



## JRC TECHNICAL REPORTS

# EU GPP Criteria for Public Space Maintenance

*TECHNICAL REPORT*

*Draft third criteria proposals*

*Annex: Table of comments from the stakeholders on the second draft technical report criteria proposal*

November 2018

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# Table of Comments from Stakeholders

## Introduction and Scope

Annex table 1: Introduction and scope

Selected information subject to the comment	Comment description	Assessment by JRC
Scope- construction machinery	The scope should be extended to cover construction and renovation activities such as to include construction machinery and equipment including, but not limited to: excavators, bulldozers, mobile cranes, shovel-loaders, rammers, vibratory plates	<b>Comment not accepted:</b> The scope of the Public Space Maintenance EU GPP Criteria has been defined in the Task 1 Report as well as the <i>Preliminary Report</i> , and Construction and renovation activities have been excluded.
Scope- Winter maintenance services	"Winter maintenance services" should be added as a separate service	<b>Comment not accepted:</b> The scope of public space maintenance has been defined in the in the Task 1 Report and also in the first part of the <i>Preliminary Report</i> where Winter maintenance services have been included in cleaning services.
Scope- Snow removal vehicles	Snow removal vehicles should be deleted	<b>Comment acknowledged.</b>
Scope- Snow removal vehicles	to be added: <ul style="list-style-type: none"> <li>• Snow removing machines (self-propelled or attached)</li> </ul>	<b>Comment accepted.</b>

# Outdoor Cleaning Activities

Annex table 2: Outdoor cleaning products and services

Selected information subject to the comment	Comment description	Assessment by JRC
<b>Products</b>		
TS1- TS2-TS3	<p>Similarly to the Decision 2017/1217 (see Criterion 4 - Excluded and restricted substances, (b) Hazardous substances, Table 2) even in this case it could be useful to insert/specify hazard classifications (hazard statements) and their categorization for all products without ISO Type I Ecolabel. Also in this case of TS2 and TS3 could be useful to insert/specify hazard classifications (hazard statements) and their categorization.</p> <p>We think that it is necessary to identify specific restricted Hazard statements for final products (for products without an ISO Type I ecolabel).</p>	<p><b>Comment accepted:</b> The final product classification is available in Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (the 'CLP Regulation') in Annex I. However to facilitate clarity, they have been provided within the criterion.</p>
At least 30% (core) and 50% (comprehensive) with a long definition of demand to use of cleaning products with low environmental impacts	The percentages are really low! Should be at least 60% (core) and 80% (comprehensive). JRC could also add a contract clause since you probably purchase cleaning products from a supplier during 2-4 years. The supplier is expected to help increase the percentage of cleaning products with low environmental impact as long as the contract lasts. When someone from us asks for cleaning products, the supplier should always assist in helping to choose products with low environmental impact. We will inform our users of the contract how they should ask for the best products, and we expect our supplier to help us with this information.	<p><b>Comment partially accepted:</b></p> <p>The criterion has been reformulated to request 100 % as the percentage minimum volume of the products at purchase (at the comprehensive level), that must be compliant with criterion 4 on excluded and restricted substances of the EU Ecolabel for hard surface cleaning products. At the core level, there is no longer any requirement on toxicity to aquatic organisms (criterion 1) and on excluded and restricted substances (criterion 4) of the EU Ecolabel for hard surface cleaning products. The percentages specified in the formulation of the criteria are merely indicated in a note as recommended values. At the comprehensive level the requirement on toxicity to aquatic organisms (criterion 1) is also withdrawn.</p> <p>Due to the reformulation of the criterion, the award criteria is redundant and thus withdrawn.</p>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
		Additionally, TR2.0 already contains CPC1 aimed at reducing the amount of cleaning products to be used.
TS2. Graffiti removal products	Ok, but graffiti removal products are actually "cleaning products" so you already have a demand including that in TS1. To have a special demand for graffiti removal will just be confusing. In order to avoid confusion, also the TS7 at service level should be withdrawn.	<b>Comment accepted:</b> TS2. Graffiti removal products and TS7 at service level withdrawn.
TS3. De-icing and snow removal products	JRC have identified that there are differences between de-icing products, so we suggest to keep the core criteria as JRC proposes, but take a step further at the comprehensive level. Comprehensive criteria: De-icing and snow removal products must meet the requirements of ecolabelling according to the Nordic Swan, German Blue Angel or equivalent ecolabelling system.	<b>Comment partially accepted:</b> The requirements of Type I ecolabels that have criteria for deicing and snow removal products do not differ from the requirements stated in the criterion. Therefore formulating a criterion at the comprehensive level for this as suggested would be redundant. Nevertheless, the suggestion is considered within the modification to the verification requirement.
TS3. De-icing and snow removal products	If thaw material like NaCl is considered, what are the criteria for the definition of a product with low environmental impact? Some markets are buying local products with reduced transportation distances but the material includes more pollutants. Other markets must purchase thawing material which must be transported over a longer distance since local products are not available. The choice of thawing material and the concentration of brine is a balance of environmental and road safety.	<b>Comment partially accepted:</b> To clarify the criteria for de-icing and snow removal products with low environmental impacts, the requirement of the criteria has been updated.
TS3. Consultation questions	We agree in general.	<b>Comment acknowledged.</b>
AC2. Compostable bin bags	Ok	<b>Comment acknowledged.</b>
<b>Services</b>		

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
Operational procedures and best practices	There are cost concerns for the use of alternatives, which in a similar case e.g. road salt, prevent the administrations from substituting the sodium chloride.	<b>Comment acknowledged.</b>
"and also reduce their use through more efficient application and best practices"	Therefore, spreading machines should comply with the requirements of EN 155971 and EN 15597-2	<b>Comment accepted:</b> The recommendation on the standards for spreading machines (EN 155971 and EN 15597-2) are taken up and are reflected in the text.
TS5. De-icing and snow removal operations	Pre-wetting in deicing of paths? JRC should perhaps check if there is some confusion with de-icing at airports or dust-binding methods. What do these criteria lead to anyway but paper work? Anti-icing agents could be an environmental problem, JRC writes but this is not addressed in the criteria. We suggest using a contract performing clause saying: Supplier must have routines to decrease the use of road salts.	<b>Comment not accepted:</b> JRC is of the opinion that de-icing and snow removal operations which are implemented by a combination of any of the techniques presented in TS5 of TR2.0 could reduce the use of conventional road salts and chemical use and produce optimal results. However, the choice of method or combination of methods is highly dependent on the specific weather and surface condition. This specific factor makes it difficult to develop a CPC as suggested. JRC believes that TS1. Environmental Management Measures addresses the issue of "reduction in the use of snow removal agents Which is also referenced in the verification requirement of the TS5. De-icing and snow removal operations.
TS6. Reduction of PM10 street dust	Ok	<b>Comment acknowledged.</b>
CPC1. Cleaning services plan	Ok, but could be expressed even clearer like this: ... including at least the following: 1) energy and water consumption; 2) use of less cleaning agents and substitution to less environmentally unwanted products. 3) staff training and working instructions	<b>Comment accepted.</b>
CPC2. Weed Control Operational procedures and best	With JRC's way of expressing criteria, vinegar is not allowed on the comprehensive level. It is a most effective weed control chemical and often used between stones etc. Harmless to the	<b>Comment not accepted:</b> JRC agrees that vinegar, when available as horticultural organic vinegar is a most effective weed control chemical and is harmless to the environment.



<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
practices	<p>environment. We suggest core criteria without pesticides or herbicides, like this: Weed and pest control must be carried out by applying non-chemical treatment methods (except for vinegar) such as thermal, mechanical or biological treatments.</p> <p>If the contractor finds it impossible to avoid using weed killers other than vinegar or pesticides in a specific situation, an exception may be discussed with the client. If the client agrees that the use of weed killers is necessary, the contractor must get a written permission before usage.</p>	<p>JRC does not agree with the suggestion on the core criteria as to obtain effective control, more frequently repeated treatments are required than herbicide weed management, resulting in increased labor and fuel costs.</p>

# Gardening Activities

Annex table 3: Gardening products and services

Selected information subject to the comment	Comment description	Assessment by JRC
<b>Products</b>		
4.1 Ornamental plants	We confirm the low availability of organic plants on the market but we consider that IPM certified plants are almost everywhere so the requirement about this certification doesn't represent selection criteria within the different providers.	<b>Comment acknowledged.</b>
TS1. Ornamental plants	Organic is better than integrated pest management, they are not equivalent. We suggest dividing this criterion like this:  At least X% of purchased ornamental plants must be Organic...  At least X% of purchased ornamental plants must be grown according to Integrated Pest Management ...	<b>Comment not accepted:</b> This formulation could be confusing. The suggested reformulation by the stakeholder would not be practically feasible as there is no information on the availability of organically cultivated ornamental plants. Moreover, such a reformulation is not needed as the percentages (X%, Y%) are to be specified at the discretion of the contracting authority.
TS2. Plants containers and packaging	Concerning the take-back system for plant pots and containers, its implementation would be really difficult and expensive for administrations, while the use of compostable or biodegradable pots is not feasible for professional services. Furthermore, the majority of containers are made of PP instead of PVC and PP can be made of re-used material but the issue of its reuse is not so easy.	<b>Comment acknowledged:</b> JRC acknowledged that the cost factor could be an issue, for that reason the criterion lists several options and is settled only at the comprehensive level.  JRC believes that there are initiatives existing that minimize the impacts of the use of plastic pots through the promotion of fully recyclable and recycled industry standard taupe pot as well as national plant pot take-back recycling scheme (e. the take back recycling scheme launched by the Horticultural Trade Association (HTA) in the united Kingdom)  To completely mitigate the impacts from the deployment of single use plastic based pots, alternatives are needed. These alternatives are mainly reusable plant pots or those made of "biodegradable", coir and corn-starch – materials – all of which are also available in commercial quantities.

Selected information subject to the comment	Comment description	Assessment by JRC
		It is anticipated that the options provided will encourage a shift towards more environmentally friendly alternative products.
TS2. Plants containers and packaging	Ok	<b>Comment acknowledged.</b>
TS3. Invasive alien species - note	Ok	<b>Comment acknowledged.</b>
TS4. Organic constituents of soil improvers and mulch	We sought some specification about the use of inorganic soil improvers such as sand, which in fact is the most used material in some countries.	<b>Comment acknowledged:</b> The scope of Ecolabel on soil improvers covers only organic soil improvers in order to promote the use of compost and digestate materials. No environmental issues emerged related to the use of sand as soil improvers. For this reason, it is not addressed in the proposed Criteria.
TS4. Organic constituents of soil improvers and mulch	Ok	Comment acknowledged.
TS4. Organic constituents of soil improvers and mulch	Ok	Comment acknowledged.
Paper sludge is excluded in the core and comprehensive criteria.	Belgium has an arrangement for paper sludge ( de-inking sludge). Paper sludge can be used if a risk analysis is done. This analysis should be done at least for the same environmental parameters for which there are legal requirements for the final product. We would like to keep the possibility to use this paper sludge as input material for composting or anaerobic digestion plants if the risk analyses support it.	<b>Comment not accepted:</b> The core criterion TS4 on soil improvers provides a list of materials that are not allowed to be used as soil improvers including "Materials totally or partially derived from sludge derived from municipal sewage water treatment and from sludge derived from the paper industry". This is aligned with the EU Ecolabel for growing media, soil improvers and mulch which is still in force.
EWC codes on sludge	In the comprehensive criteria (2nd column) there are EWC codes for sludge. We propose an addition to this text: As a remark, in the discussions regarding the new EU Fertiliser Regulation, there has been a proposal to clearly define "industrial sludge". This scope also contains waste water treatment sludge from the agro-food industry (food processing, dairy/cheese production, biobased economy) that is not contaminated but is	<b>Comment not accepted:</b> The proposed criterion is aligned with the EU Ecolabel for growing media, soil improvers and mulch which is still in force.

Selected information subject to the comment	Comment description	Assessment by JRC																												
	recovered through the separate collection. These are predominantly clean organic materials that are fit for treatment and recovery (re-use). Apart from the proposed EWC codes, some other clean materials from the agro-food industry or other origin could be regarded as suitable (e.g. sludge from drinking water production with EWC code 19 09 02).																													
Heavy metals	<p>The proposed limit values are in line with the proposed limit values in the draft EU Fertiliser Regulation, except from Cu and Zn. As those are also considered as micronutrients (and not as contaminants), the limit values for Cu and Zn were set to a more relaxed level. This is very important as manure (a lot of Cu en Zn) is cotreated and in this way it will be very difficult for manure derived products (compost or digestate) to comply with the strict levels for Cu en Zn.</p> <table border="1" data-bbox="481 751 1283 1295"> <thead> <tr> <th></th> <th>Current proposal</th> <th><i>Draft Fertiliser Regulation prop.</i></th> <th>Draft Fertiliser Regulation prop.</th> </tr> </thead> <tbody> <tr> <td></td> <td>mg/kg (dw)</td> <td><i>organic fertiliser mg/kg (dw)</i></td> <td>organic soil improver mg/kg (dw)</td> </tr> <tr> <td>Cadmium (Cd)</td> <td>1</td> <td>1.5</td> <td>2</td> </tr> <tr> <td>Chromium total (Cr)</td> <td>100</td> <td>100</td> <td>100</td> </tr> <tr> <td>Copper (Cu)</td> <td>100</td> <td>300</td> <td>300</td> </tr> <tr> <td>Mercury (Hg)</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Nickel (Ni)</td> <td>50</td> <td>50</td> <td>50</td> </tr> </tbody> </table>		Current proposal	<i>Draft Fertiliser Regulation prop.</i>	Draft Fertiliser Regulation prop.		mg/kg (dw)	<i>organic fertiliser mg/kg (dw)</i>	organic soil improver mg/kg (dw)	Cadmium (Cd)	1	1.5	2	Chromium total (Cr)	100	100	100	Copper (Cu)	100	300	300	Mercury (Hg)	1	1	1	Nickel (Ni)	50	50	50	<p><b>Comment partially accepted:</b> JRC acknowledges that the heavy metal limits are stricter than those specified in the current regulation as the Also as the values set in the current Regulation are based on a broad range of input materials, it is generally anticipated that the limits imposed by the regulation will be less stringent than that of the ecolabel due to the exclusion of certain types of input materials, resulting in higher end-of-waste limit values for certain heavy metals (in the EU Ecolabel). There are concerns that the criteria may not be practically implementable for the purpose of public procurement in its current formulation (e.g. the markets demand may reduce if the if limit values are too high). Therefore at the core level, the heavy metal limit values of the criteria are aligned with those of the mandatory end of waste criteria for compost but at the comprehensive level, no changes were made.</p>
	Current proposal	<i>Draft Fertiliser Regulation prop.</i>	Draft Fertiliser Regulation prop.																											
	mg/kg (dw)	<i>organic fertiliser mg/kg (dw)</i>	organic soil improver mg/kg (dw)																											
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Mercury (Hg)	1	1	1																											
Nickel (Ni)	50	50	50																											

Selected information subject to the comment	Comment description	Assessment by JRC								
	<table border="1"> <tr> <td data-bbox="481 317 680 363">Lead (Pb)</td> <td data-bbox="685 317 808 363">100</td> <td data-bbox="813 317 1016 363">120</td> <td data-bbox="1021 317 1281 363">120</td> </tr> <tr> <td data-bbox="481 367 680 413">Zinc (Zn)</td> <td data-bbox="685 367 808 413">300</td> <td data-bbox="813 367 1016 413">800</td> <td data-bbox="1021 367 1281 413">800</td> </tr> </table>	Lead (Pb)	100	120	120	Zinc (Zn)	300	800	800	
Lead (Pb)	100	120	120							
Zinc (Zn)	300	800	800							
TS5. Hazardous substances (heavy metals) in soil improvers	Ok	<b>Comment acknowledged.</b>								
TS6. Physical contaminants in soil improvers	Ok	<b>Comment acknowledged.</b>								
E.coli	E.coli: <1000 CFU/g fresh weight (CFU: colony-forming units). This isn't relevant for organic fertilizers and soil improvers. It makes no sense to measure and regulate E coli in end products of biological treatment of organic materials. These are applicable in the Animal By-Product Regulation (ABPR) mainly as a process parameter to cross-check the effectiveness of the sanitation step of the treatment but give no information in finalised products, due to the fact, that in natural occurring circumstances, E. coli or Enterococcus is subject to regrowth, which is a natural process without influencing the product quality. For the final product assessment, the adequate parameter for hygiene aspects is Salmonella.	<b>Comment not accepted:</b> E-coli is monitored to ensure that composting/anaerobic digestion is correctly carried out and this is in alignment with the current EU Ecolabel for growing media, soil improvers and mulch								
TS9. Automatic irrigation	Ok	<b>Comment acknowledged.</b>								
<b><u>Services</u></b>										
4.4 Gardening Services: rationale of the criterion-Enhancement of biodiversity	We cannot be sure whether the enhancement of native plants is beneficial for biodiversity, in some way we can consider that to have species from different places could be more advantageous. Biodiversity is a complex issue and more data is needed in order to formulate an effective criterion.	<b>Comment acknowledged.</b>								

Selected information subject to the comment	Comment description	Assessment by JRC
CPC2. Waste management	The criterion on waste management (in particular, composting in-situ, street management, etc) is too detailed because if you are planting 10 or 20000 plants, you are not using the street containers, so maybe not so detailed as in the proposal. The point mentioning the placement of packaging in street waste containers is not feasible in many cases, so perhaps the criteria could be less specific on this point.	<p><b>Comment partially accepted:</b> A point in the criteria has been reformulated in accordance to the comment received so it reads "</p> <p>Packaging waste must be separated into the existing urban waste fractions and transported by licensed waste operators to a recycling centre approved by the local authorities to handle and process the various waste fractions (paper, plastic and other applicable waste streams emanating from the provision of the service). However, packaging waste of dangerous substances, such as plant protection products, must be disposed of safely in approved collection points or through an authorized waste manager for further treatment.</p>
TS10. Ornamental plants and soil improvers used for the provision of gardening services	We propose a contract clause: At least X% of purchased ornamental plants must be organic. The contractor should strive to increase the percentage during the contract period. When organic plants are not available, the contractor must choose plants grown according to Integrated Pest Management. (with the definitions of "organic" and IPM")	<b>Comment not accepted:</b> There is no market information available on the volume of organically cultivated ornamental plants in Europe. We believe the current formulation of TS10 would enable the contracting authority to capture the volumes of organic ornamental plants available at the time of the Cft without placing too much burden on the tenderers.
TS11. Pest control and invasive alien species management	JRC asks a lot of a tenderer to work on a plan before she/he has got any contract. It's also extremely difficult to evaluate the quality of such a plan. This is suitable for a contract clause, as JRC also suggests.	<b>Comment not accepted:</b> JRC believes that this criteria ensures that the tenderer has the knowledge and the competencies to address this aspect of the contract before the contract is awarded which is quite critical to ensure that the subject of the TS is properly addressed; and it can quite easily be evaluated based on criteria detailed in existing and relevant regulations e.g. Implementing Directive 2017/1279.
CPC1. Watering practices - note	Excellent	<b>Comment acknowledged.</b>
CPC2. Waste management	Ok	<b>Comment acknowledged.</b>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
CPC3. Pest control and invasive alien species management	Ok	<b>Comment acknowledged.</b>
CPC4. Gardening practices and enhancement of biodiversity	Excellent	<b>Comment acknowledged.</b>

# Machinery Activities

Annex table 4: Machinery products and services

Selected information subject to the comment	Comment description	Assessment by JRC
<b>Products</b>		
Municipal machinery (e.g. compact sweepers and spreaders)	To be modified as follows: municipal machinery (e.g. compact sweepers, snow removing machines, snow ploughs and spreaders)	<b>Comment accepted.</b>
Machinery- Scope	Is machinery for weed control excluded in this chapter? Why are they not listed here?	<b>Comment not accepted:</b> Machinery for weed control used in PSM activities are diverse and include a wide range of mechanical attachments (e.g. mechanical rakes, weed brushes, etc) for two-wheeled tractors or for front linkages to ride-on mowers and street-cleaning vehicles or the walk-behind engine powered machines. The mechanical attachments are not considered to significantly impact the environment. For this reason, they are not featured in the list of machinery presented which is not exhaustive but indicative of the most used items for PSM which do result in environmental impacts. However, the engines of the machines (propelling devices to which they may be attached should comply with the relevant criteria in this technical report).
5.1.1 Machinery Engine Exhaust Emission	In Sweden both for HDV than for machinery, they implemented the deployment of equipment running on renewable energies. For HDV it entails renewable fuels, while for batteries we always use the ILO criteria, the manufacturer has to show that they fulfill the ILO criteria for child labour, non- war etc. The stakeholder also pointed out that the main environmental impact from non-road machinery in our city is GHG. JRC is not ambitious on electrification, zero-exhaust emissions. There are other ways and I have referred to the way we successfully used	<b>Comment not accepted:</b> EU GPP criteria are focused solely on environmental issues, Therefore the suggestions relating to labour (ILO criteria), cannot be explored. Furthermore, the current regulation on machinery is mainly focused at minimizing impacts from the release of CO, HC, NOx etc, and that GHG emissions are not the focus for the sector.



Selected information subject to the comment	Comment description	Assessment by JRC
	it in HDV and that is the way you can apply it in non-road machinery, i.e. biogas, ED 95, etc.	
TS 1. Engine Exhaust Emissions	<p>The second draft report seems to promote electric equipment, both corded and battery-driven products, through the suggested criteria. We believe that criteria should neither impose, nor discriminates in favour of the use of a particular type of technology.</p> <p>The core criteria are aligned with EU regulation on exhaust emission. However, we would like to reiterate that requiring lower engine exhaust emissions are likely to be difficult to meet for manufacturers. Such a requirement would require the redesign of machinery.</p>	<p><b>Comment not accepted:</b> GPP criteria aim to promote technologically feasible and environmentally friendly alternatives – based on an objective analysis - to the current state of play. it is observed that PSM machinery capable of meeting these requirements are already available in the market as detailed in the rationale of TR2.0 (corded and cordless versions of handheld machinery, battery electric powered compact sweepers, etc), and are viable options for achieving environmental improvements.</p>
TS 1. Engine Exhaust Emissions	<p>Stage V engines will not be available for all mobile machines on the EU-market from 2019. In order to ensure a fair market competition it should be alternatively accepted if an OEM places machines on the EU-market which is fitted with an previous emission stage to Stage V upgraded or retrofitted with diesel particulate filters (DPF) that have been tested according to one of the following certificates and have a gravimetric filtration efficiency of at least 90%:</p> <ul style="list-style-type: none"> <li>• Annex XXVII Number 3 StVZO</li> <li>• UNECE Regulation no. 132, reduction level 01, class I or II or</li> <li>• the FAD e.V. seal (version February 2015 or newer)</li> <li>• VERT Filter List (version September 2016 or newer) or</li> <li>• BAFU Filter List</li> </ul> <p>So that a reduction in the number of particulates of at least 99% and a reduction in the particulate mass of at least 90% is guaranteed. Such an upgraded or retrofitted engine should be considered equally to a Stage V engine.</p>	<p><b>Comment accepted:</b> Given that transitional provisions and exemptions are available within the NRMM EU regulation, the core criteria has been amended to consider machines on the EU-market fitted with an previous emission stage to Stage V upgraded or retrofitted with diesel particulate filters (DPF) that have been tested.</p>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
Compact sweepers are machines as defined by the Machinery Directive 2006/42/EC- since it is a vehicle not intended for use on the road and with a maximum design speed not exceeding 25 km/h.	According to EU legislation, compact sweepers are mobile machines (NRMM) independent from their maximum design speed. But due to national legislation and road registration, they are homologated, type approved and/or registered as vehicles. Therefore, according to EU legislation combustion engines installed in compact sweepers must comply with REG (EU) 2016/1628. But due to the availability of engines and customers' requests, manufacturers install into their compact sweepers engines which comply with 715/2007/EC or 595/2009/EC.	<b>Comment acknowledged.</b>
TS 1. Engine Exhaust Emissions	Good to set a limit so that old (and already used) equipment with more emissions won't be purchased. This is a very basic criterion just saying you have to buy what's allowed to be sold as new products on the market.	<b>Comment acknowledged.</b>
TS 1. Engine Exhaust Emissions - Comprehensive criteria: The machinery must operate with zero exhaust emissions.	Good to get as high percentage electric machinery as possible. To be practically useful in purchasing, this criterion should be expressed: products x, y z must operate with zero exhaust emissions. Purchasers have to check the market in advance. There will probably be some special equipment where there is no electric machinery available on the market so it won't be practical in most cases to go for 100% zero emissions, but sometimes it's possible. When purchasing not specific products but rather delivery of machinery during 2-4 years it could be practical with a contract performing clause: The supplier is expected to help increase the percentage of machinery with zero exhaust emissions as long as the contract lasts. When someone from us asks for machinery, the supplier should always assist in helping to choose machinery with zero exhaust emissions. We will inform our users of the contract how they should ask for the best products, and we expect our supplier to help us with this information.	<b>Comment not accepted:</b> The criterion is designed to be practically realisable as there is insufficient information to enable a criteria proposal which specifically requests certain machinery products to operate with zero exhaust emissions. Therefore the criterion adopts a technology driven approach based on existing applicable regulations to reward the provision of machinery with zero exhaust emissions (through an award criteria at the core level). The average useful life of machinery employed in the provision of gardening services is about 3.5 year after which it is replaced. Therefore proposing a contract performing clause requesting 100% machinery with zero exhaust emissions during 2-4 years would not be useful due to the overlap between contract duration and the end of the useful life of the machinery.

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
<p>TS 1. Engine Exhaust Emissions-</p> <p>What are your opinions about the reformulated criterion at the comprehensive level?</p>	<p>Manufacturers of compact sweepers are on the way to provide electric driven sweepers or with other alternative drives.</p> <p>Most OEMs just started to provide battery-powered sweepers on the market. Several small compact sweepers have been presented on the exhibition IFAT in Munich in May 2018.</p> <p>The volume of battery powered small compact sweepers up to 2,5qm will increase in the next years but not for the bigger ones. The trend for truck mounted sweepers depends on the decisions and developments of the truck manufacturers.</p>	<p><b>Comment acknowledged.</b></p>
<p>Are there enough accredited testing laboratories competent for conducting these tests?</p>	<p>Which tests do you mean?</p> <p>If you mean exhaust emission measurements, there are several accredited test institutes in Europe.</p> <p>But for electric drives usually no emission test is necessary/ required.</p>	<p><b>Comment acknowledged.</b></p>
<p>5.1.2 GHG emissions of compact sweepers and spreaders</p>	<p>The headline should be modified as follows:  "GHG emissions of mobile machines"  in order to be in line with the headline in 5.1.1.  GHG emissions should not only be considered for sweepers.</p>	<p><b>Comment not accepted</b> – criterion withdrawn.</p> <p>For NRMM used for gardening activities, the most significant air pollutant emissions are the release of CO, HC, NOx etc.</p> <p>Also there is a lack of information and data to formulate criterion based on energy consumption or CO<sub>2</sub> emissions performance for compact sweepers and spreaders.</p> <p>An analysis of the available technology options to set criteria for compact sweepers and spreaders indicated that fuel cell technology although possible, depends for example on the size of the sweeper and is not really feasible for smaller compact sweeper. Hybrid drives and plug-in hybrids are seen as an interim solution, and there are technologies such as load-sensing-hydraulic system (for sweepers and spreaders) which enable the flow-capacity of the pump to be regulated through the load-sensing-pressure (for truck mounted sweepers (see section 6.1.1)), but battery electric vehicles</p>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
		<p>are the technology for the future. There is some evidence that these are competing with sweepers equipped engines complying with various EU emission limits (EURO 6, EURO VI or Stage V).</p> <p>These could be used to propose/ formulate a criterion based on the legal background and stipulating requirements, which demand less or zero air pollution emissions. However, this option is already addressed through the criterion on Engine Exhaust Emissions (TS1). Therefore the criterion is withdrawn.</p>
5.1.4 Distribution performance of spreaders	Section 6.1.4 should be moved to 5.1.4 because spreaders are considered as machines but not as vehicles.	<b>Comment accepted.</b>
TS 2. Battery rechargeability and quality	Excellent.	<b>Comment acknowledged.</b>
AC 2. Battery heavy metal content	AC2 and AC5. Nothing wrong with this except JRC has an extremely high opinion of what purchasers, in general, are prepared to do at work. When it comes to buying services this is even more farfetched.	<b>Comment acknowledged.</b>
5.1.6 Criterion withdrawn	<p>It must be ensured that the criteria of the efficiency of particulate matter collection are not only withdrawn for truck mounted sweepers as vehicles in section 6.1.6 but also for compact sweepers as mobile machines in section 5.1.6. Therefore the following text should be added to section 5.1.6: Efficiency of particulate matter collection (for compact sweepers)</p> <p>Refer to Section 6.1.6. The same rationale and criteria as for truck mounted sweepers applies.</p>	<b>Comment not accepted:</b> No criteria proposal was made for the efficiency of particulate matter collection for compact sweepers as mobile machines in all the technical reports. Therefore it cannot be withdrawn. 5.1.6. – Criterion withdrawn refers to the withdrawal of the noise emission criteria. This is now clarified.

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
TS3. Machinery Lubricant (This criterion is applicable only if the relevant lubricants are included at the time of purchase)	TS3 and CPC2. Ok.	<b>Comment acknowledged.</b>
TS3. Machinery Lubricant	We propose to delete "or Council Directive 99/45/EC"  Directive 67/548/EEC and Directive 1999/45/EC are repealed with effect from 1 June 2015. Moreover, the risk R-phrases are repealed and replaced by the hazard statements H, therefore we propose to delete in the sentence "or R-phrase"	<b>Comment accepted.</b>
<b><u>Services</u></b>		
5.2.1 Machinery Engine Exhaust Emissions- Rationale of the criterion	Most OEMs just started to provide battery powered sweepers on the market. Several small compact sweepers have been presented on the exhibition IFAT in Munich in May 2018.  The volume of battery powered small compact sweepers up to 2,5qm will increase in the next years but not for the bigger ones. The trend for truck mounted sweepers depends on the decisions and developments of the truck manufacturers.	<b>Comment acknowledged.</b>
TS5. Machine Engine Exhaust Emissions. Note: this criterion is not applicable to compact sweepers and spreaders)	You do not have to leave out compact sweepers and spreaders since it is a percentage criteria you propose, and it is a service that purchasers are going to buy, not products. We suggest JRC leave out the note. It will only complicate things to calculate the percentage. You also give the impression it is impossible to get zero emissions in certain products, which is not true.	<b>Comment not accepted:</b> Regarding TS5, the note is designed to indicate the set of mobile machinery to which the criteria requirement are applicable to, and by default, can be included in the computation of the percentages. The rationale provides a detailed explanation of the approach and has been reviewed to clarify any unintended ambiguities. JRC believes that the note does not play any role in the computation of the percentages and should be retained.

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
CPC 1. Machine Engine Exhaust Emissions	Excellent ambition. But perhaps for practical reasons you should add: ...in case there are such products available on the market. Otherwise, you may put the contractor (and yourself as purchaser) in an impossible situation.	<b>Comment accepted.</b>
5.2.1 Machinery Engine Exhaust Emissions- Consultation questions	<p>These requested percentages are very high and in some cases unrealistic from our point of view, especially for those markets or customers where mainly truck mounted sweepers are used.</p> <p>Perhaps it is necessary to differ between different applications and to require different percentages for compact sweepers below and above 2.5 qm and truck mounted sweepers.</p>	<b>Comment not accepted:</b> Truck mounted sweepers are not addressed within the proposed criteria in Chapter 5, and the criteria proposed in 5.2.1 Machinery Engine Exhaust Emissions are not applicable to compact sweepers. A separate criterion (TS6) on Air pollutant emissions performance detail the specific criteria required of compact sweepers and spreaders. Therefore it is not considered necessary to require different percentages for compact sweepers below and above 2.5m3and truck mounted sweepers.
TS6. Air pollutant emission performance. "This criterion is applicable only to the engines of compact sweepers and spreaders"	Why is this criterion only applicable for compact sweepers and spreaders? It should be applicable for all kind of mobile machines.	<b>Comment not accepted:</b> The criteria TS6 is not applicable to all NRMM because the effective service life of a compact sweeper is 6 to 7 years. This is much longer than the average useful life span of machinery used for the provision of gardening services with the implication that the replacements rates will differ. For this reason, criterion TS6 on air pollutant emissions performance is proposed only for the engines of compact sweepers and spreaders, and not all mobile machines.
TS6. Air pollutant emissions performance	Ok, but you could include a note that percentage may be able to be higher. Purchasers always have to check what 's feasible with local/regional suppliers of services anyway.	<b>Comment not accepted:</b> The criterion on air pollutant emissions performance (TS6) specifies the minimum requirement and as a higher percentage of complying machinery is encouraged through an Award Criterion (AC4), the inclusion of a note to the criterion that percentages may be able to be higher is not deemed necessary.

# Vehicles and Service Fleet

## Annex table 5: Vehicles and services

Selected information subject to the comment	Comment description	Assessment by JRC
<b>Products</b>		
Street cleaning vehicles (sweepers)	Text to be modified as follows: "Street cleaning vehicles (truck mounted sweepers)"	<b>Comment accepted.</b>
Vehicles for winter maintenance (spreaders)	<p>Only the combination of a truck chassis and a permanently mounted spreader can be considered as a special purpose vehicle according to 2007/46/EC. The portion of those vehicles on the EU market is less than 10% and limited to a few regional markets.</p> <p>The majority of spreaders are interchangeably fixed on trucks. These combinations cannot be considered as special purpose vehicles. These spreaders are machines and when they are fixed on a standard truckload platform they are considered as a load.</p>	<b>Comment accepted:</b> The criterion and the rationale have been modified accordingly.
TS1. Technological options to reduce GHG emissions	<p>This could be better expressed so that it's clear you can't just make improvements in aerodynamics and hybrids and equal that with full electric vehicles. Like this:</p> <p>Core: The vehicle shall be equipped by one of the following technologies demonstrating WTW GHG emissions</p> <ul style="list-style-type: none"> <li>• Improvement in aerodynamics: active flow control (only for trucks used in regional duty cycles)</li> <li>• Improvement in aerodynamics: Boat tails/extension panels (only for trucks used in regional duty cycles)</li> <li>• Load-sensing-hydraulic system (for sweepers and spreaders): the flow-capacity of the pump will be regulated through the load-sensing-pressure.</li> </ul>	<b>Comment not accepted:</b> Some options are missed in this formulation.

Selected information subject to the comment	Comment description	Assessment by JRC
	<p>Core:</p> <ul style="list-style-type: none"> <li>• Hybrid vehicles, both diesel and natural gas</li> <li>• Plug-in hybrid: Vehicle equipped with a battery pack which can be charged from the grid and provides the energy for the electrical drive of the body and equipment</li> </ul> <p>Comprehensive:</p> <p>The vehicle shall be equipped by one of the following technologies demonstrating WTW GHG emissions reduction</p> <ul style="list-style-type: none"> <li>• Full Electric vehicles</li> <li>• Fuel Cell Electric vehicles.</li> </ul> <p>Natural gas should be: The contracting authority may include dedicated natural gas vehicles if they have a supply of renewable methane meeting at least 50% of their demand.</p>	
<p>TS1. Technological options to reduce GHG emissions: Do you agree with the technologies proposed?</p>	<p>Based on this information, OEM dual-fuel natural gas vehicles that can demonstrate a gas-energy ratio of at least 50%, must be included in the criterion proposal as eligible technologies</p>	<p><b>Comment not accepted:</b> The TS1 includes “<i>OEM dual-fuel natural gas vehicle with a gas energy ratio over the hot part of the WHTC test-cycle of at least 50%</i>”, as an eligible option.</p>
<p>TS1. Technological options to reduce GHG emissions: Consultation questions</p>	<p>All new heavy-duty vehicles placed on the market shall comply with Euro VI, which sets comparatively strict limits on air pollutants.</p>	<p><b>Comment acknowledged.</b></p>
<p>TS1. Technological options to reduce GHG emissions: Do you agree with the ambition levels proposed for the different sets, core and comprehensive?</p>	<p>The vehicle must be equipped by one of the following technologies demonstrating WTW GHG emissions reduction:</p> <ul style="list-style-type: none"> <li>• Improvement in aerodynamics: active flow control (only for trucks used in regional duty cycles)</li> <li>• Improvement in aerodynamics: Boat tails/extension panels (only for trucks used in regional duty cycles)</li> <li>• Hybrid vehicles, both diesel and natural gas</li> <li>• Full Electric vehicles</li> <li>• Hydrogen fuel Cell Electric vehicles</li> </ul>	<p><b>Comment not accepted:</b> Some options are missed in this formulation.</p>



Selected information subject to the comment	Comment description	Assessment by JRC
	<ul style="list-style-type: none"> <li>OEM dual-fuel natural gas vehicle with a gas energy ratio over the hot part of the WHTC test-cycle of at least 50%</li> </ul>	
TS2. Tyre Pressure Monitoring Systems (TPMS)	TS2 and TS4. Ok	<b>Comment acknowledged.</b>
TS3. Vehicle tyres – rolling resistance	Please note that this could mean new vehicles have to change tyres before delivery. Better to demand when buying services on highest available energy efficiency when changing tyres or indeed retreated tyres.	<b>Comment not accepted:</b> The best performing tyres according to the Tyre Labelling Directive are widely available. Furthermore, as specified in the rationale of the criterion the Energy Efficiency Directive 2012/27/EU require for public authority purchasing <i>“only tyres that comply with the criterion of having the highest fuel energy efficiency class, as defined by Regulation (EC) No 1222/2009”</i>
AC1. Air conditioning gases	ok	<b>Comment acknowledged.</b>
6.1.1 GHG emissions- Consultation Questions	<p>Requirements for design to improve aero dynamic or for special tyres with reduced rolling resistance make no sense for sweepers (neither compact nor truck mounted) since those machines/vehicles are sweeping the most time with a speed of less than 15 km/h.</p> <p>Usually, the OEM will not fit retreated tyres on a machine/vehicle when it is placed on the market for the first time because of safety and warranty reasons.</p> <p>The owner or user of the machine/vehicle can purchase retreated tyres when the original ones must be replaced.</p>	<b>Comment not accepted:</b> The notes of this set of criteria specify that they don't apply to special purpose vehicles.
TS3. Air pollutant emissions performance	Ok	<b>Comment acknowledged.</b>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
AC3. Improved air pollutant emissions performance	AC3 and AC2 (services). Good, but should preferably be transformed to technical specification when the purchaser has done a proper job checking the local/regional market before purchasing. As is suggested by JRC in TS6.2. Air pollutant emissions (Comprehensive): "In the case of urban areas with air quality issues LDVs and L-category vehicles must have zero tailpipe emissions.	<b>Comment not accepted:</b> The TS on air pollutant emissions already exist. AC2-3 has been proposed to award higher percentages of vehicles with good performances with respect to air pollutant emissions.
"The water consumption of the sweepers was estimated to be 11% of the total demand. The model used sprayed 35 litres of water per minute and the monthly consumption was 163 m <sup>3</sup> "	35 l/min is really extremely high. The water consumption is usually less than 5 l/min. But the water consumption is mainly influenced by the operator and by regional requests, e.g. the streets in Paris are typically flushed with a high amount of water but in the Nordic countries sweeping is done usually without any water.	<b>Comment acknowledged.</b>
AC4. Water recirculation systems	AC4 and TS5 Ok	<b>Comment acknowledged.</b>
6.1.4 Distribution performance of spreaders	The whole section should be moved to 5.1.4	<b>Comment accepted.</b>
Test for spreading quality.	"This test method is now being adopted by a CEN technical committee, and will become a European Standard soon."  This text should be replaced by: "The set-up of this test method is an enhanced model of the approach described in the European technical specification CEN/TS 15597-2"	<b>Comment acknowledged.</b>
The spreader model must comply with the requirements on distribution	Ok, but this is suddenly a quality demand among all the environmental demands. There could be many quality demands in this set of criteria but that 's not really the scope even though there 's always a link between quality and environment.	<b>Comment acknowledged.</b>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
performance set by EN 15597-2		
TS6. Distribution performance- Consultation questions	<p>Yes, we agree in general.</p> <p>The new EN 15597-2 requires that the spreader performance tests must be done at higher speeds above 40 km/h. Therefore, it is not easy to find the suitable test facilities to make these tests indoor in order to reduce the influence of the weather conditions. As far as we know, the Danish test center in Bygholm is working on a solution.</p>	<b>Comment acknowledged.</b>
<p>Manufacturers use EN 15429-3:2015 to test the performance of their sweepers, and the standard is currently under revision to include measurements on PM2.5. The results are not comparable between them because they depend on the features of each sweeper, such as size and load. Setting benchmarks would require the test results of many different samples of sweepers, which are not available. Stakeholders from the manufacturing</p>	<p>We recommend not using the test report according to EN 15429-3 for verification. We discussed some test results of EUnited PM-Test (which is 100% identical with EN 15429-3) with sweeper experts (manufacturers, users, customers...). If for example sweeper A achieves 0,355 (mg/m3)/kg and sweeper B 0,211 (mg/m3)kg, the question is whether the difference of 0,144 (mg/m3)/kg is huge or negligible? This means the measured values are comparable but nobody really understands how to interpret the differences between different test results. Is it like to compare an engine with a power of 150 kW with an engine of 200 kW or is it like to compare an engine of 150 kW with one of 150,5 kW? Since nobody could give an answer to this question and to avoid any misinterpretation and troubles on the market, there are no published detailed measured values but levels of PM collection performance indicated with stars which can be viewed on the link: <a href="http://www.eunited.net/municipal_equipment/upload/Sweeper_list_tested_machines/EUnited_PM10-Test_-_List_of_tested_sweepers_2017-07-11i.pdf">http://www.eunited.net/municipal_equipment/upload/Sweeper_list_tested_machines/EUnited_PM10-Test_-_List_of_tested_sweepers_2017-07-11i.pdf</a>.</p> <p>This procedure of verification is already used in many other areas like exhaust emission legislation where you have the different levels from Stage I to Stage V for NRMM or Euro 1 to Euro 6. No customer will ask for the detailed emission values but will accept the given level. A comparable procedure is used for energy efficiency, where we have the levels A, B, C</p> <p>Furthermore, we know that there is only one independent laboratory</p>	<b>Comment acknowledged.</b>

<b>Selected information subject to the comment</b>	<b>Comment description</b>	<b>Assessment by JRC</b>
sector also indicated that, even for the same size and load, the results of the tests are not comparable and that it is not possible to determine which difference would be significant to allocate the points. Besides, the lack of laboratories hinders the verification of the criterion.	<p>which makes tests according to EN 15429-3 and therefore the request of such a test report would lead to a monopoly of this laboratory.</p> <p>Since we have just start now with measurements of PM2.5 according to EN 15429-3 some further time is needed to get experiences if this test method and the test material is applicable for the measurement of PM2.5</p> <p>Due to these reasons, the German ministry of environment agreed with all stakeholders not to include efficiency of particulate matter collection to the "Blauer Engel" Certificate. Therefore, this text should be modified: "Manufacturers use EN 15429-3:2015 to test the performance of their sweepers, and their measuring procedure is currently under revision to include measurements on PM2.5.</p>	
<b><u>Services</u></b>		
TS2. Cyclelogistics	Excellent.	<b>Comment acknowledged.</b>
TS6. Air pollutant emissions	Ok, but you could include a note that percentage may be able to be higher. Purchasers always have to check what ´s feasible with local/regional suppliers of services anyway.	<b>Comment not accepted:</b> The criterion specifies the minimum requirement. A higher percentage of complying machinery would be obviously welcome and is actually awarded according to the AC2.
AC5. Noise emissions	Concerning all noise demands in AC5, AC6, TS7 and CPC3. Perhaps feasible when buying products but hardly services if you are not an extremely interested purchaser with a lot of time available for following up contracts. When buying services it ´s better to express demands like this: When buying new tyres, new machinery, and vehicles, new products must be chosen with the highest available energy efficiency and low noise. Retreaded tyres are accepted.	<b>Comment acknowledged.</b>
CPC1. Low viscosity lubricant oils	Ok	<b>Comment acknowledged.</b>

## Common Criteria for Service Categories

### Annex table 6: Competence of tenderer and staff training and environmental management measures

Selected information subject to the comment	Comment description	Assessment by JRC
<b><u>Competence of Tenderer and Staff Training</u></b>		
SC1. Competences of the tenderer	Ok	<b>Comment acknowledged.</b>
CPC1. Staff training	Generally, gardeners have this kind of training in school, so perhaps there should be a note saying that "if the staff is already educated the company is exempt from the training".	<b>Comment accepted.</b>
<b><u>Environmental Management Measures</u></b>		
TS1. Environmental management measures	Ok, but please open up to other verifications than EMAS and ISO 14001!	<b>Comment acknowledged:</b> JRC believes that fulfilment of the requirement of the criteria is evidenced through the provision of a copy of the said written procedures. However, EMAS or ISO 14001 can also be presented as proof of compliance, if they cover the environmental objectives listed in the technical specification and its scope includes the services that constitute the subject matter of the call for tender.
CPC2. Environmental management measures	Ok. If it's not overdone and if somebody on the purchasing side of the contract takes an interest in these reports.	<b>Comment acknowledged.</b>

