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Stakeholder needs analysis towards a new concept for the identification and promotion of Best Environmental Management Practices

Tourais Ferreira P., Canfora P., Dri M., Gaudillat P., Antonopoulos I.

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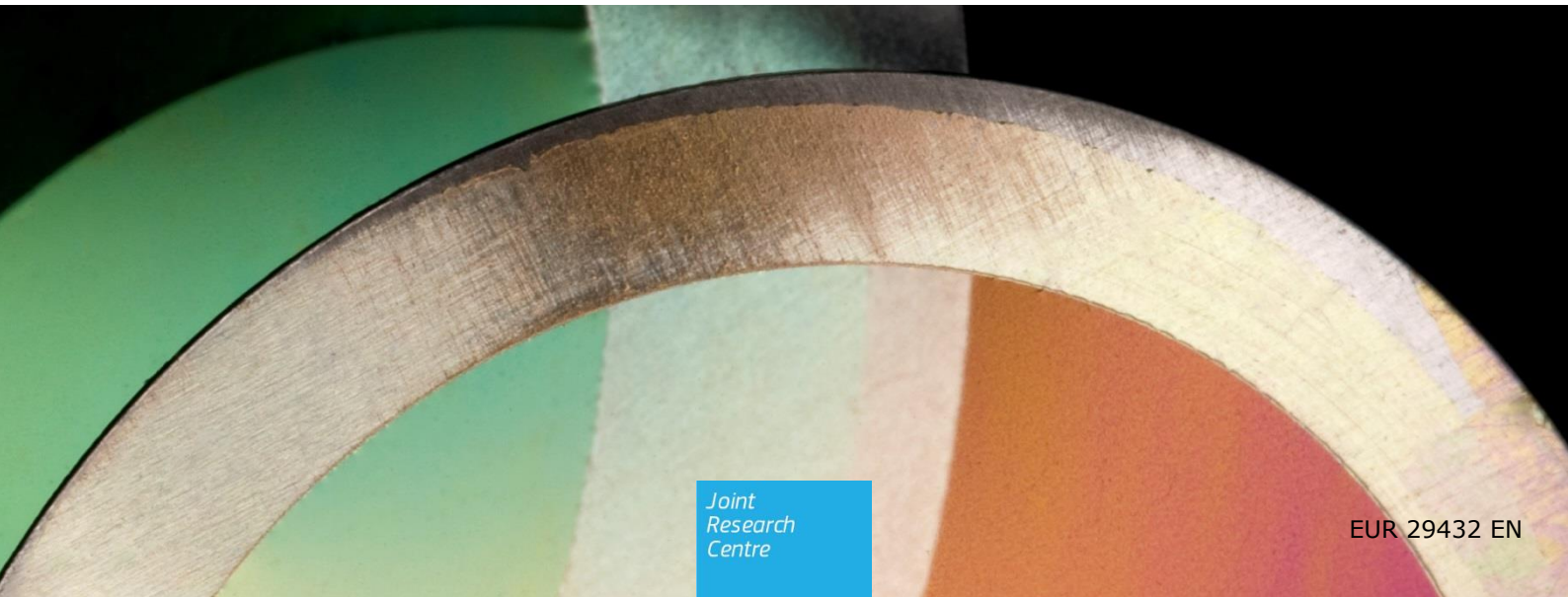

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Abstract

The European Commission has been identifying and promoting Best Environmental Management Practices (BEMPs) in implementation of a provision of the (EU) Eco-Management and Audit Scheme (EMAS) Regulation. BEMPs are those actions or techniques resulting in improvements of environmental performance well above common practice that can be implemented by organisations in different sectors. They are identified by the European Commission's Joint Research Centre (JRC) working in close cooperation with sectoral technical working groups (TWG) on the basis of the actions implemented by frontrunner organisations. They are used, on a voluntary basis, by both EMAS registered organisations and all other organisations interested in improving their environmental performance.

This stakeholder need analysis was performed to identify the major improvement opportunities in the development and promotion of BEMPs, by taking into account the main needs and barriers faced by stakeholders, with the goal to develop and validate possible solutions to a future format and approach.

On these basis, this stakeholder need analysis provides information on the main barriers and needs faced by organisations in the improvement of environmental performance and identifies an interactive web-tool with sectoral specific content and features as the recommended format and approach for both developing and promoting BEMPs, as well as continuing to make available a report with detailed information about the best environmental practices.

Executive summary

The European Commission has been identifying and promoting Best Environmental Management Practices (BEMPs) in implementation of a provision of the (EU) Eco-Management and Audit Scheme (EMAS) Regulation[1]. BEMPs are those actions or techniques resulting in improvements of environmental performance well above common practice that can be implemented by organisations in different sectors. They are identified by the European Commission's Joint Research Centre (JRC) working in close cooperation with sectoral technical working groups (TWG) on the basis of the actions implemented by frontrunner organisations. They are used, on a voluntary basis, by both EMAS registered organisations and all other organisations interested in improving their environmental performance.

This stakeholder need analysis was performed to identify the major improvement opportunities in the development and promotion of BEMPs, by taking into account the main needs and barriers faced by stakeholders. On this basis, the main goal was to develop and validate possible solutions to a future format and approach.

Multiple methods were applied to guarantee that the feedback provided by stakeholders would be as comprehensive as possible. Besides building on informal feedback provided by stakeholders, exploratory interviews, a questionnaire and semi-structured interviews were used. A group discussion at a meeting of a sectoral TWG was also arranged to discuss mainly about dissemination channels, but also possibilities of new formats and approaches and how to keep stakeholders engaged.

Although the analysis aimed to collect information from all economic sectors, because the new concept should be broadly applicable, specific attention was paid at covering the three sectors that were selected for a pilot implementation of the new concept over 2018 and 2019. These are the waste management, public administration and food and beverage manufacturing sectors.

Policy context

At the end of the year 2017, the technical work with stakeholders was finalised or approaching its end for the eleven priority sectors, and all the findings are available in BEMPs reports that are officially published or in the final draft form, available online[2]. On the basis of these BEMP reports, the European Commission has already adopted 4 EMAS SRDs, while another 4 are in the process of adoption. For the sector of tourism, further to the SRD adoption, a dedicated website (www.takeagreenstep.eu) was developed as a pilot to introduce a more user friendly approach for promoting BEMPs among organisations of the sector.

Key conclusions

The consulted stakeholders expressed a very high support for the continued development and promotion of BEMPs.

This stakeholder need analysis addressed how to make the best practices reach more effectively and efficiently their target audience as well as how to improve the process for their development, which relies on stakeholder engagement.

For accessing the best practices, the format that is more useful to stakeholders is an interactive web tool, with the information about best environmental practices directly available through an online interface but also available for download in PDF files. This enables the implementation of key features that are considered useful by stakeholders from most sectors, such as the possibility to filter best practices according to search words or defined criteria and the possibility to submit a comment to a best practice. Having the possibility to download a comprehensive report describing all the best

[1] Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)

[2] All BEMP reports are available on the JRC website at http://susproc.jrc.ec.europa.eu/activities/emas/

environmental practices for one sector as a PDF document is also important for organisations and it would be important to maintain this possibility.

Another important conclusion is the need of having the content available in multiple languages, as, in many member states, those implementing best practices on the ground do not necessarily speak English.

Stakeholders play a key role in the identification and validation of best environmental practices. The results of this stakeholder need analysis on the process and approach for the development of BEMPs is that it is essential to build and/or maintain, for each sector, a community of organisations and experts engaged in this process. In order to reduce the effort needed and secure continuous engagement over time, the contribution to the BEMP identification and validation process should be as much as possible web-based (e.g. through the same web-tool to be developed for making the BEMPs more accessible, or making use of conference calls and webinars). However, the importance of also organising physical meetings, possibly short in duration (e.g. 1 day rather than 2 days), was also stressed since they allow a more efficient discussion of issues as well as developing networking relations among contributing experts.

Related and future JRC work

The findings of the present report constitute one of the elements to inform future decisions on the format and approach to adopt in the update and improvement of the process for the identification, collection and dissemination of best environmental practices.

1 Introduction

In the framework of the European Union (EU) Eco-Management and Audit Scheme (EMAS) Regulation[3], the European Commission has been developing Sectoral Reference Documents (SRDs) on Best Environmental Management Practices (BEMPs), as instruments that support the improvement of environmental performance in organisations and promote a transition towards a more circular economy throughout Europe. BEMPs are those actions or techniques resulting in improvements of environmental performance well above common practice. They are identified on the basis of the actions implemented by frontrunner organisations (Schoenberger et al., 2011).

Eleven priority sectors were defined in the European Commission Communication 2011/C 358/02 for the identification of BEMPs, and related environmental performance indicators and benchmarks of excellence that organisations can use to monitor the progress achieved and benchmark their performance. The identification of BEMPs, environmental performance indicators and benchmark of excellence and the development of EMAS SRDs followed a participatory approach, relying on technical working groups (TWGs) of sectoral experts. These TWGs include a wide range of stakeholders, such as companies and industry associations from the relevant sector, research centres and institutes, environmental non-governmental organisations (NGOs), verifiers, EMAS registered organisations and frontrunners on environmental practices implementation. Within the European Commission, the Joint Research Centre (JRC), its in-house science and knowledge service, leads the development.

At the end of the year 2017, the technical work with stakeholders was finalised for the eleven priority sectors, and all the findings are available in technical reports that are either officially published or are available in their final draft form[4]. On the basis of these technical reports, the European Commission has already adopted four EMAS SRDs, while another four are in the process of adoption. For the sector of tourism, further to the SRD adoption, a website to present the BEMPs and their content in a more user friendly way (www.takeagreenstep.eu) was also developed as a pilot to test a number of potential features.

The development of each SRD follows a set of methodological orientations, detailed in the guidelines on the "Development of the EMAS Sectoral Reference Documents on Best Environmental Management Practice"[5] (European Commission, 2014). The development process includes an initial phase of desk research about best practices and frontrunner organisations in the sector, followed by a period of information exchange with stakeholders via the forum of a TWG that meets in person at least twice, towards the beginning and the end of this process. The contribution of stakeholders is collected throughout the drafting of the report on BEMPs, which sets the basis for the process of adoption of the SRD (third phase of the development process). At the end of the whole process, two outputs are available to organisations willing to improve their environmental performance: a BEMP report, including detailed description of all BEMPs for the sector (only in English), and the official EMAS SRD, a concise version that is adopted as a Commission Decision (available in all EU languages and also published on the EU Official Journal).

Based on the experience with the BEMP reports and EMAS SRDs produced so far, informal feedback from stakeholders indicated in many instances that BEMPs and their development process are useful, effective and helpful for organisations; however, some improvement opportunities could also be identified. From this feedback a set of three fundamental needs were highlighted:

- first of all, the need for the development of a more user friendly format for displaying and communicating the BEMPs to their target group;

[3] Regulation (EC) 1221/2009
[4] All BEMP reports are available on the JRC website at: http://susproc.jrc.ec.europa.eu/activities/emas/
[5] Available on-line at: http://susproc.jrc.ec.europa.eu/activities/emas/documents/DevelopmentSRD.pdf

- secondly, the need for the regular update of the BEMPs, which requires both systematic monitoring of what happens on the ground and stakeholder involvement;

- thirdly, the possibility to make the process of exchanging information with stakeholders more flexible and efficient.

These three potential improvement dimensions call for the development of a new concept for the identification and promotion of BEMPs, which can be applied to some of the existing sectors to foster the uptake of BEMPs and keep the BEMPs updated, as well as to new sectors that could be selected in the future.

2 Research goals and scope

This report aims to identify improvement opportunities in the process of the BEMPs development and their promotion, through the analysis of stakeholders' views and needs. In order to do so, the analysis examines the main barriers to the implementation of environmental improvements actions by organisations and the needs of organisations in order to overcome those obstacles. On those bases, a number of potential solutions are developed and, then validated with stakeholders in order to identify the possible paths to follow in the future identification and promotion of BEMPs, both for new sectors or the update of the BEMPs for the current priority sectors identified by the European Commission (Commission Communication 2011/C 358/02).

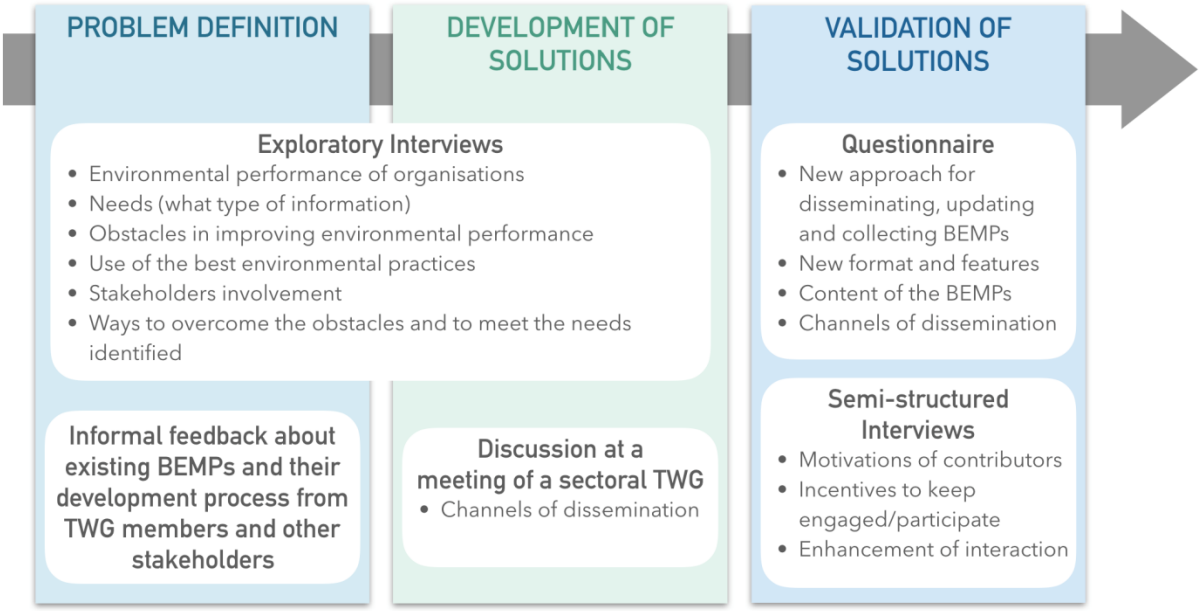
Among the different types of environmental improvement actions, the present analysis tries specifically to understand how the future identification and promotion of BEMPs can support the transition to a more circular economy (COM/2015/0614 final) in Europe. This requires that, along with efficiency improvements, organisations tackle more structural issues affecting environmental performance, such as the environmental performance of their supply chains, behaviours of consumers and even their own business model. Within the BEMPs developed so far, there are already BEMPs covering indirect environmental aspects (such as the environmental performance of suppliers or clients) as well as BEMPs explicitly underpinning the transition to a circular economy; however, a stronger focus in that area is expected in the future.

In terms of scope, the stakeholder need analysis targets primarily organisations that are likely to use the BEMPs as well as potentially contribute to their development. This means that the analysis focuses on the views of organisations that already show an interest and sensitivity for environmental issues. Potential multipliers, i.e. organisations that are likely to promote the BEMPs with their members/networks and/or help find relevant content, such as sectoral organisations, experts and NGOs, are also relevant, as they are likely to play an important role. What is out of the scope of this analysis are the views of organisations that have no interest to improve their environmental performance, as these are very unlikely to use a fully voluntary tool requiring a high engagement like the BEMPs. In terms of sectors, the study aims to collect information from all the sectors, because the new concept should be broadly applicable. However, there is a special focus on the waste management, food and beverage and public administration sectors, since these sectors were selected for a pilot implementation of the new concept over 2018 and 2019.

3 Methods

The overall methodology is summarised in Figure 1, while the assumptions and considerations adopted to define the methodology are described in the next paragraphs.

Figure 1. Overall methodology



The development of the stakeholders' needs analysis is divided into three main stages:

1) Problem definition, through the identification of the main barriers met by organisations in improving their environmental performance and the analysis of their needs to overcome these obstacles that could be addressed by this work;
2) Development of solutions based on the main barriers expressed by organisations and their suggestions to overcome them;
3) Testing and validating the solutions developed with special focus on stakeholder contributions on the features and content of the new format to present the BEMPs and the motivation to engage in the identification of best practices according to the new approach.

The collection of information to feed each stage of the stakeholders need analysis comprised five main methods: i. the informal feedback received while developing the BEMP reports so far and discussing with stakeholders about the available BEMPs, ii. a series of exploratory interviews, iii. a specific discussion during the final meeting of the TWG on the fabricated metal products sector on 27th and 28th of November 2017 in Brussels (European Commission, 2018), iv. a questionnaire and v. a series of semi-structured interviews. These information collection methods aimed to achieve a general understanding of the main trends of the stakeholders' views but do not constitute a statistically representative sample.

While developing BEMP reports for the eleven priority sectors defined by the European Commission, the JRC has collaborated with diverse stakeholders from these sectors both through e-mail and phone calls aiming to collect information about best environmental practices and in physical meetings organised to discuss and validate the best practices, environmental performance indicators and benchmarks of excellence. This interaction provided involved organisations with a channel to communicate their opinions about the development, presentation and dissemination of BEMPs. Other informal feedback was often collected when the BEMPs for a certain sector were presented by JRC at conferences, workshops or other events. This type of feedback was the driving force to develop a new format and approach for the identification and promotion of BEMPs.

The exploratory interview was developed to broaden and deepen that informal feedback by collecting further inputs from organisations and experts, including stakeholders both from the existing TWGs and without previous links to the BEMPs elaboration. The structure of the interview was adapted to each type of stakeholder consulted: organisations or multiplier/experts, from an existing TWG or unrelated to BEMPs so far.

The interview was structured along three main questions: strategy and actions adopted by organisations to improve environmental performance, the use of the BEMPs, and the involvement of stakeholders in the process of identifying the BEMPs (see Annex 1). These three main sets of information aimed to contribute to different stages of the stakeholders' needs analysis: the first section of the interview about the strategies and actions adopted by organisations to improve environmental performance contributes to build a clear picture on the problem while the second and third sections about the use of the BEMPs and the involvement of stakeholders provided background on the development of possible solutions for the future.

The discussion during the final meeting of the TWG on the fabricated metal products (European Commission, 2018) was an important source of inputs on the development of solutions, mainly regarding the dissemination of the best environmental practices. Stakeholders provided some valuable options of channels of communication to disseminate the BEMPs identified. Some of the feedback obtained also gave insights on the motivations of organisations to implement best environmental practices (which were helpful in the problem definition stage) and some tips on how to engage organisations, contributing to the development of solutions regarding stakeholders' involvement. Informal conversations in the workshop also contributed to enlarge the range of possible solutions regarding the new format and approach.

Once a range of solutions were developed on the basis of the problem definition and of the specific stakeholder feedback collected on solutions, the questionnaire and the semi-structured interview intended collecting stakeholder views on those solutions. The questionnaire and semi-structured interview specifically explored more in detail what could be the future format of BEMPs, including main features and content, and how to keep stakeholders engaged in the new collaboration process.

Multiple channels were used for the promotion of the questionnaire, such as social media, the EMAS newsletter, the EMAS Committee, a presentation at a Waste Management Conference hosted by the Committee of the Regions (on 21 November 2017 in Brussels) with follow up contacts as well as e-mailing of TWG members and EMAS registered organisations in the three sectors on which this analysis focuses specifically. This variety of channels contributed to ensure that it would be widespread among different types of stakeholders (see section 3.1 for an overview of the targeted stakeholders). Some of these communication channels were also used to promote the semi-structured interview.

The main aim of the questionnaire was to prioritise the different elements, developed in the previous steps, of potential solutions for identifying, updating and disseminating BEMPs. The questionnaire therefore focused on: the format of the new tool; the level of interactivity that it should allow, providing a set of interactivity options; the content of the BEMPs; general features to be included; and the channels to be used in the dissemination of the BEMPs. Two versions of the questionnaire were produced: a general version and a version specific to the waste management sector. This only consisted in minor adaptations: the same questions were asked with a slightly different wording to be more meaningful for organisations working on waste management.

The goal of the semi-structured interview was to complement the views collected with the questionnaire specifically in areas where the answers would be less closed. In particular, it aimed to get a deeper view on the motivations behind the participation of stakeholders in the identification and development of BEMPs. In order to keep the interview short only four questions were included, focussing on how to facilitate the interaction among the stakeholders and with the JRC, the main motivations of

organisations to participate in this process and also the main barriers faced to keep engaged over time.

The analysis of the information collected through these different methods varied accordingly. The results obtained through the informal feedback, the exploratory interview and the discussion on a workshop of the current TWG were qualitatively analysed, since the range of different answers was more important in the two initial stages of the analysis than how representative this would be.

An analysis of frequencies was the selected method to treat the results from the questionnaire. Thus, for each question, the percentages of respondents that selected each option available were computed. We also included in this analysis a characterisation of the sample, including its size and information about the respondents, such as their organisation's size, and the sector and country to which they belong.

The results from the semi-structured interviews were analysed qualitatively due to their low number.

Finally, a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis was employed to present some key elements of the conclusions, as it provides an accepted framework for the development of recommendations on the development of the future concept.

3.1 Targeted stakeholders

The selection of stakeholders is a significant aspect to debate, since it could influence the final results. Thus, the first step was to define which organisations should be contacted, resulting in three main groups of organisations:

a) frontrunners;
b) EMAS registered organisations;
c) organisations aiming to improve their environmental performance without EMAS registration.

— **Frontrunners** are those companies that achieve leading performance in at least one aspect of environmental management, as exemplified by a BEMP. Frontrunners are expected to be more focussed on their contribution to the identification of BEMPs, although they can also make use of BEMPs for improving their own environmental performance. Frontrunners may be EMAS registered or not. Most frontrunners were identified as such in the process of drafting the existing BEMPs reports, but other companies not involved in previous work on BEMPs were also considered.

— **EMAS registered organisations** are required to consider SRDs (if available) in the implementation of their environmental management system; although they have no obligation to actually implement the BEMPs, use the identified indicators or comply with any benchmark, they are required to take the SRDs into account and would therefore, at least, consult them and understand the relevance of their content to their specific case. The impact of the BEMPs would therefore be different for them than for other organisations that can consult the BEMPs on a completely voluntary basis.

— **Other organisations developing efforts to improve environmental performance** are also considered, since the BEMPs aim to provide inspiration and guidance to any organisation belonging to the sectors they address.

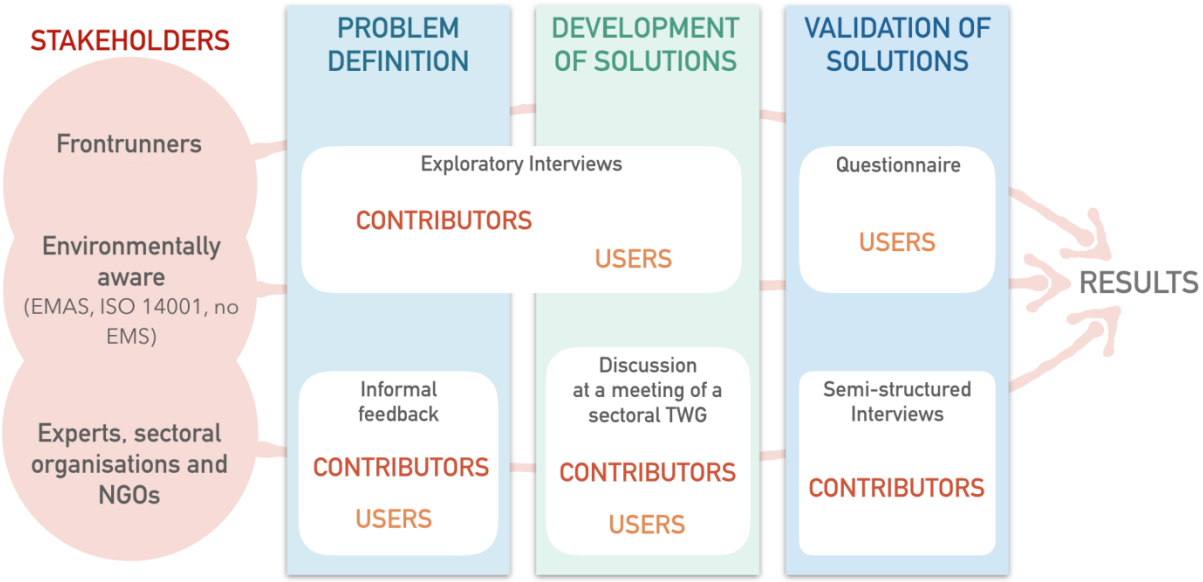
The three groups defined are not mutually exclusive since frontrunners can be registered in EMAS or not.

Another way of looking at stakeholders is distinguishing organisations into users and contributors of BEMPs. Those stakeholders that already are or will be looking for information on best environmental practices are considered users of BEMPs; while those stakeholders that are more likely to contribute with information of any kind (own

experience, data, case studies…) to the best practices development are classified as contributors to BEMPs.

Finally, organisations with low levels of environmental commitment were not considered: as BEMPs are a fully voluntary tool, these organisations are less likely to be relevant users of BEMPs because of their general lack of engagement in environmental improvement. Figure 2 summarises the involvement of stakeholders in each phase of the analysis.

Figure 2. Summary of stakeholder involvement in the analysis



Other factors to take into consideration are the **size**, **sector of activity** and **type of business model**. Organisations' size is related with the amount and type of resources available and consequently small and medium enterprises (SMEs), which have limited access to resources, benefit most from the information collection about BEMPs as it would be difficult for them to carry out such research themselves. On the other hand, larger organisations have better abilities to collect information about best practices and implement them, even if BEMPs are not available. From this perspective, it is particularly important that SMEs are well represented in the stakeholders' needs analysis.

Though we have collected feedback from organisations from all sectors, in the validation and ranking of possible solutions it was ensured that the sectors for which an update of the BEMPs via the new concept is planned in the short-term were well represented. In this context, the targeted audience for the questionnaire and the semi-structured interview focused on organisations from the waste management sector, the public administration and the food and beverage industry.

4 Problem definition

The formulation of the problem is mainly supported by information retrieved through informal feedback received from stakeholders along the development of the BEMP reports and through the exploratory interviews, performed with 11 stakeholders, comprising both organisations and multipliers/experts from diverse sectors, including waste management, public administration and food and beverage manufacturing. These ranged from stakeholders having participated in existing TWGs to organisations completely unrelated to BEMPs so far.

The information collected allowed perceiving the views of stakeholders regarding the current format and development process of best environmental practices, understanding in more depth how organisations consider environmental performance and its improvement and, based on these facts, the main needs and barriers that organisations face when trying to improve their environmental performance. These highlights will allow getting an overview of the current situation so the development of new solutions for the future in the identification, collection and promotion of the best environmental practices is based on a realistic perspective of the stakeholders' needs and barriers to environmental performance improvement.

4.1 Stakeholders' views on the best environmental practices and the development process

The most common feedback received from stakeholders points out two main aspects: first of all the quality and detail of the information displayed in the BEMP reports is very good and useful for organisations aiming to improve environmental performance (e.g. energy efficiency, circular economy); secondly, the reports are very extensive and as such, not very user-friendly; so it is difficult for organisations to use them despite the quality of the information. This obstacle to the use of the BEMP reports is particularly relevant for SMEs, since these organisations have limited access to resources and time consuming tasks will impact more on their activities.

When the report is used by stakeholders, it is applied in different ways: while some organisations use the report as a guide to implement the specific best practices described, others see the report as a learning tool and a source of inspiration to improve their practices in a more general perspective.

Regarding the types of information described in each best practice, most stakeholders seemed satisfied with the elements presented (how to implement, impacts on the organisation and case studies) and find relevant both technical BEMPs and more management BEMPs. Environmental performance indicators and case studies are mentioned as important types of content of the best practices.

Some stakeholders also expressed concerns over the length of time for the overall process of developing the BEMPs, leading to a risk of some information becoming obsolete before the BEMP report (and SRD) finally comes out; this was also coupled with frequent questions on the planned updating frequency for the reports and/or the BEMPs (N.B. the updating process is not currently planned in the EMAS regulation and in the Commission communication on the priority sectors).

Although the information on indicators and benchmarks of excellence is found interesting and useful by stakeholders, they do not always reflect the reality for SMEs (i.e. too many indicators or too detailed, very ambitious benchmarks). Some stakeholders reported therefore that it can be discouraging for SMEs to not be able to implement the specific indicators pointed in the best practice nor achieve the level of performance expressed in the benchmarks.

The feedback on the participation process itself was overall positive; with a great emphasis on the importance of the physical meetings for the final contribution of stakeholders. Despite being time-consuming, the position of stakeholders is quite

consensual in this case: the work developed in the meetings is more fruitful and efficient than if it was developed remotely. Additionally, the physical meetings represent a very important opportunity for networking that is appreciated by many stakeholders. However, some stakeholders suggest a reduction in the meeting time by improving the preparation of the meeting with the use of online tools, such as web-based interaction and webinars to agree on everything that does not require actual discussion in a physical meeting. This suggestion can also contribute to the engagement of more SMEs in the TWG, which is another improvement opportunity suggested by stakeholders.

4.2 Environmental performance in organisations

Most organisations identified two distinct levels at which they can improve their environmental performance: their own operations and their value chain, i.e. considering the full life cycle of their products. Besides more traditional environmental impacts, such as their own water and energy use or resource efficiency, organisations also acknowledge the environmental impacts associated with the whole value chain, both considering upstream (suppliers) and downstream (customers/users and end-of-life) activities. A life cycle perspective of products allows organisations to identify in what phases of the life cycle the main impacts occur and focus on reducing the most significant impacts.

Several organisations reported having invested in the management of their supply chain, through the introduction of certifications and codes of conduct in the relation with suppliers. These practices aim to influence the actions of suppliers and other actors across the whole value chain to improve their environmental performance. Also, an effort to reduce environmental impacts (e.g. energy use, circular economy) in the use phase has been a concern, leading in some cases to reformulating business models towards an (environmentally friendly) service- rather than product-based offering.

When asked about the motivations to engage in environmental performance improvement efforts, most organisations referred to regulatory requirements, market positioning or to the aspiration of becoming top environmental performers. In this last case, some organisations define their core business on environmental premises or try to provide innovative solutions to the environmental problems caused by their activities. Overall, these driving forces reveal different approaches also to deal with environmental issues, from a reactive to a more proactive approach. Those that adopt a more proactive approach and are driven by the aspiration to be top environmental performers are also the most likely to having tried out new techniques or actions and thus being able to provide meaningful information for the collection of best practices. They are also mostly happy to share their achievements and thus contribute to increasing the awareness of environmental issues. In addition, cost reduction associated with improvements in efficiency is mentioned as a driver, as well as the creation of value through the implementation of environmentally friendly practices.

When organisations decide to improve environmental performance and need to search for guidance and inspiration, many look for the support of consultancy companies or arrange agreements with universities or other research institutions. Those organisations implementing environmental practices without external support often search for guidance materials, references and best practices in a wide range of sources. Some examples of these sources of information are: international sectoral associations and forum, reference organisations in the sector or in the environmental area and online webpages dedicated to environmental standards or certifications. The BEMP reports contribute to providing inspiration and guidance to organisations improving their environmental performance, despite the difficulties reported by some stakeholders in the use of the documents.

The diversity of environmental practices implemented is high. Many organisations use environmental management systems and certification schemes, such as ISO 14001 and EMAS. Also certifications in the area of energy management, organic agriculture, stakeholders' engagement, social responsibility and innovation and research are mentioned. Along with technical practices related to more traditional environmental

issues, such as energy efficiency, organisations are also implementing programs to raise awareness among users/consumers (e.g. in the case of the waste management sector). The availability of information about best environmental practices was reported as a factor that can increment the range of possible measures considered by organisations wishing to improve environmental performance.

The prioritisation of which environmental practices to adopt first was based on different criteria depending on the organisation. Those with an environmental management system in place apply the definition of goals and targets, in the context of the environmental program as a method to define the priorities for the implementation of environmental practices. Life cycle assessment is also used as a tool that provides the needed information to prioritise the implementation of environmental practices on impact hotspots. In other cases, the priorities of the organisation are defined to be aligned with performance targets in local/national/EU strategies, defined according to national and European legislation. Several organisations also align the prioritisation with the basic needs of companies, e.g. paying attention to those actions influencing the core activities of the company and consequently that can compromise their production. The availability of detailed information on best environmental practices, including environmental and economic benefits of specific actions, can also contribute to an effective prioritisation process. Finally, due to lack of internal resources and knowledge about environmental management, some organisations choose to contract out a consultancy or arrange a partnership with a university or research organisation that would help select the priority environmental improvement actions.

Measuring environmental performance achievements is mostly done within the framework of the environmental management system (EMAS or ISO 14001), through the development of performance indicators. These are disclosed in environmental declarations or sustainability reports, in some cases with external validation (e.g. for EMAS registered organisations). The quality of the data included in the environmental declaration is a concern mentioned by one company, since the results disclosed in the indicators influence the stakeholders' perception of achievement of goals and targets established in the environmental program. Organisations recognised the importance of selecting meaningful and trustworthy indicators. The availability of tested environmental performance indicators in the BEMP reports, which can be used by organisations when relevant, is thus welcome. Stakeholders also mentioned some alternative methods for tracking progress with environmental performance improvement, such as the balance between costs and benefits and the creation of "green portfolios" where every environmentally friendly component/product used in the final product is registered. This method is mostly applied in the case of companies for which the core business is based on the assembly of pieces of a product.

Most organisations showed awareness of the impact that structural changes could have in the improvement of environmental performance; however, their availability to actually implementing those changes was limited. The reasons were diverse: fear of losing quality or specific characteristics of the product (e.g. in the food and beverage manufacturing sector), having already performed structural changes in the (recent) past or considering to have a high level of environmental performance that does not allow further large improvement steps. In other cases, structural changes seem embedded in the organisational strategy, by planning these changes in accordance to the need to improve environmental performance and including environmental requirements in every project.

Regarding incremental changes, organisations interviewed are not only making efforts to improve their own efficiency and the environmental performance of their operations, but are also implementing measures to influence their supply chain actors. Organisations provide information and in some cases training so that suppliers could improve environmental performance more easily; however, when suppliers are big companies, the ability of organisations to influence their environmental options is reduced. In the case of waste management, influencing the supply chain requires prevention measures by raising awareness among citizens.

4.3 Barriers to improvement of environmental performance and associated needs

The reported obstacles to the implementation of both incremental and structural changes include both internal and external factors. Organisational barriers to environmental performance improvements are mostly defined as lack of financial resources, employees' resistance and inertia to change and the need to adapt the organisational culture. Also the lack of knowledge about environmental management can constitute an obstacle. External barriers include: the difficulties in dealing and collaborating with suppliers to improve the overall environmental performance of the product; the effective communication with stakeholders that allows to increase market recognition and the change in behaviour; reliance on subsidies or external funding to pursue environmental practices; and lack of a clear regulatory framework that is aligned with the objectives of new strategies, such as circular economy.

Organisational needs to keep improving environmental performance are focussed on information access, communication and improved relations with stakeholders, clearer pro-active regulation and public financing opportunities. In order to make it more useful and practical to organisations, information and guidance should be less scientific and more focussed on operational issues. It should focus on best practice case studies and pilot projects. Some organisations expressed interest in having details on how these could be integrated into environmental management systems. The participation into international (or national) working groups and the development of partnership among organisations were also reported as effective means to promote the exchange of information and experiences (e.g. success stories and/or failures) among organisations.

The access to relevant information can raise the awareness on environmental issues among stakeholders and thus can influence market behaviour. In this context, communication is another essential area of action to improve the relationship between organisations and all stakeholders, including regulatory entities. In the case of the latter, the interaction with legislative/regulatory bodies also allows organisations to contribute to the development and/or implementation of regulation that is more adequate and flexible to the challenges faced by organisations.

Funding and financing programmes are also mentioned by organisations as essential to keep improving environmental performance. In some cases, training and information sessions on access to such funding and financing programmes would help to identify the more fitted programmes to which organisations can apply (regarding the type of investment or the size of the organisation).

Although some of the barriers mentioned by stakeholders, such as financing needs and lack of adequate regulation, are out of the scope of the work developed around the identification and promotion of best environmental practices, the needs for detailed and easy-to-use information are relevant to the work on developing and implementing BEMPs. Making BEMPs available and easily accessible would help organisations overcome both internal and external barriers: not only the organisation's own need for technical information to improve environmental performance, but also a tool to address the employees' resistance (which is reduced if they understand the environmental practices they could contribute to implementing) and difficulties in dealing and collaborating with suppliers to improve the overall environmental performance of the product (as the BEMPs could be used e.g. by organisations to inform or provide training to suppliers).

For those organisations with core activities in the environmental area, a different need is likely to be met by BEMPs: making their business models and achievements known. They are thus more likely to be contributors to the BEMPs development than users of published BEMPs for their own use. But they could benefit from BEMPs to increase the awareness of customers about their good environmental performance thanks to the reference in the best environmental practices. The process of engagement of these organisations should take into consideration these specific characteristics.

5 Development of solutions

The results obtained in the exploratory interviews along with the feedback received in a debate in the final meeting of a currently active TWG (European Commission, 2018) allowed sketching the main lines of the approach and format for the next phase of the development of BEMPs.

The key element of improving the user-friendliness of the BEMPs triggered a wide range of suggestions from stakeholders, ranging from the development of a lighter and user-friendly printable document, all the way to the integration of the content in an app for mobile phones or tablets. The most common suggestions, however, layed in the middle and included the development of an informational website, such as take a green step[6] website, or the creation of an interactive web based tool, where information is easier to search, filter and compare. This option was also mentioned in the debate about the dissemination of the best environmental practices in the final meeting of the TWG of fabricated metal products (European Commission, 2018).

Consulted stakeholders also suggested ensuring that the content is available in multiple languages, the publication of videos to summarise the BEMPs for a sector or tutorial videos on how to implement a specific best practice, the organisation of regular seminars and/or webinars and the development of a newsletter with content such as tips on how to take action on a certain environmental aspect.

On the basis of the analysis of the needs (see section 4) and the suggestions collected from stakeholders, a range of possible solutions were developed. These are presented in Table 1, in relation to the format of the BEMPs and main features to be offered. The possible features that are part of the solution are divided in two groups:

i. the features that support the dissemination of the content of the BEMPs: these are more oriented to enable effective one-way communication to interested stakeholders;

ii. the features that promote interactivity and for which stakeholders are more than an audience but rather proactive participants.

[6] For further information on "take a green step" see: http://ec.europa.eu/environment/emas/takeagreenstep/

Table 1. Possible solutions for the identification, collection and dissemination of best environmental management practices, based on stakeholders' suggestions

		Possible solutions
Format	General characteristics	– A website presenting the content of the different best practices in the web pages. – A website with general guidance available directly on the website and each best practice described in individual documents available e.g. as .pdf files. – An app or mobile website for smartphone or tablet. – A report describing all the best practices for organisations in a given sector, available as a PDF document that can be easily downloaded (for both printing and consultation on-screen). – Printed documents describing the best practices to be ordered on-line and delivered by post or distributed by other channels (e.g. sectoral associations, local chambers).
Features	Dissemination	– Content available in multiple EU languages. – Graphical interface to easily identify the most relevant environmental aspects for an organisation of the sector and access the related best practices. – Possibility to filter best practices according to criteria, such as subsectors for which the best practice is relevant, environmental issues addressed (e.g. energy use, biodiversity) or life cycle phase. – Possibility to compare different best practices (i.e. visualise side-by-side two or three best practices). – General information video (such as https://youtu.be/W4M4_cCauWk that promotes: http://www.takeagreenstep.eu/). – Tutorial videos for specific best practices. – Articles summarising the content of one or some best practices (such as http://europa.eu/!Qv94uy or http://europa.eu/!Cm96mp). – Articles on tips on the first steps to improve environmental performance. – Training kit with presentations about best practices that can help those actors (sector associations, consultants, chambers of commerce…) interested to train or inform organisations. – A section for innovative ideas and emerging techniques (i.e. promising options that have not been fully implemented yet and are thus not yet considered best practices). – Periodical newsletter providing relevant best practices in "pills". – News section on the website.
	Interaction	– Forum online where organisations can exchange comments and experiences with JRC staff and among each other. – Helpdesk where organisations can write to be referred to the relevant best practices and to the relevant

		frontrunners. – Possibility to publish a comment or ask a question on a best practice. – Mini-questionnaires to provide feedback on a best practice. – Possibility to submit a case study (if an organisation is implementing a best practice and would like to be featured on the website). – Comparison of the environmental performance among similar companies from the same sector (e.g. by registering in the website and introducing relevant data). – Self-assessment of the environmental performance by answering a few questions or completing a short checklist. – Organisation of periodical webinars on specific issues.

Along with the concerns about the presentation format of best environmental practices and the main features to be included in the new approach (so that this information is easier to use), the elements included in the description of each best practice is also a point in discussion. The validation of the type of information that is collected and its importance for the application of the best environmental practices would provide a solid background to select which elements should be highlighted in the new approach. Those that stakeholders point as more relevant should get more visibility.

The elements of best environmental practices considered in this review are the following:

- Description: concept of the best practice, including information on how to implement it.
- Case studies: examples of organisations having implemented successfully this best practice.
- Applicability: indication of the conditions in which the best practice may or may not be applied.
- Environmental performance indicators: metrics that can be used to monitor the implementation of the best practice or its environmental benefits.
- Benchmarks of excellence: highest environmental standards that have been achieved by companies implementing the practice.
- Environmental benefits: main environmental issues positively addressed by the best practice.
- Cross media effects: negative impacts on other environmental issues
- Economic benefits: information on possible savings or revenues and investment and operating costs.
- Driving forces for implementation of the best practice: factors that have driven or stimulated the implementation of the best practice.

The elements presented in Table 1 along with the elements to include in the description of best environmental practices represent the core of the questionnaire provided to stakeholders in order to validate the solutions developed. These questions were presented as closed questions allowing organisation to classified features and the elements of BEMPs in two scales:

- not important, partially important, important and very important;

- not needed, useful in a few cases, useful and must have.

The same survey also included two more open questions: the first on possible channels for dissemination of the final result of the identification and collection of best environmental practices, and a final question which allowed stakeholders to provide more comments or possible improvement opportunities.

The question about dissemination channels was also discussed at the final meeting of the TWG on the fabricated metal products sector (although the feedback obtained may not be fully relevant for all sectors). The TWG participants suggested as main channels for the dissemination of the best practices the involvement of higher education institutions and professional accreditation bodies, trade associations, relevant EU websites, local and regional governments, EMAS competent bodies and EMAS clubs, but also mentioned technology suppliers and United Nations organisations as further possible multipliers. It was also suggested to identify newsletters that environmental managers in the targeted sector already receive and propose short articles about the best practices. Finally, another channel could be the involvement of the larger companies of the supply chain.

Another interesting suggestion was the organisation of a launch event, where frontrunners would be able to present and share their experience in the implementation of the best environmental practices. In order to ensure a relevant and ample audience, it

was also suggested to partner with sectoral associations for the organisation of such events.

The involvement of stakeholders in the identification, collection and updating of BEMPs was also a key issue in the problem definition stage. In this case, the proposed solution is establishing the right balance between remote work (e.g. web-based interaction) for everything that can be efficiently done in such a way and periodical physical meetings for those more controversial discussions that are more efficiently run in physical meetings as well as to keep the group dynamics.

To validate these elements of solution and also to get more insights into the barriers that stakeholders might face to keep engaged in this process and about how to facilitate the participation, a guide for the semi-structured interviews, presented in Annex 2, was drafted.

6 Validation of solutions

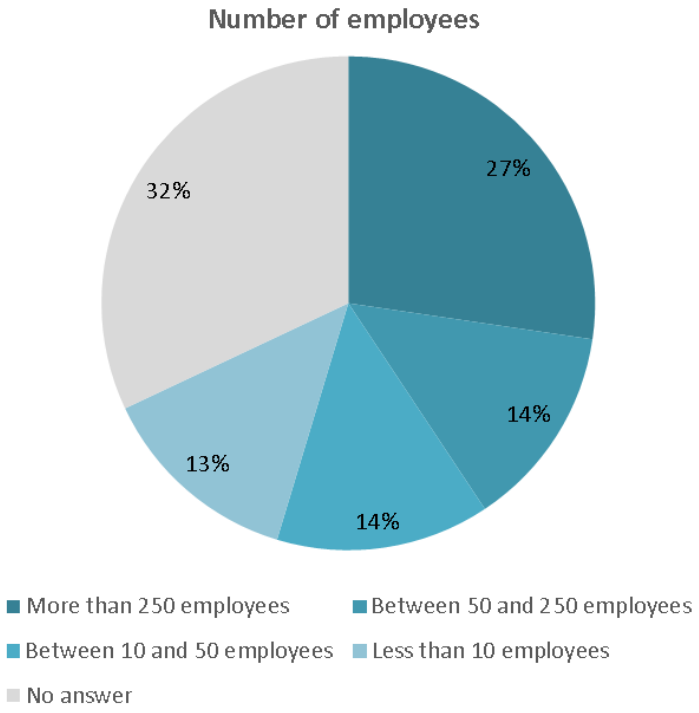
Chapter 5 describes how a range of solutions were developed through the analysis of the results obtained in exploratory interviews and through discussions with stakeholders at the final meeting of the TWG of the fabricated metal products manufacturing sector (European Commission, 2018). These possible elements of solutions were validated and ranked using a questionnaire and a set of semi-structured interviews. The questionnaire focusses on the perspective of a user of the best practice and consequently on the format, features and content of the best practices; the semi-structured interview is instead more oriented towards the perspective of contributors to the identification and validation of BEMPs and cover their needs to improve their participation experience and keep them engaged in the process.

The questionnaire was filled out by a total of 150 organisations and experts, among which 47 from the waste management sector, 26 from public administration and 22 from the food and beverage manufacturing sector.

Most of the organisations participating in the survey were from Germany (13%), Belgium (13%), Italy (13%) and Spain (11%); however, at least one response was received from 24 of the 28 Member States. Around 13% of the respondents did not provide this information.

Also in the case of the size of the organisation, more than 30% of the respondents did not disclose the information. Nevertheless, organisations with more than 250 employees represent 27% of the respondents, while the other two categories, between 10 and 50 employees and between 50 and 250 employees represent each around 14% (Figure 3). Therefore, at least around 40% of respondents are likely to be SMEs (see Annex 4).

Figure 3. Size of the organisations participating in the questionnaire based on the number of employees



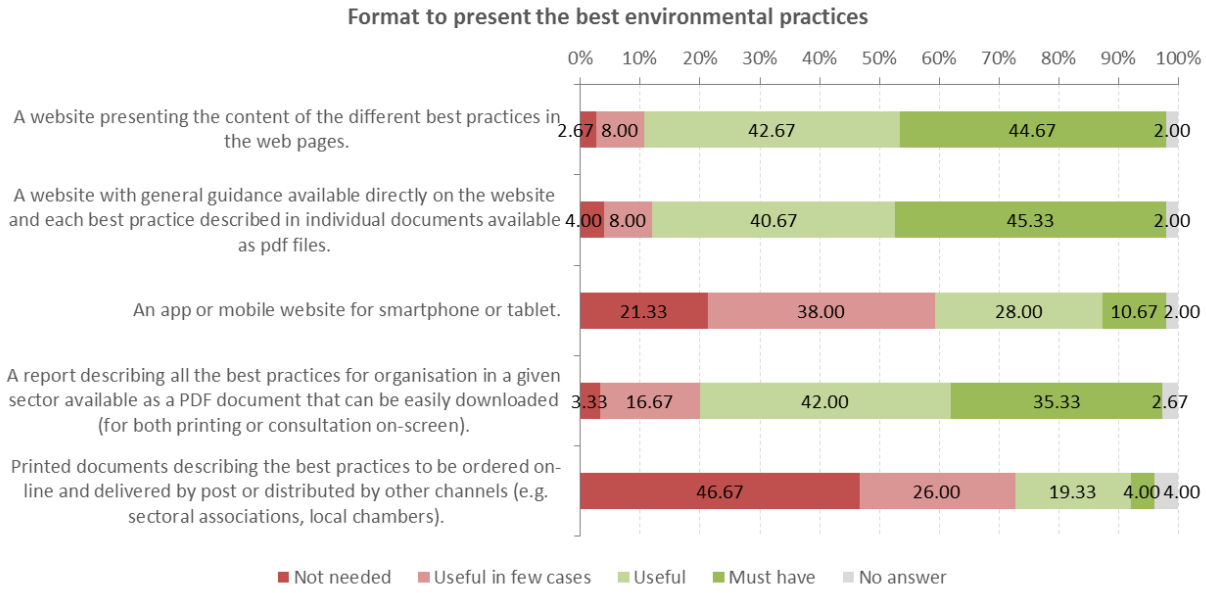
Both organisations and experts that had already contributed to the BEMPs development by taking part in a TWG and organisations and experts not linked to the BEMP work so far filled out the questionnaire.

6.1 Format

In terms of format to display the information about the best practices, stakeholders provided a clear positive answer for the format of a website (Figure 4), both in the case of content included in web pages (87%) and in the case of content for each best practice described in individual documents available as pdf files (87%). Also the entire best practice report with all the best practices included is mentioned as a must-have or useful format by a large majority of the respondents (77%).

The options of printed documents and of an app or mobile website seem less important to stakeholders: around 60% find the app option either useful only in a few cases or not needed and 47% consider the printed document not needed.

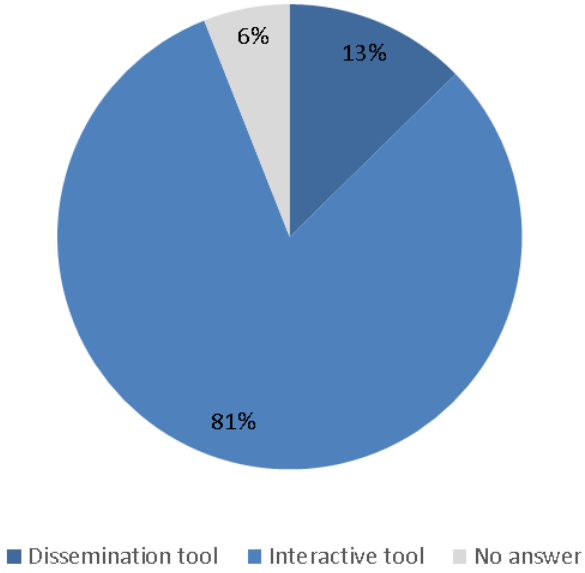
Figure 4. Possible solution for the general format to present the best environmental practices



The trend to find the app or mobile website not needed or only useful in some cases is more highlighted when looking in depth at sectoral results (Annex 3) for the waste management, public administration and food and beverage manufacturing sectors. Some other variations are worth noting: above 90% of the respondents form the waste management sector find the website solution (both hypotheses) a must-have or useful; respondents from the public administration sector do not find the entire best practice report as useful as the general results point, though 35% classify the printed documents as useful; the respondents from the food and beverage manufacturing sector reinforce the need for a best practice report that includes all the identified best practices available in pdf format, since more than 82% of the answer mark it as a must-have or useful, while the website version is slightly less popular (only 77% and 68% find it a must-have or useful).

A clear indication was provided on whether the online website should be more focused on the dissemination of the best environmental practices or should be more of an interactive tool that allow also organisations to communicate with the JRC staff and among each other. Around 81% of the stakeholders participated in the survey find that there should be an interactive tool, allowing stakeholders to also provide information, share experiences and ask questions (Figure 5). In this case only the group from the food and beverage manufacturing sector shows a less clear outcome (although along the same trend) since only 68% of respondents are in favour of the interactive tool, while 27% think that a dissemination is the appropriate way for making the best environmental practices useful for the organisations.

Figure 5. Dissemination tool versus interactive tool



6.2 Features

Two main sets of features were included in the questionnaire: those focused on dissemination (i.e. features that would allow organisations to find the relevant information for their needs), and interactive features, allowing organisations to provide information and also ask questions and interact among them.

Figure 6 presents the results obtained in the survey regarding the perception of importance of dissemination features. Two features catch the attention for opposite reasons: the possibility to filter best practices according to diverse criteria is classified as a very important feature by more than 50% of the respondents, while including a general information video is considered not important or only partially important also by more than 50% of the participating stakeholders.

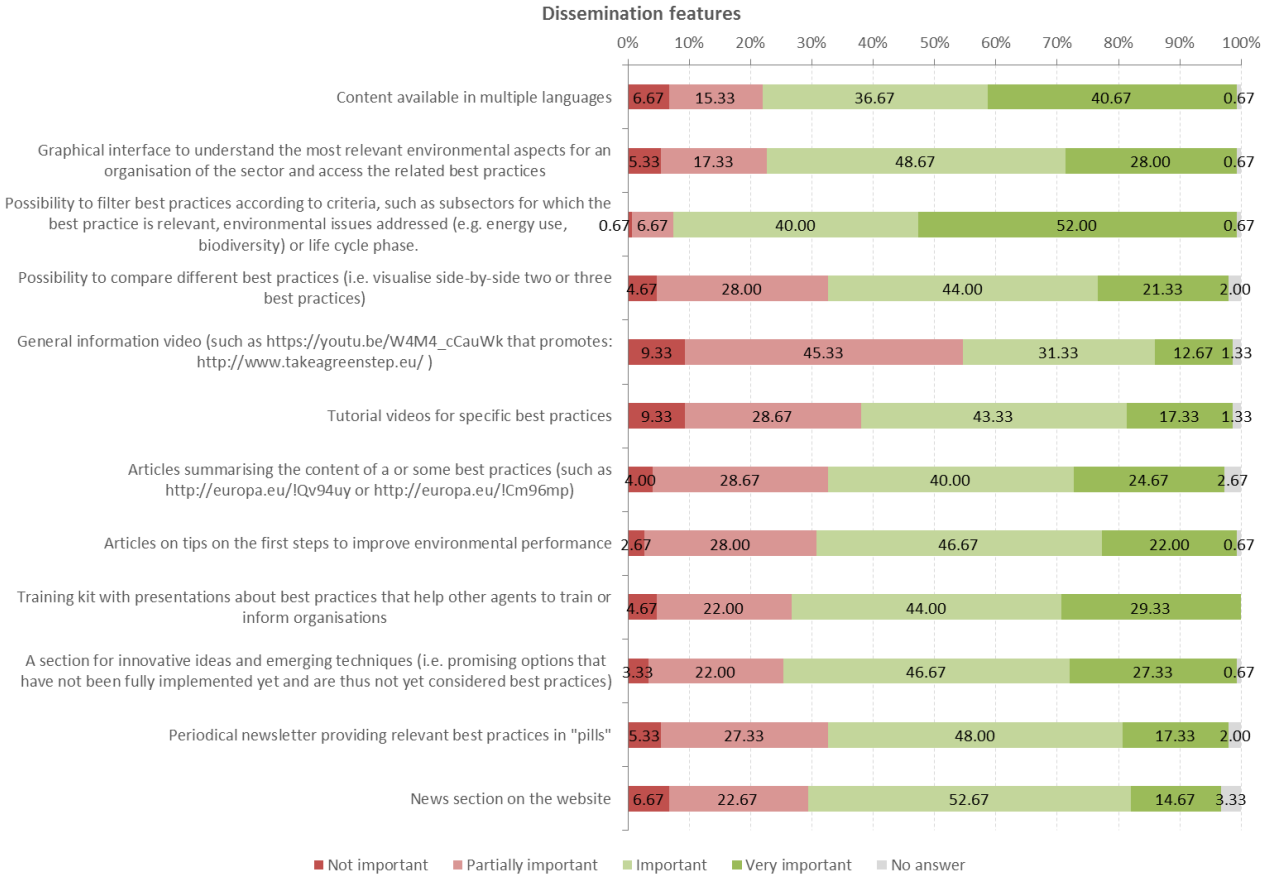
The remaining features were considered important or very important for more than 60% of the respondents. The most popular features (above 70%) are the following:

1. Content available in multiple languages;
2. Graphical interface to understand the most relevant environmental aspects for an organisation of the sector and access the related best practices;
3. A section for innovative ideas and emerging techniques (i.e. promising options that have not been fully implemented yet and are thus not yet considered best practices);
4. Training kit with presentations about best practices that help other agents to train or inform organisations.

The importance of the possibility to filter best practices is reinforced by more than 90% of the respondents of the food and beverage manufacturing and the public administration sectors; for the waste management sector both this feature and the need for multiple languages are very important. However, the need for multiple languages is not as relevant for the food and beverage manufacturing and public administration sectors.

The articles on tips and on the contents of best environmental practices are also very important for the respondents from the public administration and waste management sector.

Figure 6. Possible dissemination features

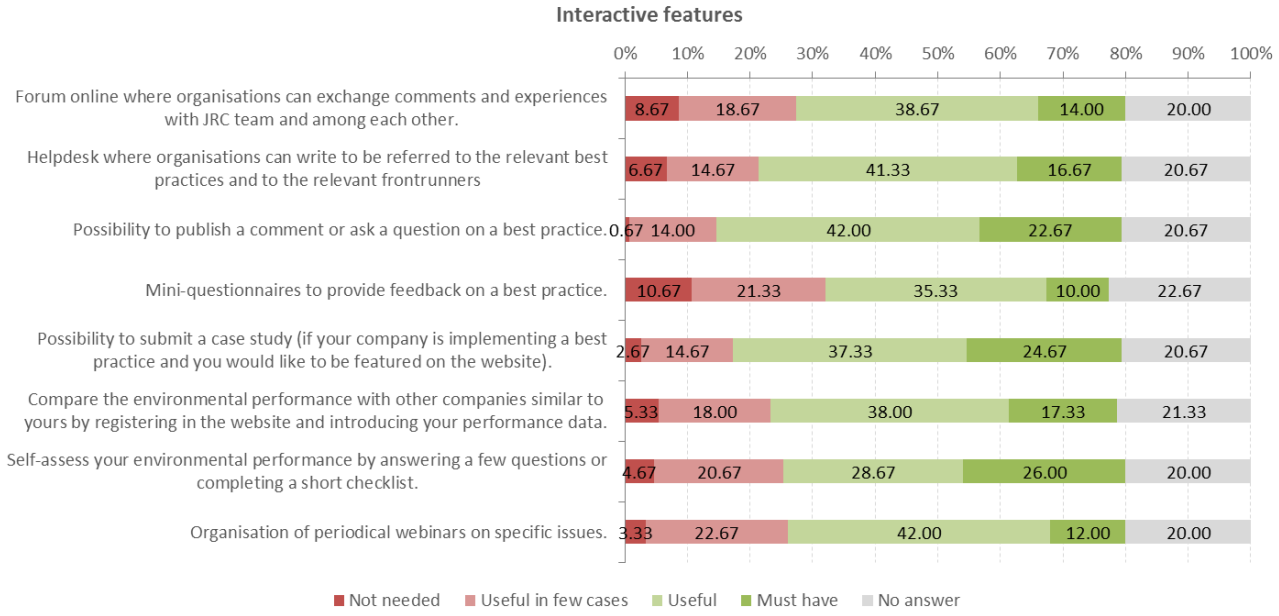


The perceived importance of the interactive features is presented in Figure 7. With the exception of the "Mini-questionnaires to provide feedback on a best practice" (only 45% see this feature as useful or a must have), every other feature is classified by the majority of the respondents as a must-have or a useful feature. Results show little difference among the interactive features' importance; however the possibility to publish a comment or ask a question on a best practice and the possibility to submit a case study (if an organisation is implementing a best practice and would like to be featured on the website) are those with the highest support.

In the case of the interactive features, the waste management sector has high percentages of agreement with the usefulness of these features (the least useful feature is still find by 55% of the respondents useful or a must have), which is in line with the expressed desire of an interactive tool. On the other side of the results is the food and beverage manufacturing sector, with only one feature (the possibility to publish a comment) being recognised by more than 50% as useful or a must-have.

The respondents form the public administration sector find the online forum and the possibility to compare environmental performance among public administrations the most useful or must-have features (69% both). The possibility to leave a comment or ask a question in a best practice, the possibility to submit a case study or the helpdesk despite being the most popular features in general, rank as second among the respondents of public administration (62%). Also interesting is the lack of interest for webinars in this sector, while the respondents from the waste management sector find it useful or a must-have in 70% of the cases.

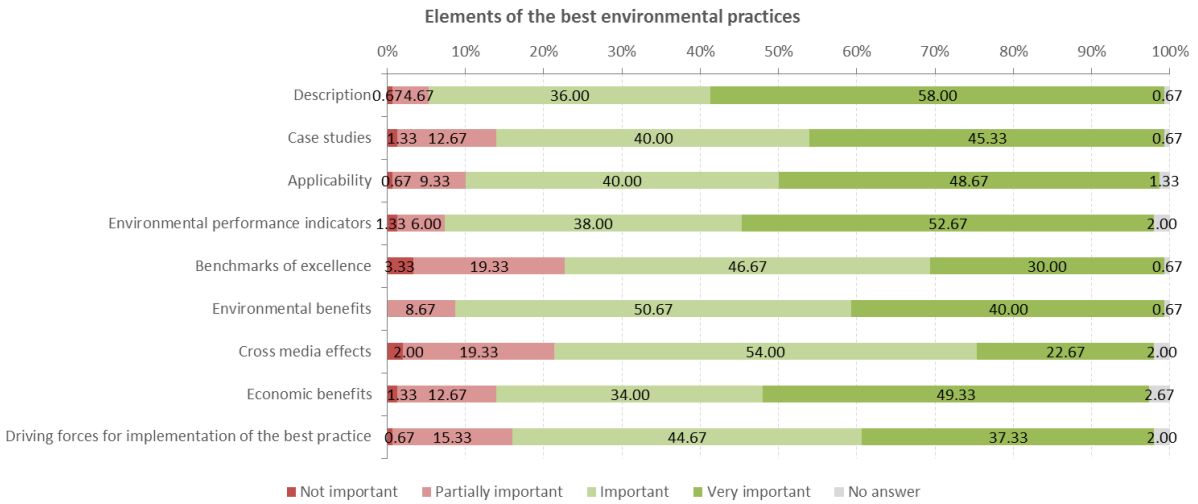
Figure 7. Possible interactive features



6.3 Elements of the best practices

In terms of elements of the best environmental practices, all are considered important or very important by the majority of the respondents (Figure 8). The most important elements for organisations are the description and the environmental performance indicators (more than 50% of the respondents find these elements very important and more than 90% important or very important). Environmental benefits are also considered as important or very important by 90% of the respondents. Those that are less important are the benchmarks of excellence and the cross media effects.

Figure 8. Importance of the diverse elements of best environmental practices



Among sectors, it is noticeable that in the public administration sector the importance given to each element of the best environmental practices is higher than in the other sectors. Also, in this case the results are slightly different from the general overview: 100% of the respondents find the environmental benefits section important or very important, case studies are the least important when compared with the other sections and the benchmarks of excellence and the cross media effects are important or very important for 85% of the respondents.

The waste management and the food and beverage manufacturing sectors are more in line with the general results; however in the case of waste management the environmental performance indicators are not so important and in the case of food and beverage the same is true for environmental benefits. For this last sector, the section of the driving forces and the benchmarks of excellence are considered by the majority of the respondents (68%) as partially important or important.

6.4 Dissemination and communication channels

Proposals from stakeholders of possible dissemination and communication channels are diverse and with very distinctive characteristics; however, the use of e-mail to spread the best environmental practices is the most common suggestion from stakeholders. Other online solutions are proposed, such as the integration in existing sectoral newsletters or newsletters about sustainability and environment, or the dissemination through social media (e.g. linkedin, twitter, facebook, youtube and instagram).

Another identified dissemination approach, although more oriented towards experts and research institutions, is the dissemination of the best environmental practices in journals in the field of sustainability and environmental sciences, in public scientific platforms and open access publications.

A further important channel of promotion would be the organisation of events in Member States, such as conferences and meetings, where organisations and experts from the sectors could participate both as presenters and participants. This option would allow both the dissemination of the best practices and the engagement of those organisations that contributed to the identification and development of the best practices. The promotion of webinars where the best environmental practices are displayed is another channel of dissemination that aims to a general target audience and could allow a larger geographical coverage than physical events.

Finally, a last suggestion refers to the creation of partnerships with business, industry and trade association, chambers of commerce, EMAS competent bodies, sustainability and environmental initiatives and NGOs that would promote the online tool among their associates and network. Stakeholders even suggested the possibility of volunteer individuals to perform a role of champions in relation to the best environmental practices, promoting their use and implementation among peer organisations.

6.5 Motivation and engagement of stakeholders

The semi-structured interviews aimed to validate the solutions regarding the stakeholders contributing for the identification, collection and validation of best environmental practices. Despite the interviews were performed to a low number of stakeholders (6), these were selected to give different perspectives on the motivations and barriers to participation. Thus, among the interviewees were organisations from the sectors (in this case the waste management sector), associations, consultancy companies, EMAS verifiers and experts from NGOs.

Organisations engage in the process of the identification and validation of best environmental practices so they are able to share their experience and also benefit from the sharing of others experiences. This exchange of experiences is one of the clear benefits of being part of the TWG, along with the possibility to develop connections with other members of the TWG. The networking component of the physical meetings organised by the JRC is a relevant motivation for stakeholders to take part.

The networking also allows the creation of joint projects among participants and recognition of the actions and efforts taking into improvement from organisations. This recognition promotes the improvement of the organisational image that in many cases is also a vehicle to create more synergies and joint projects.

The proximity with the European Commission, and in the case of EMAS registered organisations, being aware of future plans for the regulation, are other relevant factors to

motivate organisations to contribute in this process. In some cases, the recognition of the company's efforts to maintain a high level of environmental performance is enough to motivate the participation, as well as the will to raise the awareness to environmental issues among customers. Despite the interest demonstrated by all organisations and experts consulted to keep collaborating, a significant constraint was pointed by SMEs in relation to time consumption. Since most SMEs have scarce resources, time allocated to each activity is limited and consequently their engagement is more difficult.

On the latter point it was clear that stakeholders value the physical meetings, despite possible time constraints of participating. These meetings allow stakeholders to keep focussed on the discussion of best practices, environmental performance indicators and benchmarks of excellence, and indirectly promote collaborations among stakeholders.

Considering the continuity of the collaboration in the identification, collection and validation of best environmental practices, the main barrier referred by stakeholders is the lack of time, which could be overcome through the use of more online interaction in substitution of some meetings or manual editing/commenting of large documents. Despite the importance of physical meeting is almost every time mentioned, some suggestions were presented, such as having more preparation before the meeting through webinars or conference calls or structuring the meetings in small working groups that allow more focussed discussion. Holding the meetings in well-connected locations was also mentioned, so the traveling times are reduced.

Stakeholders also mentioned some tips to keep them engaged, such as maintaining a more or less continuous communication with organisations (so the working relation keeps alive, avoiding the effort to remember all the context of the collaboration), use the information provided by organisations so they understand that their collaboration is valued and provide also contents in multiple languages so it is easier for the contact person to disseminate the best environmental practices information inside the organisation.

7 Conclusions

The analysis of the stakeholder needs aimed to identify the main improvement opportunities in the identification, collection and dissemination of best environmental management practices. The result of a consultation of stakeholders based on exploratory interviews, a workshop session, semi-structured interviews and a survey, besides the informal feedback received during the past years, revealed opportunities for improvement in relation to the format and dissemination strategy.

The results from the stakeholder analysis need reinforce the need for information that is easy to access and to use, both for practitioners and managers. The main format to achieve this would be a web tool with a user-friendly interface. Despite the need for summarised contents, practitioners also rely on the detailed information to implement the best practices. Therefore, the entire best practice report published by the JRC is still a useful tool for stakeholders that should not be replaced but accompanied by other formats and dissemination channels.

The two formats of a user-friendly web tool and a report with detailed information are important for different uses: the web tool can be used for quick consultation, to reach further organisations and also to engage other stakeholders within one's own organisation; the written report with detailed information would be useful for practitioners when actually implementing the best practice.

Analysing the results by sector stresses that there are differences in the needs across diverse sectors. This reinforces the consideration of multiple solutions, so most stakeholders manage to find the information in an adequate format for their specific needs. Another relevant question about the format of the web tool is the level of interactivity it provides. A large majority of the stakeholders participating in the analysis find an interactive tool more useful, so that organisations can provide feedback, ask questions and give information on their own experience while consulting the best practices.

In order to promote the interaction with organisations and also disseminate the best environmental practices, a set of features were proposed as possible solutions and stakeholders provided feedback on each one. The results from the questionnaire point that, among the dissemination features, the possibility to filter the best environmental practices according to various criteria, such as subsectors for which the best practice is relevant, environmental issues addressed or life cycle phase, or search by key words is a very important feature. Besides this option, another 4 were most positively valued: to make content available in multiple languages, provide a graphical interface to identify the most relevant environmental aspects and the related best practices, include a training kit with presentations about best practices that can help organisations train or inform other organisations and having a section for innovative ideas and emerging techniques.

Regarding the interactive features, the possibility to publish a comment on a best environmental practices along with the possibility to submit a case study are pointed as the most useful/must have options. The other features are not so clearly supported by the respondents of the survey; in particular the mini-questionnaires to provide feedback on a best practice is classified as a not needed or useful only in a few cases by more than 30% of the stakeholders.

Building on the results from the questionnaire a SWOT analysis was performed of each feature (Table 2 and Table 3). This analysis allowed to identify the feature that have higher priority during the development of the web tool, considering the inputs provided by stakeholders, the effort need to develop the feature and also its impact in the identification, collection and dissemination of the best environmental practices. This would support all further activities of selecting the features to be actually developed and implemented.

Table 2. SWOT analysis on the possible dissemination features

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
Multiple languages	– Important to stakeholders: around 77% of the participants in the survey find this feature important or very important in the survey and in the semi-structured interviews – Part of the content is already available in different languages	– High effort and cost (it is impossible to have all content translated into all European Union languages) – There may be difficulties on the definition of the most useful languages (by sector?)	– Reach people that otherwise would not be able to use the tool – Partner with national multipliers – High potential of increasing the promotion of best practices if the target audience is well selected	– Wrong language selection may lead to miss a large audience. – Difficulty to find promotion channels in each language	**High priority**, however the implementation will require: – The selection of the number of languages according to the effort – The selection of which languages would potentiate the dissemination and comprise a larger target audience
Graphical interface	– Important to stakeholders since around 77% of participants in the survey finds this feature important or very important	– High cost since it needs the work of a graphic designer for each sector	– Provide a more direct access to each best practice – More user friendly interface	– Increase the complexity in the use of the online tool (number of clicks to get information) – Some users would not understand and recognise the logic behind the graphic	**High priority**, however it is important to ensure that – The graphical interface is easy to understand (avoid complexity) – The elements to be designed ad-hoc for each sector are reduced – There are alternative ways to

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
					reach each best practice, such as a list of best practices or a website map
Filter best practices	– Very important to stakeholders since more than 50% of the participants in the survey find this feature very important and more than 90% also important	– Users could miss the bigger picture – High effort needed to "tag" each best practice for each set of filters	– Guide practitioners to best practices addressing their specific needs	– Lack of accurate results (e.g. if best practices are not accurately tagged)	**High priority**, however the following considerations must be taken into account when implementing: – Implementing the filtering through a search function so that both free text search and filtering are simultaneously possible. – Ensure that results are accurate through extensive trial – Give this feature high visibility along with the graphical interface – Set a predefined type of search content (e.g. best practices)
Compare best practices	– Important to stakeholders since	– High effort and cost since the best practices	– Allow to select the best practices that better suits the	– Organisations implement only one best practice,	**Impossible to implement** since the

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
	around 65% find this feature important or very important – Represents a different approach to present the BEMPs highlighting the strong elements of each BEMP	are not comparable based on the currently available information and thus it would be needed to collect a lot of data – Requires another kind of work since the best environmental practices are not aimed at comparison and are not structured that way	organisation	thinking that one can substitute the others – Losing credibility on the content of best practices since the comparison would not be meaningful in many cases (varies according to the organisation)	costs appear higher than the benefits and there are substantial risks. However, in substitution, articles that look at certain elements across different best environmental practices could be developed
General information video	– Summarises the main aims, content and features of the web tool	– High production cost – Possibly not important for stakeholders since the majority of the participants in the survey find this feature only partially important	– Allows promotion of the web tool, not only by the European Commission but also by all types of stakeholders (e.g. on their web-sites, newsletters…)	– Possibly limited impact by achieving only low levels of visualisations	**Low priority** and, if it is implemented, the following must be considered: – The video should not be part of the web tool but rather a supplementary promotion tool (e.g. for social media or other websites) that can lead to this web

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
					tool
Tutorial videos	– Important to stakeholders since around 60% of the participants find this feature important or very important – Represents a different approach to present the BEMPs	– Very important only for a few people (only around 17% think it is a must have) – Time consuming and high cost due to the preparatory work needed to address the needs of the targeted audience	– Possibly huge impact – Allows to engage different types of stakeholders (i.e. those more attracted from a short video about a concrete best practice than reading its description)	– A short video requires a lot of simplification and may give the impression that the implementation requires much less effort than it actually takes	**Medium priority**, and, when implemented, the following must be considered to ensure a large impact: – Identify the dissemination channel ahead – Targeted audience
Articles summarising content of best practices and on tips with first steps	– Important to stakeholders since more than 60% find this feature important or very important – Provided an additional (guided) path to reach the most important pieces of content – Can be targeted to specific groups of users and stakeholders	– Medium/high effort to produce them	– Easing the first contact with the BEMPs – More people could read more BEMPs – Can be used as a promotion tool to help to bring users to the web tool if it is given to a multiplier – Promote collaborations with multipliers – Medium/high impact	– People just read the article and do not go to the BEMP	**High priority**, and, when implemented, the following considerations are important: – Identify the dissemination channels ahead (internal and external to the web tool) – Collaborate with multipliers in the dissemination
Training kit	– Important to stakeholders since	– Need for national specific content	– Raise awareness among targeted	– There is no control on the	**Medium priority**, and when

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
	more than 70% find this feature important or very important	– Medium/high effort since it is needed more knowledge about the starting point	professionals and thus change the practice on a daily basis) – The content on best practices can be an element of a larger training kit – Medium/high impact	use of the information so it can be misused and diffuse wrong information about the best practices – It is not used	implemented, the following aspects must be taken into account: – Develop it by knowing who would be using it – Develop national versions in close cooperation with national or regional organisations (e.g. national environmental ministries)
Innovative ideas and emerging techniques section	– Important to stakeholders since around than 74% find this feature important or very important	– Companies may be reluctant to provide information on innovation – High effort to manage the collection	– Raise visibility of new concepts – Informal validation of the new ideas and techniques – Showcase results from EU funded projects – Collect content that can be in the future best practice	– Might be picking the wrong winners – Compromise reputation if it is not clear that is not an official support of the idea or technique	**Medium priority**, however if implemented, the following must be considered: – Select very well what to present (i.e. define and enforce clear criteria) – make clear that this section is not a library of EU supported techniques
Newsletter and news	– Important to stakeholders since	– In the long term need for	– Bringing people back to the web	– Not many people subscribe the	**Medium/high priority** considering

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
section	more than 65% find this feature important or very important and some have expressed that this would be the best solution – Low effort in the short term	constant work to provide new and attractive contents.	tool. – Medium impact	newsletter. – Organisations do not take the time to read it.	the sector: – For waste management and public administration would be important, – Food and beverage sector does not seem to find this feature so important. – The news section of the web tool could be the source of content for the newsletter.

Table 3. SWOT analysis on the possible interactive features

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
Forum online	– Important to some stakeholders according to the sector: high support from waste management and public administration, not so much from food and beverage	– Need for moderation	– Enables direct exchanges between users – Allow users to talk about their specific case and have their questions answered – Learn about users' needs	– Low participation – Receive too many comments that are off topic, spam or political debates	**High priority** for waste management and public administration: – Sector specific
Helpdesk	– Important to some stakeholders	– Need for constant human	– Allow users to talk about their specific	– Receive some questions as a	**High priority** for waste management

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
	according to the sector: high support from waste management and public administration, not so much from food and beverage – Received also positive feedback from stakeholders in the interviews	intervention and quick answers	case and have their questions answered – Learn about users' needs	consultant – Receive many questions and thus spend too much time replying	and public administration: – Sector specific
Publish a comment	– Important to stakeholders since around 64% find this feature useful or a must have	– Need for moderation	– Dialogue on the best practices – Needs for updating	– Receive too many comments that are off topic, spam or political debates	– High priority
Mini-questionnaire to provide feedback on a best practice	– Allows to understand if organisations find the best practice useful	– Less than 40% find this feature useful or a must have	– Provides material for the updating of best practices	– Random or off topic content	**Low priority**, however it can be used for: – Feedback when the user publishes a comment and it requires feedback
Submit a case study	– Important to some stakeholders according to the sector: high support from waste management and public administration, not so much from food and beverage	– All submissions need to be reviewed	– Very important source of information for update of best practices	– Possibility to receive too much information and have to filter it	**High priority** for waste management and public administration: – Sector specific

Feature	Strengths	Weaknesses	Opportunities	Threats	Applicability
Compare environmental performance with other organisations	– Important to some stakeholders according to the sector: high support from waste management and public administration, not so much from food and beverage	– Requires another kind of work since the best environmental practices are not aimed at comparison and are not structured that way – Medium effort	– Offer a service that may bring other organisations to the web tool and, ultimately, to the best practices	– Lose credibility on the contents – Organisations may be reluctant on sharing data on performance – Low impact	– Impossible to implement
Self-assess environmental performance	– Important to some stakeholders according to the sector: high support from waste management, not so much from public administration and food and beverage	– High effort to build the evidence behind the checklist	– Link to the results of the self-assessment to best practices that can be implemented to improve where needed	– Lose credibility on the contents – There is not enough knowledge	**Low priority**, however it can be considered to: – Develop a basic form for organisations in an initial phase of improving environmental performance
Periodical webinars	– Important to some stakeholders according to the sector: high support from waste management, not so much from public administration and food and beverage	– Effort to make it periodically	– Promotion of the web tool – Dialogue with stakeholders – Creation of a sense of community	– Lack of interest from stakeholders and low rates of participation	**Medium priority** for waste management: – Sector specific – Targeting a very specific audience

As a result of this SWOT analysis the following high priority features were selected:

- providing contents in multiple languages
- the creation of a graphical table of contents to access the best environmental practices
- the possibility to filter best practices according to criteria
- the articles summarising content of best practices and on tips with the first steps to implement a best practice
- the possibility to publish a comment on a best environmental practice
- the possibility to submit a case study.

Although these features were considered important by stakeholders and appear commensurate in terms of the effort required and the impact that can be expected, they should be tested to ensure their relevance and that the way they are developed provides a useful tool to stakeholders. Table 2 and 3 include some notes to take into consideration while developing the features (applicability field).

Another set of features was classified as high priority but only for some sectors. This is the case for the newsletter and news section, the online forum and the helpdesk, since the results obtained through the questionnaire show a clear difference between the public sectors (waste management and public administration) and the food and beverage manufacturing sector. It is unclear whether the differences are due to different approaches between public organisations and the private sector (besides food and beverage), because the data collected was not enough to perform this analysis. Therefore, in the case the web tool is extended to other sectors besides those explicitly addressed in this stakeholder needs analysis it would be recommendable to analyse the needs of the sectors in consideration. It would be important for the web tool to ensure the flexibility to adapt to each sector specific needs.

In relation to the basic elements of the best environmental practices, the feedback provided by stakeholders point to continue with the present content elements; however, reinforced relevance could be given to the description of the concept of the best practice, its applicability and the economic benefits that organisations can collect by implementing the practice, as well as to the environmental performance indicators and the environmental benefits.

The feedback provided by organisations suggests a promotion and dissemination of the new tool through three main channels: several internet-based means, such as e-mail, social media (e.g. Linkedin), newsletter and webinars; the organisation of events in each Member State, such as conferences and meeting; and the creation of partnerships with business, industry and trade association, chambers of commerce, EMAS competent bodies, sustainability and environmental initiatives and NGOs.

Both the exploratory interviews and the general feedback of stakeholders point the importance of analysing the specific needs of SMEs to the access to information. However, when the results of the questionnaire were analysed only for SMEs no major differences were found in relation to the general results.

As per the update and development of best practices, the previous format of the TWG is suggested to evolve into a community of frontrunners, contributing their experience, cross-validating information and jointly contributing to the development and update of new best practices and of the existing ones.

In order to keep frontrunners engaged and overcome the main barrier mentioned in interviews (lack of time), it is suggested to have fewer physical meetings and promote more remote preparation, through an online tool, webinars and conference calls, and to review the structure of the meeting so that the discussions among organisations are most fruitful, such as more work in small working groups. The possibility to learn from other frontrunners while sharing their experience is an appreciated component of the

participation in the TWG, thus the networking element should be prominent as it also motivates stakeholders to keep engaged in the process.

Therefore, it would be recommendable to still organise a physical meeting, in the form of a gathering of the community. One possibility is to organise a public event (such as a conference) where some of the frontrunners present their experience and case studies in the development and implementation of best environmental practices. After or before the public event, a closed meeting with the members of the community could go through those discussions that could not be solved on-line, perform some validation work and discuss the overall process or any important issues to the community.

8 Way forward

The present stakeholder needs analysis and, especially, the results presented in section 7 are an important input for the European Commission to select the actual set of characteristics and features of the new concept for the identification and promotion of Best Environmental Management Practices. A number of findings and the elements highlighted in the SWOT analysis of the different features will need to be carefully considered and their use could be tested to select those that allow ripping the most benefits in an efficient way. In any case, a key element of the new concept will be the development of an on-line tool to promote and continuously develop the best practices. It is planned that the tool will be piloted with the best practices for the waste management sector already during the course of 2018 and that the new concept will be applied to two further sectors (the food and beverage manufacturing sector and the public administration sector) by the end of 2019. Stakeholders who would like to further contribute their ideas and views on how to ensure the new concept will be the most beneficial to organisations throughout the EU are welcome to keep sending any contribution to JRC-EMAS-SRD@ec.europa.eu.

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Annexes

Annex 1. Guide of the exploratory interview

General Environmental performance	Environmental performance level	1.1.	What is your biggest environmental issue?
		1.2.	What is your main achievement in the environmental area?
	Reasons	1.3.	What are the main reasons behind the decision to improve your environmental performance?
		1.4.	Which is the driving force for improving the environmental performance?
	Strategy	1.5.	How did you prioritise the actions to improve your performance?
		1.6.	What were the criteria that you applied in the prioritisation?
	Actions to improve	1.7.	What are the actions developed in your organisation/company to improve the environmental performance?
		1.7.1.	These actions include the implementation of an EMS?
	Inspiration and guidance	1.8.	Where were you looking for inspiration and guidance to improve the environmental performance of your organisation?
	Direct vs indirect environmental impacts	1.9.	Had your organisation taken action to improve environmental performance throughout your value chain? Or are you more focussed on efficiency aspects?
	Structural/deep/step changes	1.10.	Has your organisation made structural changes in order to improve its environmental performance?
		1.10.1	If not, are these changes planned for the future?
	Measurement	1.11.	How does your organisation measure environmental performance?

		1.11.1.	How have you decided how to measure the environmental performance?
	Obstacles	1.12.	What are the main obstacles to incremental environmental performance improvement in your organisation?
		1.13.	What are the main obstacles to structural environmental performance improvement in your organisation?
	Needs	1.14.	What would your organisation need to keep improving the environmental performance?
BEMPs implementation	Awareness	2.1.	Are you aware of the existence of BEMPs for your sector? If the answer is "no" the only question applicable is 2.1.2 and then section 3.
		2.1.1.	If yes, how did you become aware of BEMPs?
		2.1.2.	If no, what type of information would be useful to improve the environmental performance of your organisation?
	Implementation	2.2.	Have you implemented any BEMP?
		2.2.1.	If yes, which ones or in what areas?
	Environmental performance improvement	2.3.	How do the BEMPs contribute to the improvement of the environmental performance?
	Type of information provided	2.4.	In each BEMP is included information about: its implementation, the impacts that it can have in your organisation/company and some case studies. Considering these groups of information, which has been more relevant to the improvement of the environmental performance of your organisation?
		2.5.	BEMPs can be more focussed on technical and technological practices, such as improving energy efficiency, or more oriented to managerial and organisational issues, such as employees training. What is the type of BEMPs more useful to the

			organisation?
	Environmental performance indicators	2.6.	How useful is the list of appropriate environmental performance indicators for monitoring the environmental performance in your organisation?
	Benchmarks of excellence	2.7.	How useful are the benchmarks of excellent to stimulate the improvement of environmental performance in your organisation?
	Format	2.8.	Have you already checked the pilot website www.takeagreenstep.eu available now only for tourism? Do you think this format is useful for you? If the answer is no explain the structure of the website.
		2.9.	What features would you find essential to facilitate the use of BEMPs in this new format?
		2.10.	What type of format/structure do you suggest for presenting the BEMPs in the future?
Stakeholders involvement	Motivations	3.1.	What initially motivated your organisation to contribute with your experience? Were your expectations met?
		3.2.	What would motivate your organisation to keep its involvement in the identification of the BEMPs?
	Benefits and achievements	3.3.	Did you have any benefit from the participation to the process of identification of BEMPs?
		3.3.1.	If yes, what were these benefits?
	Process	3.4.	What would you change in the process of identifying the BEMPs?
		3.5.	Do you think the TWG meetings bring additional benefit to the process of identification of BEMPs and must be kept?

Annex 2. Guide of the semi-structured interview

Currently, we are developing a new approach and format for the collection and description of best practices to improve environmental performance. The possible solutions point to the use of online tools both to display and collect the information about the best practices. This would allow a regular exchange of information between the organisations and the JRC team.

1. What format is easier to provide the information?

Online	Written	web form e-mail social media
	Spoken	phone or conference call webinar virtual meeting
Physical	Meeting	within the sector
		across sectors
Answer		

2. What do you think would be the key features that allow a good interaction with the organisations contributing with best practices to improve environmental performance?

Allow organisations to send information		Possibility to submit a case study Possibility to fill in a 2 question feedback survey on a specific BEMP
Communicate with JRC team		Forum online
Communicate with other frontrunners	Within the sector	Forum online
	Across sectors	Forum online
Answer		

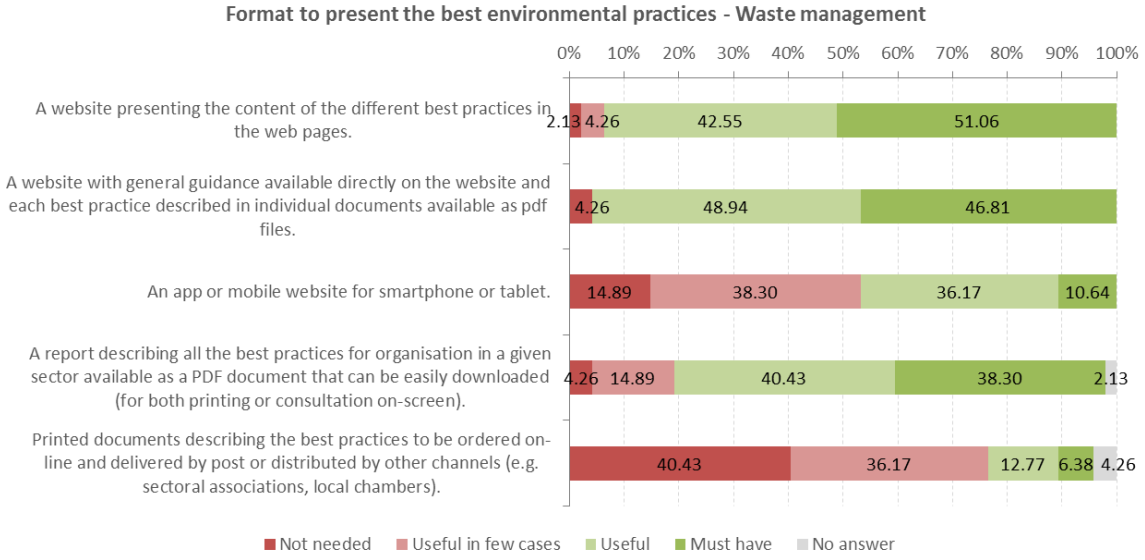
3. This new approach would require commitment from organisations willing to share best practices they implement (e.g. send information on case studies through a form rather than just at meetings or just when requested). What would motivate your organisation to be proactively engaged in this process?

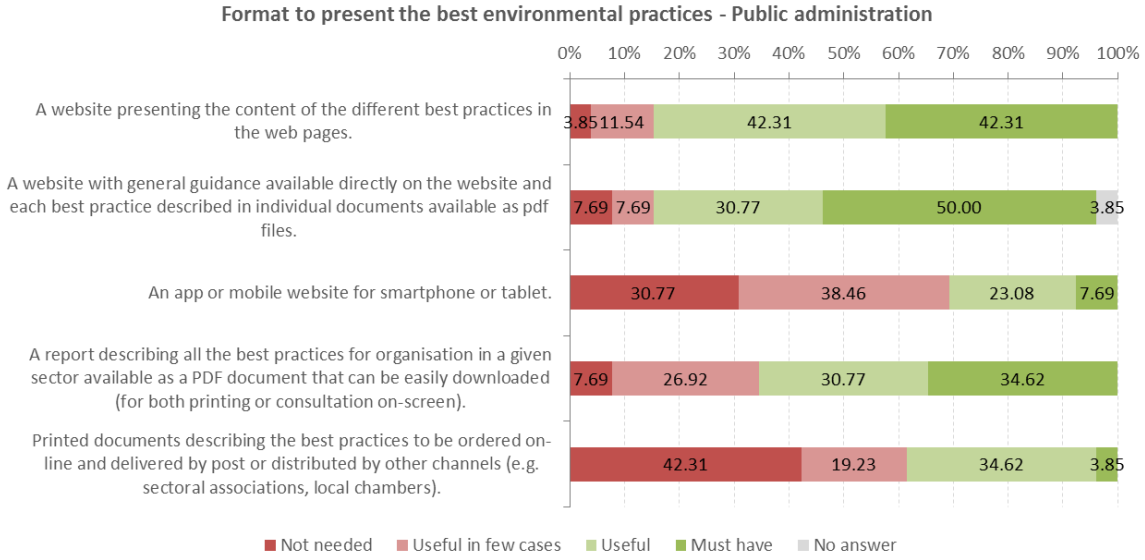
Image	More visibility to case studies (with logo of company?)	
	Organise events where frontrunners have a special role	
Recognition	"Official" recognition of actions implemented as best practices	
Networking	Networking with other frontrunners	Keep up to date
	Learning from others experiences	
	Proximity with the European Commission	Know in advance what will be considered best practice
		Being capable of influencing/shaping future best practice
Answer		

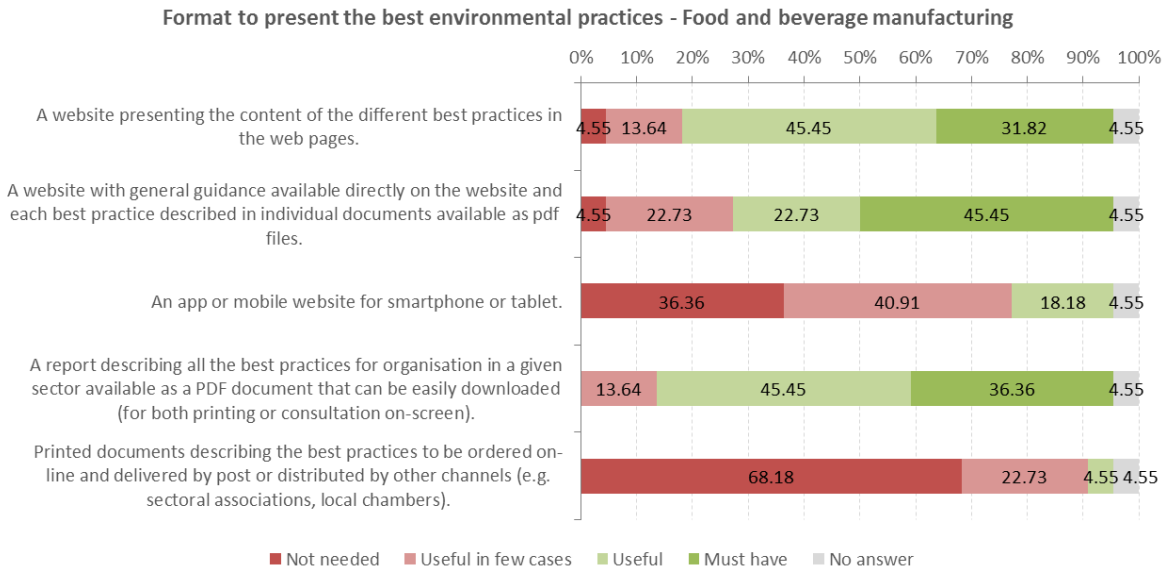
4. What are the barriers you see to contribute to the development of best practices by sharing your experience and knowledge? (+ What would you suggest to overcome them?)

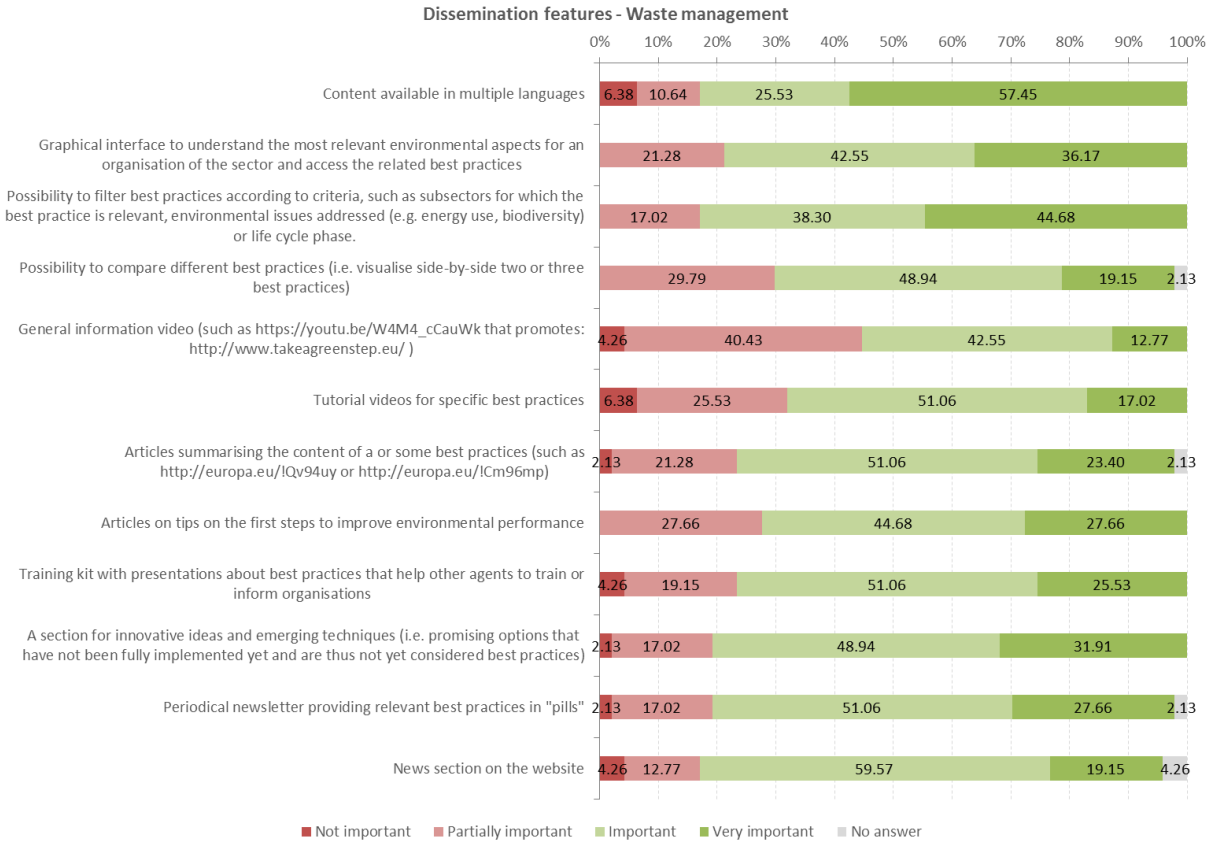
Limited resources	Time
	Human resources
Communication issues	Format
	channels
	difficulty in collecting the information asked within one's own organisation (e.g. need to consult several colleagues)
Lack of support of top management to this type of initiatives	
Lack of interest	
Answer	

Annex 3. Figures on the sectoral results








Dissemination features - Waste management
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Content available in multiple languages
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Graphical interface to understand the most relevant environmental aspects for an organisation of the sector and access the related best practices
21.28
42.55
36.17
Possibility to filter best practices according to criteria, such as subsectors for which the best practice is relevant, environmental issues addressed (e.g. energy use, biodiversity) or life cycle phase.
17.02
38.30
44.68
Possibility to compare different best practices (i.e. visualise side-by-side two or three best practices)
29.79
48.94
19.15
2.13
General information video (such as https://youtu.be/W4M4_cCauWk that promotes: http://www.takeagreenstep.eu/)
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40.43
42.55
12.77
Tutorial videos for specific best practices
6.38
25.53
51.06
17.02
Articles summarising the content of a or some best practices (such as http://europa.eu/!Qv94uy or http://europa.eu/!Cm96mp)
2.13
21.28
51.06
23.40
2.13
Articles on tips on the first steps to improve environmental performance
27.66
44.68
27.66
Training kit with presentations about best practices that help other agents to train or inform organisations
4.26
19.15
51.06
25.53
A section for innovative ideas and emerging techniques (i.e. promising options that have not been fully implemented yet and are thus not yet considered best practices)
2.13
17.02
48.94
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Periodical newsletter providing relevant best practices in "pills"
2.13
17.02
51.06
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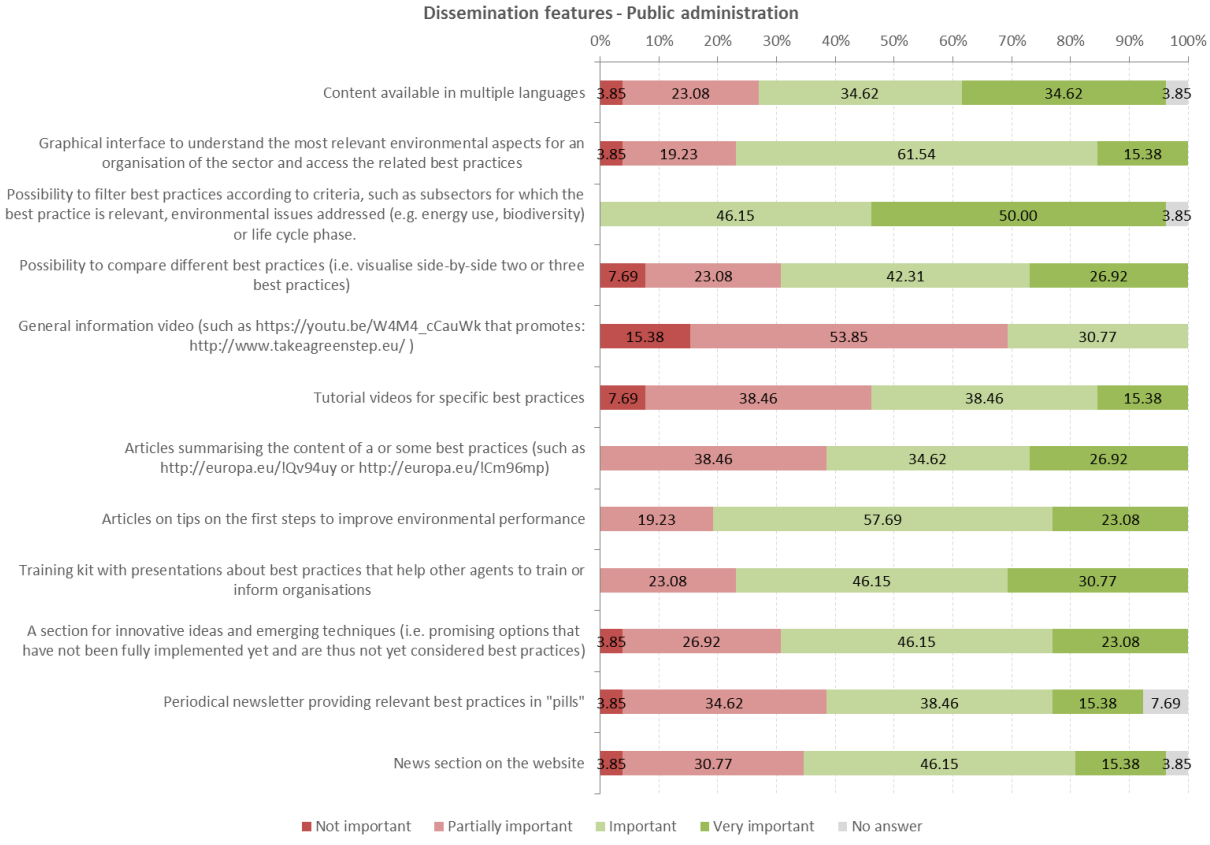
Important
Very important
No answer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Possibility to compare different best practices (i.e. visualise side-by-side two or three best practices)
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General information video (such as https://youtu.be/W4M4_cCauWk that promotes: http://www.takeagreenstep.eu/)
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News section on the website
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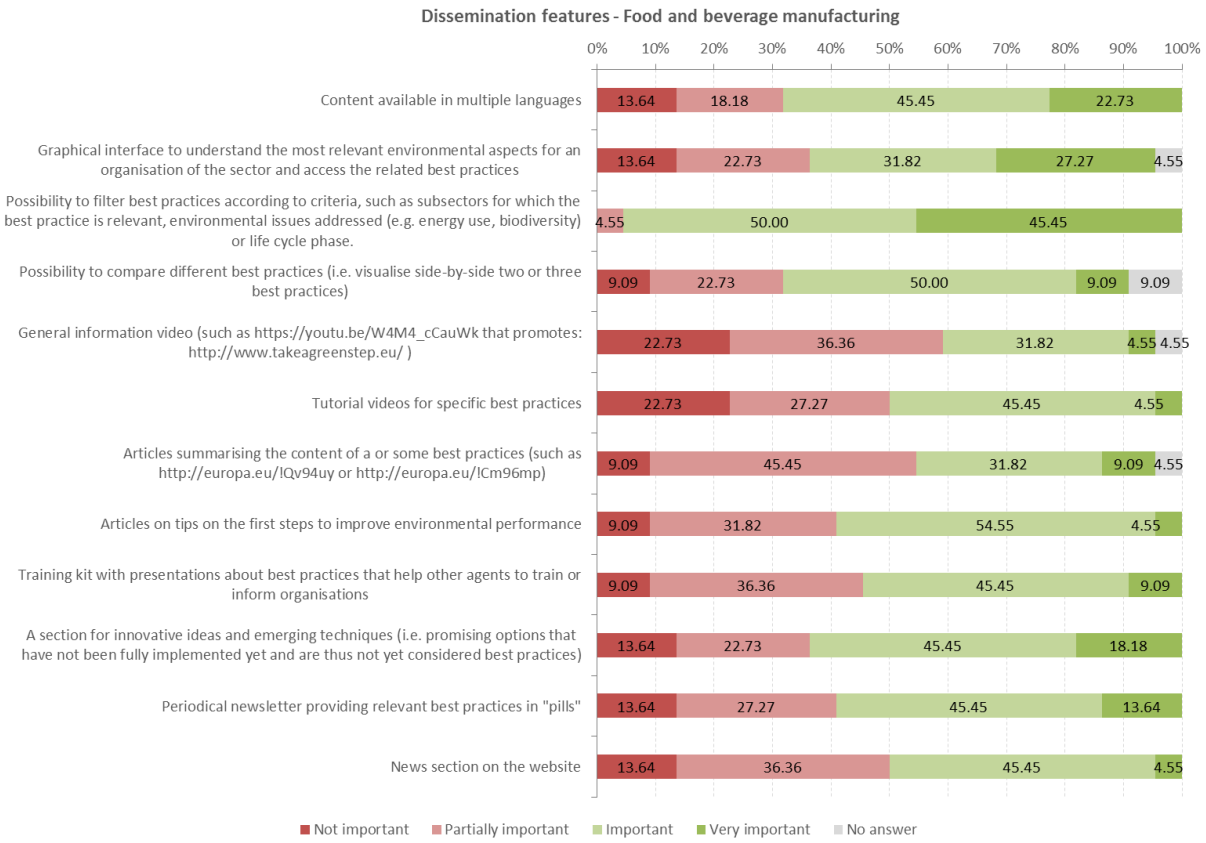
30.77
46.15
15.38
3.85
Not important
Partially important
Important
Very important
No answer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Possibility to filter best practices according to criteria, such as subsectors for which the best practice is relevant, environmental issues addressed (e.g. energy use, biodiversity) or life cycle phase. 4.55 50.00 45.45
Possibility to compare different best practices (i.e. visualise side-by-side two or three best practices) 9.09 22.73 50.00 9.09 9.09
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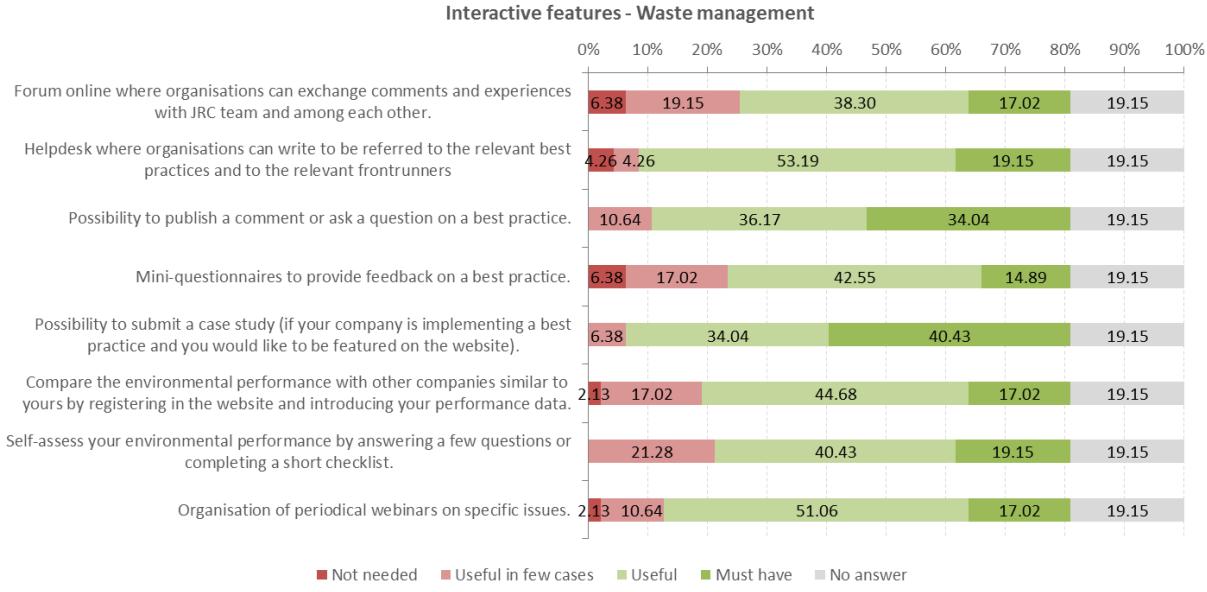
Articles on tips on the first steps to improve environmental performance 9.09 31.82 54.55 4.55
Training kit with presentations about best practices that help other agents to train or inform organisations 9.09 36.36 45.45 9.09
A section for innovative ideas and emerging techniques (i.e. promising options that have not been fully implemented yet and are thus not yet considered best practices) 13.64 22.73 45.45 18.18
Periodical newsletter providing relevant best practices in "pills" 13.64 27.27 45.45 13.64
News section on the website 13.64 36.36 45.45 4.55
Not important Partially important Important Very important No answer


Interactive features - Waste management
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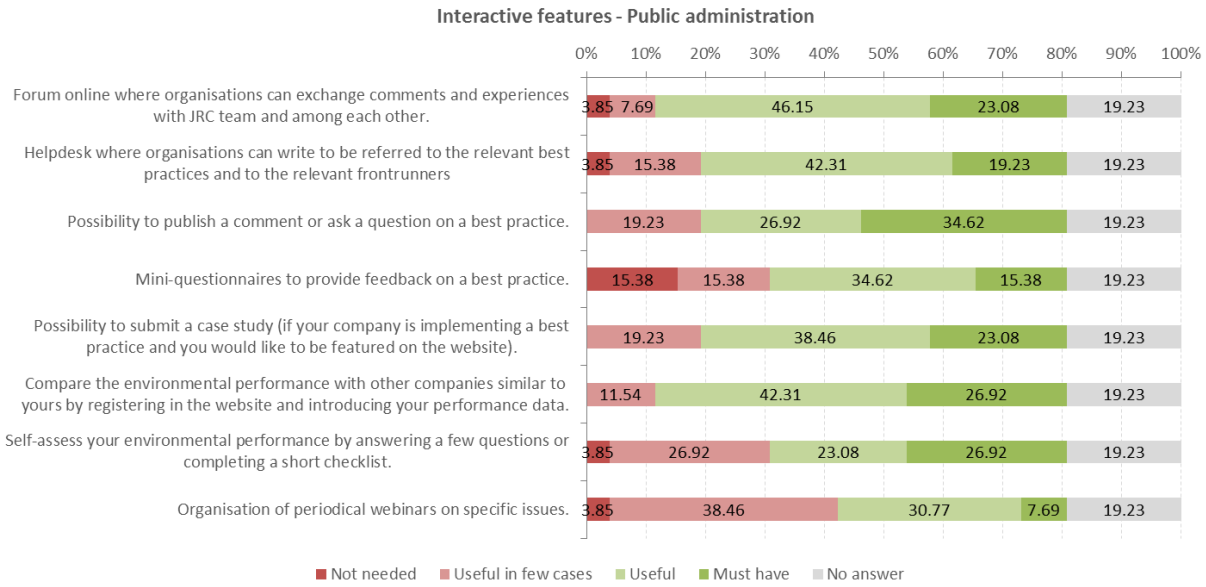
Forum online where organisations can exchange comments and experiences with JRC team and among each other. 6.38 19.15 38.30 17.02 19.15
Helpdesk where organisations can write to be referred to the relevant best practices and to the relevant frontrunners 4.26 4.26 53.19 19.15 19.15
Possibility to publish a comment or ask a question on a best practice. 10.64 36.17 34.04 19.15
Mini-questionnaires to provide feedback on a best practice. 6.38 17.02 42.55 14.89 19.15
Possibility to submit a case study (if your company is implementing a best practice and you would like to be featured on the website). 6.38 34.04 40.43 19.15
Compare the environmental performance with other companies similar to yours by registering in the website and introducing your performance data. 2.13 17.02 44.68 17.02 19.15
Self-assess your environmental performance by answering a few questions or completing a short checklist. 21.28 40.43 19.15 19.15
Organisation of periodical webinars on specific issues. 2.13 10.64 51.06 17.02 19.15
Not needed Useful in few cases Useful Must have No answer


Interactive features - Public administration
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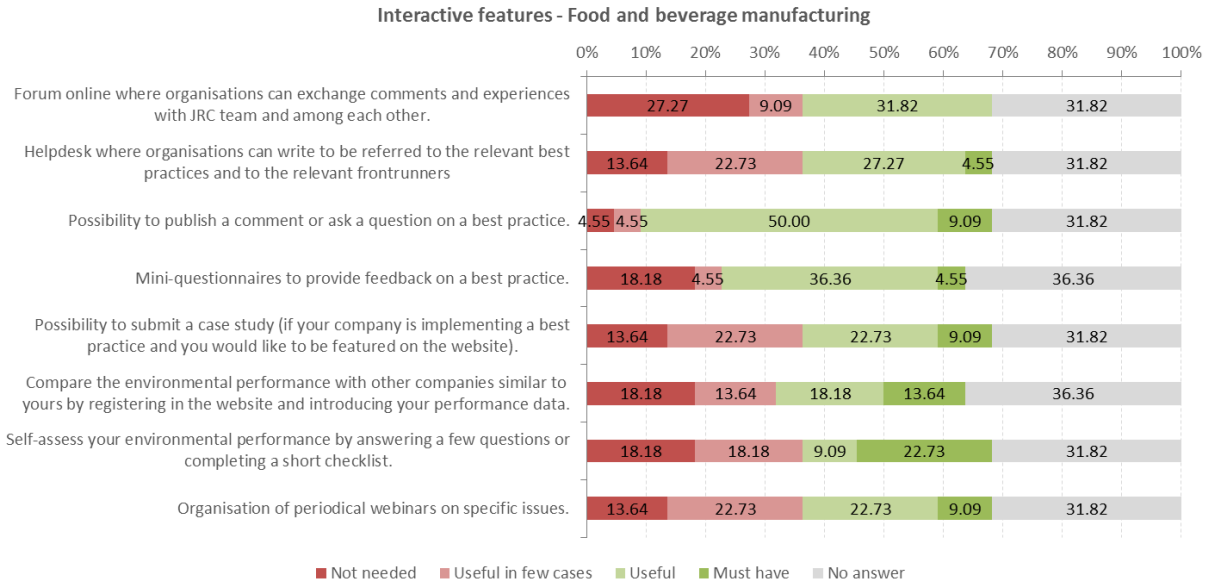
Forum online where organisations can exchange comments and experiences with JRC team and among each other.
3.85 7.69 46.15 23.08 19.23
Helpdesk where organisations can write to be referred to the relevant best practices and to the relevant frontrunners
3.85 15.38 42.31 19.23 19.23
Possibility to publish a comment or ask a question on a best practice.
19.23 26.92 34.62 19.23
Mini-questionnaires to provide feedback on a best practice.
15.38 15.38 34.62 15.38 19.23
Possibility to submit a case study (if your company is implementing a best practice and you would like to be featured on the website).
19.23 38.46 23.08 19.23
Compare the environmental performance with other companies similar to yours by registering in the website and introducing your performance data.
11.54 42.31 26.92 19.23
Self-assess your environmental performance by answering a few questions or completing a short checklist.
3.85 26.92 23.08 26.92 19.23
Organisation of periodical webinars on specific issues.
3.85 38.46 30.77 7.69 19.23
Not needed
Useful in few cases
Useful
Must have
No answer


Interactive features - Food and beverage manufacturing
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27.27 9.09 31.82 31.82
Helpdesk where organisations can write to be referred to the relevant best practices and to the relevant frontrunners
13.64 22.73 27.27 4.55 31.82
Possibility to publish a comment or ask a question on a best practice.
4.55 4.55 50.00 9.09 31.82
Mini-questionnaires to provide feedback on a best practice.
18.18 4.55 36.36 4.55 36.36
Possibility to submit a case study (if your company is implementing a best practice and you would like to be featured on the website).
13.64 22.73 22.73 9.09 31.82
Compare the environmental performance with other companies similar to yours by registering in the website and introducing your performance data.
18.18 13.64 18.18 13.64 36.36
Self-assess your environmental performance by answering a few questions or completing a short checklist.
18.18 18.18 9.09 22.73 31.82
Organisation of periodical webinars on specific issues.
13.64 22.73 22.73 9.09 31.82
Not needed
Useful in few cases
Useful
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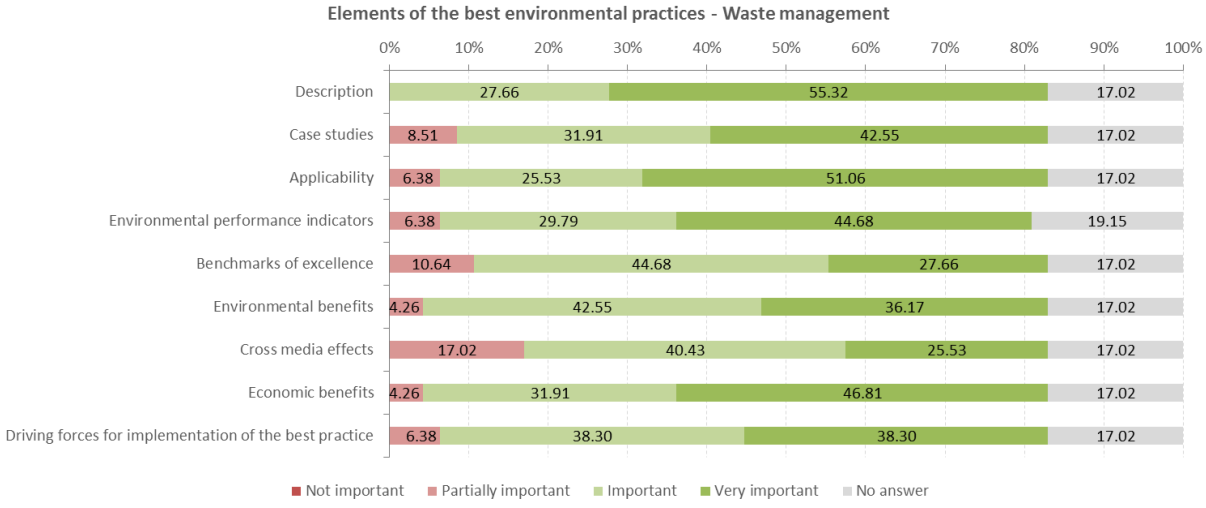
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Description
27.66 55.32 17.02
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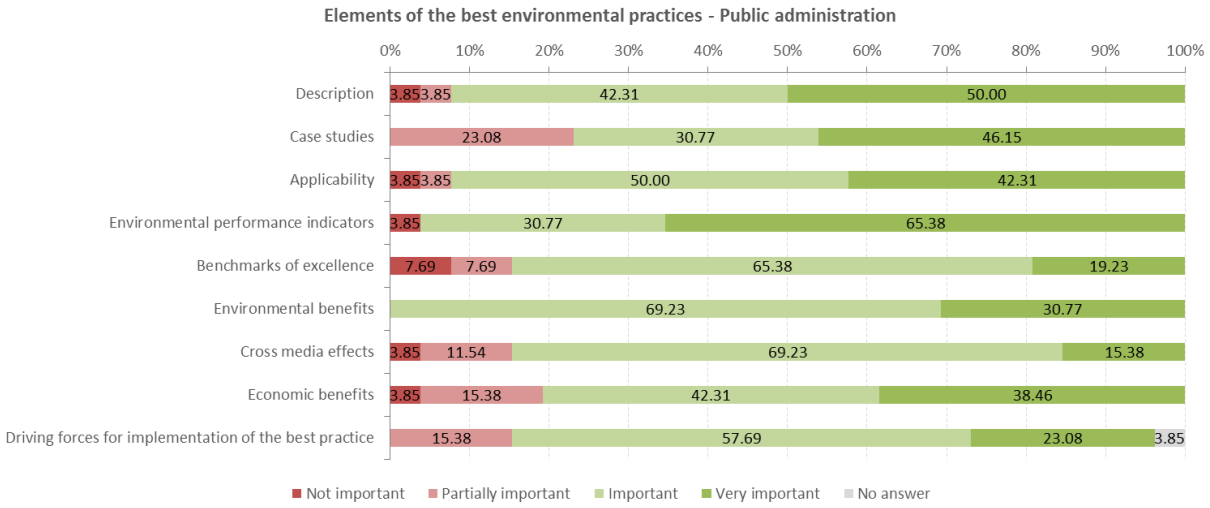
8.51 31.91 42.55 17.02
Applicability
6.38 25.53 51.06 17.02
Environmental performance indicators
6.38 29.79 44.68 19.15
Benchmarks of excellence
10.64 44.68 27.66 17.02
Environmental benefits
4.26 42.55 36.17 17.02
Cross media effects
17.02 40.43 25.53 17.02
Economic benefits
4.26 31.91 46.81 17.02
Driving forces for implementation of the best practice
6.38 38.30 38.30 17.02
Not important
Partially important
Important
Very important
No answer


Elements of the best environmental practices - Public administration
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Description
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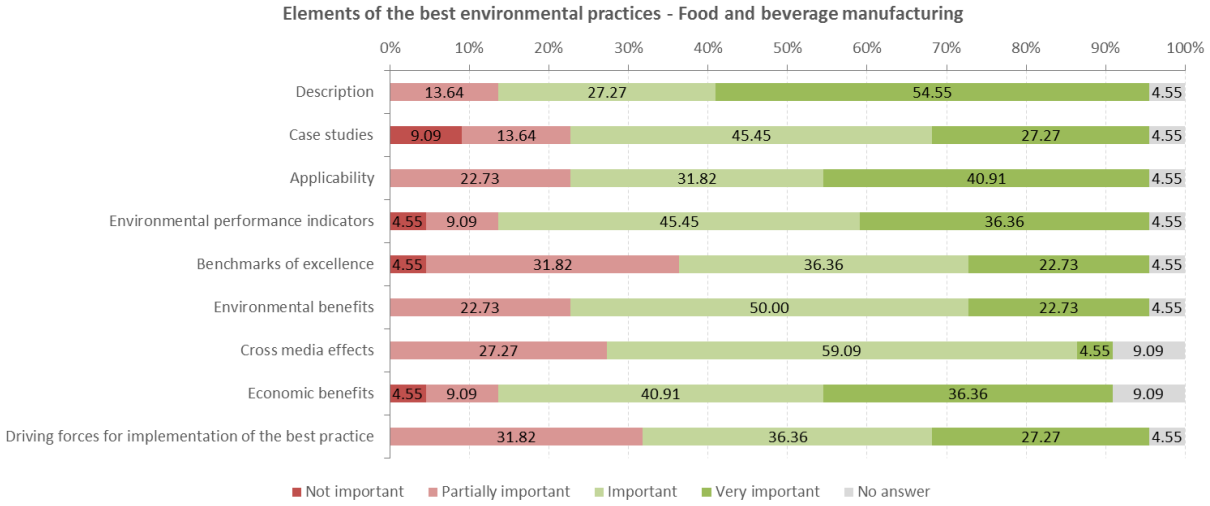
Applicability
Environmental performance indicators
Benchmarks of excellence
Environmental benefits
Cross media effects
Economic benefits
Driving forces for implementation of the best practice
3.85 3.85 42.31 50.00
23.08 30.77 46.15
3.85 3.85 50.00 42.31
3.85 30.77 65.38
7.69 7.69 65.38 19.23
69.23 30.77
3.85 11.54 69.23 15.38
3.85 15.38 42.31 38.46
15.38 57.69 23.08 3.85
Not important
Partially important
Important
Very important
No answer


Elements of the best environmental practices - Food and beverage manufacturing
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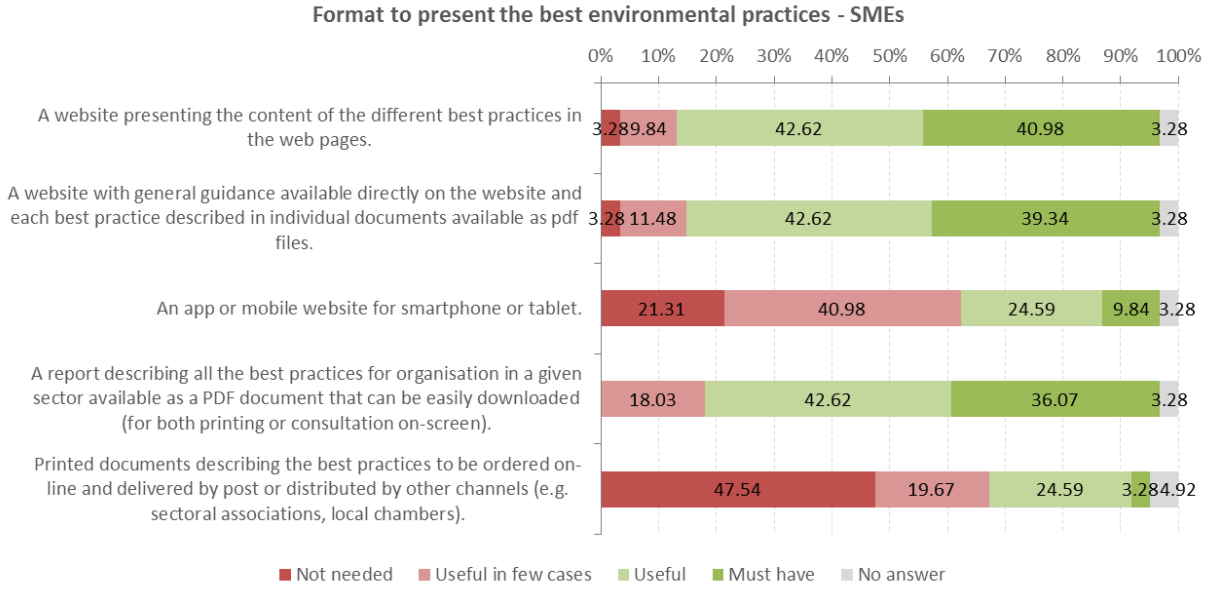
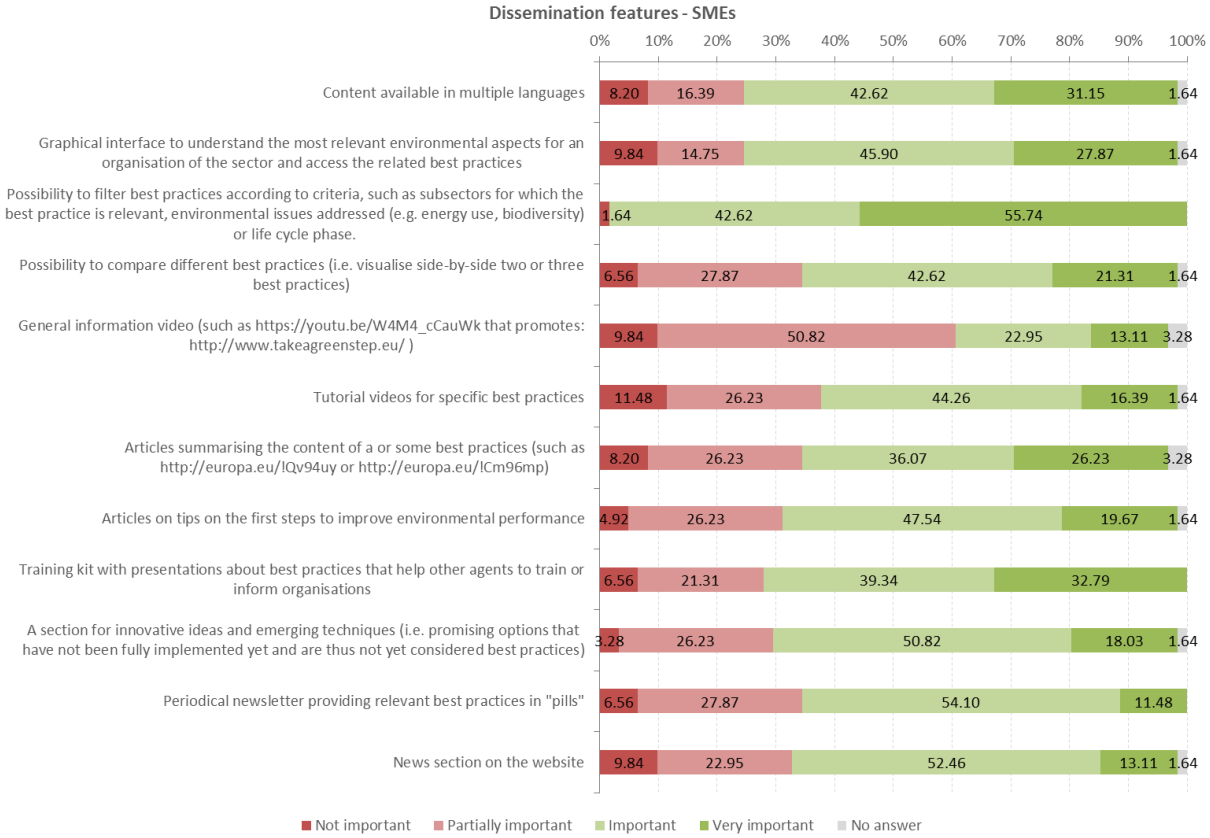
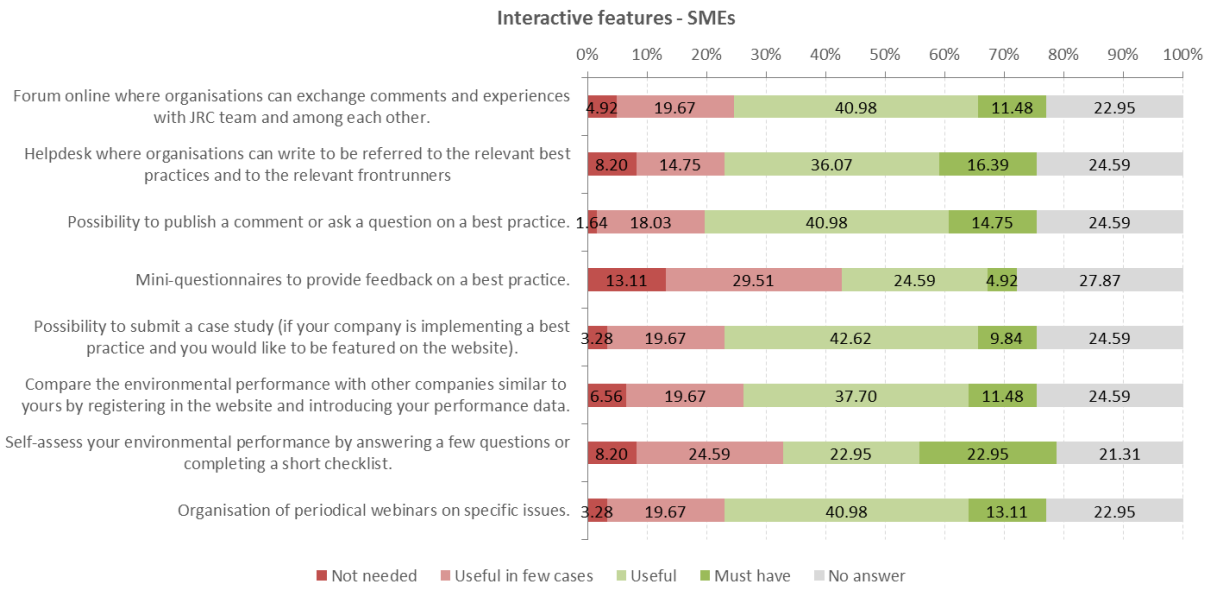
Description
Case studies
Applicability
Environmental performance indicators
Benchmarks of excellence
Environmental benefits
Cross media effects
Economic benefits
Driving forces for implementation of the best practice
13.64 27.27 54.55 4.55
9.09 13.64 45.45 27.27 4.55
22.73 31.82 40.91 4.55
4.55 9.09 45.45 36.36 4.55
4.55 31.82 36.36 22.73 4.55
22.73 50.00 22.73 4.55
27.27 59.09 4.55 9.09
4.55 9.09 40.91 36.36 9.09
31.82 36.36 27.27 4.55
Not important
Partially important
Important
Very important
No answer

Annex 4. Figures on SMEs results






Interactive features - SMEs
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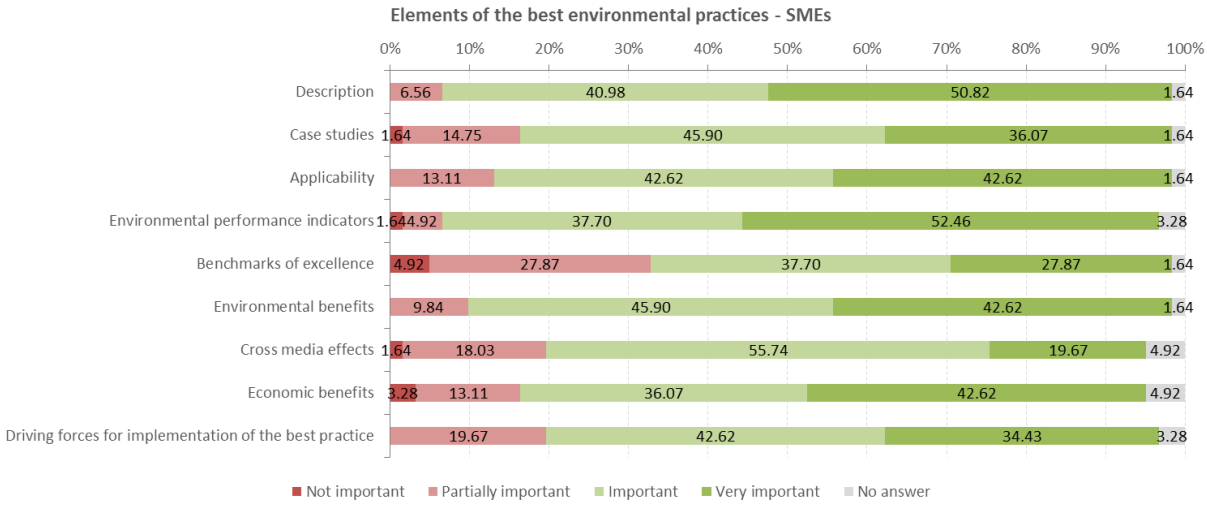
Forum online where organisations can exchange comments and experiences with JRC team and among each other.
4.92
19.67
40.98
11.48
22.95
Helpdesk where organisations can write to be referred to the relevant best practices and to the relevant frontrunners
8.20
14.75
36.07
16.39
24.59
Possibility to publish a comment or ask a question on a best practice.
1.64
18.03
40.98
14.75
24.59
Mini-questionnaires to provide feedback on a best practice.
13.11
29.51
24.59
4.92
27.87
Possibility to submit a case study (if your company is implementing a best practice and you would like to be featured on the website).
3.28
19.67
42.62
9.84
24.59
Compare the environmental performance with other companies similar to yours by registering in the website and introducing your performance data.
6.56
19.67
37.70
11.48
24.59
Self-assess your environmental performance by answering a few questions or completing a short checklist.
8.20
24.59
22.95
22.95
21.31
Organisation of periodical webinars on specific issues.
3.28
19.67
40.98
13.11
22.95
Not needed
Useful in few cases
Useful
Must have
No answer


Elements of the best environmental practices - SMEs
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Description
6.56
40.98
50.82
1.64
Case studies
1.64
14.75
45.90
36.07
1.64
Applicability
13.11
42.62
42.62
1.64
Environmental performance indicators
1.64
4.92
37.70
52.46
3.28
Benchmarks of excellence
4.92
27.87
37.70
27.87
1.64
Environmental benefits
9.84
45.90
42.62
1.64
Cross media effects
1.64
18.03
55.74
19.67
4.92
Economic benefits
3.28
13.11
36.07
42.62
4.92
Driving forces for implementation of the best practice
19.67
42.62
34.43
3.28
Not important
Partially important
Important
Very important
No answer

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