Report on industrial waste water in Europe

European Environment Agency

Trinomics

In association with:

RICARDO Ricardo Energy & Environment

Timeline

From **03 Sept** 2018
to **28 Sept** 2018
(4 weeks)

Starting Feb 2018

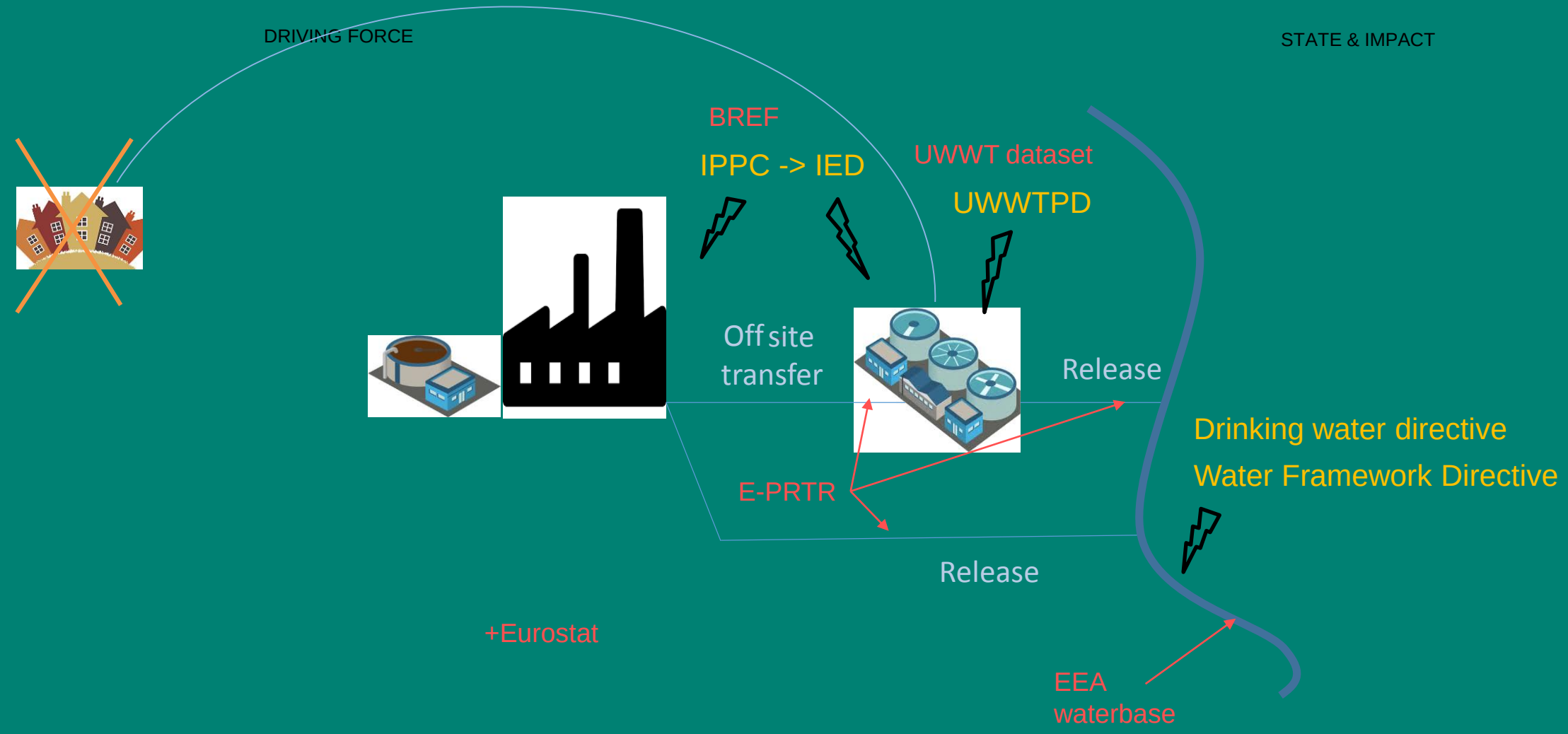
Publication Jan 2019

Eionet call for succes stories

Development

EIONET feed-back

Update
Editing and publishing


DRIVING FORCE
STATE & IMPACT
BREF
IPPC -> IED
UWWT dataset
UWWTPD
Off site transfer
Release
Drinking water directive
Water Framework Directive
E-PRTR
Release
+Eurostat
EEA waterbase
PRESSURE

Scope

- This study includes manufacturing industry, energy supply, Mining and quarrying, waste but excludes agriculture (e.g intensive rearing of poultry or pigs)…

= « industrial activities »

- **Storm water** management has been excluded from the scope of the study
- Concentrates on the EU-28 Member States due to a lack of consistent data

Sectors	Sub-sectors	included in the study
Agriculture	Livestock	No
	Crops	No
	Energy use	No
Mining and quarrying	**-**	**Yes**
Manufacturing industry	**Iron and steel**	**Yes**
	Non-ferrous metal	**Yes**
	Non-metallic minerals	**Yes**
	Chemicals	**Yes**
	Pulp, paper and wood	**Yes**
	Food and drink	**Yes**
	Other manufacturing	**Yes**
Energy supply	**-**	**Yes**
Waste	**Waste management**	**Yes**
	Wastewater treatment	**Yes**
Transport	Road transport	No
	Non-road transport	No
	International aviation	No
	International shipping	No
Residential & Commercial (construction, services…)		No

EEA objectives

Highlight the stress from industrial activities in water pollution

State of play regarding off-site transfer and releases of wastewater by industry in Europe

Targets an informed but non-expert public

Give inputs to the currently ongoing fitness check on the EU legislation regarding wastewater

Sources

- E-PRTR, BREFs, WISE SoE…
- USEtox factors -> in order to aggregate pollutants by level of ecotoxicity
- Contributions from countries on innovative practices

  7 countries answered (BiH, XK, IE, ES, SE, DE, HU)

  -> 26 examples

Industrial water cycle

- indust
- emissi
  sector
  treatm
- Analys

Figure 2-6 Comparison of transfer to UWWTP and releases per sector in E-PRTR (numbers of facilities reporting to E-PRTR) (1)

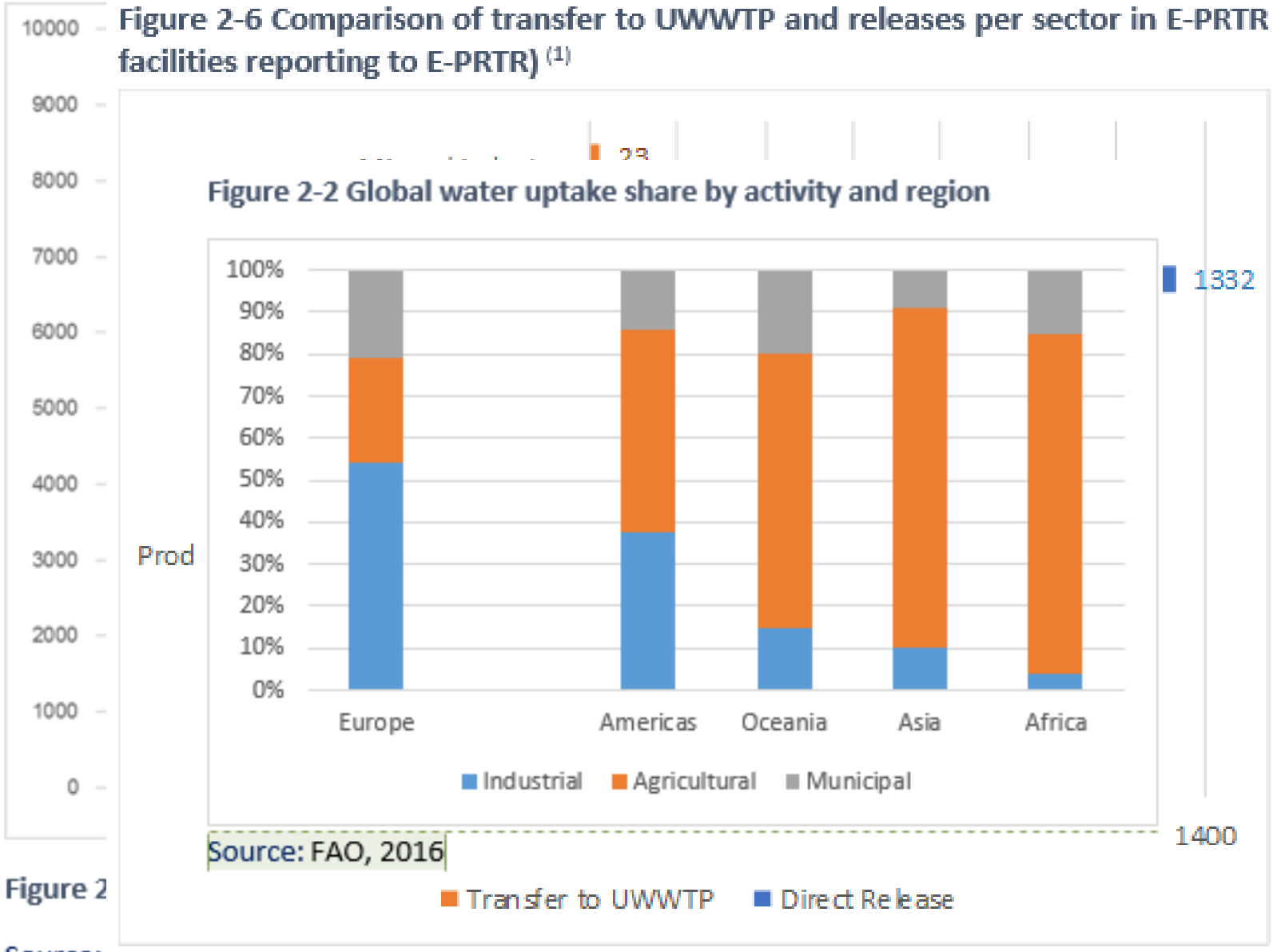


Figure 2-2 Global water uptake share by activity and region

Source: FAO, 2016

Figure 2

Source: Eurostat, 2016

stries (Millions of Cubic Metres) (Eurostat)

vironment Agency

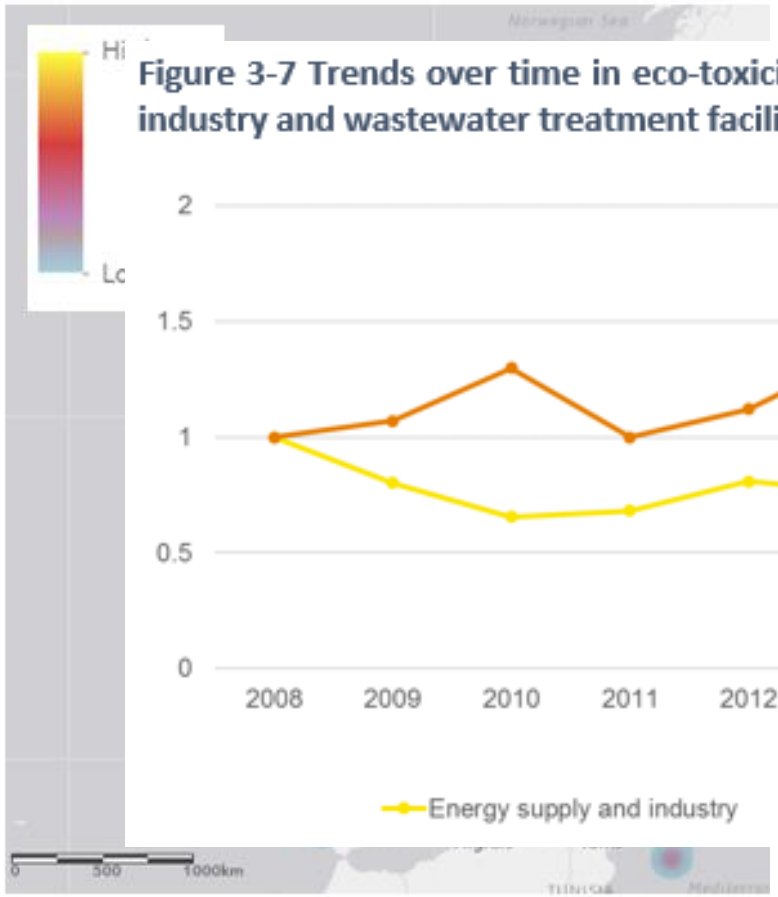
Industrial waste water emissions

1. Industria
   - Direct re
   - Indirect
(transfer)

2. Current
for wast
release f

3. Impact c
environn

Figure 3-5 Eco-toxicity of heavy metal releases from energy industry to water, 2016



Source: E-PRTR, USETox Model
Year: 2016

Figure 3-3 Direct releases by sector and sub-sector, expressed as mass emissions, 2008-2016

100%

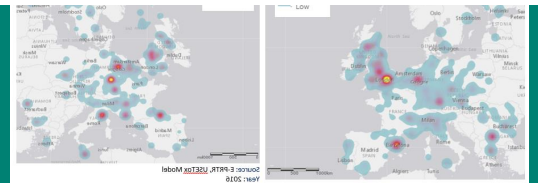
Figure 3-4 Direct releases of heavy metals by sector and sub-sector, expressed as eco-toxicity, 2016

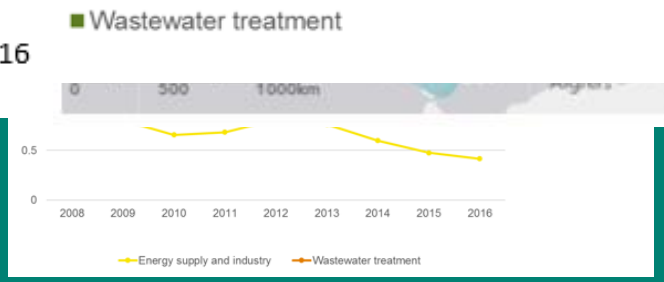
Figure 3-7 Trends over time in eco-toxicity of heavy metal releases from energy supply and industry and wastewater treatment facilities to water, 2008-2016

- 6.6%
- 2.1%
- 4.9%
- 0.7%
- 0.5%
- 0.1%

netal
ık
minerals

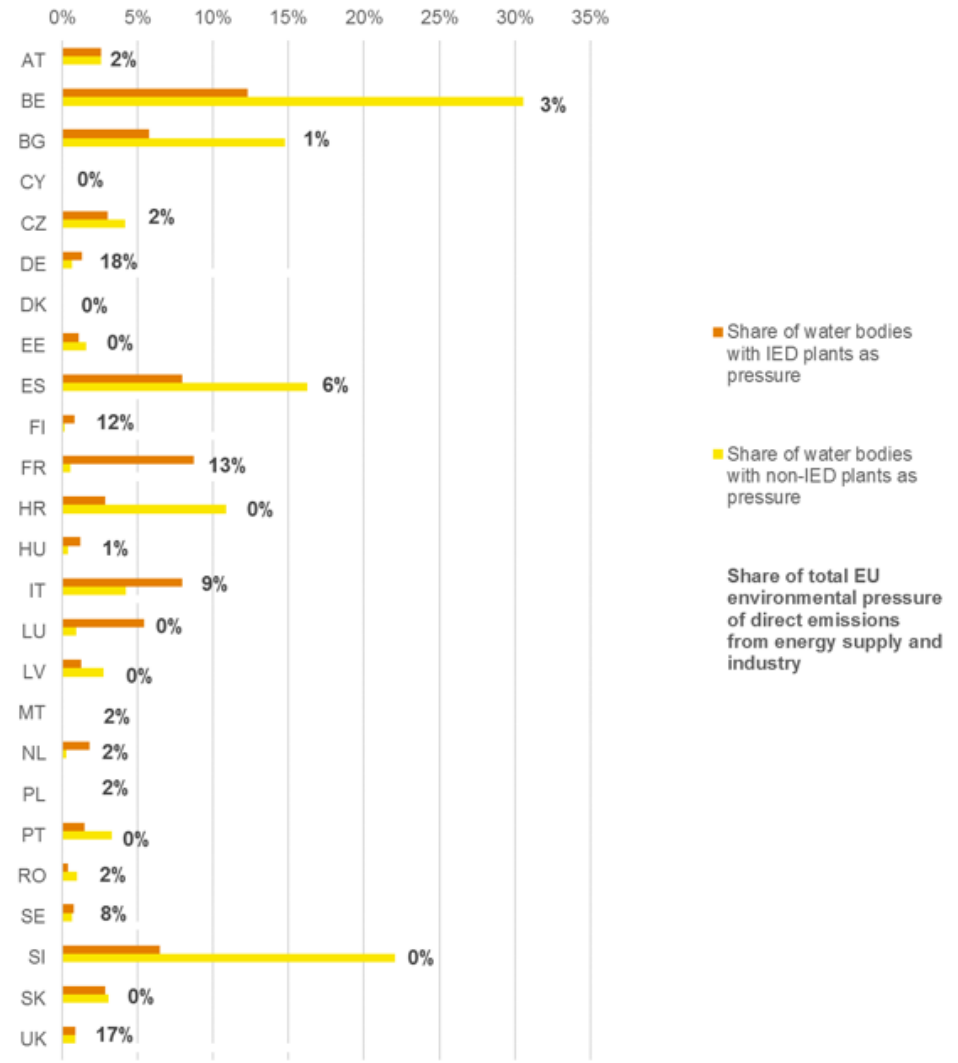
Source
Year: 2016





Current challenges

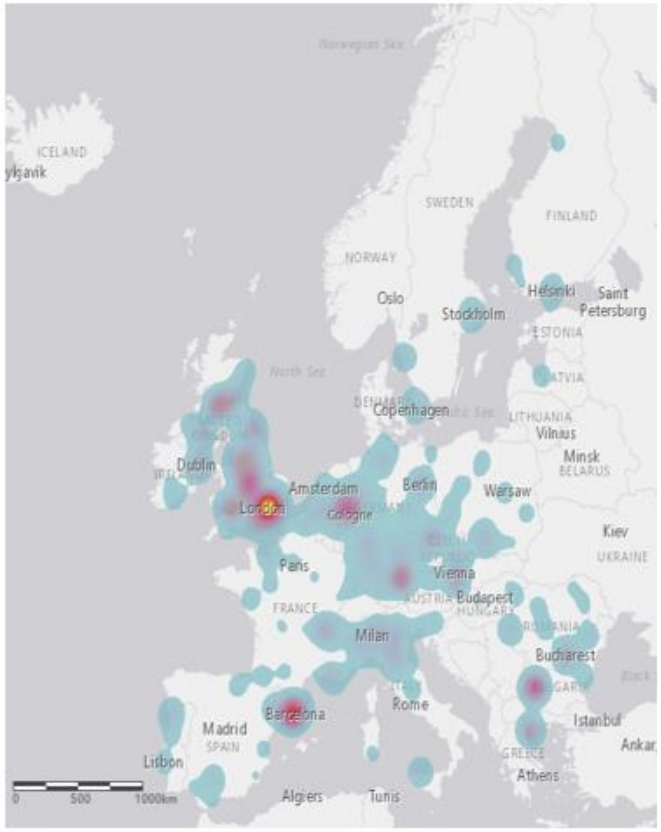
Figure 5-3 Pressure from industrial point sources on water bodies, 2nd RBMP (EEA, 2018)



Source: EEA, 2018

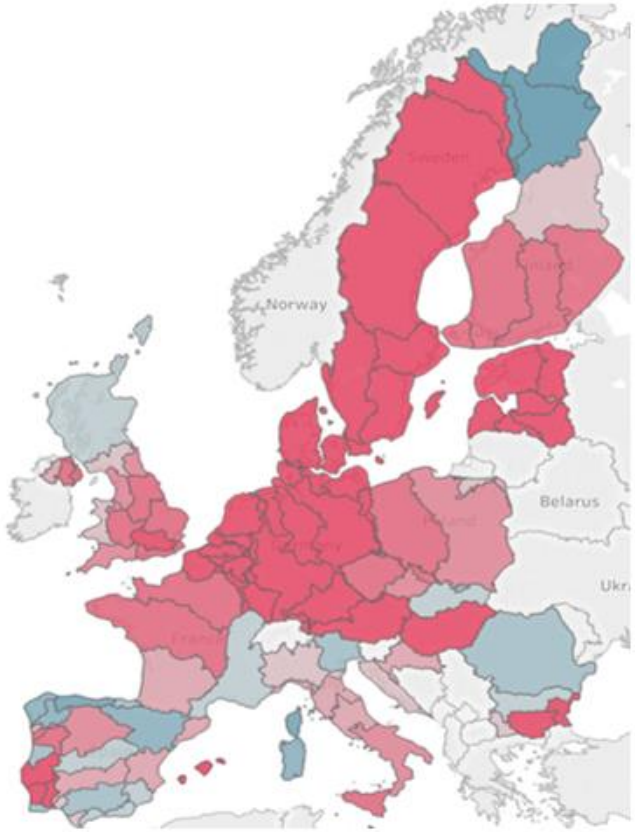
Current challenges

Figure 5-4 Environmental pressures of direct releases from wastewater treatment to water, 2016



Source: EEA, 2018

Figure 5-5 Water bodies failing to achieve good surface water status, by RBD



Waste water treatment options

1. Current approaches and techniques in industrial installations and urban waste water treatment plants
2. Novel and emerging techniques in waste water treatment plants
3. Sustainability in WWTP operations

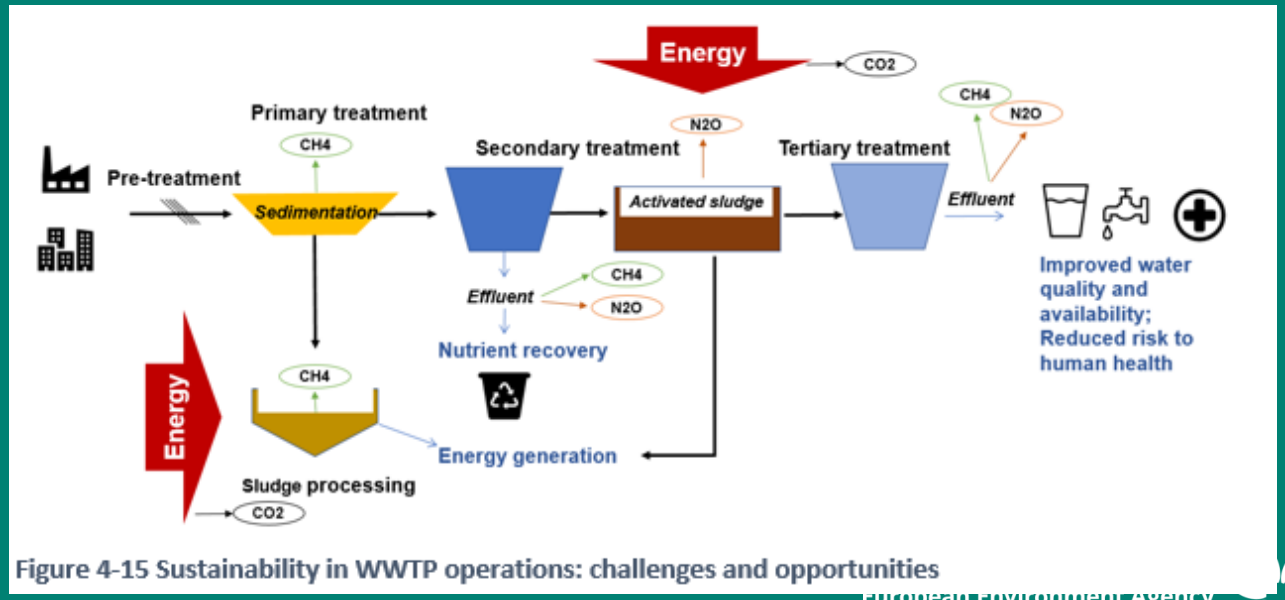


Figure 4-15 Sustainability in WWTP operations: challenges and opportunities

Conclusions and Recommendations

- UWWTP potential improvement
- Assessment of knowledge gaps
- Reporting/data

- Independently operated WWTP to be declared to assess whether it should be encouraged regarding specific chalenges or lack of capacity
- Quality can be improve on transfers data (do not declare as direct releases)

Contact details

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