

ToR Reference No.: 2021/08 WP4	Author(s): Jeroen November, Mihaela Monica Crisan
Version: Final	Date: 20/11/2020
<b>TERMS OF REFERENCE FOR WORK UNDER THE AUSPICES OF IMPEL</b>	

## 1. Work type and title

<b>1.1 Identify which Expert Team this needs to go to for initial consideration</b>	
Industry and air	<input type="checkbox"/>
Waste and TFS	<input type="checkbox"/>
Water and land	<input checked="" type="checkbox"/>
Nature protection	<input type="checkbox"/>
Cross-cutting tools and approaches	<input type="checkbox"/>
<b>1.2 Type of work you need funding for</b>	
Exchange visits	<input checked="" type="checkbox"/>
Peer reviews (e.g. IRI)	<input type="checkbox"/>
Conference	<input type="checkbox"/>
Development of tools/guidance	<input checked="" type="checkbox"/>
Comparison studies	<input type="checkbox"/>
Assessing legislation (checklist)	<input checked="" type="checkbox"/>
Other, (please describe):	<input type="checkbox"/>
<b>1.3 Full name of work (enough to fully describe what the work area is)</b>	
<p>Sharing knowledge and good practices on how to manage groundwater drilling and abstractions. This would include specific permitting conditions, accreditations as well as enforcement tools and methods in place in different member states to reduce illegal drilling and groundwater (over)abstraction thus helping in attaining a good quantitative and qualitative state of groundwater bodies. Subsequent drafting guidance documents on groundwater drilling &amp; abstraction legislation and enforcement in next phases.</p>	
<b>1.4 Abbreviated name of work or project</b>	
Tackling illegal groundwater drilling and abstractions (TIGDA).	

## 2. Outline business case (why this piece of work?)

<b>2.1 Name the legislative driver(s) where they exist (name the Directive, Regulation, etc.)</b>

- Water Framework Directive (2000/60/EC).
- Groundwater directive (2006/118/EC).
- Action plan on improving environmental compliance and governance (COM 2018/10).

## 2.2 Link to IMPEL MASP priority work areas

- |   |                                     |
|---|-------------------------------------|
| 1. Assist members to implement new legislation.   | <input type="checkbox"/>            |
| 2. Build capacity in member organisations through the IMPEL Review Initiatives.               | <input type="checkbox"/>            |
| 3. Work on 'problem areas' of implementation identified by IMPEL and the European Commission. | <input checked="" type="checkbox"/> |
| 4. Other, (please specify):   | <input type="checkbox"/>            |

## 2.3 Why is this work needed? (background, motivations, aims, etc.)

Groundwater is and remains a valuable resource for the environment and different human activities. Environmental and anthropogenic pressures on this resource include amongst others: climate change (drought, flooding, etc.), (over)abstraction and pollution (point source and diffuse). Water reuse, water buffering and infiltration are some of the possible measures to diminish our requirement for fresh groundwater as well as replenish its storage. Nonetheless groundwater drilling and abstraction will remain necessary for different purposes. Groundwater shortage is no longer an exclusive problem for arid or Mediterranean countries. Recent prolonged drought periods have repeatedly made clear that groundwater supplies have to be carefully managed (abstraction as well as recharge) in all member states.

As a tool for reaching a good quantitative and qualitative state of groundwater bodies, a prior authorisation for abstraction and impoundment should be in place in the member states (WFD). The directive does not include any specific requirements on how to successfully enforce these authorisations or other possible impacts they might have on groundwater quantity or quality. This project therefore aims specifically on groundwater drilling and abstractions, including open and closed loop geothermal systems.

As the different aquifers and aquitards in the member states are drilled (through) for these purposes it is useful for member states share knowledge or have guidance on:

1. Which specific legislation and requirements are in place for groundwater protection (drilling, instalment and exploitation).
2. Which specific methods are in use for enforcement of this legislation (site visits, checklists, use of experts, best practices).

Proper regulation and enforcement of groundwater drilling and abstractions are important for reaching a good quantitative and qualitative status of groundwater bodies as they can have a direct impact on groundwater quantity and an indirect impact on groundwater quality. Optimal tackling of illegal groundwater drilling & abstraction is therefore an essential instrument. Important to note that by 'illegal' in this sense non-permitted installations as well as permitted but non-compliant

installations are meant (e.g. over-abstraction, faulty installation (depth, grouting)).

#### **2.4 Desired outcome of the work (what do you want to achieve? What will be better / done differently as a result of this project?)**

The aim of this project in the first phase is to collect data from the member states regarding the two topics mentioned above. This can be done via a questionnaire (preferably automated & on-line) & several online project group meetings. Technical site visits at specific groundwater abstraction and/or drilling sites can raise awareness & inspire member states on specific topics to include in their groundwater licensing and/or enforcement schemes.

Depending on the outcome of the initial data gathering and the amount of member states/organizations willing to participate, this project can focus on different outcomes in following phases:

1. Guidance documents on specific requirements which can be included in regional legislation to improve protection and enforceability at groundwater drilling and abstraction sites (e.g. technical requirements, information - or best practices documents). These could be tailored to different kinds of installations (e.g. dewatering sites, drinking water abstractions, geothermal sites, irrigation and agricultural use) inducing compliance promotion through raising groundwater awareness.
2. Guidance documents on enforcement methods which can be used at groundwater drilling and abstraction sites. These would include targeting methods, checklists on specific items to look for whilst inspecting different installations as well as description of specific methods to check compliance (e.g. inspection of flow meters, analysis of groundwater level and quality data, drilling methods).

#### **2.5 Does this project link to any previous or current IMPEL projects? (state which projects and how they are related)**

The project aims to build on the experience of other water-related IMPEL projects (e.g. SWETE, Good practice for tackling nitrate pollution, WODA- Water Over-abstraction and illegal abstraction Detection and Assessment) for sharing best practices to implement the Water Framework Directive.

### **3. Structure of the proposed activity**

#### **3.1 Describe the activities of the proposal (what are you going to do and how?)**

The project leader(s) and team will organise a first kick-off meeting with the project team to draft a

questionnaire for the members/target groups. This will be done to gather information on groundwater legislation and enforcement methods in place, specifically for groundwater drilling and abstraction sites. Special focus will be put on tackling illegal groundwater drilling and abstraction, possible loopholes in existing legislation or lack of enforceability and technical knowledge. The same questionnaire will also be used to raise interest in the topic and inquire for possible future active membership in the project team.

The project will also be promoted in the scientific community via attendance at the 48<sup>th</sup> international congress of the IAH in Brussels in 2021 (<https://iah2021belgium.org/>). In this way extra interested stakeholders can be reached to potentially join the project in the future.

The results of the questionnaire will be analysed by the project team via mail & on a second meeting, The way forward and scope for the next phase will be decided by the project group as described in 2.4, including possible face-to-face meetings & relevant site visit(s) based on the preliminary outcome of the questionnaire.

### **3.2 Describe the products of the proposal (what are you going to produce in terms of output / outcome?)**

The first output would be a comprehensive questionnaire on the topic of groundwater drilling and abstraction to be distributed among the stakeholders.

Evaluation of the questionnaire will be reported and should result in an outcome being a vision of the project group on the way forward in the next phase. This will depend on the most relevant needs indicated by the respondents to properly tackle illegal groundwater drilling and abstractions (e.g. support in legislative and/or field expertise at these installations).

Even though groundwater abstraction and drilling may appear as a 'narrow' topic, depending on the specific sites (see 2.4) different future outputs may be required (e.g. drinking water vs. dewatering sites). Therefore, a proper timeframe and target should be set by the project group in a final report of the first phase describing the future phase(s), relevant field visits, constraints and time-frame. A first draft of the guidance documents based on initial received and compiled data may also be included to be updated in the next phase.

### **3.3 Describe the milestones of this proposal (how will you know if you are on track to complete the work on time?)**

- Spring/2021: Assembly of project group & kick-off meeting.
  - Summer/2021: Drawing-up of the questionnaire and distribution amongst stakeholders.
  - Autumn /2021: Evaluation of the questionnaire, second project group meeting, decision on the way forward by the project group resulting in practical and usable instruments. Initial drafting of the scope of the guidance documents mentioned in 2.4.
  - Winter/2021: Final report on the first phase mentioned in 3.2.
  - Spring 2022: Third project group meeting and further drafting of guidance documents
  - Summer 2022: Fourth project group meeting and site visits

- Winter 2022: The final guidance documents

### 3.4 Risks (what are the potential risks for this project and what actions will be put in place to mitigate these?)

Risk: Scarce participation of IMPEL members.

Mitigation: Extra inquiry amongst IMPEL members and/or non-IMPEL members, possible narrowing of the scope of the project.

Risk: Insufficient know-how in the project team, a good equilibrium between (geo-)scientists, policy makers and enforcement agencies is required for success.

Mitigation: Extra targeted inquiry at specific agencies and or organizations based on input by the existing project team, possible narrowing of the scope of the project.

The Covid-19 pandemic effects represent the main risk for the project. The impossibility of holding in person meetings endanger the project for different reasons, mainly related to the lower quality in contacts that cannot be kept in presence:

- Difficulties in discussion and confrontation in the Project Team and, by consequence, also possible lower quality of products;
- Possible difficulties in the adhesion to the project by Countries and Networks due to the difficulties to meet, discuss and to implement a technique largely based on in person contact.

The risks could be faced through the use of teleconference systems, with the awareness that some kind of contacts through these systems may be affected negatively, but still acceptable (i.e.: the smaller meeting), and other type of meetings will be affected too much to be serenely planned.

The response of IMPEL Member to the use of teleconferencing systems is still, to a certain extent, unpredictable and, also considering that the majority of the activities is without cost, the Project Team will implement the maximum of flexibility.

## 4. Organisation of the work

### 4.1 Lead (who will lead the work: name, organisation and country) – this must be confirmed prior to submission of the TOR to the General Assembly)

Jeroen November, Government of Flanders, Department of Environment & Spatial Development, Belgium.

Mihaela Monica Crisan, National Environmental Guard, Bihor County Commissariat, Romania

### 4.2 Project team (who will take part: name, organisation and country)

- David Seccombe, Environment Agency, UK.
- Darja Stanič-Racman (or other), Ministry of environment and spatial planning/Water Agency, Slovenia.

#### 4.3 Other IMPEL participants (name, organisation and country)

#### 4.4 Other non-IMPEL participants (name, organisation and country)

- TBC, International Association of Hydrogeologists, TBD.
- TBC, BRGM - SERVICE GÉOLOGIQUE NATIONAL, France.
- TBC, General Directorate of Water Management, Hungary.
- TBC, Environment Agency, Belgium.

### 5. High level budget projection of the proposal. In case this is a multi-year project, identify future requirements as much as possible

This is an Excel Table, please double click on it to open it and to fill it.	2021 (exact)	2022	2023	2024
<b>Travel and subsistence costs for IMPEL (should match the total costs of Annex I)</b>	0,00 €	10.100,00 €	0,00 €	0,00 €
<b>Travel and subsistence costs co-financed</b>	0,00 €	0,00 €	0,00 €	0,00 €
<b>Consultant(s) costs for IMPEL</b>	0,00 €	0,00 €	0,00 €	0,00 €
<b>Consultant(s) costs co-financed</b>	0,00 €	0,00 €	0,00 €	0,00 €
<b>Translation costs for IMPEL</b>	2.000,00 €	2.000,00 €	0,00 €	0,00 €
<b>Translation costs co-financed</b>	0,00 €	0,00 €	0,00 €	0,00 €
<b>Total costs for IMPEL</b>	<b>2.000,00 €</b>	<b>12.100,00 €</b>	<b>0,00 €</b>	<b>0,00 €</b>
<b>Total co-financed</b>	<b>0,00 €</b>	<b>0,00 €</b>	<b>0,00 €</b>	<b>0,00 €</b>
<b>Total budget</b>	<b>2.000,00 €</b>	<b>12.100,00 €</b>	<b>0,00 €</b>	<b>0,00 €</b>

## 6. Detailed other costs of the work for year 1

<b>6.1 Are you using a consultant?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>6.2 What are the total costs for the consultant?</b>	
<b>6.3 Who is paying for the consultant?</b>	
<b>6.4 What will the consultant do?</b>	
<b>6.5 Are there any additional costs (NOT included in point 5)?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If your answer is 'Yes', please describe:
<b>6.6 What are the additional costs for?</b>	
<b>6.7 Who is paying for the additional costs?</b>	
<b>6.8 Are you seeking other funding sources?</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If your answer is 'Yes', please describe:
<b>6.9 Do you need budget for communications around the project? If so, describe what type of activities and the related costs.</b>	Yes <input type="checkbox"/> No <input type="checkbox"/> If your answer is 'Yes', please describe

## 7. Communication and follow-up (checklist)

	What		By when
<b>7.1 Indicate which communication materials will be developed throughout the project and when?</b>  <i>(all to be sent to the Communications Officer at the IMPEL Secretariat)</i>	TOR ✓ *	<input checked="" type="checkbox"/>	November 2020
	Interim report ✓ *	<input checked="" type="checkbox"/>	December 2021
	Progress report(s) ✓	<input checked="" type="checkbox"/>	June 2022
	Project report ✓ *	<input checked="" type="checkbox"/>	December 2022
	Press releases	<input checked="" type="checkbox"/>	When necessary
	News items for the website ✓ *	<input checked="" type="checkbox"/>	When applicable
	News items for the e-newsletter	<input type="checkbox"/>	
	Project abstract ✓ *	<input type="checkbox"/>	
	IMPEL at a Glance ✓	<input type="checkbox"/>	
	Other, (give details):	<input type="checkbox"/>	
<b>7.2 Milestones / Scheduled meetings (for the website diary).</b>	See 3.3		
<b>7.3 Images for the IMPEL image bank.</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
<b>7.4 Indicate which material s will be translated and into which languages.</b>	Resulting (draft) guidance documents in English, Dutch, Romanian (TBD)		
<b>7.5 Indicate if web-based tools will be developed and if hosting by IMPEL is required.</b>	TBD		
<b>7.6 Identify which groups/institutions will be targeted and how.</b>	Water agencies across EU, field specialists (geological surveys, (hydro) geological associations).		
<b>7.7 Identify parallel developments / events</b>	IAH (inter)national congresses or at national IAH-chapters, linking the bridge between science & policy		

**by other organisations,  
where the project can be  
promoted.**

*✓) Templates are available and should be used. \*) Obligatory*

## **8. Remarks**

*Is there anything else you would like to add to the Terms of Reference that has not been covered above?*

*In case of doubts or questions please contact the  
[IMPEL Secretariat](#).*

***Draft and final versions need to be sent to the  
[IMPEL Secretariat](#) in word format, not in PDF.***

*Thank you.*