



European Union Network for the Implementation  
and Enforcement of Environmental Law

## **Onshore Oil and Gas Regulation –Phase II- 2016**

Sharing regulatory best practice in regulating the exploration and production of the onshore oil and gas industry, including unconventional fossil fuels and high-volume hydraulic fracturing

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## Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU Member States, acceding and candidate countries of the European Union and EEA countries. The association is registered in Belgium and its legal seat is in Brussels, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years, IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 7th Environment Action Programme and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its website at: [www.impel.eu](http://www.impel.eu)



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### **Executive Summary**

During 2015, Phase 1 of this IMPEL project brought representatives of a number of countries together to consider best practice for regulating the onshore oil and gas industry as a whole, including, where appropriate, unconventional fossil fuels and high volume hydraulic fracturing.

The aim of Phase 2 of this project was to build upon work in Phase 1 and to review in greater detail participants' regulatory approaches on priority topics, wherever possible sharing and promoting best practice. The general aims of the 2016 project were to seek to develop:

- A more coherent understanding of the onshore oil and gas industry's environmental record
- A fuller picture of what regulators consider to be best practice on key issues
- Consistency in implementation and enforcement of regulation across IMPEL members
- Capacity-building for regulators
- Greater public trust in regulators and their decisions
- Useful and reliable information for policy-makers and BRef authors.

With these aims in mind, the group focussed on two main topics: regulation of extractive waste; and public participation and engagement, in the context of the variety of regulatory structures existing in the countries participating. The potential benefits of a pre-assessed list of chemicals used in the sector were also briefly considered. This allowed more in depth discussion and information gathering on the two main topics which were considered as high priority by the group.

This report summarises the shared understanding of current practice in the 7 countries in total which took part and where possible, suggested best practice, in these topic areas. Conclusions are drawn and Recommendations are proposed at the end of each of the 3 main sections, 2 - 4. These Recommendations are also summarised below.

### **Recommendations**

It is proposed that the project team:

- Shares the information from this project on the interpretation of waste classification with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise. For example, that there were differences identified in the interpretation of the Extractive Waste Directive related to the flaring of gas, but a general consensus under that Directive for substances remaining underground.



- Shares the information from this project on the interpretation regarding re-injection of produced water and flowback fluids with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise. For example, the general consensus is that the reinjection of produced water into the same formation is permissible and that reinjection of flowback fluid for disposal is not permissible.
- Considers whether, as part of the project priorities, to obtain further information on the detailed permitting practices of each country where information gaps remain and how to identify the root causes for possible differences of approach.
- Considers, as part of the project priorities, how best to obtain further details on how naturally occurring radioactive materials (NORM) are regulated in practice.
- Shares information as it arises, as part of the project, on progress in each country towards a pre-assessed list of chemicals for use in onshore wells where this is being carried out.
- Shares information as it arises on how disclosure to the public is being handled, including where industry is voluntarily disclosing information, for example on websites (See Annexe 1)
- Shares the general understanding of the benefits of early, proactive engagement with the public, in particular where it is likely that there will be high public interest, with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.
- Shares examples of ways, which the group consider best practice, in which engagement with the public can be carried out in order to encourage participation in the decision making process and to build public trust in the regulator, with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.
- Recognises that risk-based approaches to regulation, in particular for high public interest activities, may need to be reviewed and, if necessary, modified depending on the type of response needed.
- Recognises that public engagement by operators can encourage more public participation and wider sharing of information.
- Shares the example of the English agreement between authorities on how they will work together to regulate oil and gas, with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.
- Shares the example of collaboration between regulators on public engagement in England with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.

**Disclaimer**

This report is the result of a project within the IMPEL network. The content does not necessarily represent the view of the national administrations or the Commission.



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## 1. Background

The intense public debate on the use of unconventional techniques, such as high-volume hydraulic fracturing, to explore for and produce hydrocarbons from sources such as shale deposits has shone a spotlight on the whole onshore oil and gas industry, how it is regulated and what is considered best practice for the industry in protecting the environment and human health.

This is reflected at the EU level by the Commission, including in particular its 2014 Recommendation on minimum principles for the exploration and production of hydrocarbons using high-volume hydraulic fracturing<sup>1</sup>; its report reviewing the application of the Recommendation<sup>2</sup>; the review of the Best Available Techniques (BAT) Reference document (BREF) on the management of extractive waste<sup>3</sup>; and development of a non-binding hydrocarbons BAT guidance document for both onshore and offshore activities<sup>4</sup>.

The debate about onshore oil and gas will contribute to the best outcomes if it is founded upon reliable information as to the environmental risks and their mitigation. There are key areas within this which the regulatory and scientific communities are actively seeking to address.

During 2015, the predecessor to this IMPEL project brought representatives of a number of countries together to consider best practice for regulating the onshore oil and gas industry as a whole. Many of the topics discussed apply equally to conventional and unconventional fossil fuels. Phase 2 of this project has drawn on the following broad conclusions:

- The conventional onshore oil and gas industry is well-established and regulators have considerable experience in regulating it to protect the environment and human health.
- Much of the regulatory experience and knowledge gained from regulating the conventional onshore oil and gas sector and other industries can be transferred to the emerging unconventional oil and gas sector
- Participants nevertheless agree that there is a need for regulators to exchange information on specific technical and regulatory issues, to identify and share best practice, applicable to current and future developments in the sector.
- This exchange can be helpful in informing policy-makers and BRef authors.

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<sup>1</sup> Recommendation 2014/70/EU available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014H0070>

<sup>2</sup> <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=COM:2016:0794:FIN>

<sup>3</sup> <http://susproc.jrc.ec.europa.eu/activities/waste/index.html>

<sup>4</sup> [http://ec.europa.eu/environment/integration/energy/hydrocarbons\\_extraction\\_en.htm](http://ec.europa.eu/environment/integration/energy/hydrocarbons_extraction_en.htm)



## 1.1. Project Methodology (2016)

A project plan was prepared, discussed and agreed by teleconference in March. A briefing document including a questionnaire was prepared to build on last year's project and begin the sharing of views.

Telephone interviews were held between March and September 2016 with individual participants to discuss the responses to the questionnaire. A second teleconference was held in June 2016 to plan for the workshop in Hungary.

The first workshop in Budapest, Hungary was held on 12-13 July 2016 with the topic of 'Management of Extractive Waste' with a site visit to the MOL Algyö Gas Facility.

A third teleconference was held in September 2016 to review the work done so far by the group and to plan the next workshop.

A second workshop was held in Chester, England on 22-23 November 2016 on the topic of 'Public Participation and Engagement'. This was followed by a site visit to an INEOS Coal Bed Methane site and discussions with other regulators at a 'Meet the Regulator' public engagement event in Crewe.

The original planned approach was followed as closely as possible, despite changes of project management and relatively low attendance (3 countries plus EC observer) at the Hungary workshop. The number of responses to the questionnaire was 6 out of 11 countries. However, good attendance at the England workshop (7 countries plus EC observer) enabled much better involvement and achievement of the key aims of the project.

## 2. Regulation of Extractive Waste and Use of Chemicals

The 2015 project initiated discussion and information collection on the topic of 'extractive waste' as covered by the Extractive Waste Directive (Directive 2006/21/EC on the management of waste from extractive industries and amending Directive 2004/35/EC) and also on the use of chemicals at onshore oil and gas facilities.

From the discussions between 3 countries at the workshop in Hungary and the 6 responses to the questionnaires, the following general points can be made:

- Interpretation of waste classification
  - Gas that will be combusted in a flare is not generally considered to be an 'extractive waste', although this is not the consistent interpretation across all countries. A distinction is made in some countries between gas flared for safety reasons, which is not



considered a waste, and gas flared for production reasons, which would be considered 'extractive waste'.

- In one country, the gases which are flared are considered to be both extractive and hazardous waste. Where the plant flaring them has a capacity of greater than 10 tonnes per day, they are therefore regulated in that country as Industrial Emissions Directive Installations (an activity listed in section 5.2(b) of Annex I as disposal of waste in incineration plants for hazardous waste with a capacity exceeding 10 tonnes per day). Smaller plant are subject to Extractive Waste Directive requirements.
- Treatment of waste process fluids at a site which is not the extraction site was discussed. Extractive waste remains extractive waste even when it is transported off-site. The definition of a "waste facility" in the Extractive Waste Directive does not distinguish between onsite and offsite. Extractive waste can be "transported to a location that is not a waste facility according to the Extractive Waste Directive" (Recital 8), in which case "the management of such waste should be subject to the Waste Framework Directive or Landfill Directive or any other relevant Community legislation". This means that when transported off-site, extractive waste can either be treated in an extractive waste facility or sent for treatment in a waste/water treatment facility.
- Where substances are left below the ground after being used for production purposes, the general interpretation is that these are extractive wastes.
- Approach to re-injection of various fluids
  - Re-injection of produced water (natural water which is extracted from the formation) to the same formation to support or enhance production is generally allowed. In one country, a permit for a groundwater activity under the Groundwater Daughter Directive is required. For other countries, further information is needed to clarify the position.
  - Re-injection of produced water for disposal in the same formation is also generally allowed but with conditions to avoid contamination of groundwater resources. In one country, re-injection of produced water for disposal may be allowed on a different site into geological formations from which hydrocarbons have been extracted, or which for natural reasons have been designated by the authorities as permanently unsuitable for use. In one country, treatment to reduce contaminants is required before disposal. In one country, the operator may require a permit for a radioactive substances activity if the produced water contains Naturally Occurring Radioactive Material (NORM) with radioactivity exceeding certain values.
  - Re-injection of flowback fluids (a mixture of materials which have previously been injected into the well and natural water which are extracted from the formation). Where this is for the purpose of supporting or enhancing production, following treatment for



removal of solids and gases, re-injection is allowed in at least two countries as an appropriate re-use of materials. This is subject to meeting national regulatory requirements, which may require a permit.

- Re-injection of flowback fluids for disposal is not generally allowed. In one country, the precautionary approach taken means that the protection of groundwater bodies is considered to take precedence over any benefits gained from underground disposal versus above ground on-site or off-site permitted waste treatment facilities.
- Definition and regulation of NORM (Naturally Occurring Radioactive Materials)
  - The radiation protection framework for NORM waste regulation in EU Member States will have to comply with the new requirements in the revised Euratom Basic Safety Standards Directive (BSSD) (Directive 2013/59/Euratom) which was adopted in January 2014 (due to be transposed into national law<sup>5</sup> by February 2018)
  - Permitting and regulation of NORM is sometimes undertaken by different bodies. Where permits are required they may include broader conditions to protect the water environment. Monitoring of the concentrations of radioactivity in produced water and other substances which may contain NORM are generally required, both for protection of the public and protection of groundwater bodies.
  - In at least one country, for the re-injection of produced water, there are thresholds below which permits for the presence of NORM in such produced water and/or further treatment may not be required. These thresholds are based on assessments of maximum dose criterion. In another country there is no threshold for levels of radioactivity and so all such materials must go to a specialised treatment plant.
- Disclosure of information on chemicals, including any distinction made between individual chemicals and proprietary blends
  - The responses varied from; full disclosure of all individual chemicals prior to use to; reporting composition and amount of fracturing/flowback fluid after use.

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<sup>5</sup> Until the new Directive is transposed into national law, Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom, and 2003/122/Euratom are applicable. They will be repealed as of 6 Feb. 2018.



- In some cases, the information would be made available to the public unless an exclusion was accepted for commercial confidentiality. In other cases, the information would be available to the regulator only.
- The requirement for compliance with the REACH regulation for both individual substances and proprietary blends was highlighted.
- Consideration of benefits of a pre-assessed list of chemicals, such as is used in the offshore industry
  - There was general agreement that a pre-assessed list of chemicals would be useful. A site-specific risk assessment would still be needed for groundwater protection as required under the Groundwater Daughter Directive.
  - In one country, the preparation of a list of substances which are hazardous to groundwater is ongoing. (This is a different approach to the list used by the Offshore Industry which identifies substances/preparations which are considered to pose little or no risk to the environment (PLONOR). See link: <http://www.ospar.org/work-areas/oic/chemicals>)
  - It was noted that, for this country, there is joint working ongoing with the industry towards a pre-assessment methodology which would satisfy the requirements and provide transparency and reassurance to the public

### Conclusions.

- Interpretation of Waste Classification: By sharing details of how waste is classified and regulated, the countries involved are aware where there are differences and also similarities in the approach to extractive waste (under the Extractive Waste Directive 2006/21/EC), other waste (under the Waste Framework Directive 2008/98/EC) and, in some countries incineration of hazardous waste (Industrial Emissions Directive 2010/75/EU). For example, there were differences identified in the interpretation of the Extractive Waste Directive for gas to be flared, but a general consensus under that Directive of substances remaining underground.
- Re-injection of fluids: There is agreement on allowing the regulation of re-injection of produced water from a formation back to the same formation. In one country, re-injection of produced water for disposal back to other formations may be allowed in certain cases dependent on the status of groundwater and the formation. Further treatment may be required before disposal and a permit for an activity involving low level NORM (naturally occurring radioactive material) may also be required.

Re-injection of flowback fluids for disposal is not generally allowed. In one country, the precautionary approach taken means that the protection of groundwater bodies is considered to



take precedence over any benefits gained from underground disposal versus above ground on-site or off-site permitted waste treatment facilities.

- Definition and regulation of NORM (Naturally Occurring Radioactive Materials): It is not appropriate to draw any general conclusions about regulatory practice due to fewer details being available.
- Disclosure of information on chemicals, including any distinction made between individual chemicals and proprietary blends: There appears to be a range of approaches here from; requiring full prior disclosure (subject to commercial confidentiality) and assessment; to requiring that the regulator is informed about their use.
- Consideration of benefits of a pre-assessed list of chemicals, such as is used in the offshore industry: There is consensus that a pre-approved list would be of benefit, but that a site-specific risk assessment would still be required. Work is already ongoing in one country to identify those substances hazardous to groundwater and to agree a pre-assessment methodology with industry.

### Recommendations

It is proposed that the project:

- Shares the information from this project on the interpretation of waste classification with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise. For example, that there were differences identified in the interpretation of the Extractive Waste Directive for gas to be flared, but a general consensus under that Directive for substances remaining underground.
- Shares the information from this project on the interpretation regarding re-injection of produced water and flowback fluids with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise. For example, the general consensus is that the reinjection of produced water into the same formation is permissible and that reinjection of flowback fluid for disposal is not permissible.
- Considers whether, as part of the project priorities, to obtain further information on the detailed permitting practices of each country where information gaps remain and how to identify the root causes for possible differences of approach.
- Considers, as part of the project priorities, how best to obtain further details on how naturally occurring radioactive materials (NORM) are regulated in practice.
- Shares information as it arises, as part of the project, on progress in each country towards a pre-assessed list of chemicals for use in onshore wells where this is being carried out.
- Shares information as it arises on how disclosure to the public is being handled, including where industry is voluntarily disclosing information, for example on websites (See Annexe 1)

## 3. Public Participation and Engagement



The 2015 project proposed this topic in order to share experiences and best practice in public participation and engagement in regulation of the industry sector. The points made under Section 2 above regarding use of chemicals are also relevant here.

The following input methods to this report were reviewed:

Questionnaire responses; discussions following an operator's presentation on their experience of Community Engagement; discussions following presentation by Environment Agency on Public Engagement- the Regulators' Strategy in England; and information provided by the participants during and after the Second Workshop in Chester.

(Also see Annexe I – Examples of Public Participation and Engagement via Websites)

The following general points could be made, based on the information provided:

- Transparency of regulation and early provision of information to the public

(Note that for some countries, this excludes consultation undertaken during land use planning processes)

- For countries with conventional oil and gas sites, the requirements of the Public Participation Directive and Aarhus convention (where countries have signed up to the convention) for public consultation are generally implemented either via publication of relevant applications on websites, or by making them available via a paper or electronic public register in a public building. The consultation periods, where provided, can vary from 20 working days to 45 working days for more complex, high profile applications.
- Where an environmental impact assessment (EIA) is required under Directive 2014/52/EC, the EIA Report must be made available for public consultation for at least 30 days and, in one country, at least one public hearing is held. In some countries, members of the public can additionally ask to see information about the regulation of the site at any time from the regulator and also, in some cases, from the operator.
- In one country, a weekly meeting is held to consider all local operator applications between the key regulators, the emergency services and the operator. The operator provides details to support his application and a decision is made by the meeting whether to approve the application or not.
- In general, it is understood that information can be withheld from the public for national security or commercial confidentiality reasons where requested and agreed.
- For countries with unconventional oil and gas sites of high public interest (some countries have imposed moratoria or a legal ban on some or all of these activities), the statutory requirements are generally supplemented by proactive provision of additional information to the public by the regulator or the government. This is typically more



accessible via a website or other electronic means with language appropriate to a non-technical audience in the general public. This usually explains how the regulations work, how the environment is protected by controls within permits e.g. monitoring, details of the licences, their locations, numbers of wells and the types of well development, e.g. where hydraulic fracturing is planned or being carried out.

- In one country, proactive public meetings have been held with experts and local government with follow-up questionnaires to gauge public opinion on shale gas developments.
  - In one country, proactive public drop-in meetings have been held with all the regulators of the sector being available to answer questions and provide information about the approach to regulation, in particular about shale gas developments involving high volume hydraulic fracturing. These meetings may also encourage the public to be more aware of and to participate in the consultation process.
  - Some countries have imposed moratoria on unconventional oil and gas activities or a legal ban on the use of high volume hydraulic fracturing in hydrocarbons exploration and production. In at least one country, the government is carrying out studies to provide evidence on the impacts of these activities with the aim of consulting the public on whether a moratorium should be lifted. In at least one of the countries which are carrying out studies, regulators have already either proactively provided more information to the public or in response to public and/or government demand for information and engagement.
- Engaging with the public in relation to compliance and enforcement, in particular in relation to protection of groundwater, monitoring of releases to or impacts on the environment, control and assessment of impacts on seismicity, control of emissions to air from surface activities.
    - In general, the approach used is similar to that described above for early provision of information to the public. Where countries already provide information to the public, then information relating to compliance and enforcement will also be available.
    - For ongoing reporting of monitoring of releases to the environment, at least one country is considering how these can be made available in a more accessible form, via the internet, either by the operator or the regulator. This may include independent monitoring e.g. of seismicity measurements, groundwater and local air quality monitoring results.
    - In one country, the regulator is required by law to attend public meetings held by the operator but does not carry out their own proactive engagement.
- Use of risk –based approaches to permitting, inspection and/or enforcement and how the regulators have considered maintaining public trust



- For countries with conventional oil and gas activities, a risk-based approach to inspection is generally applied, usually depending on an assessment of risk of the activity or activities being undertaken, including, for example, risk of accidents, scale of potential accidents, location, type of installation, emissions, techniques used, management systems and compliance record.
  - In at least one country, permits with standard conditions have been developed and the public has been consulted on these. For the oil and gas sector, these may cover a number of low risk activities carried out mainly in the early exploration stages of a development, e.g. a drill and core activity, and which the regulator considers that the operator can comply with without needing a site specific risk assessment. In these cases if the well is developed further, that higher risk activity would need further assessment and is not allowed under the standard rules permit. The operator would have to apply for a bespoke permit, with site specific environmental assessment and conditions.
  - Regulatory approach to operator self-reporting of incidents and enforcement is also generally risk-based in line with the approach for other industry sectors. The level of public interest is often a factor in the resource needed by regulators to respond to incidents or requests for information. In one country, there is an official 'monitor' to check whether public complaints are being dealt with appropriately.
  - Where countries also have exploration and production of hydrocarbons (such as shale gas) using high volume hydraulic fracturing, they are strongly encouraged to follow the 2014/70/EU Recommendation on minimum principles which is complementary to existing applicable EU environmental legislation. This includes ensuring that competent authorities in each country have adequate resources to carry out their duties. This may include increased resource requirements due to the public interest factor. In at least one country, additional resource has been made available to proactively engage with the public prior to and during the development and operation of such activities.
- Public engagement by operators
    - In some countries, there are legal requirements on operators to carry out public engagement and ongoing communications about the site operation during its lifetime.
    - In some countries, in particular where unconventional techniques are proposed, operators may also decide to carry out additional proactive public engagement.
    - Feedback from operators who joined the project workshop indicates that where they have carried out early, proactive engagement with the public especially local to their proposed site, that this helps to address many of the concerns that would be raised in any case during the consultation process. The operators are able to provide their



information in a way that may encourage the public to be more aware of and to participate in the consultation process.

## Conclusions

- Transparency of regulation and early provision of information to the public

In general, information is made available to the public and consultation periods allow for public participation in the decisions on permitting. Longer periods tend to be needed for more complex or high profile applications. There is some information which may only be available on request subject to security or confidentiality considerations. In countries which have unconventional oil and gas sites, there is more proactive provision of information and engagement with the public, especially via websites or public meetings. This is also the case in some countries which currently have a moratorium on some types of oil and gas activities, but which are preparing to consult the public on the future approach. This reflects the high profile nature of these sites and the public demand for information.

- Engaging with the public in relation to compliance and enforcement, in particular in relation to protection of groundwater, monitoring of releases to or impacts on the environment, control and assessment of impacts on seismicity, control of emissions to air from surface activities.

In general, the approach to engagement is dependent on the regulatory requirements in the country in that information may be provided on a public register or provided on request. Where countries have unconventional oil and gas activities, the provision of information tends to be more proactive and in a more accessible form, such as via a website or community liaison meetings, in a similar way to that described in the point above.

- Use of risk –based approaches to permitting, inspection and/or enforcement and how the regulators have considered maintaining public trust

In general, risk-based approaches are used for compliance work for most regimes. However where there is a more high profile site, the approach has been modified, in some countries, to take account of this. For hydrocarbons exploration or production using high volume hydraulic fracturing, availability of adequate resources to carry out the competent authorities' regulatory duties is encouraged by the EC's Recommendation on minimum principles (2014/70/EU).

- Public engagement by operators

In some countries, there are legal requirements on operators to carry out public engagement and ongoing communications about the site operation during its lifetime. Where operators engage independently with the public, for example, via websites or public meetings, this is



generally seen as good practice, can provide additional information and may encourage more members of the public to take part in the decision making process.

### Recommendations

It is proposed that the project:

- Shares the general understanding of the benefits of early, proactive engagement with the public, in particular where it is likely that there will be high public interest, with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.
- Shares examples of ways, which the group consider best practice, in which engagement with the public can be carried out in order to encourage participation in the decision making process and to build public trust in the regulator, with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.
- Recognises that risk-based approaches to regulation, in particular for high public interest activities, may need to be reviewed and, if necessary, modified depending on the type of response needed.
- Recognises that public engagement by operators can encourage more public participation and wider sharing of information.

## 4. Regulatory Frameworks

In addition to the two main topics above, the 2015 project proposed that it would endeavour to establish a clearer picture of the regulatory framework in each participating country, so that the interrelationships between regulators with responsibility for the various relevant Directives for the Onshore Oil and Gas sector could be visualised and understood.

The following input methods to this report were reviewed:

Questionnaire responses and diagrams of regulatory frameworks (see Annexe II), feedback from 'Meet the Regulator' event in England.

The following general points could be made, based on the information provided:

- Competent Authorities for Relevant Directives
  - Granting licences for prospecting, exploration and production (Directive 94/22/EU) usually sits at high level in government, such as Departments for Economy, Environment, Energy and National Development but may be assigned to another regulatory body to implement.



- Environmental Impact Assessments (2011/92/EU) can be at high level in government, e.g. Department of Environmental Protection, or with the Planning Authorities which may be part of local government.
  - Waste Framework Directive (2008/98/EC) and Extractive Waste Directive (2006/21/EC) are either covered by the same body or in about half of the responses, split between 2 or 3 bodies, usually responsible for the environment and for planning.
  - Water Framework Directive (2000/60/EC) and Groundwater Daughter Directive (2006/118/EC) are generally the responsibility of one regulator or one part of government.
  - EC Recommendation (2014/70/EU) on minimum principles for hydraulic fracturing is relevant for several regulatory bodies and government departments in all countries which responded.
- Working between Competent Authorities
    - Onshore oil and gas has multiple regulators in all participating countries.
    - The number of regulators and government departments involved varies as do their responsibilities.
    - There is an example from one country of published agreements between authorities to establish how they will work together such as sharing information, joint inspections, incident response, engagement and training.
    - The example of collaboration on public engagement between regulators at the 'Meet the Regulator' event in England was seen as useful and important by many of the participants at the second workshop.

### Conclusions

- Onshore oil and gas has multiple regulators in all participating countries with no lead regulator for the sector.
- Clear understanding of responsibilities and strong working relationships between regulators is likely to be key to effective regulation.

### Recommendations

It is proposed that the project shares the example of:

- the English agreement between authorities on how they will work together, and
- the collaboration between regulators on public engagement in England

with other countries involved in the Onshore Oil and Gas Sector via this IMPEL report and where other opportunities arise.



# Annexes

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## Annex I. Examples of Public Participation and Engagement via websites

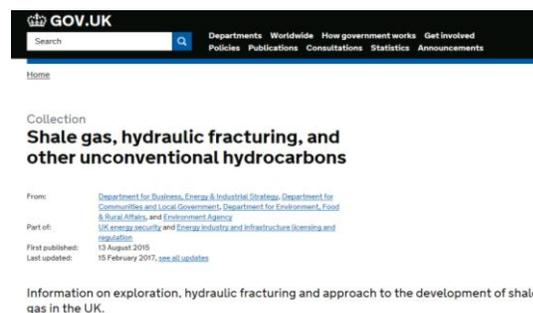
### Making data available



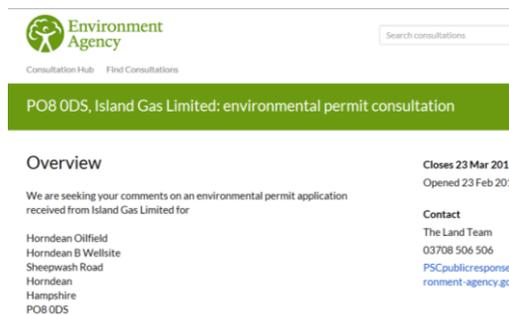
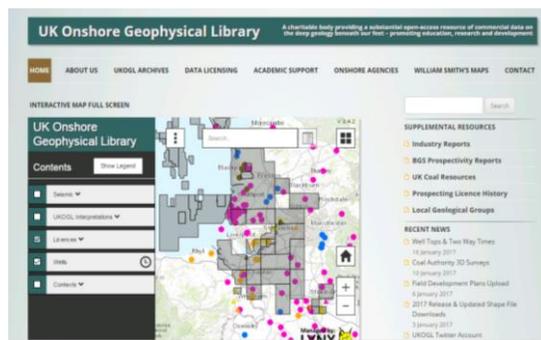
### Spotlight on England, useful links



<https://www.ogauthority.co.uk/data-centre/>



<https://www.gov.uk/government/collections/shale-oil-gas-and-fracking#guides>



<https://ukogl.org.uk/>

<https://consult.environment-agency.gov.uk/>

### Other useful links:

#### France

INERIS website - National Competence Centre for Industrial Safety and Environmental Protection

<http://www.ineris.fr/en>

ARIA – lessons learnt from industrial accidents

<http://www.aria.developpement-durable.gouv.fr/?lang=en>

#### England

DEFRA Guidance on Permitting (See Chapter 10 – Consultation and Public Participation)

<https://www.gov.uk/government/publications/environmental-permitting-guidance-core-guidance--2>

Government Shale Oil and Gas information

<https://www.gov.uk/government/collections/shale-oil-gas-and-fracking#guides>

EA Public Register

<https://environment.data.gov.uk/public-register/view/index>

EA Public Participation Statement

<https://www.gov.uk/government/publications/environmental-permitting-public-participation-statement>

EA Consultation hub:

<https://consult.environment-agency.gov.uk/>

#### Scotland

SEPA Consultation:

<https://www.sepa.org.uk/environment/energy/non-renewable/shale-gas-and-coal-bed-methane/>

#### Scottish Government Public Consultation

<https://consult.scotland.gov.uk/energy-and-climate-change-directorate/fracking-unconventional-oil-and-gas/>

Industry - use of chemicals in hydraulic fracturing

<http://www.ngsfacts.org/>



## Annex II. Examples of Regulatory Frameworks for Onshore Oil and Gas Regulation

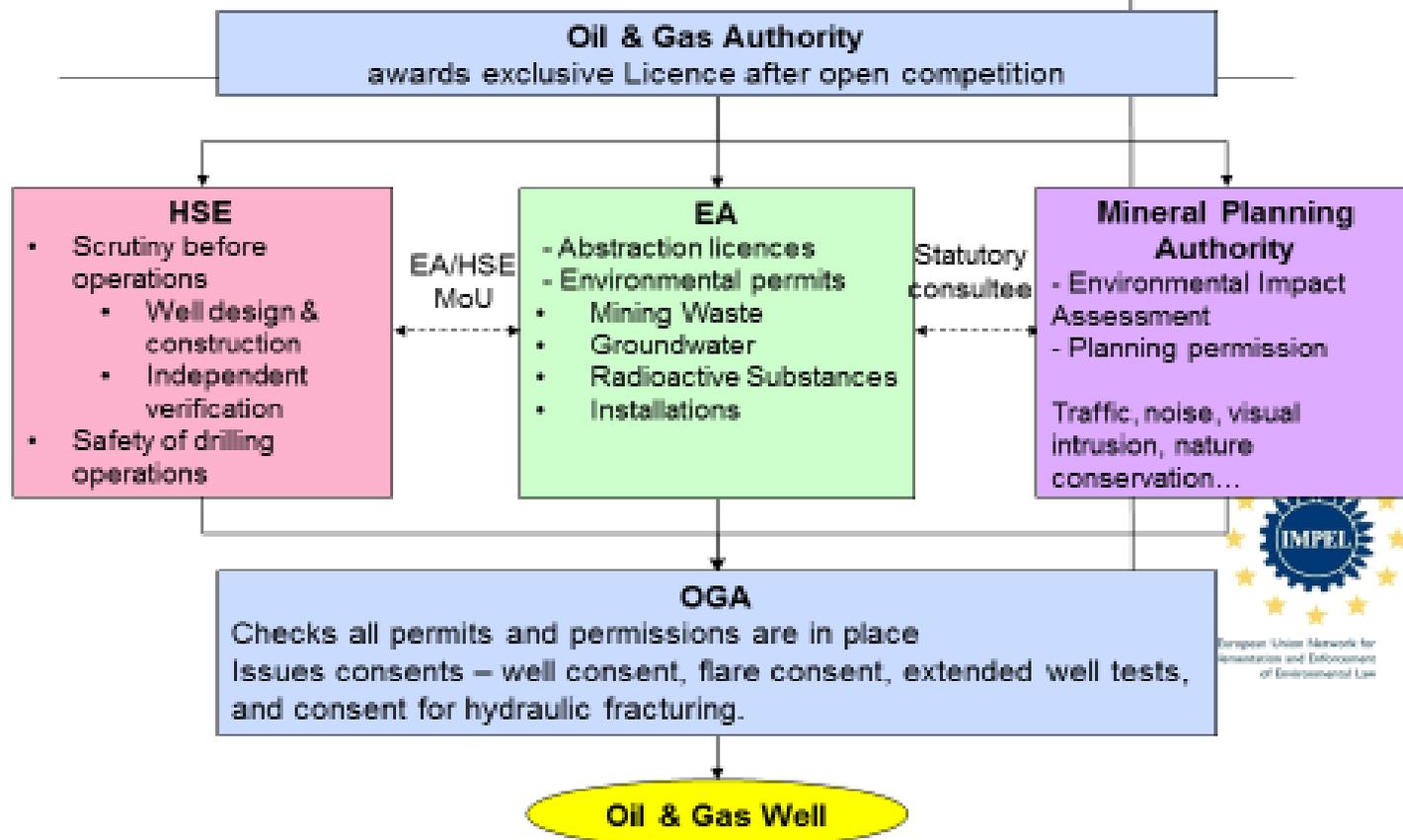
### England (1)





## England (2)

# Regulatory process – Overview (England)





## France (1)

# Regulatory framework of french mining activities

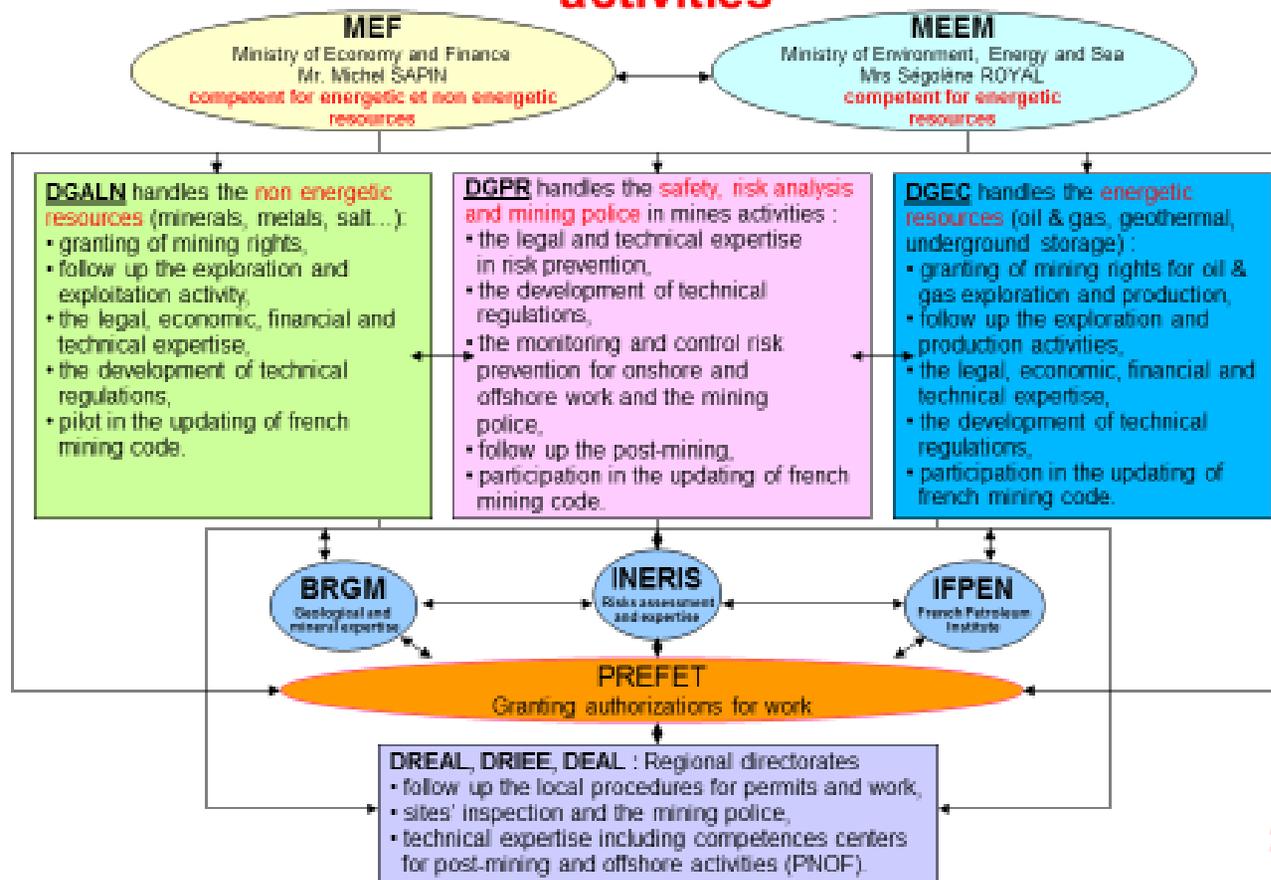
- **MINISTRIES INVOLVED** (shared competencies)
  - Ministry of Economy and Finances (MEF)
  - Ministry of Environment, Energy and Sea (MEEM) :
    - DGPR : General Directorate for Risk Prevention
    - DGEC : General Directorate for Energy and Climate
    - DGALN : General Directorate of Planning, Housing and Nature
    - CGDD : General Commission for Sustainable Development
  
- **PREFET** (represents all the ministers at the local level)
  
- **REGIONAL AND OVERSEAS DIRECTORATES**
  - DREAL : Regional Directorate of Environment, Planning and Housing
  - DRIEE : Regional directorate and interdepartmental of Environment and Energy
  - DEAL : Directorate of Environment, Planning and Housing (Overseas directorates)
  
- **STATE AGENCIES**
  - INERIS : National Institute for Industrial Environment and Risks
  - BRGM : Geological and mining research office
  - IFPEN : French Petroleum Institute and New Energies



## France (2)



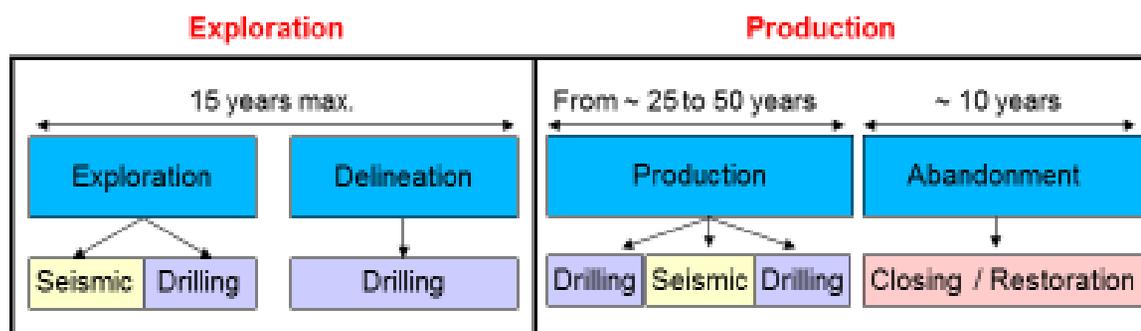
## Regulatory framework of French mining activities



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## Regulatory framework of french mining activities

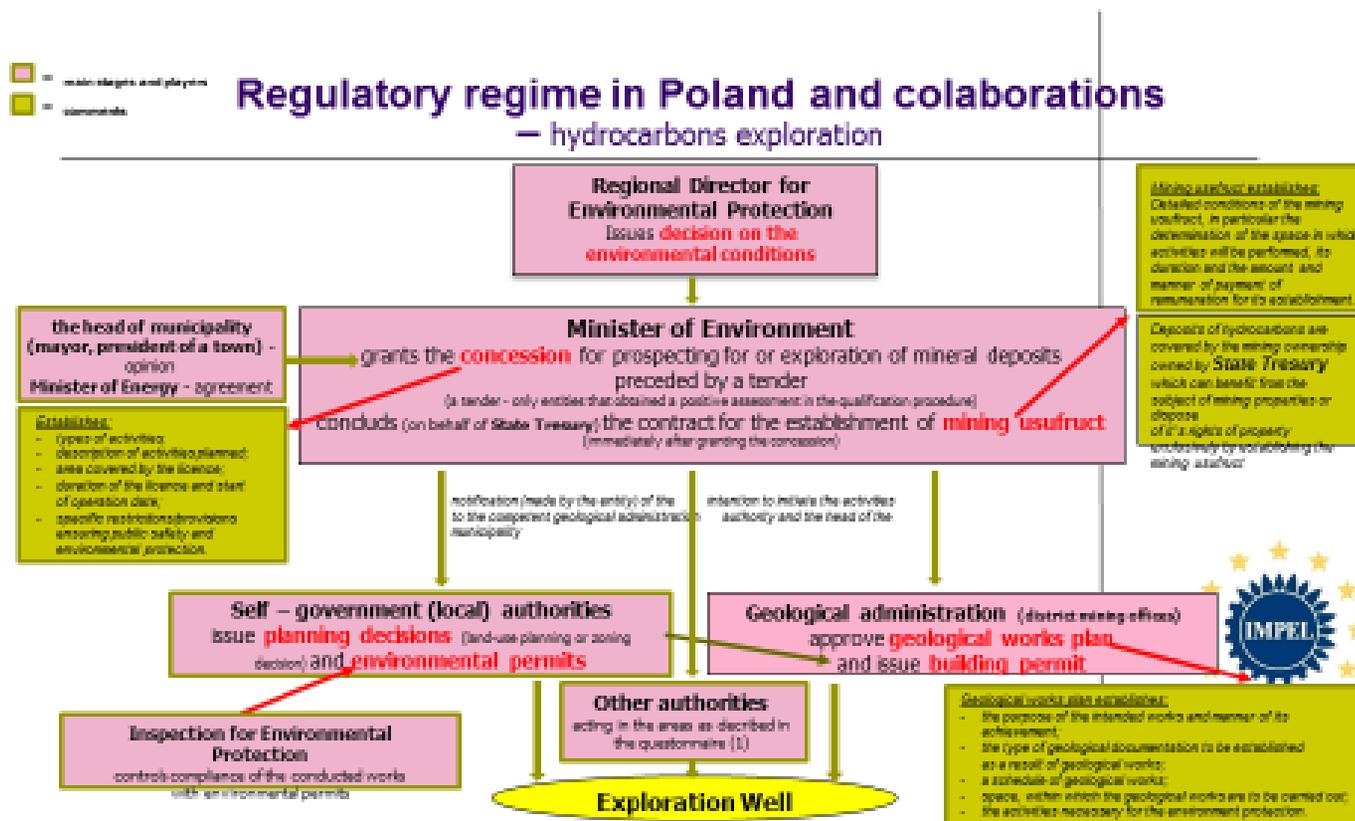


**Seismic surveys are submitted to declaration to the competent authority → receipt of the declaration issued by the competent authority**

**The drilling and the closing / restoration are submitted to an authorization from the competent authority → authorization order issued by the competent authority.**

*NB : The declaration has a level less than authorization which is submitted to public inquiry*

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## Scotland

