European Commission

ROADMAP			
TITLE OF THE INITIATIVE	Maximisation of water reuse in the EU (a new EU instrument)		
LEAD DG – RESPONSIBLE UNIT	DG ENV C.1	**DATE OF ROADMAP**	09/ 2015
This indicative roadmap is provided for information purposes only and is subject to change. It does not prejudge the final decision of the Commission on whether this initiative will be pursued or on its final content and structure.			

A. Context and problem definition

(1) What is the political context of the initiative?

(2) How does it relate to past and possible future initiatives, and to other EU policies?

(3) What ex-post analysis of existing policy has been carried out? What results are relevant for this initiative?

(1) and (2) By looking into enabling the recycling of water and nutrient, this initiative would directly contribute to the achievements of some key objectives under the **7th EU Environment Action Programme to 2020** (i.e. protecting, conserving and enhancing the Union's **natural capital** and turning the Union into a **resource-efficient economy**).

What is more, by assessing how to stimulate structural changes in production and transportation of reused water, related technology and innovation in a fast-growing water market, the initiative can offer **opportunities for green growth and job creation**, in line with the political priorities set by the European Commission and plans to promote a more **circular economy**.

Because reusing water **consumes notably less energy than alternative supply options** (desalination/inter-basin transfers) and because it may allow for **less energy consumption in waste water treatment** this initiative can contribute to **make EU countries less dependent on energy imports**, in the framework of an **Energy Union**.

The opportunity to take action at EU level with a view to increasing water reuse was already identified in the 2012 Commission Communication "**A Blueprint to Safeguard Europe's Water Resources**" (COM(2012)673). **Waste water reuse for irrigation or industrial purposes** is considered to have a lower environmental impact and potentially lower costs than other alternative water supplies (e.g. water transfers or desalinisation), but it is only used to a limited extent in the EU. This appears to be due to the lack of common EU environmental/health standards for reused water and potential obstacles to the free movement of agricultural products irrigated with reused water. Commission's intention to address this issue, possibly by setting common EU-wide environmental/health standards, was noted with interest by the Council at that time (Council conclusions 17872/12).

Furthermore, the Communication from the Commission on the **European Citizens' Initiative, "Water and sanitation are a human right! Water is a public good, not a commodity!"** (COM(2014)177) shows that there is high public interest on water issues and provides an additional basis for further actions in order to increase and improve access to safe drinking water and sanitation.

(3) A **Fitness check of EU Freshwater policy** (SWD(2012)393) was published in November 2012, as a building block of the Blueprint. Its objective was to assess the effectiveness of the measures taken, both in environment policy and in other policy areas, in achieving the objectives already agreed in the context of water policy and identify whether any gap needed to be filled to deliver environmental objectives more efficiently. **In relation to waste water reuse**, **the Fitness check concluded that alternative water supply options with low environmental impact need to be further relied upon in order to address water scarcity**. In this context, a particular issue that was emphasised by industry stakeholders in the public consultation was the lack of EU standards for reuse of waste water in irrigation. The concern expressed is that the lack of EU-level standards could inhibit free movement of agricultural produce in the single market and inhibit investment by the water industry. The issue of reuse of treated waste water for different purposes (such as irrigation or industrial uses) is not specifically addressed by EU water policy through EU wide reuse standards. The Urban Waste Water Treatment Directive only encourages water reuse without setting standards (Art. 12, paragraph 1 of Directive 91/271/EEC "Treated waste water shall be reused whenever appropriate. Disposal routes shall minimize the adverse effects on the environment.").

What are the main problems which this initiative will address?

Europe's freshwater resources are under increasing stress, with a worrying mismatch between demand for, and availability of, water resources across both temporal and geographical (spatial) scales (EEA, 2012). **Water stress affects one third of the EU territory all year round** (EC, 2012). During summer months **water scarcity** is more pronounced in Southern European basins but is also becoming increasingly important in Northern basins, including UK and Germany. The frequency and intensity of **droughts** and their environmental and economic damages appear to have increased over the past thirty years (EC, 2012). Water over-abstraction, particularly for irrigation purposes but also for industrial use and urban development, is one of the main threats to the EU water environment. Resource availability is further compromised by **poor or unsuitable water quality** which can significantly increase the financial costs of supply. This is not only an issue for arid regions with low rainfall and high population density that are prone to increasing water stress; temperate areas with intense agricultural, tourism and industrial activities also suffer from frequent water shortages and/or expensive supply solutions . Many EU rivers have high levels of nitrogen (N) and phosphorus (P) which result, in part, from WWTP discharges (the concentration of N & P released depends upon the degree of sophistication of nutrient removal processes deployed in WWTPs). Water reuse of could help **decrease the nutrient pollution load** to rivers and the associated risks of **eutrophication**. **Global climate change** is already exacerbating these problems with projections indicating significant and widespread impacts over the medium to long term. Growing competition for water resources between different water using sectors is already emerging, and there is a need for **high quality resources to be protected** and reserved for drinking water supply.

Europe's ability to respond to the increasing risks of water scarcity, drought and over-abstraction could be enhanced by **wider reuse of treated wastewater** for agricultural, industrial and urban uses. Water reuse is an accepted practice in several EU countries subject to water scarcity issues (e.g. Cyprus, Spain, Italy), where it has become an integral and effective component of long-term water resources management. Water reuse may have a lower environmental impact than other alternative water supplies such as water transfers or desalination, under certain conditions, and may offer a range of environmental, economic and social benefits. At present, however, the **uptake of water reuse solutions remains limited** in comparison with their potential. This appears to be due to a number of factors, including low economic attractiveness of reuse solutions, low public acceptance of reuse solutions and limited awareness of its benefits, a lack of common EU environmental/health standards for reused water, and poor coordination of the professionals and organisations who design, implement and manage such schemes.

An initial Commission assessment of water reuse practices in the context of addressing water scarcity has identified potential risk from these practices, most notably water, food and soil contamination. The lack of full clarity as regards the appropriateness of applicable national regulatory frameworks, coupled with diverging requirements in individual Member States can prevent/erode public acceptance, prevent optimal knowledge-based risk response strategies and affect operators' level playing field. As some Member States introduced specific measures in their national legislation to deal with water reuse, their approaches differ. A patchwork of national policies could create difficulties for businesses operating cross-border, and distortions in competition within the EU.

Who will be affected by it?

- The industrial and agricultural sectors, as new water supplies could become available and long-term clarity and predictability would be provided by safe water reuse while public acceptance is improved.
- Water industry, as an enabling EU framework would provide market opportunities in the EU and competitiveness advantage in third countries
- EU consumers, since the development of safe water reuse should ensure the safety of crops irrigated with reused water.
- EU citizens will benefit from the improved state of environment as the current level of water abstraction and discharge of wastewater will be reduced and from jobs and growth creation.
- Workers exposed to reclaimed water, whose occupational health risk would be reduced by safe water reuse measures.

Is EU action justified on grounds of subsidiarity? Why can Member States not achieve the objectives of the proposed action sufficiently by themselves? Can the EU achieve the objectives better?

EU action is justified because different and unstable requirements in individual jurisdictions are a barrier to investments in innovation and technologies for reuse in the water industry. Technology providers in this sector are EU-scale companies and difference in standards among Member States prevent companies to benefit from a clear framework allowing economies of scale and standardisation which would support innovation and

development of solutions at lower costs. Considering that water reuse is an emerging worldwide market a greater uptake of reuse at the EU level would provide a showcase for the relevance of these technologies and skills of EU companies towards potential customers in third countries.

Because water reuse in irrigation is one of the highest potential EU action is justified to prevent that different requirements in individual jurisdictions negatively affect the level playing field (e.g. between farmers) and cause obstacles to the internal market, especially for agricultural products. Disparities in the existing water reuse standards (in place in six MS) may generate differences in the production costs of food products. Additionally different standards may also be used as an argument to restrict the import of food products from MS suspected of having lower standards. This situation does not guarantee a level playing field between food producers of the different countries. Such disparities may also create potential barriers to internal trade and to the functional operation of the single market. Addressing such barriers is an appropriate EU level response, taking into account EU food safety, health, agriculture and energy policies.

EU action on water management is also justified because of 60% of EU river basins are international, shared by between 2 and 19 countries (Danube); action taken by a single or a few States is therefore not sufficient, for instance in relation to quantitative aspects of water management or cross border water pollution. Moreover, if Member States act alone, the technical barriers and associated costs are likely to be unnecessarily high.

Action at EU level would not impose water reuse to Member States who do not want to pursue it. It would rather ensure a systematic consideration for this alternative supply and develop measures to ensure coherence if Member States decide to develop water reuse and to set requirements for their respective jurisdictions.

B. Objectives of the initiative

What are the main policy objectives?

The primary goal is to **encourage efficient resource use and reduce pressures on the water environment**, in particular water scarcity, by fostering the development of safe reuse of treated wastewater. To this end the initiative will look into the possibility of establishing a common approach on water reuse across the EU providing clarity, coherence and predictability to market operators who wish to invest in waste water reuse in the EU under comparable regulatory conditions.

Additional objectives of the initiative would be to **increase the recycling of nutrients** contained in waste water when appropriate, and to **contribute to growth and jobs creation in the EU** by stimulating the development of innovative technologies and water infrastructure that will provide EU actors a first-mover advantage in this fast growing world market.

Do the objectives imply developing EU policy in new areas?

No. The new initiative would complement the existing EU water policy, notably the Water Framework Directive and the Urban Waste Water Treatment Directive.

C. Options

(1) What are the policy options (including exemptions/adapted regimes e.g. for SMEs) being considered?

(2) What legislative or 'soft law' instruments could be considered?

(3) How do the options respect the proportionality principle?

N.B. An impact assessment is under preparation, the information here below is only preliminary

(1) and (2)

- **No action**: no policy change
- **Information, communication and knowledge enhancement measures** including EU guidance development, knowledge sharing and awareness raising actions targeting the general public and the practitioners.
- **Non-binding measures** aimed at improving: the implementation/enforcement of pricing, controls of abstractions and integrated water management, promotion of upcoming ISO/CEN water reuse standards, promotion of risk-based approaches for regulating water reuse.
- **Binding standards on water reuse and/or binding framework** for water reuse practices on the basis of a **risk-based approach** in order to maximise water reuse where and when relevant, and to provide a

clear framework for managing health and environmental risks related to water reuse practices. This could encompass elements such as risk management plans, treatment standards, treatment process controls, application controls and water quality benchmarks

- **Binding requirement for Member States to consider and/or establish targets on water reuse** in the context of integrated water management where relevant, etc.

To reinforce the achievement of the main objectives, the above options could be combined, e.g. information, communication and knowledge enhancements measures could accompany the non-binding or binding measures.

(3) Measures should not go beyond what is proportionate in relation to the objective to be achieved. The process of impact assessment, including the public consultation, will ensure that all options considered and ultimately proposed will be assessed against this criterion.

D. Initial assessment of impacts

What are the benefits and costs of each of the policy options?

This will be developed in the impact assessment. On the basis of the current state of preparation the following categories of costs and benefits can be identified:

Environmental benefits: reduce water abstraction and water scarcity, improve adaptation to climate change, enhance recycling of nitrogen and phosphorus, reduce/avoid risks of surface and groundwater contamination by pollutants from wastewater, reduced impacts on land and biodiversity and more sustainable water management.

Social benefits: enhanced public and health safety. Enhanced public acceptance; job creation/stabilisation allowing to fully reaping social benefits of waste water reuse developments in Europe.

Economic costs and benefits: water reuse solutions contribute to prevent/reduce the economic damage and the constraints on economic development due to water shortages (water scarcity, droughts) and to uncertainty about water availability (obstacle to investment decisions). They also have a potential for job creation. Water reuse solutions may impose new requirements and costs on, at least some, national administrations (enforcing the risk management measures) and industry (implementing new requirements), particularly those who will need to improve their operations (e.g. equipment, personnel) to meet new requirements. Conversely, water reuse solutions may stimulate research leading to the development of innovative technologies and processes that can provide the EU with first-mover advantages and increase the EU's competitiveness in relation to countries where such projects also take place. A harmonised EU-wide approach would provide legal clarity and predictability and thus a long-term stable framework for investments, enabling companies, including SMEs, to compete across EU Member States under similar and coherent requirements.

Could any or all of the options have significant impacts on (i) simplification, (ii) administrative burden and (iii) on relations with other countries, (iv) implementation arrangements? And (v) could any be difficult to transpose for certain Member States?

(i) and (ii) Establishing common EU safety standards on waste water reuse would reduce the burden for companies of managing up to 28 different sets of rules and in this respect would contribute to the simplification and reduction of administrative burden by achieving economies of scale. Conversely, new requirements may be imposed on some public and private actors in order to enforce chosen measures.

(iii) No direct impacts on third countries are expected other than possible enhanced cooperation on risk management measures of mutual benefit as well as the adoption of coherent risk management measures by other jurisdictions, e.g. the EU/EEA's neighbourhood.

(iv) To be assessed within the Impact assessment under preparation.

(v) To be assessed within the Impact assessment under preparation, especially when assessing the impact of a regulation or a directive. Any binding instrument would anyway take place in a policy area already framed by numerous pieces of EU law (water framework directive, urban waste water treatment directive, drinking water directive…) and would be designed consistently with these, what would ease transposition by MS.

(1) Will an IA be carried out for this initiative and/or possible follow-up initiatives?

(2) When will the IA work start?

(3) When will you set up the IA Steering Group and how often will it meet?

(4) What DGs will be invited?
(1) Yes. (2) The IA work started in late 2013 and it is envisaged to be completed by Autumn 2016. (3) An Inter-Service Group has been established in autumn 2013 and met twice (12 November 2013 and 11 July 2014). This IS group became an IA Steering Group (SG) with the start of IA drafting and met on 17 December 2014. At least two meetings are planned by Autumn 2016. (4) All DGs were invited; some DGs directly related to the file (SANTE, AGRI, GROW, RTD, CNECT, REGIO) have been proactively involved together with SG.
(i) Is any option likely to have impacts on the EU budget above € 5m? (ii) If so, will this IA serve also as an ex-ante evaluation, as required by the Financial Regulation? If not, provide information about the timing of the ex-ante evaluation.
No impacts for the EU budget are foreseen at this stage.

E. Evidence base, planning of further work and consultation

(1) What information and data are already available? Will existing IA and evaluation work be used? (2) What further information needs to be gathered, how will this be done (e.g. internally or by an external contractor), and by when? (3) What is the timing for the procurement process & the contract for any external contracts that you are planning (e.g. for analytical studies, information gathering, etc.)? (4) Is any particular communication or information activity foreseen? If so, what, and by when?
(1) Fitness check of EU Freshwater policy. The Blueprint and its impact assessment. Responses of MS to the questionnaire prepared by the consultants/Commission on water reuse practices. A report by the JRC concerning the innovation potential of water reuse and comparing existing standards and regulatory framework on waste water reuse in MS and in third countries (JRC science and policy reports 2014 – Water Reuse in Europe, Relevant guidelines, need for and barriers to innovation). (2) (3) A study collecting evidence on the current practices of water reuse, problem definition and assessing the impact of the different policy options comparison. This information will be gathered by external contractors (a first contract was run from September 2013 to February 2015; a second contract with another consultant started in December 2014) Further information will be gathered through contacts with stakeholders. (4) Available studies are published on an Internet page dedicated to the initiative on the Commission Website: http://ec.europa.eu/environment/water/blueprint/follow_up_en.htm. Please refer as well to the next section for information activities dedicated to Member States and stakeholders.
Which stakeholders & experts have been or will be consulted, how, and at what stage?
Relevant stakeholders have been and will be consulted. Member States and stakeholder organisations (industry, NGOs) are informed and consulted through the established Working Group on the Programme of Measures (WG PoM) in the framework of the Common Implementation Strategy (CIS) for the implementation of the Water Framework Directive (WFD), which serves as a platform for discussions on the EU work on water reuse. Water reuse was discussed in the last 5 meetings of this WG (September and November 2013, March and October 2014, March 2015). A technical workshop on possible minimum quality requirements on water reuse at EU level was organised by DG ENV and JRC in June 2015. A Green Week session on Water Reuse took place on 5 June 2014 with the aim to present the Commission work on water reuse, the US Guidelines on water reuse, agriculture sector view on water reuse and the innovation potential of water reuse practices. An internet-based public consultation ran from 30 July to 7 November 2014 to gather wider feedback from the interested public and the expert practitioners across the EU. A dedicated stakeholder meeting regarding outcomes of the public consultation and policy options was held on 4 December 2014. Moreover, industry, industry associations, NGOs and the general public will also be subject to general and targeted consultation.