

*This questionnaire has been designed by a work team of the Technological Center CARTIF to obtain information about the wastewater treatment plant in the field of the MEDAWARE project - Development of tools and guidelines for the promotion of the sustainable urban wastewater treatment and reuse in the agricultural production in the Mediterranean countries*

## 1 BASIC DATA OF THE WASTEWATER TREATMENT PLANT

Name:	Position:
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### 1. Where is your local wastewater treatment plant located?

Address:			
City:	County:	State:	Zip:
Telephone number	Fax number	E-mail address	

### 2. How many stages of treatment does your facility use?

Primary	<input type="checkbox"/>	
Secondary	<input type="checkbox"/>	
Tertiary	<input type="checkbox"/>	
Other	<input type="checkbox"/>	

### 3. What is the capacity of the treatment plant?

Liters per day (average)	
Number of People and/or Employees	
Peak Daily Flow Estimate	

### 4. How is the sludge disposed of?

Burned	<input type="checkbox"/>	Landfill	<input type="checkbox"/>
Fertilizer	<input type="checkbox"/>	Other	<input type="checkbox"/>

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**5. Where does the treated wastewater go after it leaves the plant?**

River or Stream   
Ocean

Lake   
Other

**6. In what year was the plant built?**

\_\_\_\_\_

**7. Have there been any modifications of the plant in recent years?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**8. Are there any plans for additional improvements to the plant?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**9. Wastewater analysis information (influent)**

Wastewater BOD \_\_\_\_\_  
Wastewater COD \_\_\_\_\_  
Wastewater Suspended Solids \_\_\_\_\_

**10. Treated water- Local government requirement - If known (effluent)**

Wastewater BOD \_\_\_\_\_  
Wastewater COD \_\_\_\_\_  
Wastewater Suspended Solids \_\_\_\_\_

## 2 WASTEWATER TREATMENT INFORMATION

### 11. Primary Treatment Processes

	<i>Processes</i>	<i>Size (if know)</i>	<i>Main operational problems (if exists)</i>
<input type="checkbox"/>	Bar or bow screen	_____	_____
<input type="checkbox"/>	Grit removal	_____	_____
<input type="checkbox"/>	Primary sedimentation	_____	_____
<input type="checkbox"/>	Comminution	_____	_____
<input type="checkbox"/>	Oil / fat removal	_____	_____
<input type="checkbox"/>	Flow equalisation	_____	_____
<input type="checkbox"/>	pH neutralisation	_____	_____
<input type="checkbox"/>	Imhoff tank	_____	_____
<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____

### 12. Secondary Treatment Processes

	<i>Processes</i>	<i>Size (if know)</i>	<i>Main operational problems (if exists)</i>
<input type="checkbox"/>	Activated sludge	_____	_____
<input type="checkbox"/>	Extended aeration	_____	_____
<input type="checkbox"/>	Aerated lagoon	_____	_____
<input type="checkbox"/>	Trickling filter	_____	_____
<input type="checkbox"/>	Rotating bio-discs	_____	_____
<input type="checkbox"/>	Anaerobic treatment/UASB	_____	_____
<input type="checkbox"/>	Anaerobic filter	_____	_____
<input type="checkbox"/>	Stabilisation ponds	_____	_____
<input type="checkbox"/>	Constructed wetlands	_____	_____
<input type="checkbox"/>	Aquaculture	_____	_____
<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____

**13. Tertiary Treatment Processes**

	<b>Processes</b>	<b>Size (if know)</b>	<b>Main operational problems (if exists)</b>
<input type="checkbox"/>	Nitrification	_____	_____
<input type="checkbox"/>	Denitrification	_____	_____
<input type="checkbox"/>	Chemical precipitation	_____	_____
<input type="checkbox"/>	Disinfection	_____	_____
<input type="checkbox"/>	(Direct) filtration	_____	_____
<input type="checkbox"/>	Chemical oxidation	_____	_____
<input type="checkbox"/>	Biological P removal	_____	_____
<input type="checkbox"/>	Constructed wetlands	_____	_____
<input type="checkbox"/>	Aquaculture	_____	_____
<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____

**14. Advanced Treatment Processes**

	<b>Processes</b>	<b>Size (if know)</b>	<b>Main operational problems (if exists)</b>
<input type="checkbox"/>	Chemical treatment	_____	_____
<input type="checkbox"/>	Reverse osmosis	_____	_____
<input type="checkbox"/>	Electrodialysis	_____	_____
<input type="checkbox"/>	Carbon adsorption	_____	_____
<input type="checkbox"/>	Selective ion exchange	_____	_____
<input type="checkbox"/>	Hyperfiltration	_____	_____
<input type="checkbox"/>	Oxidation	_____	_____
<input type="checkbox"/>	Detoxification	_____	_____
<input type="checkbox"/>	_____	_____	_____
<input type="checkbox"/>	_____	_____	_____



### 3 CONTROL AND MONITORING SYSTEMS

15. Which are the most critical process parameters that may affect the efficiency of the wastewater treatment plant?

<i>Parameter</i>	<i>Process</i>	<i>Current Automatic Control?</i>	
<input type="checkbox"/> Wetwell levels	On-off pumping	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Sludge depth	Primary treatment	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Solids Retention Time (SRT)	Conventional activated sludge	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Dissolved oxygen concentration	Conventional activated sludge	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Return flowrate from the clarifier	Conventional activated sludge	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Internal recycle	Biological nutrient removal	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Methanol feed rate	Biological nutrient removal	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Air / solids ratio	Dissolved air flotation thickening	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Sludge depth	Gravity thickening	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Belt speed	Gravity belt thickening	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Chemical dosage rate	Chemical addition for water-solids separation	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> Chlorine dosage rate	Chlorination	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<input type="checkbox"/> _____	_____	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**16. In your opinion, what are the main problems with the control system of the wastewater treatment plant?**

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**17. In your opinion, what treatment processes / parameters should be monitored / controlled automatically?**

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If you have any questions about this document, please contact us by e-mail at [yolnun@cartif.es](mailto:yolnun@cartif.es)

Thank you for your collaboration.