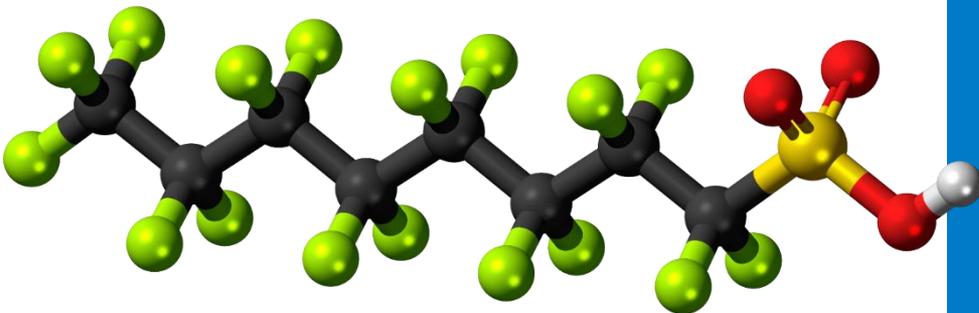




Ministerie van Infrastructuur
en Waterstaat



PFAS in soil - policy consequences

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Presentation

1. Dutch soil policies – overview
2. What is PFAS ? What is special about PFAS ?
3. Policies with regard to emerging contaminants
4. What happened when PFAS turned out to be omnipresent in the soil?
5. How has it changed and does it change soil policies ?



1. Soil Policy in the Netherlands

- 1970s : discovery of major polluted sites
- Development of soil contamination policy
- Assumption: pollution can be completely solved
- Policy approach: all contamination should be eliminated -> remediated site is fit for all possible future functions
- Basic principles changed over the years



1. Soil Policy in the Netherlands

- Soil policy 2020:
- Soil Quality Decree & Soil Quality Regulation & Soil Remediation Circular
- Balance between protection of the soil and its use for economic and social purposes
- Focus on the (re)use of soil & dredged sludge
- Quality criteria for different soil functions
- Prevention & Remediation $\xrightarrow{\text{assumption}}$ soil quality \uparrow
- Pollution connected to source



2. What is PFAS ?

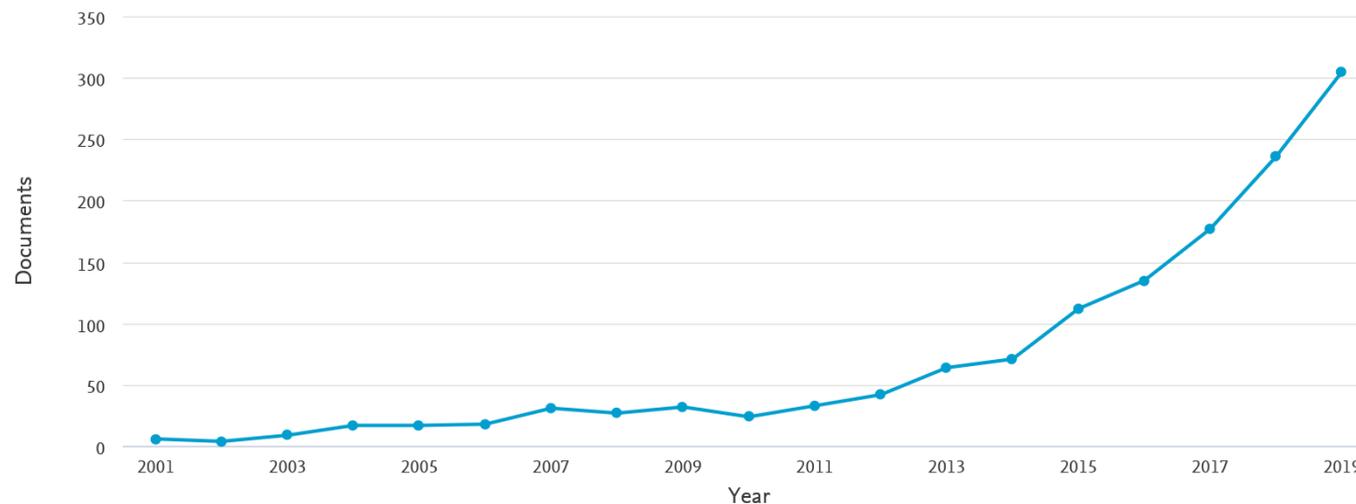
- Group of poly and perfluoralkyl substances - \pm 6000 PFAS
- Made by humans
- Persistent, bio-accumulative, mobile and has an impact on human health
- Used in a wide range of products :
Paint, coatings, electronics, sprays, food packaging, fire fighting foam



2. What is PFAS ?

- Scientific knowledge increases

Documents by year



*Scientific development 2000-2019
(result of search on 'PFAS' in Scopus)*



2. What is PFAS ?

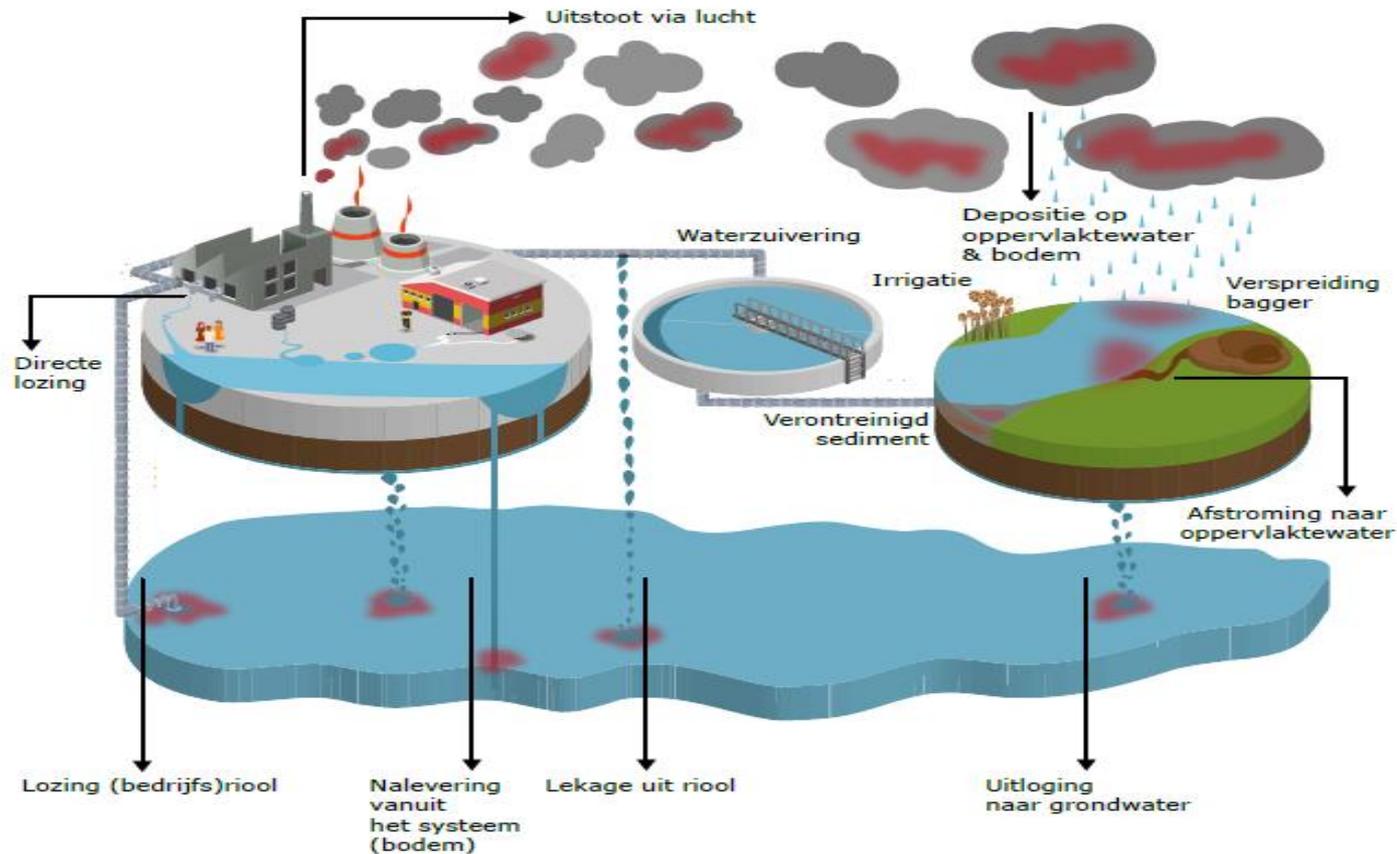
- Increase in scientific knowledge ⇒
- Changing insights in PFAS

- EFSA Opinion:

	PFOS (ng/kg lg/day)	PFOA (ng/kg lg/day)
EFSA, 2008	150	1500
EFSA, 2018 (proposal)	1,9	0,86
EFSA, 2020	4 PFAS combined	- 4,4

- EFSA – norm in nanogrammes per kilogram body weight

PFAS persistent & in the soil !



- Despite prevention policies



3. Policies with regard to emerging contaminants

- Aim:
Prevent (phase out) the production and use of substances of concern
- Approach:
Minimalisation of emissions





3. Policies with regard to emerging contaminants

- Basic principles Dutch soil policies:
- Protection of human health and ecosystem
- Control of dispersion
- Soil quality: fit for use and stand still principle



3. Policies with regard to emerging contaminants

- Municipalities are the competent authorities with regard to their soil
- Ministry – responsible for national framework (national objectives, rules, standards)
- Local authority – Soil Ambition –> policy document –> formulates its own soil quality aims
- Soil Ambition
–> directly relates to current and/or future use of the soil / land
- Communities know their chemical soil quality (Soil Quality Maps)



3. Policies with regard to emerging contaminants

- Practice:
If one suspects a substance of concern / emerging contaminant one has to measure
- If such a substance is found, soil is usually not allowed to be transported until a policy has been defined
- That takes time: a risk based value (risicogrenswaarde) is needed to be able to set a norm
- If that is not there – for the time being in practice detection value was used or measurement of designated location as well (stand still)
- Suspicion in the Netherlands : PFAS widely spread !



5. What have we learned from this process

- Communication is very important
- Despite our policies, new contaminations of the soil are possible
- Pollution does not need to be directly source based but can be diffuse
- Our regulations have to be adapted to diffuse pollution :
development of a new methodology to cope with diffuse emerging contaminants
- Our methodologies and regulations have to be adapted to (very) mobile substances