



## Screening of chapter 27 - Environment

# Urban Waste Water Treatment Directive

**Council Directive 91/271/EEC of 21-05-1991,  
as amended by Commission Directive 98/15/EC of 27-02-1998**



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# Presentation plan

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1. Objectives and overview
  2. Four main obligations:
    - 2.1 Planning
    - 2.2 Regulation
    - 2.3 Monitoring
    - 2.4 Reporting & information
  3. Summary
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## **1. Objectives and overview**



# 1. Objectives (1)

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## UWWTD

- **concerns**
    - collection, treatment and discharge of urban waste water,
    - treatment and discharge of waste water from food-processing industrial sectors
  
  - **aims** to protect the environment from the adverse effects
    - of insufficiently treated urban waste water discharges and
    - of discharges of industrial waste water from food-processing industries
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# 1. Objectives (2)

## UWWTD applies

- to all agglomerations having the organic load of more than 2,000 population equivalent
- to agglomerations with less than 2,000 p.e. having collecting systems in place
- to food-processing industries having more than 4,000 p.e. and discharging **treated** wastewater **directly** to receiving waters

## Types of waste water concerned by the directive:

- **Urban** = domestic, or mixture of domestic & industrial, and/or run-off rain water
- **Domestic** = from residential settlements and services
- **Industrial** = from premises for carrying on any trade or industry, other than domestic and run-off rain water



# 1. Overview (3)

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**Collection and treatment** of waste water in all agglomerations >2,000 inhabitants or population equivalents (including industrial waste water)

**Secondary treatment** (i.e. biological treatment) as **rule**;  
**more stringent treatment** in sensitive areas and their catchments for aggl.>10,000 p.e.

## Permit procedure

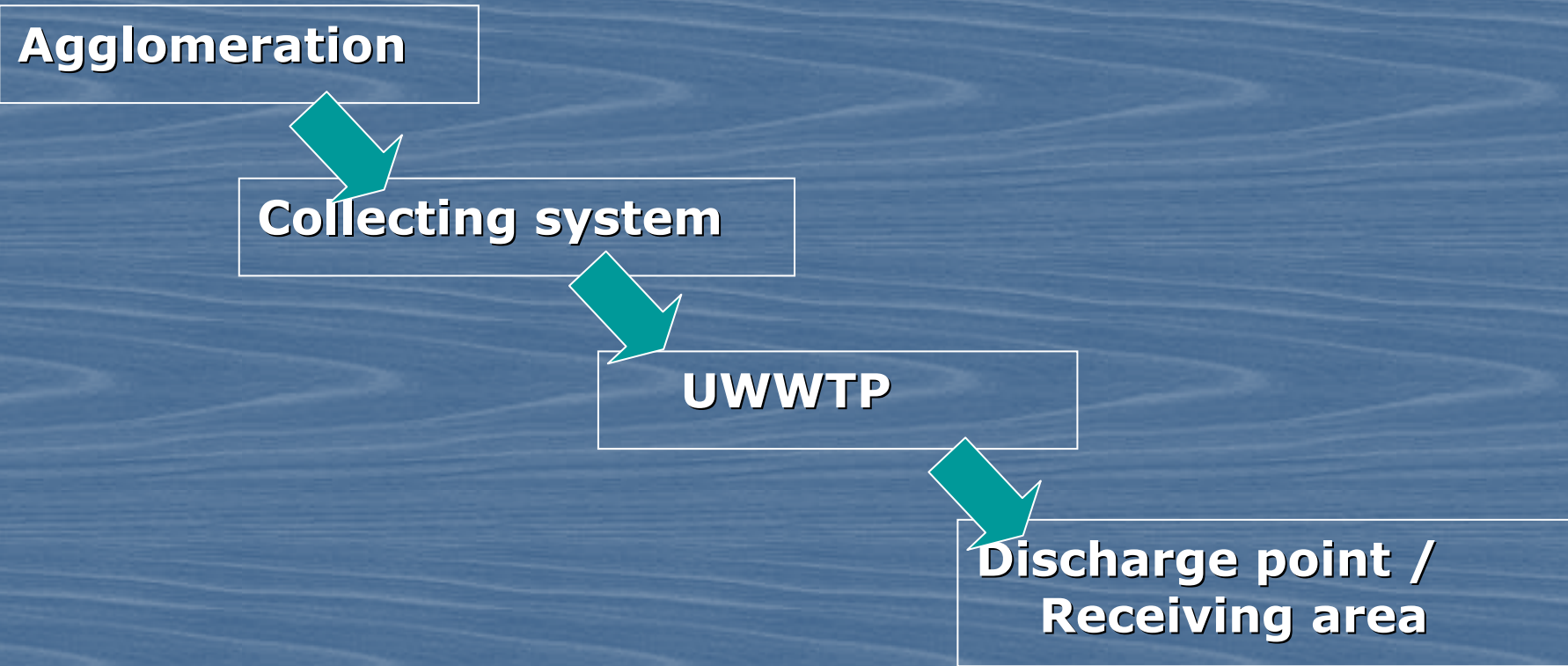
- for treatment plants
- for discharges from the agro-food industry (>4,000p.e.)
- for industrial discharges into urban waste water sewerage systems

**Monitoring** of performance on

- treatment plants and
  - affected waters (art.15 + annex I); controls on sewage sludge disposal/reuse
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# 1. Basic elements of UWWTD (4)





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## **2. Four main obligations:**

### **2.1 Planning**





## 2.1 Planning (1)

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Identify **agglomerations** and calculate the **size (p.e.)**

**Inventory** and current status of agglomerations >2000p.e.

- size,
- collecting systems,
- treatment level,
- monitoring system,
- sludge management,

Quality status of receiving waters for designation of sensitive areas

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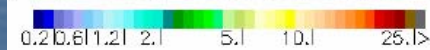
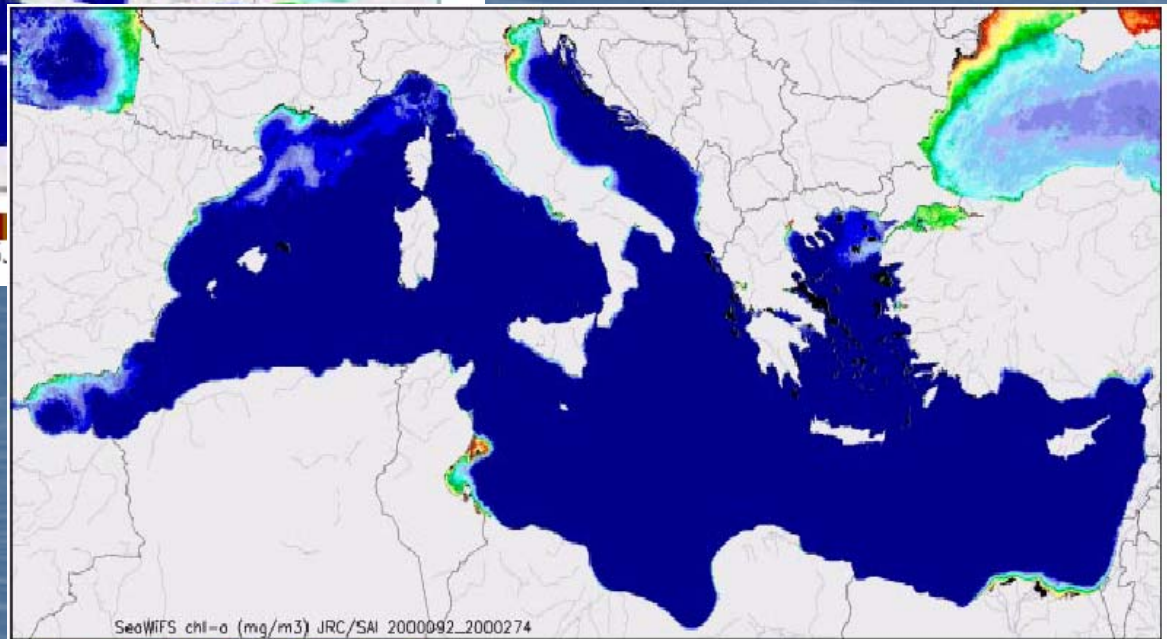
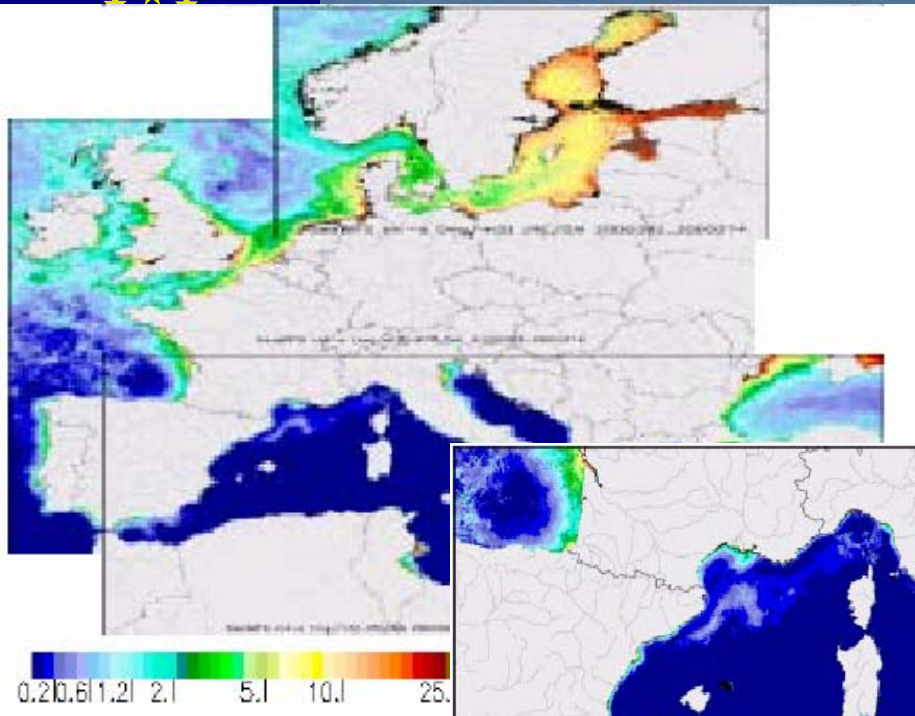


## 2.1 Planning (2)

### Designate sensitive areas:

- three criteria (Annex II.A)
  - eutrophic or may become eutrophic
  - abstraction of drinking water
  - further treatment necessary to fulfil other Council Directives
- relevant hydrologic catchment areas of sensitive areas (CAofSA)
- all discharges from aggl. > 10,000 p.e. in SAs and CAofSA must have
  - collecting systems
  - more stringent treatment

Art.5, 6,  
Annex II



Note: The concentration scale ( $\mu\text{g/l}$ ) is valid only for oceanic waters and overestimates to a large and variable degree the chlorophyll concentrations in coastal seas.

## Eutrophication of European regional seas

European Environment Agency



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- **Designation of SA is an obligation**
  - **Non-designation** of such areas, or insufficient/wrong designation **leads to**
    - infringement procedures and
    - double costs for re-planning and/or re-construction of treatment plants
-



## 2.1 Planning (3)

To establish **technical and financial programme (Art.17)** for the implementation of the Directive for

- construction of sewage networks,
- wastewater treatment plants addressing treatment objectives and objectives of receiving waters, and
- sludge treatment and disposal

To ensure that the programme will be implemented in three stages



Art.17



## 2.1 Planning (4) Implementation programme

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- **Inventory**: agglomerations (loads p.e.)
- **Current status**:
  - collecting systems
  - treatment
- **Programmes/forecasts**:
  - collecting systems
  - treatment plants – secondary
  - treatment plants – more stringent
- **Sewage sludge**: inventory and forecasts
- Planning of **investments** on collecting systems, WWTPs, sludge



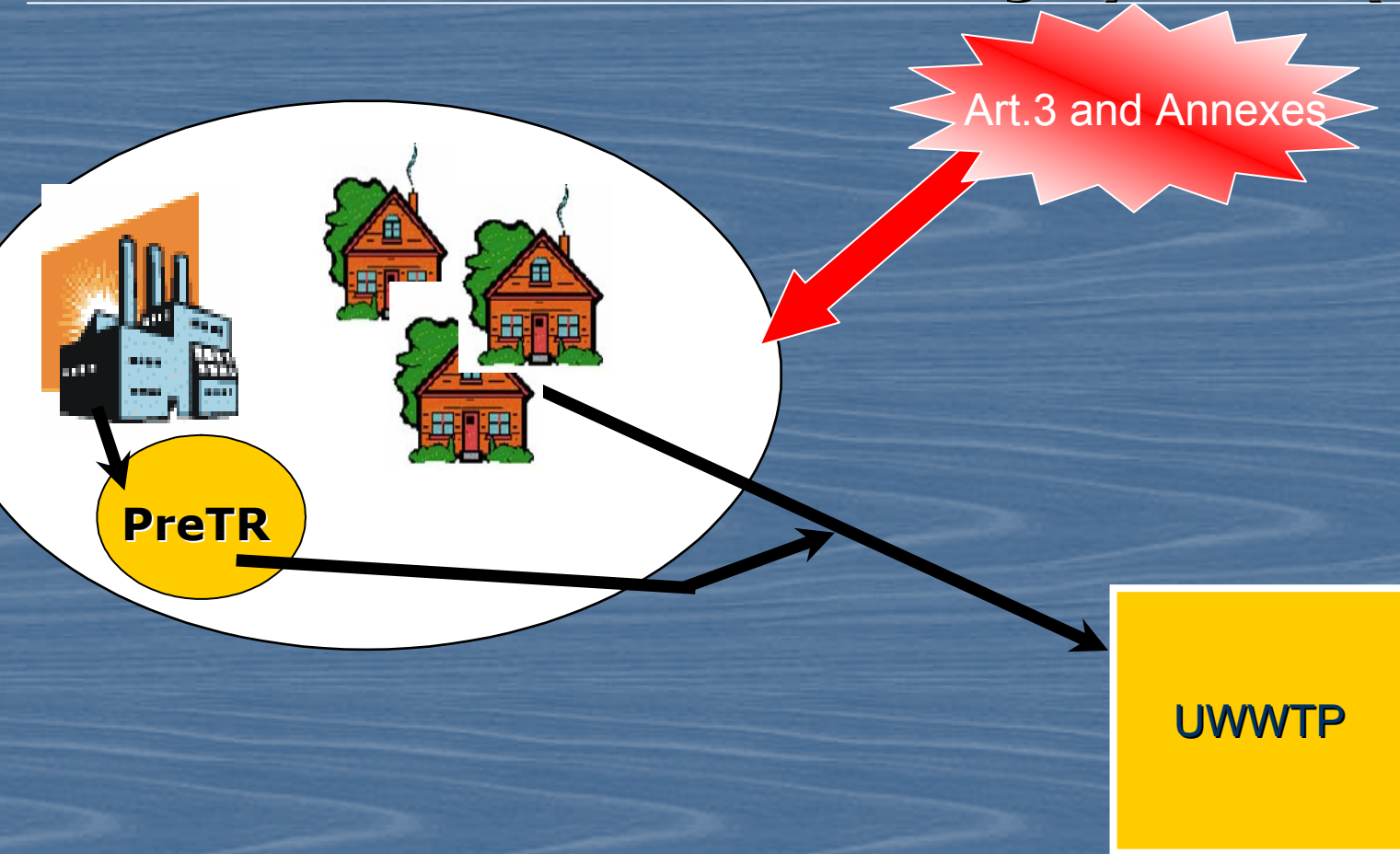
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## **2. Four main obligations:**

### **2.2 Requirements /regulation**



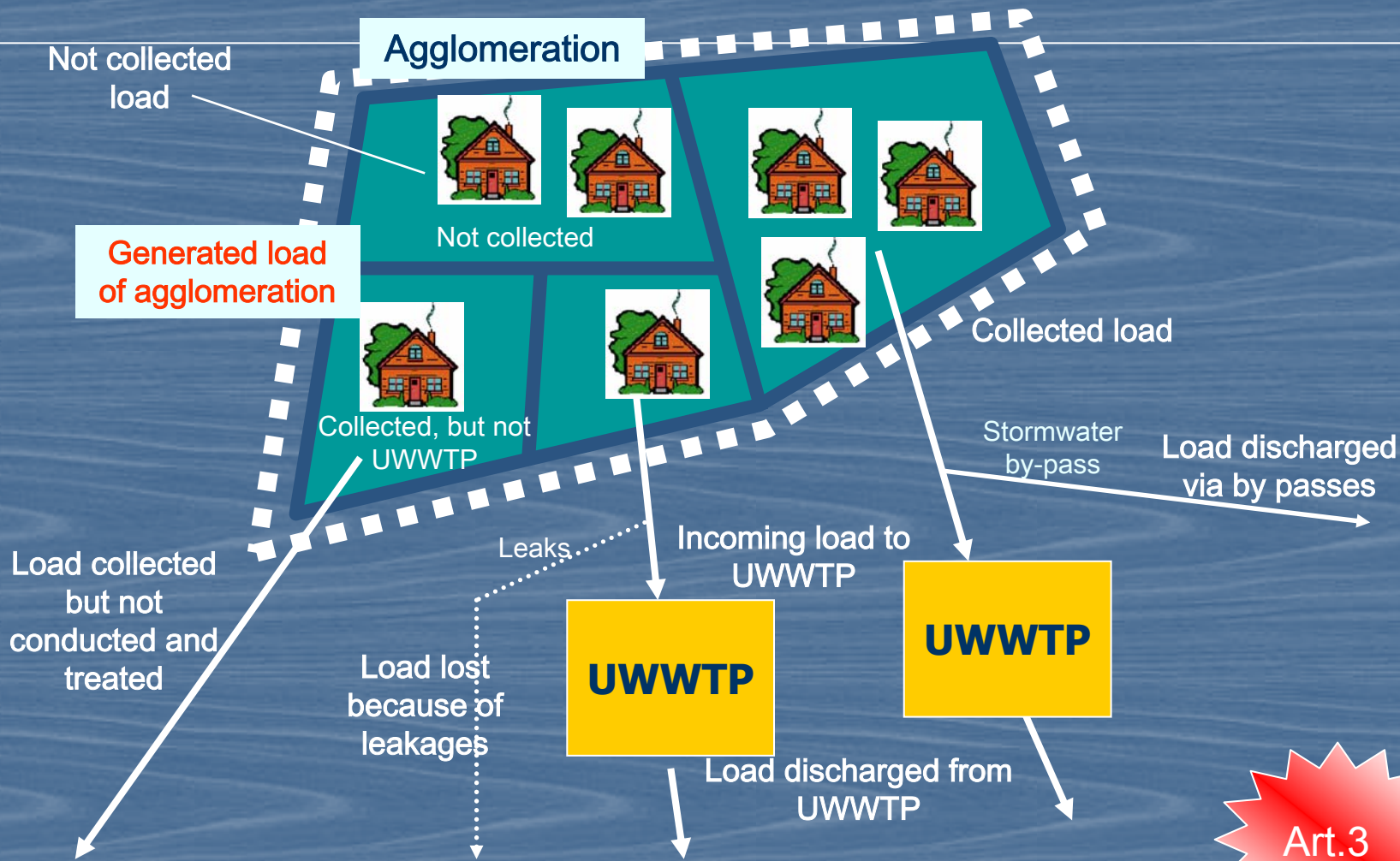
## 2.2 Collecting systems (1)







# 2.2 Collecting systems (2)



**Collection ⇒ conduction ⇒ connection**



## 2.2 Collecting systems (3)

- In design, construction and maintenance of collecting systems
  - waste water treatment to be taken into account
  - volume and characteristics of wastewater
  - prevention leaks in collecting systems
  - pollution from storm water overflows
  
- To implement in three stages
  - >10,000p.e.
  - >15,000p.e.
  - the remaining agglomerations



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## **2.2 Treatment requirements**

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# 2.2 Treatment requirements (4)

**Agglomeration size**

**Receiving area**



**collecting system**

**Art.3**

**UWWTP**

**Art.4,5,7**

**Art.4,5,7  
Annex IB, etc**

**DP**

**Other EU Dir.  
requirements**

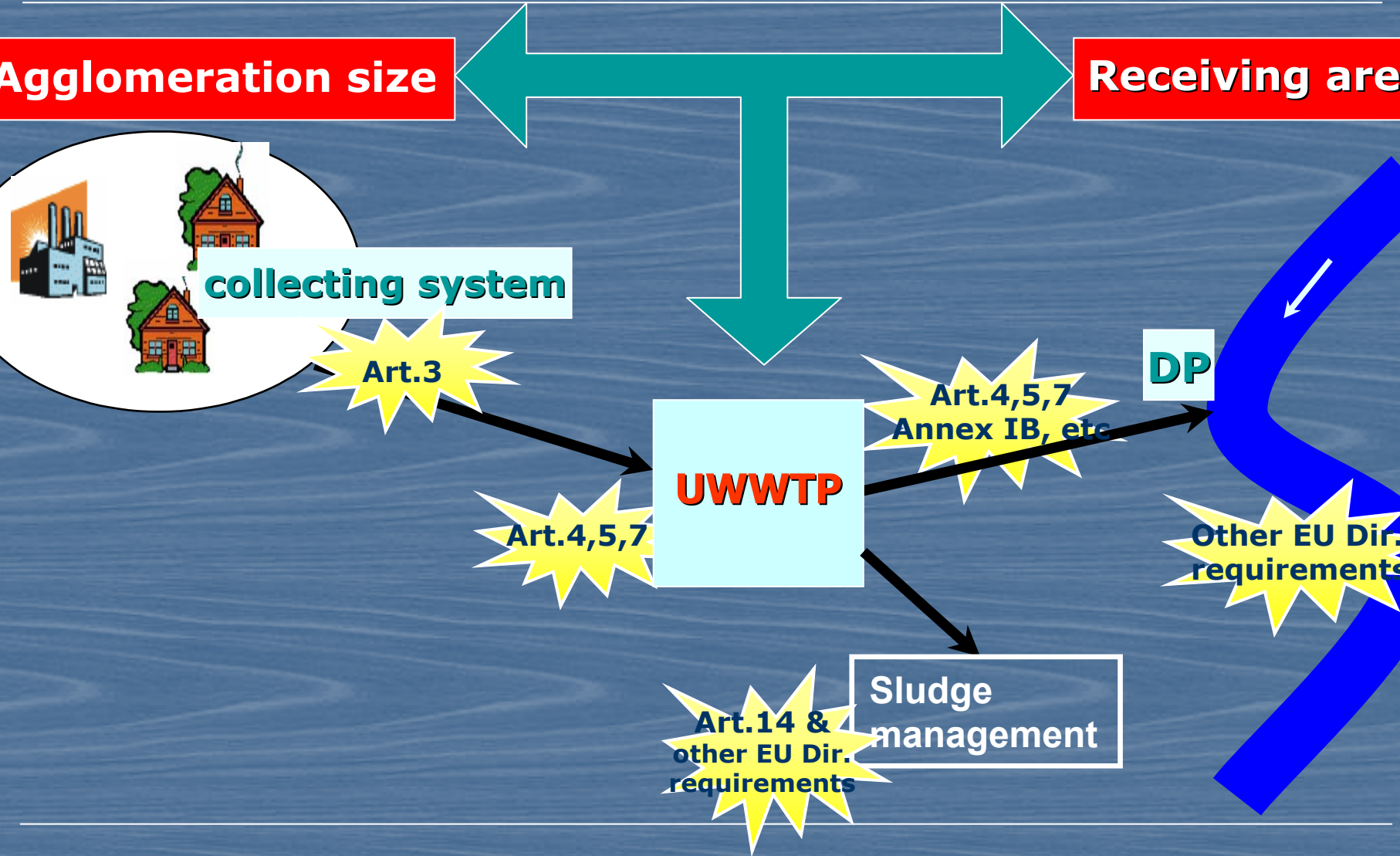
**Sludge management**

**Art.14 &  
other EU Dir.  
requirements**



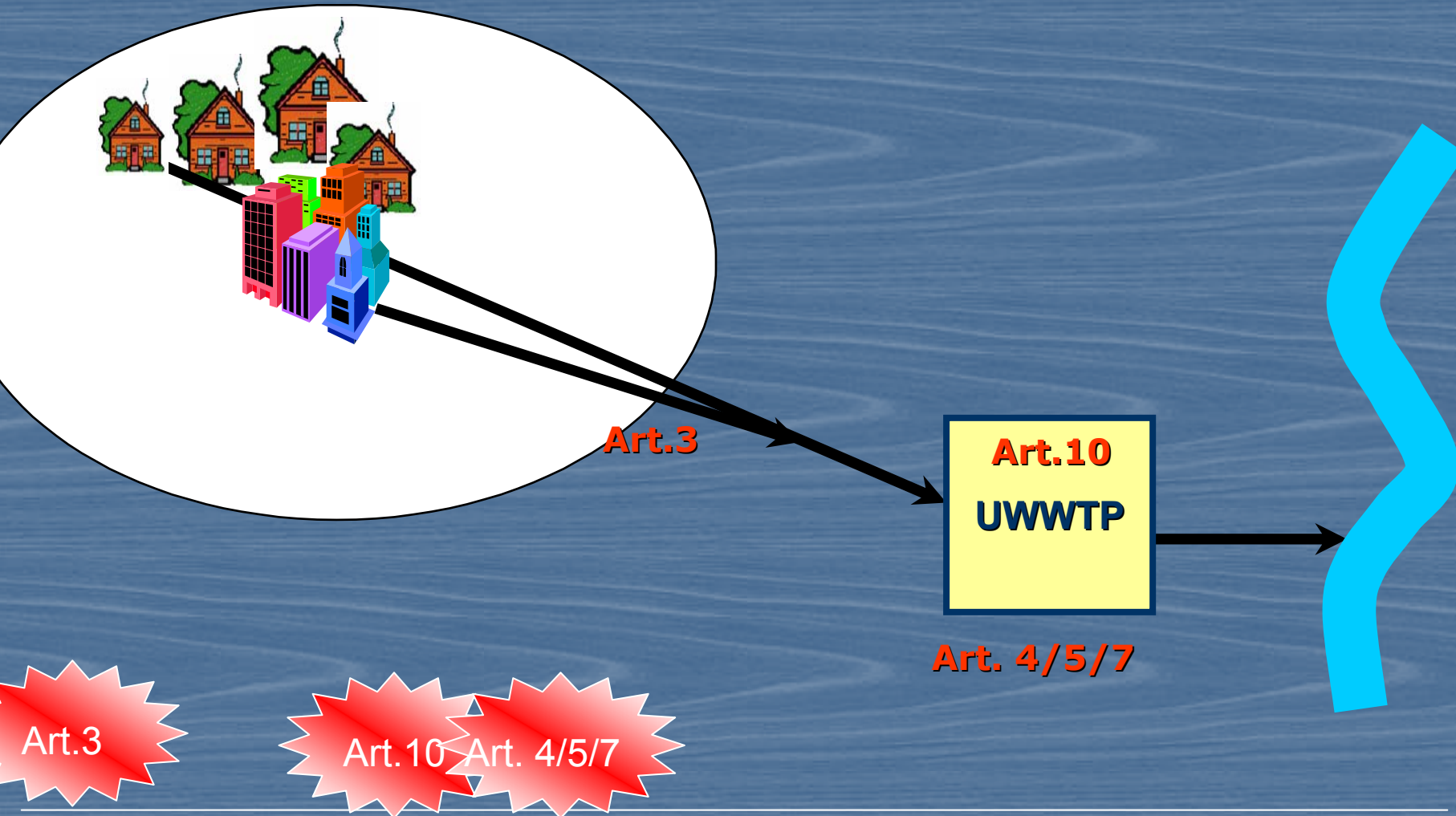


# 2.2 Treatment requirements (4)



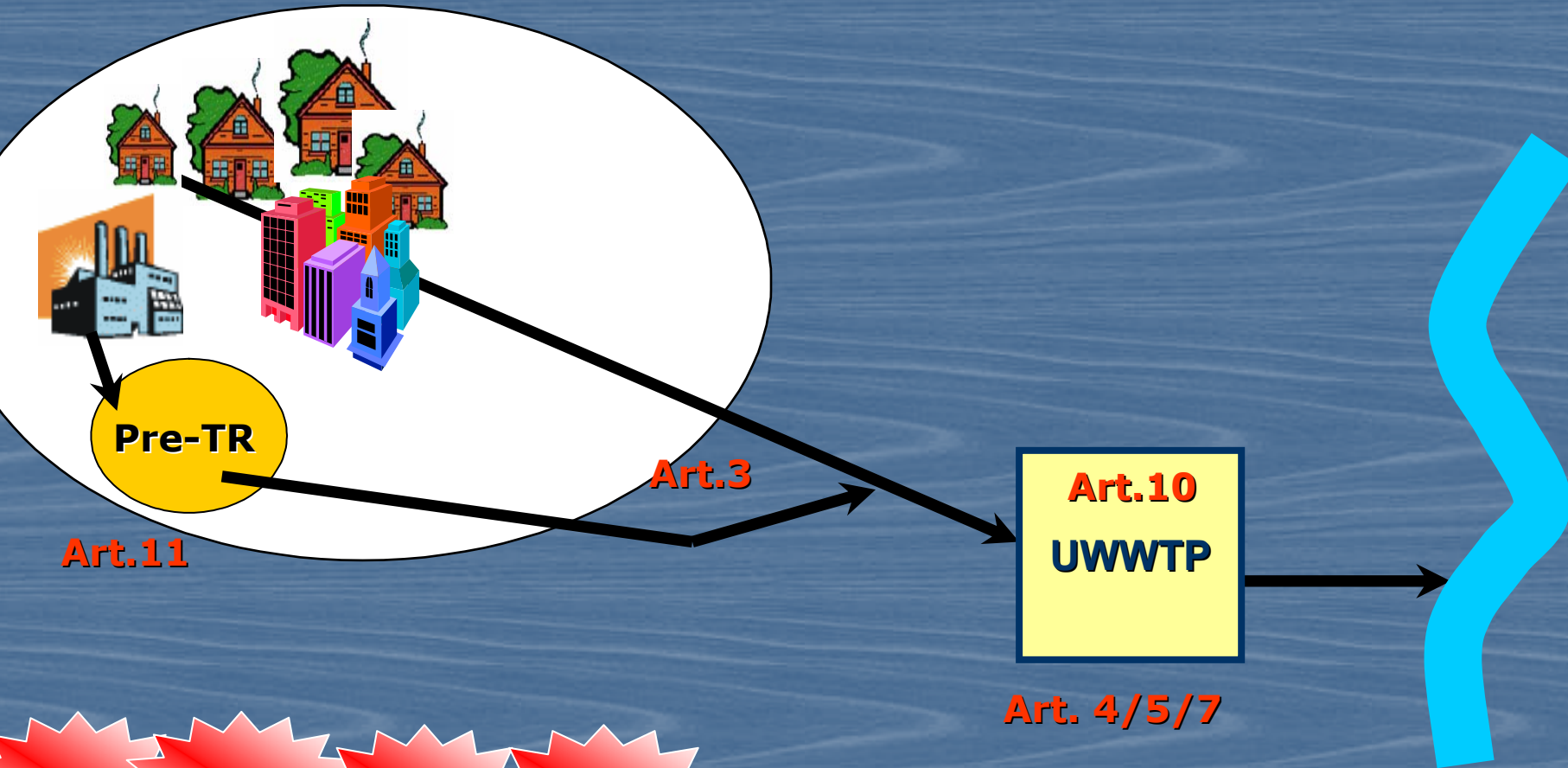


## 2.2 Collection and treatment schemes (5)



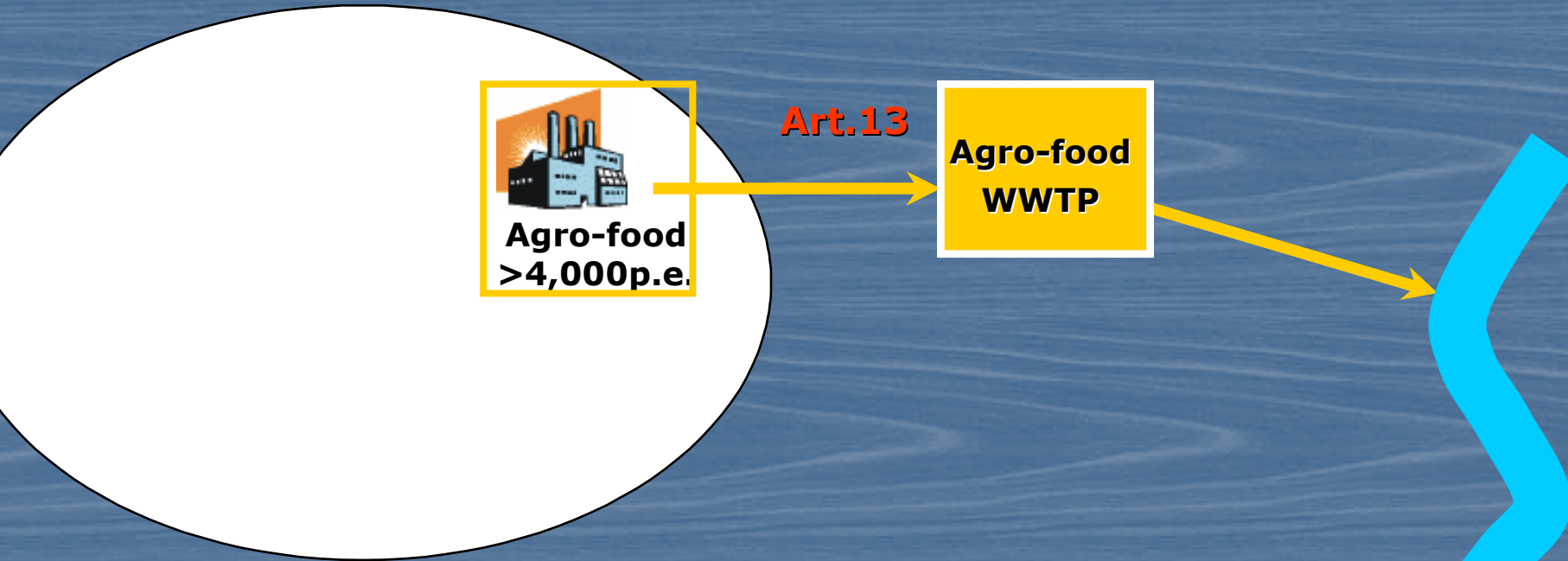


## 2.2 Collection and treatment schemes (5)





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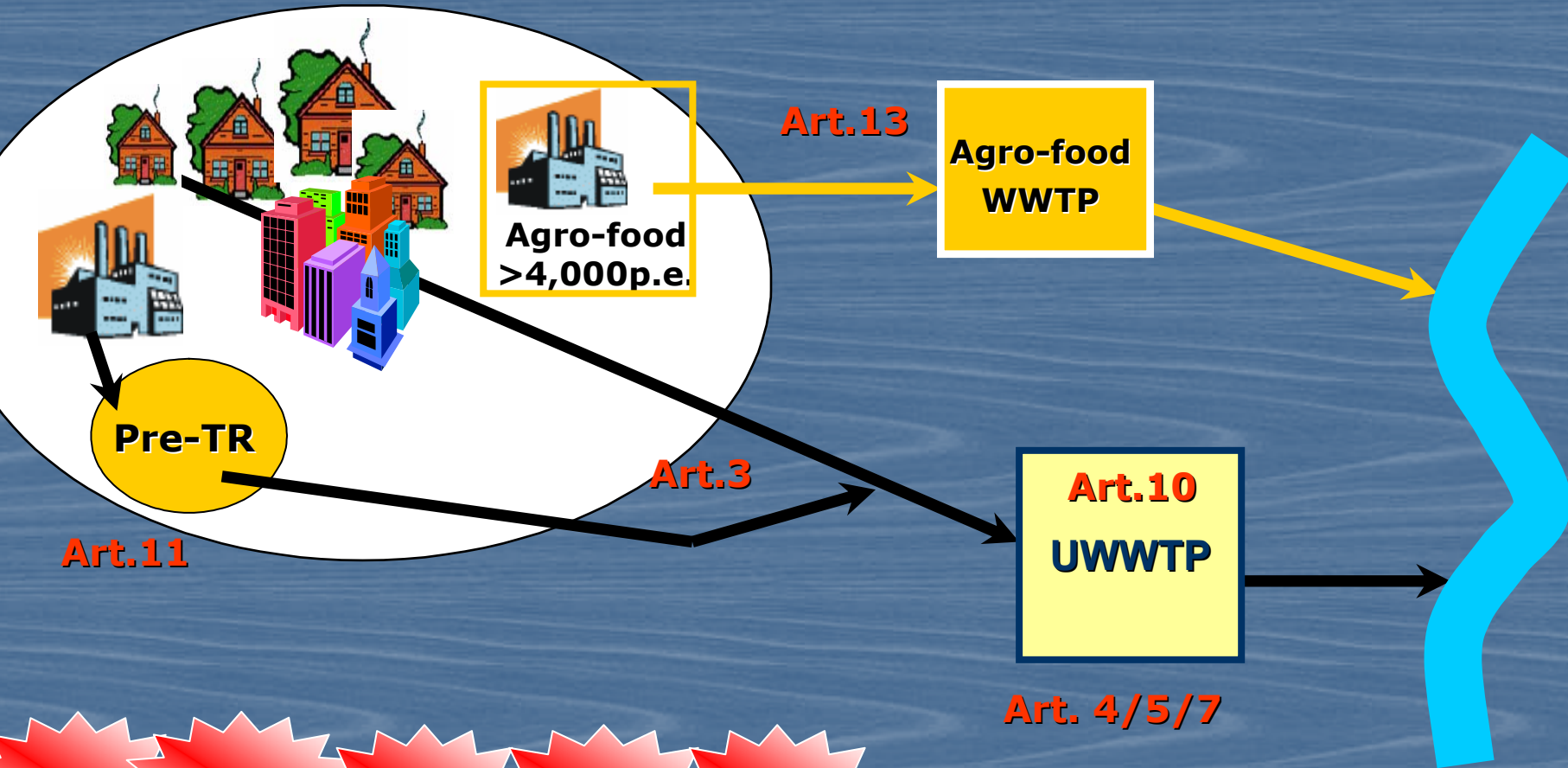


Art. 13





# 2.2 Collection and treatment schemes (5)





## 2.2 Technical requirements for UWWTP (6)

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- **UWWTP has**
  - to comply requirements of art.3, 4, 5, 6, 7
  - to ensure sufficient performance under
    - all normal local climatic conditions
    - seasonal variations of the load
- **Location of discharge point**
  - no adverse effect to receiving waters



## 2.2 Industrial waste water discharges to urban sewage systems (7)

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**Prior regulation** and/or specific authorisation

**Pre-treatment** requires to ensure

- no damage to collecting systems and treatment plants operation
- no adverse impacts to the environment & receiving waters
- safe disposal of sewerage sludge



## 2.2 Waste water from food-processing industries (8)

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- Applying only to food-processing industries having >4,000 p.e.
- Subject to prior regulation and/or specific authorisation
- Requirements set in permits by MSs



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## **2. Four main principal obligations:**

### **2.3 Monitoring**



## 2.3 Monitoring

- laboratory capacities, accreditation, QA/QC
- monitoring programmes for waste water
  - parameters to be monitored
  - sampling frequency of
    - discharges from treatment plants
    - waters receiving those discharges
  - analysis of samples by using standard lab.methods
  - min number of non-complying samples
- data collection, storage, assessment



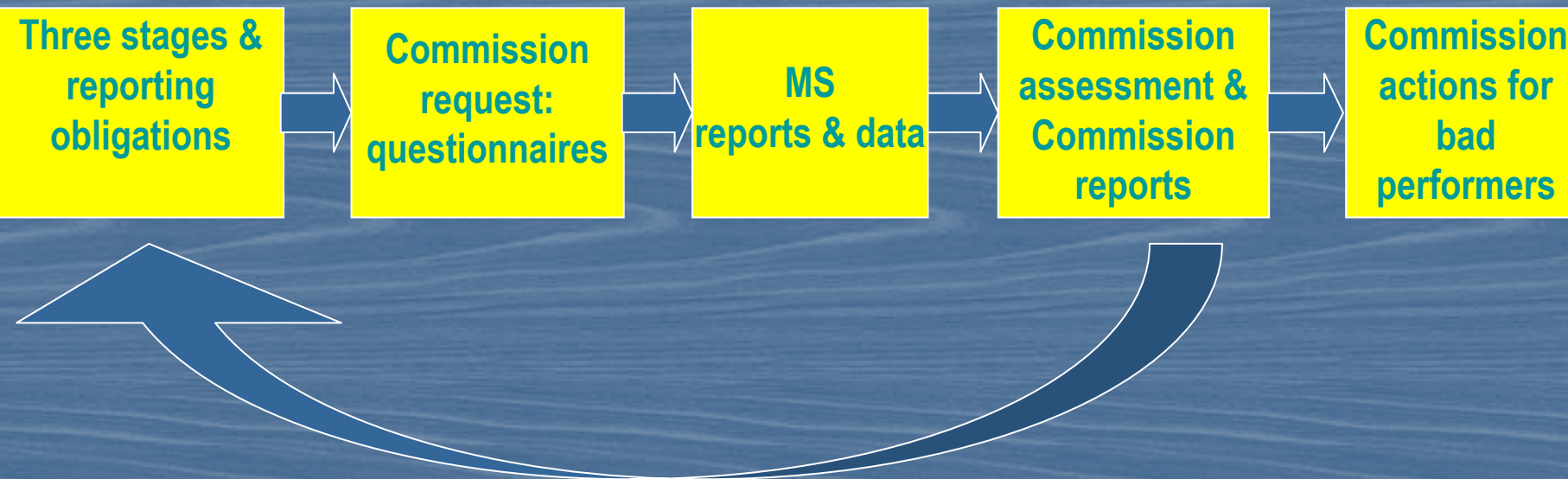
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## **2. Four main principal obligations:**

### **2.4 Reporting**



## 2.4 Reporting: data flow



Three stages of implementation: >10,000 p.e.; >15,000p.e.; >2,000 p.e.

Reporting obligations and EC requests: **Art.17, 16, 15 + EC verification actions**





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## **3. Summary**

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### 3. Summary (1)

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- Transposition
- Designation of sensitive areas and CAofSA
- Implementation programme: inventory, forecasts & finances
- Construction and operation of collecting systems & waste water treatment in 3 stages
  - X+7
  - X+9
  - X+14

**Agglomeration size  $\Rightarrow$  discharge point  $\Rightarrow$  defines treatment level**

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### 3. Summary (2)

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- Monitoring, reporting and information systems
- Basic scheme

**Agglomeration ⇒ collect.syst. ⇒ UWWTP ⇒ DP & receiving WB**

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- While implementing
    - end-of-pipe vs integrated approach
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*Thank you very much for the attention*

**For more information:**

**<http://europa.eu.int/comm/environment/water>**