



Public Consultation on proposed Terms of Reference for a Programme of Research on Environmental Impacts of Unconventional Gas Exploration & Extraction What You Said and How We've Responded

Table of Contents

1. Background	2
2. General Comments	3
a. Concerns and Opposition in relation to Fracking	3
b. Human Health Impacts, Introduction of Health Impact Assessment & Inclusion of a Health Official on the Steering Committee	3
c. Comments relating to Specific Environmental Impacts.....	4
d. Definition of UGEE	5
e. Environmental Impact Assessment Vs. Strategic Environmental Assessment	5
f. Inclusion of Air Monitoring into the Baseline Study (Project A)	6
g. Research Timeframe	6
h. Integration of the three Research Projects.....	7
i. Prioritisation of Research on Energy Sources	7
j. Requirement to Take Account of the Irish Context for References and Comparisons.....	8
3. Miscellaneous Comments	8
a. Comments on Public Consultation Process	8
b. Comments about the Validity of the preliminary desk research (<i>A Short Summary of Current Knowledge and Potential Environmental Impacts</i>).....	9
c. Immunity from Prosecution and EPA Issues	10
4. Specific Comments on the Contents of the Proposed Terms of Reference	10
a. Comments received on Section 1: Background- Unconventional Gas Exploration & Extraction	10
b. Comments received on Section 2: UGEE on the Island of Ireland	10
c. Comments received on Section 3: Previous Research on UGEE	11
d. Comments received on Section 5: Further Research.....	12
e. Comments received on Project A: Baseline Characterisation	13
f. Comments received on Project A1 (Groundwater, Surface Water and associated Ecosystems).	14
g. Comments received on Project A2 (Seismic Impacts)	17
h. Comments received on Project B: UGEE Projects/operations, Impacts & Mitigations Measures	18
i. Comments received on Project C: Regulatory Framework for Environmental Protection.....	22
j. Comments received on Section 6. Conflict of Interest & Experience	24
Appendix 1: List of all valid submissions	25



1. Background

Unconventional Gas Exploration and Extraction is an emerging issue in Ireland, in particular with regard to the use of hydraulic fracturing (“fracking”) technology. Recognising the need for detailed scientific information, the Environmental Protection Agency (EPA) initially commissioned preliminary desk research¹ (*A Short Summary of Current Knowledge and Potential Environmental Impacts*), which was published in May 2012. This preliminary information has been used, along with other sources such as European Commission reports, to assist in a scoping exercise for a more extensive and comprehensive study of the process.

A Steering Committee, comprising of the EPA; Department of Environment, Community & Local Government (DECLG); Department of Communications, Energy & Natural Resources (DECNR); the Geological Survey of Ireland (GSI); Commission for Energy Regulation (CER); An Bord Pleanála; Northern Ireland Environment Agency (NIEA) and the Geological Survey of Northern Ireland (GSNI), has developed proposed Terms of Reference for this extensive and comprehensive programme of research. Outputs from this research will assist regulators (North and South) in fulfilling their statutory roles regarding this activity. It is proposed to award funding for research in three areas:

- Baseline Characterisation;
- UGEE projects/operations, Impacts & Mitigation Measures;
- Regulatory Framework for Environmental Protection.

The EPA subsequently launched, on the 11th January 2013, a public consultation on the draft Terms of Reference document on behalf of the Steering Committee. This document sets out the Steering Committee’s response to the submissions received during the Public Consultation, which assists this programme of research in delivering a thorough and robust examination of the issues. The involvement of the relevant regulatory bodies in this process is entirely without prejudice to any future application for permissions/licenses, etc.

Interested parties were invited to submit written comments on the proposed Terms of Reference to a dedicated email address: ugeeconsultation@epa.ie from the 11th January 2013 until the 8th March 2013. Overall, **1356** valid submissions were received which included **6** queries on the consultation process. In addition, **seven** “This is not a submission” emails were received and, as was requested, were not processed as submissions (but listed for record). **One** submission was withdrawn and therefore not processed as a submission (but listed for record). All submissions will be available to the successful Tenderer who will be strongly encouraged to consider them when carrying out the research.

Submissions were reviewed and assessed by the members of a sub-group (EPA, DECLG, DECNR, GSI, NIEA) of the Steering Committee over the period March-November 2013. Due to the large numbers of submissions and comments received during the Public Consultation process, comments/issues raised in the submissions have been grouped based on their contents. Our response to these comments is provided in this document.

Related Documentation:

- The ***Draft & Revised Terms of Reference*** (Appendix 1 of the Tender) documents are available at:

¹ <http://www.epa.ie/pubs/reports/research/sss/epa-strivesmallscalestudyreport.html>

² http://ec.europa.eu/environment/integration/energy/uff_news_en.htm



<http://www.epa.ie/researchandeducation/research/striveprogramme/water/ugee%20research/>

- All valid submissions are available for download at: http://erc.epa.ie/public_consultation
Appendix 1 of this document provides the list of all valid submissions received during the process.

2. General Comments

This section summarises the general comments, which were submitted in very large numbers, and provides our responses. These comments are not listed in any specific order.

a. Concerns and Opposition in relation to Fracking

A large number of submissions expressed concerns about and opposition in relation to fracking. They called for a “ban on fracking in Ireland” until more information is available regarding its potential environmental and health impacts.

Our Response:

The remit of the proposed Research programme is to generate comprehensive knowledge and further our understanding on the potential impacts of UGEE projects/operations on the environment and human health, to assist government bodies in making informed decisions about proposed UGEE projects/operations on the island of Ireland.

b. Human Health Impacts, Introduction of Health Impact Assessment & Inclusion of a Health Official on the Steering Committee

A large number of submissions requested that:

- Human health be included as part of the research.
- The scope of the second Key Research Question should be extended to ask “*what is the best environmental and public health practice in using the technology?*”.
- A Health official be included onto the Steering Committee.

Our Response:

A new section: Section 4 (Scope of the Research) Sub-section 4.2.4 (Impacts on Human Health) has been added to the Revised Terms of Reference to clarify and clearly define the scope of the proposed research in relation to Human Health. The wording “human/public health” throughout this document refers specifically and is limited to potential health impacts deriving from impacts on environmental media (e.g. exposure to chemicals, vibration, light, noise, and pollution of environmental media (i.e. soils, air & water)). In addition, the wording “protecting human health” refers and is limited to preventing environmental factors from degrading human health.

The subgroup considers that maximum value is realised from this work when there is close co-operation between Public Health Bodies and the funding organisations – both in terms of strategic



planning and assisting/participating in research projects (including data provision). Therefore, a Health expert has been invited onto the Steering Committee.

Finally, in Section 4 (Scope of the Research) – Sub-section 4.2.1 (Key Research Questions) in the Revised Terms of Reference, the Key research Questions have been amended to:

“Can UGEE projects/operations be carried out in the island of Ireland whilst also protecting the environment and human health?

What is ‘best environmental practice’ in relation to UGEE projects/operations?”

Observations were made that:

- The Terms of Reference should examine the overall issue of human health protection in environmental decision making and ought to, as a priority, give urgent attention to the further consideration of issues associated with the introduction of Health Impact Assessment.
- Comments were made that should the Study be limited to the environment and the environmental factors that have the potential to impact on human health, it would be appropriate to carry out a separate study on the public health aspects of UGEE activities.

Our Response:

Well planned and managed environmental-health research offers a very effective way to respond to emerging issues. The draft Terms of Reference did refer to the need to consider the role of Health Impact Assessment in regulation of UGEE projects/operations. There is now an additional requirement in the Revised Terms of Reference (Project C, Task 3) to specifically consider the potential role of Health Impact Assessment in regulation of UGEE projects/operations based on the experience in other countries and to make recommendations towards developing a protocol in the island of Ireland context.

c. Comments relating to Specific Environmental Impacts

The majority of submissions requested that various impacts from fracking activities be included into the proposed Terms of Reference. They included for example the following potential impacts: noise pollution, light pollution, landscape, traffic, water, air contamination, soil contamination, community, local economy, farming and tourism. In addition, a number of submissions requested the inclusion of the following points in Project A (esp. A1):

- The safe removal/treatment/disposal of wastewater.
- An assessment of existing wastewater treatment capacity in each of the case study locations and the wastewater treatment capacity required to adequately treat wastewater produced by the industry.
- An assessment of best available wastewater treatment for fracking waste and the extent to which this might be lacking/required in the case study locations.
- A project on socio-economics should be included (as part of Project A).

Our Response:

These potential impacts will come within the scope of Project B. In the island of Ireland, an EIA will be required for UGEE projects/operations where fracking is proposed. For proposed UGEE projects/operations, the operator (developer) will have to assess the likely significant environmental impacts (e.g. upon nature, water resources, landscape) of the Project. The operator (developer)



cannot start a project without obtaining a Permit. In the framework of the development consent procedure, third parties (including the public) must be given the right to make submissions on the Permit request and to get access to the decision to grant or refuse a Permit. These submissions should be taken into account by the competent authority. Where a Permit is granted to an operator (developer) for a UGEE Project, members of the public, including NGOs, will be entitled to challenge the legality of the decision.

A new section: Section 4 (Scope of the Research) Sub-section 4.2.3 (Environmental Impacts) has been added in the Revised Terms of Reference to clarify and clearly define the scope of the proposed research in relation to impacts falling under the EIA Directive.

d. Definition of UGEE

Some submissions suggested that the definition of UGEE provided in the draft Terms of Reference be consistent with the interpretation of the Commission for Energy Regulation (CER) and with the Electricity Regulation Act 1999 (as amended). It was indicated that the CER in Decision CER/12/062 of 8 June 2012 provides that a “petroleum activity” (definition which includes unconventional gas) covers both the activities authorised under a petroleum authorisation, as well as any activities associated with a “petroleum infrastructure”.

Our Response:

It was our intention to consider the full life-cycle of hydraulic fracturing activities, as well as off-site and other developments. The text has now been amended to clarify this point (Refer to Section 1. in the Revised Terms of Reference) and, where relevant, the word “fracking” has been replaced by “UGEE projects/operations” throughout the Revised Terms of Reference.

e. Environmental Impact Assessment Vs. Strategic Environmental Assessment

Some submissions indicated that UGEE activities should fall under the remit of a Strategic Environmental Assessment (SEA) rather than an Environmental Impact Assessment (EIA).

Our Response:

The SEA Directive places obligations on Member States to carry out an environmental assessment for plans and programmes for specified sectors which include the energy sector. A specific criterion in relation to SEA requirements relates to the setting of a framework for plans which set the framework for future consent for projects listed in the Annexes to the SEA Directive.

The European Commission issued a Guidance Note² in 2011 confirming that the exploration and exploitation of unconventional hydrocarbons has to comply with the requirements of EU legislation. A comprehensive EU legislative framework on environmental protection and non-discriminatory access to hydrocarbon resources is already in place and applies to all hydrocarbons, conventional and unconventional from planning to the aftercare of sites following exploitation.

² http://ec.europa.eu/environment/integration/energy/uff_news_en.htm



The Commission Guidance Note states that exploration and exploitation of unconventional hydrocarbons fall within the scope of the Environmental Impact Assessment (EIA) Directive (2011/92/EU), which plays a central role in the assessment of the environmental effects of proposed UGEE projects/operations before development consent can be granted. The Directive ensures that the environmental implications of projects are taken into account in the permitting process, before the final decisions are made. Any application for an exploration licence that includes hydraulic fracturing would be subject to environmental assessment in accordance with the requirements of the EIA Directive.

f. Inclusion of Air Monitoring into the Baseline Study (Project A)

A large number of submissions requested that a baseline air monitoring study be included into the research.

Our Response:

The EPA manages the national ambient air quality monitoring network, which measures the levels of a number of atmospheric pollutants as set out in EU Directives³. In addition, the Radiological Protection Institute of Ireland (RPII) has carried out a National Radon Survey of indoor radon levels in homes in Ireland between 1992 and 1999 and additional c. 42,000 dwellings were surveyed up to December 2012⁴. Also, the National Radon Control Strategy, which is being developed by a Government-led Inter Agency Group, will recommend that updated baseline values be established. In order to improve air quality for all citizens in Northern Ireland (NI), Local Authorities are responsible for reviewing the state of air quality in their district. To assist them with this process an Air Quality Strategy⁵ has been devised for the UK. This sets down standards and objectives for the air quality pollutants causing the problems and allows Local Authorities to review air quality in their area against these. NI departments also have a responsibility to ensure limit values, target values and alert thresholds for specified pollutants are not exceeded.

While baseline characterisation of air quality would have to be included in any EIA, it was decided to amend the draft Terms of Reference to include a third project under Baseline Characterisation called Air Quality. This new A3 project (Revised Terms of Reference) is a study to assess the requirements and needs (in an EIS context) for baseline air monitoring (including parameters to be measured) for UGEE projects/operations.

g. Research Timeframe

A large number of submissions pointed out that the proposed research timeframe of the study:

- should be extended to allow for the inclusion of the conclusions and recommendations of on-going research in Europe and the US.
- would rule out the possibility of any serious medical baseline studies being carried out.

³ The European Commission set down the principles to this approach in 1996 with its Air Quality Framework Directive. Four "daughter" directives lay down limits for specific pollutants (Sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead; 2nd Daughter Directive: Carbon monoxide and benzene; 3rd Daughter Directive: Ozone; 4th Daughter Directive: Polyaromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air). The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) was published in May 2008

⁴ <http://www.rpii.ie/Your-Home/Radon-in-your-home/Radon-results-by-country.aspx>

⁵ <https://www.gov.uk/government/publications/the-air-quality-strategy-for-england-scotland-wales-and-northern-ireland-volume-2>



- may be unrealistic for some aspects of the research and do not consider the typical life-cycle of the technology.

In addition, a number of submissions queried the timings/sequencing of the interim and final reports in Project A.

Our Response:

While it is not foreseen to extend the proposed research timeframe, it is expected that the successful tenderer will take into account any relevant research findings and recommendations, and link with any on-going research projects in the same field. These research projects must build on findings and recommendations from past and current relevant research projects. Except for Projects A1 and A2, which are baseline monitoring studies, the remit of the proposed research is to carry out a desk-based review.

It is not within the remit of the proposed research projects to carry out medical baseline studies. Project C (Task 3 in the Revised Terms of Reference) will address the potential role of Health Impact Assessment in regulation of UGEE projects/operations.

In addition, the timings for the interim and final reports have been clarified in Projects A1 and A2 in the Revised Terms of Reference.

h. Integration of the three Research Projects

A number of submissions have requested that an overall project which would ensure the integration & linkages of the various sub-projects be included in the Terms of Reference.

Our Response:

We recognise that the need for integration and linkages between the various projects of the proposed research is crucial. The tender will be for a single operator framework. Tenderers must submit a proposal for each of the projects included in this Invitation to Tender. Applicants may form a consortium to satisfy this requirement. The sentence: “The successful Tenderer will be responsible for the integration of and the linkages between the different elements of the Research Programme including the contribution of each to an integrated synthesis report.” has been added in the Revised Terms of Reference to take into account implications of single operator framework.

In addition, the management of the Research Programme (placement of the Contact Person/Steering Committee) will also ensure that there is integration between the different elements (Refer to Section 6 of the Revised Terms of Reference). Further linkages and integration will be ensured by organising interim meetings which address all sub-projects. Research outputs and dissemination activities under each research project, will be integrated into an overall dissemination framework managed by the Steering Committee. To this effect, the dissemination plan under each research project will need to be in agreement and complementary to the overall dissemination plan of the Research Programme; and the format of the projects outputs (data, etc.) and reports (i.e. Final Report, Synthesis Report and Summary-type Report) will need to follow a harmonised template between all the projects. An integrated Synthesis Report covering all projects is also required from the successful Tenderer. Both dissemination and final reporting requirements will be discussed and agreed.



i. Prioritisation of Research on Energy Sources

It has been submitted that besides the fossil-fuel arising from UGEE, there are other sources of energy that can be generated from renewable resources (e.g. wind, tidal and wave energy). Accordingly, a number of submissions assert that a Cost Benefit Analysis should be carried out - taking account of all the aspects associated with the generation of energy from these sources - to decide which form of energy best merits research funding.

Our Response:

It is within the remit of the proposed research to compare the cumulative environmental impacts arising from the entire lifecycle of UGEE projects/operations with those from other energy sources (including renewables). This was covered by Project B: Task 3: Lifecycle Assessment (Project B Task 5 in the Revised Terms of reference). A Cost Benefit Analysis is outside the remit of this research programme.

j. Requirement to Take Account of the Irish Context for References and Comparisons

Some submissions indicated that there is a need to include within the Terms of Reference, a requirement for particular reference to and comparison with experience of UGEE in conditions similar to that occurring in Ireland (Projects A1, A2 & B).

Our Response:

The Revised Terms of Reference now includes a Scoping section (Section 4 (Scope of the Research) Sub-section 4.2.2 (Geographical Scope)) with a specific requirement to take account of the Irish context for references and comparisons to UGEE experience in other countries. While elements of the research will relate to specific regions where petroleum licensing options or licences have been granted from the DCENR/DETI (i.e. Projects A1 & A2), it is intended that the research will generally be applicable to the island of Ireland. The Irish environment (island of Ireland) is different to the environments in which many UGEE projects/operations are taking place worldwide, and this should be taken into account when making reference to and comparing with experience in relation to UGEE projects/operations in other countries.

3. Miscellaneous Comments

Other comments were submitted in smaller numbers and did not relate to a specific section of the draft Terms of Reference. These are summarised in this section.

a. Comments on Public Consultation Process

A large number of submissions commented on the Public Consultation Process highlighting that it was not open for a long enough period, and that only submissions by email were accepted, excluding some of the rural communities with limited or no broadband connection or was not advertised properly.



Our Response:

The Public Consultation Process was similar to the one used during the EPA Public Consultation on the National Inspection Plan for Domestic Wastewater Treatment Systems discussion document. The level of response received was one of the largest (with over 1,300 submissions received), when compared to recent EPA public consultations.

The Consultation was a multi-agency process. A Press Release was sent to national and local newspapers by the EPA Media Office. A number of radio interviews were done. It was also advertised on the EPA website. NIEA placed information re the consultation for the terms of reference to this project on their website in mid February 2013, it is recognised that this was later than intended. The DOE Minister, Minister Attwood, released a press statement on 18th Feb 2013 urging public participation in all Ireland Hydraulic Fracturing Consultation. The draft Terms of Reference were also advertised on the DCENR website.

b. Comments about the Validity of the preliminary desk research⁶ (A Short Summary of Current Knowledge and Potential Environmental Impacts)

A large number of submissions also highlighted and questioned the validity of the Aberdeen Report with specific reference to:

- The withdrawal of the University of Texas Report; and
- The sources of funding of the Aberdeen University.

Our Response:

In relation to the withdrawal of the University of Texas Report, the EPA amended the report download webpage on the 21/02/2013 with the following note added:

“This EPA commissioned report contains a number of references to a 2012 study report, Fact-Based Regulation for Environmental Protection in Shale Gas Development, published by the University of Texas. Subsequent to the publication of both reports, an independent review of aspects of the University of Texas fracking study was commissioned by the University on foot of revelations concerning non-disclosure of interests by the Principal Investigator for the study. The review concerned the process of preparing the study report and the dissemination of its content, and was not concerned with the merits, risks or impacts of hydraulic fracturing per se. The review panel has now published the results of their examination of the University of Texas fracking report, and concluded that there were significant failings in governance aspects of the fracking study. The University of Texas has now withdrawn its report until it is peer-reviewed⁷. The EPA has examined the independent review of the University of Texas report, and will have due regard to its findings with respect to planned EPA-funded research in this domain. The Agency will also have regard to the outcome of the peer-review of the University of Texas fracking report when it is released.”

In relation to the sources of funding of the University of Aberdeen, the 2012 project was a Small-Scale study research project funded by the EPA STRIVE Research Programme. The University of Aberdeen was one of a number of parties approached on the basis of reputed expertise in the relevant field. The University of Aberdeen was the only party to respond with a quotation for the work, and was

⁶ <http://www.epa.ie/pubs/reports/research/ss/epa-strivesmallscalestudyreport.html>

⁷ http://www.energy.utexas.edu/index.php?option=com_content&view=article&id=171:university-of-texas-accepts-findings-on-shale-gas-development-report&catid=34:press-releases&Itemid=54



subsequently awarded the research grant. Grantees have to abide by the EPA STRIVE Terms & Conditions of Grant Award. Criteria used by the EPA for evaluating all proposals for funding of research projects are based on the scientific and technical validity of the proposals as well as applicants experience in the relevant field of research.

c. Immunity from Prosecution and EPA Issues

There were some submissions calling for the EPA current blanket statutory immunity to be removed and for the EPA to be brought under the remit of the Ombudsman.

Our Response:

These are issues for the Government to consider and the EPA will be bound by whatever decision is made in relation to them.

4. Specific Comments on the Contents of the Proposed Terms of Reference

a. Comments received on Section 1: Background- Unconventional Gas Exploration & Extraction

A number of comments were submitted in relation to **Section 1. Background - Unconventional Gas Exploration & Extraction** of the draft Terms of Reference. These are summarised below:

- The use of “Small amount of chemicals” in the sentence: “The fracking fluid also contains small amounts (typically < 2% in total by volume) of chemical additives such as <...>” (Page 1, Paragraph 2 (draft Terms of Reference)) is misleading.
- The wording “Previously Impermeable Rock” – Page 1, Paragraph 1 (draft Terms of Reference) – is incorrect.

Our Response:

The text in the Section 1 of the Revised Terms of Reference has now been amended, and the wording:

- *“small amounts (typically < 2% in total by volume)” has been deleted (Section 1: Background);*
- *“previously impermeable rock” has been replaced by “low permeability rock” (Section 1: Background).*

b. Comments received on Section 2: UGEE on the Island of Ireland

A number of comments were submitted in relation to **Section 2. Unconventional Gas Exploration & Extraction on the Island of Ireland** of the draft Terms of Reference. These are summarised below:

- The statements in Section 2 are out of date.



Our Response:

The text in Section 2 (UGEE on the Island of Ireland) in the Revised Terms of Reference has been updated to reflect the up-to-date situation during the call for tender.

- Other petroleum licences granted in Northern Ireland should be included.

Our Response:

As in the rest of the UK, Northern Ireland petroleum licences grant exclusivity within the licence area for oil and gas exploration and production, and no distinction is made between conventional and unconventional oil and gas. There are four current petroleum licences in Northern Ireland and in one of these the Licensee is focussing on shale gas targets, (Refer to Section 2 (UGEE on the Island of Ireland) of the draft Terms of Reference). On this basis there is no need to look at the other three petroleum licences in Northern Ireland.

It is noted that the Northern Ireland petroleum licences operate in a similar manner to Petroleum Exploration and Development Licenses (PEDLs) in England, Scotland and Wales, in that exploration and production activities are subject to a range of drilling / development consents, planning permissions, health and safety and environmental requirements. The Department of Enterprise Trade and Investment (DETI) assesses the technical competence, environmental awareness, financial viability and capacity of licence applicants before making a decision on granting a licence, and will reassess these when a Licensee makes a firm decision to drill on a 'drill or drop' work programme.

c. Comments received on Section 3: Previous Research on UGEE

A number of comments were submitted in relation to **Section 3. Previous Research on Unconventional Gas Exploration & Extraction** of the draft Terms of Reference. These are summarised below:

- The adequacy of the existing EU environmental regulatory framework for the proper control of unconventional fossil fuels projects has already been evaluated and found inadequate.

Our Response:

This statement is correct. The text in the Revised Terms of Reference (Section 4 (Scope of the Research) Sub-section 4.2.1 (Key Research Questions)) has been amended. In addition, reference to new studies and reports published by the Commission in September 2013 have been made in the Revised Terms of Reference: "In addition, the Commission recently published in September 2013 an assessment of the use of certain substances in hydraulic fracturing of shale gas reservoirs under REACH⁸, as well as a study⁹ on the regulatory provisions governing key aspects of unconventional gas development in eight Member States (study conducted on the basis of information collected between October 2012 and April 2013)." Outputs from this research (Project C) will identify all regulatory requirements, best operational practices and other relevant issues in respect of UGEE Projects/

⁸ http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/29386/1/req_jrc83512_assessment_use_substances_hydraulic_fracturing_shale_gas_reach.pdf

⁹ <http://ec.europa.eu/environment/integration/energy/pdf/Final%20Report%2024072013.pdf>



Operations, thereby assisting regulators (North and South) in fulfilling their statutory roles regarding this activity.

- Key Research Questions:
 - The second Key Research Question should be ignored until the first Question has been fully answered.
 - There is a need to clarify what is meant by “technology”.

Our Response:

It was not our intention to imply a positive answer to the first Key Research Question. If UGEE projects/operations are associated with significant environmental pollution and detrimental to human health then the second Key Research Question would become irrelevant as those would not be going ahead. To clarify this point, the text in the Revised Terms of Reference (Section 4 (Scope of the Research) Sub-section 4.2.1 (Key Research Questions)) has been amended. In addition, the word: “technology” has been replaced by “UGEE projects/operations”.

d. Comments received on Section 5: Further Research

A number of comments were submitted in relation to **Section 5. Further Research** of the draft Terms of Reference. These are summarised below:

- “Potential environmental impacts” should be “environmental and health impacts” – Page 3 (draft Terms of Reference).

Our Response:

The text of the draft Terms of Reference has been amended to ensure consistency and now refers to: “potential impacts on the environment and human health” in the Revised Terms of Reference. This is to be read in the context of the scope clarification provided in Section 4 (Scope of the Research) Sub-section 4.2.4 (Impacts on Human Health).

- There should be an explicit reference to the “Precautionary Principle”.

Our Response:

The Precautionary Principle has been incorporated in the EU Treaty since Maastricht in 1992. Article 191.2 of the Treaty on the Functioning of the European Union (TFEU) states: “Union Policy on the Environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventative action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.” Accordingly, relevant EU legislation and policy is based, inter alia, on the Precautionary Principle so the requirements are implicit in the Terms of Reference.



- A number of submissions requested that the Steering Committee of the proposed research programme should be widened to include members from the departments of Agriculture and/or Tourism, as well as representatives from the Community and academics.
- Comments were received about the need for the public to be consulted during the research programme when draft interim and final reports are made available for comments to the steering Committee.
- All findings should also be published on the EPA website.

Our Response:

It is considered that the Steering Committee composition should not be further amended (with the exception of the inclusion of a Health official as per the General Comments Section). It is expected that the successful Tenderer will consult the relevant stakeholders as appropriate as to gain the maximum benefits for the success of the project

In addition, it is our opinion that public consultations on interim and final reports would not be practicable within the delivery timeframe of the Research Programme. However, it is intended that the research findings will be reviewed by external experts, presented at public seminars and the final reports made publicly available. Publication on the EPA website will be one of the means of public dissemination of the findings.

e. Comments received on Project A: Baseline Characterisation

A number of comments were submitted in relation to **Project A. Baseline Characterisation** of the draft Terms of Reference. These are summarised below:

- The baseline studies should be carried over a larger area/cover the full country

Our Response:

It is considered that the proposed area to be covered in the baseline studies are adequate taking into account that the EPA and NIEA are carrying out regular country-wide air monitoring as well as monitoring of surface water and groundwater. Furthermore, the baseline monitoring should be undertaken at an appropriate scale to the activity, which for UGEE projects/operations would be within the catchment.

- An explicit reference should be made to investigate the need for the provision of “exclusion zones” in respect of certain above-ground UGEE activities in areas of water protection, minimum distances from the surface to the targeted gas reservoirs; and minimum distances between aquifers and UGEE operations.

Our Response:

We believe this is already adequately covered. The requirements set out in the Terms of Reference for Project B “UGEE operations, Impacts and Mitigation Measures” covers these potential mitigation measures as it imposes a requirement for “the identification and a detailed examination of the potential impacts of UGEE projects/operations on the environment and human health, as well as successful mitigation measures, associated with UGEE projects/operations that have come to the



fore worldwide using published reports and other sources” (Project B, Introductory text, Tasks 1, 4 and 9 in the Revised Terms of Reference). Some of the results of Project A may also highlight appropriate exclusion zones as an environmental control.

- There is a need to include cumulative impacts in Project A.

Our Response:

We believe this is already adequately covered. The definition of UGEE projects/operations refers to both to the use and full life-cycle of high volume hydraulic fracturing (fracking) of low permeability rock to permit the extraction of natural gas on a commercial scale and the environmental impacts arising from UGEE projects/operations in their totality from all stages of the project (i.e. including construction, commissioning, operation, decommissioning and aftercare, as well as off-site and other developments). The 2011 Commission Guidance Note¹⁰ acknowledges that the exploration and extraction of shale gas may give rise to a variety of site specific impacts that change, depending on the phase of the project. It is our opinion that Project B will address the point of cumulative impacts, as these are to be considered under the EIA Directive, and should therefore be taken into account by the successful Tenderer.

f. Comments received on Project A1 (Groundwater, Surface Water and associated Ecosystems)

A number of comments were submitted in relation to **Project A1** (groundwater, surface water and associated ecosystems) of the draft Terms of Reference. These are summarised below:

- The characterisation of sites under Natura, Habitats Directive & Birds Directives should be required.
- An explicit reference should be made to aquatic ecosystems.

Our Response:

The EIA Directive will address compliance with relevant EU Directives, such as the Water Framework Directive, and Habitats/Birds Directives.

In relation to the explicit reference to aquatic ecosystems, the introductory text of Project A1 has been amended to: “Baseline characterisation of groundwater, surface water and associated ecosystems¹¹ is required to enable potential impacts to be assessed.” In addition, in Project B, the reference to potential impacts on “groundwater, surface water and associated ecosystems.....” addresses this point (Project B – Task 5 in the Revised Terms of Reference).

- More explicit references to surface water should be added under the various parts of Project A1.

¹⁰ <http://ec.europa.eu/environment/eia/pdf/Annexe%202.pdf.pdf>

¹¹ Including areas of a particular environmental importance, such as European Sites and areas designated pursuant to the Birds Directive or the Habitats Directive



Our Response:

The Revised Terms of Reference have been amended and “surface water” is now specifically referred to in the introductory text, and under Tasks 5, 6 and 8 of Project A1.

- The proposed baseline monitoring does not take into account year-to-year variation.

Our Response:

We recognise that the proposed baseline monitoring, will not take into account year-to-year variation due to the limited time (i.e. 12 months) available to complete this research programme. However, it is considered that when compared with any future monitoring that would be required under the EIA Directive; it would provide some insight in relation to this aspect.

- Project A should explicitly refer to risks to groundwater from contaminated “geological water” arising from UGEE operations, including the disposal of UGEE wastewater.

Our Response:

“Geological water” is captured under the term “(shale) formation water” and the draft Terms of Reference for Project A1 already included the “management of flowback water and other substances”.

This particular task (Project A1, Task 8 in draft Terms of reference) has been moved to Project B (Task 3) in the Revised Terms of Reference, as it is more relevant to the “Impacts” Project than the “Baseline Characterisation” Project.

- Project A1 should specify minimum technical requirements and functionalities in relation to the development of the conceptual model.

Our Response:

Project A1, Tasks 1 & 2 require “the development of sub-regional geological/hydrogeological characterisation and conceptual models based on all of the available existing data for the case study areas. This model should be further refined when data are acquired through Tasks 3, 5 and 6” – the level of sophistication of the “conceptual model” will be apparent when all the data are gathered, given that the Terms of Reference explicitly requires the conceptual model to be based upon the “available existing data for the case study areas” and this refinement of the conceptual model is to be carried out “in discussion and agreement with the Steering Committee” (Refer to Project A1 – paragraph following the description of Task-1 to Task-10, Revised Terms of Reference).

- Project A1- Tasks 2 & 3 (draft Terms of Reference):
 - The Terms of Reference are referring to a sub-regional baseline monitoring study, which implies a catchment based approach – This should also have particular regard to the existing water management arrangements in Ireland and Northern Ireland.



- The Terms of Reference should explicitly require that “the technical specification should take account of the impacts of the various potential types and thicknesses of shaft linings on the surrounding groundwater resource”.

Our Response:

In the draft Terms of Reference, Project A1 Task 2 required that “general principles of data requirements, acquisition and assessment should enable application in a national context” – this has been amended to relate to both the Republic of Ireland and Northern Ireland (i.e. island of Ireland) water management arrangements in the Revised Terms of reference. Similar amendments have also been made elsewhere in the Revised Terms of Reference where the term “national” was originally used in such a context.

We believe that “the impacts of the various potential types and thicknesses of shaft linings on the surrounding groundwater resource” are implicitly included within the requirement “Preparation of a technical specification for a sub-regional baseline monitoring study that will be informed by the geological and hydrogeological characteristics of the case study sites i.e. taking specific regard of the conceptual understanding of local/regional groundwater flow regimes in these areas.” (Project A1 Task 3, Revised Terms of Reference)

- Project A1, Task 5 (draft Terms of Reference)
 - Concerns were raised about the reliability & credibility, coordination, staffing issues and costs in relation to the monitoring carried out by the State versus by Industry.
 - Some submissions outlined that there are not many examples available to contribute to a review of best practice for other similar industrial activities either in Ireland or other EU countries.
 - An explicit reference should be made to what “other similar industrial activities” are considered to be.

Our Response:

Note: Project A1 Task 5 in the draft Terms of Reference is now Project A1 Task 9 in the Revised Terms of Reference.

In the Terms of Reference, under Project A1, it is proposed that the research will assess the concept of the monitoring to be carried out by State agencies versus by industries. The proposed research should consider the case whereby site specific monitoring could be carried out by the industry, this would be coordinated and cross-checked with the results of the broader regional monitoring being carried out by the State agencies.

In addition, the text in the Revised Terms of Reference has been amended, particularly under Task 6 of Project A1, by replacing the text “in Ireland and other EU countries” by “worldwide”.

Other similar activities would include unconventional oil & gas activities carried out “worldwide”. It is our opinion that this task does not need further clarification.



- Project A1, Task 7 (draft Terms of Reference):
 - An explicit reference should be made to “aquatic habitats” and the use of “flow models” to predict impacts on the aquatic habitat.

Our Response:

The introductory text in Project A1 description now makes explicit reference to “associated ecosystems”. Impacts on aquatic habitats are covered under Project B Task 4 in the Revised Terms of Reference.

Note: Project A1 Task 7 from the draft Terms of Reference has now been moved to Project B, Task 2 in the Revised Terms of Reference, as it is more relevant to the “Impacts” Project than the “Baseline Characterisation” Project.

- Project A1, Task 8 (draft Terms of Reference):
 - An assessment should be made of actual experience with the use of recycled flowback water and the potential for further increasing the recorded recycling levels.

Our Response:

This particular task (Project A1, Task 8 in draft Terms of reference) has been moved to Project B (Task 3) in the Revised Terms of Reference, as it is more relevant to the “Impacts” Project than the “Baseline Characterisation” Project. The text has been slightly amended to include this requirement.

g. Comments received on Project A2 (Seismic Impacts)

A number of comments were submitted in relation to **Project A2. Seismic Impacts** of the draft Terms of Reference. These are summarised below:

- Project A2, Task 2 (draft Terms of Reference):
 - The best available management techniques for potential seismic impacts should be investigated.

Our Response:

In the Revised Terms of Reference, the introductory text for Project A2 listing the particular research issues for consideration by the study has been amended to: “Review of seismic risk control regimes operated worldwide for UGEE projects/operations and make recommendations for systems applicable to the island of Ireland, with particular reference to the case study areas.”

- Project A2, Task 3 (draft Terms of Reference):
 - A requirement should be included to risk-assess the likelihood of seismic effects through the deep underground.



Our Response:

The scope of the research project (A2) is to firstly identify actual events and magnitudes and those that are associated with UGEE projects/operations (Baseline characterisation).

h. Comments received on Project B: UGEE Projects/operations, Impacts & Mitigations Measures

A number of comments were submitted in relation to **Project B. UGEE Operations, Impacts & Mitigations Measures** of the draft Terms of Reference. These are summarised below:

- A requirement that the research tasks should take into account “commercially probable scenarios” should be included.
- The wording should be strengthened beyond the term “mitigation”.

Our Response:

The Revised Terms of Reference have been extended to state that “the assessment should take into account commercially probable scenarios” in the introductory text of Project B. In addition, a footnote (Project B, Task 1) has been inserted besides the word “mitigation” to highlight that the wording used in Article 5.3(b) of the EIA Directive is “a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects”.

- The risks posed to UGEE operations from forest fires should be referred to.

Our Response:

It is our opinion that forest fires are covered in the scope of Project B Task 4 (Revised Terms of Reference), as the EIA Directive requires that the assessment of the direct and indirect effects of particular projects. Forest Fires will be considered under “hazards”.

- Some submissions requested that the principle of “environmental justice” be incorporated into the Terms of Reference for Project B – Task 2 (draft Terms of Reference), noting that the US Environmental Protection Agency defines “environmental justice” as “the fair treatment and meaningful involvement of all people regardless of race, colour, national origin or income, with respect to the development, implementation, and enforcement of environmental laws, Regulations and policies.”

Our Response:

Note: Project B – Task 2 in the draft Terms of Reference is now Project B – Task 4 in the Revised Terms of Reference.

It is considered that the principle of “environmental justice” is outside the remit of a research programme on Environmental Impacts. Any application for an exploration licence that includes hydraulic fracturing would be subject to environmental assessment in accordance with the requirements of the EIA Directive. Such an assessment would entail consideration of the potential



impacts of the project on population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors. Under the Directive, it should be noted that it is not possible to permit a project unless it can be determined following assessment that it would not have an unacceptable environmental or social impact. EIAs ensure public participation in decision-making and thereby strengthen the quality of decisions.

- Project B – Task 1 (draft Terms of Reference):
 - A requirement that the assessment takes account of traditional spring rivers fed from groundwater and investigates mitigation measures to minimise loss of flow. Should be included.
 - The study should look beyond the impact on local water resources of water extraction for UGEE activities.

Our Response:

The Revised Terms of Reference have been extended to include surface waters (Project B - Task 1): “Water Impacts and Mitigation Measures¹²: This work package should examine the potential environmental impacts of UGEE projects/operations on groundwater and surface water bodies, including the potential migration of methane, chemicals and other contaminants, both from surface and subsurface sources. Findings should be informed by an objective assessment of the risks and hazards posed by UGEE projects/operations, supported by a literature review and experience from other jurisdictions. Mitigation measures to address water impacts (including effluent management/treatment) should be critically reviewed and presented. This should include a review of the success of innovative developments within the industry to reduce water impacts.”

In the Revised Terms of Reference, Section 5.2.1 now refers to “implications for local, regional and national resources” (second paragraph) and an additional Task (Project A1 – Task 8) has been added to evaluate the water requirements for UGEE projects/operations and groundwater and surface water resource availability.

- Project B, Task 2 (draft Terms of Reference):
 - The research should include a similar approach as for Task 1 in relation to Air quality.
 - There should be explicit mention of fish species and material asset issues (e.g. tourism, angling).
 - A requirement for the monitoring of fish species should be included.
 - Potential impacts on domestic and farm animal health should be considered.

Our Response:

Note: Project B Task 2 from the draft Terms of Reference is now Project B Task 4 in the Revised Terms of Reference.

¹² i.e. a description of the measures envisaged in order to **avoid, reduce and, if possible, remedy** significant adverse effects (Article 5.3(b) of the EIA Directive)



It is our opinion that Impacts & Mitigations measures in relation to Air Quality is already included in the Project B Task 4 and is now adequately covered by the inclusion of the additional A3 project (Refer to Comments on Section A. Baseline Considerations) in the Revised Terms of Reference. Fish species and tourism/angling are considered to fall under the EIA Directive under “fauna” and “material assets” respectively. While impacts on domestic and farm animal health may fall under the remit of EIA Directive, the text in the Revised Terms of reference has been amended with a specific mention to “potential impacts on domestic and farm animals” under Task 4 of Project B.

- Project B, Task 3 (draft Terms of Reference):
 - There should be a requirement for a comprehensive literature review on LCA of UGEE operations.

Our Response:

The Revised Terms of Reference have been amended to include the following requirement “supported by a literature review and experience from other jurisdictions”.

Note: Project B Task 3 from the draft Terms of Reference is now Project B Task 5 in the Revised Terms of Reference.

- Project B, Task 4 (draft Terms of Reference):
 - “The use of chemical-free UGEE” is not based on evidence.
 - An assessment of all chemicals used in UGEE should be requested.
 - The risks of transportation of chemicals should be included.

Our Response:

Note: Project B Task 4 (draft Terms of Reference) is now Project B Task 6 in the Revised Terms of Reference.

It is the remit of the proposed research to provide the evidence in relation to the use of chemical-free UGEE projects/operations. The text in the Revised Terms of Reference has been amended to: “Chemicals: Typically, chemicals such as biocides and dyes, among others, are used in UGEE. This work package should examine techniques in UGEE projects/operations, including evidence of chemical-free UGEE projects/operations and the purposes of individual additives, to ascertain current and emerging practices in the context of avoidance of the use of additives that have the potential to harm the environment.” In addition, a footnote has been added in the Outputs section for Project B: stating that: “The Final Report should include a comprehensive list of all chemicals known to have been used in UGEE projects/operations. If reference to chemical-free fracking is included in the research, it should be clearly pointed out where and for how long such methods have been used on a commercial basis, stating whether there are any peer-reviewed studies into the impacts associated with these methods to the environment and human health. The research should also include a comprehensive list of all substances other than water that may be used in such methods”.

In addition, in the Revised Terms of Reference, there is now a specific mention to Infrastructure as a footnote in Project B Task 4: “Infrastructure (including impacts on transportation) is covered under Material Assets”.



- Project B, Issue 5 (draft terms of Reference):
 - Long-term aspect (i.e. well after decommissioning) should be added.
 - An absolute minimum level of monitoring to be evaluated should be outlined.
 - The reference to “Self-regulation” should be removed.
 - The wording “Research into identifying best practice for monitoring <...>” should be amended.

Our Response:

Note: Project B Task 5 from the draft Terms of Reference is now Project B Task 8 in the Revised Terms of Reference.

In the Revised Terms of Reference, “Aftercare” has now been included in the Task 8 of Project B.

In addition, the text has been amended in the Revised Terms of Reference to:

“Linking with Projects A1, A2 and A3: Research into identifying best practice for environmental monitoring of impacts arising from individual UGEE projects/operations sites (including emissions monitoring, monitoring of mitigation measures¹³ effectiveness, and of impacts on the receiving environment) “

- Concerns were raised about non-disclosure agreements, secrecy over propriety chemicals & lack of baseline data before fracking started in areas used for comparison.

Our Response:

The successful Tenderer will be asked to consider this comment when carrying out the research.

- Methods of distribution of energy produced and their potential environmental impacts should be included.
- Impacts of concrete pads should be included.
- An examination of potential impacts from naturally occurring radioactive materials that can be found in fracking locations should be included.

Our Response:

It is our opinion that these aspects are already covered in Project B as falling under the remit of EIA, with:

- 1. Task on the Life Cycle assessment (Project B Task 5 in the Revised Terms of Reference).*
- 2. Further clarification by the amendments made on the definition of UGEE being inclusive of the full life-cycle of the operations (Refer to the response in Section 2d).*

- The research should consider the impact on wider energy policy objectives, carbon foot-printing and on Ireland meeting its international climate change target.

¹³ i.e. a description of the measures envisaged in order to **avoid, reduce and, if possible, remedy** significant adverse effects (Article 5.3(b) of the EIA Directive).



Our Response:

It is our opinion that these points are adequately covered in Tasks 4 & 5 of Project B (Revised Terms of Reference).

i. Comments received on Project C: Regulatory Framework for Environmental Protection

A number of comments were submitted in relation to **Project C: Regulatory Framework for Environmental Protection** of the draft Terms of Reference. These are summarised below:

- There are four research issues listed in the description of Project C but five referred to in the following Outputs section.

Our Response:

This was an error in the draft Terms of Reference document. This has now been corrected.

- Project C should include an initial requirement to present an overview of the EU legislation that applies to UGEE operations.
- Project C could include specific provisions to take account of the legislation in relation to SACs and SPAs.
- Project C could include an examination of the optimal implementation of relevant EU legislation at Member State-level and an analysis relevant to the situation in Ireland.

Our Response:

The Revised Terms of Reference are now supplemented by a requirement in Project C Task 1 for the Project to provide an overview of the EU environmental legislation applicable to UGEE projects/operations. This should include environmental legislation that relates to all aspects of UGEE projects/operations from the planning to the cessation of activities, including aftercare requirements.

- There is a need to quantify risks.
- There is a need to include an assessment of remediation/restoration of the landscape; costs of clean-up operation, Financial provisions, etc.
- There is a need to include contingency plan, emergency response in terms of accident, spillage, contamination, etc.

Our Response:

These points are covered under “risk management” in Project C Task 4 (Revised Terms of Reference). In addition, the scope of Project C (Task 4) in the Revised Terms of Reference has been widened to include the need for risk quantification, as well as financial provisions and specifically remediation. While it was our intention that these two topics would be covered under Project C in the Draft Terms of Reference, we have now included a specific reference to these for the avoidance of doubt.



- The research should examine the construction and integrity of well casings.

Our Response:

It is our opinion that this aspect has been further clarified by the amendments made on the definition of UGEE being inclusive of the full life-cycle of the operations (Refer to the response 2d in this document). In addition, Project C Task 4, “well-head construction” has now been replaced by “well construction” therefore encompassing the construction and integrity of well casings.

- The research should consider the insurance cover to compensate any temporary or permanent loss of earnings and devaluation of property.
- A full cost analysis should be carried out.

Our Response:

These points are outside the remit of the research. The findings and recommendations of the proposed research should feed into such an analysis.

- The research programme should extend to an analysis of the regulatory frameworks that exist and current compliance within such frameworks in jurisdictions where the technologies are employed.
- Explicit mention should be given to Standards for UGEE operations.
- The research needs to include guidelines for the maximum allowable pollution and stress levels (both environmental and societal) in the areas where fracking is proposed, and research into the current levels.

Our Response:

Conclusions from Project C will aim at addressing these points. However, the research will not address societal stress levels.

- The Task on Public Engagement should be amended to require examination of a minimum of five case studies of public engagement in the decision of whether or not to allow UGEE projects (or other similar projects).

Our Response:

It is our opinion that Task 3 (Project C, draft Terms of Reference – now Task 5 in the Revised Terms of Reference) does not need further clarification.



- A definition and detailed scope of best practice for UGEE operations should be included.

Our Response:

This aspect has been clarified by the amendments made on the definition of UGEE being inclusive of the full life-cycle of the operations (Refer to the response in Section 2d in the document) and by the revisions of Project C Task 4 (Revised Terms of Reference).

j. Comments received on Section 6. Conflict of Interest & Experience

A number of comments were submitted in relation to **the Conflict of Interest & Experience Section** of the draft Terms of Reference. These are summarised below:

- Conflicts of interest concerning the petroleum industry should be explicitly stated.
- The “conflicts of interest” criteria should be applied to members of the Steering Committee.
- Tenderers (including all members of a consortium) should be required to submit a formal declaration on “conflicts of interest” as an integral part of the tender.

Our Response:

Tenderers will have to demonstrate their expertise in the fields relevant to the Project/Sub-project they are applying for. The Declaration of Conflict of Interest and Experience have been moved to the main Tender document (Refer to Section 7.13 as well as Appendix 6 of the Tender document: Tenderers are required to complete and sign the Conflict of Interest Declaration contained in Appendix 6 of the Tender document).



Appendix 1: List of all valid submissions¹⁴

All valid submissions are available for download at: http://erc.epa.ie/public_consultation.

Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_1	1	17 January 2013	James Hendicott	n/a
Final_Combined_Submissions_File_1	2	17 January 2013	Niall O'Rourke	IT Sligo
Final_Combined_Submissions_File_1	3	18 January 2013	Anonymous-1	n/a
Final_Combined_Submissions_File_1	5	18 January 2013	Dr Geralyn McCarron	n/a
Final_Combined_Submissions_File_1	6	19 January 2013	Aedin McLoughlin	n/a
Final_Combined_Submissions_File_1	7	18 January 2013	Connor Wall	Golder Associates
Final_Combined_Submissions_File_1	8	21 January 2013	Dr Danielle Donaldson	n/a
Final_Combined_Submissions_File_1	9	23 January 2013	Jacinta Fay	n/a
Final_Combined_Submissions_File_1	10	25 January 2013	Aedin McLoughlin	n/a
Final_Combined_Submissions_File_1	11	03 February 2013	Jonathan Victory	n/a
Final_Combined_Submissions_File_1	13	08 February 2013	Anonymous-2	n/a
Final_Combined_Submissions_File_1	14	07 February 2013	Eamonn Grennan	n/a
Final_Combined_Submissions_File_1	16	11 February 2013	Colm Brady	National Federation of Group Water Schemes
Final_Combined_Submissions_File_2	1	19 February 2013	Karel Phillips	n/a
Final_Combined_Submissions_File_2	2	19 February 2013	Joanna Patton	n/a
Final_Combined_Submissions_File_2	3	20 February 2013	James Campbell	n/a
Final_Combined_Submissions_File_2	4	22 February 2013	Brian Beesley	n/a
Final_Combined_Submissions_File_2	5	22 February 2013	Feidhlim Harty	FH Wetland Systems Ltd
Final_Combined_Submissions_File_2	6	22 February 2013	Anonymous-3	n/a
Final_Combined_Submissions_File_2	8	25 February 2013	Sarah Bronkhorst	n/a
Final_Combined_Submissions_File_2	9	25 February 2013	Amber McEvoy	n/a
Final_Combined_Submissions_File_2	10	25 February 2013	Cait NiDenehey	n/a

¹⁴ Including queries

¹⁵ Name of the PDF file containing the submission

¹⁶ Page number within the PDF file

¹⁷ When submissions were made on behalf of other(s), the name of the submitter (i.e. person who sent the submission) is listed, unless a name was provided.



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_2	11	25 February 2013	Isolde Carmody	n/a
Final_Combined_Submissions_File_2	14	25 February 2013	Phil Chadwick	n/a
Final_Combined_Submissions_File_2	15	25 February 2013	Sile Mills	n/a
Final_Combined_Submissions_File_2	16	27 February 2013	Jemima Tahany	n/a
Final_Combined_Submissions_File_2	17	27 February 2013	Operation Noah Enniskillen (ONE)	Operation Noah Enniskillen (ONE)
Final_Combined_Submissions_File_2	19	28 February 2013	Thomas McCaffrey	n/a
Final_Combined_Submissions_File_2	20	28 February 2013	Aoife Langrish	n/a
Final_Combined_Submissions_File_3	1	28 February 2013	Lakeland Cycling Club	Lakeland Cycling Club
Final_Combined_Submissions_File_3	3	28 February 2013	Dorothee Kolle	n/a
Final_Combined_Submissions_File_3	5	28 February 2013	Tom White	n/a
Final_Combined_Submissions_File_3	8	28 February 2013	Dessie Kelly	n/a
Final_Combined_Submissions_File_3	10	28 February 2013	Maurice Keaney	n/a
Final_Combined_Submissions_File_3	12	28 February 2013	Cassandra Ferguson	n/a
Final_Combined_Submissions_File_3	14	28 February 2013	James Gilbride	
Final_Combined_Submissions_File_3	16	28 February 2013	Gary Ferguson	n/a
Final_Combined_Submissions_File_3	18	28 February 2013	Jim Connolly	Irish Citizens Party
Final_Combined_Submissions_File_3	20	28 February 2013	Maurice Keaney	n/a
Final_Combined_Submissions_File_4	1	28 February 2013	Lily Ferguson	n/a
Final_Combined_Submissions_File_4	3	28 February 2013	Pat Sweeney	n/a
Final_Combined_Submissions_File_4	5	28 February 2013	Miheal Ferguson	n/a
Final_Combined_Submissions_File_4	7	28 February 2013	M.Ferguson	n/a
Final_Combined_Submissions_File_4	9	28 February 2013	Shane Ferguson	n/a
Final_Combined_Submissions_File_4	11	28 February 2013	Paul Óg Ferguson	n/a
Final_Combined_Submissions_File_4	13	28 February 2013	M.Ferguson	n/a
Final_Combined_Submissions_File_4	15	28 February 2013	Kathleen Ferguson	n/a
Final_Combined_Submissions_File_4	17	28 February 2013	Detta MGowan	n/a
Final_Combined_Submissions_File_4	19	28 February 2013	Teresa Ferguson	n/a
Final_Combined_Submissions_File_4	21	28 February 2013	Damien Murphy	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_4	24	28 February 2013	Dessie Ferguson	n/a
Final_Combined_Submissions_File_5	1	28 February 2013	Edward Gilmartin	Rossinver Gun Club
Final_Combined_Submissions_File_5	3	28 February 2013	Noel Ferguson	n/a
Final_Combined_Submissions_File_5	5	28 February 2013	Eamon Keaney	n/a
Final_Combined_Submissions_File_5	7	28 February 2013	Damian Dolan	n/a
Final_Combined_Submissions_File_5	9	28 February 2013	Mary Dolan	n/a
Final_Combined_Submissions_File_5	11	28 February 2013	E.Keaney	n/a
Final_Combined_Submissions_File_5	13	28 February 2013	Enda Kilkenny	n/a
Final_Combined_Submissions_File_5	15	28 February 2013	Frank Dolan	n/a
Final_Combined_Submissions_File_5	17	28 February 2013	Clare Ferguson	n/a
Final_Combined_Submissions_File_5	19	28 February 2013	Eddie Gilmartin	n/a
Final_Combined_Submissions_File_5	21	28 February 2013	Denis Dillon	n/a
Final_Combined_Submissions_File_5	23	28 February 2013	Natasha Ferguson	n/a
Final_Combined_Submissions_File_5	25	28 February 2013	Jim Connelly	Rossinver Melvin Trout Angling Club
Final_Combined_Submissions_File_6	1	28 February 2013	Denis Dillon	n/a
Final_Combined_Submissions_File_6	4	28 February 2013	Michael Gallagher	n/a
Final_Combined_Submissions_File_6	6	28 February 2013	Ciaran Rock	n/a
Final_Combined_Submissions_File_6	15	28 February 2013	Dessie Ferguson	n/a
Final_Combined_Submissions_File_6	16	28 February 2013	Paul Ferguson	n/a
Final_Combined_Submissions_File_6	17	28 February 2013	Ian Chandler	n/a
Final_Combined_Submissions_File_6	18	28 February 2013	Martina Dunne	n/a
Final_Combined_Submissions_File_7	1	28 February 2013	Michael Gallagher	n/a
Final_Combined_Submissions_File_7	9	01 March 2013	Edel McSharry	NUI Galway
Final_Combined_Submissions_File_7	11	01 March 2013	Ciaran Rock	n/a
Final_Combined_Submissions_File_7	12	02 March 2013	Bernard Murray	n/a
Final_Combined_Submissions_File_7	13	02 March 2013	Ava Murray	n/a
Final_Combined_Submissions_File_7	14	02 March 2013	Mary Murray	n/a
Final_Combined_Submissions_File_7	15	02 March 2013	Darren Murray	n/a
Final_Combined_Submissions_File_7	16	02 March 2013	James Murray	n/a
Final_Combined_Submissions_File_7	17	02 March 2013	Louise Murray	n/a
Final_Combined_Submissions_File_7	18	02 March 2013	Louise Murray	n/a
Final_Combined_Submissions_File_7	19	02 March 2013	Ron Beemster	Fracking Research and Information Centre



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_7	20	04 March 2013	Isobel Cleary	n/a
Final_Combined_Submissions_File_7	23	04 March 2013	Brigid Fahy	n/a
Final_Combined_Submissions_File_7	25	04 March 2013	MT Nethercott	n/a
Final_Combined_Submissions_File_8	1	04 March 2013	Ann McLoughlin	n/a
Final_Combined_Submissions_File_8	3	04 March 2013	Mary Bogan	n/a
Final_Combined_Submissions_File_8	4	04 March 2013	Connor Mc Barron	n/a
Final_Combined_Submissions_File_8	5	04 March 2013	Rebecca Fowler	n/a
Final_Combined_Submissions_File_8	8	04 March 2013	Fergal Carton	n/a
Final_Combined_Submissions_File_8	9	04 March 2013	Martin Treacy	n/a
Final_Combined_Submissions_File_8	11 - 32	04 March 2013	Boho Community Concerned Group (20 submissions)	n/a
Final_Combined_Submissions_File_9	1 - 55	04 March 2013	Boho Community Concerned Group (50 submissions)	n/a
Final_Combined_Submissions_File_10	1 - 22	04 March 2013	Boho Community Concerned Group (20 submissions)	n/a
Final_Combined_Submissions_File_11	1 - 22	04 March 2013	Boho Community Concerned Group (20 submissions)	n/a
Final_Combined_Submissions_File_12	1 - 22	04 March 2013	Boho Community Concerned Group (20 submissions)	n/a
Final_Combined_Submissions_File_13	1	04 March 2013	Kathleen McLoughlin	Kathleen McLoughlin
Final_Combined_Submissions_File_13	3	04 March 2013	Terry MacDermott	Terry MacDermott
Final_Combined_Submissions_File_13	12	04 March 2013	Bjorn Mac Giolla	Bjorn Mac Giolla
Final_Combined_Submissions_File_13	13	04 March 2013	Martha McCaffrey	Martha McCaffrey
Final_Combined_Submissions_File_13	14	04 March 2013	nofracking dublin	nofracking dublin



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_14	1	04 March 2013	Mary McLoughlin	n/a
Final_Combined_Submissions_File_14	3	04 March 2013	John McLoughlin	n/a
Final_Combined_Submissions_File_14	4	04 March 2013	James Mullan	n/a
Final_Combined_Submissions_File_14	5	04 March 2013	Geraldine Cameron	n/a
Final_Combined_Submissions_File_14	6	05 March 2013	Lori McElgunn	n/a
Final_Combined_Submissions_File_14	8	05 March 2013	Rossa Ó Snodaigh	n/a
Final_Combined_Submissions_File_14	9	05 March 2013	Collette McGovern	n/a
Final_Combined_Submissions_File_14	11	05 March 2013	Eamonn Thomas	n/a
Final_Combined_Submissions_File_14	12	05 March 2013	Morag Donald	n/a
Final_Combined_Submissions_File_14	13	05 March 2013	Joanna McArdle	n/a
Final_Combined_Submissions_File_15	1	05 March 2013	Helen McGloin	n/a
Final_Combined_Submissions_File_15	3	05 March 2013	Kevin Carolan	n/a
Final_Combined_Submissions_File_15	4	05 March 2013	Jennifer Mc Aree	Failte Ireland
Final_Combined_Submissions_File_15	6	05 March 2013	Martin Dolan	Leitrim County Council
Final_Combined_Submissions_File_15	7	05 March 2013	Carol Corrigan	n/a
Final_Combined_Submissions_File_15	8	05 March 2013	Ian Corrigan	n/a
Final_Combined_Submissions_File_15	9	05 March 2013	Jennifer Elliott	n/a
Final_Combined_Submissions_File_15	10	05 March 2013	Nicola Cassidy	n/a
Final_Combined_Submissions_File_16	1	05 March 2013	John Maguire	n/a
Final_Combined_Submissions_File_17	1	05 March 2013	Adrian Mc Gee	n/a
Final_Combined_Submissions_File_17	3	05 March 2013	Conor Carton	n/a
Final_Combined_Submissions_File_18	1	05 March 2013	Kevin Murphy	n/a
Final_Combined_Submissions_File_18	2	05 March 2013	Tom Slattery	n/a
Final_Combined_Submissions_File_19	1	05 March 2013	Caroline Rock	n/a
Final_Combined_Submissions_File_19	3	05 March 2013	James and Frances Bainbridge	n/a
Final_Combined_Submissions_File_19	4	05 March 2013	Mc Manus, Evelyn	n/a
Final_Combined_Submissions_File_19	5	05 March 2013	Malcolm Finney	Garrison & Lough Melvin Anglers Association
Final_Combined_Submissions_File_19	8	05 March 2013	Renate Debrun	n/a
Final_Combined_Submissions_File_19	18	05 March 2013	Pól Mac Cana	n/a
Final_Combined_Submissions_File_19	19	05 March 2013	Tom White (25 Submissions)	Belcoo Frackaware Group



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_19	45	05 March 2013	Tom White (23 Submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_20	1	05 March 2013	Tom White (24 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_20	26	05 March 2013	Tom White (31 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_20	58	05 March 2013	Tom White (23 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_20	82	05 March 2013	Tom White (29 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_21	1	05 March 2013	Tom White (25 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_21	27	05 March 2013	Tom White (31 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_22	1	05 March 2013	Tom White (26 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_22	28	05 March 2013	Tom White (21 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_22	50	05 March 2013	Tom White (27 Submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_23	1	05 March 2013	Tom White (22 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_23	24	05 March 2013	Tom White (13 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_23	38	05 March 2013	Tom White (12 submissions)	Belcoo Frackaware Group
Final_Combined_Submissions_File_23	51	05 March 2013	Tom White (157 submissions)	Cashel Frackaware Group
Final_Combined_Submissions_File_24	1	05 March 2013	Tom White (12 submissions)	Fermanagh secondary school students
Final_Combined_Submissions_File_24	14	05 March 2013	Tom White (18 submissions)	Fermanagh secondary school students



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_24	33	05 March 2013	Tom White (26 submissions)	Fermanagh secondary school students
Final_Combined_Submissions_File_25	1	06 March 2013	Fracking Matters (on behalf of villagers) – (33 submissions)	n/a
Final_Combined_Submissions_File_26	1	05 March 2013	Delphine Leonard	n/a
Final_Combined_Submissions_File_26	2	05 March 2013	John Boyce	n/a
Final_Combined_Submissions_File_26	3	05 March 2013	Michael McCluney	n/a
Final_Combined_Submissions_File_26	4	06 March 2013	Carton, Susan	n/a
Final_Combined_Submissions_File_26	5	06 March 2013	Scott Coombs	n/a
Final_Combined_Submissions_File_26	16	06 March 2013	Fracking Matters (on behalf of villagers) (9 submissions)	n/a
Final_Combined_Submissions_File_26	1	06 March 2013	Colin Elliott	n/a
Final_Combined_Submissions_File_26	3	06 March 2013	John Fowler	n/a
Final_Combined_Submissions_File_26	5	06 March 2013	Tanya Cathcart	Fermanagh Lakeland Tourism
Final_Combined_Submissions_File_26	7	06 March 2013	Tanya Jones	Operation Noah Enniskillen (ONE)
Final_Combined_Submissions_File_26	9	06 March 2013	Michael McCluney	n/a
Final_Combined_Submissions_File_26	10	06 March 2013	Ali Sheridan	n/a
Final_Combined_Submissions_File_26	14	06 March 2013	Noel McLoughlin	n/a
Final_Combined_Submissions_File_26	15	06 March 2013	Sophie Delangle-Carton	n/a
Final_Combined_Submissions_File_27	1	06 March 2013	Fracking Matters (on behalf of villagers) (12 submissions)	n/a
Final_Combined_Submissions_File_27	14	06 March 2013	Fracking Matters (on behalf of villagers) (12 submissions)	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_27	27	06 March 2013	Fracking Matters (on behalf of villagers) (3 submissions)	n/a
Final_Combined_Submissions_File_28	1	06 March 2013	Fracking Matters (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_28	12	06 March 2013	Fracking Matters (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_29	1	06 March 2013	Fracking Matters (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_29	12	06 March 2013	Fracking Matters (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_30	1	06 March 2013	Fracking Matters (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_30	12	06 March 2013	Fracking Matters (on behalf of villagers) (9 submissions)	n/a
Final_Combined_Submissions_File_31	1	06 March 2013	Kathy Gorman	n/a
Final_Combined_Submissions_File_31	2	06 March 2013	Fracking Matters (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_31	13	06 March 2013	Sarah Akamine	n/a
Final_Combined_Submissions_File_31	31	06 March 2013	Emer O'Reilly (6 submissions)	n/a
Final_Combined_Submissions_File_31	38	06 March 2013	Siobhan Dolan	n/a
Final_Combined_Submissions_File_31	41	06 March 2013	Patrick Greene	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_32	1	06 March 2013	Thomas McCaffrey	Fermanagh Fracking Awareness Network
Final_Combined_Submissions_File_32	7	06 March 2013	Lynne Corcoran	n/a
Final_Combined_Submissions_File_32	8	06 March 2013	Brigid O Leary	n/a
Final_Combined_Submissions_File_32	18	06 March 2013	Louise	n/a
Final_Combined_Submissions_File_32	28	06 March 2013	Declan Shannon	n/a
Final_Combined_Submissions_File_32	37	06 March 2013	Sharon Sloan	n/a
Final_Combined_Submissions_File_32	38	06 March 2013	Julian Reischl	n/a
Final_Combined_Submissions_File_32	39	06 March 2013	David Scott	n/a
Final_Combined_Submissions_File_32	44	06 March 2013	Sean McLoughlin	n/a
Final_Combined_Submissions_File_32	45	06 March 2013	Seamus McLoughlin	n/a
Final_Combined_Submissions_File_33	1	06 March 2013	Liam Slattery	n/a
Final_Combined_Submissions_File_33	11	06 March 2013	Carol Corrigan (on behalf of neighbours) (10 submissions)	n/a
Final_Combined_Submissions_File_33	22	06 March 2013	Carol Corrigan (on behalf of neighbours) (5 submissions)	n/a
Final_Combined_Submissions_File_34	1	06 March 2013	Carol Corrigan (on behalf of neighbours) (4 submissions)	n/a
Final_Combined_Submissions_File_34	2	06 March 2013	Charlie Jones	n/a
Final_Combined_Submissions_File_34	3	06 March 2013	Enda Burns	n/a
Final_Combined_Submissions_File_34	4	06 March 2013	Tommy Quinn	n/a
Final_Combined_Submissions_File_35	1	06 March 2013	Marius Leonard	Corralea Activity Centre Ltd
Final_Combined_Submissions_File_35	4	06 March 2013	Isabelle Leonard	n/a
Final_Combined_Submissions_File_35	5	06 March 2013	Eoin Keane	n/a
Final_Combined_Submissions_File_35	6	06 March 2013	Terry McGovern	Cleenish Shooting and Fishing Club
Final_Combined_Submissions_File_35	9	06 March 2013	Paddy Corrigan	n/a
Final_Combined_Submissions_File_35	10	06 March 2013	Gregor Herda	n/a
Final_Combined_Submissions_File_35	11	07 March 2013	Dessie McNulty	n/a
Final_Combined_Submissions_File_35	12	07 March 2013	Anna Keleher	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_35	13	07 March 2013	Mark Keleher	n/a
Final_Combined_Submissions_File_35	16	07 March 2013	Senator Michael Comiskey	Sligo/ North Leitrim Constituency
Final_Combined_Submissions_File_35	18	06 March 2013	Sean Burns	Beal Cu O Raghallaighs GFC
Final_Combined_Submissions_File_36	1	07 March 2013	Cathal Gallagher	Inland Fisheries Ireland
Final_Combined_Submissions_File_36	2	07 March 2013	Conor Lawlor	n/a
Final_Combined_Submissions_File_36	5	07 March 2013	Sheila O Keeffe	n/a
Final_Combined_Submissions_File_36	6	07 March 2013	Robert Alexander	n/a
Final_Combined_Submissions_File_36	7	07 March 2013	Paul Slattery	n/a
Final_Combined_Submissions_File_36	8	07 March 2013	Wayne Foord	n/a
Final_Combined_Submissions_File_36	9	07 March 2013	Dominic Mullan	n/a
Final_Combined_Submissions_File_36	10	07 March 2013	Jamie Murphy	n/a
Final_Combined_Submissions_File_36	13	07 March 2013	Tomas Mac Sheoin	n/a
Final_Combined_Submissions_File_36	15	07 March 2013	Carmel McTernan (7 submissions)	n/a
Final_Combined_Submissions_File_37	1	07 March 2013	Carmel McTernan (6 submissions)	n/a
Final_Combined_Submissions_File_37	8	07 March 2013	Dermot Mulqueen	n/a
Final_Combined_Submissions_File_37	12	07 March 2013	Siobhán Tinnelly	Irish Mining & Quarrying Society (IMQS)
Final_Combined_Submissions_File_37	14	07 March 2013	Phil Davidson	Nationa Trust
Final_Combined_Submissions_File_37	17	08 March 2013	Ian Hester	n/a
Final_Combined_Submissions_File_37	19	07 March 2013	Susan Carton	n/a
Final_Combined_Submissions_File_38	1	07 March 2013	Frack Questions (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_38	12	07 March 2013	Frack Questions (on behalf of villagers) (10 submissions)	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_38	23	07 March 2013	Frack Questions (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_38	34	07 March 2013	Frack Questions (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_39	1	07 March 2013	Frack Questions (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_40	1	07 March 2013	Frack Questions (on behalf of villagers) (10 submissions)	n/a
Final_Combined_Submissions_File_40	12	07 March 2013	Frack Questions (on behalf of villagers) (9 submissions)	n/a
Final_Combined_Submissions_File_40	22	07 March 2013	Margaret McMahon	Fermanagh District Council
Final_Combined_Submissions_File_40	27	07 March 2013	John O'Rourke	Roscommon County Council
Final_Combined_Submissions_File_40	29	07 March 2013	Meghan Malone-Scott	n/a
Final_Combined_Submissions_File_40	34	07 March 2013	Eamonn Winters	n/a
Final_Combined_Submissions_File_40	38	08 March 2013	Eileen Treacy	n/a
Final_Combined_Submissions_File_40	39	08 March 2013	Tina Treacy	n/a
Final_Combined_Submissions_File_40	40	07 March 2013	Eamonn Grennan	n/a
Final_Combined_Submissions_File_40	48	07 March 2013	Carmel McTernan	n/a
Final_Combined_Submissions_File_40	51	07 March 2013	Sarah Gallagher	n/a
Final_Combined_Submissions_File_40	54	07 March 2013	Richard Burren	n/a
Final_Combined_Submissions_File_40	56	07 March 2013	Steffi Otto	n/a
Final_Combined_Submissions_File_40	57	07 March 2013	Co. Mary Bohan	n/a
Final_Combined_Submissions_File_40	58	07 March 2013	Christopher John Bowring	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_40	59	07 March 2013	Damhnait de Brun	n/a
Final_Combined_Submissions_File_40	62	07 March 2013	Anonymous-4	n/a
Final_Combined_Submissions_File_40	63	07 March 2013	Kevin Willis	n/a
Final_Combined_Submissions_File_40	64	07 March 2013	Anna McManus	Drumkeeran Women's Group
Final_Combined_Submissions_File_40	65	07 March 2013	Michelle Calvert	n/a
Final_Combined_Submissions_File_40	66	07 March 2013	Carmel McTernan (on behalf of Residents)	n/a
Final_Combined_Submissions_File_40	75	07 March 2013	Rosaria Piseri	Algaran Teoranta
Final_Combined_Submissions_File_40	76	07 March 2013	Carmel Mc Ternan	n/a
Final_Combined_Submissions_File_40	79	07 March 2013	Theresa Carter	LEAF
Final_Combined_Submissions_File_40	81	07 March 2013	Henrike Rau	NUI Galway
Final_Combined_Submissions_File_40	88	07 March 2013	Sean McDermott	n/a
Final_Combined_Submissions_File_40	89	07 March 2013	Rahima Sayer	n/a
Final_Combined_Submissions_File_40	123	07 March 2013	Cecily Gilligan	n/a
Final_Combined_Submissions_File_41	1	07 March 2013	Raymond O' Connor	n/a
Final_Combined_Submissions_File_41	2	04 March 2013	John McLoughlin	n/a
Final_Combined_Submissions_File_41	4	04 March 2013	Mary McLoughlin	n/a
Final_Combined_Submissions_File_41	5	05 March 2013	Rossa Ó Snodaigh	n/a
Final_Combined_Submissions_File_42	1	07 March 2013	Carmel McTernan (13 submissions)	n/a
Final_Combined_Submissions_File_43	1	07 March 2013	Steffi Otto	n/a
Final_Combined_Submissions_File_43	2	07 March 2013	Peter Crossan	n/a
Final_Combined_Submissions_File_43	6	07 March 2013	Ena May	n/a
Final_Combined_Submissions_File_43	7	07 March 2013	Katie Hamilton	n/a
Final_Combined_Submissions_File_43	9	07 March 2013	Denise O'Brien	The 'Future We Need' Group of inter-congregational Religious
Final_Combined_Submissions_File_43	16	07 March 2013	Noelle Robinson	n/a
Final_Combined_Submissions_File_43	17	07 March 2013	Tony Bazley	Tamboran Resources Pty Ltd
Final_Combined_Submissions_File_43	19	07 March 2013	Fergal Maguire	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_43	20	07 March 2013	Grace Weir and Joe Walker	n/a
Final_Combined_Submissions_File_43	21	07 March 2013	Saul Mosbacher	n/a
Final_Combined_Submissions_File_43	22	07 March 2013	Joseph Campbell-McArdle	n/a
Final_Combined_Submissions_File_43	23	07 March 2013	Sean Maguire	n/a
Final_Combined_Submissions_File_43	24	07 March 2013	Sean Maguire	n/a
Final_Combined_Submissions_File_43	25	07 March 2013	Simon O'Hara	n/a
Final_Combined_Submissions_File_43	26	07 March 2013	Annmarie McLoughlin	n/a
Final_Combined_Submissions_File_43	27	07 March 2013	Sinead McGurn	n/a
Final_Combined_Submissions_File_43	28	07 March 2013	Anonymous-5	n/a
Final_Combined_Submissions_File_43	29	07 March 2013	Majella McCarron	n/a
Final_Combined_Submissions_File_43	32	07 March 2013	Anonymous-6	n/a
Final_Combined_Submissions_File_43	34	07 March 2013	Jenny Walsh Bassett	n/a
Final_Combined_Submissions_File_43	50	07 March 2013	Marie Mc Morrow	Belcoo Youth Club, Co Fermanagh
Final_Combined_Submissions_File_43	52	07 March 2013	Liam Gallagher	n/a
Final_Combined_Submissions_File_43	53	08 March 2013	Sean Burns	Belcoo Community Association
Final_Combined_Submissions_File_43	56	08 March 2013	Aisling Cowan	n/a
Final_Combined_Submissions_File_43	57	08 March 2013	John Clancy	n/a
Final_Combined_Submissions_File_43	58	08 March 2013	Caroline Goucher	n/a
Final_Combined_Submissions_File_43	60	08 March 2013	Caroline Goucher	n/a
Final_Combined_Submissions_File_43	63	08 March 2013	Tessa Parsons	n/a
Final_Combined_Submissions_File_43	64	08 March 2013	Patrick McEneaney	n/a
Final_Combined_Submissions_File_43	65	08 March 2013	Daniel Goulding	Bord Gáis Éireann/Irish Water
Final_Combined_Submissions_File_43	68	08 March 2013	John McSharry	Glencar Worldwide Water
Final_Combined_Submissions_File_43	70	08 March 2013	Majella McCarron	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_43	71	08 March 2013	Martin McKeown (note: additional information available)	Clare Geological Services
Final_Combined_Submissions_File_44	1	08 March 2013	Nuala McNulty	n/a
Final_Combined_Submissions_File_44	4	08 March 2013	Dawn Bourke	n/a
Final_Combined_Submissions_File_44	5	08 March 2013	Jorgen Pedersen	n/a
Final_Combined_Submissions_File_44	7	08 March 2013	Sean Wynne	Lough Allen Conservation Association
Final_Combined_Submissions_File_44	14	08 March 2013	Noel Maguire	n/a
Final_Combined_Submissions_File_44	15	08 March 2013	Carol Kelly	Northern Ireland Environment Link
Final_Combined_Submissions_File_44	19	08 March 2013	Moirá Greene	n/a
Final_Combined_Submissions_File_44	24	08 March 2013	Lorraine Anthony	Institution of Civil Engineers
Final_Combined_Submissions_File_44	27	08 March 2013	Martin Fitzpatrick	Environmental Health Officers' Association and the Chartered Institute of Environmental Health
Final_Combined_Submissions_File_44	33	08 March 2013	Chris Broughton	Glenfarne-Kiltyclogher Ladies GAA
Final_Combined_Submissions_File_44	36	08 March 2013	Jacinta Cassidy	n/a
Final_Combined_Submissions_File_45	1	08 March 2013	Frack Questions (on behalf of villagers) (7 submissions)	n/a
Final_Combined_Submissions_File_45	11	08 March 2013	Anthony Hamilton	n/a
Final_Combined_Submissions_File_45	13	08 March 2013	Eoin Brady	n/a
Final_Combined_Submissions_File_45	17	08 March 2013	Frack Questions (on behalf of villagers) (6 submissions)	n/a
Final_Combined_Submissions_File_45	26	08 March 2013	Bernie Connolly	Cork Environmental Forum



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_45	29	08 March 2013	Paul M Johnston	Environment Panel of the Presbyterian Church in Ireland
Final_Combined_Submissions_File_45	30	08 March 2013	Michael Colreavy TD	Sinn Féin's
Final_Combined_Submissions_File_45	37	08 March 2013	Mark Broomfield	Ricardo-AEA
Final_Combined_Submissions_File_45	40	08 March 2013	Yvonne Megahey	n/a
Final_Combined_Submissions_File_45	41	08 March 2013	Fergal McGrath	Bord Gáis Networks
Final_Combined_Submissions_File_45	44	08 March 2013	Marie McGirr	n/a
Final_Combined_Submissions_File_45	45	08 March 2013	Carmel McTernan	n/a
Final_Combined_Submissions_File_45	46	08 March 2013	Denise Kettyles	n/a
Final_Combined_Submissions_File_45	47	08 March 2013	Kieran Corrigan	n/a
Final_Combined_Submissions_File_45	48	08 March 2013	Rhonda Howe	n/a
Final_Combined_Submissions_File_45	49	08 March 2013	Nóirin Clancy	n/a
Final_Combined_Submissions_File_45	51	08 March 2013	Cathal Gallagher	Inland Fisheries Ireland
Final_Combined_Submissions_File_45	59	08 March 2013	Angela O'Reilly-Colton	n/a
Final_Combined_Submissions_File_45	61	08 March 2013	Susan Carton	n/a
Final_Combined_Submissions_File_45	62	08 March 2013	Clodagh Swift	n/a
Final_Combined_Submissions_File_45	63	08 March 2013	Rachel Maginn	n/a
Final_Combined_Submissions_File_45	64	08 March 2013	Linda Doherty	ICMSSA
Final_Combined_Submissions_File_46	1	08 March 2013	Fracking Matters (on behalf of villagers) (7 submissions)	n/a
Final_Combined_Submissions_File_46	8	08 March 2013	Dermott Feely	n/a
Final_Combined_Submissions_File_46	10	08 March 2013	Paul Slattery	n/a
Final_Combined_Submissions_File_46	14	08 March 2013	Melanie Brown	n/a
Final_Combined_Submissions_File_46	18	08 March 2013	Bridie Sweeney (12 submissions)	n/a
Final_Combined_Submissions_File_46	31	08 March 2013	Patrick Donnelly	n/a
Final_Combined_Submissions_File_46	32	08 March 2013	Sarah Moon	n/a
Final_Combined_Submissions_File_46	33	08 March 2013	Robert Emmet Hernan	n/a
Final_Combined_Submissions_File_46	40	08 March 2013	Shaun McKenna	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_46	41	08 March 2013	Claire Fiddaman	n/a
Final_Combined_Submissions_File_46	42	08 March 2013	Caitriona Sheedy	n/a
Final_Combined_Submissions_File_46	43	08 March 2013	Ann Orr	n/a
Final_Combined_Submissions_File_46	44	08 March 2013	Geraldine Gunn	n/a
Final_Combined_Submissions_File_47	1	08 March 2013	Bridie Sweeney (12 submissions)	n/a
Final_Combined_Submissions_File_47	14	08 March 2013	Bridie Sweeney (6 submissions)	n/a
Final_Combined_Submissions_File_48	1	08 March 2013	Bernie Slattery	n/a
Final_Combined_Submissions_File_48	10	08 March 2013	Elizabeth Frazer	n/a
Final_Combined_Submissions_File_48	12	08 March 2013	Patricia Pedersen	n/a
Final_Combined_Submissions_File_48	14	08 March 2013	Patricia Pedersen	n/a
Final_Combined_Submissions_File_48	16	08 March 2013	Michael Ewing	Environmental Pillar
Final_Combined_Submissions_File_48	20	08 March 2013	Michael McEvoy	Belfast not for \$hale
Final_Combined_Submissions_File_48	25	08 March 2013	Michael Greene	Athlone IT
Final_Combined_Submissions_File_48	28	08 March 2013	Bridie Sweeney	n/a
Final_Combined_Submissions_File_48	30	08 March 2013	Mary Finean	n/a
Final_Combined_Submissions_File_48	32	08 March 2013	Colin McCormick	n/a
Final_Combined_Submissions_File_48	33	08 March 2013	Peter Archdale	Council for Nature Conservation and the Countryside (CNCC)
Final_Combined_Submissions_File_48	37	08 March 2013	Anonymous-7	n/a
Final_Combined_Submissions_File_48	39	08 March 2013	Nuala Freeman	Sustainable Water Network
Final_Combined_Submissions_File_48	45	08 March 2013	Gerry Kingston	n/a
Final_Combined_Submissions_File_48	46	08 March 2013	Seán Conlan	n/a
Final_Combined_Submissions_File_48	62	08 March 2013	Catherine Bertrand	n/a
Final_Combined_Submissions_File_48	64	08 March 2013	Justin Byrne	FIG
Final_Combined_Submissions_File_48	65	08 March 2013	David Gorman	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_48	66	08 March 2013	Chris Broughton	Glenfarne-Kiltyclogher Ladies GAA
Final_Combined_Submissions_File_48	69	08 March 2013	Tara McGowan	n/a
Final_Combined_Submissions_File_48	71	08 March 2013	Jerrieann Sullivan	n/a
Final_Combined_Submissions_File_48	73	08 March 2013	Eleanor Ryan	Irish Farmer Association
Final_Combined_Submissions_File_48	77	08 March 2013	Jen Martin	Golder Associates
Final_Combined_Submissions_File_49	1	08 March 2013	John Graham	n/a
Final_Combined_Submissions_File_49	3	08 March 2013	Sharon Tuohy	Society of St Vincent de Paul
Final_Combined_Submissions_File_49	4	08 March 2013	Sinead Fitzpatrick	URS Ireland Limited
Final_Combined_Submissions_File_49	6	08 March 2013	Ann Bronkhorst	n/a
Final_Combined_Submissions_File_49	7	08 March 2013	Missy Brinkmeyer	n/a
Final_Combined_Submissions_File_49	8	08 March 2013	Fiona O'Malley	n/a
Final_Combined_Submissions_File_49	9	08 March 2013	Peter Crean	n/a
Final_Combined_Submissions_File_49	10	08 March 2013	Gregor Herda	n/a
Final_Combined_Submissions_File_49	11	08 March 2013	Aedín McLoughlin	n/a
Final_Combined_Submissions_File_49	12	08 March 2013	Leon and Annelies Van Haaren	n/a
Final_Combined_Submissions_File_49	13	08 March 2013	Catherine Bertrand	n/a
Final_Combined_Submissions_File_49	14	08 March 2013	Margo Barrow	n/a
Final_Combined_Submissions_File_49	16	08 March 2013	Gareth Ross Brown	Green Party in Northern Ireland
Final_Combined_Submissions_File_49	25	08 March 2013	Christine and Roland Heine	n/a
Final_Combined_Submissions_File_49	26	08 March 2013	Anita Hayes	n/a
Final_Combined_Submissions_File_49	27	08 March 2013	Julia Cassells	n/a
Final_Combined_Submissions_File_49	28	08 March 2013	Anaïs Gerbaud	n/a
Final_Combined_Submissions_File_49	29	08 March 2013	Audrey Flynn	n/a
Final_Combined_Submissions_File_49	30	08 March 2013	Tom White (4 submissions)	n/a
Final_Combined_Submissions_File_49	35	08 March 2013	Tom White (19 submissions)	n/a
Final_Combined_Submissions_File_49	55	08 March 2013	Maureen O'Connell	n/a
Final_Combined_Submissions_File_49	56	08 March 2013	Avril Winters	n/a
Final_Combined_Submissions_File_49	57	08 March 2013	Stella Coffey	n/a



Link to submissions ¹⁵	Page ¹⁶	Date Received	Name ¹⁷	Organisation
Final_Combined_Submissions_File_49	58	08 March 2013	Mary McInerney	n/a
Final_Combined_Submissions_File_49	65	08 March 2013	Mr and Mrs Arnott	n/a
Final_Combined_Submissions_File_49	66	08 March 2013	Joan Walsh	n/a
Final_Combined_Submissions_File_49	67	08 March 2013	Anonymous-8	n/a
Final_Combined_Submissions_File_49	79	08 March 2013	Aedín McLoughlin	GEAI
Final_Combined_Submissions_File_49	87	08 March 2013	Davide Gallazzi	n/a
Final_Combined_Submissions_File_49	88	08 March 2013	Joan Walsh	n/a
Final_Combined_Submissions_File_49	89	08 March 2013	Eddie Mitchell	n/a
Final_Combined_Submissions_File_49	95	08 March 2013	Cathy Ham	n/a
Final_Combined_Submissions_File_49	97	08 March 2013	Eamon Murphy	n/a
Final_Combined_Submissions_File_49	98	08 March 2013	Eamon Murphy	n/a
Final_Combined_Submissions_File_49	99	08 March 2013	Eamon Murphy	n/a
Final_Combined_Submissions_File_49	100	08 March 2013	Paul Johnston	Environment Panel of the Presbyterian Church in Ireland
Final_Combined_Submissions_File_49	104	08 March 2013	Geraldine Ring	Global Frack Free Network
Final_Combined_Submissions_File_49	106	08 March 2013	Dawn Bourke	n/a
Final_Combined_Submissions_File_49	107	08 March 2013	Dervilla Keegan	n/a
Final_Combined_Submissions_File_49	110	08 March 2013	Brian Kenny	n/a
Final_Combined_Submissions_File_49	114	08 March 2013	Nicola Farrell	n/a
Final_Combined_Submissions_File_49	116	08 March 2013	Elizabeth Cullen	n/a
Final_Combined_Submissions_File_49	117	08 March 2013	Orla Quinn	n/a