

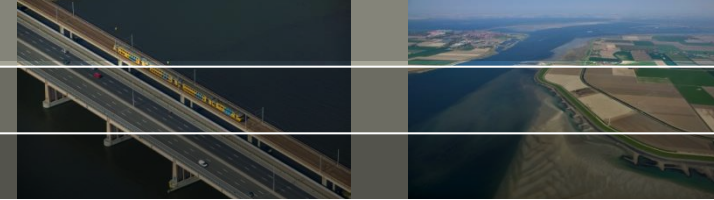


# EmissieRegistratie door een buitenlandse bril

Emissiesymposium 2015

Joost van den Roovaart

# Inhoud



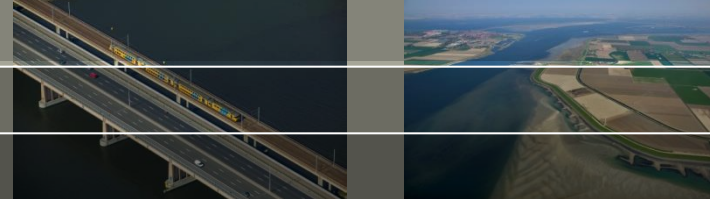
- Buitenlandse toepassingen
- Relatie emissies – waterkwaliteit
- Oproep

# Nederlandse EmissieRegistratie



- Gestart in 1974
- Eerst voor lucht, later ook water
- Basis voor Europese besluiten: Aarhus Conventie (1998)
- European Pollutant Emission Register: EPER Richtlijn (2000)
- E-PRTR Verordening (2006)
  - meer stoffen
  - activiteiten
  - bodem
  - diffuus
  - transport

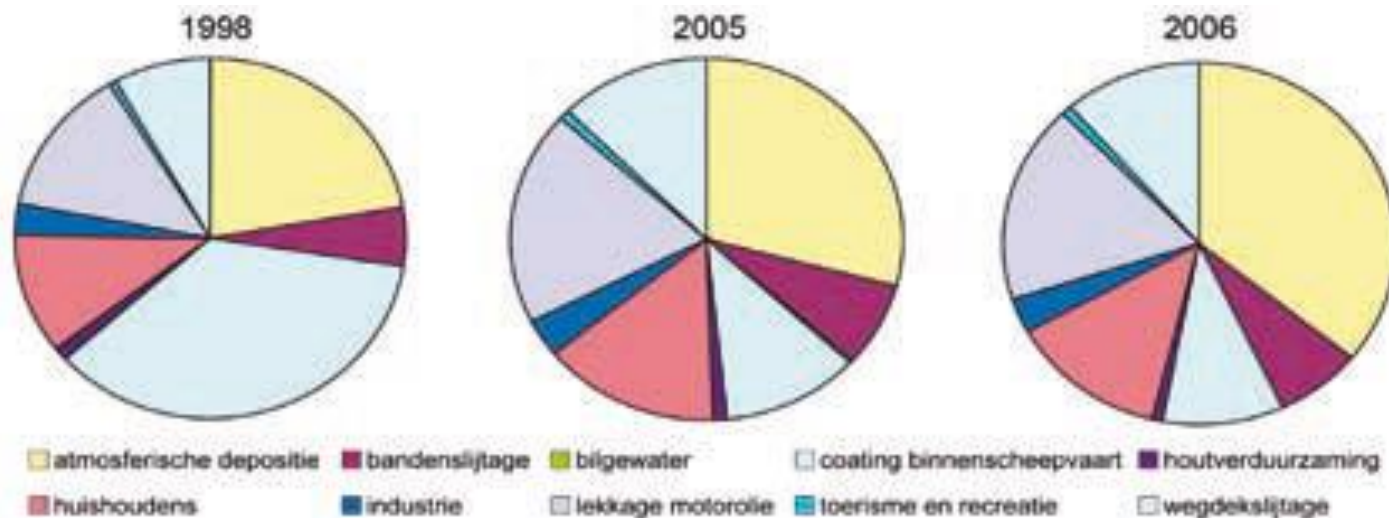
# Internationale bijdragen



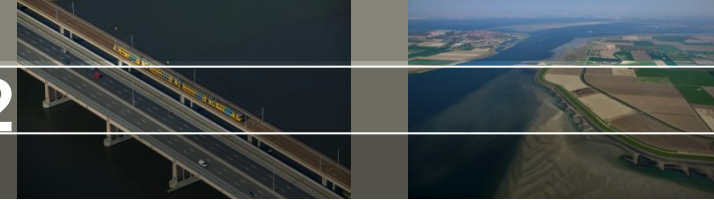
- OSPAR Harmonisation and Quantification of Hazardous Substances (2001)
- OSPAR: HARPNUT (2008)
- 5e North Sea Minister Conference (2002): 1985-2000 paar landen

# Vlaamse Milieu Maatschappij, 2009

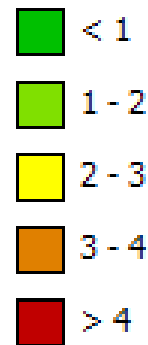
- Together with consultant Witteveen & Bos
- Inventory 10 diffuse sources
- 16 individual PAH's
- Emissions and loads to surface water
- 3 years: 1998, 2005, 2006
- Spatial distribution



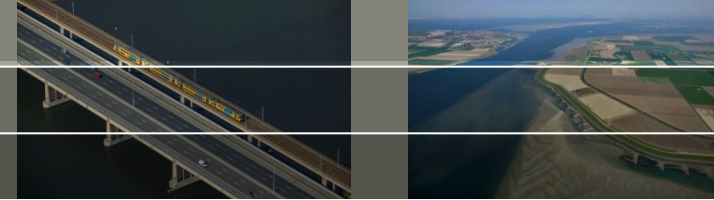
# Havenbedrijf Antwerpen, 2012



- Together with VITO
- Inventory 15 harbour specific diffuse sources
- 29 problem substances: heavy metals, nutrients, PAH's
- Emissions and loads to surface water
- 3 years: 2010 and prognosis 2015 and 2020
- High resolution maps: 50x50m



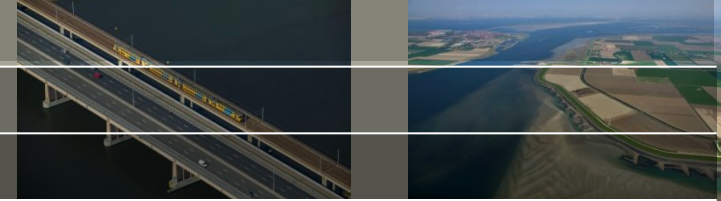
Emission of PAH16 in g per cel (50x50m)



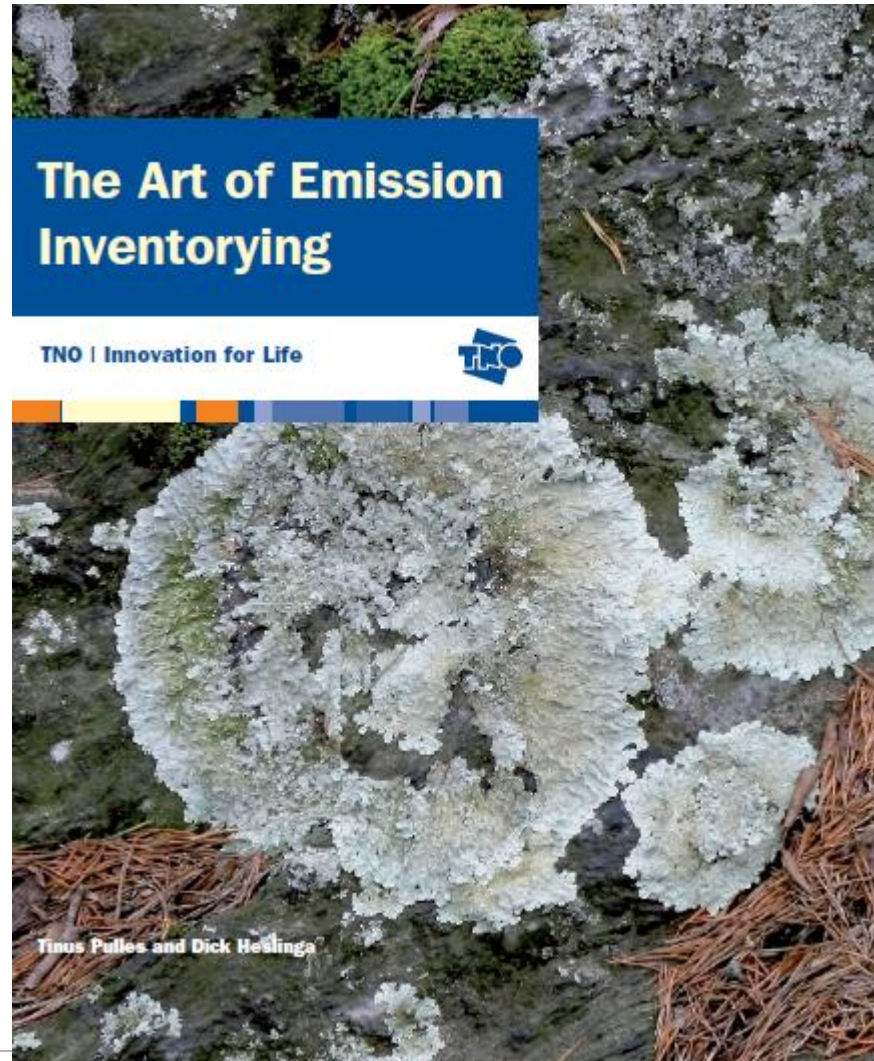
- Water Emissions Inventory Support System (VMM, VITO)



# lets heel anders



- Boekje TNO

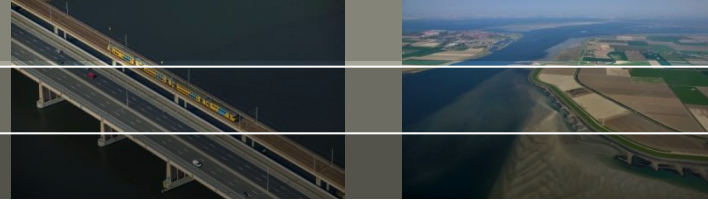


10 april 2015

**Deltares**

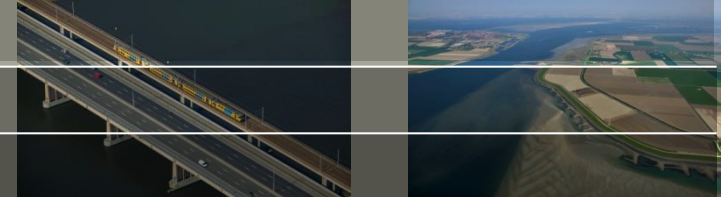


# Riviercommissies

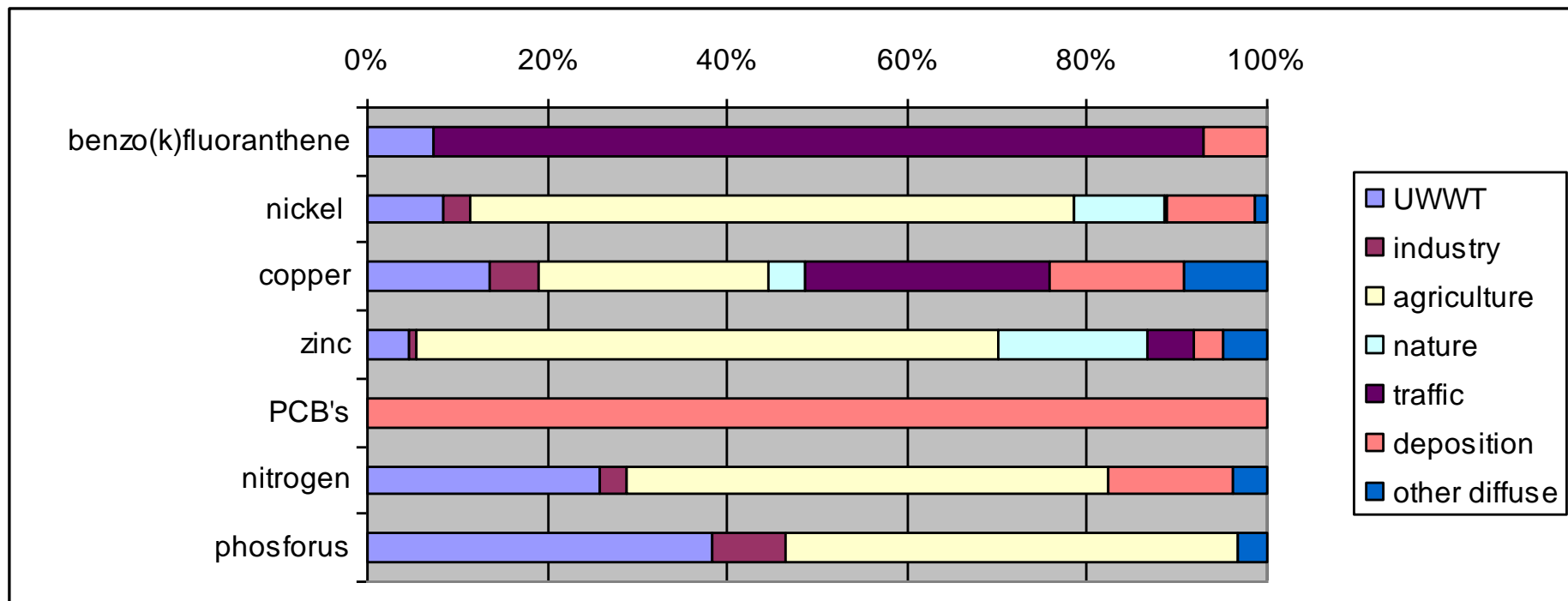


- Rijn, Maas
- Emissie inventarisatie lozingen van prioritaire stoffen (1996)
- Gezamenlijke schattingsmethoden: ef x evv
- Jaren aan gewerkt
  
- Ook nu inventarisaties Rijn en Maas
- ...nog steeds moeizaam

# Use of emission data

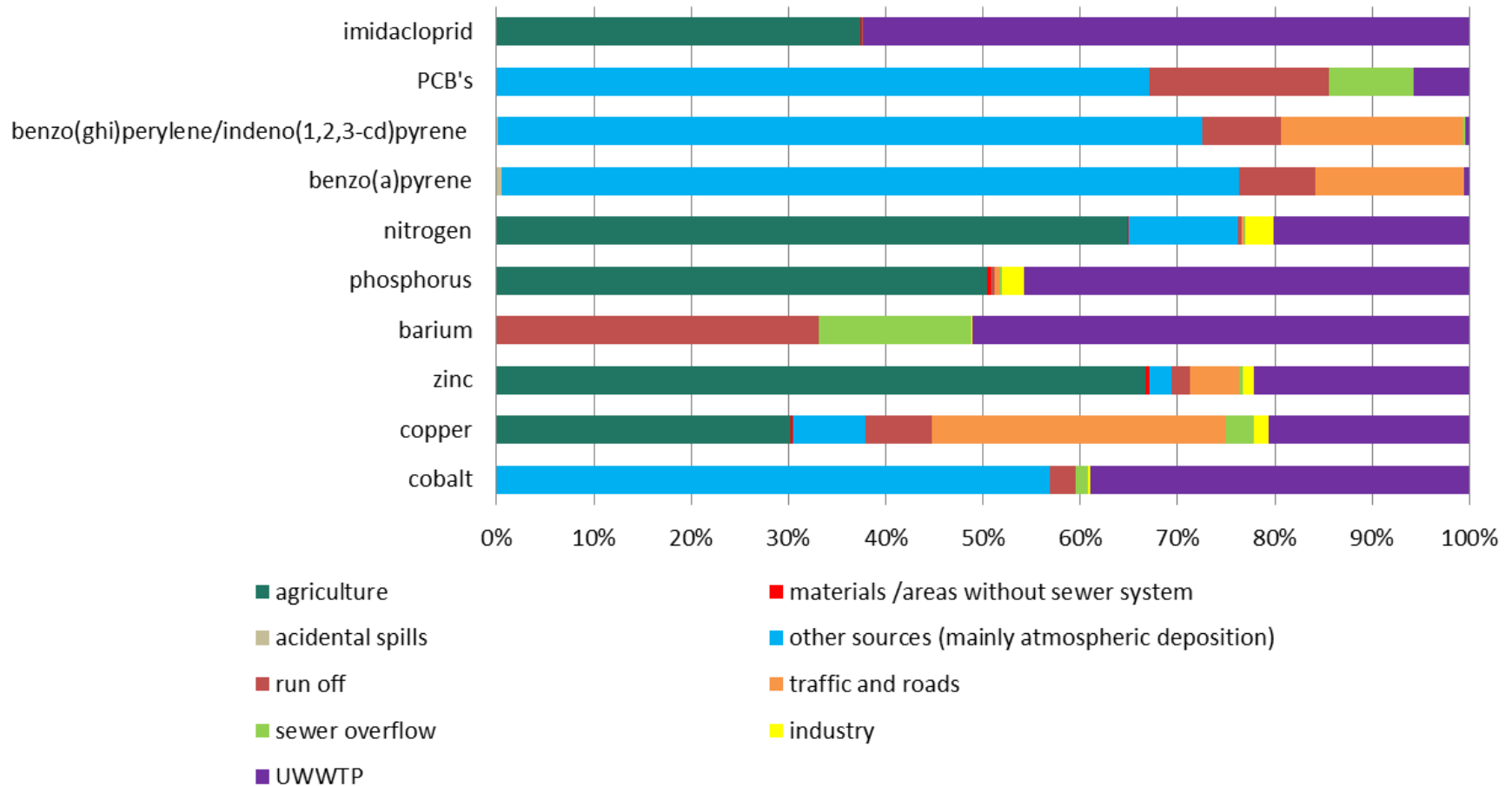


## WFD River Basin Management Plan Rhine Relative discharges of problem substance for main sources

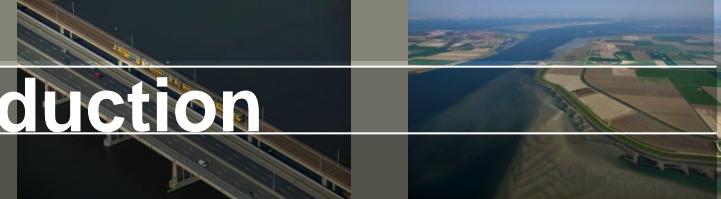


# Diffuse sources: often larger than point sources

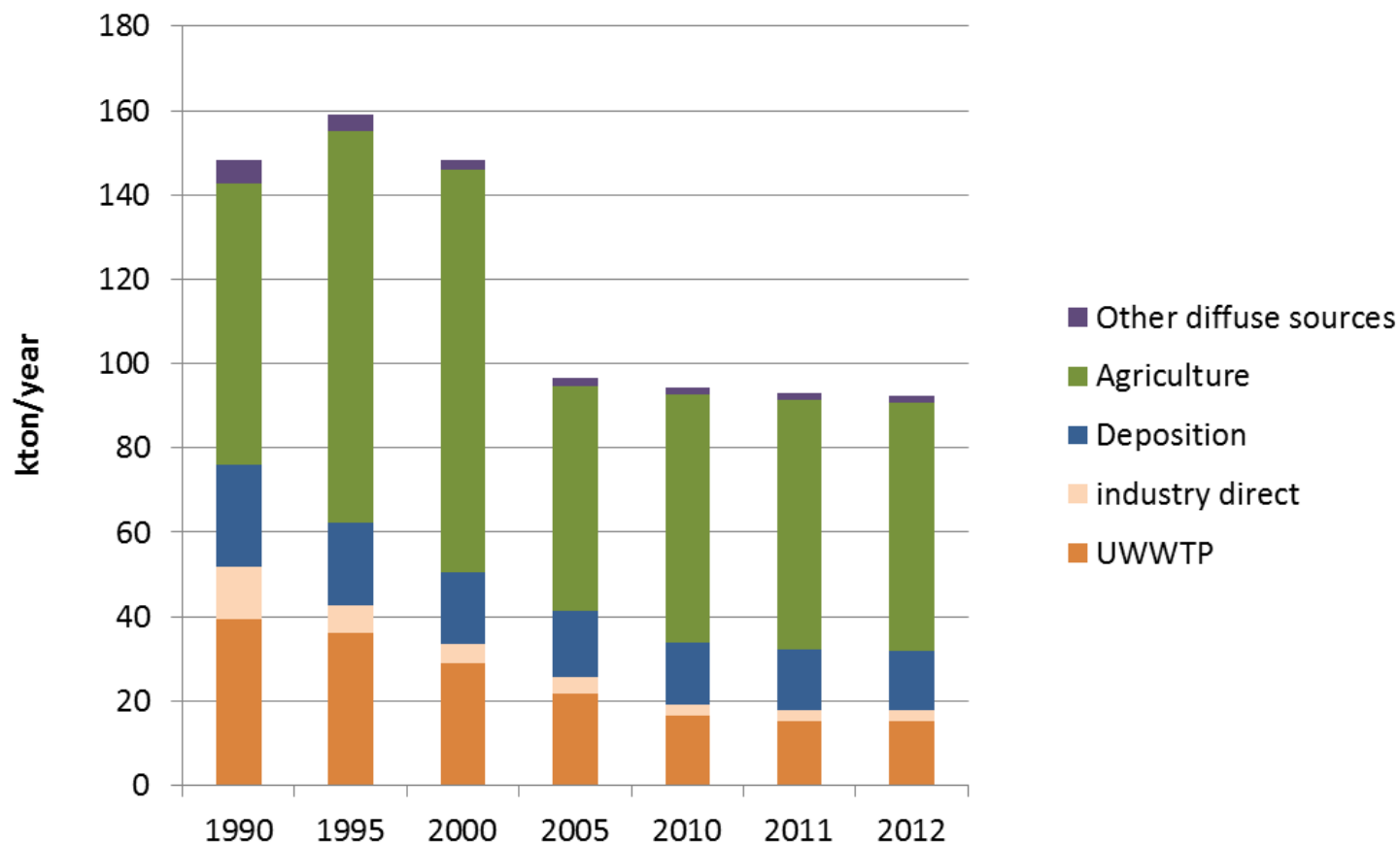
## Meuse (2012)



# Diffuse sources: often less reduction

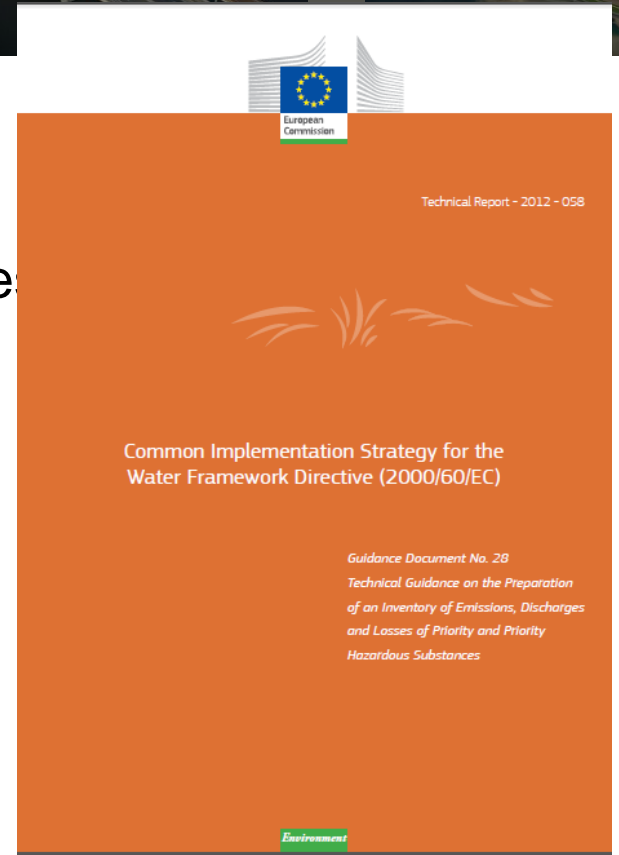


## Nitrogen Loads to surface water

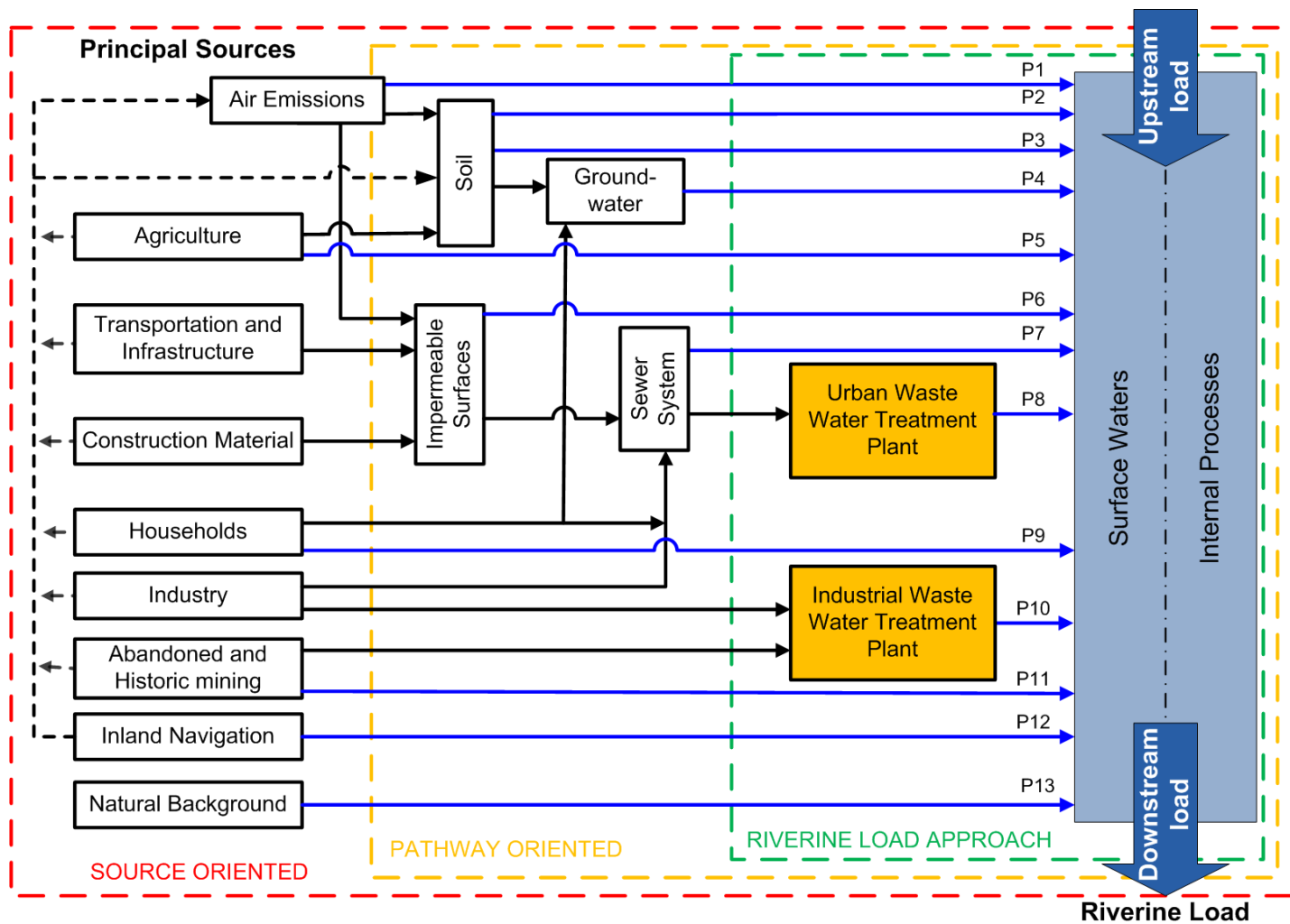


# Guidance document (2012)

- EU-werkgroep
- Guidance Document on Emission Inventories
- Schema

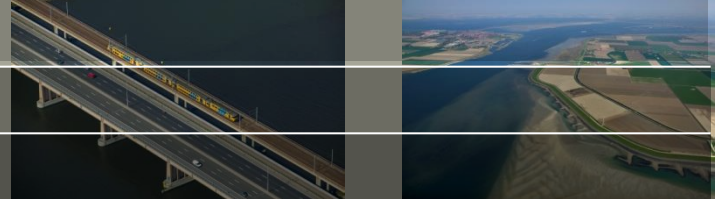


# General scheme

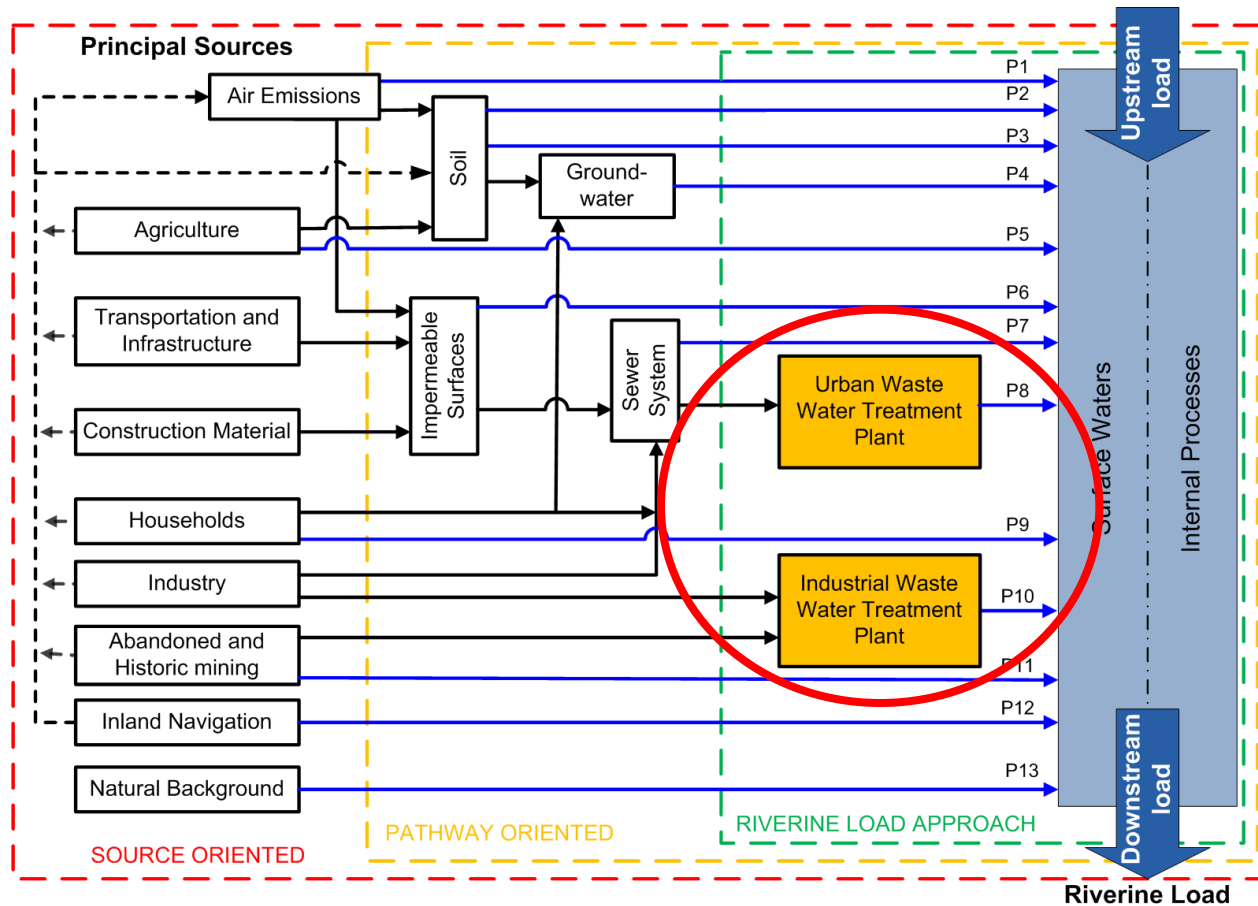


# Diffuse water emissions in E-PRTR, 2013

- European Commission, DG Environment
- Together with TNO, IER University of Stuttgart (Germany)
- EC wil graag ook info over diffuse bronnen in E-PRTR
- Opdracht
- Result: emission maps on a RBD scale to be integrated into the E-PRTR



- P8 + P10
- above thresholds



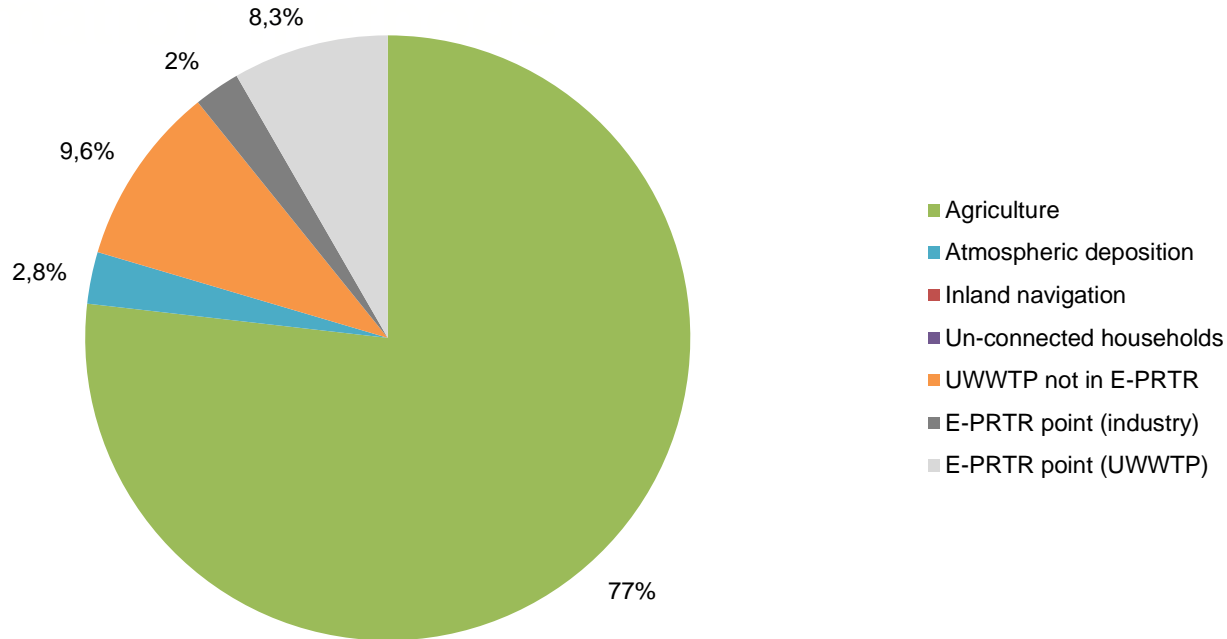


# Selection of 40 sources – substances

Substances	Atmospheric deposition	Agriculture	Inland navigation	Not connected households	Road transport	UWWTP not in E-PRTR
TOC			x	x		x
Nutrient-P		x	x	x		x
Nutrient-N	x	x	x	x		x
Cadmium	x			x	x	x
Copper				x	x	x
Lead	x			x	x	x
Mercury	x			x		x
Nickel				x	x	x
Zinc				x	x	x
Anthracene			x	x	x	x
Fluoranthene			x	x	x	x

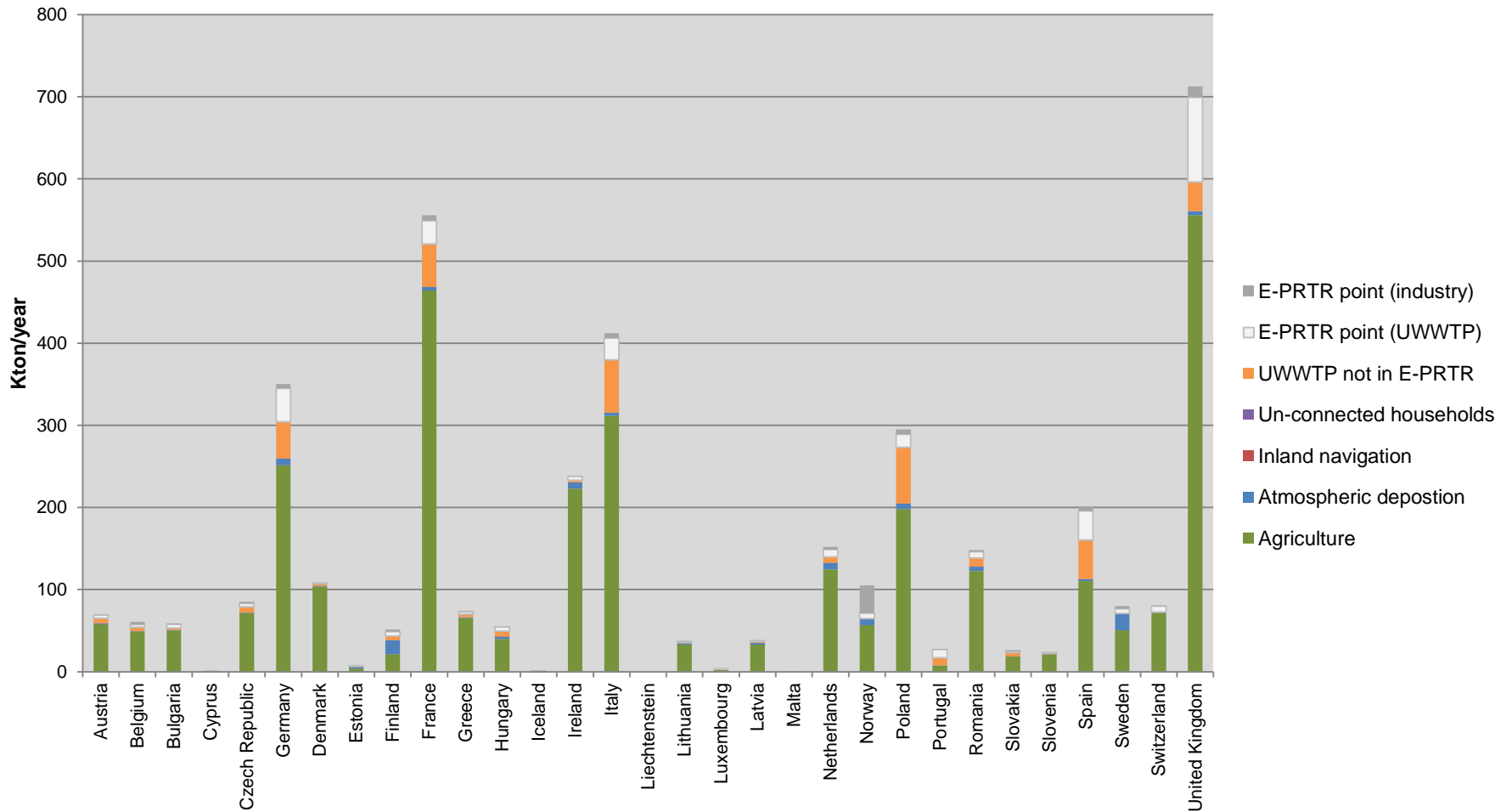
# Results: pie charts per substance

nutrient-N

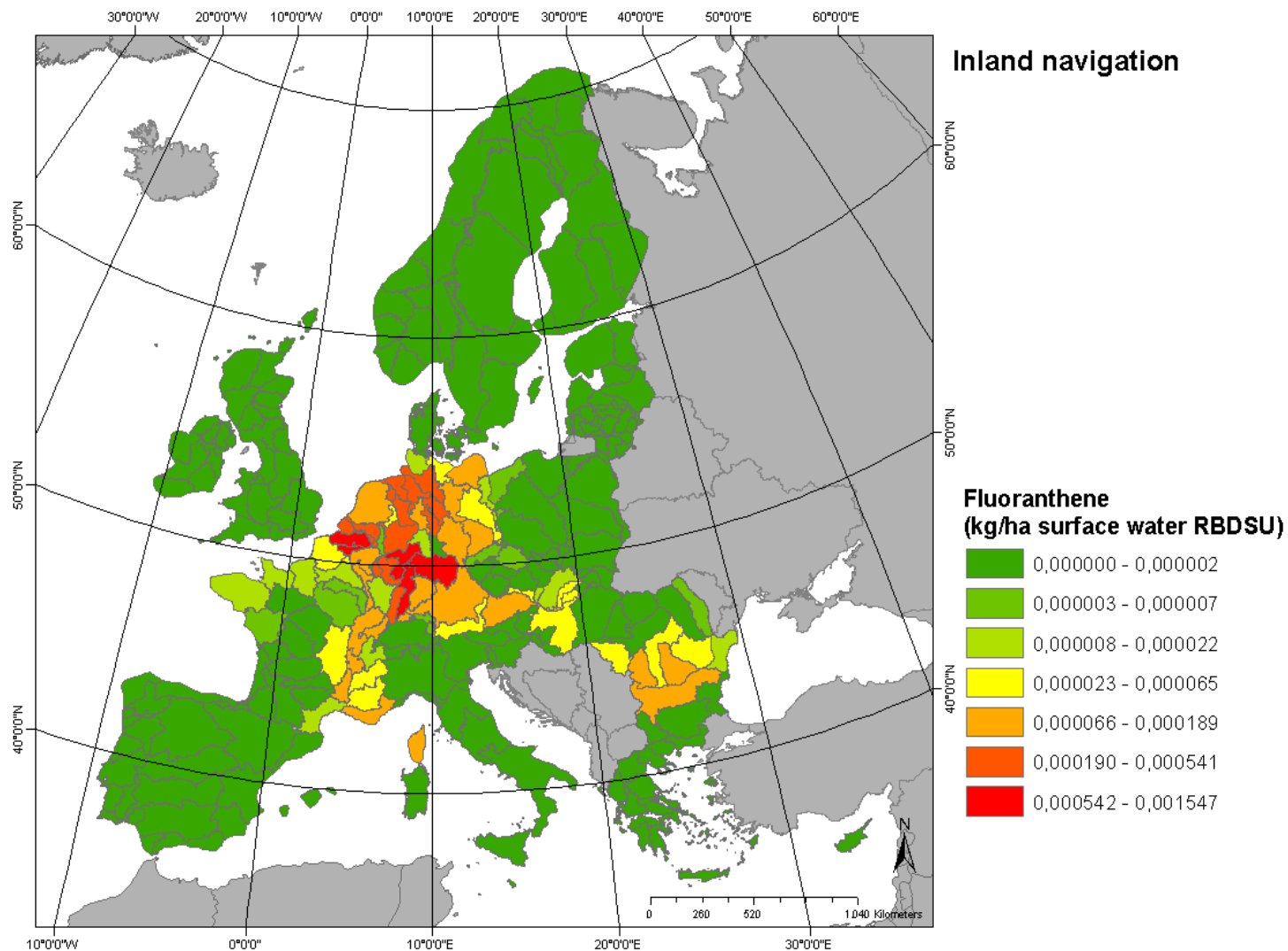
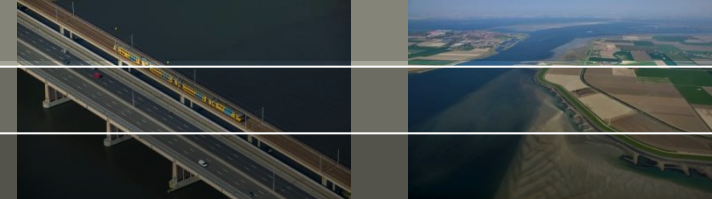


# Results: loads per Member State

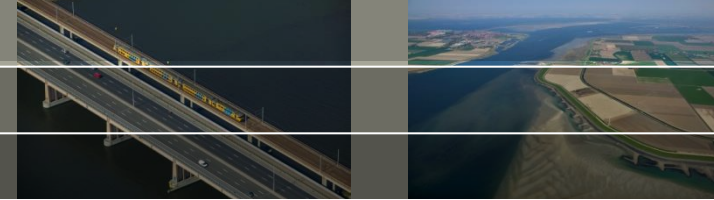
## Nutrient-N



# Example map

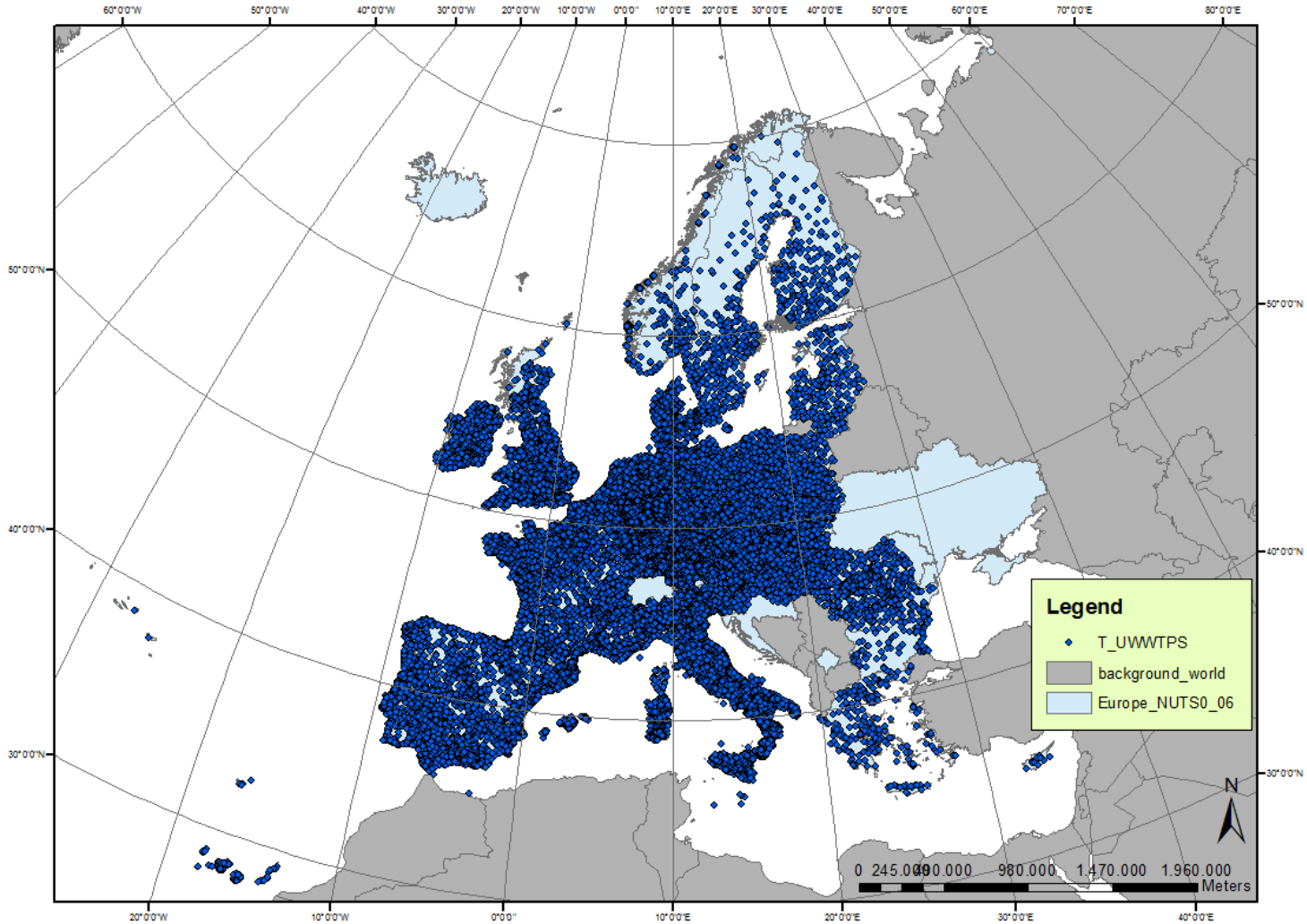
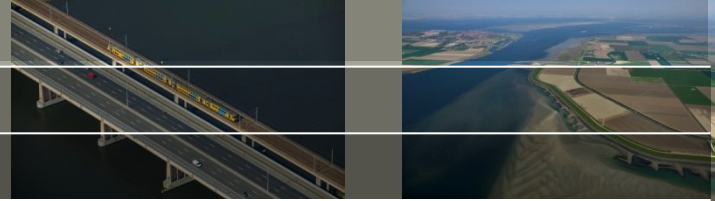


# Results: % loads per source

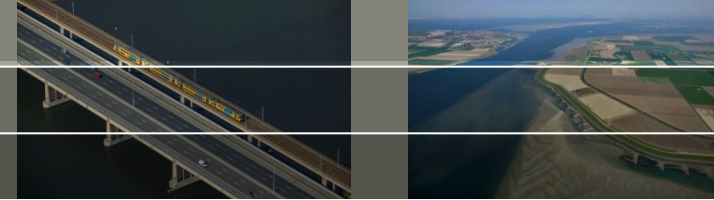


Substances	Emissions quantified in this project						Emissions already in E-PRTR		Total project + E-PRTR	Unit
	Atmospheric deposition	Agriculture	Inland navigation	un-connected households	Road transport	UWWTPs not in E-PRTR	E-PRTR industries	E-PRTR UWWTPs		
TOC			0,03%	0,1%		44%	33%	22%	1 342	kton
Nutrient-P		46%	0,01%	0,02%		24,1%	11%	19%	196	kton
Nutrient-N	2,8%	77%	0,004%	0,004%		9,6%	2%	8,3%	4 063	kton
Cadmium	5,4%			<0,1%	0,0%	69%	10%	16%	72	ton
Lead	17%			<0,1%	11%	47%	14%	10%	716	ton
Mercury	17%			<0,1%	0,0%	55%	16%	12%	15	ton
Nickel				<0,1%	4,5%	57%	16%	23%	836	ton
Anthracene			23%	<0,1%	0,7%	24%	39%	13%	0,48	ton
Fluoranthene			16%	0,1%	0,6%	54%	26%	3,8%	1,4	ton
Copper				<0,1%	8,3%	48%	27%	16%	1 326	ton
Zinc				<0,1%	1,0%	50%	25%	25%	5 082	ton

# 28.000 RWZI's

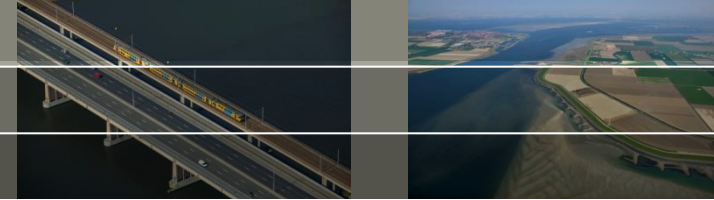


# Afstemming EU-richtlijnen



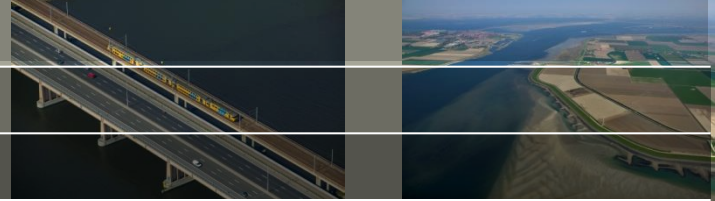
- EEA besteed werk uit aan Topic Centers
- Topic Centre on Inland, Marine and Coastal Waters (UFZ)
- Deltares neemt deel in consortium
- “Completeness check” E-PRTR
- Input voor EEA advies over “REFIT E-PRTR”
  - Stroomlijnen Richtlijnen
  - Aanpassen
  - Combineren

# Hoe goed is de ER dan?



- Lastig
- Betrouwbaarheidsindicatie factsheets
- Ruimtelijke verdeling
- Combineren van emissies met waterkwaliteitsmodellen
- Validatie
- Ruimtelijk aspect, tijdsaspect, processen, routes
- In samenhang bekijken
- Update STONE, 1e fase





- Exporteren die kennis
- Link naar de waterkwaliteit
- Staakt uw gemopper!