

Sustainable Water Network (SWAN)

Response to Public Consultation: Draft European Union (Environmental Impact Assessment) (Planning and Development) Regulations



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Sustainable Water Network (SWAN)

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1. Introduction

A recent review of the transposition of the European Union Environmental Impact Assessment (EIA) Directive (No. 2011/92/EU of 13 December 2011) into Irish law, carried out by the Department of the Environment, Community and Local Government, has apparently identified that amendments to the relevant legislation are required to ensure that Point 2 (d) of Annex II of the Directive (which refers to deep drilling) is adequately transposed.

The legislation to be amended includes the Planning and Development Act, the Planning and Development Regulations 2001 and the Foreshore Act; and the intention of the proposed amendments is to bring any deep drilling, except drilling for investigating the stability of the soil (an exception permitted by the EIA Directive) into the legislative framework. In particular, Schedule 5, Part 2, of the Planning and Development Regulations 2001 (S.I. No. 600 of 2001) will be amended to include all deep drilling within the scope of the Annex.

All deep drilling requiring either planning permission or a foreshore consent will have to be screened for EIA on a case-by-case basis by the relevant competent authority (i.e., the planning authority or An Bord Pleanála in the case of planning applications, or by the Minister in the case of foreshore consents). Environmental Impact Assessment will become mandatory for all deep drilling operations unless the screening process determines otherwise.

The proposed amendment to the legislation, in the form of a draft Statutory Instrument, has been issued for public consultation.

The Sustainable Water Network (SWAN) welcomes the opportunity to comment on the draft legislation, especially as it address an area of significant concern to members of the public and to SWAN in its role as an advocate for the real protection of Ireland's rivers, lakes, estuaries, transitional waters, coastal waters and groundwater.

In section 2 below, we provide a brief introduction to SWAN, including our aims, objectives and activities, while in section 3 we refer to recent changes in the EIA Directive, in section 4 we express our concerns about deep drilling for what is described as unconventional gas, using the technology known as "fracking", and in section 5 we make some recommendations for strengthening the protection of Ireland's aquatic resources if deep drilling for hydrocarbons were to be permitted. These recommendations should be regarded as provisional, since SWAN is currently preparing an evidence-based research review of fracking and its environmental and social consequences.

2. The Sustainable Water Network (SWAN)

The Sustainable Water Network (SWAN) is a collective of twenty-five of Ireland's leading environmental groups working together to protect and enhance the country's aquatic resources, especially through the implementation of the Water Framework Directive (WFD) and other water-related legislation. Members of SWAN include national and local non-Government organisations

(NGOs) (see Appendix 1) which have a wide range of specialist and locally detailed knowledge and expertise in all areas of Ireland's aquatic environment.

By achieving a high level of co-operation, SWAN aims to contribute significantly to achieving real protection for Ireland's rivers, lakes, estuaries, transitional waters, coastal waters and groundwater. The environmental NGOs which constitute SWAN have been independently defending and urging the protection of Ireland's waters for many years; but, by working together with a common and agreed aim, their efforts are strengthened.

The member organisations of the SWAN collective work closely together at local, national and River Basin District level to ensure that all the requirements of the Water Framework Directive are fully implemented in the spirit as well as the letter of the law. As part of this strategy, SWAN aims to ensure that the country's eight River Basin Management Plans are implemented correctly, and that any shortcomings in these Plans are addressed during the implementation process, to be completed in 2015.

SWAN fully supports the Water Framework Directive's unique approach and especially its in-built recognition that the health of a body of water involves much more than chemical monitoring of water quality. The Directive is strongly focussed on measuring the ecological health of a river or lake by examining the abundance and diversity of the animal and plant communities, in addition to the physical state of the waterway.

This ecological approach is not new, as the Department will be aware that a former Government agency, An Foras Forbartha (established 1966, closed down in 1988) carried out intermittent chemical and biological monitoring of rivers, lakes and estuaries since 1971; and the existing Environmental Protection Agency has continued this work since 1995.¹ Nevertheless, the requirements of the Water Framework Directive have brought about a significant departure from the previous system of determining water quality, and the Directive presents technical, scientific and resource challenges.

Two essential elements of SWAN's work are raising public awareness and making submissions to Government Departments and Agencies, especially in response to public consultation requests. In 2013, SWAN prepared and distributed a number of professionally produced and illustrated information leaflets in its Water Information Pack 'Integrated Water Management – Ireland and the Water Framework Directive'. The leaflets are on the topics of:

- Ireland's Environment and the Water Framework Directive;
- Agriculture and Water Management;

¹ See: Lucey, J., Bowman, J.J., Clabby, K.J., Cunningham, P., Lehane, M., MacCarthaigh, M., McGarrigle, M.L. and Toner, P.F. 1999. Water Quality in Ireland 1995-1997; Environmental Protection Agency, Wexford, 850 pp; and Clabby, K.J., Lucey, J., and McGarrigle, M.L., 1999. Interim Report on the Biological Survey of River Quality – Results of the 1998 Investigations; Environmental Protection Agency, Wexford, 126 pp.

- Climate Change and Water Management (impacts of climate change on Ireland's Water Resources, with recommendations and an action plan);
- Managing Our Coastal Waters;
- Public Participation in Water Management;
- The Planning System and Water Management;

SWAN has also produced the following submissions and reports, many of them in response to public consultations:

- ❖ The draft river basin management plans for some of Ireland's river basin districts (June 2009);
- ❖ A New System of Water Governance, proposed by SWAN in December 2010; and in February 2012 SWAN made a submission in response to a public consultation on reform of the water sector;
- ❖ Review of "*Water Matters – Our Plan !*" -- River Basin Management Plans for Ireland's River Basin Districts 2009-2015 (11 June 2010);
- ❖ The Draft European Communities (Good Agricultural Practice For Protection Of Waters) Regulations 2010 (July 2010);
- ❖ Response to Public Consultation on Reform of the Water Sector in Ireland (22 February 2012)
- ❖ Response to the Public Consultation on Proposed Content of Regulations for Operation and Maintenance of Domestic Waste Water Treatment Systems (29 March 2012);
- ❖ Response to 'Our Ocean Wealth' Towards an Integrated Marine Plan for Ireland - Seeking your views on New Ways; New Approaches; New Thinking (30 March 2012);
- ❖ Response to Public Consultation on Environmental Analysis of Scenarios Related to Implementation of Recommendations in Food Harvest 2020 (July 2012);
- ❖ Response to the Public Consultation on the Proposed National Inspection Plan for Domestic Waste Water Treatment Systems (31 October 2012);
- ❖ The Common Agricultural Policy (CAP): Interactions with the Water Framework Directive (WFD) and implications for the status of Ireland's waters (prepared for SWAN by Dr S. Kimberley & Dr N. Freeman)
- ❖ The Marine Strategy Framework Directive and the opportunities presented by the Directive for environmentally sustainable management of Ireland's coastal waters (prepared by Eoin Brady, with Karin Dubsky, Nuala Freeman, Sarah Lewis and Sinead O'Brien; April 2013);
- ❖ Response to Public Consultation during the Second Review of Ireland's Nitrates Action Programme (11 June 2013);
- ❖ Response to Public Consultation during the preparation phase of the Marine Strategy Framework Directive (01 July 2013);

It is therefore obvious that SWAN has played a very active role in focusing attention on a wide range of water-related issues, and has campaigned for a much greater appreciation of the intrinsic value of Ireland's water resources, and for the need to protect these resources from a wide range of potentially damaging activities.

One of the approaches taken by SWAN has been to look ahead, and examine potential threats to water quality and resources arising from changes in climate, intensive farming, the Common Agricultural Policy of the European Union, and our own planning and development control system. Other changes arise from technological innovations, and from our improved understanding of the structure and functioning of ecosystems, and the services which they provide. Some changes are beneficial; others more likely to create problems.

One such change is the development of a relatively recent technology which aims to extract petroleum hydrocarbons by hydraulically fracturing deep shale formations and other reservoirs from which the hydrocarbons are difficult to extract by normal methods. Hydraulic fracturing, or "fracking" as it is more commonly known, has become a focus of widespread public concern, primarily in the United States, where it was first developed. Alleged undesirable consequences of fracking include water pollution, damage to aquatic resources of groundwater and surface water, and adverse impacts on the health of people living near gas fields or oil fields where intensive fracking has been carried out (see section 4 below).

Deep drilling which involves hydraulic fracturing for hydrocarbons is clearly an issue of considerable importance for Ireland, given that the country is one of the most dependant on imported fossil fuels, and we are "*at the end of the pipeline*" for natural gas from the mainland of Europe.

SWAN therefore believes that this technology should be brought under strict legislative control, with full public participation at an early stage in policy formulation, screening for appropriate assessment, screening for EIA, together with full and complete information being made available prior to any decision-making process, and participation in the decision-making process itself.

3. The Current EIA Directive

The current EU Directive on Environmental Impact Assessment (2011/92/EU) updates and replaces the following earlier directives:

- i) the original 85/337/EEC, in force since 1985;
- ii) Directive 97/11/EC which brought the original Directive in line with the UNECE Espoo Convention, addressed the problem of trans-boundary pollution, increased the types of projects covered, provided for new screening arrangements, provided new screening criteria for Annex II projects, and established minimum information requirements;
- iii) Directive 2003/35/EC which aligned the provisions on public participation with those of the Aarhus Convention on public participation in decision-making and access to justice in environmental matters; and,
- iv) Directive 2009/31/EC which added projects on the transport, capture and storage of carbon dioxide.

As a result of these changes, the right of the public to be informed at an early stage in the decision-making procedures is strengthened (Article 6 (2)), and the public must also be informed about the decision to grant or refuse the proposed development, including the reasons for the decision and the details of the public participation process (Article 9).

Non-governmental organisations promoting environmental protection (Article 1 (2) (e)) are considered to have a sufficient interest in the outcome of any environmental decisions, so that they are given the right by Article 11 to have access to a review procedure before a court of law (or another independent and impartial body established by law) to challenge the substantive or procedural legality of such decisions. Member States must also give practical information to the public on access to administrative and judicial review procedures (Article 11 (5)). The objective of giving the public concerned wide access to justice, established by the Aarhus Convention, and already a matter of EU law, is also included in Article 11.

Projects now listed in Annex II (referred to in Article 4 (2), which requires Member States to determine whether a project of a type listed in the Annex shall be made subject to EIA) include, in Section 2, under the heading of Extractive Industry:

“(d) Deep drillings, in particular:

- (i) geothermal drilling;*
- (ii) drilling for the storage of nuclear waste material;*
- (iii) drilling for water supplies;*

with the exception of drillings for investigating the stability of the soil”.

The Department will be aware that the European Commission and the Parliament have recently debated further changes to the EIA Directive, and that this debate has been driven by public concern about the adverse environmental and other effects of fracking (see section 4 below).

In compliance with the Aarhus Convention, the proposed changes to the EIA Directive will strengthen the role of the public at all stages of the decision-making procedure. As stated in the report Andrea Zanoni, MEP, to the Committee on the Environment, Public Health and Food Safety, *“Good governance calls for dialogue between all parties involved and a clear and transparent procedure that encourages the timely awareness of the public concerned that an important project might be executed. This potentially strengthens support for decisions taken and reduces the number and cost of the legal disputes that systematically occur in the Member States where there is no genuine consensus over a project”*.²

Among the recommended changes are:

1. The title of Annex I is amended to: “Projects Referred to in Article 4(1) (Projects Subject to Mandatory Environmental Impact Assessment)”; and,
2. The following points (14a) and (14b) are inserted into Annex I:
“14a. Exploration, evaluation and extraction of crude oil and/or natural gas trapped in gas-bearing strata of shale or in other sedimentary rock formations of equal or lesser permeability and porosity, regardless of the amount extracted.
14b. Exploration and extraction of natural gas from coal beds, regardless of the amount extracted”.

If agreed, this change would make environmental impact assessment of the extraction of shale gas and other unconventional hydrocarbons by fracking a mandatory procedure; and it is clear that this proposed change reflects wide public concern based on the lessons learned from fracking in the United States.

Directive 2011/92/EU should also be amended to include the following relevant statement: *“Member States should be permitted to lay down more stringent rules to protect the environment and human health”*.

The European Parliament Report also notes that *“one of the objectives of the Aarhus Convention, which the Union has ratified and transposed into Union law, is to ensure the right of the public to participate in decision-making in environmental matters. Therefore, that participation, including participation by associations, organisations and groups, in particular non-governmental organisations promoting environmental protection, should continue to be fostered. Elements of this Directive should also be strengthened in cross-border transport projects, making use of existing structures for the development*

² European Parliament Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2011/92/EU of the assessment of the effects of certain public and private projects on the environment (COM(2012)0628 – C7-0367/2012 – 2012/0297(COD)). Committee on the Environment, Public Health and Food Safety; Rapporteur: Andrea Zanoni; 22 July 2013.

of transport corridors and of tools to identify the potential impact on the environment”.³

Andrea Zanoni, MEP, as Rapporteur and author of the report, also stated that he considered it necessary, “*in accordance with the precautionary principle and as called for by Parliament in its resolution of 21 November 2012 on the environmental impacts of shale gas and shale oil extraction activities, to include so-called non-conventional hydrocarbons in Annex I to the Directive, so that the relevant exploration and extraction projects are systematically required to undergo EIA. The production thresholds laid down in the current Directive do not, in fact, take into account daily production levels of these gases and oils, which means that such projects are not subject to mandatory EIA*”.⁴

It is our submission that, in proposing changes to the Irish legislation, any such amendments should clearly reflect, and explicitly refer to, the importance of the principles quoted above, especially the precautionary principles and the requirements of the Aarhus Convention.

Having considered the proposed amendment to the Foreshore Act which would be made by the proposed Statutory Instrument, it is our concern that the amendment is very weak, and does not address any of the substantive issues discussed in this submission. Leaving it open to the “*appropriate Minister to determine*” whether or not a particular development would be likely to have significant effects on the environment is a recipe for political interference and would be likely to result in public distrust of the decision-making process.

4. Deep Drilling for Unconventional Gas

Deep drilling for unconventional gas or other hydrocarbon resources is usually accomplished by a technique known as hydraulic fracturing, defined by the EPA STRIVE report⁵ as follows:

“Hydraulic fracturing, or ‘fracking’, is a method used by drilling engineers to stimulate or improve fluid flow from rocks in the subsurface. In brief, the technique involves pumping a water-rich fluid into a borehole until the fluid pressure at depth causes the rock to fracture. The pumped fluid contains small particles known as proppant (often quartz-rich sand) which serve to prop open the fractures. After the fracking job, the pressure in the well is

³ European Parliament Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2011/92/EU of the assessment of the effects of certain public and private projects on the environment; Explanatory Statement, page 71 of 132.

⁴ European Parliament Report on the proposal for a directive of the European Parliament and of the Council amending Directive 2011/92/EU of the assessment of the effects of certain public and private projects on the environment; Explanatory Statement, page 72 of 132.

⁵ Healy, D., 2012. Hydraulic Fracturing or ‘Fracking’: A Short Summary of Current Knowledge and Potential Environmental Impacts -- A Small Scale Study for the Environmental Protection Agency under the Science, Technology, Research & Innovation for the Environment (STRIVE) Programme 2007 – 2013. Ireland, Environmental Protection Agency, July 2012

dropped and the water containing released natural gas flows back to the well head at the surface. The boreholes themselves are often deviated away from the vertical, into subhorizontal orientations, to ensure better and more efficient coverage of the targeted shale gas reservoir. The fracking fluid also contains small amounts (typically < 2% in total by volume) of chemical additives such as acid to help initiate fractures, corrosion and scale inhibitors to protect the borehole lining and gelling agents to alter the fluid viscosity”.

While apparently offering economic and energy security benefits (according to its promoters), unconventional gas production presents considerable environmental risks which have been extensively documented. These include:

- ▶ potential water and soil contamination from surface leaks or from badly designed or poorly cemented well-casing;
- ▶ contamination of ground water with natural gas and other chemicals;
- ▶ leakage of contaminated waste fluid from storage ponds
- ▶ spills of partially treated or untreated wastewater;
- ▶ increased water demand, leading to increased competition for water usage;
- ▶ atmospheric emissions of volatile components, methane and other gases, with serious consequences for the global climate; and,
- ▶ earthquakes induced by slip on bedrock faults.

A number of other issues, related to environmental degradation, can also occur; and these include noise pollution, negative impacts on ecosystems (especially groundwater-dependent habitats and species), biodiversity losses, landscape disruption, human health impacts, and adverse social consequences experienced by human communities inhabiting areas where extensive fracking is carried out.

In Ireland, the Minister for Communications, Energy and Natural Resources issued in February 2010 a competitive onshore licensing notice, inviting applications for “Onshore Licensing Options” to be granted under the Petroleum and Other Minerals Development Act (1960) over the Northwest Carboniferous Basin and the Clare Basin.

In March 2011, three “Licensing Options” were granted by the Department of Communications, Energy and Natural Resources to:

- Tamboran Resources Ltd for the Lough Allen Basin, also known as the North West Carboniferous basin, covering an area of 986 km². This area covers parts of central, northern and eastern County Leitrim, the north-western part of County Cavan and an area of north County Sligo around the Dartry Mountains.
- The Lough Allen Natural Gas Company Ltd over an area of 467 km² in the North West Carboniferous Basin. This area covers central County

Leitrim and small parts of north-western County Cavan, east County Sligo and the north-eastern tip of County Roscommon.

- Enegi Oil Plc for the Clare Basin, over an area of approximately 495 km² in the western part of County Clare. This area comprises all of western County Clare west of a line running from Spanish Point to Knockalough and to Clonderalaw Bay. The Clare Basin also extends under Counties Limerick, Kerry and Cork, but none of these portions of the Clare basin are in the licensed area.

These “Licensing Options” are essentially an undertaking by the State to grant an Exploration Licence to the applicant; however, no exploration Licences for unconventional gas have been issued, and the Minister for Communications, Energy and Natural Resources has stated that none will be issued until the Environmental Protection Agency (EPA) has completed a study of the technology of fracking and its potential effects.⁶

Nevertheless, it is essential that Ireland should learn from the lessons of other countries, especially the United States, where the technology of fracking originated.

In addition to the risks to individual human health reported from the United States, widespread or large-scale fracking activities have threatened mental health and community wellbeing as a result of people in local communities becoming aware that they have lost control in the face of these issues. As a result of the disruption caused by the invasion of large-scale drilling activities, communities have been split, setting neighbour against neighbour. Wealth from this type of development (which is similar to mining in many ways) is invariably distributed very unequally, especially if the State leaves most of the decision-making to the licensed operator.

Whether fracking would ever be carried out in Ireland on such a large scale as to cause these problems is considered unlikely; but the risk exists. Small communities with a traditional way of life would be damaged, perhaps irreversibly; and the potential to create more sustainable agricultural and tourism based activities could be undermined.

Another reason for urging caution about this technology is that it has become a serious issue of public concern, not only in the United States, but in Ireland and other European countries.

A recent report by the Energy Institute at the University of Texas⁷ noted that shale gas has become a contentious and polarizing issue in the United States,

⁶ Speech by the Minister for Communications, Energy and Natural Resources, at the Information Session on Fracking, Royal Irish Academy, Dublin; 17 April 2013. From: <http://www.dcenr.gov.ie/Corporate+Units/Press+Room/Speeches/2013/Ministers+speech+at+the+Information+Session+on+Fracking+at+Royal+Irish+Academy+in+Dublin.htm>

⁷ Groat, Charles G., and Grimshaw, Thomas W., 2012. Fact-based Regulation for Environmental Protection in Shale Gas Development: A Report by the Energy Institute at the University of Texas; February 2012; 414 pp.

with both sides expressing almost exactly opposite views of the facts. Some segments of the public had become deeply suspicious of the veracity and motives of gas companies, and these suspicions were intensified by the natural gas producers and gas field service companies refusing to disclose the chemical makeup of fluids used to enhance hydraulic fracturing. Anecdotal evidence suggests that in areas of intense shale gas drilling many members of the public have a low degree of trust of gas producers, gas field service companies and in many cases the regulatory agencies.

Other recent studies in the United States have demonstrated that increased development of shale gas may accelerate climate change because large amounts of methane, a potent greenhouse gas that makes up 90 percent of shale gas, generally escapes to the atmosphere during fracking.⁸ While it must be recognised that the situation in Ireland is different, we should be aware that any proposed technology which may lead to further emissions of greenhouse gases would be in conflict with Ireland's requirement and commitment to reduce such emissions.

Finally, the Department should be aware of the serious concern that unconventional gas production will lock Europe into fossil fuel use, jeopardising emissions reduction targets and retarding investment in renewable energy development.

SWAN therefore considers that any proposal for deep drilling for unconventional gas, especially if such drilling involves hydraulic fracturing of the rock, should be treated with extreme caution; and, if not banned as inappropriate for Ireland, should be subjected to a rigorous environmental impact assessment procedure with full and early public involvement, and in which all potential impacts, including those on local communities, water supplies, water quality, water-dependant ecosystems and species, and the aim of achieving good water quality status under the Water Framework Convention, must be taken into account.

5 Recommendations

In addition to the observations made in the earlier sections of this submission, SWAN wishes to make the following further recommendations:

SWAN believes that the activity of deep drilling for unconventional gas resources, especially when hydraulic fracturing of the rock is undertaken to free the gas and bring it to the surface, should be brought under strict legislative control, with full public participation at an early stage in policy formulation, screening for appropriate assessment, screening for EIA, together with full and

⁸ Wigley, Tom. "Coal to gas: the influence of methane leakage"; *Climatic Change*, Vol. 108, August 2011. Howarth, Robert W., et al. "Methane and the greenhouse-gas footprint of natural gas from shale formations." *Climatic Change*, Vol. 106, June 2011. Jackson, Robert B., et al. "Research and Policy Recommendations for Hydraulic Fracturing and Shale-Gas Extraction." Center on Global Change, Duke University, Durham, North Carolina.

complete information being made available prior to any decision-making process, and participation in the decision-making process itself.

SWAN also recommends that the proposed legislative change should refer explicitly to the Aarhus Convention which requires that “*Each Party shall make appropriate practical and/or other provisions for the public to participate during the preparation of plans and programmes relating to the environment, within a transparent and fair framework, having provided the necessary information to the public*”.

We also recommend that any proposed change in the Irish legislation should permit this country, as a Member State of the EU, to lay down more stringent rules to protect the environment, water supplies, aquatic resources, water-dependant ecosystems and species, and human health from the potentially damaging effects of extracting so-called non-conventional hydrocarbons by deep drilling and hydraulic fracturing of the hydrocarbon-bearing source rocks.

Jack O’Sullivan

On behalf of SWAN

17 January 2014.

Appendix I SWAN Member Organisations & Board Members

SWAN National Groups		SWAN Regional & Local Groups	
1.	An Taisce	16.	Carra Mask Corrib Water Protection Group
2.	Bat Conservation Ireland		
3.	Birdwatch Ireland	17.	Cavan Leitrim Environmental Awareness Network
4.	Coastwatch Europe Network		
5.	Coomhola Salmon Trust Ltd.	18.	Cork Environmental Forum
6.	Eco-UNESCO	19.	Longford Environmental Alliance
7.	Friends of the Earth	20.	Macroom District Environmental Group
8.	Friends of the Irish Environment		
9.	Irish Doctor's Environmental Association	21.	Save Our Lough Derg
10.	Irish Peatland Conservation Council	22.	Save Our Lough Ree
11.	Irish Seal Sanctuary	23.	Save The Swilly
12.	Irish Water and Fish Preservation Society	24.	Shannon Whale & Dolphin Foundation
13.	Irish Whale and Dolphin Group		
14.	Irish Wildlife Trust	25.	Slaney River Trust
15.	Voice Of Irish Concern for the Environment (VOICE)		

SWAN Board of Directors:	
Mark Boyden, Chair	Coomhola Salmon Trust
Eamonn Moore, Vice Chair	An Taisce
David Healy, Director	Friends of the Irish Environment
David Lee, Director	Cork Environmental Forum
Elaine Nevin, Director	ecoUNESCO
Joachim Schaefer, Director	Cavan Leitrim Environmental Awareness Network
Karin Dubsky, Director	Coastwatch Europe
Mindy O'Brien, Director	Voice of Irish Concern for the Environment