Section 6.5) is that there is little objection to new infrastructure in Moray, with the exception - by a small but vocal minority - of on-shore wind farms. Moray is not densely populated, with a population density of 39 persons per square km compared to, say 1,786 persons per square km for the City of Edinburgh, 396 persons per square km for the mixed urban/rural West Lothian Council, or 141 persons per square km for the largely rural East Lothian Council. This would perhaps help to explain lack of concern over new infrastructure. There is a widely held feeling that the Moray area would benefit from more inward investment, especially higher value-added sectors with better-paid employees. Hence, some interviewees felt that the inhabitants would actually welcome more infrastructural development such as the Elgin road bypass and better train lines.

There are some stakeholders who are more likely to object to certain types of infrastructural development, however, especially if close to shore. Drilling on the sea-bed, for example, can create vibration and noise pollution that may have adverse impacts on sea mammals such as dolphins and whales. Scottish Natural Heritage (SNH) and environmental NGOs such as the WDCA are stakeholders that are likely to raise questions about adverse impacts of off-shore infrastructural development. The above-mentioned research on the environmental and biodiversity impacts of development of the off-shore renewables industry is relevant here.

It was felt by some stakeholders that the 'purity' of the Moray environment is an important part of the selling appeal of the region as a food and beverage producer (especially the purity of the water used for producing whisky).

6.4.3 Stakeholder perceptions of CCS

Several of the stakeholders were aware that the geology of the Moray Firth area was potentially suitable for CCS, but expressed concern at the lack of information available on what the infrastructure for CCS would entail. The main focus and interest in CCS by the stakeholders interviewed was the jobs and enterprise dimension. Some comparisons were made with offshore renewables. It was proposed that offshore wind turbine parks could become a tourist attraction and that possibly a CCS project could likewise be interesting to tourists.

Stakeholders generally perceived that CCS could be a positive development for the area. The coastal region has long regarded the offshore environment of the Moray Firth as a resource - for many years for fishing, but more recently for exploitation of oil and gas reserves and now renewables. Hopes are high that the port of Buckie will be re-developed as the service and maintenance hub for the emerging Moray off-shore renewables sector. CCS could potentially fit into this development trajectory and perhaps benefit from the offshore renewables infrastructure and development. Where feasible, it was suggested by some stakeholders that the areas where drilling already takes place should be utilised for drilling for the purposes of establishing CO₂ storage sites.

Some of the stakeholders were, however, sceptical of the jobs creation potential of CCS. The short-term construction jobs were recognised, but it is not clear to many whether there would be enduring CCS jobs as once pipelines are installed and control systems in place, the operation would be largely automated. It was unclear from the information available just how many jobs would be sustained in the maintenance and inspection of the CO₂ pipelines, operation of compression stations, and any other associated infrastructure. It was also felt that CCS jobs in oil



and gas companies would probably 'take up the slack' rather than result in many brand new positions. In short, there was scepticism concerning whether there would be any new jobs for the locale. In general, pipeline construction goes out to competitive tender and there is no guarantee of a tie-in to local jobs, though some companies do operate a voluntary agreement to employ a given % of local staff. A few stakeholders made a comparison with the offshore renewables industry, in which case maintenance and repairs are reasonably frequent. (A detailed examination of the evidence supporting the job estimates in the 2011 CCS report from SCCS, and in a more recent report produced by Scottish Enterprise in May 2011, is necessary and planned).

Furthermore, stakeholders expressed concerns about the involvement of local planning authorities. Where development takes place out with the 12 nautical mile offshore territorial limit, the UK government is the planning authority and the local authority is not involved at all (including with respect to that part of the development taking place within the 12 mile limit with approval from the Scottish Government). This was felt to be a potential weakness in the planning system since the UK government is not likely to be as aware of local concerns as the local planning authority would be. It was noted that new pipeline routes for CO₂ might have a built-in safety margin which would 'sterilise' other development. There are very few places on the Moray coastline where a CO₂ pipeline could be taken offshore.

One issue raised by several stakeholders is the potential problem of lack of integration of all the different developments planned to go ahead within the Moray Firth area in the next decade. This includes the planned offshore renewables industry and the SHETL seabed cable, so one issue that could arise with the proposed CCS development is the harmonious integration of all these activities. Referring to the expressed concern at the lack of information available on a possible infrastructure for CCS, timely information provision about this topic seems vital to effective stakeholder engagement.

Adverse environmental impacts from CCS were not widely perceived by the stakeholders, though they did raise important questions about near-shore impacts, the risk and impacts of CO₂ leakage and the potential removal or degradation of habitats through laying pipelines. Some stakeholders expressed concern about the possibility of negative effects of drilling, seismic surveys and marine traffic on the marine mammal population, going on the assumption (in the absence of fuller information) that CCS would entail similar infrastructure and processes to existing oil and gas extraction.

The impacts on fishing were also considered, including the effects of seabed pipelines and infrastructure on dredging (e.g. for scallops). (Pipelines coming in at St. Fergus in Aberdeenshire have been laid in a seabed trench and then covered with quarried stones. This caused a huge demand for quarrying in the Aberdeenshire area, as well as transport and other disruptions to local communities).

Some stakeholders felt that little information was readily available on CCS and what it would entail. They would like to know more in order to develop an informed opinion on the topic. Should a CCS project be proposed in the area, there is certainly the perception and expectation that a detailed EIA for the proposed CCS project would be undertaken and made available to the public.

6.4.4 Stakeholder questions about CCS

Stakeholder questions were:

- Where would drilling platforms be located?



- To what extent can existing drilling platforms be utilised for CO₂ storage?
- Are entirely new platforms required or can existing infrastructure be modified and re-used?
- Where would CO₂ pipelines be located? Across land or seabed connecting to St. Fergus?
- Would seismic surveys and drilling additional to those that have already taken place for oil and gas extraction be required?
- Could the CO₂ be transported by ship to the storage site instead?
- What exactly would be buried, i.e. in what form would CO₂ be stored and what would be stored with it?
- What happens if there is large leak of CO₂ from the seabed?
- Is there any other source of pollution from the CCS project which could affect the local environment?
- What income is generated by the companies involved in CCS?
- Is there a tax incentive scheme to encourage companies to undertake CCS?
- Is the Moray Firth the only part of Scotland with suitable geology for CO₂ storage?
- What are the rules between the EU, UK and Scottish Government with respect to incentivising and regulating CCS?
- Can CCS-EOR be economic in the offshore oil sector of the North Sea?
- Can CO₂ from industrial processes, e.g. in chemicals production and refining, be collected and stored geologically?
- How significant might the 'fracking' episodes in the area offshore Lancashire be to public perception of CCS?

6.4.5 Stakeholders' recommendations for public outreach

It was discussed with stakeholder which organisations should be consulted, involved, or both in subsequent public outreach activities as part of our work in SiteChar. Relevant media to use for information dissemination were identified as part of the quantitative social site characterisation (survey) which is described in Section 6.6. The following organisations were discussed during conversations with stakeholders:

- Moray Firth Partnership (MFP): a small, not for profit, organisation, specialising in Integrated Coastal Zone Management (ICZM) / marine planning issues. MFP offers public consultation services such as running consultation events, including arranging speakers and workshop facilitators, issuing invitations, registrations, post meeting reports, etc. MFP claims to maintain a neutral stance but is not perceived as a neutral party by all stakeholders. Some Moray region stakeholders regard MFP as 'too environmentalist'. Also, there is perception that MFP focuses its activity more in the inner Moray Firth area around Inverness than in the Moray region further east Hiring MFP for public participation activities is therefore not recommended.
- Moray Council has its own Citizen's Panel which it consults on issues as and when appropriate;
- CIFAL Findhorn, is one of nine UNITAR centres globally. (UNITAR stands for the United Nations Institute for Training & Research). They are based in Forres and specialise on training in climate change. It is the only UNITAR centre in Europe;
- Forres has a Transitions Town group;
- The Findhorn Community is a well established ecological community (located on the coastline close to the town of Forres);
- The Scottish Fishermen's Federation and the Scottish White Fish Producers' Association represent fishers' interests in Scotland and are important consultees in any proposed offshore CCS developments.

6.5 Qualitative site characterisation: media analysis

6.5.1 Selection of newspapers

An analysis of two regional newspapers was undertaken using the online digital database Lexis, which contains material dating from the middle of 2005 to the present. The two newspapers chosen were the Aberdeen Evening Express (AEE) and the Aberdeen Press & Journal (AP&J). The Press & Journal is the major regional newspaper in the North East of Scotland and covers energy issues extensively to the extent of having an Energy Supplement. The other major regional newspaper in the Moray area (The Northern Scot) is not available on the Lexis database and could not, therefore, be searched. 24 articles were derived from the AEE and 176 from the AP&J. The date, word length and heading of each newspaper article were recorded. We also noted the positive and negative arguments about CCS presented in each article and noted the key organisations or individuals referred to.

6.5.2 Frequencies and other descriptives of newspaper articles

Figure 6.3 and Figure 6.4 show the timing of articles which mention CCS in the Aberdeen Press & Journal and Aberdeen Evening Express from mid-2005 to mid-2011. The cluster of articles around the proposed BP Peterhead-Miller project from 2005 to mid-2007 is evident. Reporting on CCS tends to level off somewhat in 2009 but then picks up again in 2010 and first half of 2011. What is perhaps surprising is the extent to which CCS has remained as a fairly consistently reported-upon technology and option for Scottish power plants with storage in the central and northern North Sea sector over the past 6 years.

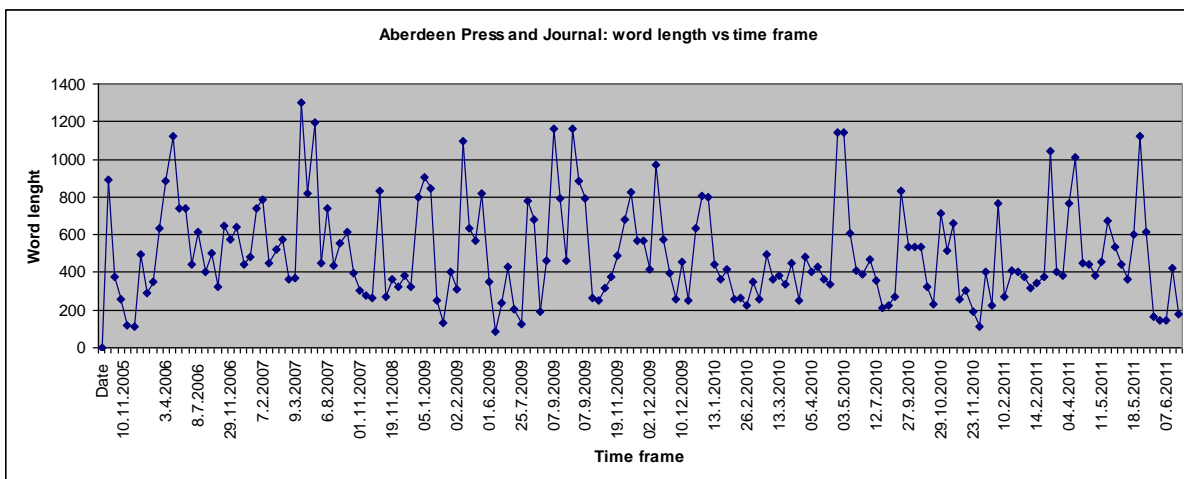


Figure 6.3 Frequency of articles which mention CCS in the Aberdeen Press & Journal ($n = 176$), mid-2005 to mid-2011 (x axis) versus word length of articles (y axis)

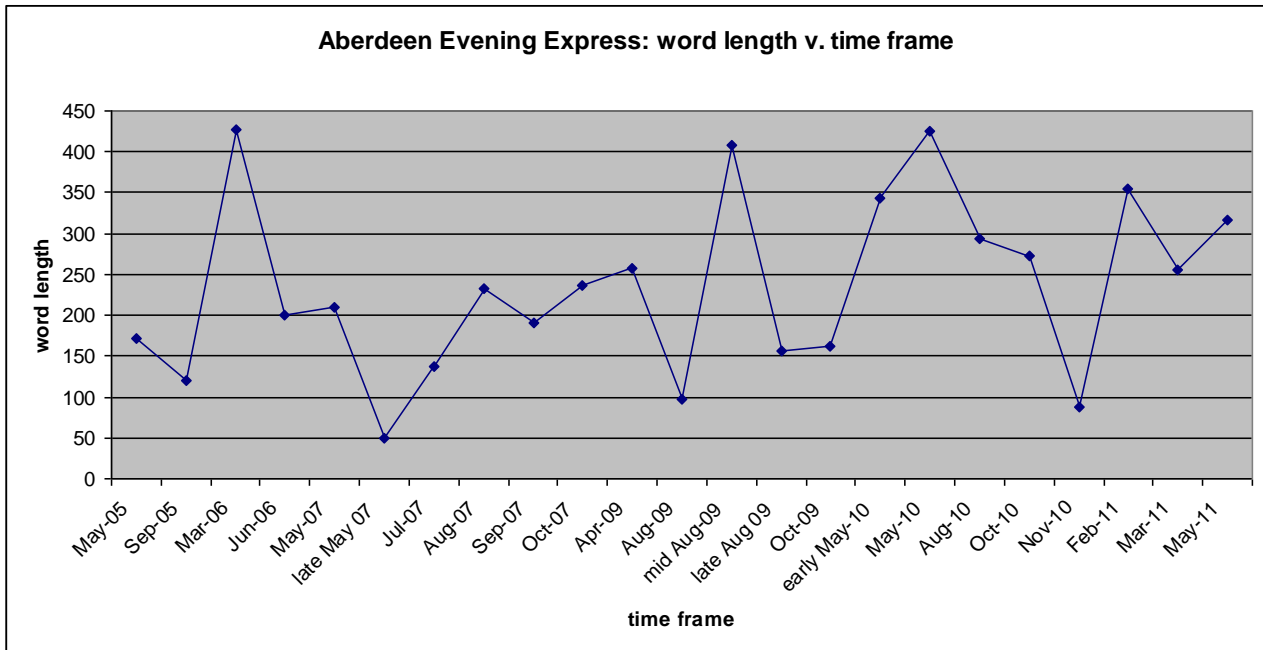


Figure 6.4 Frequency of articles which mention CCC in the Aberdeen Evening Express ($n = 24$), mid-2005 to mid-2011 (x axis) versus word length of articles (y axis)

6.5.3 Stakeholders and their positions

We counted the number of times that different organisations were mentioned in the articles on CCS. The results are illustrated as percentage of total mentions in Figure 6.5. The most commonly mentioned organisations are Scottish and Southern Energy (10%), Shell (9%), BP (8%), UK government (6%), Scottish Government (5%), the SNP, LibDems, Petrofac and Scottish Power (all at 4%). Figure 6.5 shows that a wide range of private and public-sector organisations and companies have engaged with the CCS debate in Scotland over the past 6 years. Leading the group, unsurprisingly, are the lead companies that have envisaged developing projects.

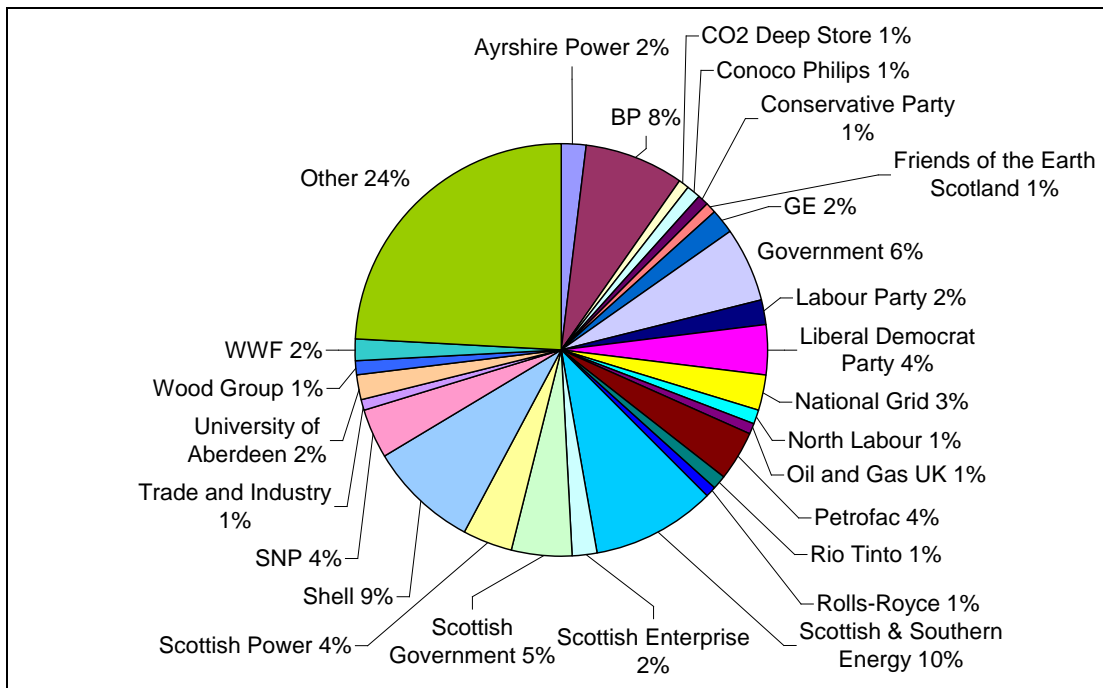


Figure 6.5 The frequency with which organisations are mentioned in the newspapers articles (mid-2005 to mid-2011) (both AP&J and AEE)

There is a strong narrative in the initial media reports from 2005 which revolves around the CCS-EOR project which was proposed by BP in partnership with various other companies. This ambitious plan involved converting methane from a North Sea gas field into hydrogen, for use in an electricity-generating plant at Peterhead, and CO₂ – compressed and used for Enhanced Oil Recovery (EOR) in the Miller Field. The project was first mooted in 2005 and received a lot of publicity in 2006 with very strong support from the (then) Labour Government, local politicians and, notably, the Scottish National Party (SNP) leader and MP for Banff and Buchan (in the eastern part of the Moray region) – Alex Salmond. For example:

"Carbon capture is a potentially life-saving, and planet-saving, technology". Alex Salmond, (AEE, 15th May, 2005).

"The Peterhead Miller project is leading the world and this agreement opens up the possibility that once it is successful many other projects will follow. We have in the North Sea now the most exciting energy innovation in Europe in the last decade. That is how important it is." Alex Salmond (AP&J, 1st December, 2005)

Since 2007 Alex Salmond has been First Minister of Scotland and it is important and significant that Scotland's senior politician has been a strong advocate of CCS for over five years. He has fairly consistently promoted CCS as an innovative new industry that will result in new jobs for Scotland. BP's plans were developed in more detail during 2006 but it was becoming evident that the project was threatened by lack of favourable policy incentives. BP made various 'warnings across the bow' to the UK Government to the effect that its plans would be ruined if more favourable economic incentives were not put into place. The company was lobbying the UK Government to change incentives for renewables under the Renewables Obligation incentive scheme such that low-carbon electricity generation was incentivised (whether through renewable



electricity or CCS or other technologies). By the middle of 2007, BP was sowing the seeds of doubt on whether the Peterhead-Miller project would proceed and by July / August 2007 it had announced that the project would not go ahead and that the company's CCS activities would instead be relocated outside of the UK.

In the media, BP's decision to cancel Peterhead-Miller was presented as being a direct result of the UK Government's procrastination and reluctance to extend incentives to CCS projects. This resulted in severe criticism of the UK Government by Scottish politicians and representative organisations. For example:

"This was the third such delay in a decision on the Peterhead carbon-capture project and has ruined a massive opportunity for Scotland," Alex Salmond (EP&J, 18th May 2007)

"It is Government incompetence. The Government is leaving Britain out of the race to develop carbon-sequestration technology, giving the US and Australia the lead." Malcolm Bruce MP (EP&J, 18th May 2007).

"[I am] extremely angry that the UK Government's meddling and lack of vision has meant that this multimillion-pound investment has now been lost from the north-east", Stewart Stevenson MSP (25th May 2007).

"This is a short-sighted and extremely disappointing decision. This rules out the Peterhead project before it even gets a chance to bid. Peterhead offers an opportunity for Scotland to take a world lead in carbon storage opportunities available in the North Sea. Once again the UK Government has disregarded the opportunities and needs of Scotland", Alex Salmond (AP&J, 10th October, 2007).

Others were more circumspect about the decision. Noted North Sea economist, Professor Alex Kemp of Aberdeen University commented that:

"These schemes could make a substantial contribution to helping to reduce carbon emissions, and at the same time maximise the use of North Sea oil fields. But because this is relatively new, the costs are relatively high at the moment and therefore it is to be expected that some incentives would be needed. The problem at the moment is that the trading value of CO₂ is very, very volatile for someone looking to make a long term investment. If the Government negotiated a price for CO₂ emissions allowances with investors through a long term contract, there "is a floor below which the price could not go", Professor Alex Kemp (AP&J, 25th May 2007).

Following BP's decision, the newspaper coverage on CCS died down during 2008 and 2009. Reporting on CCS picked-up again in 2009, 2010 and 2011 as Scottish Power's Longannet plans for the CCS demonstration were progressed, including a small-scale CO₂ capture unit, and received widespread support from stakeholders in Scotland. This included tentative support from some environmental NGOs such as WWF-Scotland and FoE Scotland. FoE Scotland have more recently, however, started to oppose CCS on the grounds that it diverts funds and attention away from renewables, however WWF-Scotland continue to see it as an important bridging technology. Secretary of State for Energy and Climate Change in London, Ed Milliband MP, expressed positive sentiments regarding CCS.



"If you look at the low-carbon transition plan that we produced in the summer ... it's not just a set of targets, it is a clear route, sector by sector, to achieve our commitments. Next week (week beginning December 7), we have the second reading of the Energy Bill. That has provision for up to £9.5 billion of investment in carbon capture and storage. That's the largest single commitment that any country is prepared to make regarding CCS. CCS is also a massive industrial opportunity for us. We need greater enthusiasm among the oil & gas industry to work with us", Ed Milliband MP (AP&J, 7th December, 2009).

The CEO of Scottish Power, Nick Horler, began to appear in the media promoting Longannet and Scottish Power's ambitions.

"Against that backdrop, I believe there are three key reasons why our bid to be the first to deliver CCS is going to be crucial to the UK and Scottish economy. First we want to show retro-fit CCS technology works. In short, if we can do it at Longannet (Scottish Power's power station in Fife) then we can apply the technology to more or less any one of the 20,000 or so coal-fired power stations around the world. Let's not just make carbon capture a reality in Scotland, but let's make storage in the central North Sea a fundamental part of our future too", Nick Horler, CEO Scottish Power (AP&J, 13th January 2010).

Scottish Ministers also began to make stronger statements again regarding CCS, in part arising from the Scottish Government's highly ambitious targets for CO₂ reduction (-42% from 1990 levels by 2020) - to be delivered without the help of nuclear power and hence necessitating a major contribution from CCS.

"We are making commitments on renewables and carbon capture and storage that will lead to the development of major new industries and employment", John Swinney, MSP, Cabinet Secretary for Finance, Employment and Sustainable Growth (AP&J 4th March 2010).

"Scotland has all the attributes to become a world leader in carbon capture. The North Sea alone has enough capacity to store emissions from industrial coal-fired plants for the next 200 years - a capacity greater than the Netherlands, Denmark and Germany combined. We have significant offshore capacity; we have elements of the infrastructure required for CCS such as pipelines; and we have skills in areas such as geology, engineering and the North Sea oil and gas industry which can be developed and utilised to help this industry grow and develop." Jim Mather, MSP, then Minister for Enterprise, Energy and Tourism (AP&J, 11th March 2010).

Opinion amongst other stakeholders was divided, however, with the Green Party's one MSP stating that:

"Carbon capture and storage is still a pipe-dream, not a technology that ministers can rely on either to cut Scotland's emissions or to sell abroad. Even if it does eventually work, coal extraction remains exceptionally dirty and energy-intensive," Patrick Harvie MSP (AP&J, 11th March 2010).

In July 2010, CCS in Scotland was given a further boost by Scottish and Southern Energy (SSE)'s ambitions to revive the Peterhead CCS plant that BP had promoted in 2005-2007. WWF-Scotland supported both the Longannet and Peterhead proposals, but not a proposed new build coal-biomass power plant with CCS in Ayrshire. Yet a further boost took place in May 2011, when the



UK Government announced 12 CCS projects which would be submitted to the EU to receive funding, including the Peterhead project. Once again, First Minister Alex Salmond recognised the high level of ambition in Scotland. The new Coalition Government's Minister Charles Hendry focused on enterprise and jobs in his promotion of CCS:

"Taking forward these sort of technologies will be crucial to our move to a low-carbon economy, providing green jobs as well as helping us lower emissions and increase energy security", Charles Hendry, Minister of State for Energy and Climate Change (AP&J, 11th May 2011).

Once again, dissenting voices emerged, with Friends of the Earth Scotland breaking ranks with other environmental NGOs:

"The amount of money and energy being put into CCS and whether it works or not can be better put into reaching Scotland's renewables targets. We would rather see money routed into practical solutions rather than theoretical", Stan Blackley, FoE Scotland (AP&J, 22nd June 2011).

Technical uncertainties were also mentioned in the media which reported on the findings of a report by the global information company IHS.

"The scrubbing technologies currently moving through demonstration are very expensive and it's hard to see how to significantly bring down their cost. There are some promising new approaches on the drawing board, but they are at least 10 years away." Michael Arné, senior analyst at IHS (AB&J, 6th June 2011).

6.5.4 Argumentation used in newspapers

We categorised the presentation of CCS in the newspaper articles into five categories expressing support for CCS and five categories expressing reservations or outright opposition. The five positive categories are: 'enterprise', 'enhanced oil recovery', 'green energy', 'jobs' and 'reduce CO₂'. The five negative categories are: 'divert from renewables', 'economic viability', 'political issues', 'safety' and 'technical challenges'. The results for the AP&J are shown in Figure 4.3.4. (We have not shown the results from the AEE due to the much smaller sample size). It can be seen that there are more positive representations than negative. Enterprise comes out clearly as the most important positive representation, with similar ratings for jobs, green energy and CO₂ reduction. What is interesting is the strong representation of CCS as creating a new industrial sector with significant opportunities for new job creation. This portrayal comes out far more strongly than does CCS as a way of tackling climate change and reducing CO₂ emissions – the rationale for CCS that is dominant in the scientific and technical literature and community.

Regarding negative representations, most concerns regarded economic viability and technical uncertainties with the technology itself. Interestingly, safety issues were far less featured, while concerns of CCS diverting attention and resources away from renewables was also of relatively little concern.

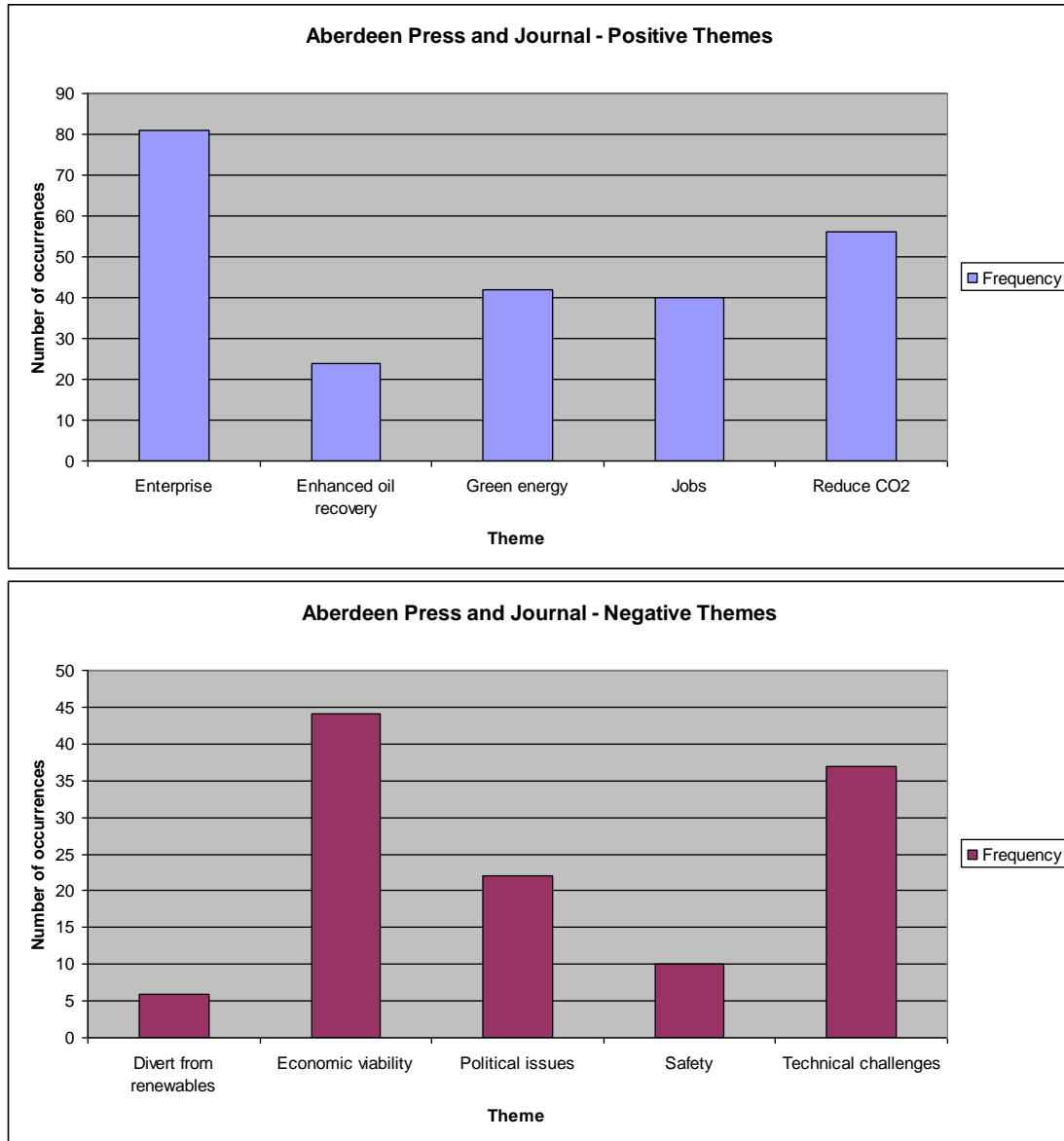


Figure 6.6 Positive (top) and negative (bottom) themes expressed in newspaper articles in the Aberdeen Press & Journal (mid-2005 to mid-2011)



6.6 Quantitative social site characterisation

6.6.1 Method

The survey was conducted by telephone in the second half of May 2011 by a market research firm based in Edinburgh, which was selected because of its research experience and familiarity with the area. The firm used a quota sample to guarantee representativeness on age, sex, and education/employment. Using postcode as inclusion criterion, the sample only included respondents living along the coast south of the Moray Firth, including Peterhead in the East but excluding Inverness in the west. See 6.3.1 for more details of the region.

The interviewer introduced the research as a 15-minutes interview about 'life in your local area' whereby local area was defined to the respondents as *'the area within about 20 miles or 20 minutes drive from your home.'* Respondents willing to participate subsequently received some screening questions (postcode, age, gender, employment) to determine if they fit the profile. If so, the interviewer continued with the first question. If not, they were thanked for participation and the interview was ended.

The full questionnaire which displays the questions in original order and coding can be found in Appendix IV. Below is a systematic overview of variables ordered by topic. In this overview, the variables are described as they were used in the analyses. In some cases the variables have been recorded, meaning that the original scores have been reversed to make lower scores mean 'fewer' or 'more negative' (e.g. fewer friends living in area, more negative opinions) and to make higher scores represent 'more' or 'more positive' (e.g. more friends living in area, more positive opinions). The reason for recoding is methodological: Scoring all variables running from low/negative to high / positive facilitates interpretation of relations between variables. Unless otherwise indicated, 'don't know' answers to interview questions have been coded as missing data.

Perception of local area

Perception of the local area was measured with two questions. First, respondents were asked how satisfied or dissatisfied they are in general with their local area as a place to live. Answers ranged from 1 (very dissatisfied) to 5 (very satisfied). Second, respondents were asked how they think that in the next couple of years the local area will develop. Answer options were 1 (get worse), 2 (stay the same), 3 (improve), or 4 (don't know)¹⁷. To create a 'future expectation' scale ranging from 1 (negative expectation) to 3 (positive expectation) a new variable was created in which 'don't know' answers were coded missing.

Attachment to local area

To obtain indicators for the strength of respondents' ties to the area, four questions were asked. First, respondents were asked how long they have lived in the area. Responses ranged from 1 (up to 1 year) to 4 (over 20 years/all my life). Second, respondents were asked how many members of their families live in the area. Responses ranged from 1 (none of them) to 5 (all of them). Third, respondents were asked how many of their closest friends live in the area.

¹⁷ This item was recorded, meaning that the original scores in the questionnaire were reversed to make the lowest score represent a shorter time lived in the area, a more negative opinion, and so on, and to make the highest score represent a longer time lived in the area, a more positive opinion, and so on. Recoding all variables from low or negative to high or positive facilitates the interpretation of relations between variables.



Responses ranged from 1 (none of them) to 5 (all of them). Fourth, respondents were asked whether they rent (1) or own (2) their home.

Issues facing the area

To measure what respondents perceive to be important issues and developments in the area, they were asked two questions. First, respondents were asked what they see as the most important issue facing their local area (e.g. local economy, housing, local services). This was an open-ended question allowing for just one answer. The responses were categorized afterwards. To this question, 'don't know' was also categorized as valid answer because it tells something about the way people experience the area. However, people who replied 'don't know' did not receive the second question. The second question asked respondents what they see as other important issues facing their local area. This too was an open-ended question which allowed for multiple answers, which were categorized afterwards. Because multiple answers were possible, each issue was turned into a separate variable (e.g. the variable 'local economy') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). To this question, 'don't know' was also categorized as valid answer because it tells something about the way people experience the area.

Issue I - Carbon capture and storage

The first issue concerned plans for carbon capture and storage in the North Sea in the Moray Firth. Respondents received five questions about this issue. First, respondents were asked how much, if anything, before the interview, they knew about plans for carbon capture and storage in the North Sea in the Moray Firth. Answers ranged from (1) Never heard about it to (4) I know a great deal. Second, only those respondents who had at least heard about plans for CCS were asked what exactly they had heard about plans for carbon capture and storage in the North Sea in the Moray Firth. This was an open-ended questions allowing for multiple answers which were categorized afterwards. Each category was then turned into a separate variable (e.g. the variable 'just that they are looking into it') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). To this question, 'don't know' was also categorized as valid answer because it tells something about people's awareness of CCS. Third, only those respondents who had at least heard about plans for CCS were asked whether, overall, they think plans for carbon capture and storage in the Moray Firth would have a positive or negative impact on their local area. Answer options ranged from (-2) very negative through (0) no impact at all to (+2) very positive. Don't know was also coded (6) but not included in correlation analyses. The fourth question depended on the answer given to the third question. If respondents expected no impact at all or did not know, no further questions were asked. If respondents expected a positive impact, they were asked to specify why they thought CCS would have a positive impact. If respondents indicated they expected a negative impact, they were asked to specify why they thought CCS would have a negative impact. This approach was chosen to ensure proper measurement of what respondents currently think, if anything, about CCS without forcing them to 'make up' any reasons, either positive or negative, in an attempt to provide an answer. It is known from questionnaire design studies that many respondents will try to answer each question even if they actually do not have an opinion. The technique applied in the present questionnaire helps to avoid this effect. The questions about positive and negative impacts were open-ended, allowing for multiple answers which were categorized afterwards. Each positive and negative category was then turned into a separate variable (e.g. the positive variable 'it will bring jobs/employment' or the negative variable 'not a real solution to the climate problem') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). Fifth, only those respondents who had at least heard about plans for CCS were asked how important, if at all, they would say plans for carbon capture and storage in the Moray Firth are to them personally. Answer options ranged from (1) not at all important to 4



(very important). Don't know was also coded (5) but not included in correlation analyses. Finally, to obtain an extra measurement of awareness of CCS in general, all respondents were asked how much, if anything, they knew about carbon capture and storage in general before the interview. Answer options ranged from (1) Never heard about it to (4) I know a great deal.

Issue II - RAF Lossiemouth

The second issue concerned the possible closure of RAF Lossiemouth. In July 2011, the UK Government decided that RAF Lossiemouth would stay open, but at the time of interviewing this was still uncertain. As closure would severely impact the town of Lossiemouth and the Moray district, this issue was expected to be of high awareness and relevance among local residents. Respondents received five questions about this issue. First, respondents were asked how much, if anything, before the interview, they knew about the possible closure of RAF Lossiemouth. Answers ranged from (1) Never heard about it to (4) I know a great deal. Second, only those respondents who had at least heard about the possible closure of RAF Lossiemouth were asked what exactly they had heard about this issue. This was an open-ended questions allowing for multiple answers, but since this topic was not of primary interest to the research the responses have not been categorized and have not been analyzed. Third, only those respondents who had at least heard about the possible closure of RAF Lossiemouth were asked whether, overall, they think the possible closure of RAF Lossiemouth would have a positive or negative impact on their local area. Answer options ranged from (-2) very negative through (0) no impact at all to (+2) very positive. Don't know was also coded (6) but not included in correlation analyses. The fourth question depended on the answer given to the third question. If respondents expected no impact at all or did not know, no further questions were asked. If respondents expected a positive impact, they were asked to specify why they thought the possible closure of RAF Lossiemouth would have a positive impact. If respondents indicated they expected a negative impact, they were asked to specify why they thought the possible closure of RAF Lossiemouth would have a negative impact. The questions about positive and negative impacts were open-ended, allowing for multiple answers which were categorized afterwards. Each positive and negative category was then turned into a separate variable (e.g. the positive variable 'less noise' or the negative variable 'loss of jobs') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). Fifth, only those respondents who had at least heard about the possible closure of RAF Lossiemouth were asked how important, if at all, they would say the possible closure of RAF Lossiemouth is to them personally. Answer options ranged from (1) not at all important to 4 (very important). Don't know was also coded (5) but not included in correlation analyses.

Issue III - Designating the Moray Firth as a Marine Protection Area

The third issue concerned the possible designation of the Moray Firth as a Marine Protection Area. This possibility has been mentioned in the news, but is still very premature and at this stage unlikely to be very salient or important to local residents and its impact on the community would probably in any case not be as strong as the closure of RAF Lossiemouth. Therefore, this issue was expected to be of low awareness and of low personal relevance among local residents. Respondents received five questions about this issue. First, respondents were asked how much, if anything, before the interview, they knew about the possible designation of the Moray Firth as a Marine Protection Area. Answers ranged from (1) Never heard about it to (4) I know a great deal. Second, only those respondents who had at least heard about the possible designation of the Moray Firth as a Marine Protection Area were asked what exactly they had heard about this issue. This was an open-ended questions allowing for multiple answers, but since this topic was not of primary interest to the research the responses have not been categorized and have not been analyzed. Third, only those respondents who had at least heard about the possible designation of the Moray Firth as a Marine Protection Area were asked whether, overall, they think the possible



designation of the Moray Firth as a Marine Protection Area would have a positive or negative impact on their local area. Answer options ranged from (-2) very negative through (0) no impact at all to (+2) very positive. Don't know was also coded (6) but not included in correlation analyses. The fourth question depended on the answer given to the third question. If respondents expected no impact at all or did not know, no further questions were asked. If respondents expected a positive impact, they were asked to specify why they thought the possible designation of the Moray Firth as a Marine Protection Area would have a positive impact. If respondents indicated they expected a negative impact, they were asked to specify why they thought the possible designation of the Moray Firth as a Marine Protection Area would have a negative impact. The questions about positive and negative impacts were open-ended, allowing for multiple answers which were categorized afterwards. Each positive and negative category was then turned into a separate variable (e.g. the positive variable 'good for marine life' or the negative variable 'may interfere with other plans') on which each respondent either scored 0 (not mentioned) or 1 (mentioned). Fifth, only those respondents who had at least heard about the possible designation of the Moray Firth as a Marine Protection Area were asked how important, if at all, they would say the possible designation of the Moray Firth as a Marine Protection Area is to them personally. Answer options ranged from (1) not at all important to 4 (very important). Don't know was also coded (5) but not included in correlation analyses.

Involvement in decision making

To measure how well respondents perceive their interests to be represented in decision-making, they were asked to what extent they think people involved in decisions affecting their local area take into account the interests of local residents. Answers ranged from (1) Not at all through (4) Fully. Don't know was also coded (5) but not included in correlation analyses.

Local activism

To obtain an indication of respondents' own degree of active involvement in the area, respondents were presented a list of activities and were asked to indicate which, if any, of these activities they had undertaken in their local area in the past 12 months. Activities varied in type from cooperative (e.g. 'Helped your council plan what your local area should look like in the future') to reactive (e.g. Participated in public protest activities such as a demonstration') and in intensity from low/easy (e.g. 'Signed a local petition') to more demanding (e.g. 'Gone to a local meeting'). Each activity was a separate variable on which each respondent either scored 0 (not mentioned) or 1 (mentioned).

Trusted representatives and organisations

To obtain an inventory of trusted local and national sources of information, respondents were asked which individuals or organisations, if any, they would generally trust to represent their interests in decisions affecting their local area. This was an open-ended question allowing for multiple responses which were categorized afterwards. Each category was then turned into a separate variable on which each respondent either scored 0 (not mentioned) or 1 (mentioned).

Most often used information sources

Next, respondents were asked to indicate which sources of information they would use to obtain information about developments in their local area, if they wanted to. Respondents were asked to mention the three sources of information they would most likely consult. This was an open-ended question. Answer categories included types of media (e.g. internet, leaflets), specific media or information channels (e.g. a specific newspaper title or radio channel), names of local representatives (e.g. Councillors), names of national or local institutions (e.g. national government, local task force, project developer), and trusted peer groups (e.g. neighbours).

Personal information

To obtain a profile of the local residents in terms of education and employment, respondents were asked two questions. First, respondents were asked to report the highest level qualification they have. Answers to this open-ended question were categorized by the interviewer on a predefined list of answer options. Second, respondents were asked to indicate in which sector they are employed. Answers to this open-ended question were categorized by the interviewer on a predefined list of answer options (e.g. 'oil and gas', 'farming' or 'retail').

In the next sections, the results of the quantitative site characterisation are presented. The percentages reported will not always exactly sum up to 100% due to rounding off.

6.6.2 Respondents characteristics

In total 850 respondents participated with an almost equal distribution of men and women (resp. 49% versus 51%). This is comparable to the distribution of males and females in the Moray Firth region in July 2010 (resp. 50% versus 50%). Also the distribution of age categories in the survey is representative for the Moray Firth population. based on the National Records of Scotland (NRS, 2011, <http://www.gro-scotland.gov.uk/statistics/theme/population/estimates/mid-year/2010/tables.html>).

In Figure 6.7 the educational level of the respondents is shown. Of the Scottish respondents, 20% have no formal qualifications, 27% have school qualifications 0 grade and higher.

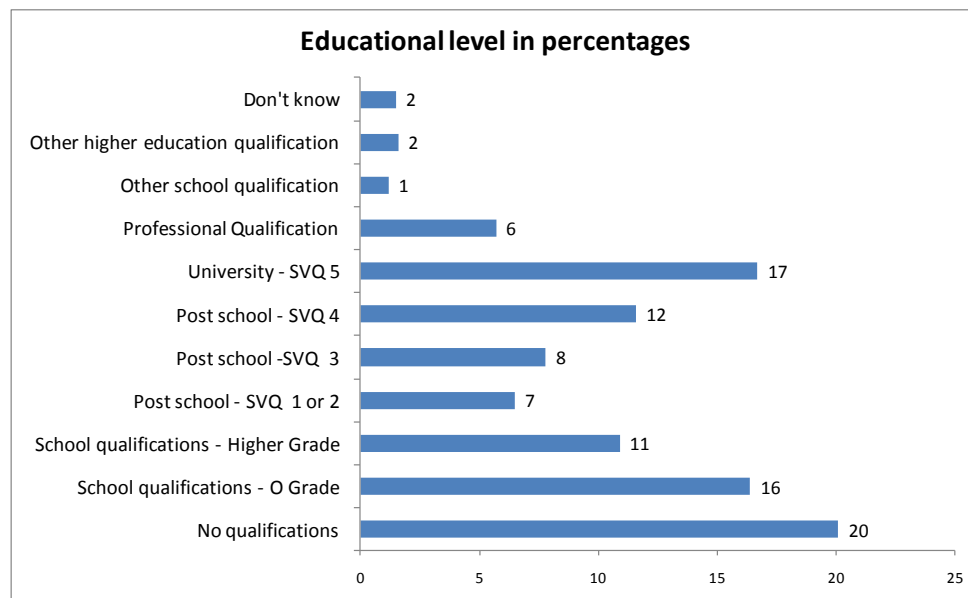


Figure 6.7 Educational level respondents in percentages (n=850)

As can be seen in Figure 6.8 over half of the Scottish respondents have employment (58%) of which approximately a fourth are working on part-time basis and 4% of the respondents are unemployed (seeking work). A fourth of the respondents are retired (26%).

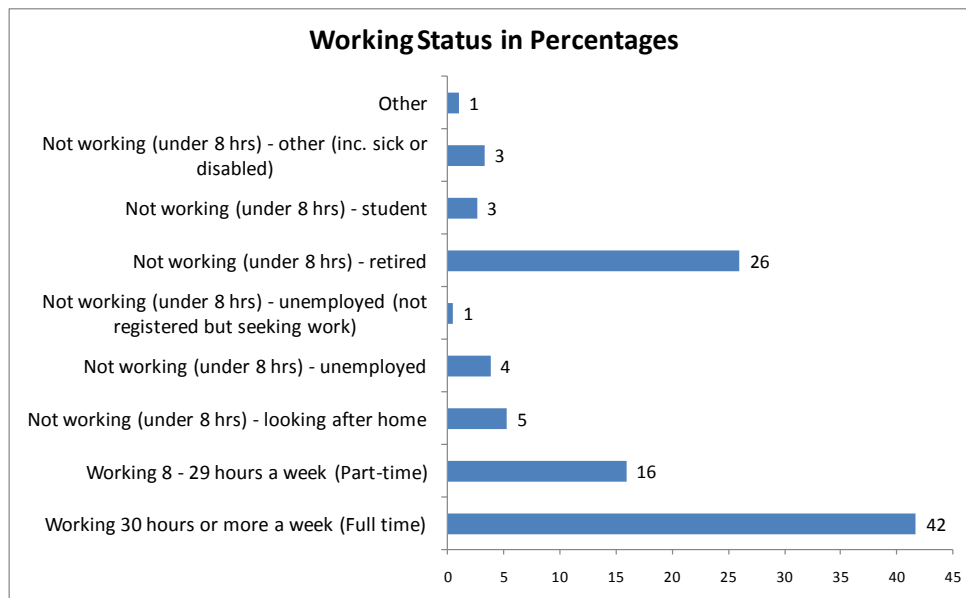


Figure 6.8 Educational level respondents in percentages (n=850)

Figure 6.9 shows that there is a large diversity in types of employment. From the employed part of the sample 14% of respondents work in oil and gas, 4% in fishing and 2% in farming. Other respondents have employment in education (13%), health (12%), public sector (20%).

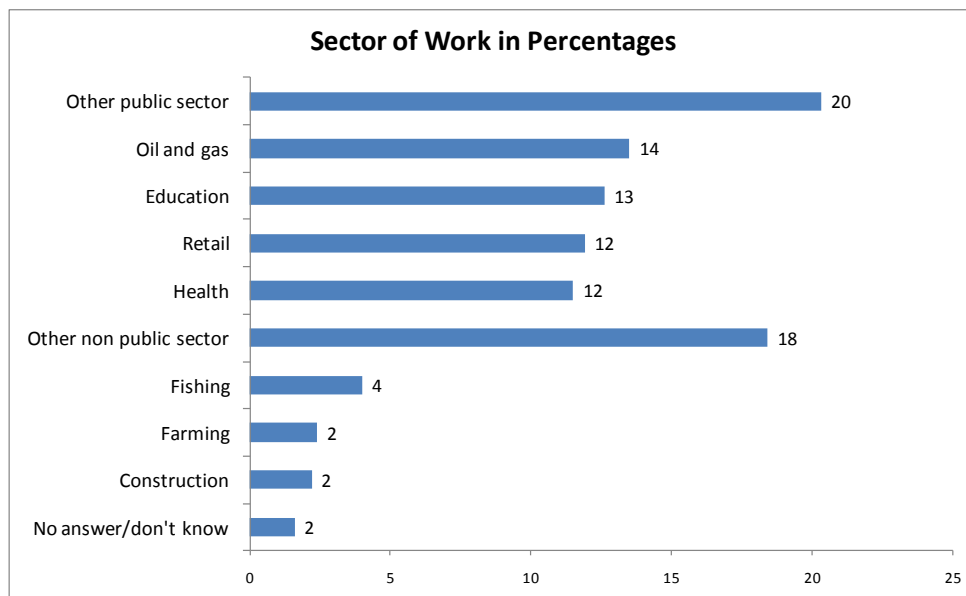


Figure 6.9 Sectors in which respondents work in percentages (n=479)

6.6.3 Attachment to local area

To obtain an indication of the attachment of the respondents to the area four questions have been posed about the local area, whereby local area is defined as the area within 20 miles or 20

minutes drive from home. These were questions concerning home ownership, number of years lived in the local area, number of family members and number of friends living in the local area. In Figure 6.10 through Figure 6.13 the distributions of the respondents on the separate variables are presented. In which it can be seen that 65% of the respondents own their homes whereas 32% of the respondents rent their homes (Figure 6.10); By far the most respondents live longer than 5 years in the area (88%) (Figure 6.11); almost half of the respondents (45%) have most to all of their family members living in the area (Figure 6.12) and more than half of the respondents (57%) have most to all of their friends living in the area (Figure 6.13).

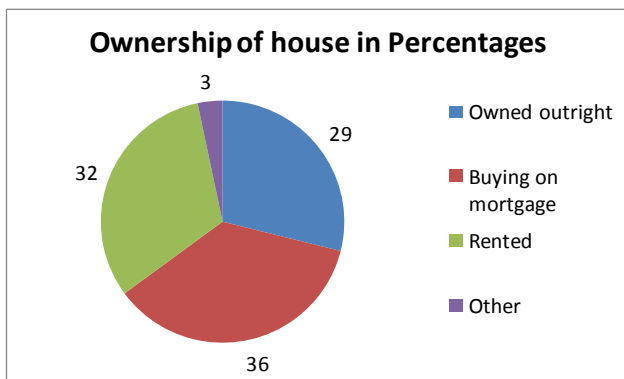


Figure 6.10 House ownership in percentages (n=850)

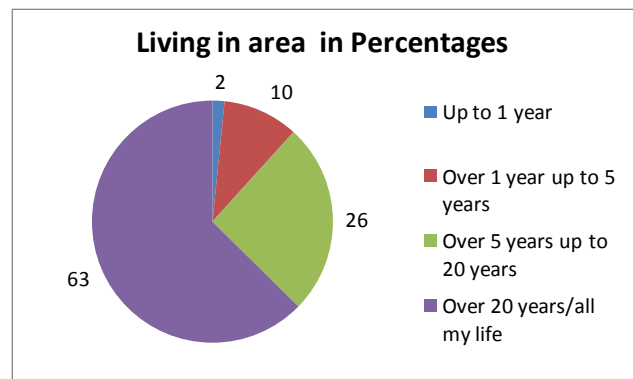


Figure 6.11 Number of years respondents have been living in the area (n=850)

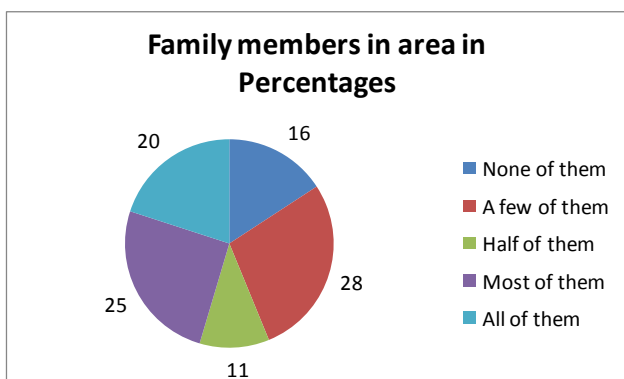


Figure 6.12 Number of family members living in the area (n=850)

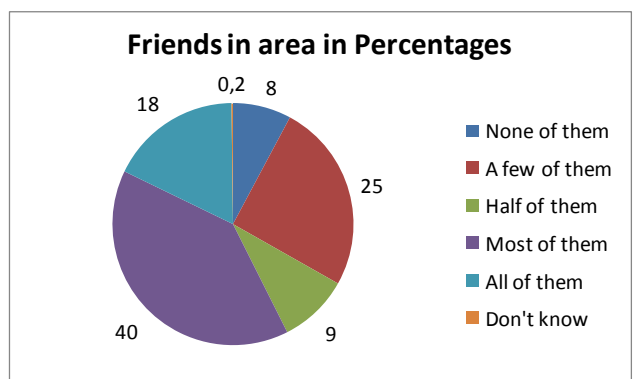


Figure 6.13 Number of friends living in the area (n=850)

6.6.4 Perceptions and expectations of the region

As can be seen in Figure 6.14 by far the most respondents (87%) are satisfied with the area in which they are living. Although there are also quite a few (7%) respondents who are dissatisfied with the area.

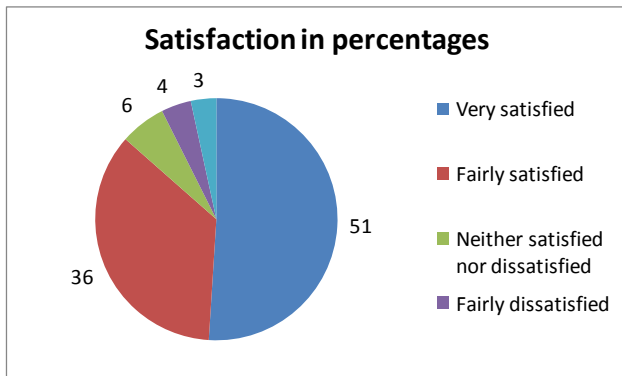


Figure 6.14 Satisfaction with the area in percentages (n=850)

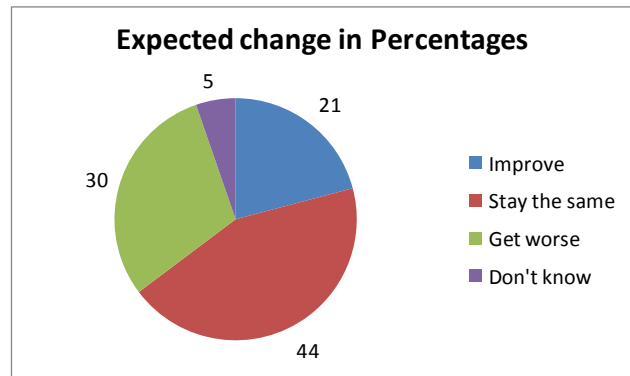


Figure 6.15 Expected change in the area in percentages (n=850)

These findings are supported by the Scottish Household Survey (SHS) which gathers information on perceptions of local neighbourhoods. Figure 6.16 illuminates that Moray inhabitants rate their neighbourhood more highly than Scottish neighbourhoods are rated on average. The overwhelming majority considered Moray as a 'very good' or 'fairly good' neighbourhood in which to live. People in Moray perceive that they can rely upon friends and relatives in their neighbourhood for help, advice and support (Figure 6.17) more so than for Scotland as a whole. The SHS findings also show that family connectivity in Moray is high (with over 60% of respondents speaking to other family members most days). And compared to Scotland as a whole, family members in Moray appear to live somewhat more closely together.

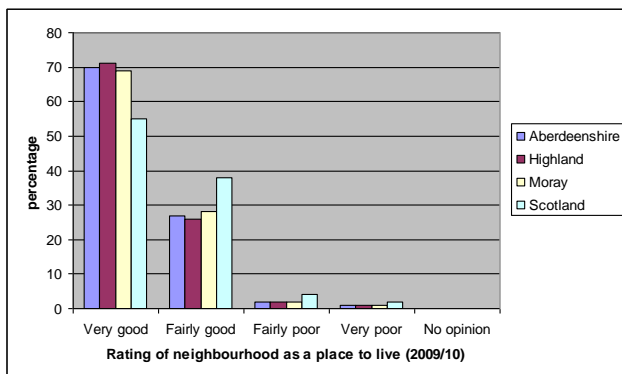


Figure 6.16 Rating of neighbourhood as a place to live (Source SHS 2009/10)

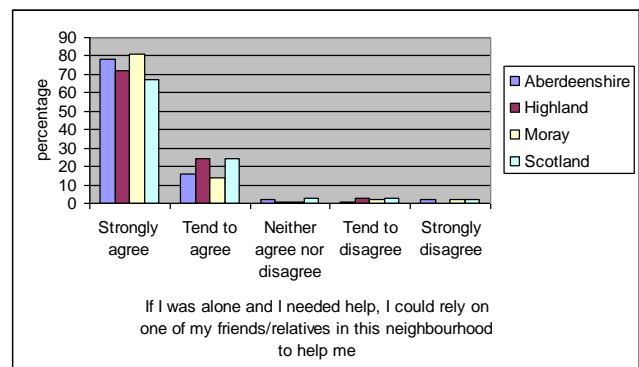


Figure 6.17 Reliance on friends / relatives in neighbourhood (Source SHS 2009/10)

Respondents were also asked whether they think the local area will change in the coming years. As shown in Figure 6.15 about half of the respondents expect that the situation will change. Almost a third of the Moray respondents expects the future situation in their area to decline (30%), while 21% thinks it will improve.

To get an impression of the issues people in the local area are faced with, respondents were asked about the most important issue facing their local area. This was an open question, which



was followed by the question of whether there are any other important issues after the most important issue mentioned. As can be seen in Table 6.2 (2nd column) respondents are **most** concerned about issues concerning unemployment (24%), closure of the RAF air force bases in Kinloss/ Lossiemouth (17%) and lack of opportunities and facilities for young people (8%). It is to be expected that the first most important issues are related with each other and demonstrates the issue of the (expected) loss of jobs due to the closure of the RAF basis.

Unemployment is also mentioned most often in response to the question which other important issues (Table 6.2, 3rd column) the local area faces (15%). Another frequently mentioned issue is a lack of facilities for young people (12%). The closure of the RAF bases is less often mentioned as a second-most important issue (3%), probably because most of the respondents gave this as the most important issue.

On 18th July 2011, well after data collection for the survey had finished, the Secretary of State for Defence announced that RAF Lossiemouth was to remain, while RAF Kinloss and RAF Leuchars were to be converted into army barracks. This decision was broadly welcomed by the Moray community and provides a reprieve for the area.

In all, the most important issues facing the local area are shown in Table 6.2. This table shows that environment / climate change is not seen as an issue by the respondents. Also CCS and the designation of Moray Firth as a Marine Protection Area (MPA) are not issues at all in the area. CCS is mentioned by only one respondent and the designation of Moray Firth as a Marine Protection Area is mentioned by 5 respondents. This is probably because respondents are unaware of these possible plans in the area. In the next section we will discuss this.

*Table 6.2 Perceived issues in the area in percentages representing the respondents who viewed the issue as most important (2nd column) or as other important issues (3rd column) and the total percentage of respondents that mentioned the issue either as the most important or as other important issue (3rd column). Issues in **bold** are the issues explicitly mentioned in the survey. The subject 'environment/ climate' is also in bold because of its relation to CCS*

	Most important (N=850)	Other Important (N=850)	Sum (N=850)¹⁸
	%	%	%
Unemployment/factory closure/lack of industry	24	15	39
Closure of RAF Kinloss/Lossiemouth/air force bases	17	3	21
Lack of facilities/opportunities for young people/young people have nothing to do	8	12	20
Transport/public transport	5	9	8
Economy/economic situation/'credit crisis'/crunch	5	8	14
Crime/law & order/violence/ vandalism/anti-social behaviour	3	7	13
Other	3	0	4
Drug abuse	2	3	10
Housing	2	6	3

¹⁸ Due to rounding off of the percentages the sum is not always exactly the same as the sum of the percentages given in the table.



	Most important (N=850)	Other Important (N=850)	Sum (N=850) ¹⁸
Education/schools	2	5	5
Lack of shops/shops closing down	2	4	8
Immigration/immigrants (race relations)	2	1	7
Lack of facilities/amenities/leisure centres	1	2	5
Bypass to be completed	1	0	3
Local government/council tax	1	3	3
Decline of the fishing industry	1	0	1
Environment/climate change/global warming/pollution	1	1	2
Moray Firth being designated as a Marine Protection Area (MPA)¹⁹	0.4	0.3	0.7
CCS²	0.0	0.1	0.1

6.6.5 Awareness and attitude towards CCS compared to other issues in area

The respondents were asked three questions which we repeat here for clarity:

- If they had heard about the issue before the survey (awareness), varying from (1) never heard about it to (4) a great deal;
- Only the respondents who are aware of the issue are asked whether they think the issue will have personal relevance, varying from (1) not at all important to 4 very important;
- The impact of the issue on the local area (impact), varying from (-2) very negative, (0) no impact to (+2) very positive.

As can be seen in Figure 6.18, the awareness of RAF is the highest of the three issues with a mean awareness score of 3,16. In contrast, respondents report much lower awareness of both the concept of CCS in general (1.76) and the local plans for CCS (1.62) and of the MPA issue (1.47). 46% Of the respondents had heard of local CCS plans.

As also can be seen in Figure 6.18 respondents think the three issues as slightly important (between not very important and fairly important) for their personal situation, whereby the personal relevance of local CCS (2,42) and the RAF (2,55) issues seem somewhat lower than the MPA issue (2,79).

Figure 6.19 shows that the respondents tend to expect a neutral to slightly positive impact of CCS on the local area (0.86). 69% Of the respondents expect a (slightly) positive impact of CCS on the local area (not in figure). Whereas 79% of the respondents are (slightly) positive about the MPA issue (1.16). The respondents are (very) negative about the impact of the RAF closure on their local area (-1.39). Of the respondents 18% are (slightly) positive about the closure There is a moderate correlation between personal relevance and local impact of CCS (0.347 p=0.01) indicating that the more people perceive the local CCS issue to be personally relevant the more positive they perceive the impact.

¹⁹ Because the numbers are so small, the number behind the decimal is given here.

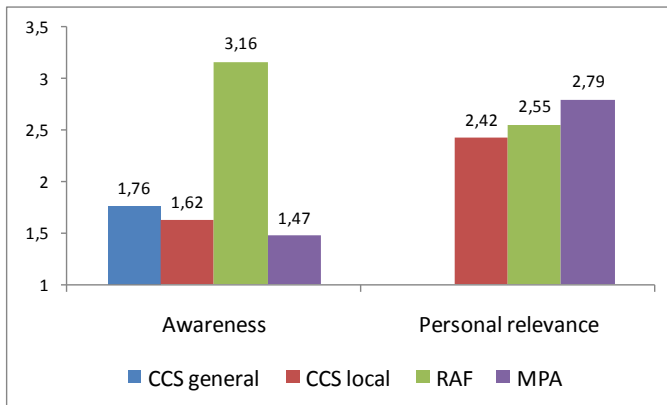


Figure 6.18 The mean score on awareness and personal relevance of issues in the local area. Awareness scores from 1= never heard, 4= a great deal; Personal relevance from 1= not at all important, 4= very important

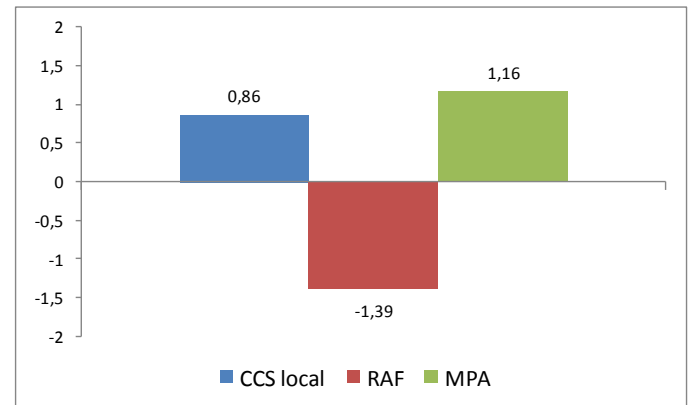


Figure 6.19 The mean score on local impact on area of issues. Impact scores from -2= very negative; via 0= no impact to 2=very positive

6.6.6 Awareness of CCS related to employment and residence

Results in Table 6.3 show that there seems to be a trend that respondents working in the oil and gas are more aware of CCS plans in the North Sea in the Moray Firth than other respondents. 31% of the respondents working in gas and oil have heard a great deal or a fair amount of CCS plans compared to 16% of the total group of working respondents (N=479). While the numbers are too low to have significant differences it can be said that there is a trend in differences in awareness between respondents working in the oil and gas industry or in other employment.

Table 6.3 Awareness of local CCS plans by sector of work of the working respondents in number of respondents and in percentages (N=579)

	Oil and gas	Fishing	Total	Oil and gas	Fishing	Total
	[Number of respondents]			[%]		
A great deal	4	1	9	6%	5%	2%
A fair amount	16	2	68	25%	11%	14%
Heard of but knew nothing about it	21	7	150	21%	37%	31%
Never heard about it	23	9	252	36%	47%	53%
Total	64	19	479	100%	100%	100%

Considering respondents' residence, the awareness of local CCS in Peterhead is significantly higher than in Lossiemouth. The awareness of general CCS is significantly higher in Peterhead than in the other places (Fraserburgh, Macduff, Lossiemouth and Forres). Considering that Peterhead can be considered as a hub of gas and oil pipelines from which the pipelines are going off-shore under the sea or along the seabed.

There is also small but significant correlation between CCS awareness and impact of CCS (0.143), indicating that the respondents who have heard more about the local CCS plans seem to expect a positive impact on the area of CCS. This is in contrast with the found negative correlation of awareness of RAF closure and its impact (-0.218) and no correlation with MPA-issue.

6.6.7 What respondents have heard about CCS

The (389) respondents who have indicated that they at least have heard about the local CCS plans were asked about what they have heard of it. Figure 6.20 shows that a quarter of the respondents has heard 'just that they are looking into it'. Another quarter of the respondents say that they have heard 'just that it's going to happen'. Some respondents indicate that they have heard about the local CCS plans that it has to do with using old oil fields (9%), stopping CO₂ into the atmosphere (6%), takes CO₂ from power stations (6%), Peterhead Power station (6%) and that it was going to be in Peterhead (3%). Some respondents had heard things about the local CCS plans that are not correct/ not related to CCS, like that it has to do with wind turbines (8%), using rocks in the sea (4%), wave/tidal power (3%) and protect ozone layer (1%).

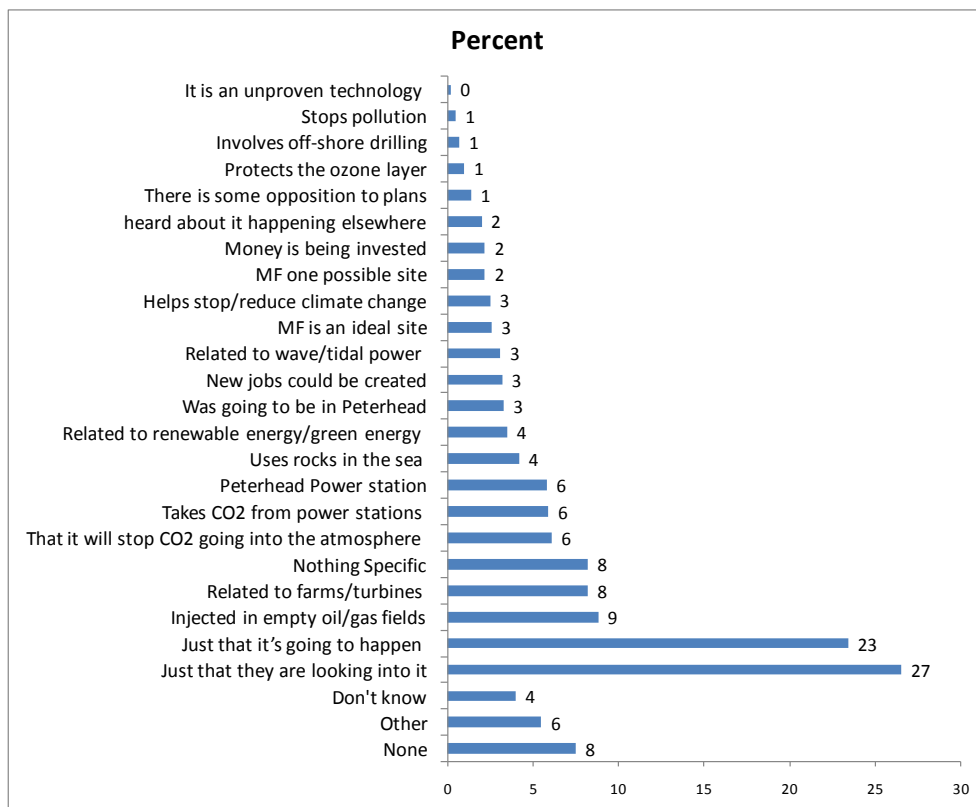


Figure 6.20 What people say they have heard about local CCS plans if they have heard about the plans (n=389)

6.6.8 Arguments/ motives in favour and against local CCS

As described in section 6.6.1, only respondents who were positive about CCS were asked about the positive impacts and only respondents who were negative about CCS were asked about the negative impacts. In Figure 6.21 the types of positive impacts expected of a local CCS project are

shown from 237 respondents who were positive on local CCS. By far the most given positive impact of local CCS is that it will bring jobs to area (68%), other important impacts are that it is better for the environment (25%) and that it will improve the local economy (21%). These issues are related to some of the most important issues that the local area faces (as shown in Figure 6.21) such as unemployment, closure of RAF basis and lack of opportunities for young people. So this leads to the conclusion that local people hope that CCS helps the area to solve the main concerns that the area is felt to encounter.

This conclusion can also be derived from the survey results that 76% of the respondents perceive the negative impacts of the closure of the RAF as being job losses (69%), bad for the economy (47%), bad for local shops, pubs and other supplies (44%) and people leaving the area (33%). Only 5% (46 respondents) can perceive some positive impact of the closure of the RAF basis, but asked what the positive impact is, more than half of them say ' nothing' or that they do not know. Next to the positive impacts of CCS only a few respondents (50 respondents, 6%) think that local CCS brings negative impacts like bad for the environment (15 respondents), bad for fishing (8) and that CCS is ugly (7 respondents).

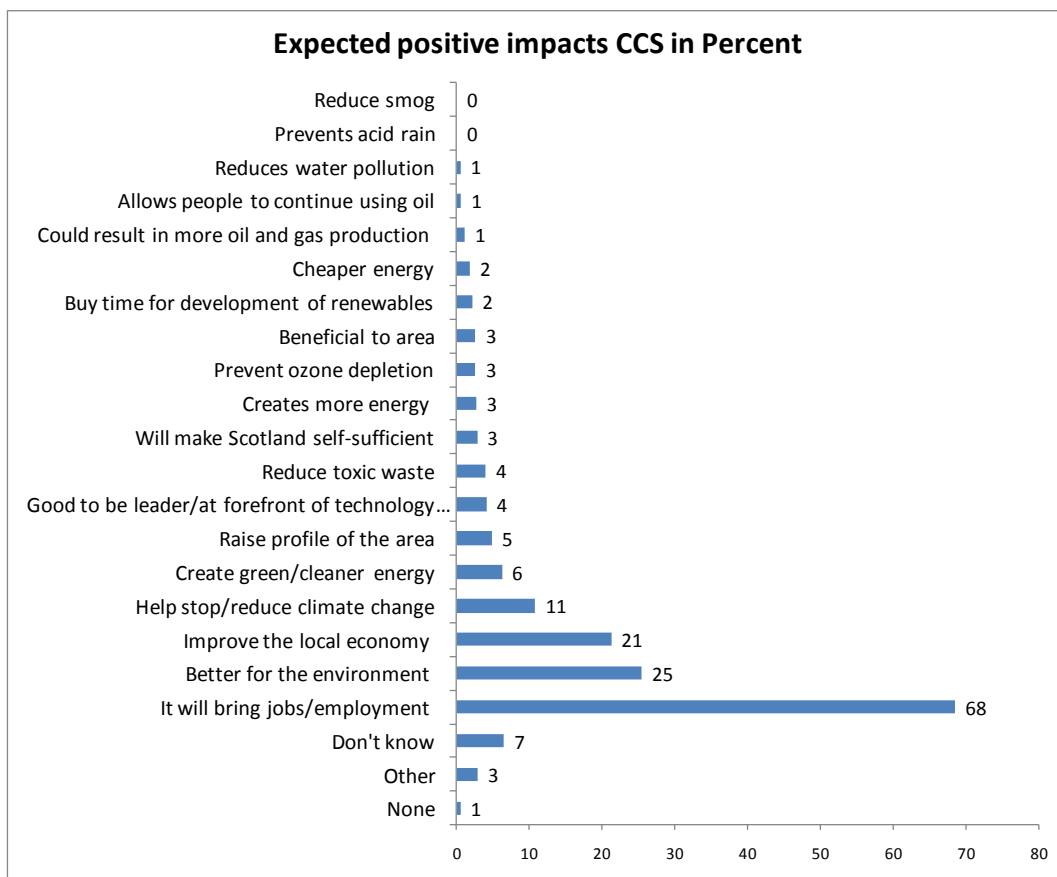


Figure 6.21 Positive aspects of local CCS plans as stated by respondents who are positive about local CCS plans (n=237)

The survey results show that positive aspects of the MPA issue are that it is expected to encourage tourism (61%), protect the marine life (47% and encourage sustainable fishing (10%). Only 10% of the 222 respondents think that MPA will generate more jobs. Only 24 respondents



mentioned negative impacts of MPA of which 11 are afraid of job losses and 8 respondents are afraid of possible restrictions.

The named positive and negative impacts of CCS, the closure of RAF and the other concerning issues the area will be faced with are highly important input for the engagement and communication strategies.

In addition, in the participation and communication the MPA issue might also play a role because it is seen as positive for the area with little to no negative impacts. When the local CCS plans really become more concrete and may be more 'threatening' (as seen in other CCS-projects) then it is quite possible that an argument against local CCS will be that it competes with the MPA plans. Or will there be a possibility to develop both plans?

Earlier research (de Best-Waldhober et al., 2006; 2009) show that when awareness and knowledge are low, there are quite some shifts possible in opinions, attitude and public acceptance after more information is provided and when the project becomes more concrete.

6.6.9 Trust in information sources

Respondents were asked to indicate to what extent they think decision makers do take into account the interests of the local residents. Overall the respondents seem to have 'quite a bit' trust in this. On a scale of 1 (not at all) to 4 (fully) the means score is 2.94.

Table 6.4 shows the trust respondents give to individuals and organisations to represent their interests in decisions affecting their local area. This table shows that a quarter of the respondents say that they do not know who this would be and almost another quarter say that they think nobody will represent their interests. The SNP is mentioned by the most of the respondents (7%).

Table 6.4 Percentages of respondents trusting organisations and persons to represent their interests in decisions affecting their local area. (n=850)

Organisation/ person	Number	%	Organisation/ person	Number	%
Don't know	216	25	Green Peace	3	0
None/Nobody	191	23	Labour	2	0
SNP	60	7	Moray Task Force	3	0
Liberal Democrats	0	0	Trade Unions	3	0
Local news/News on TV	0	0	Lossiemouth campaign group	4	1
Local Radio	0	0	Police	6	1
Friends of the Earth	1	0	Church/religious leaders	6	1
Local newspapers/journalists	1	0	Green Party	7	1
National Farmers Union (NFU)	1	0	Local Council	7	1
National Trust for Scotland	1	0	Aberdeenshire Council	10	1
Scottish Natural Heritage	1	0	Charities	10	1
Citizens Advice Bureau (CAB)	1	0	Environmental groups (non-specific)	10	1
Community Associations/forums/meetings	2	0	Scottish Government	12	1
Health Board	2	0	Local residents/people themselves	19	2
Conservatives	3	0	Other	20	2
Fraserburgh Development Trust	3	0			



Table 6.5 shows the respondents' 10 preferred sources (media or persons) for gaining information about developments in the area. The results show that Internet is the most preferred medium (42%), followed by the local newspaper Press & Journal (J&P) (22%), local councillors (22%) and national or local government (21%). Next to these sources of information, some respondents (5%) say they get their information also from neighbours and other people in the community. This list provides insights in the media to be used in the communication and participation process of the SiteChar project.

Table 6.5 Top 10 list of preferred sources of information on the basis of 3 spontaneously chosen categories

Medium	%
Internet	42
Press & Journal (P&J)	22
Local councillors	22
National or local government	21
Library	17
The Northern Scot	17
Buchan Observer	8
Neighbours and other people in the community	5
STV	5
Fraserburgh Herald	5

6.6.10 Local activism

Participation and communication are both important factors in the SiteChar project. In order to gain insight in the amount of active involvement in the local community several activities were presented to the respondents and asked if they have undertaken these activities in the last 12 months. The results in Figure 6.22 show that almost half of the respondents did sign a local petition and more than a third of the respondents are local volunteers. Almost a third of the respondents have not taken part in one of these local activities and therefore seem not very active in the local area. Also an interesting fact for the SiteChar project (where a local meeting is planned) is that a fifth of the respondents did go to a local meeting. And almost 10% helped their council plan what their area should look like in the future. So there seems to be some active involvement in the local area .

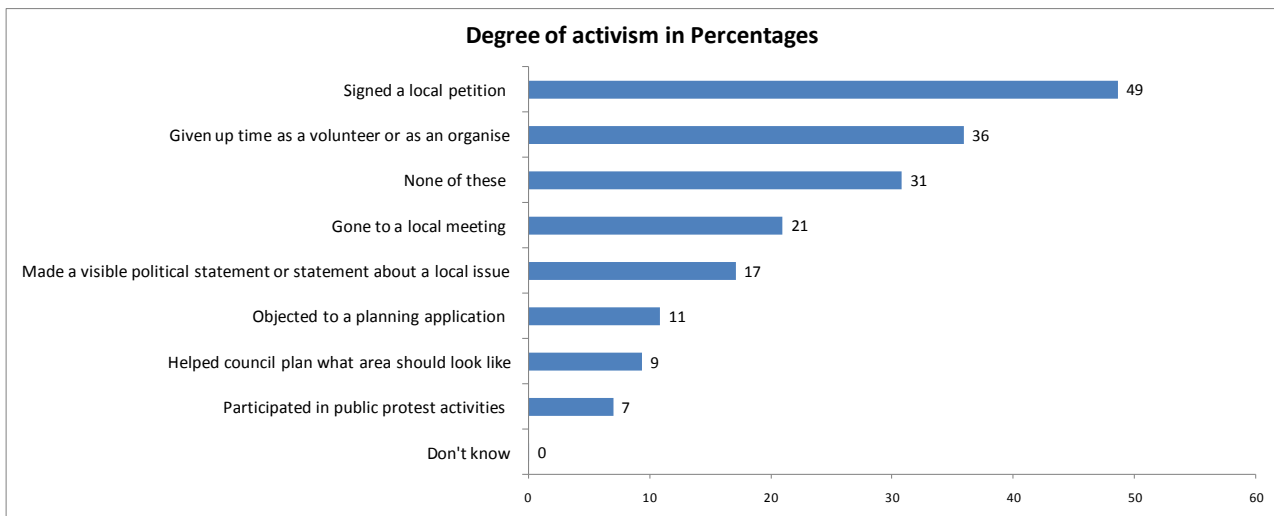


Figure 6.22 Activities undertaken in their local area in the last 12 months by respondents in percentages (n=850)

An activism scale was computed on the basis of all the activism items. We found a significant correlation between activism and awareness of local CCS plans, (0.249 p=0.01), general CCS (0.227 p=0.01), RAF plans (0.277, p=0.01) and with awareness of MPA plans (0.248 p=0.01). This significant correlation probably implies that active people are more up to date on local issues. Note, however, that the present research does not allow for causal inferences. We thus do not know whether active people are more up to date on local affairs as a result of their activism or that their decision to become active has resulted from being up to date on local affairs.

A negative correlation was found between activism and impact of CCS on the local area (-0.154, p=0.01). Which can indicate that more active people are more negative about CCS. This is not due to the correlation with awareness, because the results show that there is a positive correlation between awareness and local CCS (as presented in the section above) and not a negative one.

6.7 Conclusions

6.7.1 Region characteristics and developments

The Moray region is cohesive and reasonably uniform culturally with quite strong communities and neighbourhoods. The coastal region has long regarded the off shore environment of the Moray Firth as a resource for fishing and for exploitation of oil, gas and renewable. Therefore most of the stakeholders think that there is unlikely to be objection to infrastructural development provided it is appropriate to the region.

There are already two off shore renewables plans in the region. One concerns the Beatrice field wind farm demonstration project of the Moray Offshore Renewables Ltd. (MORL). The other concerns the SHETL – Scottish Hydro Electric Transmission Ltd. – cable from Shetland Islands to Aberdeenshire for renewable electricity transmission. The interviewed stakeholders stressed the importance of integration of CCS, SHETL and MORL plans.



6.7.2 Awareness of local CCS plans and need for information

The awareness of CCS and local CCS plans in the region are fairly low. Although the media analysis shows that there have been periods in the past in which CCS plans in the region were a topic in the media. The interviews with the stakeholders revealed that information provision about local CCS plans, its infrastructure etc. are considered imperative. They had many questions to ask about CCS. These questions should be addressed in the SiteChar tasks 8.2 and 8.3.

6.7.3 Expectations of local CCS plans

The results of the survey, as well as the interviews with the stakeholders and the media analysis, are consistent in that the main issues in the Moray region are jobs and enterprise. These are also the main arguments why CCS plans are welcomed in the region. The expectations of what CCS may bring to the area are fairly positive because it is expected by most stakeholders as well as respondents of the survey that it will bring jobs to area and improve the local economy. Although there are also some doubts about whether CCS will really generate jobs for the region. According to the results of the survey the CCS plans are moderately important for the respondents.

The pending closure of the RAF bases in Lossiemouth and Kinloss were –at the time of the survey- important issues in the region resulting in loss of jobs and decline of the local economy. After the survey was carried out, it was announced that the RAF base at Lossiemouth would remain open (and RAF Kinloss turned into an army base). This development will probably improve the (low) expectations of the future of the region and the issue of job losses and economical concerns.

The interviews, as well as the survey, show that next to doubts regarding the jobs generated by the local CCS plans, there are concerns about:

- Impacts of CCS on the fishing industry,
- Environmental issues,
- The impact of CCS (seismic/ drillings) on sea life (dolphins).

6.7.4 Recommendations for public engagement

We will use the lists of trusted stakeholders and the list of preferred information sources from the country case study reports to inform the public engagement activities at both sites in the remainder of the project. Further recommendations will be given in the discussion section.



7 Discussion

7.1 Summary

Social site characterisation runs parallel to technical site characterisation. It roughly consists of a formative research phase to get acquainted with the area followed by a series of public information and engagement activities based on the outcomes of the first phase. The present deliverable shows how formative local research as first phase in social site characterisation can be used to collect information relevant to the development of a public engagement process, which will be the focus of future deliverables.

This report described results of social site characterisation activities at two sites: a CCS onshore site and a CCS offshore site. The onshore site is the Załęczce&Żuchłów site application (Poland - WP5) and the offshore site is the North Sea Moray Firth site (UK - WP3). For both sites, this report provides information on:

- Relevant aspects of the local context in which future CCS projects may take shape;
- The most important and trusted organisations and stakeholders which should be considered for further involvement in public engagement activities;
- The most effective (preferred and trusted) communication channels that should be considered for information provision on CCS in general and local CCS;
- The local level of awareness and knowledge of CCS;
- Presence of misconceptions on CCS, CO₂, and related concepts;
- Questions and concerns about CCS;
- Expectations of local CCS plans;
- Relevant developments in the area that may affect the opinion of local CCS plans;
- Media attention to CCS and its characteristics (e.g. arguments used).

This information will be used to tailor subsequent public engagement activities to each of the sites. It will be used to start up the process of information provision (e.g. draft an online FAQ page, address misconceptions, manage expectations, etcetera), and public engagement (involve trusted stakeholders, select popular channels for information provision, etcetera).

In this chapter we will first compare findings of the two country cases and outline the most salient differences and similarities. Then we will describe how the results will feed into future activities that are currently being planned within SiteChar and which will be the topic of future deliverables. The chapter will end with general implications beyond SiteChar.

7.2 Country case comparison

Similarities and differences between both sites are discussed below. The differences between the sites are summarized in Table 7.1.

At both sites, the awareness of CCS in general as well as of possible local CCS plans is low and lack of employment is seen as one of the main local problems. Climate change is not a salient issue, but environmental protection is. This is partly related to tourism where it concerns nature reserves that are also used for recreational purposes. Both sites have touristic areas and/or are planning to further exploit these. Care should be taken that CCS is not (perceived to be) interfering with these initiatives. At both sites the local inhabitants hold some misconceptions concerning CCS, for example that its purpose would be 'to protect the ozone layer' or 'disposal of waste'. These should be addressed in future public engagement as well.



Another similarity is the value of drinking water. At the UK site, purity of the water is seen as important because of the Whisky distilleries where the water is being used. At the Polish site, a drinking water reservoir is located on top of one of the two gas fields that are in view for possible CO₂ storage in the future. Questions about risks of leakage have already been asked by stakeholders and this can be expected to be a discussion topic in future contact with the locals.

At both sites the local stakeholders asked many questions about risks of CCS, in particular leakage of CO₂. At both sites, stakeholders expect to be involved and consulted. The research team received several offers of help and resources at both sites, as well as suggestions on which stakeholders to involve, which venues to select for public meetings, which information channels to use, etcetera. All of these suggestions, which have been reported in previous chapters, will be considered. In future deliverables we will refer back to these suggestions and describe how we used them to shape local public engagement activities. Contact with local stakeholders will be maintained throughout the process.

In both countries, media attention is mainly positive. In Poland the main arguments used in favour of CCS are that it is climate friendly and that it enables continued use of coal. A perceived downside is that it is costly. Most of the arguments of civil society groups are counterarguments to CCS, related to safety and risks of the technology. However, overall the opponents to CCS do not have a strong voice in the national media. In the UK, the main arguments used in favour of CCS are related to enterprise and not so much to climate change. CCS is depicted as creating a new industrial sector with significant opportunities for new job creation. A difference between both countries is that media attention to CCS in Poland is restricted to national newspapers.

In both regions the expectations of local CSS plans for the region are positive, at the Polish site they are even very positive. At the UK site, it is expected that CCS will bring jobs to the region and will improve the local economy. This expectation is not present at the Polish site among the lay people (although it was mentioned by stakeholders). At the Polish site, it is less clear what the positive expectations of CCS are based on. Local CCS plans are considered highly relevant, but at the same time people do not appear to have a clear image of what CCS may and may not bring to the region. However there may be an implicit relation with jobs, since economy and employment are salient local issues. This should be investigated further in future research activities in the area.

At the Polish site we were unable to obtain the perspective of a local NGO on CCS. This is because there is only one local NGO in the area. The interviewer has contacted them but they were too busy to participate. Although their perspective and input is missing in the present round of social site characterisation, we will make sure to approach them again in the future and keep them informed and preferably also involved.

In the UK, planning of public engagement activities in SiteChar has been adjusted to fit the timeline for the dry-run license application, meaning that the activities have to be completed by August 2012. This means that the evaluation survey will have to take place earlier.

The results stress the importance of providing information on the aims, methods and implications of local CCS plans in which attention is paid to correcting local misperceptions and managing local expectations, particularly regarding the expectation that CCS will bring jobs to the area. Apart from site-specific information on CCS, general information on CCS and its wider context (CO₂, climate change) will have to be provided to the local public. In the sections below we



describe how we are planning on doing this on the basis of the results of the site characterisation presented in this report and the conclusions drawn from this research.

Table 7.1 Differences between the Polish site and the UK site

	Poland	UK
Awareness	Very low	Low
Knowledge	Low levels of knowledge among local public as well as stakeholders	Low levels of knowledge among local public, but local stakeholders are already fairly knowledgeable
Personal relevance	High	Average
Stakeholder Questions	General, displaying misperceptions about CO ₂	Detailed, displaying basic understanding of CO ₂ and CCS.
Positive expectations	Unclear what to expect of CCS (good for environment?)	Clear expectations of CCS (jobs, boost to local economy, revitalize local ports, better for environment)
Negative expectations	Unclear what to expect of CCS (bad for environment?)	Bad for fishing; Bad for marine life
Stakeholders and perspectives	No influential NGOs in the area to present environmental perspective	Possible objection by environment and marine protection agencies
Site-specific issues	Risks of leakage in ground water reservoir on top of one of the storage sites.	Effects of leakage of CO ₂ on marine life (dolphins); Integration with other projects
Degree of industrialisation	Low – unattractive region for investors, although some initiatives are being developed	The area is already used to offshore operations; CCS may be perceived as a logical, complementary activity to fishing, oil drilling, offshore renewable. But there are some concerns among stakeholders about the connection between infrastructural projects
Role of local authorities in CCS development	The local government will play a main role in the licensing process.	When development takes place outside the 12 nautical mile offshore territorial limit, the UK government is the planning authority and the local authority is not involved at all.
Media attention	Absent at local level, present at national level.	Present at local as well as national level.
Completion of SiteChar public engagement activities	December 2012	August 2012



7.3 Implications for public engagement within SiteChar

The results presented in this report provide several suggestions for the public outreach to be undertaken within SiteChar. Below we first briefly summarize the activities planned for the remainder of the SiteChar project. Then we address specific issues concerning the way of engaging the local public and stakeholders.

Future public awareness activities in SiteChar

As part of the public awareness work in the SiteChar consortium, several future public engagement activities have been planned: (1) the setup of public information websites on generic and site-specific CCS, (2) local focus conferences to be held in March and April 2012, (3) information meetings, and (4) a survey to evaluate the results of the public engagement activities. Furthermore, the research team will try to provide input for the establishment of an Advisory Board that can follow the developments on behalf of the local public.

To build trust and raise local public awareness of CCS, focus conferences will be used. Focus conferences merge the advantages of focus groups and consensus conferences, two well established participation tools. At both sites the focus conference will take place on 2 weekends in 2012 and include 16 lay people from the local population. Information on the need for and characteristics of CCS technology in general will be made available for the participants. The participants will discuss several topics of CCS and get the possibility to discuss with several experts. The result of the focus conferences will be a position paper, which states the citizen's perspective on CCS and recommendations for local implementation of CCS if there is to be a CCS project. It will be informative to project developers and policy makers. The position paper will be used as input for the information meetings and may also be distributed among policy makers and placed on the project website. This will be a topic for further discussion.

Site-specific information will be made available to the public through the internet and information meetings held at the sites in both countries. The information meetings will include local citizens as well as journalists, local politicians, key persons from clubs and associations, or other people that have tended to impact local opinions.

Challenges to effective early involvement

In Scotland as well as in Poland, the public will notice little if anything from the technical site characterisation. In Scotland it is not yet sure whether the offshore field in the Moray Firth region is suitable for CCS and if so, who will be the project developer. In Poland, at the Załęczce-Żuchłów site, it will take at least a couple of years before CO₂ injection actually starts, if at all, which depends on some factors beyond control of the research team in SiteChar.

For public outreach this poses a challenge. There is no project to announce to people, just the possibility that some day in the future CCS might take place in or near their area. Challenges are:

- Chances are that public interest in information about a 'hypothetical project' and participating in focus conferences and information meetings about such a project is low to extremely low. If so, it may be difficult to inform and recruit a sufficient number of people for these activities.
- At the same time, it is important to realize that as soon as we start up public outreach, people will assume that a project is being planned, even if we tell them this is not the case. It is very important that clear information about the SiteChar project and its purpose is available in a language that is understandable to the general public.



Timing of information provision

Proactive dissemination of information should not take place before the focus conferences. The only information about general CCS and local CCS that will be made available to the public through the project website are announcements of the focus conference and requests to participate. This means that only the information the local public needs to enable an informed decision on participation in the focus conferences will be provided. Shortly before the focus conferences are held, some general and site-specific information will be made available online. After the focus conferences there should be more detailed information on the site, depending on the questions and topics raised by the participants.

Topics to discuss, questions to answer, and concerns to address

Effective public engagement requires the availability of high-quality, trustworthy information about CCS, generic as well as site-specific, but also about the SiteChar research team, the project, and its general purpose. The research team should be able to explain to the community why and how the public awareness work is undertaken, which activities the team has planned for the area, etcetera. Information from partners in the underground site packages will serve as a basis for this, but it will have to be rewritten to be understandable for a wider audience.

It is important to assess here that a bottom-up approach to information provision will be used. The stakeholder interviews and survey results indicate which questions, concerns, and misperceptions are at present already on local stakeholders' minds, and these should be the starting point for information provision. It can for example be foreseen that unemployment and risks of CO₂ leakage will be important issues requiring attention at both sites. All the provided information will be non-persuasive, balanced and describing both the advantages and disadvantages of CCS. When giving pro or con arguments it will also be important to clarify by whom (i.e. which source) these arguments are made.

Selection of communication channels

Aim of the research was to identify communication channels that are used and trusted by the local public and thus suitable for disseminating site-specific information on CCS. The research team's intentions to use the internet as one of the main communication channels in addition to the local information meetings are reinforced by the results of the survey. The results indicate that for both sites, the internet is the most preferred medium by the respondents. Some of the local newspapers are also preferred information sources.

Organisations and experts to involve as information sources

One of the most important next steps will be to decide for both sites which local stakeholders and organisations to involve in the planning of activities. It is very important that the parties responsible for organising the public engagement activities as well as the stakeholders invited to participate in these activities are seen as neutral and reliable.

The trust in local authorities in Poland is lower than in Scotland, implying that in Poland extra time and resources may have to be devoted to involving members of the local public and not be too quick in assuming that local authorities will act as trusted representatives. This may be different in the UK, where engagement of the local authorities may establish trust in the provided information and in the process of engagement.



Establishment of a local advisory board

We will try to give input for the establishment of an Local Advisory Board that is trusted by the local public to follow the process of the geological site characterisation. It is imperative that this Advisory Board is trusted by the local public (for instance, by having independent scientists from Universities or NGO's on the Advisory Board). Participants of the Focus conferences will be asked for suggestions as to membership of this Local Advisory Board.

Local ownership and local benefits

The reader may have expected to find recommendations in this deliverable regarding local ownership and how to create local benefits. These are, after all, important topics in CCS project development. However, it is too early to provide recommendations regarding these topics. Social site characterisation is a process of which the present deliverable only describes the first phase. In future public consultations, in which the local public will be informed and engaged more intensively, attention will be paid to the issues of local ownership and benefits.

7.4 Implications beyond SiteChar

The present deliverable demonstrates how social site characterisation can provide insight in the way local CCS plans will be perceived by the local stakeholders including the local public. The combination of qualitative and quantitative methods and procedures that have been used to complete the formative research phase of social site characterisation up to now, as well as the methods and procedures to be developed for trust building, raising awareness and making available site-specific information, will be applicable to other sites and can be used as a blueprint for stakeholder engagement in the project process.

However, although there are general 'best practice' approaches to social site characterisation which clearly describe the steps to follow, the implementation of each step should be tailored to the area in question. If done properly, social site characterisation provides crucial information of the local context in which CCS plans will be launched, which can be quite different across countries and even within countries across sites.

The process is intensive and requires frequent interaction between members of the public engagement team. It is prescribed by social site characterisation guidelines and toolkits that such a team preferably has a multidisciplinary background, however, multidisciplinary teams also need more time to understand and come to terms with one another. This had better be kept in mind when planning a social site characterisation process.

During the research we have noticed that background information on the site, for example socio-demographics, is easier to obtain in the UK than in Poland. This has had implications for the extent to which particular aspects could be characterised within the available amount of time. A final implication, therefore, is that for any particular site the availability of information that may inform social site characterisation should be checked in an early stage.



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Appendix I Social Site Characterisation ‘Shopping List’

The area

Define what constitutes “the area” socio-geographically – which inhabitants will be approached for participation in the research and public outreach activities?

Historical features

A short historical description of the area encompassing: key industrial and economic development; landscape and land-use changes; population changes; political dynamics and important events; infrastructural developments. Of interest here is the area-specific change, not the general change which has occurred in the larger-region or country.

Socio-economic features

Demographics: What is the nature of the population that lives in the area?

- Age profile
- Employment / occupation profile
- Urban / rural population split and population density
- Population mobility, diversity, ethnicity (if relevant)
- Basic statistics e.g. average total income, general living standard in area

Local economy

- Characteristics of the local-regional economy: key sectors, distribution of net value-added income, employment across sectors, main employers
- Economic sectors in decline and sectors on the rise
- Economic state of the fossil fuel extractive industries (coal, oil, gas – as applicable)
- Economic state of the renewable energy industries (wind, wave, biomass)
- Presence of major infrastructure now (or in the recent past)
- Potential for major new infrastructure to be developed in near- to medium-future, initiators of these plans, foreseen impacts on local public
- Classification of the type of infrastructure:
 1. extractive industries (oil, gas, coal, aggregates, minerals, etc.)
 2. renewable energy (wind, wave, tidal, etc.)
 3. transportation (road, rail, airport, ports & shipping, etc.)
 4. industrial (major factories, packaging & distribution centres, etc.)
 5. commercial or domestic or service buildings (e.g. hospitals, schools, etc.)
- Information on any controversies or tensions which may have arisen in relation to the above infrastructural assets or developments (can a.o. be derived from media analysis).
- Any associated reputational issues for the firms and agencies involved in the CCS development.

Nature and environment

- Key environmental assets (e.g. landscapes, waterscapes, seascapes, biodiversity, ecosystems, species, etc.) and interest groups concerned with these assets
- Sites with nature designations. In Scotland: National Parks, NNRs, SSSIs, Marine Parks, AONB, Ramsar Sites, etcetera.
- Classification of assets: internationally, nationally or locally significant.
- Information on any controversies or tensions which may have arisen in relation to the above environmental assets.



Political situation and public involvement

- Political and administrative structure and organisation; Political affiliations of the area's population (elected Parliamentarians, elected councillors, etc.) and change over the recent past. Identification of relevant stakeholders to interview.
- Membership in clubs, societies, civic groups, etc. to indicate connectivity (cf. 'social capital') including who runs those clubs (for stakeholder identification)
- Identify local media outlets (newspapers, radio stations, ...) for media analysis



Appendix II Interviewing Protocol

[Text in brackets are instructions to the interviewer]

Personal information (can be filled out in preparation)

Name of person interviewed
Company
Date/time of appointment

Introduction

Introduce yourself and state the aim of the interview

I am [...] from [...] and I am working on [...].

We have approached you because of your involvement/role in [organisation/activity x]. We will undertake some activities in this area and we think it important to inform and possibly also involve you in these activities. To this end we would like to introduce ourselves and the research project to you and in turn we would like to get to know you and your community.

Explain your purpose and the purpose of the SiteChar project

I will now briefly explain our project [address points below]:

International research project SiteChar – site characterisation CCS
Public outreach activities throughout 2012 with people in area
In Poland as well as in the UK – aim to draw comparisons, research purposes

The central question is how public participation processes can be optimized, i.e. such that all stakeholders can be involved in the process, should a CCS project be planned in the area in the future (which at the moment is still a hypothetical situation).

We are involved in this project as independent researchers. The project is partly paid for by the European Commission, but also sponsored by industry with an interest in CCS. You can find further information on the project website: <http://www.sitechar-CO₂.eu>

Propose structure of conversation

I would first like to ask you some questions about you and your organisation. Next I would like to ask you some questions about your local area. Then I would like to discuss our research project with you involving site characterisation for CCS. In all this will take about an hour. Is this OK for you? [if not, adjust order of topics and duration of interviews to the needs of the respondent]

Confidentiality (just address it, but not make big deal about it)

I would like to record our conversation, if you do not mind. It will simplify the analysis. We will only use it to work out our notes and not give it to anyone else. All information you give us will be treated confidentially. However we may want to quote you in the report, if you give us permission. All quotes will be anonymized. [If permission, start tape]

Respondent background

Can you tell me something about your organisation?
What is your role and position within your organisation?
How long have you been doing this?
How did you become involved in this?



Do you live in this area? For how long have you lived here?

General overview of community

This is the area we are talking about [show map and explain our definition of the area]. Can you tell me what features, according to you, define this area (or if respondent does not know the whole area – about the part he or she is familiar with)?

[Use prompts, otherwise the question is too general. Think e.g. about: demographics, geography, nr of inhabitants, local economy, main business/industry, history, ongoing developments, etc. Then go along with whatever topic is top of mind with respondent].

What are the positive aspects of this area? Why?

What are drawbacks to this area? Why?

What do you see as the most important issue facing your local area?

And what do you see as other important issues facing your local area?

Which topics are currently under discussion in the area? What are people talking about? (may vary from sports to infrastructure) → Further questions: Why particularly these topics? What are people saying about these issues? What are their main concerns?

Social ties within community

Can you tell me anything about the social ties within this community? Are there any local cultural centres, sports clubs, scouting, etc? Who is leading those clubs/organisations?

Any facilities missing in your area, or recently abolished? Any new plans?

[If needed use prompts:]

- Local initiatives around employment, poverty, housing, health, etcetera
- Church or religious organisation
- Cultural or educational organisation such as school, music or art club
- Labour union or other worker's group
- Political party or group
- Human rights movement such as development aid, women's rights
- Environment or animal protection group
- Sports, recreational activities
- Youth organisation such as the scouts
- Other activity or organisation

Industry in the area

Is there a branch of the industry of special importance for the area?

Are there any activities in your area related to energy (either production, transport, or consumption)?

[Specifically for Poland: Only if gas production is mentioned spontaneously you can ask follow up questions e.g. do you know who is involved, what the gas is used for, etc?]

Nature, environment, and tourism

Can you tell me about the nature and recreational (tourist) situation of the area? (Does (or should) it attract tourism? Which parts?, why? For whom? Etc.)

Are there natural landscapes in your area that are protected by law (or that should be protected)?

Are there any groups of activists who support nature protection?



[Specifically to UK site: discuss nature conservation value of the Moray Firth area – biodiversity, tourism, marine protection area, etc. Ask – ‘do you think that CCS could have an impact on biodiversity or on how biodiversity in this area is perceived by others?’ and also, ‘do you think that a CCS project could put off tourists from visiting this area in the future?’]

Plans for the area

Are there any great investments planned in the area, e.g. in the field of infrastructure or industrial estates? If so, which?

What is the role of your organisation (if any) in such projects? Is there any project you play a role in?

Is there anything not currently planned but that you would like to see happening in your area? Any facilities you are missing (e.g. playground, library, sports club, new road, new school, hospital...)?

Community involvement in area developments

[To determine who are important local stakeholders, opinion leaders, who is enjoying most confidence, etcetera, ask respondents to describe some concrete issues from the past, who was involved, how they operated, with what results, etc. and you can also ask how projects are usually organized].

In general, how is decision-making about projects organized? Which parties involved? Are public hearings or consultations part of the process?

Recent examples?

In the recent past, how has the local community responded to on new investments/projects (e.g. infrastructure projects or industrial estates)?

Recent examples?

Can you recall situations where residents of your area joined in order to enforce or reject specific plans? e.g. Petitions, Information meetings, demonstrations or other signs of public protest, strike, ...What was the topic? When was it? Outcomes?

In what ways/to what extent are the interests of the local public taken into account in project development? Examples? In your view, is this good or bad? Please explain...

In your experience, how do local media report in local developments? Which ones? In what way (e.g. factual, biased, sensation-seeking, or...)

CCS and public outreach

I would now like to talk with you about CCS.

Before I mentioned it, had you ever heard about CCS?

Are you aware of plans in your area to do CCS?

As I explained before, we are planning public outreach activities in your area to take place in 2012 with people in area, as part of a research program aiming to investigate how public participation processes can be optimized should the hypothetical CCS project become reality some day.

In your area...[site-specific information about with whom we are working, what they are doing, etc. For example in Poland, explain that we cooperate with PGNiG who will be the project developer in case a CCS project takes shape in the future which, again, is not certain].



Which questions do you have about CCS?
Whom would you like to answer these questions?

Regarding public outreach:

Given what you told me about experiences with development in this area, how do you think it could be done better in the case of CCS in the future?

What would in your opinion be the best way to approach / organize the public outreach? (e.g. whom to involve, venue for information meetings, etc)

Who should be involved? How?

How would you like to see you/your organisation involved?

Any local events we should take into account when planning outreach? E.g. local festivals, holiday periods...

Any local media we should proactively address? Do you have any relevant contacts for us?

Close

Thank you for your participation!

Are there things left that you would like to share with me?

With your input we will write a report in which we characterize the site and give recommendations for public engagement. This report will be made publicly available at [www.sitechar-CO₂.eu](http://www.sitechar-CO2.eu)

I will give you my card, if anything comes to mind later do not hesitate to contact me.

[Leave your visiting card with respondent]



Appendix III Polish Survey

Good morning/afternoon/evening. My name is.....from TNS OBOP, the independent research organisation. We are phoning to see if you would be willing to take part in a short survey about life in your local area. The interview will take around 15 minutes.

I'd like to assure you that all of the information you provide will be treated in the strictest confidence and used for research purposes only. It will not be possible to identify any particular individuals or addresses in the results.

If respondents ask questions about the purpose of the research, who is in charge, etc, the answers below can be given. In your experience, is this sufficient or should we also provide them with a project e-mail address?

- All information you give us will be treated confidentially and your individual answers will not be reported anywhere.
- This interview has been developed by a group of independent research institutes who are partners in a European project.
- This interview is part of a research in several European countries into people's perceptions of their local community and environment.
- Results from this interview will be reported to policy makers to help them take decisions that take into account views and opinions of people like you.
- Our research is financed by the European Commission.

Would you be interested in taking part?

INT	Yes	1	CONTINUE TO QS1
	No	2	CLOSE

Screening

QS1

Full Postcode
() () () () ()

We need to interview a representative spread of the population in your area so I'd like to begin by asking a few questions about you.

Q1 Please could you tell me your age at your last birthday?

WRITE IN NUMBER.

Numeric range (18 – 99)

Don't know

Refused

Age bandings:



- 18 -24 CHECK QUOTA
- 25-34 CHECK QUOTA
- 35-54 CHECK QUOTA
- 55+ CHECK QUOTA

Q2 INTERVIEWER CODE: Gender

Male	CHECK QUOTA
Female	CHECK QUOTA

ASK ALL

Q3 And are you, yourself.....

Working 30 hours or more a week (Full time)	1	CHECK QUOTA
Working 8 - 29 hours a week (Part-time)	2	
Not working (under 8 hrs) – looking after home	3	
Not working (under 8 hrs) - unemployed	4	
Not working (under 8 hrs) - unemployed (not registered but seeking work)	5	CHECK QUOTA
Not working (under 8 hrs) - retired	6	
Not working (under 8 hrs) - student	7	
Not working (under 8 hrs) - other (inc. sick or disabled)	8	
Other WRITE IN	9	
Don't know	10	
Refused	11	

Perception of the local area

ASK ALL

I'd like to begin by asking you about your local area. By local area I mean the area within about 20 kilometers or 20 minutes drive from your home.



Q4 How long have you lived in this area? READ OUT. SINGLE CODE ONLY

Up to 1 year	1
Over 1 year up to 5 years	2
Over 5 years up to 20 years	3
Over 20 years/all my life	4
Don't know	3

Q5 And, in general, how satisfied or dissatisfied are you with your local area as a place to live? SINGLE CODE ONLY

Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't know	6

Q6 Do you think that in the next couple of years your local area will improve, stay the same or get worse? SINGLE CODE ONLY

Improve	1
Stay the same	2
Get worse	3
Don't know	4

Q7a What do you see as the most important issue facing your local area? DO NOT PROMPT, BUT PROBE FULLY. SINGLE CODE ONLY

Q7b EXCLUDE ANY MENTIONED AT Q7A And what do you see as other important issues facing your local area? (open-ended question) DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

	Q7a	Q7b
Ring road in Góra	1	1
Wind farms	2	2
Carbon capture and storage development	3	3
	4	4
Ageing population	5	5
AIDS	6	6
Animal welfare	7	7
Countryside/rural life	8	8
Crime/law & order/violence/ vandalism/anti-social (yob) behaviour	9	9



Drug abuse	10	10
Economy/economic situation/'credit crisis'/crunch	11	11
Education/schools	12	12
Environment/climate change/global warming/pollution	13	13
Family breakdown/lack of discipline taught to young people	14	14
GM/GM (Genetically Modified) foods	15	15
Housing	16	16
Immigration/immigrants (race relations)	17	17
Inflation/prices/rising cost of living	18	18
Lack of facilities/opportunities for young people/young people have nothing to do	19	19
Local government/council tax	20	20
Low pay/minimum wage/fair wages	21	21
Morality/individual behaviour/lifestyle	22	22
National Health Service/Hospitals/ Health care	23	23
Nationalisation/Government control of institutions	24	24
Obesity/ill health	25	25
Pensions/social security/benefits	26	26
Petrol prices/fuel prices	27	27
	28	28
Poverty/inequality	29	29
Privatisation	30	30
Public services in general	31	31
Public sector cuts	32	32
Religion/religious tolerance	43	43
Rising energy prices	33	33
	34	34
Sectarianism	35	35
Taxation	36	36
Trade unions/strikes	37	37
Transport/public transport	38	38
Unemployment/factory closure/lack of industry	39	39
Other (PLEASE WRITE IN)	40	40
None	41	41
Don't know	42	42
Refused	44	44



Developments in the local area

There are several plans for development in your area. Some of these plans are still on the drawing board whereas others are already being put in place. We now would like to ask you questions about some of these plans. It is fine if you tell us you have never heard of a plan we refer to. Some plans are in an early stage of development so we would not be surprised if you have not heard of them.

Carbon capture and storage

- ASK ALL
- Q8 **Before this interview, how much, if anything, did you know about plans for carbon capture and storage in your area? READ OUT. SINGLE CODE ONLY**
- | | | |
|---|---|-----------|
| A great deal | 1 | GO TO Q9 |
| A fair amount | 2 | GO TO Q9 |
| Heard of but knew nothing about it | 3 | GO TO Q9 |
| Never heard about it | 4 | GO TO Q14 |
| Don't know | 5 | GO TO Q14 |



ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS FOR CCS (CODES 1-3 AT Q8)

Q9 What have you heard about plans for carbon capture and storage in your area?
(open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

Just that it's going to happen	1
Just that they are looking into it	2
That it will stop CO ₂ going into the atmosphere	3
Help stop/reduce climate change/global warming/greenhouse effect	4
Takes CO ₂ from power stations	5
	6
Used old oil fields/ Injected in empty oil/gas fields	7
Wind farms/turbines	8
	9
Renewable energy/green energy	10
Protect the ozone layer	11
Prevent acid rain	12
Stop pollution	13
Unproven technology	14
	15
	16
	17
	18
	19
	20
	21
Other (PLEASE SPECIFY)	22
Nothing	23
Don't know	24

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS FOR CCS (CODES 1-3 AT Q8)

Q10 And, overall, do you think plans for carbon capture and storage would have a positive or negative impact on your local area? READ OUT. SINGLE CODE ONLY

Very positive	1	GO TO Q11
Slightly positive	2	GO TO Q11
Slightly negative	3	GO TO Q12
Very negative	4	GO TO Q12
No impact at all	5	GO TO Q13
Don't know	6	GO TO Q13



ASK ALL WHO SAY CCS WOULD HAVE A POSTIVE IMPACT ON THEIR LOCAL AREA (CODES 1 OR 2 AT Q10)

Q11 **Why do you think it will have a positive impact?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

It will bring jobs/employment	1
Improve the local economy	2
Better for the environment	3
Reduce toxic waste	4
Prevent ozone depletion	5
Help stop/reduce climate change/global warming/greenhouse effect	6
Prevent acid rain	7
Reduce smog	8
Reduce water pollution	9
Buy time for development of renewables	10
Will make/keep Poland self-sufficient/Poland can create own energy	11
Allow people to continue using oil	12
Create more energy	13
Create green/cleaner energy	14
Could result in more oil and gas production	15
Good to be leader/at forefront of technology developments	16
	17
	18
	19
	20
	21
	22
	23
Other (PLEASE SPECIFY)	24
Nothing	25
Don't know	26



ASK ALL WHO SAY CCS WOULD HAVE A NEGATIVE IMPACT ON THEIR LOCAL AREA (CODES 3 OR 4 AT Q10)

Q12 **Why do you think it will have a negative impact?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

Ugly/visual impact/eyesore	1
Bad for environment	2
Noise and disruption/increased traffic	3
Risk of leaks (in general)	4
CO ₂ will escape to the surface (and suffocate people)	5
CO ₂ will escape to the ground water	6
Risk of explosion (in general)	8
Risk of leak from pipelines	8
Risk of explosion in pipelines	9
Not a real solution to the climate problem	10
	11
Delays development of renewables	12
Storage will be target of terrorist attack	13
Means that we will still create energy generated through burning coal	14
	15
Unproven technology/risky technology	16
	17
	18
	19
	20
	21
	22
Other (PLEASE SPECIFY)	23
Nothing	24
Don't know	25

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS FOR CCS(CODES 1-3 AT Q8)

Q13 **How important, if at all, would you say plans for carbon capture and storage in your area are to you personally?** READ OUT. SINGLE CODE ONLY

Very important	1
Fairly important	2
Not very important	3
Not at all important	4
Don't know	5



Q14 ASK ALL
Before this interview, how much, if anything, did you know about carbon capture and storage in general? READ OUT. SINGLE CODE ONLY

A great deal	1
A fair amount	2
Heard of but knew nothing about it	3
Never heard of it	4
Don't know	5

Ring road in Góra

Q15 **I would now like to ask you about the plan for the ring road in Góra. Before this interview, how much, if anything, did you know about the plan for the ring road in Góra? READ OUT. SINGLE CODE ONLY**

A great deal	1	GO TO Q16
A fair amount	2	GO TO Q16
Heard of but knew nothing about it	3	GO TO Q16
Never heard about it	4	GO TO Q14
Don't know	5	GO TO Q14

ASK ALL WHO HAVE AT LEAST HEARD ABOUT THE plan for the ring road in Góra
(CODES 1-3 AT Q15)

Q16 **What have you heard about the plan for the ring road in Góra?**
(open-ended question)
DO NOT PROMPT

PLEASE WRITE IN	1
Nothing	2
Don't know	3

ASK ALL WHO HAVE AT LEAST HEARD ABOUT the plan for the ring road in Góra
(CODES 1-3 AT Q15)

Q17 **And, overall, do you think the plan for the ring road in Góra would have a positive or negative impact on your local area? READ OUT. SINGLE CODE ONLY**

Very positive	1	GO TO Q18
Slightly positive	2	GO TO Q18
Slightly negative	3	GO TO Q19
Very negative	4	GO TO Q19
No impact at all	5	GO TO Q21
Don't know	6	GO TO Q21



ASK ALL WHO SAY **the plan for the ring road in Góra** WOULD HAVE A POSTIVE IMPACT ON THEIR LOCAL AREA (CODES 1 OR 2 AT Q17)

Q18 **Why do you think it will have a positive impact?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- [make list of possible answers]
- 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
 - 11
 - 12
 - 13
 - 14
 - 15
 - 16
 - 17
 - 18
 - 19
 - 20
 - 21
 - 22
 - Other (PLEASE SPECIFY) 23
 - Nothing 24
 - Don't know 25



ASK ALL WHO SAY the plan for the ring road in Góra WOULD HAVE A NEGATIVE IMPACT ON THEIR LOCAL AREA (CODES 3 OR 4 AT Q17)

Q19 **Why do you think it will have a negative impact?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- [make list of possible answers]
- 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10
 - 11
 - 12
 - 13
 - 14
 - 15
 - 16
 - 17
 - 18
 - 19
 - 20
 - 21
 - 22
 - Other (PLEASE SPECIFY) 23
 - Nothing 24
 - Don't know 25

ASK ALL WHO HAVE AT LEAST HEARD ABOUT the plan for the ring road in Góra (CODES 1-3 AT Q5)

Q20 **How important, if at all, would you say the plan for the ring road in Góra is to you personally?** READ OUT. SINGLE CODE ONLY

- Very important 1
- Fairly important 2
- Not very important 3
- Not at all important 4
- Don't know 5



Wind park in Golinka

Q21 ASK ALL
Moving on, before this interview, how much, if anything, did you know about the wind park in Golinka? READ OUT. SINGLE CODE ONLY

A great deal	1	GO TO Q22
A fair amount	2	GO TO Q22
Heard of but knew nothing about it	3	GO TO Q22
Never heard about it	4	GO TO Q27
Don't know	5	GO TO Q27

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS TO MAKE THE MORAY FIRTH A MPA (CODES 1-3 AT Q21)

Q22 **What have you heard about the wind park in Golinka?** (open-ended question)
DO NOT PROMPT MULTICODE OK

PLEASE WRITE IN	1
Nothing	2
Don't know	3

ASK ALL WHO HAVE AT LEAST HEARD ABOUT the wind park in Golinka (CODES 1-3 AT Q21)

Q23 **And, overall, do you think the wind park in Golinka has had a positive or negative impact on your local area?** READ OUT. SINGLE CODE ONLY

Very positive	1	GO TO Q24
Slightly positive	2	GO TO Q24
Slightly negative	3	GO TO Q25
Very negative	4	GO TO Q25
No impact at all	5	GO TO Q26
Don't know	6	GO TO Q26



ASK ALL WHO SAY the wind park in Golinka HAS HAD A POSTIVE IMPACT ON THEIR LOCAL AREA (CODES 1 OR 2 AT Q23)

Q24 **Why do you think it has had a positive impact?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- Other (PLEASE SPECIFY) 23
- Nothing 24
- Don't know 25



ASK ALL WHO SAY the wind park in Golinka has had A NEGATIVE IMPACT ON THEIR LOCAL AREA (CODES 3 OR 4 AT Q23)

Q25 **Why do you say it has had a negative impact?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- Other (PLEASE SPECIFY) 23
- Nothing 24
- Don't know 25

ASK ALL WHO HAVE AT LEAST HEARD ABOUT the wind park in Golinka (CODES 1-3 AT Q21)

Q26 **How important, if at all, would you say the wind park in Golinka is to you personally?** READ OUT. SINGLE CODE ONLY

- Very important** 1
- Fairly important** 2
- Not very important** 3
- Not at all important** 4
- Don't know 5



Involvement in decision making

I'd now like to ask you about decision making in your area

ASK ALL

Q27 **To what extent do you think that people involved in decisions affecting your local area take into account the interests of local residents?** READ OUT. SINGLE CODE ONLY

Fully	1
Quite a bit	2
A little bit	3
Not at all	4
Don't know	5



Q28 **In general, which individuals or organisations, if any, would you trust to represent your interests in decisions affecting your local area?** (open-ended question)
DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK NOTE: IF RESPONDENT GIVES LOCAL PERSON'S NAME, ASK WHO THEY ARE/WHAT THEIR JOB ROLE IS.

Political parties

Platforma Obywatelska	1
Prawo i Sprawiedliwość	2
Sojusz Lewicy Demokratycznej	3
Polskie Stronnictwo Ludowe	4
Polska Jest Najważniejsza	5
Samoobrona	6
Liga Polskich Rodzin	7
Other political parties	8

Local MPs (non-specific)

Beata Kempa (PiS)	9
Wiesław Kilian (PiS)	10
Other local MPs	11

Local politicians

Jan Kalinowski (Starosta górowski)	12
Zygmunt Wolny (Starosta rawicki)	13
Irena Krzyszkiewicz (Burmistrz Gminy Góra)	14
Zbigniew Stuczyk (Burmistrz Gminy Wąsosz)	15
Tadeusz Pawłowski (Burmistrz Gminy Rawicz)	16
Józef Zuter (Burmistrz Gminy Bojanowo)	17
Jan Głuszko (Wójt Gminy Niechłów)	18
Czesław Połczyk (Wójt Gminy Jemielno)	19
Other local politician	20

Community council	21
Business leaders	22
Church/religious leaders	23

Labour	24
Conservative	25
Liberal Democrats	26

Charities	27
Local newspapers/journalists	28
Local news/News on TV	29
Local Radio	30

Other (PLEASE SPECIFY)	31
Nothing	32
Don't know	33



Q29 ASK ALL
Which of the following activities have you undertaken in your local area in the past 12 months? READ OUT. MULTICODE OK.

Given up any time as a volunteer or as an organiser for any local charities, clubs or organisations, in an unpaid capacity 1

Made a visible political statement or statement about a local issue by for example wearing a badge or putting up a poster or car sticker 2

Signed a local petition 3

Gone to a local meeting 4

Participated in public protest activities such as a demonstration 5

Objected to a planning application 6

Helped your council plan what your local area should look like in the future 7

None of these 7
Don't know 8

Q30 ASK ALL
There are many ways in which people get information about developments in their local area. If you wanted to obtain information about developments in your area, which sources of information would you use? Please mention the three sources of information which you are most likely to go to.
(open-ended question)
DO NOT READ OUT. CODE UP TO 3 OPTIONS.



Newspapers (including websites of newspapers)

Local newspapers

Panorama Leszczyńska	1
Gazeta ABC	2
Życie Rawicza	3
Gazeta Rawicka	4
Przegląd Górowski	5
Nowiny Niechłowskie	6
	7
	8
Other local newspaper (PLEASE WRITE IN)	9

National newspapers

Gazeta Wyborcza	10
Rzeczpospolita	11
Dziennik	12
Super Express	13
	14
	15
Other national newspaper (PLEASE WRITE IN)	16
Magazine (PLEASE WRITE IN)	17

Television

TVP 1	
TVP 2	
TVN	
Polsat	
Telewizja Rawicz	
Other Television (please write in)	

Radio

Radio Elka (local station)	
Radio Zet	
Radio RMF FM	
Polskie Radio	
Radio Eska	
Other Radio station (PLEASE WRITE IN)	

Other sources of information

Library	
Internet	



Individuals/groups

National or local government
National or local interest groups
Local politicians/councillors

Project developers or companies
Family/friends
Neighbours and other people in the
community

Other (PLEASE WRITE IN)
Don't know

About the respondent

I'd like to finish by asking some questions about your current circumstances....

ASK ALL
DEM1 **How many members of your family live in your area? READ OUT. SINGLE CODE ONLY**

None of them	1
A few of them	2
Half of them	3
Most of them	4
All of them	5
Don't know	6

DEM2 **And how many of your closest friends live in your area? READ OUT. SINGLE CODE ONLY**

None of them	1
A few of them	2
Half of them	3
Most of them	4
All of them	5
Don't know	6

DEM3 **What is the highest level qualification you have? SINGLE CODE ONLY.**

No qualifications	1
Wykształcenie podstawowe	2



Wykształcenie gimnazjalne	3
Wykształcenie zasadnicze zawodowe	4
Wykształcenie średnie	5
Wykształcenie wyższe	6
Don't know	7

DEM4 **Do you own your home, or rent it? SINGLE CODE ONLY.**

Owned outright	1
Buying on mortgage	2
Rent from council	3
Rent from Housing Association/ Trust	4
Rented from private landlord	5
Other WRITE IN	6

ASK ALL THOSE WORKING (THOSE WHO ANSWERED 1/2 AT QWORK)

DEM5 **And do you work in any of the following sectors?**

READ OUT. SINGLE CODE ONLY.

Oil and gas industry	
Farming	
Food industry	
Tourism, hotel, entertainment	
Education	
Health	
Other public sector	
Retail	
Construction	
Or another sector (PLEASE WRITE IN)	
Don't know	

Thank and close



Appendix IV UK Survey

Good morning/afternoon/evening. My name is.....from Ipsos MORI, the independent research organisation. We are phoning to see if you would be willing to take part in a short survey about life in your local area. The interview will take around 15 minutes.

I'd like to assure you that all of the information you provide will be treated in the strictest confidence and used for research purposes only. It will not be possible to identify any particular individuals or addresses in the results.

Would you be interested in taking part?

INT	Yes	1	CONTINUE TO QS1
	No	2	CLOSE

Screening

QS1 **So we can check the spread of interviews across the area please could you tell me your postcode...WRITE IN. CATI TO CHECK AGAINST ELIGIBLE POSTCODES. NOTE: THE POSTCODE WILL BEGIN "AB" OR "IV"**

Full Postcode
() () () () () () ()

We need to interview a representative spread of the population in your area so I'd like to begin by asking a few questions about you.

Q1a **Can I just check, do you have any 18-24 year olds living in the household?**
INTERVIEWER: IF YES YOU MAY NEED TO ASK TO INTERVIEW THIS PERSON DEPENDING ON SUPERVISOR INSTRUCTIONS RECORD ANSWER AND WHETHER YOU INTERVIEWED THEM BELOW

Yes – went on interviewing them	GO TO 1C
Yes – but not able to interview an 18-24 year old	GO TO 1B
No – No 18-24 year old in household	GO TO Q2
Refused	



Q1b It is hard to find people in the 18-24 age group. Would there be a good time to call back to speak to them?

Yes – go to hard appointment setting	GO TO HARD APPOINTMENT
No – will not be available in fieldwork	DEPENDING ON QUOTAS, CONTINUE TO AGE OR CLOSE

Q1c Please could you tell me your age at your last birthday?

WRITE IN NUMBER.
Numeric range (18 – 99)
Don't know
Refused

Age bandings:

18 -24 CHECK QUOTA
25-34 CHECK QUOTA
35-54 CHECK QUOTA
55+ CHECK QUOTA

Q2 INTERVIEWER CODE: Gender

Male	CHECK QUOTA
Female	CHECK QUOTA

ASK ALL

Q3 And are you, yourself.....

Working 30 hours or more a week (Full time)	1	CHECK QUOTA
Working 8 - 29 hours a week (Part-time)	2	
Not working (under 8 hrs) – looking after home	3	
Not working (under 8 hrs) - unemployed	4	
Not working (under 8 hrs) - unemployed (not registered but seeking work)	5	CHECK QUOTA
Not working (under 8 hrs) - retired	6	
Not working (under 8 hrs) -	7	



student	
Not working (under 8 hrs) - other (inc. sick or disabled)	8
Other WRITE IN	9
Don't know	10
Refused	11

Perception of the local area

ASK ALL

I'd like to begin by asking you about your local area. By local area I mean the area within about 20 miles or 20 minutes drive from your home.

Q4 How long have you lived in this area? READ OUT. SINGLE CODE ONLY

Up to 1 year	1
Over 1 year up to 5 years	2
Over 5 years up to 20 years	3
Over 20 years/all my life	4
Don't know	3

Q5 And, in general, how satisfied or dissatisfied are you with your local area as a place to live? SINGLE CODE ONLY

Very satisfied	1
Fairly satisfied	2
Neither satisfied nor dissatisfied	3
Fairly dissatisfied	4
Very dissatisfied	5
Don't know	6

Q6 Do you think that in the next couple of years your local area will improve, stay the same or get worse? SINGLE CODE ONLY

Improve	1
Stay the same	2
Get worse	3
Don't know	4

Q7a What do you see as the most important issue facing your local area? DO NOT PROMPT, BUT PROBE FULLY. SINGLE CODE ONLY



Q7b EXCLUDE ANY MENTIONED AT Q7A And what do you see as other important issues facing your local area?

DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

	Q7a	Q7b
Closure of RAF Kinloss/Lossiemouth/air force bases	1	1
Wind farms	2	2
Carbon capture and storage development	3	3
Moray Firth being designated as a Marine Protection Area	4	4
Ageing population	5	5
AIDS	6	6
Animal welfare	7	7
Countryside/rural life	8	8
Crime/law & order/violence/ vandalism/anti-social (yob) behaviour	9	9
Drug abuse	10	10
Economy/economic situation/'credit crisis'/crunch	11	11
Education/schools	12	12
Environment/climate change/global warming/pollution	13	13
Family breakdown/lack of discipline taught to young people	14	14
GM/GM (Genetically Modified) foods	15	15
Housing	16	16
Immigration/immigrants (race relations)	17	17
Inflation/prices/rising cost of living	18	18
Lack of facilities/opportunities for young people/young people have nothing to do	19	19
Local government/council tax	20	20
Low pay/minimum wage/fair wages	21	21
Morality/individual behaviour/lifestyle	22	22
National Health Service/Hospitals/ Health care	23	23
Nationalisation/Government control of institutions	24	24
Obesity/ill health	25	25
Pensions/social security/benefits	26	26
Petrol prices/fuel prices	27	27
Pound/exchange rate/value of pound	28	28
Poverty/inequality	29	29
Privatisation	30	30
Public services in general	31	31



Public sector cuts	32	32
Religion/religious tolerance	43	43
Rising energy prices	33	33
Scottish Independence/constitution/Devolution	34	34
Sectarianism	35	35
Taxation	36	36
Trade unions/strikes	37	37
Transport/public transport	38	38
Unemployment/factory closure/lack of industry	39	39
Other (PLEASE WRITE IN)	40	40
None	41	41
Don't know	42	42
Refused	44	44

Developments in the local area

There are several plans for development in your area. Some of these plans are still on the drawing board whereas others are already being put in place. We now would like to ask you questions about some of these plans. It is fine if you tell us you have never heard of a plan we refer to. Some plans are in an early stage of development so we would not be surprised if you have not heard of them.

Carbon capture and storage

ASK ALL
Q8 Before this interview, how much, if anything, did you know about plans for carbon capture and storage in the North Sea in the Moray Firth? READ OUT.
SINGLE CODE ONLY

A great deal	1	GO TO Q9
A fair amount	2	GO TO Q9
Heard of but knew nothing about it	3	GO TO Q9
Never heard about it	4	GO TO Q14
Don't know	5	GO TO Q14



ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS FOR CCS (CODES 1-3 AT Q8)

Q9 What have you heard about plans for carbon capture and storage in the North Sea in the Moray Firth? DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- | | |
|--|----|
| Just that it's going to happen | 1 |
| Just that they are looking into it | 2 |
| That it will stop CO ₂ going into the atmosphere | 3 |
| Help stop/reduce climate change/global warming/greenhouse effect | 4 |
| Takes CO ₂ from power stations | 5 |
| Uses rocks in the sea | 6 |
| Used old oil fields/ Injected in empty oil/gas fields | 7 |
| Wind farms/turbines | 8 |
| Wave/tidal power | 9 |
| Renewable energy/green energy | 10 |
| Protect the ozone layer | 11 |
| Prevent acid rain | 12 |
| Stop pollution | 13 |
| Unproven technology | 14 |
| | 15 |
| | 16 |
| | 17 |
| | 18 |
| | 19 |
| | 20 |
| | 21 |
| Other (PLEASE SPECIFY) | 22 |
| Nothing | 23 |
| Don't know | 24 |

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS FOR CCS (CODES 1-3 AT Q8)

Q10 And, overall, do you think plans for carbon capture and storage in the North Sea in the Moray Firth would have a positive or negative impact on your local area? READ OUT. SINGLE CODE ONLY

- | | | |
|--------------------------|---|-----------|
| Very positive | 1 | GO TO Q11 |
| Slightly positive | 2 | GO TO Q11 |
| Slightly negative | 3 | GO TO Q12 |
| Very negative | 4 | GO TO Q12 |
| No impact at all | 5 | GO TO Q13 |
| Don't know | 6 | GO TO Q13 |



ASK ALL WHO SAY CCS WOULD HAVE A POSTIVE IMPACT ON THEIR LOCAL AREA (CODES 1 OR 2 AT Q10)

Q11 **Why do you think it would have a positive impact?** DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

It will bring jobs/employment	1
Improve the local economy	2
Better for the environment	3
Reduce toxic waste	4
Prevent ozone depletion	5
Help stop/reduce climate change/global warming/greenhouse effect	6
Prevent acid rain	7
Reduce smog	8
Reduce water pollution	9
Buy time for development of renewables	10
Will make Scotland self-sufficient/Scotland can create own energy	11
Allow people to continue using oil	12
Create more energy	13
Create green/cleaner energy	14
Could result in more oil and gas production	15
Good to be leader/at forefront of technology developments	16
	17
	18
	19
	20
	21
	22
	23
Other (PLEASE SPECIFY)	24
Nothing	25
Don't know	26



ASK ALL WHO SAY CCS WOULD HAVE A NEGATIVE IMPACT ON THEIR LOCAL AREA (CODES 3 OR 4 AT Q10)

Q12 **Why do you think it would have a negative impact? DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK**

Ugly/visual impact/eyesore	1
Bad for marine life/environment	2
Bad for fishing	3
Bad for tourism	4
Noise and disruption/increased traffic	5
risk of leaks (in general)/ CO ₂ will escape to the surface/suffocate people	6
Risk of explosion (in general)	8
Risk of leak from pipelines	8
Risk of explosion in pipelines	9
Not a real solution to the climate problem	10
Delays development of renewables	11
Storage will be target of terrorist attack	12
Means that we will still create energy generated through burning coal	13
Means that we will still create energy generated through burning coal	14
Unproven technology/risky technology	15
	16
	17
	18
	19
	20
	21
Other (PLEASE SPECIFY)	22
Nothing	23
Don't know	24
	25

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS FOR CCS(CODES 1-3 AT Q8)

Q13 **How important, if at all, would you say plans for carbon capture and storage in the Moray Firth are to you personally? READ OUT. SINGLE CODE ONLY**

Very important	1
Fairly important	2
Not very important	3
Not at all important	4
Don't know	5



Q14 ASK ALL
Before this interview, how much, if anything, did you know about carbon capture and storage in general? READ OUT. SINGLE CODE ONLY

A great deal	1
A fair amount	2
Heard of but knew nothing about it	3
Never heard of it	4
Don't know	5

RAF Lossiemouth

Q15 I would now like to ask you about the possible closure of RAF Lossiemouth. Before this interview, how much, if anything, did you know about the possible closure of RAF Lossiemouth? READ OUT. SINGLE CODE ONLY

A great deal	1	GO TO Q16
A fair amount	2	GO TO Q16
Heard of but knew nothing about it	3	GO TO Q16
Never heard about it	4	GO TO Q14
Don't know	5	GO TO Q14

ASK ALL WHO HAVE AT LEAST HEARD ABOUT THE POSSIBLE CLOSURE OF RAF LOSSIEMOUTH (CODES 1-3 AT Q15)

Q16 **What have you heard about the possible closure of RAF Lossiemouth? DO NOT PROMPT**

PLEASE WRITE IN	1
Nothing	2
Don't know	3

ASK ALL WHO HAVE AT LEAST HEARD ABOUT THE POSSIBLE CLOSURE OF RAF LOSSIEMOUTH (CODES 1-3 AT Q15)

Q17 **And, overall, do you think the closure of RAF Lossiemouth would have a positive or negative impact on your local area? READ OUT. SINGLE CODE ONLY**

Very positive	1	GO TO Q18
Slightly positive	2	GO TO Q18
Slightly negative	3	GO TO Q19
Very negative	4	GO TO Q19
No impact at all	5	GO TO Q21
Don't know	6	GO TO Q21



ASK ALL WHO SAY THE CLOSURE OF RAF LOSSIEMOUTH WOULD HAVE A POSTIVE IMPACT ON THEIR LOCAL AREA (CODES 1 OR 2 AT Q17)

Q18 **Why do you think it would have a positive impact?** DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- | | |
|---|----|
| Less noise | 1 |
| Stop area being a target in a war/ target of terrorist attacks | 2 |
| RAF people/families cause trouble/don't care about the local area | 3 |
| Better for the environment | 4 |
| Better for tourism | 5 |
| Don't agree with military/ war in general | 6 |
| Save money/less public money spent on the military | 7 |
| | 8 |
| | 9 |
| | 10 |
| | 11 |
| | 12 |
| | 13 |
| | 14 |
| | 15 |
| | 16 |
| | 17 |
| | 18 |
| | 19 |
| | 20 |
| | 21 |
| | 22 |
| Other (PLEASE SPECIFY) | 23 |
| Nothing | 24 |
| Don't know | 25 |



ASK ALL WHO SAY THE CLOSURE OF RAF LOSSIEMOUTH WOULD HAVE A NEGATIVE IMPACT ON THEIR LOCAL AREA (CODES 3 OR 4 AT Q17)

Q19 Why do you think it would have a negative impact? DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

Loss of jobs/unemployment	1
Bad for the economy	2
People will leave the area	3
I/friends/family members are directly affected	4
Bad for local shops, pubs, other suppliers	5
Lower the security of the area	6
	7
	8
	9
	10
	11
	12
	13
	14
	15
	16
	17
	18
	19
	20
	21
	22
Other (PLEASE SPECIFY)	23
Nothing	24
Don't know	25

ASK ALL WHO HAVE AT LEAST HEARD ABOUT THE POSSIBLE CLOSURE OF RAF LOSSIEMOUTH (CODES 1-3 AT Q5)

Q20 How important, if at all, would you say the possible closure of RAF Lossiemouth is to you personally? READ OUT. SINGLE CODE ONLY

Very important	1
Fairly important	2
Not very important	3
Not at all important	4
Don't know	5



Designating the Moray Firth as a Marine Protection Area

Q21 ASK ALL
Moving on, before this interview, how much, if anything, did you know about plans to make the Moray Firth a Marine Protection Area? READ OUT. SINGLE CODE ONLY

A great deal	1	GO TO Q22
A fair amount	2	GO TO Q22
Heard of but knew nothing about it	3	GO TO Q22
Never heard about it	4	GO TO Q27
Don't know	5	GO TO Q27

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS TO MAKE THE MORAY FIRTH A MPA (CODES 1-3 AT Q21)

Q22 **What have you heard about plans to make the Moray Firth a Marine Protection Area?**
DO NOT PROMPT MULTICODE OK

PLEASE WRITE IN	1
Nothing	2
Don't know	3

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS TO MAKE THE MORAY FIRTH A MPA (CODES 1-3 AT Q21)

Q23 **And, overall, do you think plans to make the Moray Firth a Marine Protection Area would have a positive or negative impact on your local area?** READ OUT. SINGLE CODE ONLY

Very positive	1	GO TO Q24
Slightly positive	2	GO TO Q24
Slightly negative	3	GO TO Q25
Very negative	4	GO TO Q25
No impact at all	5	GO TO Q26
Don't know	6	GO TO Q26



ASK ALL WHO SAY PLANS TO MAKE THE MORAY FIRTH A MPA WOULD HAVE A POSTIVE IMPACT ON THEIR LOCAL AREA (CODES 1 OR 2 AT Q23)

Q24 **Why do you think it would have a positive impact?** DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

- | | |
|--|----|
| Protect marine life/fish/sea animals | 1 |
| Encourages sustainable fishing practices/prevents over-fishing | 2 |
| Encourages tourism to the area | 3 |
| | 4 |
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| | 19 |
| | 20 |
| | 21 |
| | 22 |
| Other (PLEASE SPECIFY) | 23 |
| Nothing | 24 |
| Don't know | 25 |



ASK ALL WHO SAY PLANS TO MAKE THE MORAY FIRTH A MPA WOULD HAVE A NEGATIVE IMPACT ON THEIR LOCAL AREA (CODES 3 OR 4 AT Q23)

Q25 Why do you say it would have a negative impact? DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK

Affect the fishing industry – job losses	1
Restrict how the Moray Firth can be used/planning restrictions	2
	3
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	22
Other (PLEASE SPECIFY)	23
Nothing	24
Don't know	25

ASK ALL WHO HAVE AT LEAST HEARD ABOUT PLANS TO MAKE THE MORAY FIRTH A MPA (CODES 1-3 AT Q21)

Q26 How important, if at all, would you say the plan to make the Moray Firth a Marine Protection Area is to you personally? READ OUT. SINGLE CODE ONLY

Very important	1
Fairly important	2
Not very important	3
Not at all important	4
Don't know	5



Involvement in decision making

I'd now like to ask you about decision making in your area

Q27 ASK ALL
To what extent do you think that people involved in decisions affecting your local area take into account the interests of local residents? READ OUT. SINGLE CODE ONLY

Fully	1
Quite a bit	2
A little bit	3
Not at all	4
Don't know	5



Q28 In general, which individuals or organisations, if any, would you trust to represent your interests in decisions affecting your local area? DO NOT PROMPT, BUT PROBE FULLY. MULTICODE OK NOTE: IF RESPONDENT GIVES LOCAL PERSON'S NAME, ASK WHO THEY ARE/WHAT THEIR JOB ROLE IS.

Local MSPs (non-specific)	1
Alex Salmond	2
Brian Adam	3
Dennis Robertson	4
Stewart Stevenson	5
Fergus Ewing	6
Richard Lochhead	7
Local MPs (non-specific)	8
Danny Alexander	9
Malcolm Bruce	10
Eilidh Whiteford	11
Local Councillors	12
Community council	13
Business leaders	14
Church/religious leaders	15
SNP	16
Labour	17
Conservatives	18
Liberal Democrats	19
Green Party	20
Charities	21
Local newspapers/journalists	22
Local news/News on TV	23
Local Radio	24
	25
	26
	27
	28
	29
	30
	31
Other (PLEASE SPECIFY)	32
Nothing	33
Don't know	34
	35

Q29 ASK ALL Which of the following activities have you undertaken in your local area in the past 12 months? READ OUT. MULTICODE OK.

Given up any time as a volunteer or 1



as an organiser for any local charities, clubs or organisations, in an unpaid capacity

Made a visible political statement or statement about a local issue by for example wearing a badge or putting up a poster or car sticker 2

Signed a local petition 3

Gone to a local meeting 4

Participated in public protest activities such as a demonstration 5

Objected to a planning application 6

Helped your council plan what your local area should look like in the future 7

None of these 7
Don't know 8

Q30 ASK ALL
There are many ways in which people get information about developments in their local area. If you wanted to obtain information about developments in your area, which sources of information would you use? Please mention the three sources of information which you are most likely to go to. DO NOT READ OUT. CODE UP TO 3 OPTIONS.

Newspapers (including websites of newspapers)

Local newspapers
Evening Express 1
Press & Journal (P&J) 2
Buchan Observer 3



Banffshire Journal	4
Forres Gazette	5
Fraserburgh Herald	6
The Buchan Advertiser/ North East Weekly	7
The Northern Scot	8
Peterhead Buchan Observer	9
Peterhead Free North East Weekly	10
Other local newspaper (PLEASE WRITE IN)	11
National newspapers	
Daily Record	12
Sunday Mail	13
Sunday Herald	14
Sunday Herald	15
Scotsman	16
Scotland on Sunday	17
The Sun	18
News of the World	19
Sunday Post	20
Other national newspaper (PLEASE WRITE IN)	21
Magazine (PLEASE WRITE IN)	22

Television



BBC1/BBC2	23
STV	24
<hr/>	
Radio	
BBC Radio Scotland	25
Moray Firth Radio	26
Waves FM	27
Tay FM/AM	28
<hr/>	
North Sound	29
<hr/>	
Other Radio station (PLEASE WRITE IN)	30
<hr/>	
Other sources of information	
Library	31
Internet	32
<hr/>	
Individuals/groups	
National or local government	33
National or local interest groups	34
Local politicians/MSPs/MPs	35
Local councillors	36
Project developers or companies	37
Family/friends	38
Neighbours and other people in the community	39
<hr/>	
Other (PLEASE WRITE IN)	40
Don't know	41

About the respondent

I'd like to finish by asking some questions about your current circumstances....

DEM1	ASK ALL How many members of your family live in your area? READ OUT. SINGLE CODE ONLY
	None of them 1
	A few of them 2
	Half of them 3
	Most of them 4
	All of them 5
	Don't know 6

DEM2 **And how many of your closest friends live in your area?** READ OUT. SINGLE



CODE ONLY

None of them	1
A few of them	2
Half of them	3
Most of them	4
All of them	5
Don't know	6

DEM3 **What is the highest level qualification you have? SINGLE CODE ONLY.**

No qualifications	1
School qualifications – O Grade, Standard Grade, Intermediate 1 or 2, GCSE, CSE	2
School qualifications – Higher Grade, Higher, Advanced Higher, CSYS, A Level	3
Post school - GSVQ Foundation or intermediate, SVQ Level 1 or 2, SCOTVEC Module, City and Guilds Craft	4
Post school - GSVQ Advanced, SVQ Level 3, ONC, OND, SCOTVEC National Diploma, City and Guilds Advanced Craft	5
Post school - HNC, HND, SVQ Level 4	6
University - Degree, Postgraduate, Masters, PhD, SVQ Level 5	7
Professional Qualification – e.g. teaching, accountancy	8
Other school qualification	9
Other higher education qualification	10
Don't know	11



DEM4 **Do you own your home, or rent it? SINGLE CODE ONLY.**

Owned outright	1
Buying on mortgage	2
Rent from council	3
Rent from Housing Association/ Trust	4
Rented from private landlord	5
Other WRITE IN	6

ASK ALL THOSE WORKING (THOSE WHO ANSWERED 1/2 AT QWORK)

DEM5 **And do you work in any of the following sectors?**

READ OUT. SINGLE CODE ONLY.

Oil and gas	1
Farming	2
Fishing	3
Tourism, hotel, entertainment	4
Education	5
Health	6
Other public sector	7
Retail	8
Or another sector (PLEASE WRITE IN)	9
Don't know	10

Thank and close

Appendix V Characteristics of Moray and Scottish population

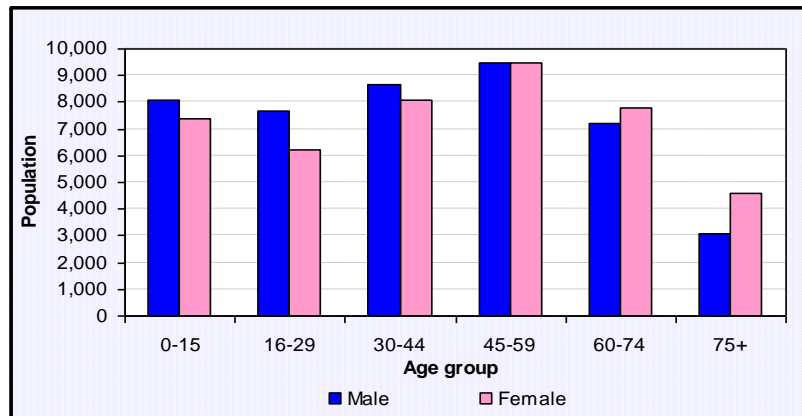


Figure V.1 Estimated population of Moray by age and sex (30.06.2010)

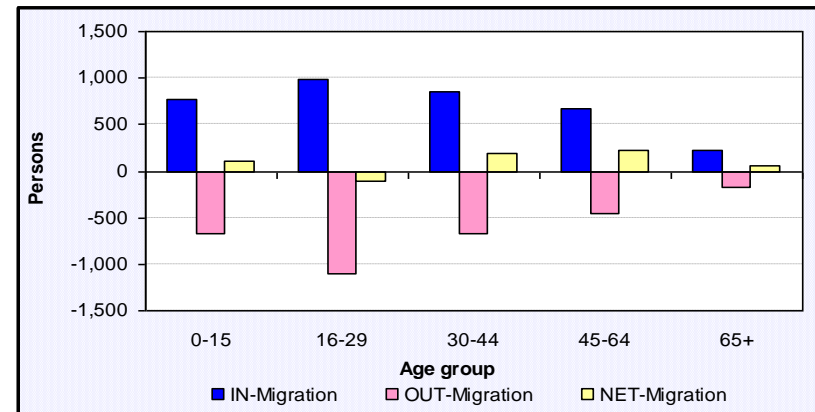


Figure V.2 Migration (in; out; net) Moray, annual average (2007-9) source: NRS, 2011)

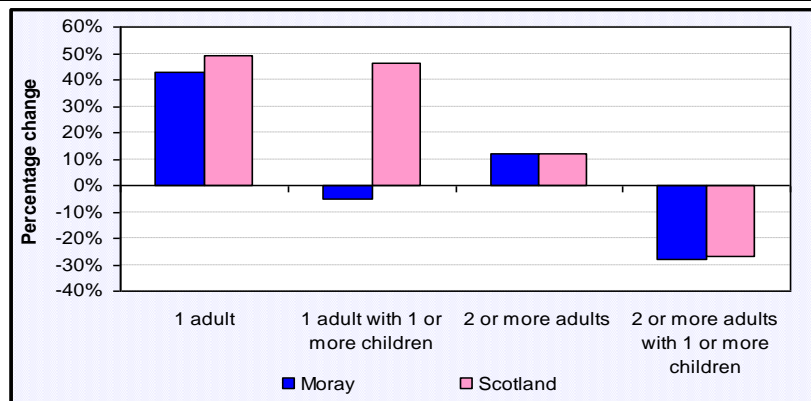


Figure V.3 Percentage change in population in Moray and Scotland

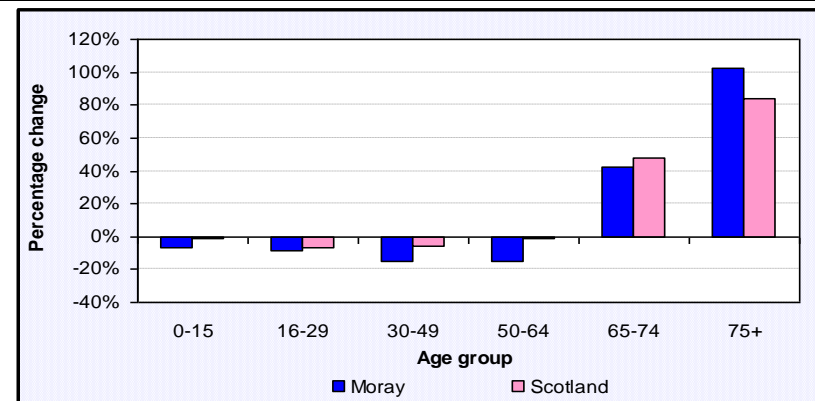


Figure V.4 Projected change in household, by household type, in 2008-

2033 (2008-based projections) Moray, 2008-2033

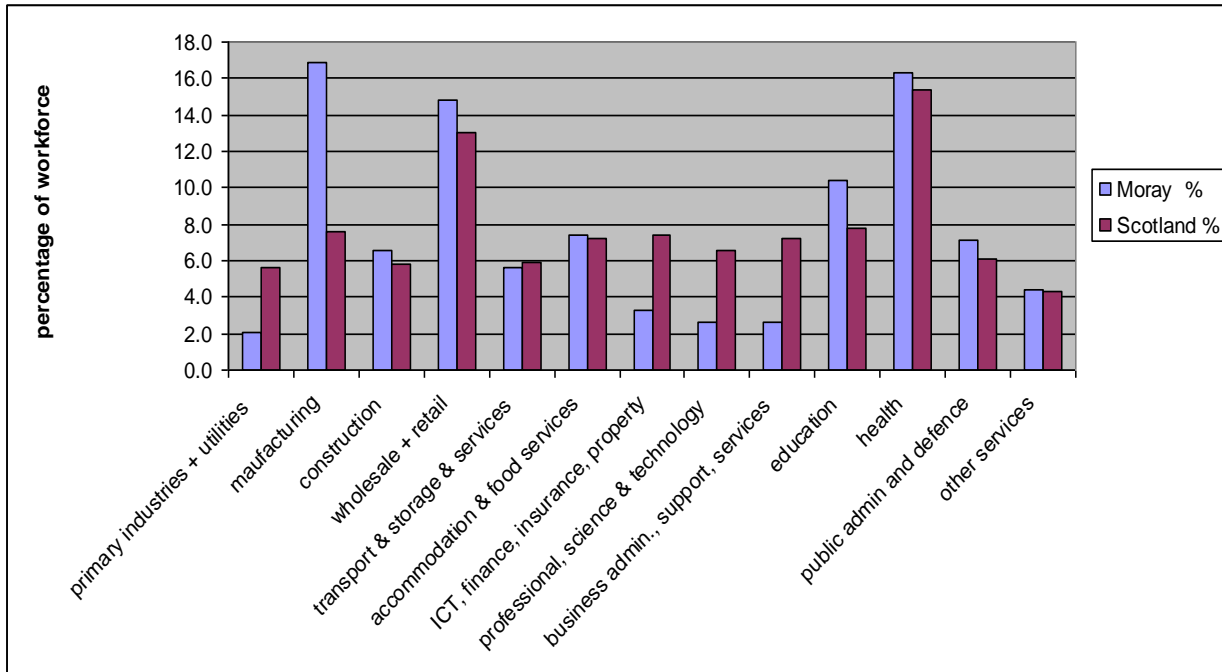


Figure V.5 Distribution of jobs for Moray compared to Scotland as a whole

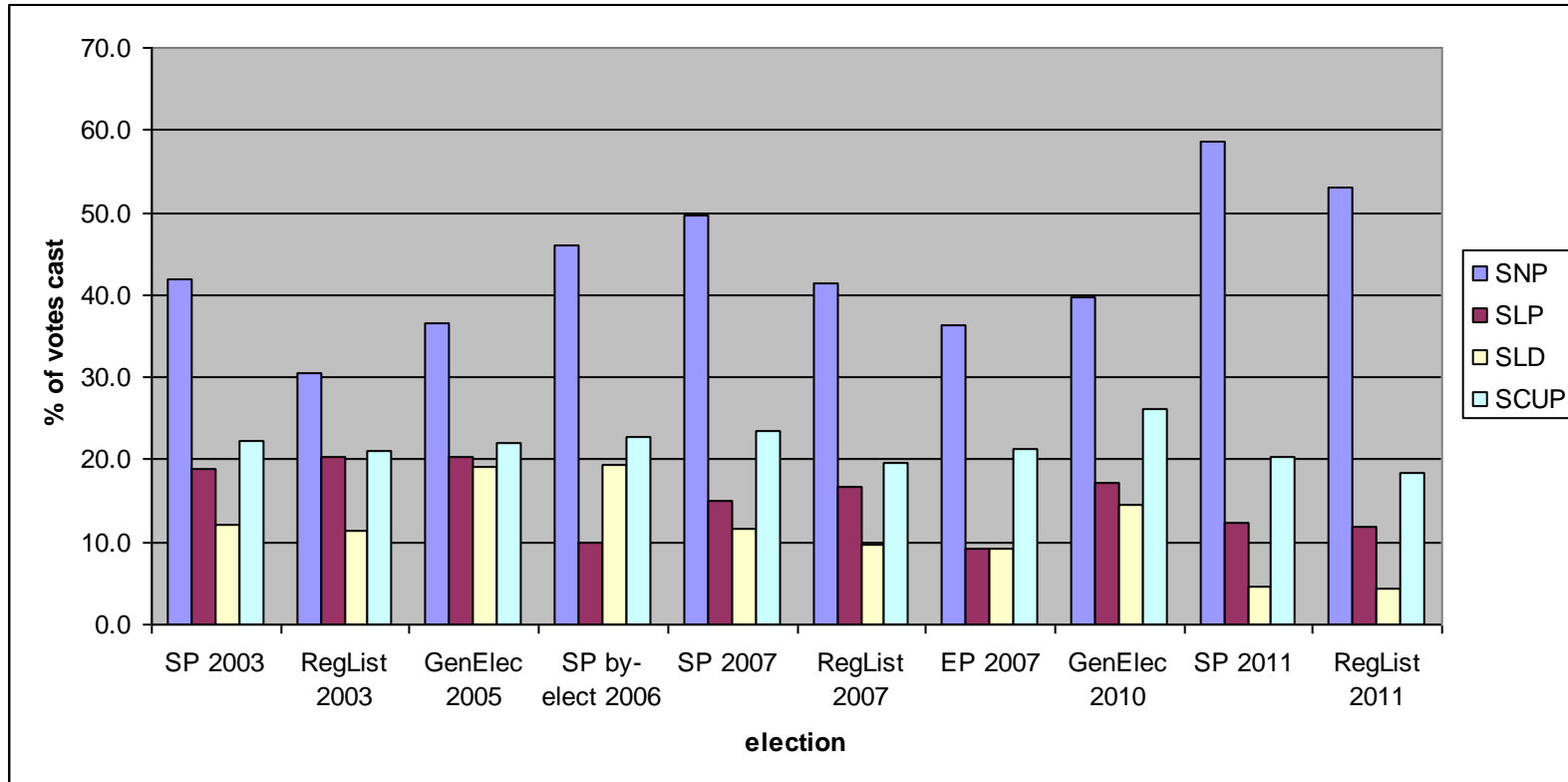


Figure V.6 Pattern of voting in Moray Constituency



Table V.1 Indicators of Inequality, employment and social deprivation in the Moray region compared to Scotland as a whole (data relevant for 2009, Q4). (Source: Scottish Neighbourhood Statistics, 2011)

Indicator	Moray region	Scotland as a whole
% of population who are income deprived	11	16
% of population 16 – 24 claiming Job Seekers allowance	4.6	6.1
% of population 25 - 49 claiming Job Seekers allowance	2.3	4.0
% of population 50 to pensionable age claiming Job Seekers allowance	1.7	2.4
% of working age population who are employment deprived (2009)	9	13
% of working age population 16 – 24 claiming key benefits	10.7	13.3
% of working age population 24 – 49 claiming key benefits	11.1	16.5
% of working age population 50 to pensionable age claiming key benefits	16.7	23.3
Average educational tariff score for all pupils on the S4 roll, (2008)	218	187
Emergency hospital admissions (male and female), aged 65+, rate per 100,000 (2008)	20,683	25,691
% if people living within 0 – 500 m of a derelict site (2010)	5.9	29.8
Median gross weekly earnings for full-time males (2010) (£)	470	520
Median gross weekly earnings for full-time females (2010) (£)	360	430
Mean house sale price (2010) (£k)	148	162