



“Water reuse in Europe and case studies on reuse technology for non-potable use”

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Although 72% of the Earth's surface is covered with water, less than 3% of this water is suitable for uses like drinking and irrigation.



Source: EC - Water Scarcity and Drought in the European Union

Across the EU, water shortages and droughts have increased dramatically in recent decades. They are likely to become more frequent and more severe in the future.



Water Scarcity
is no longer confined to a few
corners of Europe, and is fast becoming
a concern across the EU



By 2030
water stress and scarcity
will probably affect half of Europe's
river basins

Source: EC - Report on the Review of the European Water Scarcity and Droughts Policy EC - Would you drink your wastewater?

EUROPE



Fact 1: Europe is using up its essential water resources

Fact 2: The problem is growing

Fact 3: The European Union is taking action

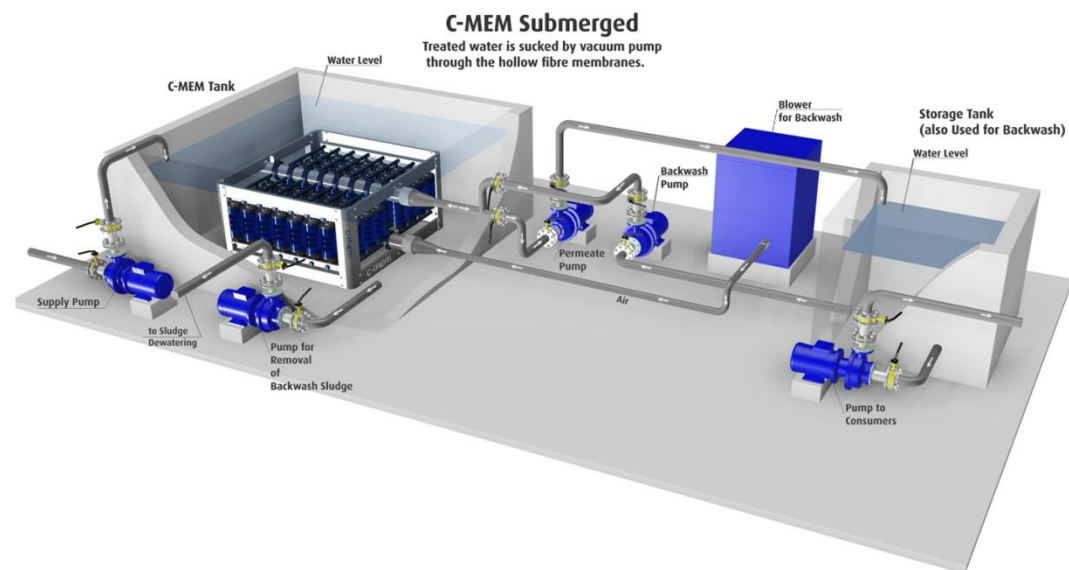
Fact 4: Member States are acting

Fact 5: You can help too!

ADVANCED TECHNOLOGIES APPLIED ON REUSE WATER PRODUCTION

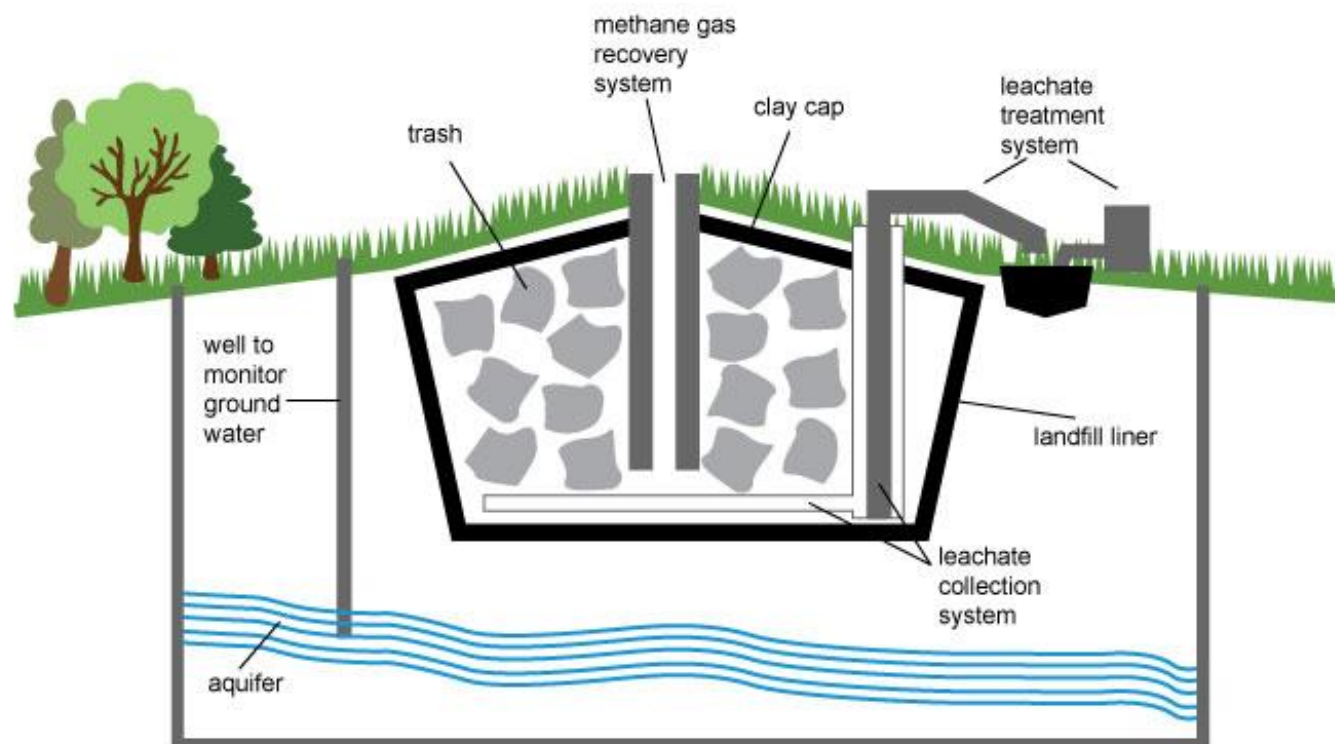
➤ Reverse osmosis

➤ Membrane ultrafiltration



LANDFILL LEACHATE TREATMENT

Modern landfill



Source: Adapted from National Energy Education Development Project (public domain)

LEACHATE TREATMENT BY REVERSE OSMOSIS

Coventional urban wastewater treatment design critera is not appropriate for landfill leachate treatment design



Variations:

- Flowrate
- Composition



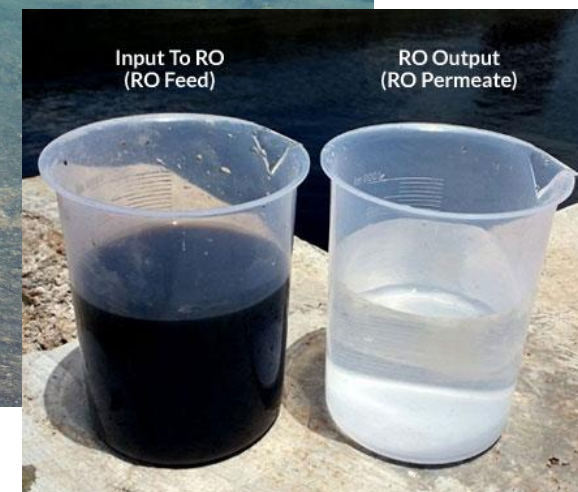
Possible
occurence of
heavy metals and
inhibitory
substances

High
concentration
of ammonium
salts



LEACHATE TREATMENT BY REVERSE OSMOSIS

RESULT



WATER AND WASTEWATER TREATMENT WITH MEMBRANE ULTRAFILTRATION

APPLICATION



WATER AND WASTEWATER TREATMENT WITH MEMBRANE ULTRAFILTRATION

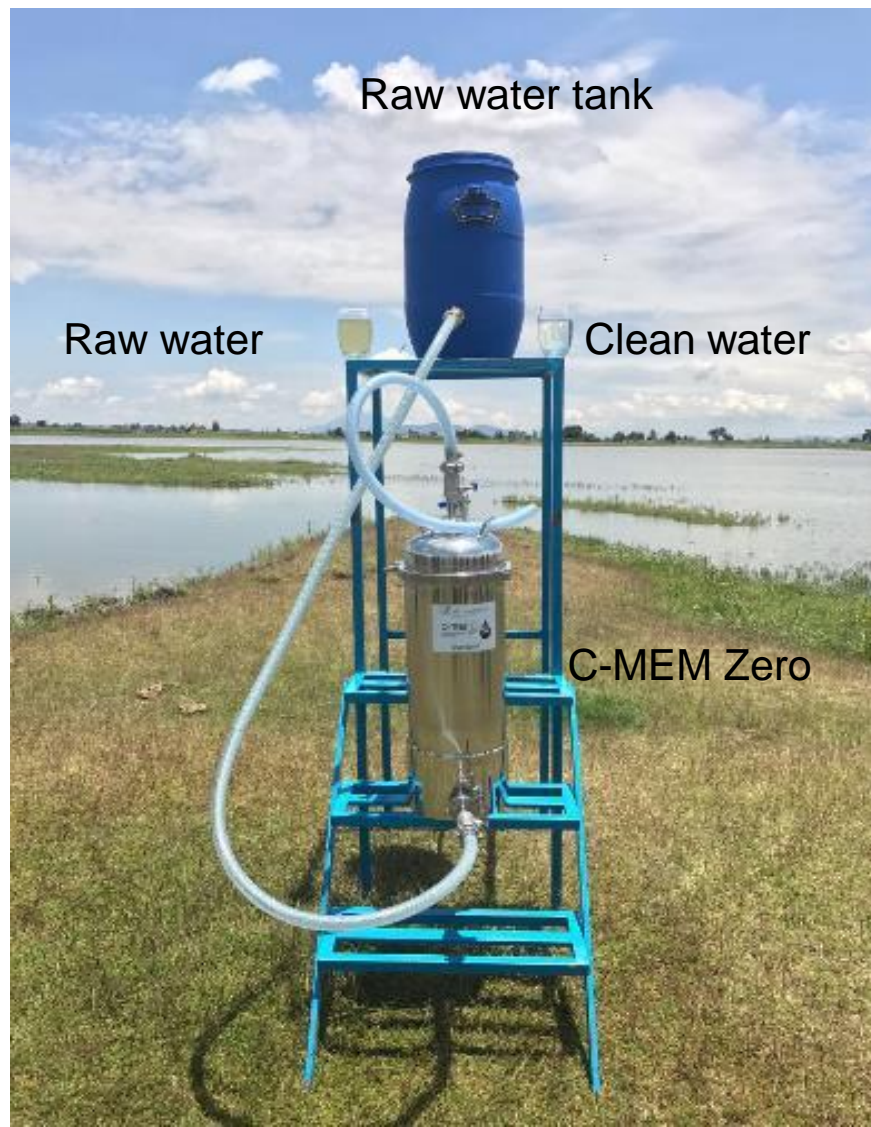
C-MEM™ TECHNOLOGY

Hollow fiber UF system
6 m² membrane surface
Flux: 10 - 15 l/h.m²
TMP: - 0.8 to 3 bar



WATER AND WASTEWATER TREATMENT WITH MEMBRANE ULTRAFILTRATION

C-MEM™ Zero

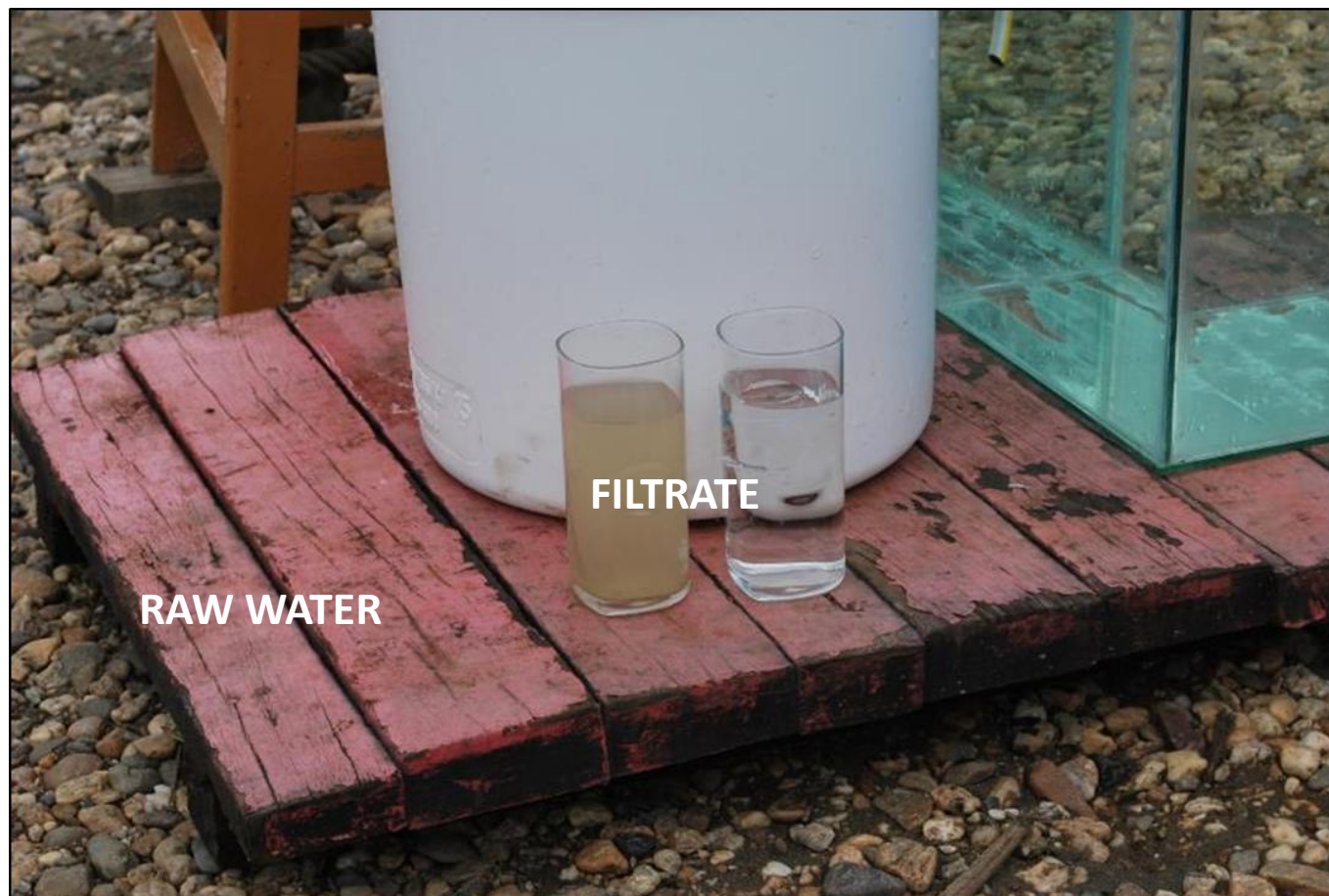


No electrical energy required
No mechanical parts, pumps, etc.
Light – ca. 12 kg per unit

WATER AND WASTEWATER TREATMENT WITH MEMBRANE ULTRAFILTRATION

C-MEM™ Zero

RESULT





Thank you for your attention!

See you again in Portugal or in other place in the WORLD!



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ACKNOWLEDGMENTS





Organization



MINISTRY OF THE
ENVIRONMENT



Support

