

HYDROCARBON TOOLKIT

HOW TO MAKE USE OF EXISTING EUROPEAN LEGISLATION TO FIGHT FOSSIL FUEL PROJECTS



LEGAL ARGUMENTATION FOR ACTIVISTS AGAINST THE EXPLORATION AND EXTRACTION OF HYDROCARBONS SUCH AS SHALE GAS/OIL, TIGHT GAS/OIL AND COAL-BED METHANE

Delphine Defossez,

Affiliation: Ph.D researcher at Universidade de Brasília (UnB), LL.M Swansea University, LL.M EUI

Dr. Leonie Reins,

KU Leuven (Post-Doctoral Researcher, Department of International and European Law

Tina Callebaut,

Master of Laws Cum Laude, University of Ghent, Belgium

Andy Gheorghiu,

Policy Advisor, Food & Water Europe

and

The Good Lobby

The
GOOD
Lobby



INTRODUCTION

Oil and fossil gas are neither “conventional” nor “unconventional”. All oil and gas resources (fossil fuels) can be classified as hydrocarbons. The term “unconventional” does not refer to the characteristics or composition of the oil/gas. Instead it refers to the porosity, the permeability, the fluid-trapping mechanism, or other characteristics of the geological reservoir or bearing rock formation from which oil and gas could be extracted. These characteristics result in the need to artificially alter the geological features of the reservoir or bearing rock formation using stimulation techniques such as hydraulic fracturing (i.e., fracking) to extract the hydrocarbons.

Unconventional fossil fuels is the collective term used to describe, for instance, shale gas/oil and tight gas/oil. Other forms include coal-bed methane, hydrates or geopressurised zones. Exploring for unconventional fossil fuels (such as shale gas/oil, tight gas/oil and coal-bed methane) ultimately requires the use of some form of stimulation, i.e., fracking.

The idea of this toolkit is to provide legal arguments to activists in the European Union (EU) against the exploration and extraction of hydrocarbons (e.g., shale gas/oil, tight gas/oil, coal-bed methane) by referring to relevant articles of existing and binding EU law. It explains in accessible language the most relevant Directives and Regulations that are applicable to the exploration and extraction of hydrocarbons. More precisely, the toolkit discusses the individual pieces of legislation along the hydraulic fracturing process, starting from prior assessments to liability. For each Directive/Regulation it discusses the goal and scope, the most relevant provisions, limitations, and the general line of argumentation that activists and non-governmental organisations (NGOs) can use to challenge the exploration and extraction of hydrocarbons. Case law is discussed where relevant. Lastly, the toolkit establishes the procedural steps that citizens and/or organisations can take to contest a certain project on the EU level.

This toolkit focuses on regulation of the exploration and extraction of hydrocarbons such as shale gas/oil, tight gas/oil and coal-bed methane; however, it is important to note that some negative impacts (water and soil contamination, methane emissions, earthquakes from wastewater disposal, as well as public health impacts) can occur even if hydraulic fracturing is not being used as a stimulation method.

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The idea of this checklist is to give an overview of the most important legal provisions to which local governments must adhere under EU law applicable to the exploration and extraction of hydrocarbons. In one glance, NGOs or activists can see which regulations may provide legal arguments to fight oil and gas exploration/extraction projects in their countries. For more extensive information on the exact obligations and possible limitations of these regulations, the user should explore the toolkit. This checklist refers to and supplements the toolkit.

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1. Prior assessments

Strategic Impact Assessment Directive¹ 10

- Is your government (national, regional or local) preparing a new plan or programme or modifications to an existing plan or programme for (among others) agriculture, energy, industry, transport, waste management, water management, town and country planning or land use which could potentially open the door for the exploration/extraction of hydrocarbons such as shale gas?
- Do these plans only concern financial or budget plans and programmes? In this case, no Strategic Environmental Assessment (SEA) has to be carried out.
- Do these plans only determine the use of small areas at a local level and minor modifications? In this case, no SEA has to be carried out.
- Has an SEA been carried out beforehand, according to the legal requirements?
- If an SEA has been carried out: Did the authorities really take into consideration the industrialisation process — in particular related to the development of fracking projects, especially in shale layers — and the specific-fracking related risks?
- Were different stakeholders invited to be involved in the process?
- Are the effects of the implementation of the plan or programme being monitored in order to identify unforeseen adverse risks at an early stage?

Environment Impact Assessment Directive² 11

- Has there been an application for an authorisation for the exploration/extraction of hydrocarbons such as shale gas in your country?
- If so, does it concern the extraction of petroleum or natural gas for commercial purposes of at least 500 tonnes/day in the case of petroleum and 500,000 cubic metres/day in the case of gas?
- If so, has an Environmental Impact Assessment (EIA) been carried out?
- If the amount of natural gas does not exceed at least 500 tonnes/day or 500,000 cubic metres/day for petroleum, do the relevant activities concern deep drilling?
- If so, has the government conducted a screening process, whether or not an EIA has to be carried out — despite the fact that the above mentioned thresholds will not be met?
- Did your government/local authority take into account that, “[t]he precautionary and prevention principles [...] imply that in case of doubts as to the absence of significant effects, an EIA must be carried out”?
- Does the EIA provided by the developer answer to the legal requirements put forward in the EIA Directive?

2. Protected areas

*Habitats and Birds Directive creating the NATURA 2000 network*³ 13

Is the area where the exploration/extraction of hydrocarbons is planned part of the Natura 2000 network? (If you are not sure, check this map containing all of the areas in the network: http://ec.europa.eu/environment/nature/natura2000/data/index_en.htm.)

- Are there existing restrictions/prohibitions for industrial activities — in particular for the extraction of hydrocarbons — for the Natura 2000 network (whether in your area or in other parts of Europe)?
- Did your government/local authority check and analyse in written form the negative impacts of the exploration/extraction of hydrocarbons on a Natura 2000 network site?
- If so, does your government/local authority consider these plans nonetheless imperative for reasons of overriding public interest, including socio-economic reasons?
- If so, are compensatory measures taken to ensure that the overall coherence of the Natura 2000 Network is protected?
- If so, do these compensatory measures nonetheless lead to the deterioration of habitats of the species of birds referred to in Annex I of the Birds Directive? (http://ec.europa.eu/environment/nature/conservation/wildbirds/threatened/index_en.htm)

3. The permitting/authorisation process

*Hydrocarbons Directive*⁴ 14

Did the competent authority in your country grant, or is it in the process of granting, an authorisation that would entitle an entity to exercise the exclusive right to prospect or explore for or produce hydrocarbons in a geographical area?

- If so, does/did your country ensure non-discriminatory access to and pursuit of the authorisation for the prospecting, exploration and production of hydrocarbons?

*Industrial Emissions Directive*⁵ 15

Did you get access to information and the possibility to participate in a public consultation during the permit procedure for a new installation/change to an existing installation?

- Was any information withheld because it contained commercial or industry information?

4. Public consultation/Aarhus Convention

*EU Commitments under the Aarhus Convention*⁶ 15

- Does your government provide you the possibility of requesting environmental information from the competent national authority?
- Did your government refuse to provide you environmental information after you submitted a specified request?
- Do you have access to justice to challenge a refusal to disclose environmental information?
- Did your government inform you of the possibility of administrative/judicial recourse against the refusal to disclose certain environmental information?

5. Water (quality)

Water Framework Directive⁷ 17

Is the surface and ground water in your country/area being monitored?

- Are (or could) pollutants (be) directly discharged into the groundwater as a consequence of the exploration/extraction project?
- Are there any hazardous substances in the waste water (chemicals, brine water, mix of both)?
- Is (or could) there (be) a connection between the geologic formations at depths of 2-3 kilometres and groundwater resources?

Drinking Water Directive⁸ 18

- Are there implications that the exploration/extraction project may affect the drinking water?
- Are there existing restrictions for industrial activities — in particular for the extraction of hydrocarbons — in existing drinking water areas (whether in your area or in other parts of Europe)?
- Does the authority of your country argue that there are exceptional circumstances to authorise the project nonetheless?

6. Use of chemicals

REACH⁹ 19

- Does the company use/plan to use chemicals during the exploration/extraction authorised by the European Chemicals Agency (ECHA)?
- Does the extraction company use/plan to use certain chemicals in quantities equal to or larger than 10 tonnes?
- If so, has the extraction company registered all the chemicals it uses during the exploration/extraction process including the specific “intended use” for each chemical? (Registrations can be found on the website of the ECHA.)
- Did the company produce a chemical safety report and conduct a human health hazard assessment?
- Does the company use/plan to use any chemicals listed under Annex XIV of the REACH Regulation? If so, was prior authorisation by the Commission obtained?
- Are the chemicals that the company uses/plans to use restricted under the national regulations of your country or somewhere else in Europe?

Priority Substances Directive¹⁰ 21

- Do the chemicals that will be used for fracking contain one of the 33 Priority Substances as identified in the Water Framework Directive, targeted for cessation or phase-out by 2020?

Seveso III Directive 22

- Does your country oblige the operator to take all necessary measures to prevent major accidents and to limit their consequences for human health and the environment?

7. Waste

Waste Framework Directive¹¹ 22

- Did your country put in place any measures to ensure that waste undergoes recovery operations or that the waste undergoes safe disposal operations without risk to water, air, soil, plants or animals?
- Does your government allow the waste from the exploration/extraction project to be mixed with other waste?
- Does your government require the labelling and packaging of the waste?
- Did your government develop a waste management plan and a waste prevention programme for the area?
- Does your government prohibit the uncontrolled management of waste?

Mining Waste Directive¹² 23

- Did your country take any measures to ensure that the extraction of waste is managed without endangering human health or with methods that could harm the environment?
- Does your government require the operator to draw up a management plan for the minimisation, treatment, recovery and disposal of extractive waste?
- Are there any national provisions imposing effective, proportionate and dissuasive penalties for infringement of provisions of national laws regulating mining waste?

8. Noise

Noise Directive¹³ 24

- Did the permits obtained for the extraction project contain any restrictions on noise emissions?

9. Liability for environmental damage

Environmental Liability Directive¹⁴ 24

- Before permits are being granted: Does your government/local authority demand that the operator provide evidence that he is financially capable to compensate adequately in case of an incident or damage?
- Has any environmental damage to protected species or natural habitats occurred as a consequence of the extraction/exploration project or related to other projects of the same applicant/operator?
- Are there any provisions in your country's national legislation that enable affected organisations/persons to submit observations on the environmental damage to a competent national authority?
- Are there any provisions in your country's national legislation that enable affected organisations/persons to request the competent national authority to take action against those responsible for the environmental damage?

A. EU ENERGY AND ENVIRONMENTAL LAW AND ITS APPLICABILITY TO THE EXPLORATION AND EXTRACTION OF HYDROCARBONS

The following sections discuss general pieces of European energy and environmental law and its applicability to the exploration and extraction of hydrocarbons. More precisely, they look at:

- the goal and scope of each Directive/Regulation
- the most relevant provisions
- limitations, both regarding the scope of the Directive as well as for NGOs/activists to take action
- the line of argumentation that NGOs/activists could use to challenge the exploration and extraction of hydrocarbons under the relevant measure
- case law (if applicable)
- more information (if applicable)

After describing the procedural steps that citizens and/or organisations can take, the analysis proceeds along the hydraulic fracturing process:

1. Prior assessments
2. Protected areas
3. The permitting/authorisation process
4. Public consultation/Aarhus Convention
5. Water (quality)
6. Use of chemicals
7. Waste
8. Noise
9. Liability for environmental damage

PROCEDURAL STEPS CITIZENS AND/OR ORGANISATIONS CAN TAKE

Applicability of EU law at the national level

EU directives are not directly applicable. Directives, in essence, tell Member States to transpose a piece of legislation into national law. Directives cannot be used in court until they have been enacted by national legislation. If you want to check under which national law an EU directive was transposed, you can easily find this on the official website of the EU.¹⁵

If EU law has not been respected by the national authorities of a Member State, the matter should first be taken up with national bodies or authorities. This often will be the quickest and most effective way to resolve the issue. The public authorities and courts of Member States have primary responsibility for the application of EU law. Therefore all possible means of redress at the national level (administrative and/or out-of-court mediation mechanisms) should be the first

step to take. Only national courts have the competence to annul a national decision or to order national authorities to compensate individuals for losses they have suffered due to a breach of EU law.

The national regulations can be used to fight exploration/extraction projects in national juridical or administrative courts, according to national procedure laws. Access for members of the public to administrative or judicial procedures to challenge acts and omissions by private persons and public authorities relating to the environment is guaranteed by Article 9(3) of the Aarhus Convention.

The Aarhus Convention also guarantees the *conditions of access* where an entitlement to challenge exists. This means in practice that the procedure for appeal should be concluded in a reasonable time frame without undue delays and that parties to the proceedings cannot face prohibitively expensive procedures.

If a state fails to implement a directive within the time given by the EU, an individual can lodge a complaint to the Commission or take the state to court for non-implementation. The European Court of Justice (ECJ) has adopted a “wide perception” of the state, deeming the state to include all areas of government.

However, in certain cases the ECJ recognises the direct effect of Directives in order to protect the rights of individuals. **Therefore, the Court laid down in its case law that a Directive has direct effect when its provisions are unconditional and sufficiently clear and precise and when the EU country has not transposed the Directive by the deadline.**¹⁶ However, Directives can only be used by individuals against an EU Member State; Directives may not be cited by an EU Member State against an individual.¹⁷

Preliminary rulings by the European Court of Justice (Art. 267 TFEU)

During proceedings before a national court or tribunal, any party can raise a question about the interpretation or validity of a provision of EU law. If that court or tribunal considers that a decision on the question is necessary to enable it to give a judgement, it will request the ECJ to give a ruling on the issue. If the case is pending before a national court or tribunal against whose decision there is no more judicial remedy open under national law, that court or tribunal is obliged to bring the request before the ECJ, unless the ECJ has already ruled on the matter or the interpretation of the EU rule of law in question is obvious.

After the national court submits the question to the ECJ, generally in the form of a judicial decision according to national procedural rules, the request gets translated into all of the EU languages by the ECJ's translation service. The Registry then notifies the parties to the national proceedings, as well as all Member States and institutions of the EU. A notice is published in the *Official Journal of the European Union* stating the content of the questions together with the names of the parties to the proceedings. The parties, the Member States and the institutions have two months within which to submit written observations to the ECJ.

Unless the question falls outside of the ECJ's competence, the ECJ cannot refuse to answer the request. The ECJ will only give a decision on the interpretation of EU law that was the subject of the request, while the national court remains competent for the final judgment in the original case.

The decision of the ECJ is binding, not only on the national court on whose initiative the reference for a preliminary ruling was made, but also on all of the national courts of the Member States.

Complaint to the European Commission

The European Commission can start infringement proceedings against a Member State acting on its own initiative or in response to complaints.

Anyone can lodge a complaint to the Commission against a Member State about any state measure (law, regulation or administrative action) or administrative practice that he/she considers incompatible with Community law. The Commission's services may then decide whether or not it will take further action in light of the rules and priorities laid down by the Commission for opening and pursuing procedures.

When the Commission decides to pursue a complaint, the Commission will send a letter of formal notice to the Member State. This allows the Member State to present its views regarding the facts stated in the complaint and the Commission's initial legal assessment of them. The Member State has to submit its views within two months. This exchange of views is not usually publicised.

A reasoned opinion by the Commission will be sent to the Member State if no reply to the letter of formal notice is received or if the views presented by the Member State cannot be considered satisfactory. The reasoned opinion is based on the letter of formal notice and expresses the Commission's view that an infringement exists and asks the Member State to remove it within the stated time limit. This gives the Member State an additional two months to reply. At this point the Commission issues a press release informing the EU's citizens of the purpose of the procedure. However, during the entire infringement procedure, the Commission and Member State can still negotiate.

If, following the reasoned opinion, no reply is received from the Member State or if the reply is unsatisfactory, the Commission has the possibility to refer the case to the ECJ, whose judgment is binding.

It is important to keep in mind that any finding by the ECJ can result only in a declaration that a provision or practice is indeed incompatible with EU law. This declaration has no impact on the rights of the complainant, since it does not serve to resolve individual cases. It merely obliges the Member State to comply with

European Community law. For the annulment of a law, regulation or administrative act (such as, for example, a permit for an extraction project), the complainant should address a national authority.

Other available actions at the EU level

The European Ombudsman (Art. 24 and 228 TFEU)¹⁸

If you are not happy with how the European Commission has dealt with your complaint, you may contact the European Ombudsman. The Ombudsman is an independent impartial body that holds the EU administration to account. The Ombudsman investigates complaints about maladministration in EU institutions, bodies, offices and agencies. The Ombudsman may find maladministration if an institution fails to respect fundamental rights, legal rules or principles, or the principles of good administration. Any citizen or resident of the EU, or business, association, or other body with a registered office in the EU, can lodge a complaint. You do not have to be individually affected by the maladministration to complain.

The complaint to the European Ombudsman should be submitted within two years of becoming aware of the facts on which your complaint is based, after having

first contacted the EU institution concerned to try to resolve the matter and in writing (also possible online).

The European Ombudsman can deal only with complaints concerning the EU administration and not with complaints about national, regional or local administrations, even when the complaints concern EU matters.

The Committee on Petitions of the European Parliament (Art. 227 TFEU)

Any citizen of the EU, and any natural or legal person residing or having its registered office in a Member State, has the right to address a petition to the European Parliament on a matter which comes within the EU's fields of activity and which affects him, her or it directly.

The petition may present an individual request, a complaint or observation concerning the application of EU law, or an appeal to the European Parliament to adopt a position on a specific matter. Such petitions give the European Parliament the opportunity of calling attention to any infringement of a European citizen's rights by a Member State or local authorities or other institution.

You can submit your petition by post or online via the European Parliament's website.¹⁹

B. OVERVIEW OF REGULATORY REQUIREMENTS

1. Prior assessments

Strategic Environmental Assessment Directive²⁰

Goal and scope:

The SEA Directive requires an assessment of the effects of certain plans and programmes on human health, the environment and cultural heritage. These effects should include secondary, cumulative, synergistic, short-, medium- and long-term, permanent and temporary, positive and negative effects. Whereas the EIA Directive is applicable to specific projects, an SEA is carried out for plans and programmes which are likely to have significant effects on the environment (Article 1), and thus on the broader strategic framework and on sustainable development — hence, at a very early stage, before the project on the exploration and extraction of hydrocarbons is planned in detail.

Relevant provisions:

1. A definition of these plans and programmes is contained in Article 2; these are plans and programmes, including those co-financed by the EU, as well as any modifications to them, which are subject to preparation and/or adoption by an authority at the national, regional or local level or which are prepared by an authority for adoption through a legislative procedure by Parliament or government, and which are required by legislative, regulatory or administrative provisions. These generally include all plans and programmes (not policies) prepared for, amongst others, agriculture, energy, industry, transport, waste management, water management, town and country planning, or land use, and set the framework for future development consent of projects listed in Annexes I and II to the EIA Directive, as well as those which require an assessment under the Habitats Directive in view of the potential effect on sites (Article 3(2)). Hence, plans for projects on the exploration and extraction of hydrocarbons fall within the scope of the SEA Directive. In case a Member State has not carried out an SEA for such a plan, NGOs could argue for a violation of the provisions of the SEA Directive.
2. Member States are obliged to monitor the effects of the implementation of the plan or programme in order to identify unforeseen adverse risks at an early stage, and to take remedial action if necessary (Article 10).

Limitations:

1. Among the excluded are financial or budget plans and programmes (Article 3(9)). Furthermore, plans and programmes relating to the activities listed above, which determine the use of small areas at local level and minor modifications only, require an environmental assessment if they are likely to have significant environmental effects (Article 3(3)). NGOs/activists would have to argue that this is not the case for activities on the exploration and extraction of hydrocarbons, as these are not affecting small areas and are no minor modifications.
2. However, in practice, the public participatory powers are not as far-reaching and influential as they might seem, as the SEA is merely applicable at the strategic (spatial) planning level. The actual planning of the concrete project is not covered by the SEA Directive, but by the EIA Directive which, as highlighted below, excludes the exploration and extraction of hydrocarbons projects from mandatory EIAs and thus limits the public participation requirements to a minimum.

Possible arguments for NGOs/activists:

1. NGOs/activists would have to argue that the definition of plans and programmes therefore is broad enough to also include plans and programmes on activities of the exploration and extraction of hydrocarbons. Hence, plans and programmes are not subject to a screening procedure carried out by Member States in order to establish whether these are likely to have significant environmental effects, neither through a case-by-case examination, by specifying types of plans and programmes, nor by combining both approaches (Articles 3(4) and 3(5)). Rather, they are subject to a mandatory SEA. The NGOs/activists thereby have to take into account that the SEA has to be carried out during the preparation of a plan or programme and before its adoption or submission to the legislative procedure; in case of a hierarchical planning order, the assessment is to be carried out at different hierarchical levels; duplications, however, should be avoided. The SEA can be integrated into existing procedures for the adoption of plans or programmes (Article 4).
2. The SEA requires the drafting of an environmental report that assesses the likely significant effects on the environment of the implementation of the plan

or programme. It further contains requirements for identification, description and evaluation of reasonable alternatives, taking into account the individual objectives and the geographical scope of the plan or programme (Article 5). The report further has to include the reasons for selecting the alternatives dealt with and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information. The competent authorities in the Member States have to be consulted when deciding on the scope and level of detail of the information to be included in the environmental report. NGOs/activists should focus on these requirements, especially regarding cumulative impacts (in the long term) and the assessment of alternatives.

3. The draft environmental report subsequently has to be made available to the authorities responsible, as well as to any public relevant NGOs affected, likely to be affected by or having an interest in the plan or project.²¹ Where there is no direct guidance on the SEA Directive, Directive 2003/35 defines “public” as *“one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups”* and *“the public concerned”* as *“the public affected or likely to be affected by, or having an interest in, the environmental decision-making procedures referred to in Article 2(2); for the purposes of this definition, non-governmental organisations promoting environmental protection and meeting any requirements under national law shall be deemed to have an interest”* (Article 3(1)). NGOs should hence rely on their right as a concerned NGO to take part in the proceedings. The final information on the decision has to include a statement summarising how environmental considerations have been integrated into the plan or programme; the opinions and the results of the consultation process; the reasons for choosing the plan or programme as adopted in light of the other reasonable alternatives, as well as monitoring provisions (Article 9). Hence, NGOs/activists should argue that the SEA seeks involvement at the very early stage and that they, as a “public relevant NGO affected or other organisations concerned”, have a right to be part of the planning process.

Case law:

On 27 October 2016, the European Court of Justice ruled²² that Articles 2(a) and 3(2)(a) of Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the

effects of certain plans and programmes on the environment must be interpreted as meaning that a regulatory order, such as that at issue in the main proceedings, containing various provisions on the installation of wind turbines which must be complied with when administrative consent is granted for the installation and operation of such installations, comes within the notion of “plans and programmes”, within the meaning of that Directive.

Environment Impact Assessment Directive²³

Goal and scope:

The central piece of legislation applicable to public participation at the EU level is the EIA Directive. The EIA Directive is based on the principle that development consent for public and private projects likely to have significant effects on the environment should be granted only after an assessment of the likely significant environmental effects of those projects has been carried out (Recital 7 of the Directive). In addition, the applicant cannot begin with the work or activity relating to the project unless he/she has obtained development consent (Article 2(1) and Recital 5 of the Directive).

Relevant provisions:

The key element of the Directive is that not all projects are subject to a mandatory impact assessment. Pursuant to the EIA Directive:

- Extraction of petroleum and natural gas for commercial purposes where the amount extracted exceeds 500 tonnes/day in the case of petroleum and 500,000 cubic metres/day in the case of gas is subject to a compulsory EIA.
- Deep drilling is included in Annex II and therefore subject to a screening process on the basis of a case-by-case examination, thresholds or criteria set by the Member States to decide if an EIA is necessary.

Limitations:

1. The public is only allowed to consult and comment on the EIA and not on the final authorisations. In general, a shorter public participation procedure is also foreseen for projects under screening. NGOs need to argue that projects on the exploration and extraction of hydrocarbons, such as shale gas, fall under the scope of a mandatory EIA.
2. It is likely that extraction of so-called unconventional fossil fuels does not reach the thresholds of Annex I, or at least not during the whole production period; therefore there is no guarantee that an EIA would be legally required for

so-called unconventional fossil fuel development. There is also some uncertainty surrounding the results of Member States' screening of Annex II projects to unconventional fossil fuel development, both exploration and exploitation. The screening process might conclude that there is no need for a full EIA of the project. NGOs/activists will have to advocate that the well-documented impacts on the environment are so adverse that a screening procedure needs to come to the result that an EIA is necessary. However, this would only be the second line of argumentation, as the first one will be that a mandatory EIA is required at all stages, as also the Commission put forward in its 2011 Guidance Note on the application of Directive 85/337/EEC (the EIA Directive) on projects related to the exploration and exploitation of so-called unconventional hydrocarbons. In order to establish more legal clarity, the note stresses that the national EIA/SEA experts and the Commission are of the opinion that both exploration and extraction of hydrocarbons, such as shale gas, fall within the scope of the EIA Directive and are subsequently subject to a mandatory EIA if the extracted gas exceeds a 500,000 cubic metre threshold. Below that threshold, activities are covered by the screening procedure of the Member States.

Possible arguments for NGOs:

1. The abovementioned note of the EU Commission states that, "[t]he precautionary and prevention principles [...] imply that in case of doubts as to the absence of significant effects, an EIA must be carried out" for projects on the exploration and extraction of hydrocarbons, such as shale gas.²⁴ This is also a line of argumentation that NGOs should use.
2. For all projects subject to an EIA (mandatory or as a result of the screening procedure), the developer has to supply the information specified in Annex IV of the Directive in as much as the Member States consider that the information is relevant to a given stage of the consent procedure (Article 5(1)). NGOs/activists should argue that this information is relevant at all stages. This process is also referred to as scoping, meaning the process of identifying the content and extent of the environmental information to be submitted to the competent authority under the EIA procedure.
3. The competent authority shall give an opinion on the information to be supplied by the developer after having consulted the developer and authorities likely to be concerned by the project (according to Article 6(1) and Article 5(2)). Such an opinion is

part of the consent process and thus preparatory in nature, but not generally subject to appeal.²⁵ The minimum information that the developer has to provide refers to a description of the project including information on the site, design and size of the project; a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; data required to identify and assess the main effects which the project is likely to have on the environment; an outline of the main alternatives and an indication of the main reasons for the developer's choice, taking into account the environmental effects; as well as a non-technical summary of these points. As established above, NGOs/activists should make sure that this information, especially regarding alternatives, is given, and they should focus on the merit of suggested alternatives.

In its first resolution on shale gas, voted in November 2012, the Parliament had already called on the European Commission to include "projects including hydraulic fracturing in Annex I of the Environmental Impact Assessment Directive European Parliament (2012, November) EP resolution of 21 November 2012 on the environmental impacts of shale gas and shale oil extraction activities (2011/2308(INI)). On 9 October 2013, the European Parliament voted in favour of a mandatory EIA for all unconventional gas/oil projects where it includes hydraulic fracturing.²⁶ However, this was annulled during the subsequent negotiations between the EU Parliament, the EU Council and the EU Commission.²⁷ NGOs/activists could highlight the fact that the annulment of the mandatory EIA happened, inter alia, because of the intensive lobby efforts of the UK, as revealed in the letter that then Prime Minister David Cameron wrote to then EU Commission President José Manuel Barroso.²⁸

Case law:

The issue of a mandatory EIA for drilling activities also has been discussed at the ECJ. In *Marktgemeinde Straßwaelchen*,²⁹ the ECJ held that the cumulative impacts of a drilling project have to be taken into account, and as a consequence, an EIA might have to be carried out, even in cases where an EIA is normally subject to Annex II of the Directive and thus subject to screening and scoping by individual Member States. This is in order to circumvent the splitting of one large-scale project into several smaller ones.

The line of argumentation on cumulative impacts of projects on the exploration and extraction of hydrocarbons is one that NGOs/activists could use as well. It is important to highlight that the development of a requested field starts with one well, but allowing the first steps will eventually lead — bit by bit — to the inevitable industrialisation of the targeted region. The fracking industry itself consumes space and water on a large scale. It has — through the construction of a network of thousands of wells — a significant impact on the regional development of the targeted regions, and it inevitably affects areas where either settlements or environmentally and culturally sensitive zones can be found. To be economically viable, continuous drilling of new commercially producing wells is required (especially in shale layers, but also in sandstone and clay formations) over a period of 30-40 years. Depending on the geological and topological circumstances, we talk about well pads of 2-4 kilometres each.³⁰

2. Protected areas

*Habitats and Birds Directive creating the NATURA 2000 network*³¹

Goal and scope:

The scope is laid down in Article 1(1) which states that: *“This Directive relates to the conservation of all species of naturally occurring birds in the wild state in the European territory of the Member States to which the Treaty applies. It covers the protection, management and control of these species and lays down rules for their exploitation.”* The term “conservation” is defined in Article 1(a) of Directive 92/43/ECC, while “natural habitat” is defined in Article 1(b) of the same Directive.

Relevant provisions:

Article 3(2) requires Member States (a) to create protected areas and (b) to upkeep and manage the zones that are next to the protected zones.

Limitations:

1. Article 4(1) of Directive 2009/147 requires protecting the species listed in Annex 1. However, discretion is left to Member States to classify the most suitable territories as protected areas. Furthermore, the same is required with regard to migratory species that are not listed in Annex 1 and the protection of wetlands.
2. Article 6(4) allows for a derogation, *“If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a*

plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted” in line with Point 12 of the Preamble of Directive 2009/147. However, a safeguard is established in Article 13 of Directive 2009/147 which goes as follows: *“Application of the measures taken pursuant to this Directive may not lead to deterioration in the present situation as regards the conservation of the species of birds referred to in Article 1.”*

3. Article 1(2) stipulates that the Directive applies to “birds, their eggs, nests and habitats”. This could be used with regard to fracking, as the process of extraction has an impact on the habitat of the birds. This is in line with Article 2(2) of Directive 92/43, which requires measures to maintain or restore natural habitat. However Article 2(3) states, *“Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics”*. This last paragraph importantly restricts the scope of the Directive. However, it is important to keep in mind — and to demand — that the company and the local authorities outline and justify why a project aiming at the extraction of hydrocarbons in a protected Natura 2000 site is of “overriding public interest”.

Possible arguments for NGOs/activists:

1. Article 4(4) requests Member States to take steps to “avoid pollution or deterioration of the habitats or any disturbance affecting the birds” of the protected areas, whereas for the areas outside these protected areas, “Member States shall also strive to avoid pollution or deterioration of habitats”. This is a strong argument for NGOs/activists against fracking. According to our interpretation, the Natura 2000 network therefore indirectly banned fracking in water protection areas, mineral spring reserves, catchment areas of dams and lakes, which is directly related to the production of drinking water. This ban may be extended to drinking water catchment areas. In Natura 2000 areas, the construction of fracking facilities is not allowed to ensure the protection of these particularly sensitive areas.
2. An important tool for NGOs/activists is provided in Article 5, which obliges Member States to establish a general system of protection, prohibiting “deliberate destruction of, or damage to, their nests and eggs or removal of their nests”.³²

Relevant information:

The Directive is a minimum harmonisation, as Article 14 leaves the choice to Member States to introduce stricter protective measures than those provided in the Directive. Of course, the amendments are only possible with regard to non-essential elements of the Directive, Article 15(1) and in accordance with the procedure set in Article 16(2), which notes that the procedure in “Article 5a(1) to (4) and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof”.

Case law:

Although an important violation of the Natura 2000 Directive occurred in Poland, the Commission did not react until 2015. The Natura 2000 network could be of some help with regard to specific species, as exemplified by the Rospuda motorway case in Poland where the Commission blocked the project on Natura 2000. Therefore the Directive can provide powerful tools, but it is limited to specific cases. Point 6 of the Preamble of Directive 2009/147 could be important for fracking, as it states that, *“The measures to be taken must apply to the various factors which may affect the numbers of birds, namely the repercussions of man’s activities and in particular the destruction and pollution of their habitats, capture and killing by man and the trade resulting from such practices; the stringency of such measures should be adapted to the particular situation of the various species within the framework of a conservation policy”*.

The interpretation of Article 6 of the Habitats Directive by the ECJ in its ruling of 11 April 2013 can provide arguments: *“Authorization for a plan or project, as referred to in Article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities — once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field — are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no reasonable scientific doubt remains as to the absence of such effects. The precautionary principle should be applied for the purposes of that appraisal”*.

3. The permitting/authorisation process

Hydrocarbons Directive³³

Goal and scope:

On a European level, the Hydrocarbons Directive is the key piece of legislation governing the permitting

of activities on the exploration and extraction of hydrocarbons. It is, however, of limited importance as the Directive creates only an overarching framework, and it is left to Member States to establish detailed provisions. The Directive’s objective is to ensure non-discriminatory access to and pursuit of prospecting, exploration and production of hydrocarbons and aims at establishing greater completion and common rules for the granting of authorisations (Preamble of the Directive). The Hydrocarbon Directive is, as its title suggests, focused merely on establishing a framework for the non-discriminatory access to authorisations for activities on the exploration and extraction of hydrocarbons.

Relevant provisions:

1. The concept of authorisation. The Directive defines an “authorisation” as *“any law, regulation, administrative or contractual provision or instrument issued there under by which the competent authorities of a Member State entitle an entity to exercise, on its own behalf and at its own risk, the exclusive right to prospect or explore for or produce hydrocarbons in a geographical area. An authorization may be granted for each activity separately or for several activities at a time”* (Article 1(3)). Therefore, the Directive includes a broad interpretation of the concept. This definition hence also includes activities on the exploration and extraction of hydrocarbons, such as shale gas/oil, tight gas/oil and coal-bed methane.
2. The Directive lays down criteria for granting authorisations, such as technical and financial capability and prospection methods, as well as the price which the entity is prepared to pay in order to obtain the authorisations (Article 5).

Limitations:

1. The Directive does not create a detailed common permitting framework as such, but outlines the overall approach, establishing different possibilities regarding authorisation procedures (Article 3). It leaves much discretion to the permitting authorities in Member States. NGOs/activists could only argue in this context that the provisions laid down by the individual Member State did not guarantee non-discrimination, as this is the key concept.

Possible arguments for NGOs/activists:

1. Arguably the Directive establishes principles for access to authorisations without specific requirements or guidelines for the actual granting of the authorisation. A possible line of argumentation is that the Directive violates the Integration Principle of Article 11 TFEU, which states that, *“Environmental*

protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development". With regard to the legal bases of the Directive (Article 57(2), first and third sentences, Articles 66 and 100(a) TEC), it is not surprising that environmental principles and aspects are not considered in the regime, even if this arguably ought to be the case by virtue of the integration principle. Hence, NGOs/activists could argue that, taking into account the specific characteristics of unconventional fossil fuels extraction and the associated environmental impacts, such a broad and general framework is not suitable for a coherent regulation of the activity. This is particularly the case for the lack of inclusion of possible environmental impacts in the mandatory criteria for the granting of an authorisation in EU law. It is left to the discretion of individual Member States to include or exclude environmental criteria into the authorisation process.

Relevant case law:

There has already been a case at the ECJ in this regard against Poland,³⁴ more precisely an action for failure of a Member State to fulfil its obligations. Poland was found to have violated Articles 2(2), 3(1), 5(1) and 5(2) of the Hydrocarbons Directive by not having ensured non-discriminatory access to the activities. Whereas the judgement does relate to all licences and not only to licences for the exploration and extraction of hydrocarbons, such as so-called unconventional fossil fuels, the legal status of these licences issued prior to the judgement is uncertain. This is something that NGOs/activists could try to argue for other Member States as well. At the same time this is a tricky approach since it does not question or tackle the exploration and extraction of hydrocarbons and the impact on public health, the environment and global warming as such.

Industrial Emissions Directive³⁵

Goal and scope:

The Industrial Emissions Directive establishes rules on integrated prevention and control of pollution arising from industrial activities (Article 1).

Relevant provisions:

According to Article 24 of the Directive, access to information and public participation in the permit procedure is required regarding (a) the granting of a permit for new installations; (b) the granting of a permit for any substantial change; (c) the granting

or updating of a permit for an installation where the application of less strict emission limit values is proposed and finally (d) regarding the updating of a permit or permit conditions for an installation if the pollution caused by the installation is of such significance that the existing emission limit values of the permit need to be revised or such values need to be included in the permit.

Possible arguments for NGOs/activists:

NGOs/activists should argue that the general applicability of access to information and public participation requirements under the Industrial Emissions Directive is far-reaching and covers all types of installations. Further they need to argue that the exception for commercial or industry information is not applicable. In this regard, Article 4 of the Directive prescribes that *"paragraphs 1, 2 and 3 of this Article shall apply subject to the restrictions laid down in Article 4(1) and (2) of Directive 2003/4/EC"*. Hence the limitations to access to information as discussed under Directive 2003/4/EC apply. As a consequence, the broad scope of access to information requirements under the Industrial Emissions Directive is not straightforward in its applicability to activities of the exploration and extraction of hydrocarbons. The requirements are subject to the same reservations as the requirements under Directive 2003/4/EC, and access to information is likely to be restricted under the exception of commercial or industry information. A claim should be based on the fact that the information to be accessed is not of commercial importance and neither is it industry information.

4. Public consultation/ Aarhus Convention

EU Commitments under the Aarhus Convention³⁶

Goal and scope:

The Aarhus Convention itself requires governments and authorities to ensure that the public has the necessary right to participate in environmental decision making, including effective consultations on policy, plans, projects and programmes that have an impact on the environment.

Relevant provisions:

Directive 2003/4/EC

1. The EU's commitments to the Aarhus Convention can be found in two Directives (Directive 2003/4/EC and Directive 2003/35). Both Directives expressly refer to the Aarhus Convention and the need for

EU law to be consistent with the provisions of the Convention (Point 5 of the Preamble). Both Directives possess definitions in Article 2 in conjunction with Point 10 of the Preamble of Directive 2003/4/EC stating that: *“The definition of environmental information should be clarified so as to encompass information in any form on the state of the environment, on factors, measures or activities affecting or likely to affect the environment or designed to protect it, on cost-benefit and economic analyses used within the framework of such measures or activities and also information on the state of human health and safety, including the contamination of the food chain, conditions of human life, cultural sites and built structures in as much as they are, or may be, affected by any of those matters.”*

2. In the list of definitions of Article 2 of Directive 2003/4, the following are relevant for the extraction and exploitation of hydrocarbons (Article 2(1)):
 - a. the state of the elements of the environment, such as air and atmosphere, water, soil, land, landscape and natural sites including wetlands, coastal and marine areas, biological diversity and its components, including genetically modified organisms, and the interaction among these elements;
 - b. ‘factors, such as substances, energy, noise, radiation or waste, including radioactive waste, emissions, discharges and other releases into the environment, affecting or likely to affect the elements of the environment referred to in (a)’
 - c. ‘measures (including administrative measures), such as policies, legislation, plans, programmes, environmental agreements, and activities affecting or likely to affect the elements and factors referred to in (a) and (b) as well as measures or activities designed to protect those elements’
 - d. reports on the implementation of environmental legislation
 - e. ‘the state of human health and safety, including the contamination of the food chain, where relevant, conditions of human life, cultural sites and built structures inasmuch as they are or may be affected by the state of the elements of the environment referred to in (a) or, through those elements, by any of the matters referred to in (b) and (c)’.
3. The Directive requires, in Article 3(1), that public authorities make available environmental information.³⁷ Public authorities are obliged to

provide the information, but the request needs to be specific. Otherwise the public authority in charge will have to ask the applicant to specify his/her request, leading to a longer procedure (Article 3(3)). The authority is obliged to make available the information as soon as possible and (a) within a month from the request or (b) within two months if the information is too complex to be available in a month’s time (Article 3(2)).

Limitations:

1. The exceptions are mentioned in Point 14 of the Preamble and in Article 4 of the Directive 2003/4. The ones that could be used by the public authority, in Article 4(1), against a request for information by an NGO are:
 - Paragraph (b) states that Member States may refuse if the “request is manifestly unreasonable”: **The word “unreasonable” is left to the discretion of each Member States leading to refusal if the request is not well grounded.**
 - Paragraph (c) “the request is formulated in too general a manner”: **NGOs/activists should pay attention when formulating their request and make it as precise as possible to avoid this trap.**
 - Paragraph (d) “the request concerns material in the course of completion or unfinished documents or data”: **It is difficult to establish as to whether a document is a finished document or not.**
2. Furthermore, Article 4(2) allows Member States to refuse if the disclosure would have adverse effects on:
 - a. confidentiality of the proceedings of public authorities, when provided by law,
 - b. international relations, public security or national defence,
 - c. the course of justice,
 - d. the confidentiality of commercial or industrial information where such confidentiality is provided for by national or Community law to protect a legitimate economic interest, including the public interest in maintaining statistical confidentiality and tax secrecy,
 - e. the protection of the environment to which such information relates, such as the location of rare species.

Possible arguments for NGOs/activists:

1. In Article 4(2) the only exception that could be raised by the companies would be (d); however, the use of (d) would depend on national law. BUT

the end of paragraph 2 states that Member States cannot, in virtue of paragraph 2(a), (d), (f), (g) and (h), provide for a request to be refused where the request relates to information on emissions into the environment. The complex procedures required for the exploration and exploitation of hydrocarbons will release, in some form, significant emissions into the environment. As a result it seems that Member States cannot refuse a request on any of the mentioned grounds. Furthermore, even though Article 4 provides a rather long list of grounds for refusal, the list should be interpreted in a restrictive way, as mentioned in the Article and in Point 16 of the Preamble. The main factor for the disclosure is the public interest, which should be weighed against the interest served by the refusal. Therefore, when using this directive to obtain information, in addition to drafting a really precise request, NGOs/activists should put the emphasis on the public interest for such information.

2. The public views should be taken into consideration when decisions are taken, and, if this has not occurred, the public has a right to challenge the decision. This is an argumentation that NGOs/activists could focus on.
3. Another important tool that NGOs/activists should keep in mind while drafting a request is provided in Articles 4(4) and 4(5). If it is possible to separate a request and if part falls within paragraph 1 or 2, the authority is obliged to provide the rest of the request (paragraph 4), and the refusal should be notified to the applicant (paragraph 5). In other words, when the NGO/activist is not certain about part of its request, it is better to divide it, as part of it will have to be answered.
4. The most powerful tool for NGOs in this Directive is found in Article 6(1), which stipulates that, in case the applicant feels that the request for information has been *"ignored, wrongfully refused (whether in full or in part), inadequately answered or otherwise not dealt with in accordance with the provisions of Articles 3, 4 or 5"*, Member States need to ensure that the applicant has access to justice by allowing a review from another public authority. On top of this "administrative" review, Member States are obliged to provide access to justice in a court of law (Article 6(2)). The final decision is binding on the public authority (Article 6(3)). This powerful tool should make the public authority willing to reply positively to a request if it is precise.
5. Finally, Directive 2003/4 is a minimum harmonisation instrument, as evidenced in Point 24 of the

Preamble and in Article 5(2), which leaves Member States the authority to decide whether to charge or not for the information. This means that Member States can introduce laws that are going further than the requirements of the Directive. However, any changes should be published (Article 5(3)).

5. Water (quality)

*Water Framework Directive*³⁸

Goal and scope:

The Directive sets the requirement for surface waters to achieve "good ecological status".

Relevant provisions:

1. The Water Framework Directive contains a general requirement on baseline monitoring. Article 8 of the Directive establishes provisions regulating the monitoring of the surface and groundwater status. Accordingly, monitoring programmes have to be established in order to obtain a coherent and comprehensive overview of the water status. For surface waters, such programmes shall cover the volume and level or rate of the water flow to the extent relevant for ecological and chemical status as well as ecological potential; for groundwater such programmes shall cover monitoring of the chemical and quantitative status.

Limitation:

1. Article 11(j) establishes a general prohibition against discharging pollutants directly into groundwater. However, a possible exception is included for hydrocarbons. Under the exemption, specific conditions for the *"injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons"* are authorised, provided that *"such discharges do not compromise the achievement of the environmental objectives established for that body of groundwater"* (Article 11). In other words, the discharge of waste water resulting from the exploration and extraction of hydrocarbons, such as shale gas, into groundwater might be permitted from the direct reading, if it does not lead to an immediate failure to meet other environmental goals established in the individual management plan. Whereas in its 2011 note,³⁹ the Commission clarifies that: *"Article 11 (3) (j) of the Water Framework Directive does not allow the injection of flowback water (containing hazardous chemicals) for disposal into geological formations. As such, Article 11 3) (j) does not apply to shale gas activities. This is consistent with the objective of the Water*

Framework Directive (ensuring good status of water resources) and is supported by the negotiation history of this Directive since the exception calls in question was devised for conventional hydrocarbon operations. Consequently, the Mining Waste Directive applies and requires the treatment of flowback water." In addition, in the Guidance note, the Commission takes the stance that underground injection is prohibited, although this is not entirely clear and something that NGOs/activists should focus on. The provision includes a general prohibition which is subject to some exceptions (safe storage). NGOs should argue that for shale gas, safe storage cannot be guaranteed as there are too many uncertainties. Hence the exceptions should not be applicable to shale gas.

Possible arguments for NGOs/activists:

1. NGOs/activists should focus on the questions
 - Are there no hazardous substances in the waste water, e.g., *after the flowback has been treated up to a certain standard?*
 - Is there no connection between the geologic formations at depths of 2-3 kilometres and groundwater resources?

Relevant information:

In reality, dilution is the only "standard". There really are no environmentally friendly treatment plants for this kind of waste. That's why the industry disposes it by underground injection.

2. As long as there is no link between the geological formation and groundwater (broadly defined in the Water Framework Directive as "*all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil*" (Article 2 WFD)), underground injection might be possible, as, for example, has been accepted by the UK Environment Agency. NGOs/activists need to focus on the argumentation that — given the limited experience with fracking and the existing knowledge about the risks of deep well wastewater injection (such as earthquakes and water pollution) — governments and the hydrocarbon industry have not yet proven that such deep-well injections of waste water will not lead to "direct discharges of pollutants in groundwater".
3. Based on prior negative experiences with the underground disposal of waste water, NGOs/activists

can argue that deep-well injection presents a high risk of "the input of pollutants into groundwater" and "the deterioration of the status of all bodies of groundwater" (objectives listed in Article 4 WFD). This is a loophole that NGOs/activists should focus on.

4. NGOs/activists can argue that the monitoring system under the Water Framework Directive is not a baseline monitoring as such, which is, however, needed for the special characteristics of the exploration and extraction of hydrocarbons (as also included in the non-binding Recommendation⁴⁰). A water quality baseline monitoring includes the drilling of two water wells for the purpose of gathering data to analyse and control the groundwater quality before, during and after the drilling has taken place; this is what NGOs/activists could focus on.

On a political level, NGOs/activists should demand at least the establishment of exclusion areas for the exploration and exploitation of hydrocarbons and the disposal of waste in water protection zones.

Drinking Water Directive⁴¹

Goal and scope:

The Drinking Water Directive contains provisions that are applicable to the water used in drilling and fracking activities. The Directive applies to "water intended for human consumption" (defined in Article 2(1)). The overall objective of the Directive is to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean.

Relevant provisions:

1. Water "intended for human consumption" is defined in Article 2(1) as: "*(a) all water either in its original state or after treatment, intended for drinking, cooking, food preparation or other domestic purposes, regardless of its origin and whether it is supplied from a distribution network, from a tanker, or in bottles or containers; (b) all water used in any food-production undertaking for the manufacture, processing, preservation or marketing of products or substances intended for human consumption unless the competent national authorities are satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form.*"
2. The concept of "whole and clean" is explained in Article 4 and means that the water: "*(a) is free from any micro-organisms and parasites and from*

any substances which, in numbers or concentrations, constitute a potential danger to human health, and (b) meets the minimum requirements set out in Annex I, Parts A and B; and if, in accordance with the relevant provisions of Articles 5 to 8 and 10 and in accordance with the Treaty, Member States take all other measures necessary to ensure that water intended for human consumption complies with the requirements of this Directive."

Possible arguments for NGOs/activists:

1. NGOs/activists would have to argue that fracking affects this kind of water in the individual context for the Directive to be applicable. The Directive outlines the water quality standards that must be met. However, the Directive does not contain any specific rules concerning measures on exploiting unconventional gas and the possible influences on drinking water quality, but rather has more general provisions on impacts on drinking water.
2. NGOs/activists could argue that possible derogations under Article 9 cannot be granted for fracking activities, as the conditions of the exception are not applicable for the exploration and extraction of hydrocarbons. Article 9 states that these are only granted under exceptional circumstances, and if there is no danger to human health. NGOs/activists could focus on the fact that the impacts on human health are not clear at all.
3. In addition, the derogations have to be "as short in time as possible (with a maximum of three years, unless the Commission extends it for another period of three years)".
4. NGOs/activists could further argue that the provision serves as an opt-out mechanism for Member States for a limited time from the chemical quality standards specified in Annex I. However, the process of the exploration and extraction of hydrocarbons is unlikely to be considered an "exceptional circumstance", as it is a standard industry practice which was intended and planned in advance. Also, as explained above, the chemicals and the high concentration of saltwater from the subterranean rock formations brought to the surface in the drilling process would likely be considered a threat to human health. Additionally, in order to be a commercially profitable activity, the exploration and extraction of hydrocarbons, such as shale gas, generally must produce gas for at least three years. Following this, an "opt-out mechanism" is not possible under Article 9 of the Drinking Water Directive.

NGOs/activists could highlight that Germany has recently banned fracking operations and the disposal of waste water in certain water protection areas. NGOs/activists could argue that:

"The extraction of hydrocarbons and the disposal of waste from these mining activities can have severe and irreversible impacts on the quality of water intended for human consumption. In order to implement Article 1 and therefore to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean, the extraction of hydrocarbons and the disposal of waste from these mining activities are prohibited in and under

- a) water and healing spring protection areas,*
- b) areas with water bodies that are linked to natural lakes or dams which serve for public water supply,*
- c) areas with wells for the production of beverages/drinks*
- d) catchment areas for the zones referred to in a) - c)."*

6. Use of chemicals

REACH⁴²

Goal and Scope:

The Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation aims to improve the protection of human health and the environment from chemical risks and is the most important legislation dealing with chemical disclosure (Article 3(1)). Article 3(1) defines substance as, "a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition". REACH applies to all chemical substances in everyday life and industry. Therefore it also applies to the extraction and exploration of hydrocarbons — in particular when hydraulic fracturing is involved. Fracking is not excluded *per se* from the scope of the REACH, as it is not listed in Article 2, and fracking does not fall within the scope of the Directive 2006/12/EC, Article 2(b)(ii).⁴³

Relevant provisions:

1. REACH is a far-reaching piece of legislation. Point 3 of the Preamble stipulates that: *"A high level of human health and environmental protection should be ensured in the approximation of legislation on substances, with the goal of achieving sustainable development. That legislation should be applied in a non-discriminatory manner whether substances are traded on the internal market or internationally in accordance with the Community's international commitments."* This, in turn, could apply to international companies, as the Regulation is not limited only to European trade. Article 1(1) of the Regulation uses the same line of reasoning and states that, *"the purpose of this Regulation is to ensure a high level of protection of human health and the environment, including the promotion of alternative methods for assessment of hazards of substances, as well as the free circulation of substances on the internal market while enhancing competitiveness ..."*.
2. Article 1(2) stipulates that: *"This Regulation lays down provisions on substances and mixture within the meaning of Article 3. These provisions shall apply to the manufacture, placing on the market or use of such substances on their own, in mixtures or in articles and to the placing on the market of mixtures."* Moreover, Article 1(3) refers to manufacturers, importers and downstream users. It hence also applies to companies using these chemicals if they are within the minimum threshold.
3. The minimum threshold for REACH to be applicable is 1 tonne per year (Article 6(1)). The substances listed need to be registered according to Article 10.
4. Annex XIV to the Regulation lists substances that cannot be put on the market without prior authorisation. Furthermore, companies are under the obligation to conduct their own chemical assessment and to demonstrate to the European Chemicals Agency (ECHA) how the substance can be used safely, and they must communicate the risk management measures to the users. If the risks cannot be managed, there are mechanisms to ban or restrict the use of substances.
5. The manufacturers and importers must register the information with ECHA and demonstrate how the substance can be safely used. However, national authorities can restrict the use of substance. Article 60 establishes that the authorisation is given by the Commission. ECHA receives and evaluates individual registrations for their compliance; Member States

evaluate selected substances to clarify initial concerns. New substances need an authorisation from the Commission after an evaluation by ECHA.

Limitations:

1. Some exceptions to the disclosure are enumerated in Article 11. Before embarking on a joint submission, a registrant should identify whether any of the information he/she may be required to submit could be considered to be a trade secret or otherwise commercially sensitive, such that sharing it would be detrimental to the registrant's commercial interests. Companies can escape the disclosure by showing the harmful effect such a disclosure will have (Article 11(3)). This is the main argument that NGOs will have to counter.

Possible arguments for NGOs/activists:

1. The strongest argument to be used by NGOs against the industry is found in Article 14(1): *"a chemical safety assessment shall be performed and a chemical safety report completed for all substances subject to registration in accordance with this Chapter in quantities of 10 tonnes or more per year per registrant"*, unless the concentration is too low and fall under Article 14(2). If the threshold in Article 14(1) is fulfilled, then Article 14(3)(a) requires a human health hazard assessment. In other words, REACH requires companies to identify and manage the risks linked to the substances they manufacture and market in the EU. This is one of the best arguments from this Regulation, as companies are obliged to do it ("shall").
2. The REACH Regulation and the categorisation of chemicals used in the fracturing process might be an anchor point, certainly in conjunction with the power that ECHA has. Indeed, ECHA is allowed and required to refer breaches to the enforcement authorities of Member States. It also can withdraw the registration numbers of inadequate dossiers, meaning that a company cannot make or import the relevant substance.

Relevant information:

REACH has created procedures for collecting and assessing the properties and hazards of substances. Companies need to register each substance and work with others registering the same substance to ensure that this information is provided. It is important to note that **REACH regulates chemicals in relation to their uses. In other words, it is not because a chemical is judged safe in one use that it is safe for each of its uses. It can be deemed unaccept-**

able in others where the risks to human health or the environmental are not adequately controlled.

All registered substances and uses are published on the website of the ECHA.⁴⁴ The searches can include names of companies, country of registration and uses. However, the description of the uses is rather weak. Until recently, fracking was part of normal gas and oil extraction. As demonstrated in the 2013 study by the European Commission's Joint Research Council (JRC) on REACH and fracking, where fracking did not possess its own category.⁴⁵ The Commission identified 16 substances as likely to be used in fracking fluids. However, in none of the registrations was the human exposure mentioned, nor did the company register the substance specifically for fracking, avoiding the environment assessment report required. This is something that NGOs/activists should check. In addition, the ECHA provides guidance for reporting of chemicals for fracking.⁴⁶

Priority Substances Directive⁴⁷

Goal and scope:

There is a basic legal obligation to control the current list of 33 Priority Substances as identified in the Water Framework Directive, targeted for cessation or phase-out by 2020.⁴⁸ Point 1 of the Preamble states that: *"Chemical pollution of surface water presents a threat to the aquatic environment with effects such as acute and chronic toxicity to aquatic organisms, accumulation in the ecosystem and losses of habitats and biodiversity, as well as a threat to human health. As a matter of priority, causes of pollution should be identified and emissions should be dealt with at source, in the most economical and environmentally effective manner."* Fracking is meeting this criterion.

The scope of the Directive is laid down in Article 1: *"This Directive lays down environmental quality standards (EQS) for priority substances and certain other pollutants as provided for in Article 16 of Directive 2000/60/EC, with the aim of achieving good surface water chemical status and in accordance with the provisions and objectives of Article 4 of that Directive."* The establishment of environmental quality standards (EQS) at the EU level should be limited to surface water, point 15. However, as regards hexachlorobenzene, hexachlorobutadiene and mercury, it is not possible to ensure protection against indirect effects and secondary poisoning at the Community level by EQS for surface water alone. It is therefore appropriate to establish EQS for biota at the Community level for those three substances.

Relevant provisions:

1. The definitions are the same as the one in Article 2 of Directive 2000/60/EC, namely:
 - Article 2(1): *"Surface water means inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters."*
 - Article 2(2): *"Groundwater means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil".* The result of fracking is felt on the surface of the water.
 - Inland water means lake, basin, etc. (Article 2(3)).
 - Article 2(30): *"Priority substances means substances identified in accordance with Article 16(2) and listed in Annex X. Among these substances there are priority hazardous substances which means substances identified in accordance with Article 16(3) and (6) for which measures have to be taken in accordance with Article 16(1) and (8)."*
 - Article 2(33): *"Pollution means the direct or indirect introduction, as a result of human activity, of substances or heat into the air, water or land which may be harmful to human health or the quality of aquatic ecosystems or terrestrial ecosystems directly depending on aquatic ecosystems, which result in damage to material property, or which impair or interfere with amenities and other legitimate uses of the environment."* This applies to fracking.
2. EQS requirements are set in Annex I Part A and B, according to Article 3(1). Article 3(2) leaves Member States the possibility to apply EQS for sediment and/or biota under the following criteria: (a) *"apply, for mercury and its compounds, an EQS of 20 µg/kg, and/or for hexachlorobenzene, an EQS of 10 µg/kg, and/or for hexachlorobutadiene, an EQS of 55 µg/kg, these EQS being for prey tissue (wet weight), choosing the most appropriate indicator from among fish, molluscs, crustaceans and other biota"*, (b) *"establish and apply EQS other than those mentioned in point (a) for sediment and/or biota for specified substances. These EQS shall offer at least the same level of protection as the EQS for water set out in Part A of Annex I; (c) determine, for the substances mentioned in points (a) and (b), the frequency of monitoring in biota and/or sediment. However, monitoring shall take place at least once every year, unless technical knowledge and expert judgment justify another interval; and (d) notify the Commission and other Member States, through the Committee referred to in Article 21 of Directive 2000/60/EC, of the substances for which EQS have been established in accordance with*

point (b), the reasons and basis for using this approach, the alternative EQS established, including the data and the methodology by which alternative EQS were derived, the categories of surface water to which they would apply, and the frequency of monitoring planned, together with the justification for that frequency."

3. Article 5(1) requires Member States to establish an inventory of emissions, discharges and losses. This inventory must be communicated to the Commission (Article 5(3)), and these inventories must be updated as required by Articles 5(4) and 5(2) of Directive 2000/60/EC.

Limitations:

1. Article 4(1) allows Member States to designate mixing zone adjacent to points of discharge. Paragraph 2 requires Member States to include in river basin management plans produced a description of: "*a) the approaches and methodologies applied to define such zones; and (b) measures taken with a view to reducing the extent of the mixing zones in the future, such as those pursuant to Article 11(3)(k) of Directive 2000/60/EC or by reviewing permits referred to in Article 11(3)(g) of Directive 2000/60/EC*". Additionally, the mixing zone needs to be restricted to the proximity of the discharge point (Article 4(3)(a)), proportionate (Article 4(3)(b)).
2. Article 6(1) stipulates that a Member State is not in breach of its obligations under the Directive if it can demonstrate that: (a) the exceedance was due to a source of pollution outside its national jurisdiction; (b) it was unable as a result of such transboundary pollution to take effective measures to comply with the relevant EQS; and (c) it had applied the coordination mechanisms set out in Article 3 of Directive 2000/60/EC and, as appropriate, taken advantage of the provisions of Article 4(4), 4(5) and 4(6) of that Directive for those water bodies affected by transboundary pollution. This will probably not be too useful for NGOs/activists, but it is good for them to know that this option exists.

Possible arguments:

NGOs need to check whether the chemicals used for fracturing fall within the scope of priority substances as identified in the Water Framework Directive. If this is the case, these substances are targeted for cessation or phase-out by 2020, and NGOs hence can argue that these need to be phased out in the coming years. Further, in case the Directive is applicable, NGOs can argue that Member States need to establish an inventory of emissions, discharges and losses.

Seveso III Directive⁴⁹

Goal and scope:

Legislation on the classification of chemicals and increased rights for citizens to access information and justice.

Relevant provisions:

1. Fracking is not excluded in the scope of the Directive (Article 2). Fracking companies can fall within the definition of establishment provided in Article 3(1). The fracking rig could potentially fall within the definition of installation provided in Article 3(8). Fracking chemicals and the extracted hydrocarbons could potentially fall within the definition of "dangerous substance" provided in Articles 3(10), 3(11) and 3(12).
2. According to Article 4 it is up to the Commission to assess the risk link to the activity. A Member State can notify the Commission, based on evidence required by Article 4(3), when it considers that a dangerous substance does not present a major accident hazard.
3. Article 5(1) requires Member States to oblige operators to take all necessary measures to prevent major accidents and to limit their consequences for human health and the environment.
4. Article 19(1): Member States shall prohibit the use or bringing into use of any establishment, installation or storage facility, or any part thereof where the measures taken by the operator for the prevention and mitigation of major accidents are seriously deficient.

Possible arguments:

NGOs could argue that fracking and fracking chemicals fall within the definition of dangerous substance provided in Articles 3(10) to 3(12), hence the Seveso Directive is applicable. As a consequence the Commission will have to carry out a risk assessment.

7. Waste

Waste Framework Directive⁵⁰

Goal and scope:

The objective of this Directive is on waste policy in order to minimise the negative effects of the generation and management of waste on human health and the environment, as stipulated in Point 6 of the Preamble. Article 1 lays the subject matter of the Directive: "*This Directive lays down measures to protect the envi-*

ronment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use." Prevention is placed on the top priority of the waste hierarchy (Article 4(1)(a)). Point 14 of the Preamble refers to the classification of waste as hazardous waste and that it should be based on community legislation on chemicals: "Hazardous waste should be regulated under strict specifications in order to prevent or limit, as far as possible, the potential negative effects on the environment and on human health due to inappropriate management."

Relevant provisions:

1. The definitions are listed in Article 3.
2. Article 8 allows Member States to take legislative or non-legislative measures to extend producer responsibility to any natural or legal person who professionally develops, manufactures, processes, treats, sells or imports products (producer of the product).
3. Member States are obliged to take the necessary measures to ensure that waste undergoes recovery operations (Article 10(1)), and when this recovery is not undertaken, they must ensure that waste undergoes safe disposal operations (Article 12).
4. Article 15(1) requires Member States to take the necessary measures to ensure the treatment of waste. The waste from the exploration and extraction of hydrocarbons in general as well as the result of fracking is more a hazardous waste than normal waste, therefore falling under Article 17. Member States are obliged to take necessary action to ensure that the environment is protected. These wastes should not be mixed (Article 18). The three exceptions in paragraph 2 are not applicable. These wastes need to be well labelled and packaged (Article 19). According to Article 28, waste management plans shall be established as well as waste prevention programmes (Article 29).
5. Member States shall ensure that the relevant stakeholders participate in the elaboration of the waste management plans and prevention programmes (Article 31). Uncontrolled management of waste should be prohibited by Member States (Article 36(1)). Member States should lay down provisions on penalties for infringement of the Directive (Article 36(2)).

Limitations:

1. If the Priority Substances Directive applies then this one will not, as they are mutually exclusive (Article 2(2)(a) excludes waste waters regulated by another Directive).
2. Article 5 on treating of the by-products might not be applicable to fracking, nor Article 6 on the end-of-waste status.

Possible arguments for NGOs/activists:

Article 13 refers to the protection of human health and the environment. Article 13(1)(a) obliges Member States to take measures to ensure that waste management is carried without risk to water, air, soil, plants or animals. These provisions provide a tool for NGOs/activists but are not very powerful due to the broadness of the provisions.

Mining Waste Directive⁵¹

Goal and scope:

This Directive provides for measures, procedures and guidance to prevent or reduce as far as possible any adverse effects on the environment, in particular water, air, soil, fauna and flora and landscape, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries (Article 1). The Directive covers the management of waste resulting from the prospecting extraction, treatment and storage of mineral resources (Article 2(1)).

Relevant provisions:

1. Article 4 requires Member States to take necessary measures to ensure that the extraction of waste is managed without endangering human health or with methods that could harm the environment.
2. The operator needs to draw up a management plan for the minimisation, treatment, recovery and disposal of extractive waste (Article 5(1)).
3. Article 15 refers to environmental liability which is simply adding a sentence to Annex III of Directive 2004/35/EC.
4. Article 19 requires Member States to lay down rules on penalties for infringement of provisions of national law adopted pursuant to this Directive. The penalties provided for shall be effective, proportionate and dissuasive.

Possible arguments for NGOs/activists:

Access to information under the Mining Waste Directive relates to the permitting and review process of mining waste facilities (Articles 6 and 8). Annex I of the Directive includes further major-accident prevention policy and information to be communicated to the public concerned. NGOs/activists can focus on this argumentation. However, it is to be kept in mind that the information disclosed or accessible to the public is limited to the general information linked to the licensing process of such mining waste facilities. There is no disclosure regime applicable to the production facilities of exploration and extraction of hydrocarbons specifically.

8. Noise

Noise Directive⁵²

Goal and scope:

Noise from engines used for the drilling phase are regulated under general legislation applying to noise from Directive 2000/14/EC on the noise emission in the environment by equipment for use outdoors (Outdoor Machinery Noise Directive).

Relevant provision:

According to Annex III, Part B, item 17, the recommended basic noise emission standard is the EN ISO 3744:1995 standard.

Possible arguments for NGOs/activists:

Aside from the general noise regulatory provisions, no further requirements are identified which relate directly to activities of the exploration and extraction of hydrocarbons. But since increased traffic and bit-by-bit industrialisation of the targeted area could play a role, it is an argument that NGOs/activists should focus on. NGOs/activists could further argue that noise emissions should be included in the individual planning permission, if not already done so.

9. Liability for environmental damage

Environmental Liability Directive⁵³

Goal and scope:

The purpose of this Directive is to establish a framework of environmental liability based on the “polluter pays” principle (Article 191(2) TFEU), to prevent and remedy environmental damage (Article 1).

Relevant provisions:

1. Environmental damage is defined in Article 2(1) (a) as meaning damage to protected species and natural habitats, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species. The extraction of hydrocarbons (whether or not including fracking) falls within the scope of the Directive (Article 3(1)(a)).
2. The operator is obliged to take necessary preventive measures to avoid environmental damage (Article 5(1)).
3. The operator is the one bearing the costs for the preventive and remedial actions taken pursuant to this Directive (Article 8(1)), unless caused by a third party (Article 8(3)(a)). Article 9 stipulates that in case of joint liability, national law is applicable.

Possible arguments for NGOs/activists:

Article 12 provides a powerful tool for NGOs. Article 12(1) allows, for natural or legal persons that (a) are affected or likely to be affected by environmental damages or (b) having a sufficient interest in environmental decision making relating to the damage or, to submit to the competent authority any observations and can require the competent authority to take action. However, the Directive is silent on what constitutes a “sufficient interest” and “impairment of a right” and therefore shall be determined by the Member States.

Endnotes

- 1 Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. OJ L 197, 21.7.2001, pp. 30-37.
- 2 Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. OJ L 124, 25.4.2014, pp. 1-18.
- 3 Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. OJ L 20, 26.1.2010, pp. 7-25; Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. OJ L 206, 22.7.1992, pp. 7-50.
- 4 Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and using authorizations for the prospection, exploration and production of hydrocarbons. OJ L 164, 30.6.1994, pp. 3-8.
- 5 Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). OJ L 334, 17.12.2010, pp. 17-119.
- 6 Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC. OJ L 41, 14.2.2003, pp. 26-32; Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC. OJ L 156, 25.6.2003, pp. 17-25.
- 7 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327, 22.12.2000, pp. 1-73.
- 8 Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption. OJ L 330, 5.12.1998, pp. 32-54. The Directive is currently under review.
- 9 Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). OJ L 396, 30.12.2006, p. 1.
- 10 Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council. OJ L 348, 24.12.2008, pp. 84-97.
- 11 Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (Text with EEA relevance). OJ L 312, 22.11.2008, pp. 3-30.
- 12 Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC - Statement by the European Parliament, the Council and the Commission. OJ L 102, 11.4.2006, pp. 15-34.
- 13 Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000 on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors. OJ L 162, 3.7.2000, pp. 1-78.
- 14 Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage. OJ L 143, 30.4.2004, pp. 56-75.
- 15 Eur-Lex. "How to find measures taken by member states to incorporate an EU legal act into national law". Available at <http://eur-lex.europa.eu/collection/n-law/mne.html>.
- 16 Judgment of the Court of 4 December 1974. *Yvonne van Duyn v Home Office*. C-41/74. EU:C:1974:133.
- 17 Judgment of the Court of 5 April 1979. Criminal proceedings against Tullio Ratti. Case 148/78. EU:C:1979:110.
- 18 Website of the European Ombudsman. Available at <https://www.ombudsman.europa.eu/en/home.faces>.
- 19 European Parliament. "Petitions". Available at <http://www.europarl.europa.eu/aboutparliament/en/00533cec74/Petitions.html>.
- 20 Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment. OJ L 197, 21.7.2001, pp. 30-37.
- 21 Article 6(4) states that: " Member States shall identify the public for the purposes of paragraph 2, including the public affected or likely to be affected by, or having an interest in, the decision-making subject to this Directive, including relevant non-governmental organisations, such as those promoting environmental protection and other organizations concerned."
- 22 Judgment of the Court (Second Chamber) of 27 October 2016. *Patrice D'Oultremont and Others v Région wallonne*. C-290/15. EU:C:2016:816.
- 23 Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. OJ L 124, 25.4.2014, pp. 1-18.
- 24 European Commission. "Guidance note on the application of Directive 85/337/EEC to projects related to the exploration and exploitation of unconventional hydrocarbons". Ref. Ares (2011)1339393. December 12, 2012. Available at: <http://ec.europa.eu/environment/eia/pdf/Annexe%202.pdf>. Accessed June 2017.
- 25 Judgment of the Court (Third Chamber) of 16 March 2006. *Commission of the European Communities v Kingdom of Spain*. C-332/04. EU:C:2006:180.
- 26 Hutt, Jason et al. "Fracking in Europe, European Parliament has voted to require Environmental Impact Assessments for shale gas developments". Energy Legal Blog. October 22, 2013. Available at <http://www.energylegalblog.com/blog/2013/10/22/fracking-europe-%E2%80%9Ceu-parliament-has-voted-require-environmental-impact-assessments>; Food and Water Europe. "Food & Water Europe Congratulates MEPS on Endorsing Mandatory Environmental Impact Assessment for Shale Gas Drilling". 9 October 2013. Available at <https://www.foodandwatereurope.org/pressreleases/food-water-europe-congratulates-meps-on-endorsing-mandatory-environmental-impact-assessment-for-shale-gas-drilling/>.
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- 29 Judgment of the Court (Second Chamber) of 11 February 2015. *Marktgemeinde Straßwalchen and Others*. C-531/13. EU:C:2015:79.
- 30 Ewen C. et al. "Hydrofracking Risk Assessment". September 2012, p. 23, Available at http://team-ewen.de/files/documents/ex_risikostudiefracking_engl_120516_0.pdf.
- 31 Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. OJ L 20, 26.1.2010, pp. 7-25.
- 32 Article 5 is without prejudice to Article 7 and 9, but none of these articles are applicable to fracking as they refer to hunting.
- 33 Directive 94/22/EC of the European Parliament and of the Council of 30 May 1994 on the conditions for granting and using authorizations for the prospection, exploration and production of hydrocarbons. OJ L 164, 30.6.1994, pp. 3-8.
- 34 Judgment of the Court (Fourth Chamber) of 27 June 2013. *Commission vs. Poland*. C-569/10. EU:C:2013:425.
- 35 Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control). OJ L 334, 17.12.2010, pp. 17-119.
- 36 Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC. OJ L 41, 14.2.2003, pp. 26-32; Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC - Statement by the Commission. OJ L 156, 25.6.2003, pp. 17-25.
- 37 As prescribed in the Aarhus Convention. This is also mentioned in points 13 and 14 of the Preamble.
- 38 Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. OJ L 327, 22.12.2000, pp. 1-73.
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- 41 Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption. OJ L 330, 5.12.1998, pp. 32-54. The Directive is currently under review.
- 42 REACH refers to the Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). OJ L 396, 30.12.2006, p. 1.
- 43 The Directive was repealed by Directive 2008/98 which does not mention anything with regard to REACH.
- 44 "Advanced search for Chemicals" on the website of the European Chemicals Agency. Available at <https://echa.europa.eu/advanced-search-for-chemicals>.
- 45 Gottardo, Stefania et al. European Commission Joint Research Centre. "Assessment of the use of substances in hydraulic fracturing of shale gas reservoirs under REACH". September 2013. Available at http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/29386/1/req_jrc83512_assessment_use_substances_hydraulic_fracturing_shale_gas_reach.pdf.
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- 47 Directive 2008/105/EC of the European Parliament and of the Council of 16 December 2008 on environmental quality standards in the field of water policy, amending and subsequently repealing Council Directives 82/176/EEC, 83/513/EEC, 84/156/EEC, 84/491/EEC, 86/280/EEC and amending Directive 2000/60/EC of the European Parliament and of the Council. OJ L 348, 24.12.2008, pp. 84-97.
- 48 House of Commons Science and Technology Committee. "Water quality: priority substances" First Report of Session 2013-14. Volume 3. 17 June 2013. Available at <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmsctech/272/272vw.pdf>.
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- 50 Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. OJ L 312, 22.11.2008, pp. 3-30.
- 51 Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC. OJ L 102, 11.4.2006, pp. 15-34.
- 52 Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000 on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors. OJ L 162, 3.7.2000, pp. 1-78.
- 53 Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage. OJ L 143, 30.4.2004, pp. 56-75.