



International survey on the acceptability of water REUSE

By EJWP2

Objective: Enquiry on the acceptance of water REUSE by households

The survey aims to identify the different water sources that are currently used by households in Belgium, Germany and France. In addition, the level of acceptability and hurdles of implementing different water REUSE systems have been investigated and compared.

How to achieve this?

An online questionnaire was released during the summer of 2021 in Belgium, Germany and France, collecting in total 275 responses.

What is water REUSE?

The goal of water reuse is to reclaim water from a wastewater stream to be valorised for a new purpose, in order to strive towards water circularity instead of discharging into the environment.

Water can be reused for different purposes, such as irrigation, industry use and drinking water. The final use will depend greatly on the type of the revalorisation and treatment of the wastewater. **Our survey focuses on REUSE for drinking water purpose.**

A distinction can be made between direct and indirect water REUSE. In case of direct water REUSE wastewater is purified and directly treated into tap water. For indirect water REUSE, wastewater is purified, temporarily stored in a natural water source (e.g. a lake, groundwater reservoir or a river) and in a later stage repumped and further treated into tap water.

Water can be reused on different scales: from a very large one (a big city) to an individual level (a house).

About De Watergroep

De Watergroep is the largest drinking water company of Flanders and provider of a range of customized water solutions.

Learn more about De Watergroep here:
<https://corporate.dewatergroep.be/en>

About EJWP

The European Junior Water Programme is an educational programme that aims to build a community of water management professionals who share a deep commitment to addressing today's and future water and climate change issues.

Learn more about the programme here:
<https://juniorwaterprogramme.eu/>

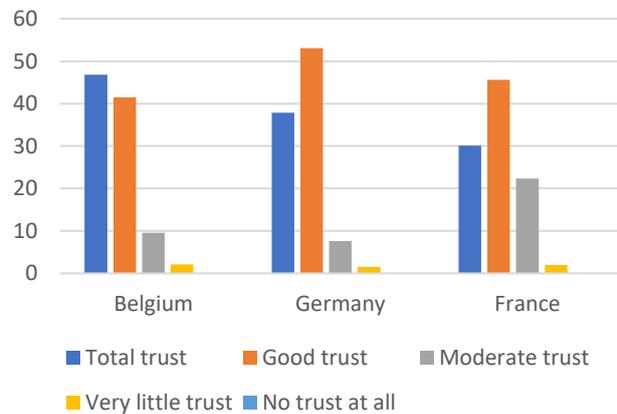
Main findings

A baseline: the use of tap water and other sources of water

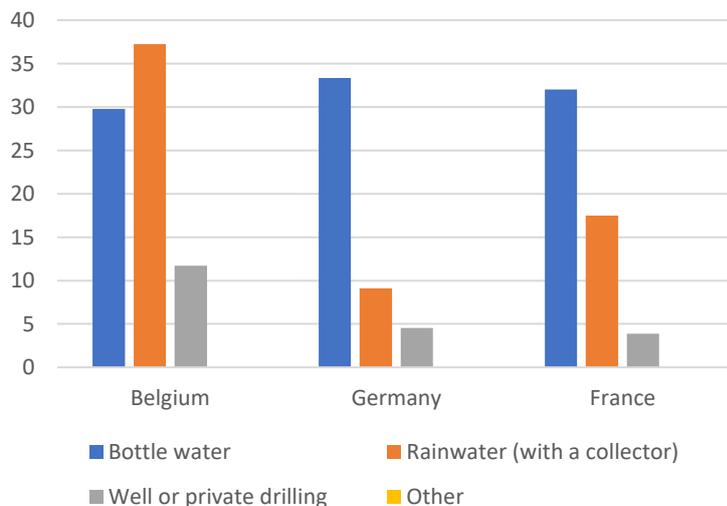
The surveyed countries show a good level of trust in tap water, especially in Belgium. However, in France 24 % of the correspondents have only a moderate to low trust in tap water. The percentage of correspondents that have low trust in tap water is with 2 % very low and comparable among the three countries.

Most of the respondents drink predominantly tap water (80-90%). The main reasons to drink tap water are the price (Germany and Belgium) and the taste (France).

Level of trust in tap water in each country surveyed



Other sources of water used in households (%)



Concerning the usage of other water sources at home, 60% of respondents in Belgium, 50% in France, 42% in Germany indicated to also use an alternative water source. It is remarkable that the percentage of correspondents using bottled water is very similar across the three different countries (30-33 %).

Regarding rainwater as an alternative source, it is striking that about 37 % of the people make use of this water in Belgium, while in Germany and France this is only 9 and 17 % respectively.

A similar trend can be seen for well/private drilling water usage with 12 % of the correspondents in Belgium indicated making use of this water. This is more than twice as much compared to the other two countries. Note that rainwater and well/private drilling water is not used for drinking purposes.

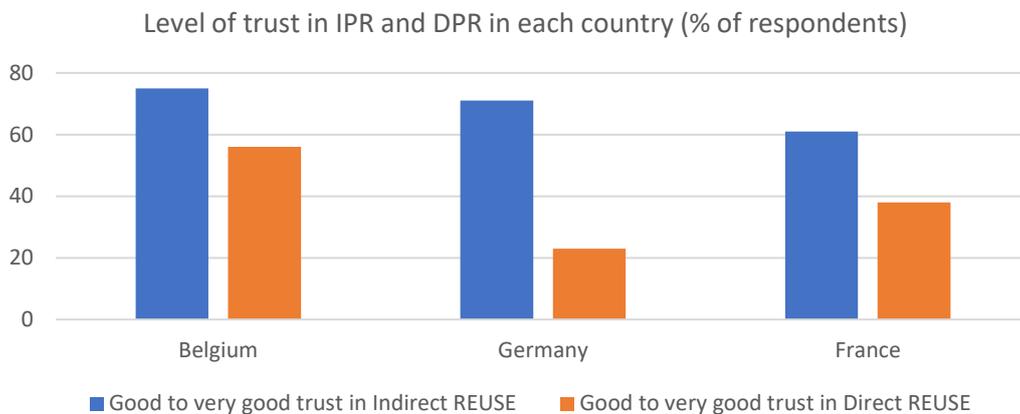
None of the German respondent use non-tap water for flushing toilets or showering. However, the Germans seem very keen to use non-tap water for gardening, flushing (>90%) and other domestic uses.

Different perceptions of different kinds of infrastructure

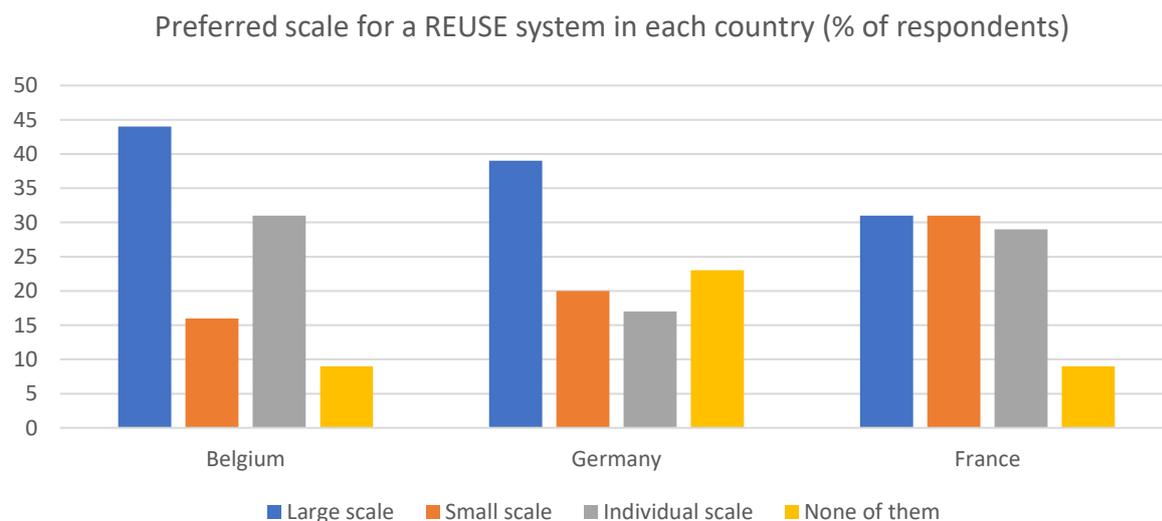
All three countries prefer indirect REUSE. The Belgian respondents are globally keener (75%) to trust indirect water REUSE than the German (70%) and the French (60%).

Regarding direct REUSE, the German respondents are the most sceptical, 40% does not trust it compared to 25% in France and 14% in Belgium.

The main concern for water REUSE as drinking water is the **long-term effects on health**, with France being the most sceptical (80%). However, this is also the main concern in Belgium (60%) and Germany (64%).



While the French respondents have a very diverse opinion about the choice of the scale for water REUSE, Belgian and German respondents favour the implementation of a large-scale system.



Reasons and arguments behind individual choices

This table summarizes the perceptions and beliefs of our respondents on the application of water REUSE at different scale sizes:

	Perceived advantages +	Perceived disadvantages -
Large scale (e.g a big city)	<ul style="list-style-type: none"> -Centralized management for better controls and risk management/better security -Can employ highly skilled workers -Efficiency, performance, better technology - Lower cost, cost effectiveness -“Dilution of problems” -More democracy and equity, everyone working together! -Limit the environmental impact -Less treatment plants -Less visibility -> better public acceptance -Clearer responsibility 	<ul style="list-style-type: none"> -Less individual awareness and responsibility -More different contaminants/drugs
Small scale (e.g a village or a neighbourhood)	<ul style="list-style-type: none"> -Less transfer of water (infrastructure and energy saving) - Easier to monitor and maintain -Allows citizen empowerment at a local scale, better individual responsibility -Allows a try-out at a local scale -Better control of health risks -Limit the monopoly of big companies -Better transparency for consumers 	This solution misses the advantages of both large and individual scales
Individual scale (e.g a house)	<ul style="list-style-type: none"> -Efficiency -Easier to install -Easier to spot the shortcomings of a system if they occur -Knowing where the water comes from is reassuring / lack of trust in other users’ practices -Kind of satisfying, individual empowerment and responsibility, motivation -Individual resilience 	<ul style="list-style-type: none"> -Higher costs in the long run -Lack of time and expertise for individuals to maintain such a system -Inequity (more pollution in big cities) -Potential risks of lack of water supply

Conditions for success

In terms of arguments in favour of the REUSE, **the French respondents are very sensitive to their autonomy** while **the Belgians and Germans are sensitive to the security of the water supply**.

Belgians also take price into consideration, more than the French and German do.

In all three countries, respondents consider it essential to provide consumers with sufficient **technical and scientific information regarding the water treatment system** and allow the possibility to **visit the treatment site**. For Belgium and Germany, respondents also expect the authorities to dispense official communications. In addition, Germans expect a clear political engagement and the setup of local pilot cases to demonstrate the water REUSE systems.

More information

If you want to learn more about the survey or access the final report, please contact

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