

Contaminated sites and health: developing guidance and tools

Report of a WHO/COST Action Consultation Meeting

**WHO European Centre for Environment and Health
15-16 January 2019, Bonn, Germany**

**COST Action
Industrially Contaminated Sites and Health Network (ICSHNet)**

Edited by: Marco Martuzzi, Matt Soeberg and Ivano Iavarone

ABSTRACT

Since its inception in 2014, the COST Action ISI408 Industrially Contaminated Sites and Health Network (ICSHNet) has been facilitating coordination and exchanges between experts, public health and environment officers, and various stakeholders. Building on this extensive work and on other projects and collaborations, WHO and partners in the Action have been developing several resources such as technical and policy documents, monographs and training courses. As the Action approaches its end in mid-2019, overall guidance for dealing with the health implications of CS is being developed. Consultation with relevant environment and health experts as well as country-level representatives is an important part of the guidance development. A consultation meeting was held on 15-16 January 2019 with the main objective of discussing the first draft of the guidance document. This consultation meeting included a survey of meeting participants as well as working groups to review specific sections of the draft guidance. The main feedback from meeting participants was that the guidance document needs to be as practical as possible. This will help readers of the guidance document to have a clear step-by-step procedure for addressing challenges of assessing and addressing the health impacts of contaminated sites, including how to consider multiple exposures, multiple exposure pathways and multiple health outcomes.

Keywords

INDUSTRIAL CONTAMINATED SITES
PUBLIC HEALTH
ENVIRONMENT
COST ACTION
EUROPE

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Acknowledgements

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COST is a funding agency for research and innovation networks. COST Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation (www.cost.eu).

This report describes the activities carried out during the meeting held on 15-16 January 2019. The meeting was co-organised by the ICSHNet COST Action Plenary Conference and the WHO Regional Office for Europe. The programme and list of participants are reported in the annexes. The COST Action and WHO Regional Office for Europe are most grateful to all participants who shared their knowledge, experiences and views.

The meeting was chaired by Giovanni Leonardi, Public Health England.

The report was compiled by Matt Soeberg, Consultant, New Zealand, on the basis of oral and written contributions from participants. Chairpersons and meeting participants provided invaluable support to the draft and finalization of the report.

The meeting was hosted by the WHO European Centre for Environment and Health (ECEH) in United Nations Campus, Bonn – Germany.



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Acronyms

COST	European Cooperation in Science and Technology
ECEH	WHO European Centre for Environment and Health
EEA	European Environment Agency
EHP	European Environment and Health Process
CS	Contaminated sites
ICSHNet	Industrially Contaminated sites and Health Network

Scope and purpose of the meeting

In Europe, earlier industrialization and poor environmental management practices have left a legacy of thousands of contaminated sites (CS). Past and current industrial activities can cause local and diffuse contamination to such an extent that it might threaten the health of resident populations, especially in vulnerable subgroups.

Waste and CS were included as a priority in the Final Declaration of the Sixth Ministerial Conference on Environment and Health (Ostrava, Czech Republic 15 June 2017). The Ostrava Declaration includes a commitment towards “... *preventing and eliminating the adverse environmental and health effects, costs and inequalities related to waste management and contaminated sites, by advancing towards the elimination of uncontrolled and illegal waste disposal and trafficking, and sound management of waste and contaminated sites in the context of transition to a circular economy*”. Actions to be considered by Member States to pursue these ambitious goals are also identified in the Ostrava Declaration.

Since its inception in 2014, the COST Action ISI408 Industrially Contaminated Sites and Health Network (ICSHNet) has been facilitating coordination and exchanges between experts, public health and environment officers, and various stakeholders. Building on this extensive work and on other projects and collaborations, WHO and partners in the Action have been developing several resources such as technical and policy documents, monographs and training courses. As the Action approaches its end in mid-2019, overall guidance for dealing with the health implications of CS is being developed.

The main objective of this consultation meeting is to gather expert advice, from scientists and practitioners, on formulating such guidance, so as to make it as relevant and useful as possible for Member States and public health agencies in general. A draft document, being prepared by WHO and the COST Action, was tabled for discussion. The guidance document will be presented later in 2019 as part of the wrap up of the COST Action. It will be jointly published by WHO and COST.

The meeting addressed different areas of the guidance including:

- background;
- how to deal with CS;
- lessons learnt from key case studies.

These topics, along with dissemination strategies and identification of the relevant target users of the guidance document, were discussed in plenary sessions and parallel working groups.

The meeting was held in English.

This report is structured to focus on the feedback received on the draft guidance document rather than a chronological record of the meeting activities.

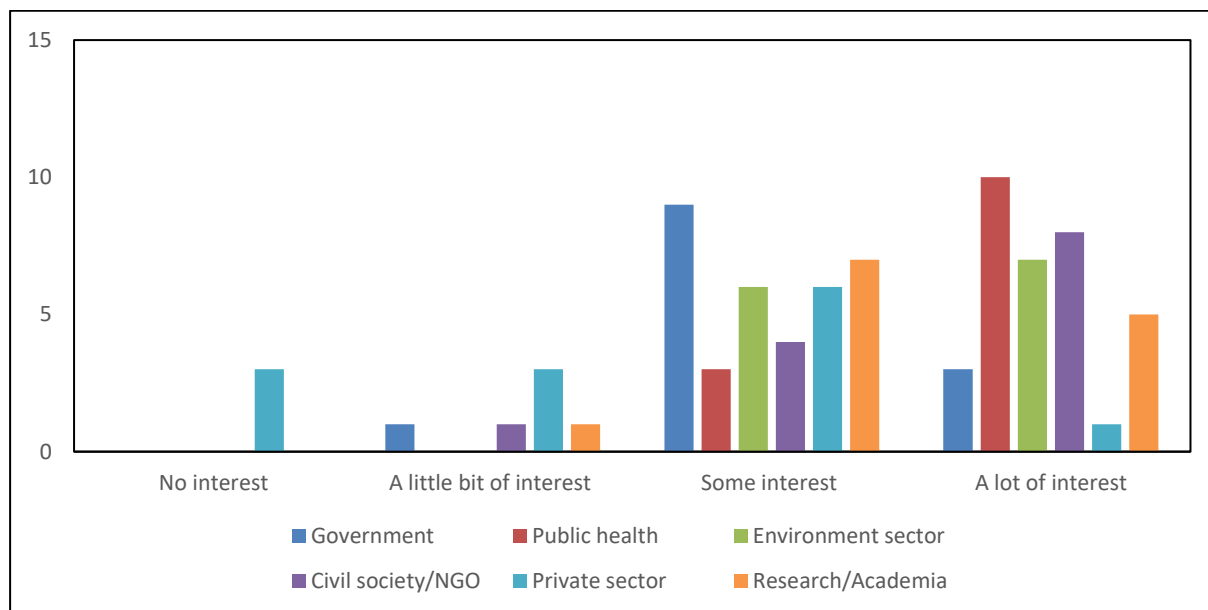
Survey of meeting participants to support the development of guidance on the health impacts of industrially contaminated sites

A small questionnaire was administered to participants in preparation of this meeting to provide input into the development of the guidance document. There were six questions where participants could respond on a scale such as from not at all important to very important. Each question had different response categories such as stakeholder type, type of gap, or activity type. Thirteen responses were received with almost all data complete for each response, with the exception of one response that omitted to answer the last question. The survey also included free text fields for each question as well as a concluding section on the opportunities and constraints on addressing the health impacts of industrially contaminated sites.

Country-level interest in industrially contaminated sites by stakeholder type

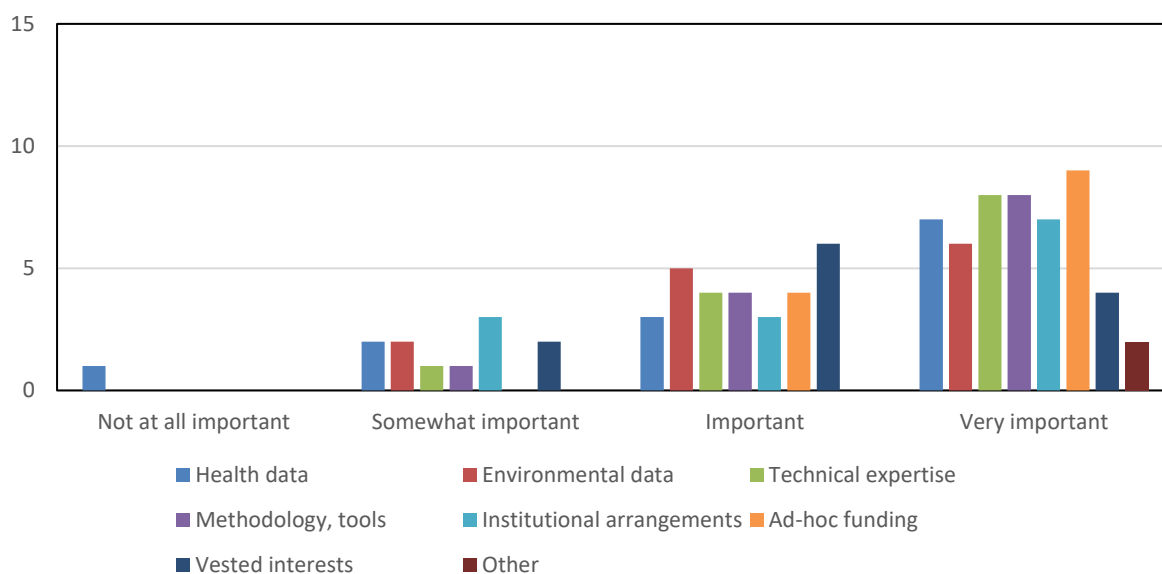
Most survey respondents indicated that there was interest at the country level in industrially contaminated sites with substantial interest from the public health sector, government, civil society, environmental sector and the research sector (**Figure 1**).

Figure 1. Extent of interest in contaminated sites by stakeholder type (n=13)



Country-level gaps in the health impacts of industrially contaminated sites

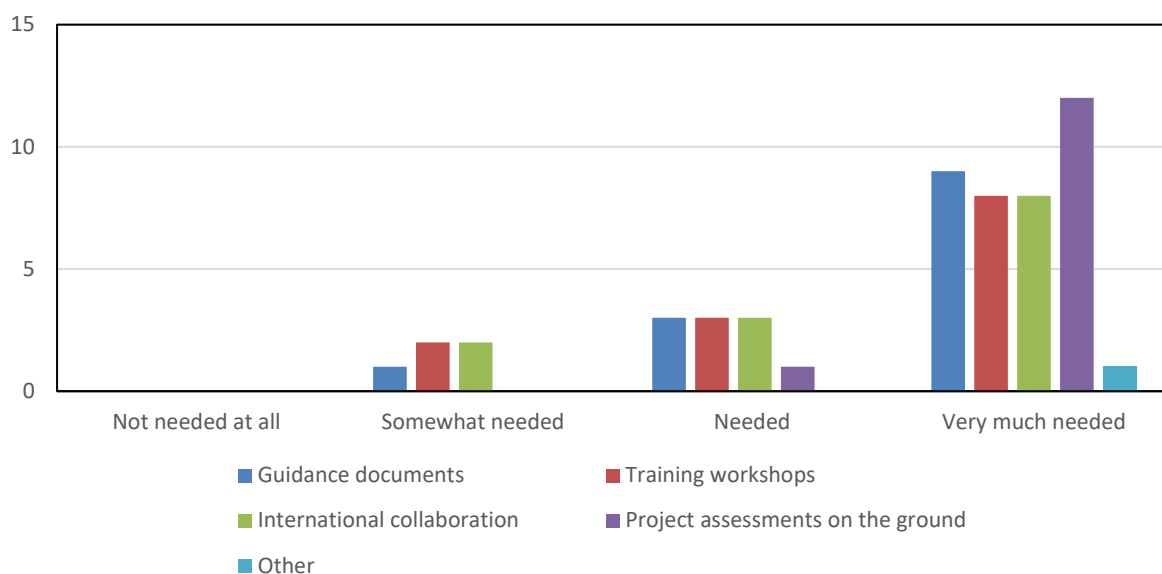
Survey respondents indicated that there very important gaps for addressing the health impacts of industrially contaminated sites (**Figure 2**). These areas include health and environment data, technical expertise, methodologies and tools, institutional arrangements as well as ad hoc funding. Another important gap written down was communication strategies.

Figure 2. Type of gaps in addressing the health impacts of industrially contaminated sites (n=13)

Country-level support required to address the health impacts of contaminated sites

Survey respondents considered that country-level support was very much needed, particularly in relation to project assessments on the ground, guidance documents, training workshops and international collaboration (**Figure 3**). In addition, survey respondents noted that resources should be coordinated for ongoing research and advice as well as providing rapid technical support to countries.

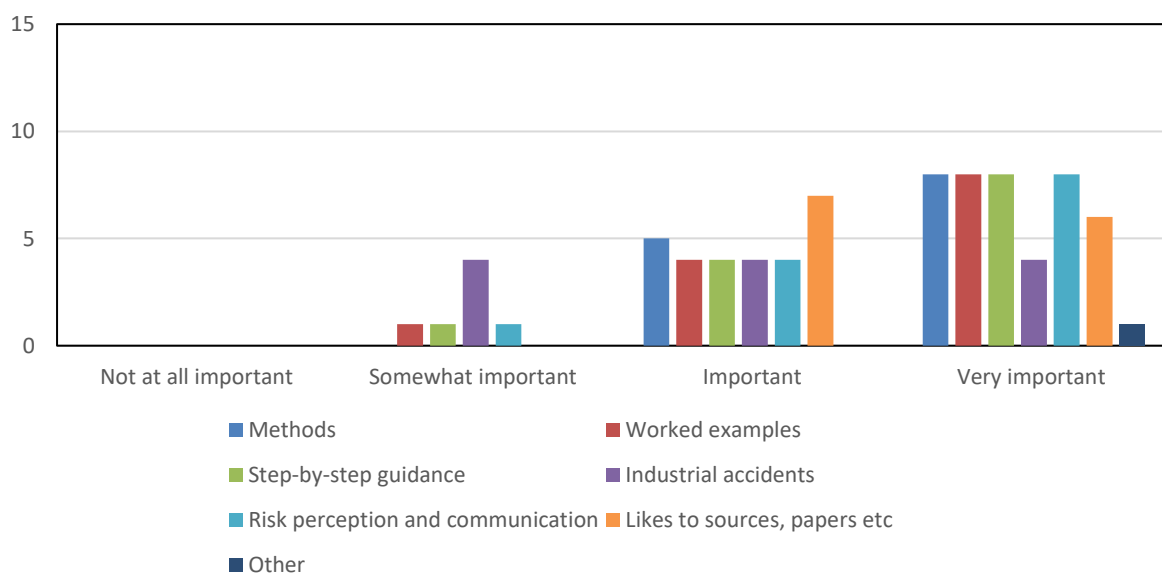
Figure 3. Type of country-level support required to address the health impacts of industrially contaminated sites (n=13)



Most important topics for a guidance document

The most important topics that survey respondents consider should be included in a guidance document on the health impacts of industrially contaminated sites were methods, worked examples, step-by-step guidance and risk perception and communication (**Figure 4**).

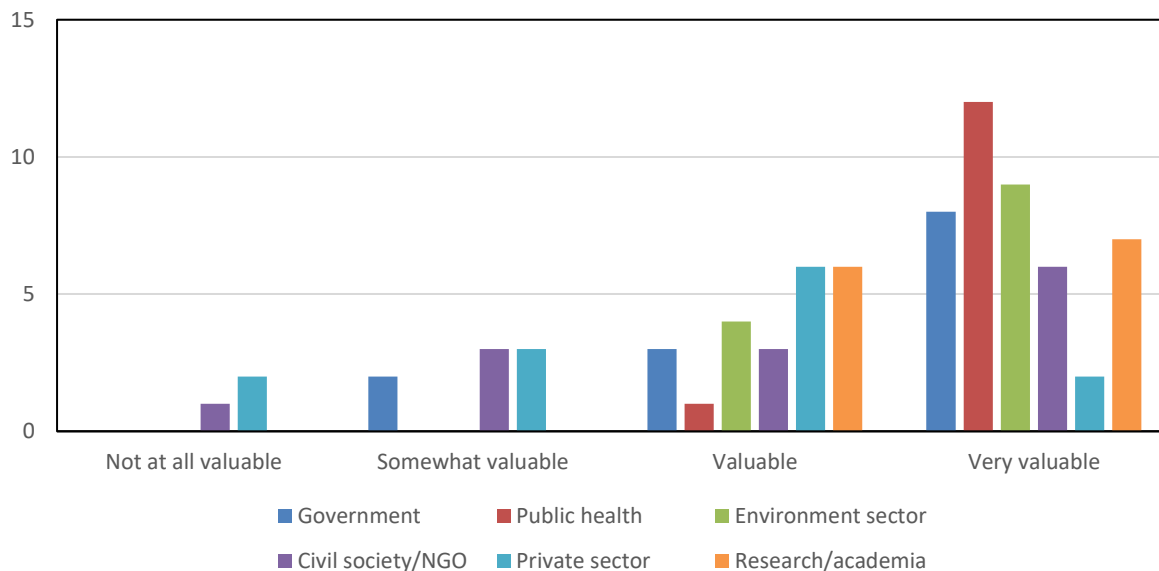
Figure 4. Important topics for a guidance document on the health impacts of industrially contaminated sites (n=13)



Most important audience for the guidance document

The five most important audiences for the guidance document on the health impacts of contaminated sites were the public health sector, the environment sector, government, research/academia and civil society (**Figure 5**).

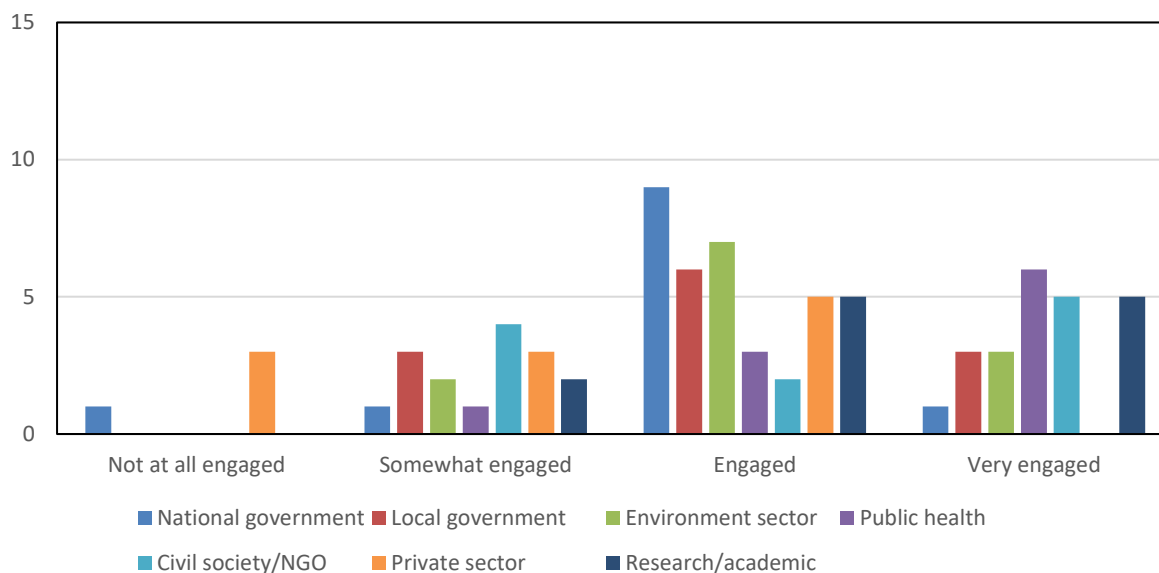
Figure 5. Important audiences for a guidance document on the health impacts of industrially contaminated sites (n=13)



Current extent of stakeholder engagement

Survey respondents were also asked about who is engaged, and the extent of engagement, when a country addresses the health impacts of industrially contaminated sites (**Figure 6**). Very engaged stakeholders include the public health sector, civil society and research and academia. The next level of engagement was primarily made up of national government stakeholders, the environment sector and local government as well as research/academia and the private sector.

Figure 6. Extent of engagement by different stakeholders when addressing the health impacts of contaminated sites (n=12)



Opportunities and constraints

Survey respondents noted that the following opportunities and constraints are encountered when addressing the health impacts of contaminated sites.

Table 1. Opportunities and constraints in addressing the health impacts of contaminated sites

Opportunities	<ul style="list-style-type: none"> Recent changes to environmental impact assessment frameworks to include health impacts Increasing awareness by public health experts and the public on the large health impacts of environmental pollution, including contaminated sites in general as well as contaminated sites that have reached public attention Improvements in IT systems and methods to characterise environmental exposures, such as dispersion models Improvements in health data collection Preventive actions on contaminated sites International collaboration to support capacity building on health impact assessment approaches Process of negotiating for EU accession countries Health data are contained in national or regional databases whereas environmental exposure data are not collected as systematically Opportunities for broader intersectoral action than only environment and health agencies In one country, contaminated sites were located in a single area making management much simpler Environmental impact assessment and strategic environment
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	<p>assessment frameworks provide an important opportunity for capacity building and linking to contaminated site issues</p> <ul style="list-style-type: none"> • Addressing the health impacts of contaminated sites is a relatively new technological area and could be used as a competitive advantage • Environmental governance frameworks, such as Ministerial Conferences, provide a good leverage point
Constraints	<ul style="list-style-type: none"> • Limited health expertise at the regional and local level • Lack of political leadership • Lack of expertise and implementation of interdisciplinary environment and health expert teams • Economic drivers of industry compared to the environmental and health impacts • Funding from government and business sources • Management and cleaning up of contaminated sites • Lack of contaminated sites or pollutant registers • Lack of hazardous waste infrastructure • Large amounts of hazardous waste are misclassified as non-hazardous waste • Appropriate penalties need to be applied to environmental polluters • Limited legislation that considers the complexity of addressing the health impacts of contaminated sites • Private sector stakeholders do not consider urgent action is needed • Difficult to conduct appropriate assessments if data and tools are not available and or not used • Economic cost of land • Lack of epidemiology understanding among senior policy makers

Feedback from working groups on the draft guidance document

The main objective of the meeting was for participants to provide feedback and insights on what should be included in the guidance document on the health impacts of contaminated sites. This was achieved through general plenary discussions and, more directly, through the establishment of three working groups.

Summary of general discussions during plenary sessions

Through plenary discussions, a broad range of issues were raised in relation to the development of the draft guidance document including that it:

- is important to clarify the scope and audience of the document;
- should clearly cover stakeholder engagement;
- needs to be able to be read and applied by a range of different technical and lay stakeholders;
- could discuss the different geographic zones that can be relevant to contaminated sites;
- could introduce the important concept that often people live near or in contaminated sites, and some cities contain contaminated sites ;
- should address transboundary contamination and the impact on local communities;
- will rely on delivery at the local and regional levels where there are likely gaps in the capacity and capability of both environment and health experts who are not necessarily trained on the complexity of contaminated sites;
- should reference human biomonitoring but recognise that it is one of a number of approaches that could be used and that there are strengths and limitations of human biomonitoring.

Important points were also raised around whether, and how much, the guidance document should refer to specific technical aspects of interpreting risk assessment and epidemiological data.

Examples of technical aspects include:

- how to interpret assessment findings where there is a small local population resulting in uncertainty of whether the findings are statistically significant and or whether the right numerator and denominator data were used in the calculations;
- incorrect use of tolerable exposure limits in occupational settings for general population assessments;
- how have confounding factors being accounted for in the analysis and what is the impact of residual (non-measured) confounding;
- whether environmental exposures have been measured through direct or proxy measures and whether how valid these measures are for the specific research question.

Summary of working group discussions

Each working group had a specific focus: urgent responses to addressing the health impacts of contaminated sites; more proactive and strategic approaches; and the conclusions and way forward section of the draft guidance document (**Table 2**).

Table 2. Main feedback from the working groups reviewing the draft guidance document

Working Group	Focus	Main findings
1	Urgent responses	<p>Definition</p> <ul style="list-style-type: none"> • A clearer definition of urgent responses needs to be included to improve clarity around what is considered to be in and out of scope • Countries will need to develop a list of which stakeholders should be brought together when urgent responses are implemented • Include the point that a wide range of pollutant, dispersion, demographic and health data needs to be collected for consideration by the expert team <p>Rapid risk assessment</p> <ul style="list-style-type: none"> • Rapid risk assessment approaches will be different to more proactive and longer-term investigations • Risk communication experts need to work with the expert team and to risk communication activities • Ensure that risk communication only has one common spokesperson using short and honest language • Suggest that different rapid assessment reports are prepared for different stakeholders (e.g. technical agencies, policy makers, and the public) • Include a list of the ICSHNet COST Action resources developed to date as a starting base for rapid risk assessment <p>Stakeholder engagement</p> <ul style="list-style-type: none"> • Identify stakeholders early in the response • Communicate risk assessment results in a timely fashion to key stakeholders
2	Conclusions and way forward	<p>General</p> <ul style="list-style-type: none"> • More work is needed to make the guidance more practical and to separate out the summary information about the COST Action • Key terms need to be tightened • Need to also include reference to future redevelopment of contaminated sites <p>Data</p> <ul style="list-style-type: none"> • Further develop and promote databases of environment and health data that can be used to assess the health impacts of contaminated sites • Facilitate better access to already completed risk assessment reports relating to health impacts of

Working Group	Focus	Main findings
		<p>contaminated sites</p> <ul style="list-style-type: none"> • Use of electronic health records could be an innovative approach to increasing accessing to health data for risk assessment and epidemiological studies <p>Stakeholder engagement</p> <ul style="list-style-type: none"> • Recognise that many stakeholders currently do not have skills or expertise in investigating the multiple exposures and health impacts of contaminated sites • Need to ensure a two-way process with stakeholders • Could include a more specific procedure for including and engagement with stakeholders • Definitions of civil society and environmental and health specialists could be tightened • Need to include a point that policy makers and agencies should encourage/ensure/empower participation of civil society in policy discussions on ICS
3	Proactive responses	<p>Methodology</p> <ul style="list-style-type: none"> • Specific technical or methodological guidelines need to be referenced • Methodological approaches need to be better described <p>Data</p> <ul style="list-style-type: none"> • Different layers of environment and health data need to be described better • Collection of data can be complex with multiple stakeholder engagement and agreement often required to access the data <p>Governance</p> <ul style="list-style-type: none"> • European region environment and health governance frameworks needed to be included early in the document to help readers understand the international, transboundary, country and more local types of responses <p>Stakeholder engagement</p> <ul style="list-style-type: none"> • Stakeholder engagement needs to be included in risk communication sections • Country case studies suggested focused on how proactive responses to contaminated sites can be established

Plenary discussions on experiences on dealing with the health impacts of contaminated sites

Meeting participants were asked to describe experiences about responding to the health impacts of contaminated sites, discussing the main needs, the guidance needed, and whether the model being proposed by WHO can be of value on the ground. These experiences are briefly summarised below.

- In Flanders, there is a regional approach to environment and health. There are two key pieces of legislation (decrees) that relate to environment and public health led by respective ministries with the expectations that these two agencies will work collaboratively. Public health officers can provide input and advice on issues and projects from both a public health and environmental perspective. A protocol has been developed on the environmental part of environmental health impact assessment. From the public health side, there are requirements around exposure assessment including methods and communication around human biomonitoring. Reference biomonitoring conducted by the environmental agency whereas the cases are the responsibility of the public health agency. There is a lot of proactive work occurring including developing criteria for acceptable carcinogenic risks, development of a guidance document for standard procedures to environmental health impact assessment, and regulatory frameworks for polluters. There is also a database of electronic health records for 500,000 patients from birth to morbidity events. A protocol is being developed for ethical and safe use of the database as well as the ability to link environmental data. Consideration is also being given to how noise pollution can be integrated with other pollutant data and criteria.
- A database of geo-referenced contaminated sites has been created in Croatia. There are 2,264 sites with many of them not relevant health??. However, there is an important issue of transboundary pollution where a refinery in a neighbouring country is impacting on the local community in the country. A study has been established for this area to look into acute effects on lung function, hospital admissions and emergency department presentation particularly during heatwaves. Environmental health assessments are most often undertaken on sites where significant public health concern has been raised. Local capacity to undertake health assessment of contaminated sites needs to occur as this is a substantial gap in expertise and capacity.
- A major characteristic of contaminated sites in Cyprus is that they are located close to urban areas. Urban sprawl has resulted in contaminated sites and local communities being in much closer proximity. A systematic approach is required to monitor environment and health indicators to reassure communities that the likelihood of harm is low. People who have lower socioeconomic position are more vulnerable as they are likely to live closer to contaminated sites. The types of industrial activities are natural gas exploration, oil refineries and asphalt production. A recent cancer cluster around a factory raised concern and need to identify the causal factors.
- While there are low levels of air pollution in Estonia, there is significant industrial activity on the eastern part of the country, mostly oil shale and extraction industry. Local

health outcomes are worse than other parts of Estonia. Environment and health ministries have asked that additional research on this community be undertaken. Health impacts will measure human biomarkers, air pollution, childhood asthma and drinking water. However, there are limitations on access to local health data. Capacity building activities and guidance would be useful in these cases. The involvement of young people in the assessment and communication process is also considered a relevant issue.

- In Georgia, there has been a large focus on the implementation of environmental impact assessment and strategic environmental assessment frameworks. More guidance is needed on how to integrate environment and health data in this assessment with particular gaps around water, chemical safety and air pollution. There is a significant public health concern around lead exposure in children and work with UNICEF is underway.
- Information was shared on the Italian experience of collecting, storing and interpreting data on the health status of populations resident in National Priority Contaminated Sites (NPCS) recognized by the Ministry of Environment based on soil and groundwater contamination. These large-scale efforts involved: a multidisciplinary working group; an area based study - municipality level; *a priori* evaluation of scientific evidence in order to define specific etiological hypotheses; and categorization of environmental exposures based on the sources of contaminant agents explicitly mentioned in the decrees of NPCS institution. Some key reflections from this important work is that this type of approach can detect previously ignored health effects of contaminated sites, contribute to the evidence around causal factors, and provide evidence around the health impacts of environmental clean-up activities. Further, there is a need to integrate environment and health research and assessment at the national, regional and local levels as well as create communication activities that involve all affected parties.
- There are lots of open questions around the issue of contaminated sites in Montenegro. There is no registry of sites or pollution. Climate change frameworks may be an importance tool for starting discussions and leading to action to reduce the impact of contaminated sites. There are major contaminated sites in the northern part of Montenegro including lead and zinc mines. Large volumes of hazardous waste are created from these contaminated sites. There is some interest from the environment sector but the health impacts of contaminated sites is not yet a priority issue. There is hope for significant European funding in the future to help address environmental health issues, including contaminated sites.
- In the former Yugoslav Republic of Macedonia, sixteen priority contaminated sites have been identified, with about half of those sites still being in operation. Some assessment work has been done to look at contamination in soil, water, biota, sediment and food contamination and an atlas of soil contamination has been produced. There are significant environmental health concerns around old industrial sites include chemical industry landfills, lead smelters and power plants. No proper health risk assessment or health impact assessment have been undertaken with the health concerns primarily being raised by the local population or civil society. There is currently no infrastructure directly able to address and investigate the health impacts of contaminated sites. Some remediation work is being carried out on contaminated sites that allows for environmental monitoring

data to be collected. Human biomonitoring activities are planned for the future. Overall, there is a need for guidance and substantial capacity building on contaminated sites.

- The existence of degraded and contaminated areas is one of the major environment and health problems in Portugal. The problems go beyond landscape impacts on extend to multiple types of environmental contamination. A health impact assessment of a former industrial site that is being converted into a desirable residential neighbourhood is underway. The site is located in an area of the city of Lisbon, known as Parque das Nações or EXPO 98. Parque das Nações has a relatively large area and much of it has been targeted for urban rehabilitation after the deactivation of large chemical companies.
- Significant progress has been made in Serbia on developing a roadmap for the sound management of contaminated sites. This roadmap was preceded by a number of intersectoral stakeholder meetings as well as a gap analysis on approaches to contaminated sites. The roadmap takes a multisector approach and has an epidemiological approach modified from the Italian surveillance system for contaminate sites. The roadmap has been pilot on a copper mining-smelting site. An epidemiological study has been conducted on this site. The advantages of the roadmap were that it was a good starting point with a realistic approach to capacity building, a focus on vulnerable population groups, and a willingness to use new epidemiological methods. The disadvantages were that it was developed over a very short timeframe that resulted in a smaller number of stakeholders being involved, it did not discuss risk communication, and that there was limited environmental data to correlate with the health data.
- In some countries, for example in the Western Balkans, there are contaminated site hot spots from previous industrial activity, for example from minerals, plastic and chemical industries. While there are different types of contaminated sites, a significant concern exists on fuel industry sites. There can be site-specific accidents, such as explosions. Little health data, however, are available. Local capacity building and a transboundary approach is needed to address the health impacts of contaminated sites.
- Around 300,000 hectares in England and Wales are estimated to comprise contaminated land. Contaminated land is dealt with through a combination of environmental protection legislation and town and country planning rules where remediation is required for redevelopment. A statutory guidance document has been developed to provide guidance on management of contaminated land. There are guidance values and screening values that can be used. Risk assessment is needed where those values cannot be applied. Contamination needs to be much higher than the guidance values before there is considered to be significant harm or the potential of significant harm. Where risk assessment is carried out, then a wide range of stakeholders needs to be included. There are web-based tools to help with the risk assessment process.

The European region experience on contaminated sites

European Environment Agency (EEA)

The EEA noted the importance of the work being carried out by the COST Action and WHO on the health impacts of contaminated sites, including that the guidance document will be very useful for the EEA. This is the context of work that the EEA has been doing on soil contamination as well as other types of pollutants. There is a particular indicator used by EEA relating to progress in the management of contaminated sites (Indicator LSI 003 (formerly CSI 015)). This indicator is being updated based on a 2016 soil contamination survey. The updating of this indicator using data from the 2016 survey will provide good baseline data and a data respiratory but is unlikely to substantial new insights.

The EEA is also keen to have a much better integration in risk assessment process of the environment and health impacts of soil contamination. This commitment is being demonstrated for example by a special technical meeting in mid-February 2019.

European Environment and Health Taskforce (EHTF)

The EHTF brings together the Ministries of Health and the Ministries of Environment of the 53 member States of the WHO Regional Office for Europe, together with a variety of other actors of environment and health in Europe. The EHTF, in existence since the late 1980s, guides a process that identifies the priorities, the needs and gaps, and the actions to be undertaken in the region. In the last Ministerial Conference on Environment and Health, the 6th of the series, held in Ostrava in 2017, the theme of waste and industrially contaminated sites was included in the 7 priorities. Member States underlined the need to make progress in terms of data availability, evidence on the health effects of contaminated sites, identification of priority sites within countries and regions, promoting awareness and build technical and policy capacities, strengthen the necessary intersectoral collaboration, and take action to remediate the most acute instances of human exposure to contaminated sites.

Concluding remarks

The meeting demonstrated the benefits of project-based networks, such as the ICSHNet COST Action network, as well as cross-country networks. These cross-country networks are useful as they extend in time beyond project-based activities.

Several points were raised during the conclusive discussions. Participants underlined:

- the need for good local practice including standard approaches to risk assessment that should be applied;
- the need further consideration of the health impacts of soil contamination in the European region;
- the fact that urban environments are a particular challenge for the health impacts of contaminated sites as there can often be multiple contaminated sites with people living in urban environments;
- the important role of engaging stakeholders in the risk assessment and risk communication processes.

Annex 1. Meeting program



**Contaminated sites and health:
developing guidance and tools**

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**WHO European Centre for Environment and
Health
Bonn, Germany
15-16 January 2019**

15 January 2019

10:00 – 10:30	Registration and welcome coffee	
10:30 – 11:00	Opening; tour de table; appointment of chair(s) Meeting's objectives	WHO, ICSHNet
11:00 – 11:15	Update of the ICSHNet Action	I Iavarone
11:15 – 11:30	Results from Action Survey	P Martin-Olmedo
11:30 – 12:00	Developing a national "roadmap" for contaminated sites and health in Serbia Discussion	B Matic
12:00 – 12:30 (and through 15:30)	Country (and regions) experiences and needs: <ul style="list-style-type: none"> - What's going on in your country on contaminated sites and health? - What are the main needs? - Is guidance needed, and if so what kind of guidance? - Is the model being proposed by WHO of value for you and other practitioners? 	10-15 min interventions: B Bajic B Bautmans K Capak T Fletcher N Gabriadze D Gjorgjev K Makris E Mariani O Haziz V Noronha J Tomasova
12:30 – 13:30	Lunch	Canteen – 29 th floor

13:30 – 15:30	Country experiences and needs (continued) Discussion	
15:30 – 16:00	Developing the ICSHNet-WHO guidance document Goals of working groups	M Soeberg
16:00 – 16:30	<i>Break</i>	
16:30 – 18:30	Parallel working groups: hands-on work on draft WHO guidance document	
18:30	<i>Dinner reception</i>	29 th floor

16 January 2019

09:00 – 10:30	Parallel working groups: hands-on work on draft WHO guidance document	
10:30 – 11:00	<i>Break</i>	
11:00 – 11:30	Feedback from working groups Discussion	
11:30 – 12:30	Dissemination with stakeholders Relevance for other networks Viewpoints: NGOs, young people Building technical capacities on ICSs Discussion	JF Viel E Csobod P Cordonnier D Adamonyte T Fletcher
12:30 – 13:30	<i>Lunch</i>	29 th floor
13:30 – 15:00	National epidemiological surveillance system on CSs in Italy Outlook for the European EH Process Outlook for EU (EEA) Research implications	P Comba N Bakunts R Baritz D Sarigiannis
15:00 – 15:30	Discussion and way forward	
15:30	<i>Farewell and close</i>	

Annex 2. List of Participants

Dovile Adamonyte
European Environment and Health Youth Coalition
Lithuania

Borko Bajic
Institute of Public Health
Montenegro

Nune Bakunts
National Centre of Disease Control and Prevention
Armenia

Rainer Baritz
European Environment Agency
Denmark

Bart Bautmans
WHO Regions for Health Network
Flemish Ministry of Welfare
Belgium

Krunoslav Capak
Institute of Public Health
Croatia

Pietro Comba
WHO Collaborating Centre for Environmental Health in Contaminated Sites
National Institute of Public Health
Italy

Paul Cordonnier
Health and Environmental Alliance (HEAL)
Reseau Environment Sante (RES)
France

Tony Fletcher
Public Health England
United Kingdom of Great Britain and Northern Ireland

Nana Gabriadze
National Centre for Disease Control
Georgia

Dragan Gjorgjev
Institute for Public Health
The former Yugoslav Republic of Macedonia

Ivano Iavarone
WHO Collaborating Centre for Environmental Health in Contaminated Sites
National Institute of Public Health
Italy

Giovanni Leonardi
Public Health England
United Kingdom of Great Britain and Northern Ireland

Konstantinos Makris
Cyprus University of Technology
Cyprus

Eralda Mariani
Department of Public Health
Albania

Piedad Martin-Olmedo
Andalucia School of Public Health
Spain

Branislava Matic Savicevic
Institute of Public Health
Serbia

Vera Noronha
Department of Public Health
Portugal

Matt Soeberg
Consultant
New Zealand

Jelena Tomasova
Health Protection Inspectorate
Estonia

Jean-Francois Viel
University of Rennes
France

World Health Organization - Regional Office for Europe, Bonn-Germany

Majd Al ssabbagh
Intern, Environment and Health Impact Assessment

Marco Martuzzi
Programme Manager, Environment and Health Impact Assessment

Julia Nowacki
Technical Officer, Environment and Health Impact Assessment