



Zero pollution of Persistent, Mobile substances

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ZeroPM Communication plan

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Summary

This document is Deliverable 8.3: The ZeroPM communication plan. This will be used by all beneficiaries to maximise visibility and impact of ZeroPM. Accordingly, the main aim of the document is to ensure that ZeroPM is able:

To deliver a strategic and consistent message suitable for multiple audiences. The message will highlight ZeroPM's goals and results in order to bring about political, economic, scientific and social change.

The ZeroPM communication plan outlines ZeroPM's communication aim and objectives, the potential user groups of ZeroPM knowledge, the key messages to be delivered to each of these groups, the specific communication activities and channels that will be used, qualitative indicators to be achieved and details of how the execution of the communication activities will be followed. This is a living document and will be updated at the periodic reporting points to include the following (non-exhaustive) points: new potential user groups, additional communication activities and addition communication channels.



Contents

1	Introduction	8
2	Communication aims and objectives	9
	2.1 Open Knowledge Plan	10
3	ZeroPM potential user groups	11
	3.1 Policy-makers and administrators and European authorities responsible for coordinating and enacting legislation (PU1 and PU2)	11
	3.2 Chemical producers (PU3)	12
	3.3 Chemical users (PU4)	12
	3.4 Water utilities (PU5)	13
	3.5 Businesses working with technical solutions (PU6)	14
	3.6 Scientific community, academic networks and clustering (PU7)	15
	3.7 Environmental groups and NGOs (PU8)	18
	3.8 General public (PU9)	19
	3.9 Media (PU10)	19
4	Communication key messages	19
	4.1 Policy makers and enforcers (PU1 and PU2)	20
	4.2 Chemical producers and users (PU3 and PU4)	20
	4.3 Water utilities and businesses working with remediation solutions (PU5 and PU6)	21
	4.4 Wider scientific community (PU7)	21
	4.5 Environmental groups and NGOs (PU8)	21
	4.6 General public and media (PU9 and 10)	21
5	Communication activities	22
	5.1 ZeroPM website	24
	5.2 Social media presence	26
	5.3 Newsletter	27
	5.4 ZeroPM identity	27
	5.5 Short films and podcasts	29
	5.6 Webinars	29
	5.7 Press releases	31
	5.8 Participation at conferences, fairs, workshops, exhibitions and events	32
	5.9 ZeroPM workshops	33
	5.10 Clustering	34
	5.11 Interviews	35
6	Qualitative indicators for communication activities	35
7	Monitoring and evaluation of execution	36
	7.1 ZeroPM consortium	37
	7.2 Communications team	37
	7.3 Steering Committee (SC)	38
	7.4 ZeroPM monitoring team	38
	7.5 Reporting	39

List of tables

Table 1: ZeroPM's potential user (PU) groups	11
Table 2: The institutes that have joined PU5.....	13
Table 3: The businesses that have joined PU6	14
Table 4: Information about the members of the External Excellence Advisory Board.....	16
Table 5: The environmental groups and NGOs that have joined PU8	18
Table 6: The questions to answer when developing the key communication messages	19
Table 7: A summary of communication activities providing a description, the PU reached, the expected impact and the impact area	22
Table 10: The number of short films and podcasts during ZeroPM.....	29
Table 11: Overview of ZeroPM webinars	30
Table 12: Overview of science-policy webinar series.....	30
Table 8: Number of press released to be produced over ZeroPM	31
Table 9: Conferences, fairs, workshops, exhibitions and events that are possible ZeroPM platforms.....	32
Table 13: Key performance indicators	36
Table 14: The members of the ZeroPM Communications team.....	37

List of figures

Figure 1: The six key elements included in the ZeroPM communication strategy	9
Figure 2: The communication channels and activities planned in ZeroPM	22
Figure 3: A selection of the individual web pages on the ZeroPM website.	25
Figure 4: The ZeroPM twitter account	26
Figure 5: A selection of the ZeroPM branding.....	28
Figure 6: The way different groups of people in ZeroPM are involved in communications	37

Appendices

Appendix A	ZeroPM one-page flyer in English, German, Greek and French
Appendix B	Acknowledgement slide for powerpoint presentations
Appendix C	Poster template



Table of abbreviations

CA	Consortium agreement
CLP	Classification, labelling and packaging
ECHA	European chemicals agency
EPUG	Extended potential user group
EU	European Union
GWRC	Global water research coalition
IAWR	The International Association of Waterworks in the Rhine Basin
IPCHEM	Information Platform for Chemical Monitoring
ITN	International training network
JRC	Joint Research Centre
LWSSC	Levos Water Supply and Sewage Company
MEE	Ministry of Ecology and Environment
NGO	Non-governmental organisation
NORMAN	Network of reference laboratories, research centres and related organisations for monitoring of emerging environmental substances
OA	Open Access
PC	Project coordinator
PM	Persistent, mobile
PU	Potential user
REACH	Registration, evaluation, authorisation and restriction of chemicals
SC	Steering committee
SETAC	Society for Environmental toxicology and chemistry
SIN List	Substitute it Now List
UNEP	United nations environment programme
USEPA	United states environmental protection agency
WP	Work package

1 Introduction

ZeroPM, which stands for Zero pollution of Persistent, Mobile substances, is a 5 year long European research project funded under the Horizon 2020 research and innovation program. ZeroPM will interlink and synergize three strategies to protect the environment and human health from persistent and mobile (PM) substances: **Prevent**, **Prioritize** and **Remove**. To do this, ZeroPM will develop an evidence-based multilevel framework. The framework will guide policy, technological and market incentives to minimize use, emissions and pollution of entire groups of PM substances.

This report is Deliverable 8.3 – the ZeroPM communication plan. The ZeroPM communication plan details potential user groups, key messages, communication activities and plans for monitoring and goes hand in hand with Deliverable 8.1 – the Dissemination and Exploitation plan.

According to the ZeroPM Grant Agreement, Article 38 "Promoting the action – Visibility of EU funding", beneficiaries must:

"promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner."

"Unless the Agency requests or agrees otherwise or unless it is impossible, any communication activity related to the action (including in electronic form, via social media, etc.) and any infrastructure, equipment and major results funded by the grant must:

(a) display the EU emblem and (b) include the following text: For communication activities: "This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036756".

With this in mind, Deliverable 8.3 has been developed at an early project stage to ensure ZeroPM begins with a clear and consistent communication strategy from the project outset. The ZeroPM communication plan will ensure that project activities and outcomes are communicated effectively to relevant potential user groups.

The ZeroPM communication plan includes six key elements as shown in Figure 1 and described in the subsequent chapters. The interplay between these elements is important as it determined the effectiveness of communication means among different groups. This is a living document and will be updated at the periodic reporting points to include the following (non-exhaustive) points: new potential user groups and additional communication activities or channels.



Figure 1: The six key elements included in the ZeroPM communication strategy

2 Communication aims and objectives

Communication has been defined by the EU as the following:

"Communication on projects is a strategically planned process that starts at the outset of the action and continues throughout its entire lifetime, aimed at promoting the action and its results. It requires strategic and targeted measures for communicating about (i) the action and (ii) its results to a multitude of audiences, including the media and the public and possibly engaging in a two-way exchange."

The ZeroPM communication plan will be used by all beneficiaries to maximise visibility and impact of ZeroPM. Accordingly, the main aim of the document is to ensure that ZeroPM is able:

To deliver a strategic and consistent message suitable for multiple audiences. The message will highlight ZeroPM's goals and results in order to bring about political, economic, scientific and social change.

To reach this aim, the following objectives have been defined:

- ▼ To define potential user groups that will be interested in ZeroPM

- ▼ To develop specific key messages for each group which will be translated into communication activities. The activities will tell a story linked with the everyday life of the potential users to reach and inspire them.
- ▼ To identify suitable communication channels and communication means for each potential user group. The language, content and visualisation used for each potential user group will vary. One-way communication (e.g., websites, press releases, newsletters etc.) and two-way exchange (technology demonstrations, interviews, workshops) will be carried out.
- ▼ To reach defined key performance indicators for each communication activity and project phase.
- ▼ To support dissemination and exploitation efforts.

This document will result in the following outcomes:

- ▼ To draw the attention of policy makers and enforcers, chemical manufacturers and downstream users, water utilities, companies working with technical solutions, academic networks, NGOs, the general public and the media towards the need for interlinked prevention, prioritization and removal strategies to protect the environment and human health from persistent and mobile substances.
- ▼ To enhance the visibility and reputation of ZeroPM at the regional, national, international, European and worldwide scale by maximising existing networks and partner expertise.

2.1 Open Knowledge Plan

All peer-reviewed publications generated in ZeroPM will be provided as Open Access (OA) following the 'Guidelines on Open Access to scientific publications and research data in Horizon 2020', and as according to the ZeroPM GA.

To support open knowledge, the ZeroPM website (see section 0) will contribute to the communication and dissemination of ZeroPM and will be maintained for at least 5 years after project completion. ZeroPM newsletters, policy briefs, films, podcasts, guideline and reports will be made available on the website. Scientific output (data and knowledge) will be centralised in Zenodo which is an open research repository created by Open Access Infrastructure for Research in Europe (OpenAIRE) to provide a place for researchers to deposit publications, datasets and other research artifacts. Zenodo will serve as an entry point for linking publications to the underlying research data. A ZeroPM community has been established on [Zenodo](#).



3 ZeroPM potential user groups

ZeroPM has identified 10 groups of potential users (PU) of project knowledge across different geographic scales (Table 1). ZeroPM has established an extended potential user group (EPUG) of organisations who showed interest in actively following, supporting and participating in ZeroPM project activities. This group will be expanded over the coming months, benefiting from the key communication messages detailed in this document. More information about the knowledge each PU group may be interested in and benefit from, is given below.

Table 1: ZeroPM's potential user (PU) groups

PU 1	Policy-makers and administrators working with PM substances at all stages of their life cycle, at national, European and international levels
PU 2	European authorities responsible for coordinating and enacting legislation for PM substances at all stages of their life cycle
PU 3	Chemical producers working at European and international levels
PU 4	Chemical users, referring to private industries that require chemicals working at European and international levels
PU 5	Private and public-sector water utilities working at national and European levels
PU 6	Private sector businesses working with technical solutions at European and international levels
PU 7	Scientific community and academic networks, (including clustering) working with specific groups of PM substances at the national, European and worldwide level
PU 8	Environmental groups and other NGOs working at the European and international levels
PU 9	General public at the local and national levels
PU 10	Media at the local, national, European and international levels

3.1 Policy-makers and administrators and European authorities responsible for coordinating and enacting legislation (PU1 and PU2)

ZeroPM is working in a rapidly moving policy area. The Chemicals Strategy for Sustainability released by the European Commission in 2020 set bold action points for the management of chemicals (including PM substances) in Europe. Alongside this, the Zero Pollution Strategy plans to review all European Union's environmental laws and aims to reduce pollution by 2050 "to levels no longer considered harmful to health and natural ecosystems and that respect the boundaries with which our planet can cope, thereby creating a toxic-free environment".

Policy makers and administrators are currently discussing, among others points, the following forthcoming policy change: amendments to the REACH and the CLP Regulations, updates and evaluations of the Industrial Emissions Directive (Directive 2010/75/EU), the Water Framework Directive (Directive 2000/60/EC) and its daughter directives, the Food Contact Materials Regulation (Regulation (EC) No 1935/2004), and



the Sewage Sludge Directive (Directive 86/278/ EEC), as exemplary regulations that will involve persistent and mobile substances.

European authorities responsible for coordinating and enacting legislation will translate these changes into updated European regulations. ZeroPM will help support competent authorities to enforce the need for chemical regulation of some PM substances, to update EU directives and national legislations related to drinking water, wastewater and sludge management and to understand which PM substances should be prioritized for clean-up based on effects on human health and the environment.

The following policy-makers and administrators and European authorities are foreseen in the EPUG: the USEPA, Environment Canada, the Chinese Ministry of Ecology and Environment, the Chinese Ministry of Water Resources, ECHA, KEMI and the Norwegian Environment Agency.

3.2 Chemical producers (PU3)

Chemical producers working at European and international levels will need to adapt to the updated policies and regulations of PM substances. By starting early, the possibilities to greater innovation towards functional alternatives that are safe and sustainable increases. These alternatives will also provide a market advantage in the new regulatory landscape. Chemical producers will be interested in the web-based tools that will be developed in WP4 Market Transition, including the Marketplace of alternatives to PM substances, where chemical producers will also be invited to contribute. There will also be a strong interest from this group about which PM substances will be prioritised for further studies and also for additions to the SIN List. Chemical producers may also be interested in ZeroPM if they are included in ChemSec's Chemscore. The Chemscore ranks the 50 largest companies and ranks their performance in four different categories: the toxicity of their product portfolio, research and development of non-toxic chemicals, management and transparency and the number of controversies and scandals that the company has been involved in. A larger score means a better performance.

3.3 Chemical users (PU4)

Many companies are unaware of which chemicals are in their products, and therefore which contain PM substances. Thus, for chemical downstream users, significant financial and time resource investments are needed to identify, assess and implement safer and viable alternatives into production. However, barriers represented by a lack of knowledge, time and money can result in poorly informed decisions which may present themselves as regrettable substitutions.

The ChemSec business group (formed of Adidas Group, Apple, Boots UK, Coop, Dell, EurEau, H&M Group, IKEA, Kingfisher, Lego Group, Shaw Industries, Skanska, Sony Mobile and The Swedish Construction Federation) is a basis for PU4, as is the growing number of companies that have signed up to support ChemSec's "no to PFAS movement" <https://chemsec.org/pfas/>. All the deliveries in WP4 aim to support this user group in the identification and phase-out of harmful PM substances. Shaping these tools

in dialogue with the companies above will ensure that knowledge about these resources is spread to a much larger group of chemical users. This will be achieved via targeted newsletters, talks at relevant events and digital marketing.

3.4 Water utilities (PU5)

Private and public-sector water utilities working at national and European levels are tasked with keeping drinking water clean and PM substance free. The costs of treating drinking water with the advanced methods that are needed to remove PM substances presents a financial challenge for water utilities. Sustainable methods are needed where the economic, environmental and technical benefits outweigh the costs. ZeroPM has three test sites (two in Germany and one in Greece) where novel methods will be developed, pilot tested and evaluated for their sustainability. Table 2 shows the institutes that have joined PU5 in ZeroPM.

Table 2: The institutes that have joined PU5

Organisation and contact person	Associated test site	Short description
Global Water Research Coalition, Stephanie Rinck-Pfeiffer, Managing Director	N/A	Members: Canadian Water Network, KWR Water Cycle Research Institute (Netherlands), PUB (Singapore), SUEZ (France), Stowa - Foundation for Applied Water Research (Netherlands), TZW (Germany), UK Water Industry Research, VEOLIA (France), Water Research Australia, Water Research Commission (South Africa), The Water Research Foundation (US), Water Services Association of Australia. The GWRC serves as a focal point for the global collaboration for research planning and execution on water and wastewater related issues.
EurEau, Oliver Loebel, Secretary General	N/A	EurEau rings together drinking water and waste water professionals across 29 countries who supply water to over 500 million people.
The International Association of Waterworks in the Rhine Basin, Wolfgang Deinlein, Managing director	N/A	Works towards clean drinking water for 61 million inhabitants. The organisation consists of 120 water utilities in six countries along the river Rhine: Switzerland, Liechtenstein, Austria, France, Germany and the Netherlands. They focus on open and transparent public related to the precautionary protection of drinking water resources.
Vewin: Dutch association of water supply companies, Harrie Timmer, Senior Policy Advisor	N/A	Vewin are involved in international regulation, research and cooperation to improve water quality. Vewin supports regulation of PMT substances
RIWA Rijn, Gerard Stroomberg, Director	N/A	RIWA is the association of 4 drinking water companies in the Netherlands who work to improve water quality in the Rhine. Recent monitoring has shown PFAS and other emerging PM substances that are not removed during treatment.

Wasserversorgung Rheinhausen-Pfalz GmbH, Ronald Roepke, CEO	Upper Rhine	WVR supply more than 229 000 people with drinking water in the Rhineland-Palatinate area in Germany, some of which comes from bank filtrate. WVR is concerned about the presence of PM substances in the water supply and will participate in the pilot water treatment demonstrations in ZeroPM and use results in decision-making.
Stadwerke Rastatt, Olaf Kasprzyk, Managing Director	Rastatt	They supply 50000 people with drinking water in the Rastatt area in Germany. The presence of PFAS in supplies necessitates solutions and ZeroPM will exchange knowledge related to the current AC treatment used now and the novel ones to be developed in the project.
Stadwerke Baden- Baden, Peter Riedinger	Rastatt	They supply 55000 people with drinking water in the Rastatt area in Germany. The presence of PFAS from the application of contaminated sludge necessitates solutions. ZeroPM will exchange knowledge about the novel treatment methods for the test site.
Lesvos Water Supply and Sewage Company S.A., Despina Bokou, Director	Greece	They are the largest Water Supply and Sewage Company in the North Aegean Region. The company operates the STP at Mytilene where the sludge pilot system will be installed, as well other 12 STPs in the island of Lesvos.
Hellenic Association of Municipal Water and Sewerage Companies, George Marinakis, President	Greece	They coordinate and represent activities of the 117 members in Greece. They assist members with service improvement and have identified the occurrence of PM substances in drinking water, waste waters and sewage sludge as one of the major issues of concern for members.

3.5 Businesses working with technical solutions (PU6)

In areas where PM substances are in the environment, remediation solutions are needed. Businesses offering standard and advanced technical solutions will increase their profitability and market share by further expanding their portfolio of solutions. Table 3 shows the businesses that are members of PU6. Other businesses will be contacted as ZeroPM progresses, particularly those involved in H2020 projects that were funded under the same call (see section 3.6), for example EnvyTech Solutions AB, who are involved in the PROMISCES project.

Table 3: The businesses that have joined PU6

Organisation and contact person	Associated test site	Short description
Donau Carbon, Marco Müller, Head AC Application	N/A	Donau Carbon has 100 years of experience in the production, evaluation, and implementation of activated carbon (AC) adsorption systems (full scale and mobile units) for water remediation, a possible solution for PM substance pollution.

REGENESIS, Jack Shore, District Manager	N/A	REGENESIS carry out research, development and supply of products and services for cost-effective remediation of contaminated land and groundwater. Solutions are relevant for ZeroPM.
ENBIO Ltd, George Lytras, Technical Director	Greece	ENBIO Ltd construct water and wastewater treatment systems and are a supplier of environmental technology solutions in Greece. Knowledge related to technical solutions is relevant for ZeroPM.
CONDIS, Rieke Neuber	Upper Rhine	CONDIS manufacture boron diamond doped electrodes. Knowledge from CONDIS will support the electrochemical degradation/mineralization method to be developed for the PM substances contained in treatment residues.
Lanxess, Stefan Neufeind	Upper Rhine	Lanxess's core business comprises the development, manufacture and sale of high-tech plastics, high-performance rubber, specialty chemicals and intermediates. Lanxess will support the work with ion exchange resins providing materials and technical support.

3.6 Scientific community, academic networks and clustering (PU7)

ZeroPM emphasises integrated transdisciplinary research that creates a bridge between several academic disciplines, as demonstrated by the diverse expertise of the consortium. The beneficiaries in ZeroPM will continuously collaborate to create synergies with academic networks working in these disciplines, as well as other projects and initiatives of interest that might provide significant leveraging potential to ZeroPM. Examples include:

- ▼ Green Science Policy Institute (Arlene Blum, Executive Director) works to facilitate the responsible use of chemicals to protect the ecosystem and human health. It builds partnerships between scientists, regulators, businesses, and public groups to develop innovative solutions. Two-way communication will support ZeroPM.
- ▼ The NORMAN network which is a network of reference laboratories, research centres and related organisations for monitoring of emerging environmental substances. A close link with WP5 Substance grouping is envisaged and database exchange will be carried out, also in connection with the sister project PROMISCES, of which they are a member. An initial meeting has been held with NORMAN and PROMISCES to identify potential topics for collaboration (defining harmonized use categories).

In addition, ZeroPM has established an External Excellence Advisory Board which is made up of five people who are all active within PM substance research outside Europe. These members will work with ZeroPM to highlight relevant findings and spread and embed the ZeroPM message in China, Canada and America. The members are described in Table 4.

Table 4: Information about the members of the External Excellence Advisory Board

Name	Country	Biography and ZeroPM WP link
Julie Zimmerman	Yale University, USA	Expert in green chemistry and chemical substitution. Her work focuses on sustainable technology innovation. She is Editor in Chief of Environmental Science & Technology and will be involved in WP2 Alternatives assessment and will carry out a sabbatical at beneficiary Stockholm University.
Joel Tickner	University of Massachusetts-Lowell, USA	Works with green chemistry, chemicals policy, and pollution prevention research on safer products and manufacturing processes. He is the founder of the Association for the Advancement of Alternatives Assessment and the Green Chemistry and Commerce Council (GC3). GC3 consists of 120 companies and works for an industrial shift towards green chemistry. He will be involved in WP4 Market transition, passing knowledge from the industrial shift in America
Jianguo Liu	Peking University, China	Expert in emission inventories of PFAS in China. He carries out research on emission, exposure, impact and policy of chemicals of high or emerging concern globally, including POPs, PBT, EDCs, and PPCPs in China. He was a former member of the Chinese governmental delegation for the Stockholm Convention, SAICM and the Minamata Convention and is now a member of the Steering Committee of the UNEP Global Chemicals Outlook II. He will be involved in WPs 3 Policy and 5 Substance grouping feeding his experiences of the science-policy interface.
Biao Jin	Chinese Academy of Sciences, China	Research expertise in PMT substances in China and an ongoing collaboration with the Ministry of Ecology and Environment (MEE) of China. Has will be involved in WP5 Substance grouping supplying a Chinese perspective.
Sébastien Sauvé	Université de Montréal, Canada	Expert in sustainability and environmental chemistry. He carried out research on contaminated sludge, circular economy, PFAS analysis, effects of PM substances on health and the environment. He will be involved in WPs 6 Risk Assessment and 7 Technical solutions, via state-of-the-art methods for novel PM substance monitoring and their effects on environmental and human health.

In addition to the members shown in Table 4, three additional people have been approached:

- ▼ Satoshi Endo: National Institute for Environmental Studies, Japan. Expert in environmental processes and properties of contaminants. Research on soil sorption, property prediction, and environmental process modelling of organic contaminants. Contribution to WP6.
- ▼ Roxana Suehring, Ryerson University in Toronto Canada, Expertise in the fate and transport of organic contaminants, plastic contamination in urban water,

emerging contaminants, high-resolution mass-spectrometry and long-range chemical transport. Contribution to WP5.

- ▼ Michelle Embry, Health and Environmental Sciences Institute, Washington, USA. Expertise in bioaccumulation, animal alternative methods development in ecotoxicology, PBPK modelling, exposure assessment, risk modelling. Contribution to WP6.

ZeroPM will maximise knowledge gained in ongoing H2020 projects as well as EU projects that have concluded. ZeroPM will establish strong links and collaborative efforts with projects funded under the same call and sister calls through clustering activities. ZeroPM will utilize EU Joint Research Centre (JRC) scientific tools and databases. Examples of relevant projects, clusters and JRC resources include:

- ▼ SOLUTIONS (FP7, grant agreement number 603437). ZeroPM will build on the analysis of regulatory gaps and opportunities identified for present and future emerging pollutants in land and water resources management. Several members of ZeroPM were also part of SOLUTIONS.
- ▼ PERFORCE3 (H2020 ITN project, grant agreement number 860665). ZeroPM will learn from remediation methods tested for water contaminated by PFAS and use modelled data in the multimedia fate model in WP6. Several members of ZeroPM are also part of Perforce3.
- ▼ UNEP stocktake. Methods used to assess social aspects of possible actions, barriers and policy solutions to reduce the flow of plastics to the ocean will be used in ZeroPM
- ▼ ITN LimnoPlast (H2020 ITN project, grant agreement number 860720). Tools developed to investigate risk perception related to microplastics in freshwater will be used in ZeroPM. One member of ZeroPM is also a member of ITN Limnoplant.
- ▼ EUTOXRISK (H2020 project, grant agreement number 681002). ZeroPM will build on the integrated approach for testing and assessment using in vitro and in silico models for hazard assessment.
- ▼ EURION New test methods will be developed within the EURION cluster that can be implemented in the bioassay toolbox of ZeroPM.
- ▼ HYDROUSA (H2020 project, grant agreement number 776643). ZeroPM will built on the gained experience for integrated wastewater management applying circular and nature-inspired technologies
- ▼ HBM4EU (H2020 project, grant agreement number 733032) ZeroPM will build on HBM4EU's assessment of stakeholder needs and priorities.
- ▼ RoadToBio (H2020 project, grant agreement number 745623). ZeroPM will seek synergies with RoadToBio which will deliver a roadmap and action plan Europe's chemicals industry towards the Bioeconomy to 2030.
- ▼ Sister projects
 - SCENARIOS: Strategies for health protection, pollution Control and Elimination of Next generAtion RefractIve Organic chemicals from the Soil, vadose zone and water (TOPIC GD-8.1-2020)
 - PROMISCES: Preventing Recalcitrant Organic Mobile Industrial chemicalS for Circular Economy in the Soil-sediment-water system (TOPIC GD-8.1-2020)

- PANORAMIX: Providing risk assessments of complex real-life mixtures for the protection of Europe's citizens and the environment (TOPIC GD-8.2-2020)
- Alternative: environmentalAL Toxicity chEmical mixtuRes through aN innovative platform based on aged cardiac tissue model (TOPIC GD-8.2-2020)
- LIFESAVER: Living Impact on Fetal Evolution: Shelter-Analyze-Validate-Empower Regulations (TOPIC GD-8.2-2020)
- ▼ Cluster: Green Deal. A cluster for all projects funded under the H2020 Green Deal call.
- ▼ JRC-ECVAM. This initiative focuses on the validation of in vitro bioassays for thyroid hormone disruption and will be linked to WP6 of ZeroPM.
- ▼ The JRC's IPCHEM database for chemical monitoring data will be used to retrieve existing data especially from the Environmental monitoring and Products and Indoor Air modules. Data produced by WP5 will be shared to this database.

3.7 Environmental groups and NGOs (PU8)

Environmental groups at the grass root level face the problem of PM substances in the environment first hand. Communities who have contaminated drinking water, or those who are unable to grow crops on contaminated land are pushing for change and requesting support. NGOs working at the European and international level can play a key role in promoting social or political change on a broad scale or very locally. Table 5 shows the environmental groups and NGOs that are members of PU8. The list will be expanded as ZeroPM continues.

Table 5: The environmental groups and NGOs that have joined PU8

Organisation and contact person	Short description
The District Office of the City of Rastatt, Reiner Sohlmann	The community at Rastatt is directly affected by the PFAS contamination in the area and will benefit from ZeroPM research at test site 1 (Rastatt)
Clean Cape Fear (Emily Donovan, Co-Founder)	Clean Cape Fear is made up of advocacy groups, community leaders, scientists, educators, and professionals working to solve the DuPont /Chemours PFAS pollution in America in local air, soil, water, and food supply. Social and behaviour aspects of the work clean cape fear will carry out can benefit ZeroPM.
PfoaProjectNY, Loreen Hackett, Founder	PfoaProjectNY is a grass roots group responding to elevated concentrations of PFOA in the blood of local residents in New York as a result of contaminated drinking water. They will look towards the results of ZeroPM for information.
CHEM Trust, Ninja Reineke	CHEM Trust has a mandate to protect humans and animals from harmful chemicals. CHEM Trust will follow ZeroPM, especially policy and market transition work, highlighting project achievements.

3.8 General public (PU9)

Communication is also essential to inform non-specialists. ZeroPM will therefore also direct its communication activities towards the general public who are PU9. It is important to reach out to the general public and show them the impacts and benefits of the problems ZeroPM is working to solve. By including them ZeroPM will be able to show how societal issues can be tackled. Activities will target inhabitants who are affected by the pollution close to the ZeroPM test sites. For example, local inhabitants living in the Rastatt area will be able to participate in demonstration days and the close link with Stadtwerke Rastatt, Stadtwerke Baden-Baden and The District Office of the City of Rastatt will also foster this. The general public will also be included in the social sciences work to be carried out where surveys in three European countries will be used to obtain data related to perceptions on essential use.

3.9 Media (PU10)

Project partners, especially WP leaders and partners carrying out the work at the ZeroPM test sites, will establish contact with journalists for local and regional news coverage in newspapers, radio and television. The ZeroPM coordinator communications officer and other partners will write regular press releases highlighting significant project developments and outcomes that will be available to all partners for translation to the local language. The media strategy will target in this way national, EU and international news outlets to reach the general public. Previously, ZeroPM consortium members have been interviewed by Chemical Watch, the BBC, Reuters, the Guardian and the Economist, and can notify their journalist contacts at these outlets about news from ZeroPM. Press releases will be launched on institute websites, national press release servers, and international press release servers like EurekAlert!.

4 Communication key messages

The key message of ZeroPM forms the basis of all communication activities. The key messages delivered to PU will be based on answering the following questions (

Table 6):

- ▼ What is ZeroPM doing?
- ▼ How will ZeroPM do this?
- ▼ Why is ZeroPM doing this?
- ▼ What are the anticipated outcomes and impacts of ZeroPM?

Table 6: The questions to answer when developing the key communication messages

Question	Key communication message answer
What is ZeroPM doing?	Interlinking Prevention, Prioritization and Removal strategies to protect the environment and human health from PM substances
How will ZeroPM do this?	Develop an evidence based multilevel framework for minimising use, emissions and pollution from harmful PM substances. The framework will be designed by a multidisciplinary consortium together with

	regulators, the chemical and environmental technology industries, the water sector and NGOs.
Why is ZeroPM doing this?	To support the achievement of the goals of the European Green Deal and move towards a zero pollution environment that will improve quality of life. Also, to raise general awareness about PM substances and the fact that they present a unique problem which needs to be tackled by diverse stakeholders from the three angles: prevent, prioritize and remove.
What are the anticipated outcomes and impacts of ZeroPM?	The impacts are 4-fold; social, economic, academic and political. The following outcomes are foreseen. <u>Social:</u> To improve citizens livelihoods by reducing the concentration of PM substances in the environment. <u>Economic:</u> To increase the competitiveness and business opportunities for the chemical, water and technological sectors working with PM substances, as part of a transition to a more safe and sustainable era of chemical design. <u>Academic:</u> To advance scientific understanding and methodology related to PM substances, their behaviour, risk and remediation, beyond state of the art. <u>Political:</u> To identify opportunities for improved and harmonized policy frameworks for PM substances.

The communication key messages will focus on clear, memorable ideas that guide all activities. The key messages will activate and engage the PU group to participate in ZeroPM, inviting them to become ambassadors of the mission towards zero pollution of PM substances. The key messages will be tailored for each of the PU groups and are detailed below.

4.1 Policy makers and enforcers (PU1 and PU2)

The goal of the communication activities for policy makers is to engage them to deliver clear, concise messages to facilitate policy change related to PM substances. The key message will be persuasive with a political tone and emphasise a need for action:

Key message

We can support the environment, the economy and society by improving and harmonizing policy frameworks and legislation aimed to reduce the environmental presence of persistent and mobile substances

4.2 Chemical producers and users (PU3 and PU4)

The goal of the communication activities for chemical producers and downstream users is to build awareness, provide knowledge and support opportunities in order that they

Key message

We can create a win-win situation to support competitiveness and business opportunity through a transition to safe and sustainable alternatives and away from harmful persistent and mobile substances

can move away from harmful PM substances. The key message will be supportive and persuasive to catalyse action.

4.3 Water utilities and businesses working with remediation solutions (PU5 and PU6)

The goal of the communication activities for water utilities is to support suppliers in their quest to ensure the delivery of clean drinking water. They require information about remediation solutions, where resources should be focused, as well as wider effects on humans and ecosystems. The key message will be knowledge based and more technical.

Key message

We will create an enabling environment to support the supply of pristine drinking water. Political, technological, environmental and economic dimensions will be considered for novel preventive and remediation solutions for persistent and mobile substances.

4.4 Wider scientific community (PU7)

The goal of the communication activities for the scientific community, academic networks and projects involved in clustering activities is to draw attention to ZeroPM results and impacts. The language used will be more scientific.

Key message

ZeroPM will advance the scientific state-of-the art and interlink prevention, prioritization and removal strategies to protect the environment and human health from persistent and mobile substances.

4.5 Environmental groups and NGOs (PU8)

The goal of the communication activities for environmental groups and NGOs is to engage and mobilize them to become active participants in reaching the aims of ZeroPM and push for change. The key message will be positive and persuasive with a call for action.

Key message

Let's work together to tackle the problem of pollution from persistent and mobile substances to make a positive political, industrial and social change.

4.6 General public and media (PU9 and 10)

The goal of the communication activities for the general public and media is to raise awareness and inform them about the problem of the presence of PM substances in the environment, while assuring them that ZeroPM will provide solutions to the problem.

The key message should provide a clear, non-technical message in an effective way which highlights the benefits of ZeroPM for society.

Key message

We are on a mission to improve livelihoods by reducing chemical pollution and keeping water sources clean. Learn more about ZeroPM and join us in our journey.

5 Communication activities

ZeroPM has identified four main communication channels that will be used: digital communication, traditional media, events and interpersonal. Within each of these channels there are many communication activities planned to inform about ZeroPM and its results. These are shown in Figure 2. An overview of the communication activities is given in Table 7 and additional details are included in the subsequent chapters.

Figure 2: The communication channels and activities planned in ZeroPM



Table 7: A summary of communication activities providing a description, the PU reached, the expected impact and the impact area

Activity	Description	PU	Expected impact	Impact area
Website	External dissemination of aims, structure, partners, events, news and key research findings. All major outputs and activities collected in one place.	PU 1-9	ZeroPM project legacy and ensuring project outcomes are widely available.	Science, policy, society, industry

Social media presence	Twitter, Facebook, LinkedIn and ResearchGate presence. Announcements of news, key findings, events and project outcomes. Hashtag #ZeroPM will be used.	PU 1-9	Ensure broad dissemination, especially those not previously identified within the Pus	Science, policy, society, industry
Newsletters	Biannual newsletters (in English) to highlight key findings and activities carried out. Sent out to ZeroPM's extended network, and to which people can subscribe to from the project website	PU 1-8	Encourage implementation of project outcomes. Communication to the EU Project Officer for EC magazines	Science, policy, industry
ZeroPM identity	A logo for dissemination, exploitation and communication material. ZeroPM word templates including certain features shown in the proposal	PU 1-9	Enhances ZeroPMs' visibility, results in PU recognising ZeroPM's documents	Science, policy, society, industry
Short podcasts and films	Informative accounts highlighting ZeroPM progress, via interviews with consortium members and associated members. Hosted on the project website and placed on youtube.	PU 1-9	Ensure broad dissemination and secure the legacy of ZeroPM	Science, policy, society, industry
ZeroPM webinar series	Longer accounts from each WP to report ZeroPM findings.	PU 1-8	Targeted dissemination and effective communication outside ZeroPM	Science, policy, industry
Science-policy webinar series	Webinar series organised in collaboration with a national or European policy-enforcer (e.g. ECHA, KEMI). ZeroPM will profile results as well as invite others to speak. Suggested topics are: Support the market for greener products Understanding barriers for the adoption of preventative solutions Increase innovation through safe alternatives Opportunities and gaps in current legislative frameworks and actions for PM substances	PU 1, 2, 3, 4, 8	Bring science in to policy and support the achievement of EU aims set out in relevant policy documents	Policy, science, industry
Press releases	External dissemination highlighting particular findings and announcing key ZeroPM events (e.g. science-policy webinar series, the SIN List launch event)	PU 1-8	Informative messages to a wider audience showing the importance of ZeroPM work	Science, policy, industry
Participation in conferences, workshops, fairs, exhibitions and events	External dissemination of key research findings. National and international levels in English and partner first languages. The following are likely: Chemical watch, Commission, ECHA, scientific bodies such as SETAC, Water Chemistry Society, EuChemS, Micropol, Norman Network and ecohazard conference, policy-science events and industry fairs. Exhibitions such as the Singapore International Water Week, Munich Environmental Technology Trade fair in order to profile remediation solutions	PU 1-9	Contribute to scientific excellence and ensure ZeroPMs' legacy. Reach public and private sector as well as civil society representatives. Provide a large group of water utilities and sewage treatment works with knowledge for load reduction	Science, policy, society, industry

ZeroPM workshops	Three broad workshops for all affiliated to ZeroPM members (PUs, extended partner network) centred on Prevention, Prioritization and Removal. A broad forum where participants will learn about linking the three focus areas of ZeroPM and be involved in discussion break outs.	PU 1-8	Support dialogue to solidify long-term stakeholders relationships. Increase enthusiasm and drive	Policy, science, industry
	WP specific workshops using two-way communication tools designed to verify project ideas, collect feedback, iterate processes and improve deliverables in line with project milestones.			
Clustering events	Workshop, events, specific activities tailored to clustering with projects funded under the same and sister call	PU 1, 28	Anchor ZeroPM with its sister projects, multiply audience through collaboration.	Science, Policy
Interviews	Spoken or written pieces with different PU groups that occur in a timely manner both with respect to internal ZeroPM developments and external influences. Both where members of the consortium carry out interviews and are interviewed themselves.	PU 1-9	Informative message for different audiences highlighting the wider output of ZeroPM	Science, policy, industry, society

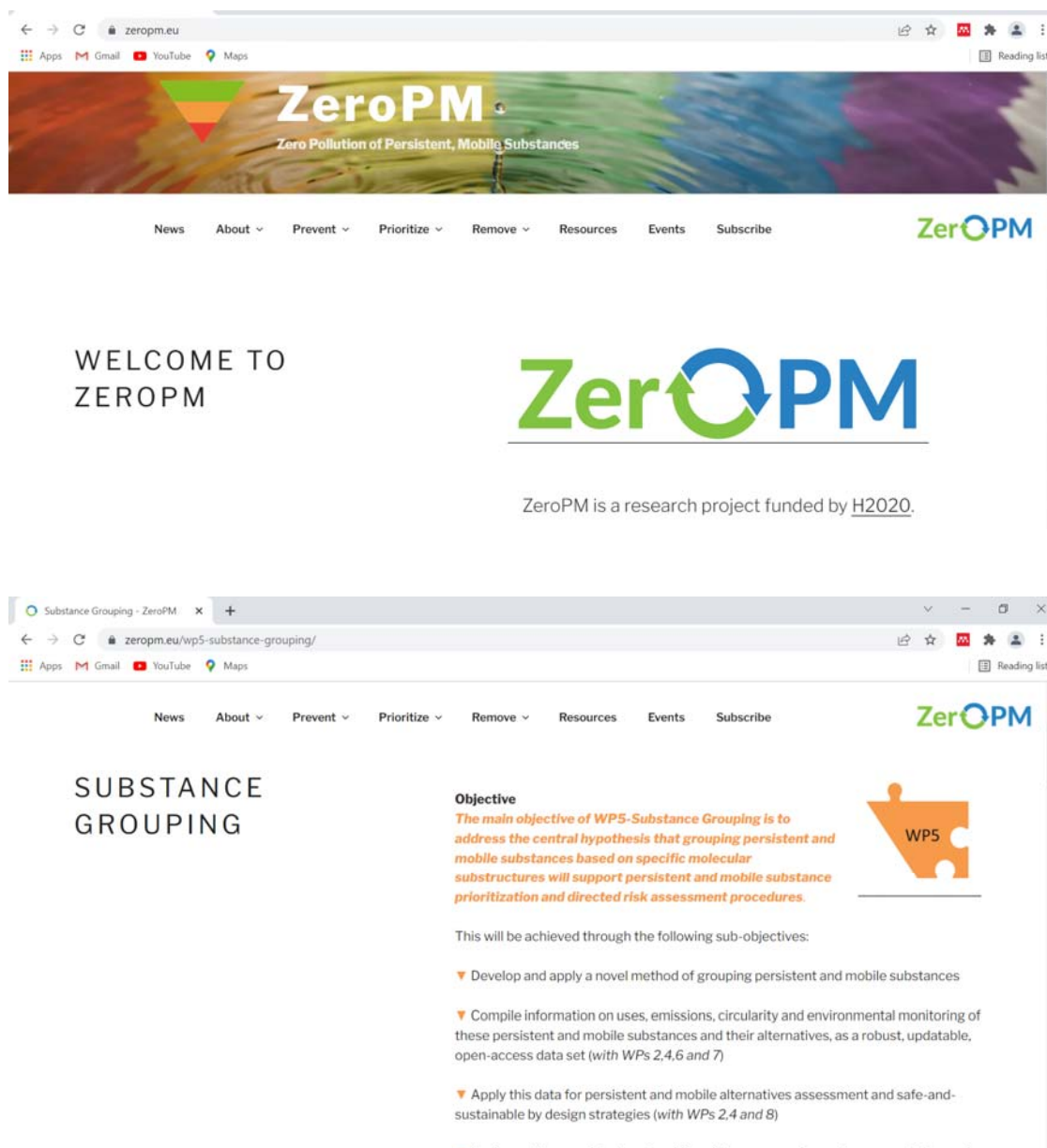
5.1 ZeroPM website

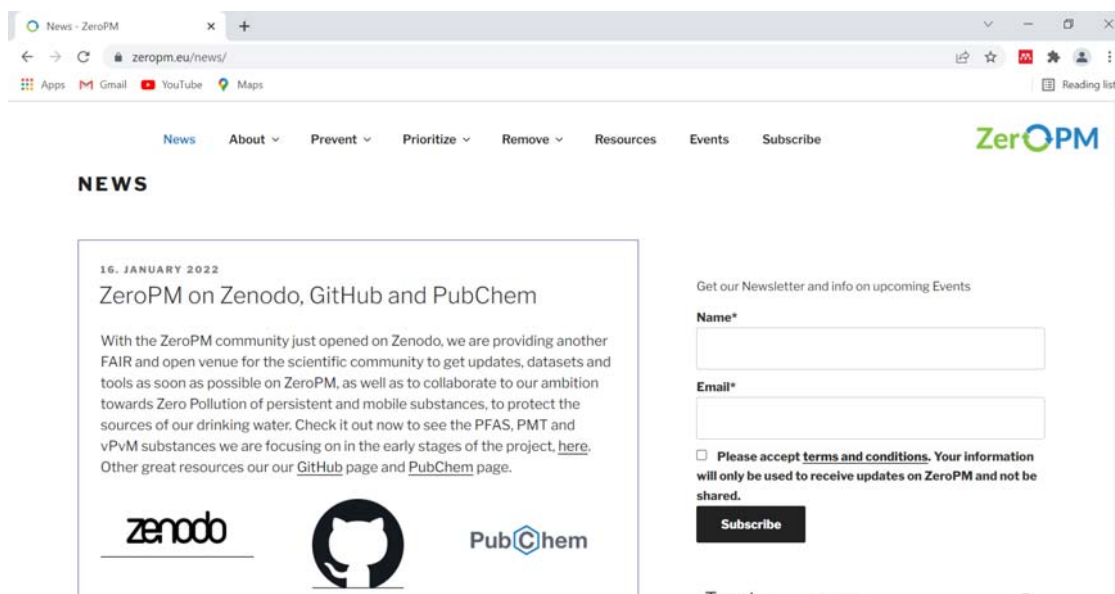
The ZeroPM website (www.zeropm.eu) was established in project month 3 (December 2021) and details are provided in Deliverable 8.2: ZeroPM website. The project website will contribute to the communication and dissemination of ZeroPM and will be maintained for 5 years after the project ends to ensure ZeroPM's legacy. The website will collate all major outputs and activities in one place. From the ZeroPM homepage it is possible to navigate to the following sections:

- ▼ News
- ▼ About
- ▼ Prevent
- ▼ Prioritize
- ▼ Remove
- ▼ Resources
- ▼ Events
- ▼ Subscribe

The website will be actively updated throughout the duration of the project, particularly through the "News" and "Events" content page, which will be used to announce events and activities that take place. Furthermore, all publicly available materials will be available on this website and will be downloadable, including deliverables, reports, and newsletters. Figure 3 shows screen shots of different pages on the ZeroPM website. The Key Performance Indicator (KPI) used to monitor the website is the number of visitors. All KPI are provided Section 6.

Figure 3: A selection of the individual web pages on the ZeroPM website.





5.2 Social media presence

Social media is a powerful tool to send shorter, or longer, project messages to various audiences. The KPI used to monitor this activity are number of posts and number of followers. All KPI are provided Section 6.

5.2.1 Twitter

Twitter is very useful to draw attention to ZeroPM news and latest project outputs (databases, scientific publications, tools, policy briefs etc). A twitter account for ZeroPM has already been developed (@ZeroPM_H2020), see Figure 4 and currently has more than 245 followers (https://twitter.com/ZeroPM_H2020).

Figure 4: The ZeroPM twitter account



5.2.2 LinkedIn

LinkedIn is the world's largest professional network on the internet. A LinkedIn account has been set up for ZeroPM, profiling it as a company (<https://www.linkedin.com/company/zeropm/>). LinkedIn will be used to compliment the information profiled on Twitter. The posts will be longer than those on Twitter and will profile results in more detail.

5.3 Newsletter

An electronic newsletter will be produced biannually (in English), containing information on project activities and other relevant news. The newsletters will be available to download from the website and will also be sent out via email to those who have subscribed to receiving updates about ZeroPM. The first newsletter will introduce the project. Subsequent newsletters will highlight WP activities, events held and relevant external developments. The KPI used to monitor the newsletter is the number of recipients. All KPI are provided in section 6.

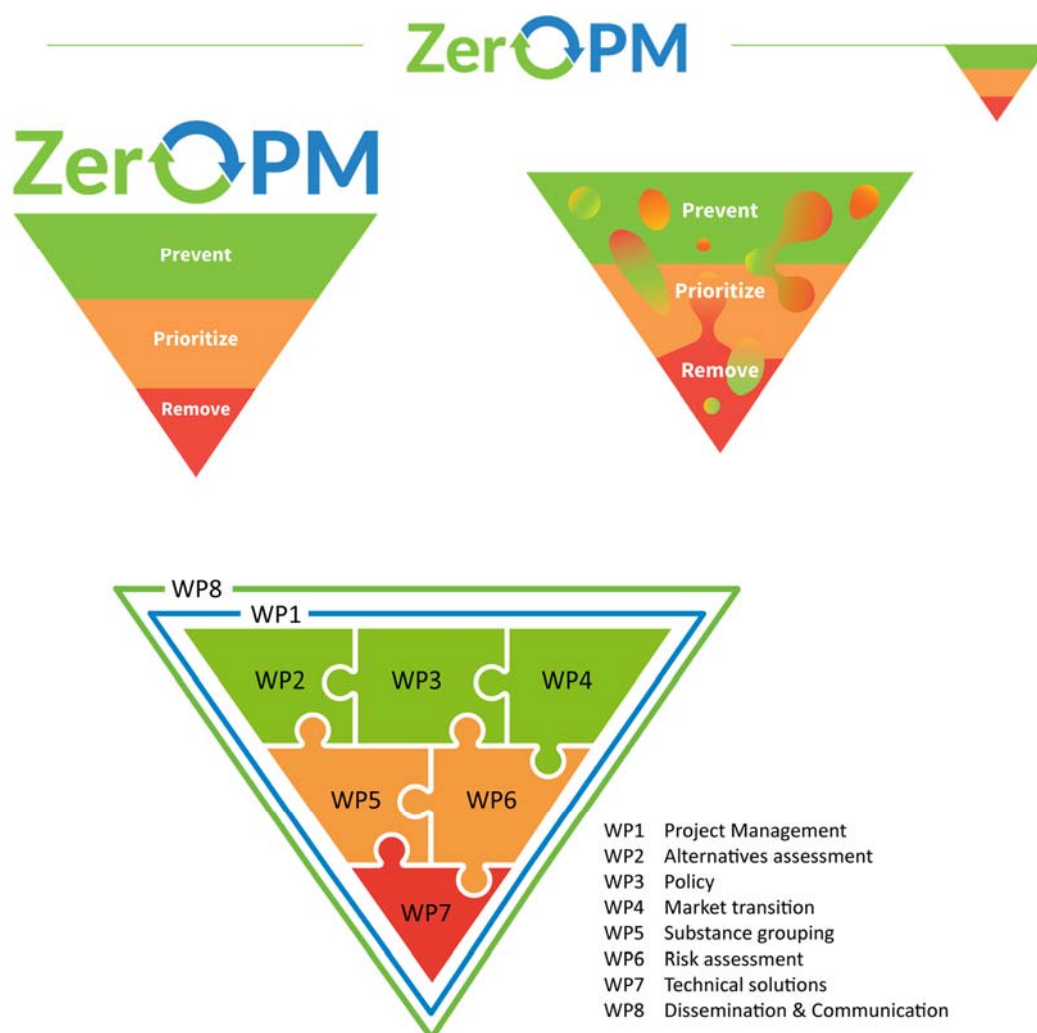
5.4 ZeroPM identity

In order to promote a unified image of the project, a ZeroPM design identity has been developed for all communication (and dissemination and exploitation) activities throughout the project period. The design identity conveys the main message of ZeroPM, that is the interlinked prevention, prioritization and removal strategies. The design identity will enhance ZeroPMs' visibility, results in the PU groups recognising ZeroPM's material. The following have been created:

- ▼ The ZeroPM logo is based on a triangle drawing on that is depicted in the Toxic Free Hierarchy of the EU Chemicals Strategy for Sustainability (Figure 5). The colours used represent the prevention, prioritization and removal interlinked strategies investigated in ZeroPM. The circle with a blue and green arrow are symbolic of water and a circular economy.
- ▼ Graphic elements: ZeroPM logo, jigsaw pieces, ZeroPM triangle, lava lamp showing ZeroPM's concept, banners to use at the top and side of documents
- ▼ ZeroPM colour and font scheme which will be used in all materials (blue, green, orange and red)
 - Blue: #2880C2, 40/128/194
 - Green: #81C241, 129/194/65
 - Orange: #F79A4A, 247/154/74
 - Red: #EF4B3D, 239/75/61
- ▼ Microsoft word templates: report (also for deliverables to the Commission), appendix, letter, blank pages, newsletter, meeting agenda, minutes of meeting
- ▼ Microsoft PowerPoint templates: presentation, poster (horizontal and vertical)
- ▼ ZeroPM one-page flyer in English, German, Greek and French (see Appendix A)
- ▼ QR code that is linked to the project website

All materials and activities will clearly state information on EU funding, displaying the EU emblem and including the following text: *"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101036756"*. All partner logos will be used in communication (and dissemination and exploitation) materials. The logos are available in the report template, a standard acknowledgement slide for presentations (see Appendix B) and in the poster templates (see Appendix C). The list above will be expanded as the project continues to include short informative documents about ZeroPM for the PU groups, standard text to be used on beneficiaries' individual project websites and standard text that can be used to provide anyone who shows an interest in ZeroPM with information. Figure 5 shows a selection of the ZeroPM branding.

Figure 5: A selection of the ZeroPM branding



5.5 Short films and podcasts

ZeroPM will produce a total of 160 short films and podcasts over the project period, roughly divided as shown in Table 8. The films will range in length from around one and a half minutes to four minutes, while the podcasts will be between 10 and 20 minutes.

Table 8: The number of short films and podcasts during ZeroPM

ZeroPM project phase	Number of short films	Number of podcasts
Initial awareness: M1 – M9	20	5
Strategic and targeted: M10 – M36	55	15
Exploitation: M37 – M60	55	15

The short films will be prepared by the core and extended consortium. Each beneficiary will produce approximately 5 pieces (with the beneficiary deciding which means is best). The NGI will produce 90 pieces. All short films and podcasts will have a specially designed intro and outro to ensure that ZeroPM identity is maintained and the funding acknowledgment is provided. The short films will focus on sending a visual message using photos diagrams as well as a narrative.

In the initial awareness phase of ZeroPM the short films and podcasts will introduce ZeroPM, the fundamental concepts and topics that will be focused on, project goals, partners and expected impacts. In the strategic and targeted phase of ZeroPM the short films and podcasts will dive deeper in to the tasks being carried out and their wider context, the ZeroPM test sites and how the PU's are involved in ZeroPM. In the exploitation phase of ZeroPM the results arising from the work will be in the spotlight.

The three broad ZeroPM workshops will be used to collect material for short films and podcasts. These workshops will bring together not only the ZeroPM consortium but also a large number of experts and stakeholders. All films will be captioned. The short films and podcasts will be uploaded to the ZeroPM website as well as a ZeroPM youtube channel. The KPI used to monitor the short films and podcasts is the number of short films and podcasts produced. All KPI are provided Section 6.

5.6 Webinars

ZeroPM will organize a ZeroPM webinar series and a science-policy webinar series with approximately 10 of each type of webinar being produced during the project period. Both series will utilize ZeroPM identity elements and will be promoted via social media, the ZeroPM website, additional European Commission communication channels and through individual partner's extended networks. All webinars will be captioned. In certain cases, the same webinar may be given by different people with different first languages while ZeroPM establishes itself in different countries. The KPI used to monitor the webinars is the number of viewers. All KPI are provided Section 6.

5.6.1 ZeroPM webinar series

The ZeroPM webinar series will consist of 10 webinars dedicated to ZeroPM findings. They will be divided between the project phases as shown in Table 9, where potential topics are also indicated.

Table 9: Overview of ZeroPM webinars

ZeroPM project phase	Number of webinars	Potential topic
Initial awareness: M1 – M9	1	Introduction of ZeroPM
Strategic and targeted: M10 – M36	4	The next hot PM substances
		WP7: ZeroPM test sites
		WP5: Substance grouping as a prioritization tool for PM substances
		WP6: Internal and external exposure to PM substances
Exploitation: M37 – M60	5	WP3: Road maps for sectors using PM substances
		WP4: Industry tools for a market transition
		WP2: The role of environmental, social and technical sciences for the selection of alternatives to harmful PM substances
		WP7: The view of water utilities and chemical producers and users related to PM substances
		ZeroPM project results in the wider context

The webinars will be around one hour in length and will be held by members of the ZeroPM consortium. The EPUG, EEAB and ZeroPM monitoring team will also be involved in cases where this is appropriate (for example as an interview in a webinar, or via a short presentation).

5.6.2 Science-policy webinar series

In addition to the ZeroPM webinar series, a science-policy webinar series will be held. This webinar series will be co-hosted by the NGI and beneficiary the German Environment Agency (UBA). They will be divided between the project phases as shown in Table 10, where potential topics are also indicated.

Table 10: Overview of science-policy webinar series

ZeroPM project phase	Number of science-policy webinars	Potential topic
Initial awareness: M1 – M9	1	Current status of the implementation of the PMT/vPvM criteria into CLP and REACH
Strategic and targeted: M10 – M36	4	Understanding barriers for the adoption of preventative solutions
		Supporting the market for greener products



Exploitation: M37 – M60	5	Increasing innovation through safe alternatives
		Opportunities and gaps in current legislative frameworks and actions for PM substances
		The broad PFAS restriction
		The essential use concept for PM substances
		Current status of the implementation of the PMT/vPvM criteria into CLP and REACH (three years on from the first science-policy webinar)
		The road map to the Zero Pollution ambition
		Safe and sustainable by design in relation to PM substances

The webinars will be around one hour in length and will be held by members of the ZeroPM consortium. The EPUG, EEAB and ZeroPM monitoring team will also be involved in cases where this is appropriate. Organisations who have a strong political voice the PM substance discussion, such as ECHA, KEMI and RIVM will also be invited to present at the science-policy webinars.

5.7 Press releases

ZeroPM will seek to highlight findings and announce key ZeroPM events through the use of press releases. The press releases will be prepared in partner languages and translated when appropriate to English, German, Greek, Norwegian, Swedish and French. The KPI used to monitor the press releases is the number of press releases. All KPI are provided Section 6. Table 11 shows the number of press releases according to the period of ZeroPM as well as ideas for topics that can be covered. The topics will depend on the activities taking place at the time.

Table 11: Number of press released to be produced over ZeroPM

ZeroPM project phase	Number of press releases	Potential topic
Initial awareness: M1 – M9	20	ZeroPM has received funding, wider project context and ZeroPM interlinked strategy, introduction to the WPs, introduction to the test sites, announcement of the prevention broad workshop and the webinar series
Strategic and targeted: M10 – M36	25	Combination of social, physical and biological sciences, introduction to the people behind the work (consortium and external people) methods used by the WPs, results from WPs, announcement of the prioritization broad workshop
Exploitation: M37 – M60	35	Announcement of the SIN List update launch event, summer schools and demonstration days, results from the WPs, policy briefs, announcement of the removal broad workshop

5.8 Participation at conferences, fairs, workshops, exhibitions and events

The members of ZeroPM will endeavour to participate in relevant conferences, fairs, workshops, exhibitions and events on the local, national, regional, European and international scale. Participation at such fora provides an opportunity to engage in dialogue, verify ideas and results as well as iterate and improve work. A mapping exercise has been carried out to identify the most relevant conferences, fairs, workshops and events. Table 12 shows an ongoing list emphasizing International and European conferences, fairs, workshops and events. Although not specified in the list below, it is anticipated that partners will also participate in relevant national conferences and local events. These events are likely to take place more often than larger conferences, fairs and workshops and will be monitored on a rolling basis. All ZeroPM beneficiaries are able to react to forthcoming events and participate. Participation at major events will be flagged on the ZeroPM website via the news and events pages, through the social media channels detailed above and in newsletters. The KPI used to monitor conferences, fairs, workshops, exhibitions and events are the number of presentations given and the number of people informed by stands. All KPI are provided Section 6.

Table 12: Conferences, fairs, workshops, exhibitions and events that are possible ZeroPM platforms

Name	Type	Date	Location
Society for Environmental toxicology and chemistry (SETAC)	Conference	Yearly in May and November for SETAC Europe and SETAC North America	Europe and North America – locations are decided around 6 months before
Brominated flame retardants 2022	Conference	September 2022	Greece
Science advice under pressure	Conference	April 2022	Belgium
Water Chemistry Society	Conference	Annual	
Dioxin	Conference	Annual	
ACS	Conference	Annual	
EGU	Conference	Annual	
Micropol and Ecohazards Conference	Conference	June 2022	Spain
NORMAN Network	Events	Occur at various times	
EUChemS	Conference	Biannual	
ECHA workshops	Workshop	Occur at various times	
CEFIC workshops	Workshop	Occur at various times	
IFAT: International Trade Fair for Environment, Waste Water and Waste Disposal	Fair	June	Germany

At the time of writing the follow presentations have been held, or abstracts have been accepted for conferences, fairs, workshops and events.

- ▼ SETAC Europe 2022, May 13th – 17th, Copenhagen, 7 ZeroPM poster abstracts accepted for a poster corner. One per WP and one to introduce ZeroPM

5.9 ZeroPM workshops

5.9.1 Prevent, prioritize and remove workshops

During the course of ZeroPM, three broad workshops will be held focusing on prevention, prioritization and removal at months 12 (September 2022), 24 (September 2023) and 40 (January 2025). These workshops will be one or two day events held in person depending on the current pandemic situation. The NGI and UBA will be the beneficiaries primarily responsible for the organisation of these workshops. The workshops will be open for the whole consortium, all of the associated project groups (ZeroPM monitoring team, EEAB, EPUG) and partner networks will be utilized to extend the invitation to reach a wider audience. These workshops will serve as a platform for ZeroPM to inform the audience of the project ideas, invite and connect with major figures that will lead the transition to zero pollution, as well as carry out group work tasks that will help to scope and steer the project further. The KPI used to monitor the ZeroPM workshops is the number of attendees. All KPI are provided Section 6.

The prevention workshop will be held in Berlin on the 27th and 28th of September 2022. At the time of writing the following points will be on the agenda:

- ▼ Session on Alternatives Assessment including an introduction to the Alternatives Assessment work in ZeroPM by the WP leader, a breakout session about essential use mediated by a task leader, presentations about topics such as the overlap between essential use and sustainable by design, methods for chemical alternatives assessment. Suggested speakers include Joel Tickner and Julie Zimmerman.
- ▼ Session on Policy including an introduction to the Policy work in ZeroPM by the WP leader, a breakout session about gaps and opportunities in the policy framework for PM substances led by a task leader, presentations about topics such as the green deal, and the current state of play for PM substance regulation. Suggested speakers include Sylvain Bintein and Xenia Trier.
- ▼ Session on Market Transition including an introduction to the Market Transition work in ZeroPM by the WP leader, a breakout session related to the PFAS guide led by the task leader, presentations about topics such as business opportunities, the PFAS movement, substitution, ChemSec tools, the financial aspect and market potential of authorisation of chemicals. Suggested speakers include Maria Akerfeldt, financial investors and those working in companies that have hands on experience of substitution.
- ▼ Stands where businesses are represented (such as those in the ZeroPM monitoring team and the EPUG)
- ▼ Filming station where people will be interviewed and material gathered for several ZeroPM films.

5.9.2 Work package specific workshops

Two-way dialogue forms an important part of how ZeroPM will collect information, ground truth approaches, verify results and receive feedback. Consortium members, the members of the EEAB and EPUG, as well as others in the wider ZeroPM network will be invited to participate in a series of WP specific workshops to include the following topics:

- ▼ "Policy options and actions to prevent or minimise PM substance emissions" and "Impact assessment of selected policy options to prevent or minimise PM substance emissions" will be held in series hosted by Milieu and UBA in WP3. These workshops will be targeted at EU officials, representatives of the industry sectors affected, consumer protection groups, NGOs as well as national, sub-national and local authorities tasked with implementation and enforcement of the relevant legislation. The aim of the workshops is to ensure the most suitable policy actions for preventing or minimizing PM substance emissions are selected in order that the roadmaps produced for relevant sectors are fit for purpose.
- ▼ "Consultation of the PFAS guide for companies" will be hosted by ChemSec within WP4. The workshop will be aimed at chemical manufacturers and chemical downstream users who are currently using PFAS. These companies will be those included in the ChemSec business group and those that support the "PFAS movement" as well as other relevant companies. The aim of the workshop is to collect feedback about the web-based guidance tool and identify ways to improve it and the user friendliness of it.
- ▼ "Novel risk assessment approach for PM substances" will be hosted by UVA, ITEM and TGER within WP6. The workshop will be aimed at stakeholders working with risk assessment of PM substances to discuss the ZeroPM risk matrix outcomes for PM substances in project phase 1. Feedback will be used to fine-tune optimisation and improve the approach taken in tasks 6.1- 6.4 for PM substances in project phase 2.

5.10 Clustering

Throughout ZeroPM, various clustering events will be organised, both by the European Commission and by the members of the clusters with the projects funded under the same call and the sister call (H2020-LC-GD-2020: Building a low-carbon, climate resilient future: Research and innovation in support of the European Green Deal, Topic: LC-GD-8-1-2020 and Topic: LC-GD-8-2-2020). In addition, ZeroPM will become a member of the Green Deal project cluster. Clustering is highly advantageous as it ensures a higher impact and visibility of ZeroPM outcomes through the following:

- ▼ Supporting information exchange and best practices with other projects.
- ▼ Supporting dissemination and exploitation of project outputs.
- ▼ Providing an opportunity to make the project voice heard by advising the European Commission.
- ▼ Providing a possibility to contribute to the development of frameworks, guidelines, strategies, procedures and standards in the domain of environmental protection.

- ▼ Providing a platform for joint activities such as participation in conferences, fairs and events.
- ▼ Providing a platform for the solicitation of special sessions at conferences and special issues in journals.

5.11 Interviews

Interviews will be timely and linked to current work. In the context of this document, interviews refer to cases where members of ZeroPM are interviewed themselves and when members of ZeroPM carry out interviews. The following topics will be used in interviews that are planned to be carried out by members of ZeroPM:

- ▼ Perceptions of chemical and functional PM substance alternatives (in WP2)
- ▼ Conceptions of essential use to inform the mental models approach (in WP2)
- ▼ Opportunities and gaps in the existing policy/legal framework for preventing selected PM substances from entering the environment (WP3).

In addition, the following topics provide potential pivotal points, events and results that lend themselves to members of ZeroPM being interviewed:

- ▼ ZeroPM start up and the problem with PM substances in the environment
- ▼ The novel interlinked approach taken by ZeroPM and the expected outcomes
- ▼ The pilot scale testing at ZeroPM test sites
- ▼ The combination of social, technological and environmental results to select alternatives
- ▼ The update of the SIN List
- ▼ The short comings of current policy and opportunities for improvement
- ▼ The number of PM substances on the global chemical market
- ▼ The real risk presented by PM substances

6 Qualitative indicators for communication activities

In order to monitor the impact of the communication activities, a timeline and criteria for evaluation must be set. To this end, ZeroPM has set measurable key performance indicators (KPI) to achieve, which are divided up over the project (Table 13). The communication activities in ZeroPM will be spread across three phases running from month one to month nine, from month 10 to month 36 and from month 37 to month 60. The initial phase will create an initial awareness of ZeroPM, the strategic and targeted phase will direct communication in order to reach specific groups with deeper messages, and the final exploitation stage will maximise impact of ZeroPM and intensify interest. Whilst the activities and the corresponding KPI have been spread out, sufficient flexibility is required to allow activities to adapt to project developments.

Table 13: Key performance indicators

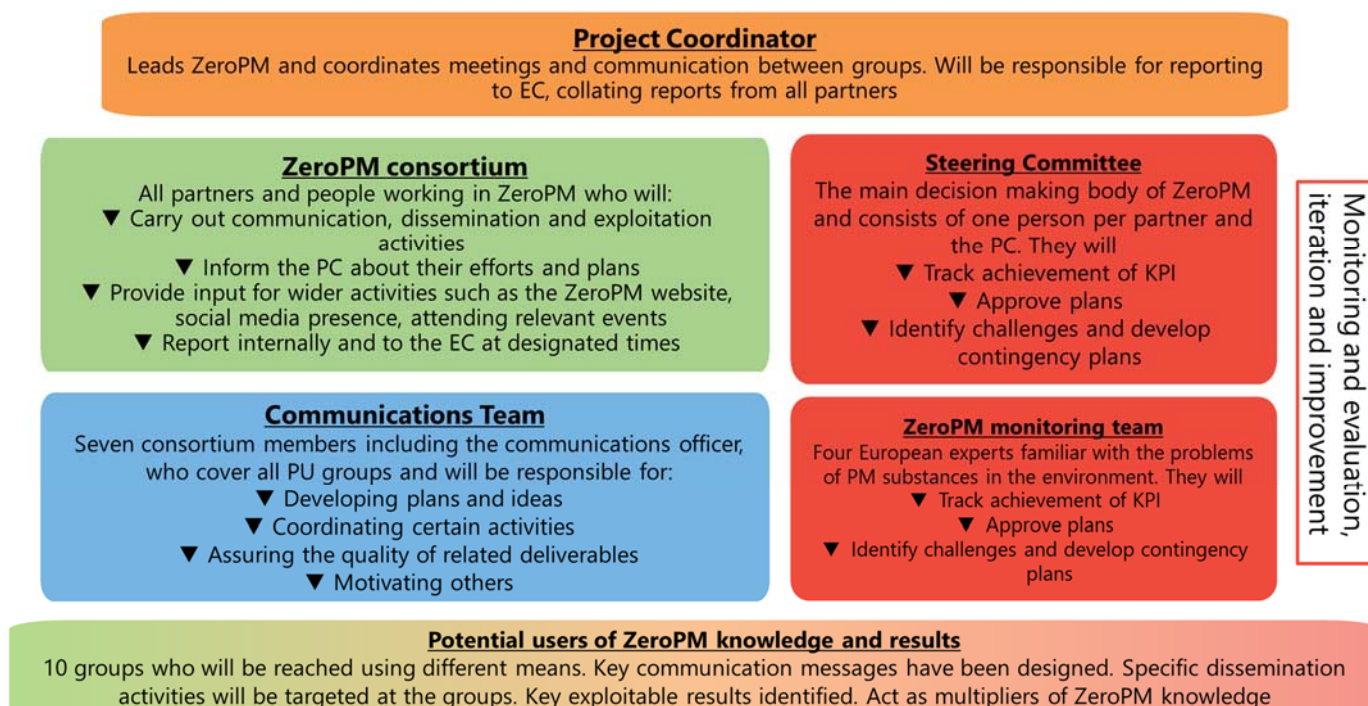
Project phase and corresponding key performance indicator			
Activity	Initial awareness (M1-M9)	Strategic and targeted (M10-M36)	Exploitation (M37-M60)
Website	Website visits: 3000	Website visits: 10000	Website visits: 15000
Social media	Followers on social media: 200	Followers on social media: 400	Followers on social media: 600
	Posts on social media relevant to project: 288	Posts on social media relevant to project: 900	Posts on social media relevant to project: 900
Podcasts and films	Number of podcasts and films: 40	Number of podcasts and films: 60	Number of podcasts and films: 60
Newsletter	Newsletter recipients: 500	Newsletter recipients: 800	Newsletter recipients: 1000
ZeroPM webinar series	Number of viewers: 200 per seminar	Number of viewers: 200 per seminar	Number of viewers: 200 per seminar
Press releases	Number of press releases: 20	Number of press releases: 25	Number of press releases: 35
Participation conferences, workshops, fairs, exhibitions and events	Number of presentations: 3	Number of presentations: 13 Number of people informed by the stands: 100	Number of presentations: 20 Number of people informed by the stands: 200
Policy briefs (WP3)	Number of policy briefs over project: 5	Number of policy briefs over project: 5	Number of policy briefs over project: 5
Reply to public consultations of forthcoming policy	Number of replies submitted over project: 5	Number of replies submitted over project: 5	Number of replies submitted over project: 5
Science-policy webinars	Number of attendees per webinar: 200	Number of attendees per webinar: 200	Number of attendees per webinar: 200
ZeroPM workshops	Number of attendees at three broad workshops: >100	Number of attendees at three broad workshops: >100	Number of attendees at three broad workshops: >100
	Number of attendees at WP specific workshops: 20-100	Number of attendees at WP specific workshops: 20-100	Number of attendees at WP specific workshops: 20-100

Based on the evaluation of performance, the communication plan will be updated and further developed. Potential weak points will be identified and mitigation measures will be put in to place.

7 Monitoring and evaluation of execution

In addition to qualitative targets, the execution of communication activities will be monitored internally by the Communications team and the Steering Committee and monitored externally by the ZeroPM monitoring team. Both groups will use the KPI to track activities as well as providing feedback concerning the effectiveness and impact of the communication activities. The management structure of ZeroPM in terms of who will monitor, evaluate, report and carry out communication activities is shown in Figure 6.

Figure 6: The way different groups of people in ZeroPM are involved in communications



7.1 ZeroPM consortium

The ZeroPM consortium will all contribute to WP8 Communication and Dissemination. They will be responsible for communication activities and will report to the PC.

7.2 Communications team

The ZeroPM communications team has been established in order to provide a dedicated group to plan and follow communication, dissemination and exploitation activities ensuring they provide maximum impact. Table 14 shows the members of the Communications team, their beneficiary, their role in ZeroPM, a brief description of their background and the PU group they cover.

Table 14: The members of the ZeroPM Communications team

Name	Beneficiary	ZeroPM role	Expertise	PU group covered
Sarah Hale	NGI	Project Coordinator	ZeroPM project overview, policy for PM(T) substances, water treatment	All
Hans Peter Arp	NGI	Deputy project coordinator, WP5 leader	ZeroPM project overview, policy for PM(T) substances, large datasets	All
Liv Rønnebak Bjergene	NGI	Communications officer	Communication tools for research projects, media outreach	All

Anna Lennquist	ChemSec	WP4 leader	Close dialogue with chemical manufacturers and downstream chemical users	PU3,4
Ivo Schliebner	UBA	WP3 partner	Policy related to PMT/vPvM substances	PU1,2
Michael Neuman	UBA	WP3 partner	Policy related to PMT/vPvM substances	PU1,2
Tobias Mohr	UBA	WP3 PhD student	Policy related to PMT/vPvM substances	PU1,2
Ellise Suffill	UniVie	WP2 Postdoc	Social sciences, outreach to citizens	PU8,9
Romain Figuière	SU	WP2 PhD student	Alternatives for harmful PM substances	PU7
Dagmar Uhl	DVGW	WP7 partner	Communications department at DVGW who lead WP7. Communication tailored to water utilities	PU5,6

7.3 Steering Committee (SC)

The SC is the main decision-making body in ZeroPM, which is chaired by the PC and includes one representative from each partner. The SC is made up of one person per partner and the PC. SC meetings will take place every six months throughout the duration of ZeroPM and will be held, as far as possible, in conjunction with other project meetings. The mandate of the SC is dictated in the CA, and decisions will be taken by a two thirds consensus.

7.4 ZeroPM monitoring team

The ZeroPM monitoring team will be responsible for monitoring the overall progress made and decisions taken in order to achieve the deliverables, milestones and impact expected of ZeroPM. They will have a deep understanding of the project components, the dissemination and exploitation plan as well as the communication strategy so that they are capable of monitoring the project. The monitoring team will ensure decisions are relevant for societal, industrial and political uptake and will provide their expertise to guide this. The ZeroPM monitoring team will attend the steering committee meetings and will receive regular progress updates from the PC in a written form (every 3 months). The people engaged will be responsible for ensuring the quality of Commission deliverables, for those deliverables that are most fitting with their background. The following people are members of the monitoring team:

- ▼ Andre Bannink, RIVA Association of River Water Work, is a policy adviser working with surface water quality. RIVA is heavily engaged in the PMT substance discussion.
- ▼ Ulrich Borchers (M), IWW is the head of the Water Quality department working with advanced analytical monitoring methods. Expertise related to PM substances in water.
- ▼ Tim aus der Beek (M), IWW is the head of the Water Resources Management Department looking at risk and mitigation pathways for PM substances.

Expertise related to PFAS and water management including end of pipe solutions.

- ▼ Maria Åkerfeldt (F), H&M group is a global Product Compliance Specialist working to ensure that products are in line with environmental and legal standards where substitution of hazardous chemicals is a key activity. Expertise in textile engineering and green chemistry. H&M group is part of the ChemSec business group involved in WP4.

The monitoring team will attend dedicated meetings twice a year (in addition to SC meetings), as well as relevant workshops and will be reimbursed in the event of necessary travel.

7.5 Reporting

Reporting communication activities is crucial to monitor, iterate and improve impact. Reporting will be performed by all ZeroPM beneficiaries both via internal reporting which will take place every 12 months and at the end of reporting periods. The periodic reports will be used in order to document and demonstrate communication activities and outcomes. An excel template has been made which will be used for the internal reporting. The template contains a list of the types of dissemination activities defined in the EC reporting module as well as how they are defined in ZeroPM, a list of the target audiences to be reached (both as they are listed in the EC reporting module and in relation to ZeroPM) and a more detailed tab to collect the following information about communication and dissemination activities:

- ▼ Partner name
- ▼ Dissemination activity in the reporting module
- ▼ ZeroPM dissemination activity
- ▼ Title
- ▼ Authors / presenters
- ▼ Name of event
- ▼ Target group in the reporting module
- ▼ Target group in ZeroPM
- ▼ Estimated number of persons reached (best guess)
- ▼ Number of countries reached (best guess)
- ▼ Date/period
- ▼ Location
- ▼ Web link / location in sharepoint
- ▼ Pictures taken (if needed for audit)

In addition a different excel template will be used for Social Media with a metadata overview to include:

- ▼ Reporting month (one entry per month)
- ▼ Number of followers / unique visitors
- ▼ Number of site visits
- ▼ Number of unique posts



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