



# Soil and groundwater remediation from a European perspective (legal aspects)

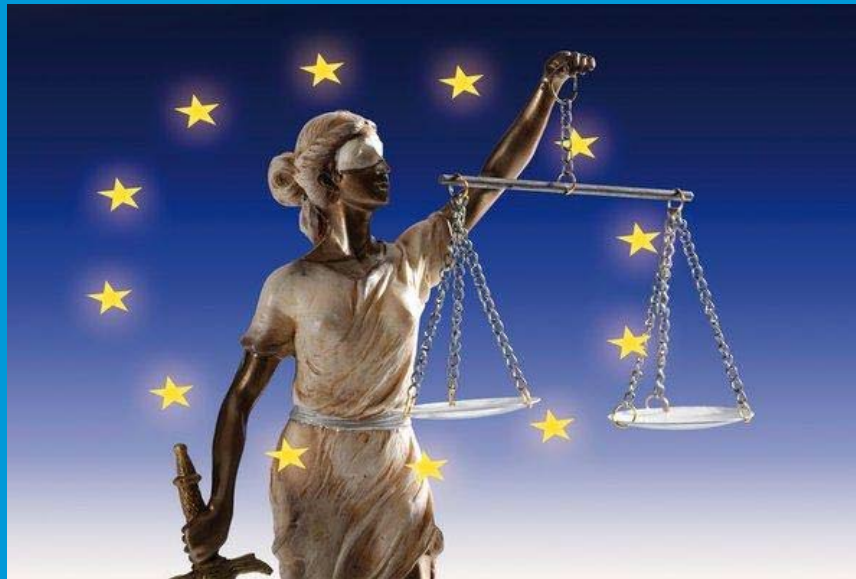
Marcel Herms

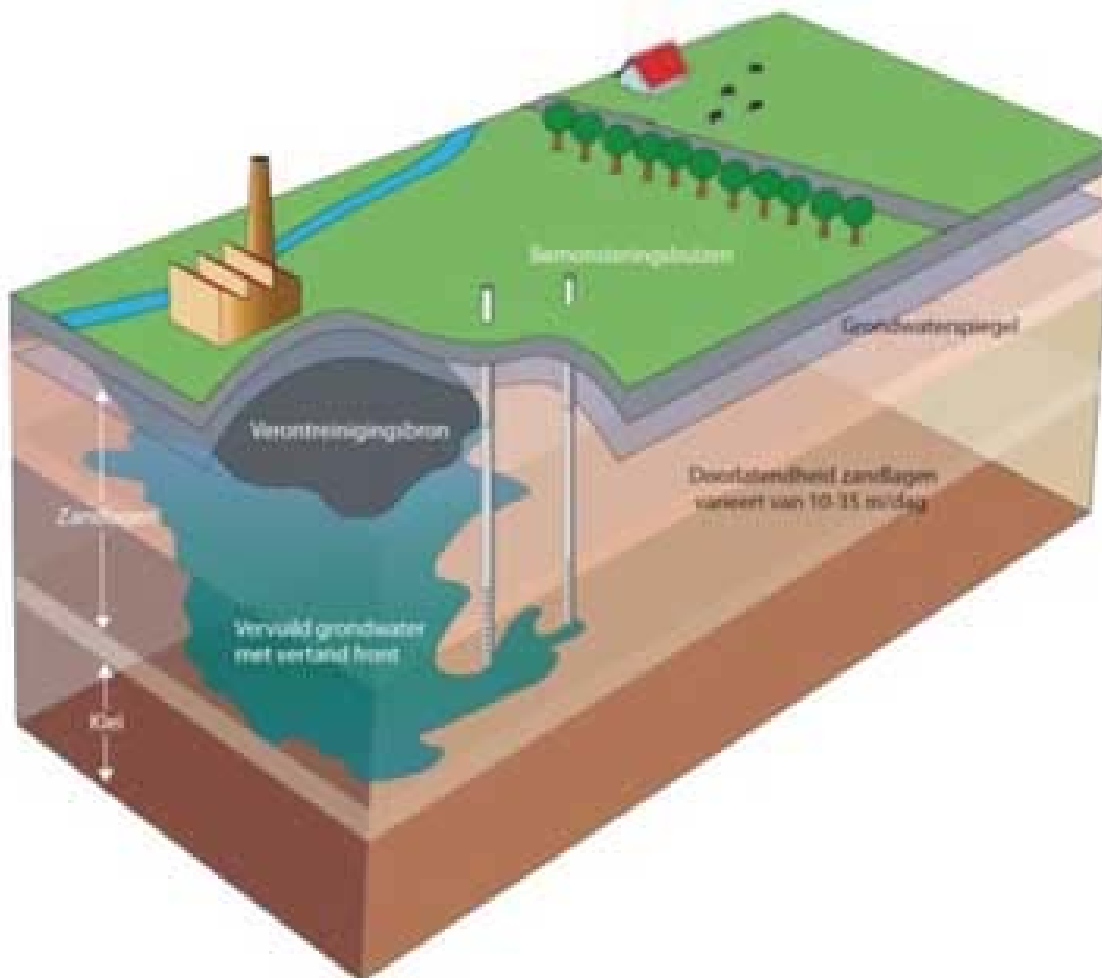
Municipality of Utrecht, the Netherlands

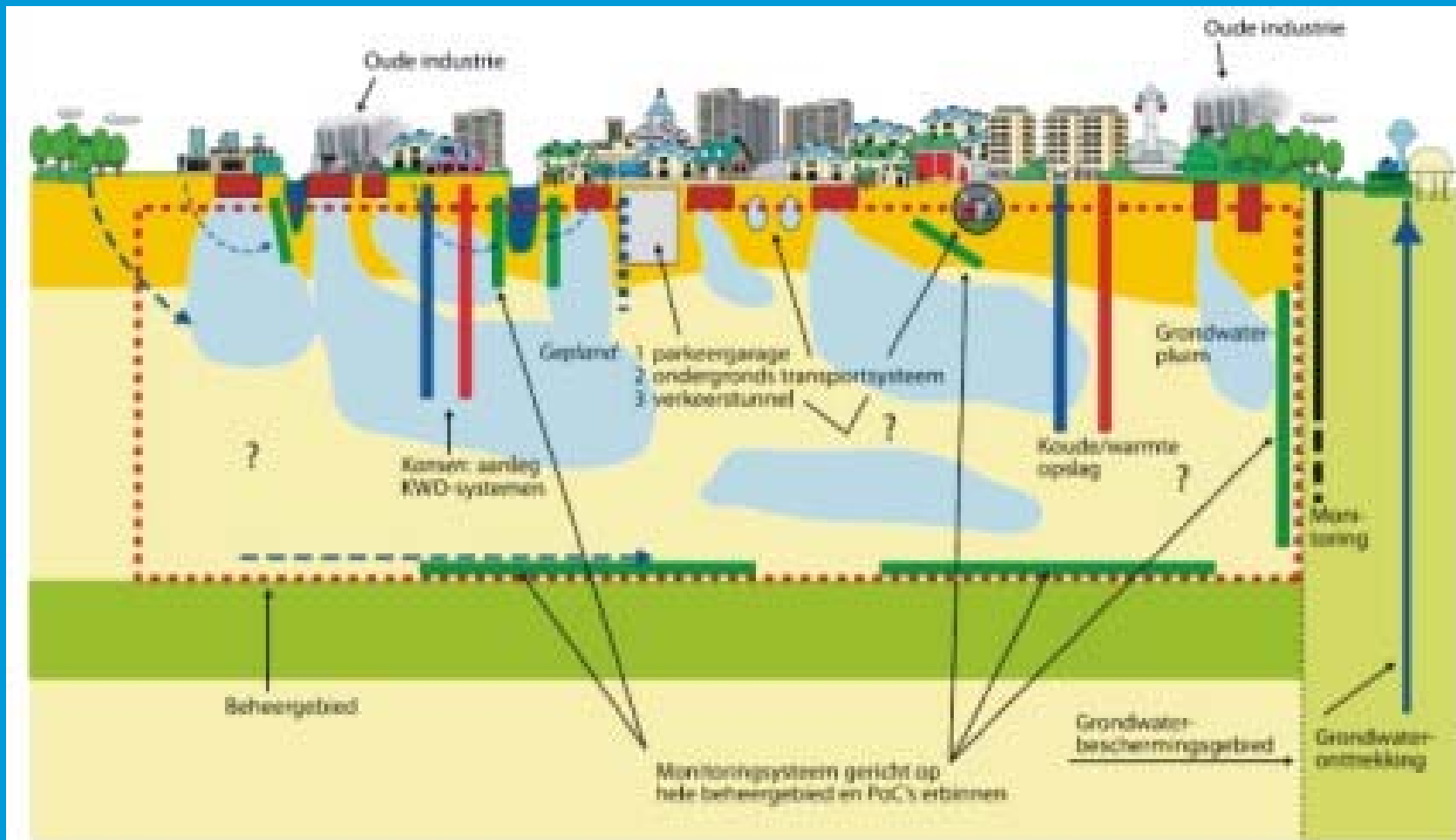
16 May 2013



- Is an area oriented approach allowed?

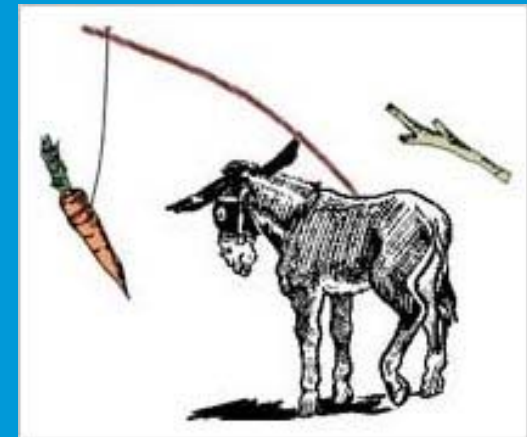






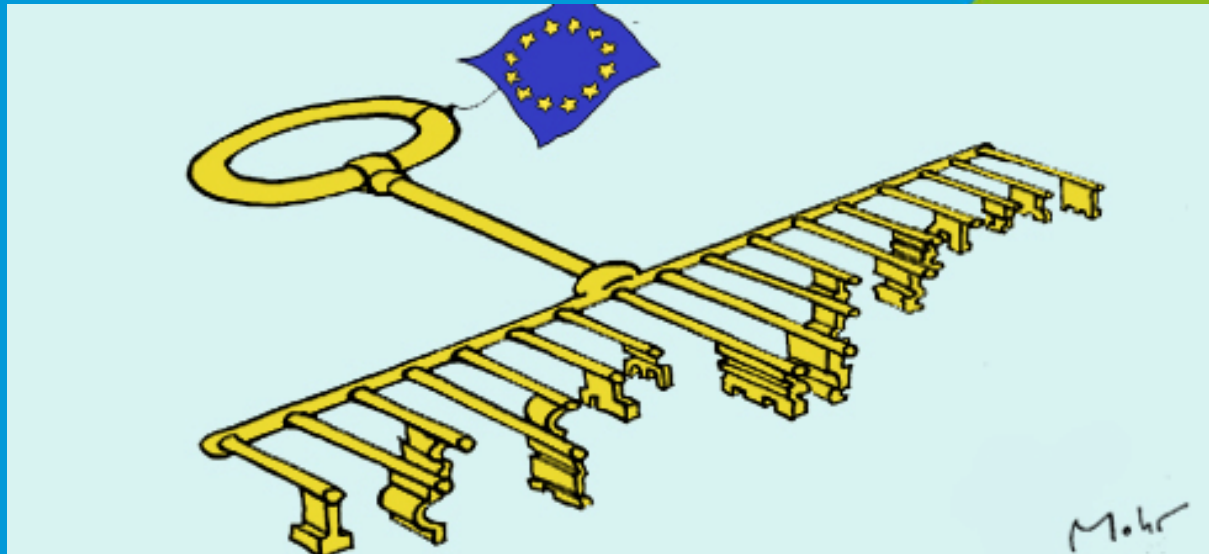
# Dealing with rules

- help for (re)development
- barriers for (re)development





- European countries have different regulations
- basic principles are often the same
- European rules and principles for every country

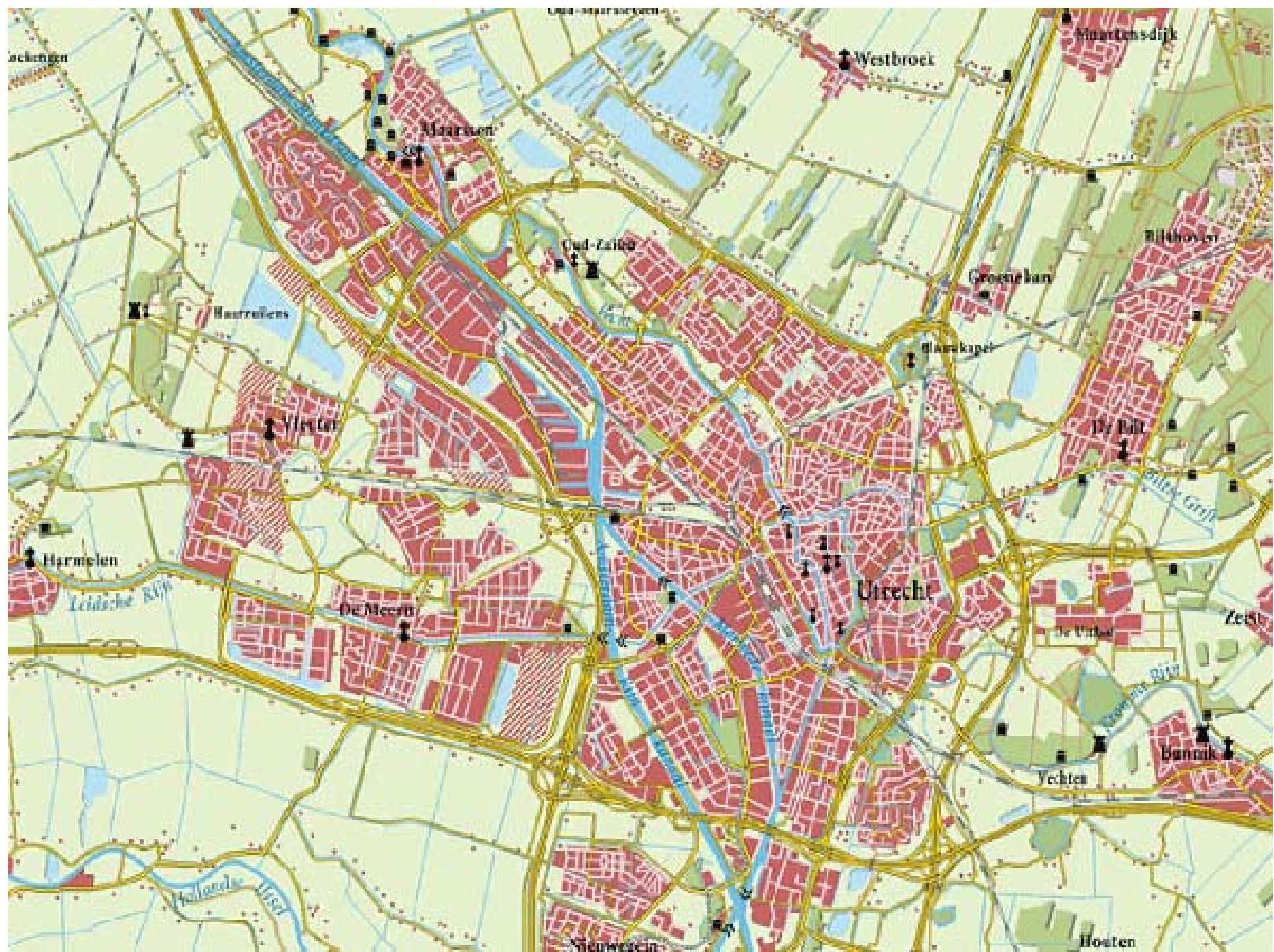




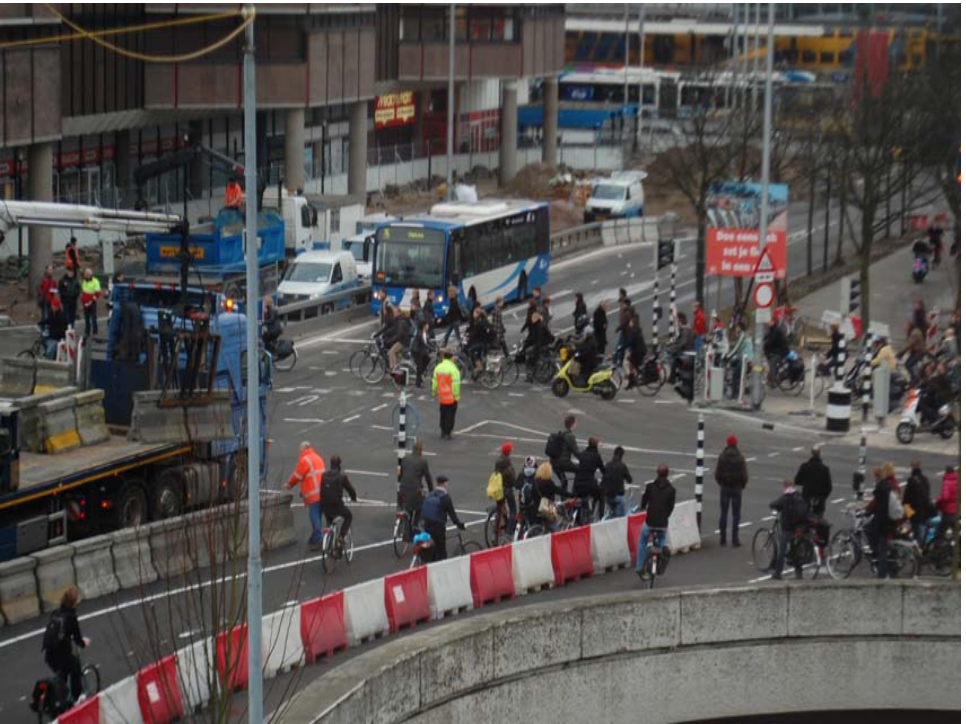
















# CityChlor municipal objectives

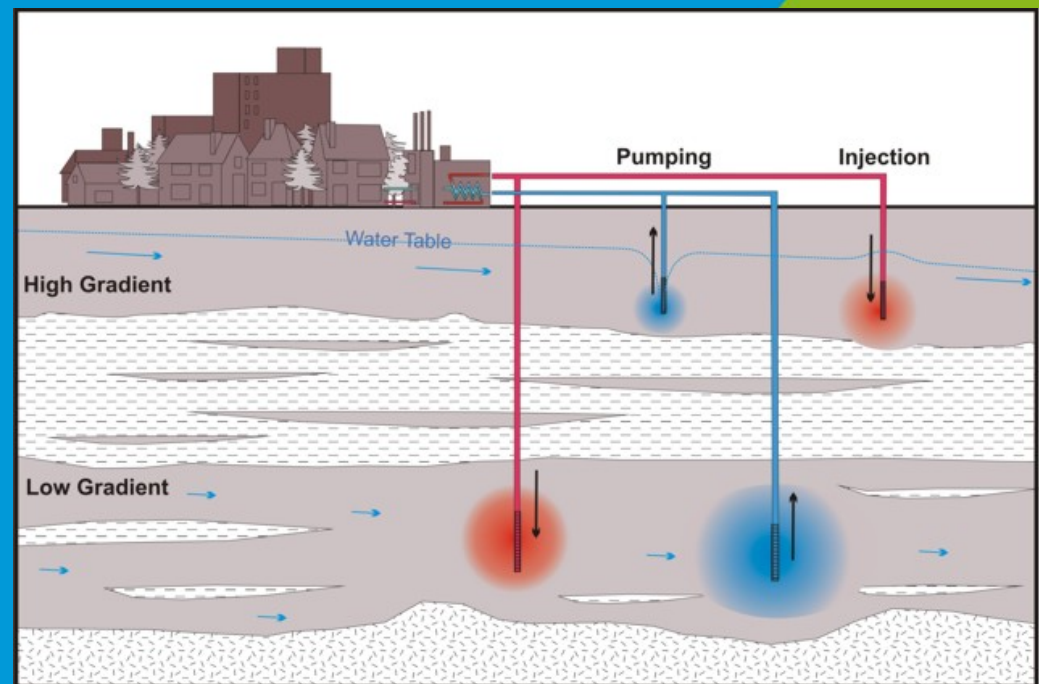
- Improving accessibility (public transport)
  - Strengthening the economic structure
  - Improving the quality of life
  - Sustainability
- 
- Largest urban redevelopment project in the Netherlands





# Redevelopment

- more than 90 acres restructuring
- underground constructions
- CO<sub>2</sub> reduction: aquifer thermal energy storage (ates)

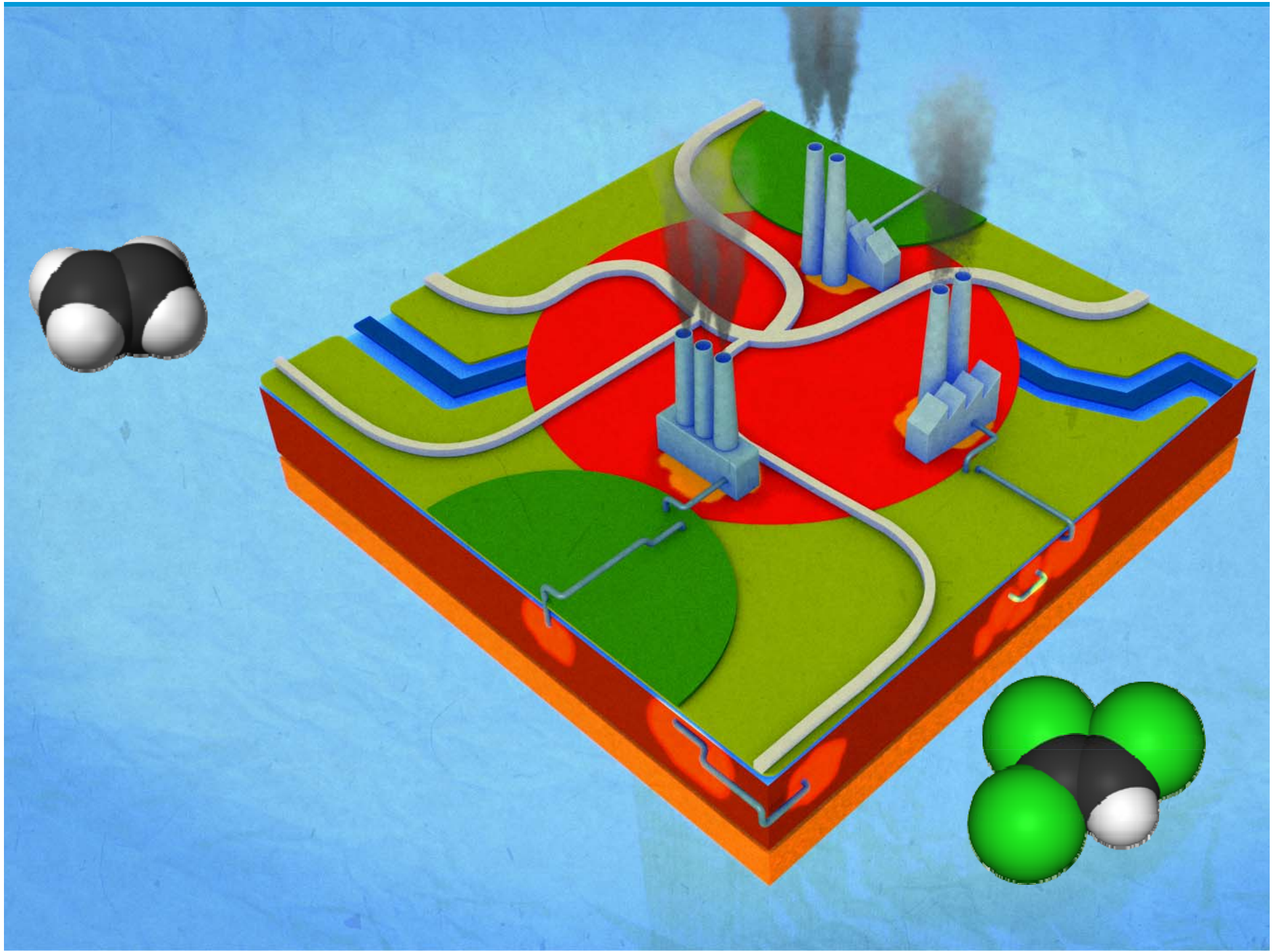






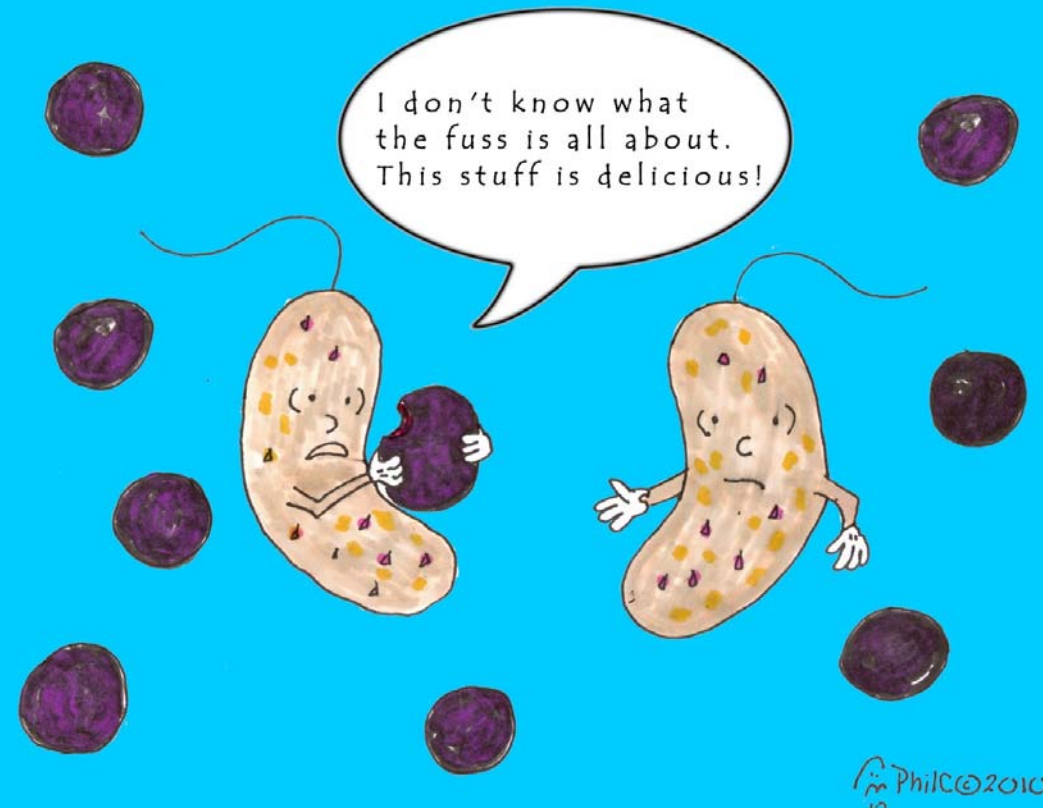








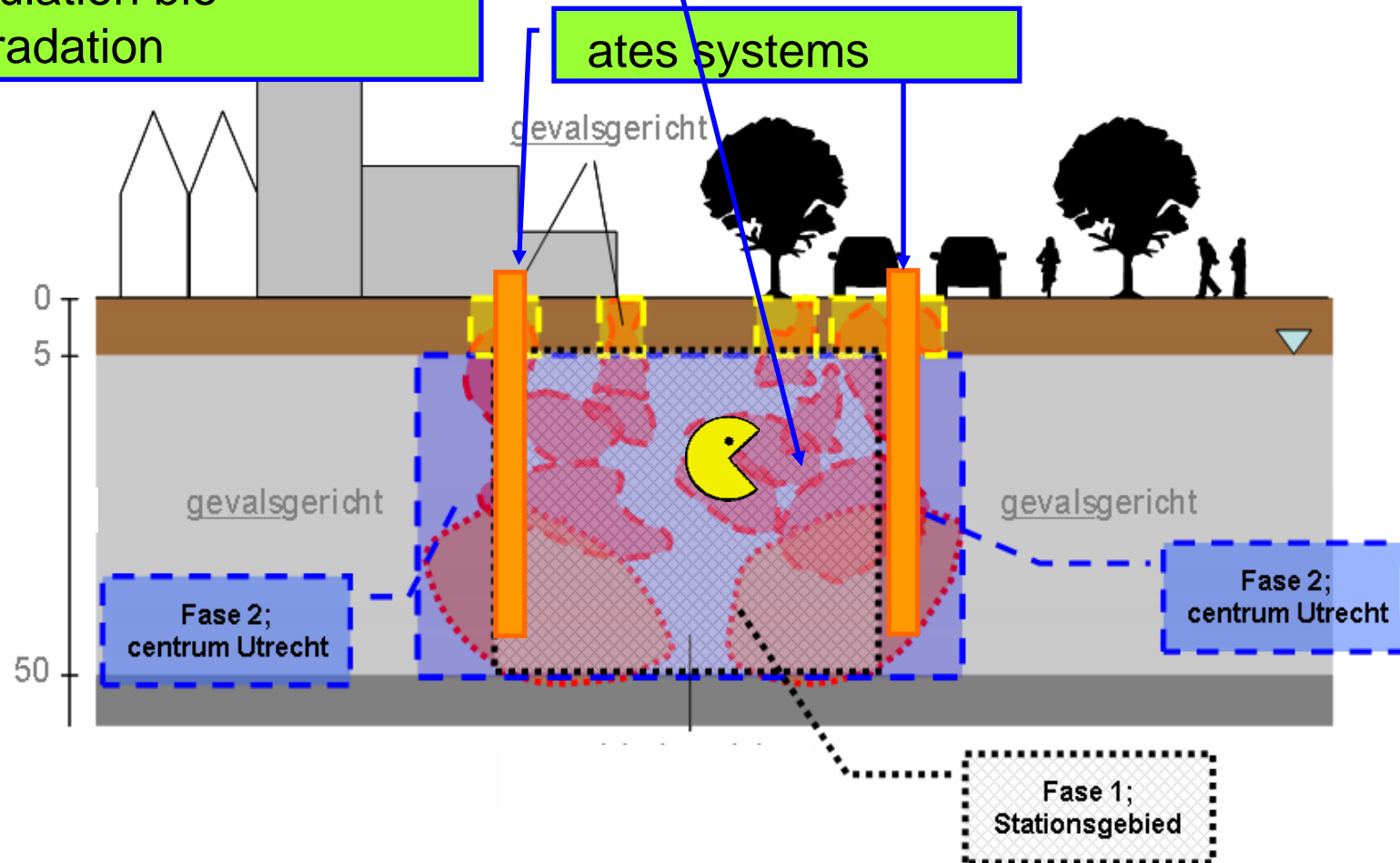
BIOREMEDIATION

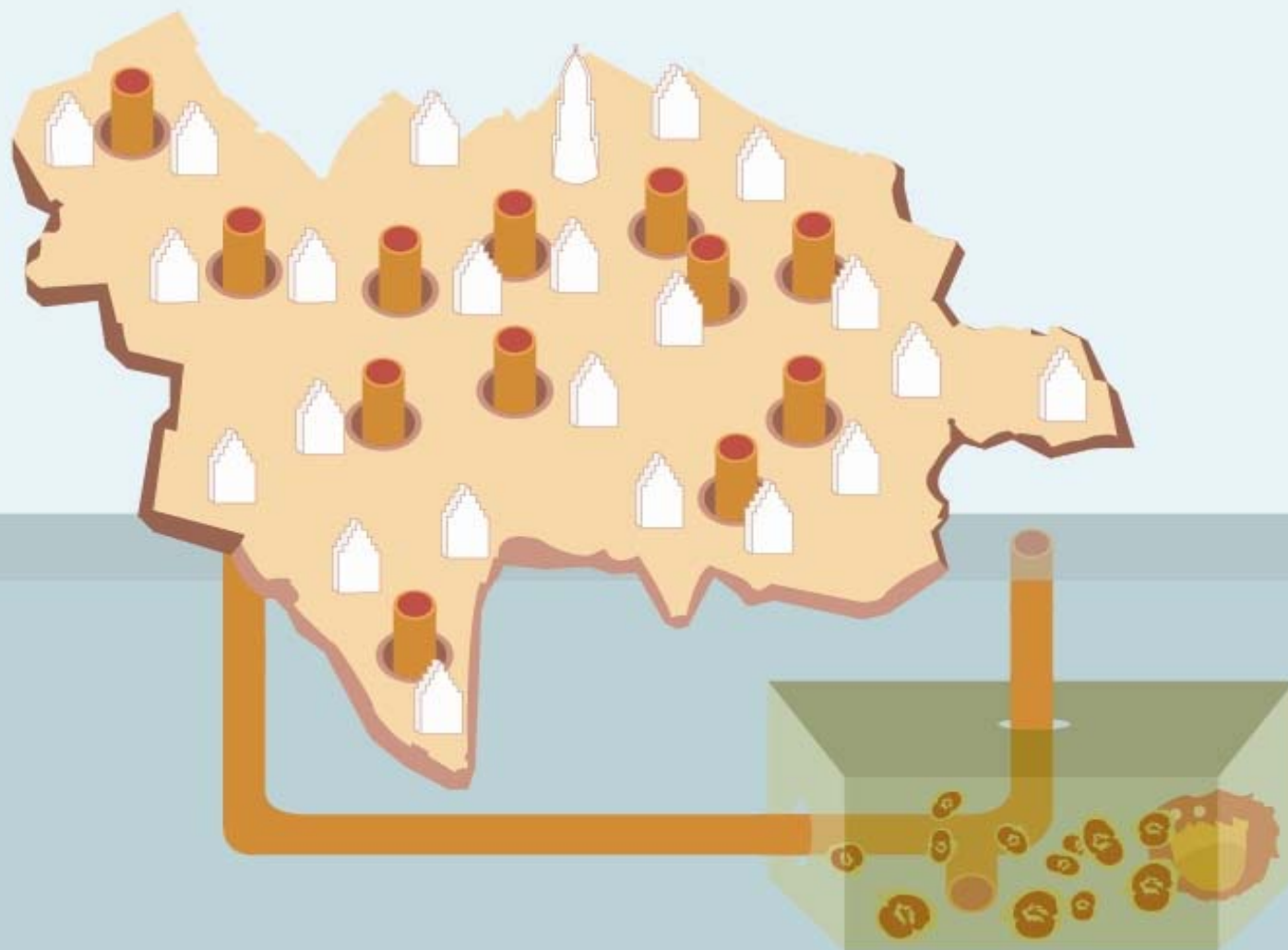




# Biowasmachine

- mixing effect Biowashing machine
- stimulation bio degradation







# Active spreading of polluted groundwater

allowed

or not?







# European rules and principles

- relevant rules and principles from the:
  - European Treaty
  - European Water Framework Directive
  - European Groundwater Directive





## Relevant principles

- the obligation to reach a “good chemical condition” of the groundwater
- the precautionary principle
- the “polluter pays” principle
- the sectoral scope of rules and regulations (specialty principle)
- stand still principle

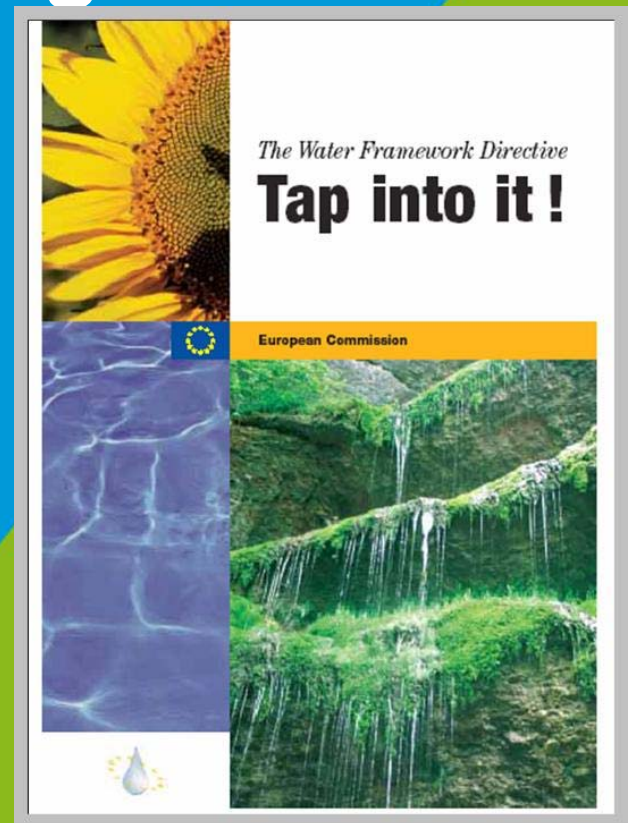






# the obligation to reach a “good chemical condition” of the ground-water

- European Water Framework Directive





# the obligation to reach a “good chemical condition” of the ground-water

- large groundwater bodies





# the precautionary principle

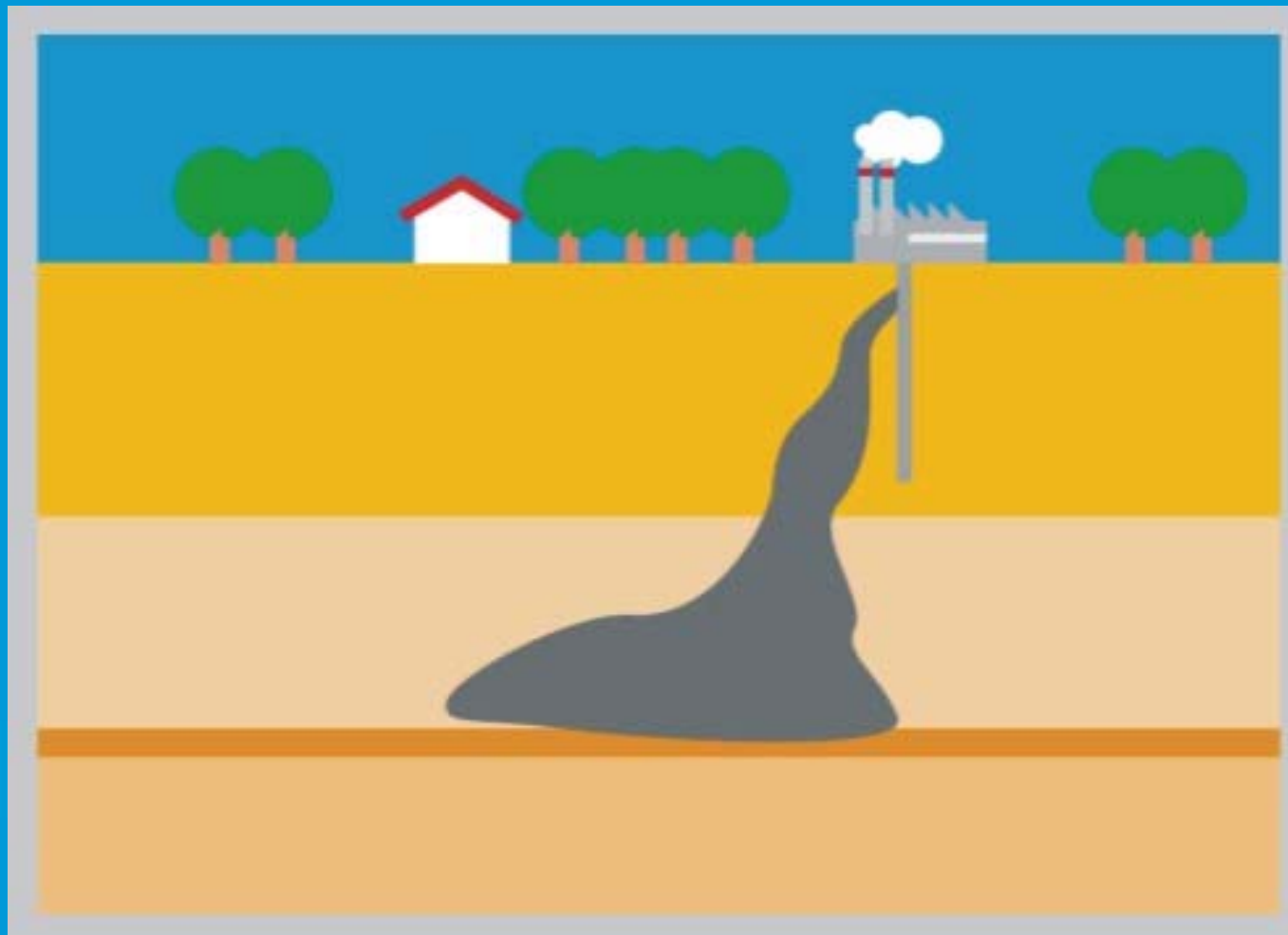


- if there is a chance of serious or irreversible damage, then the lack of full scientific certainty shall not be used as a reason for postponing measures

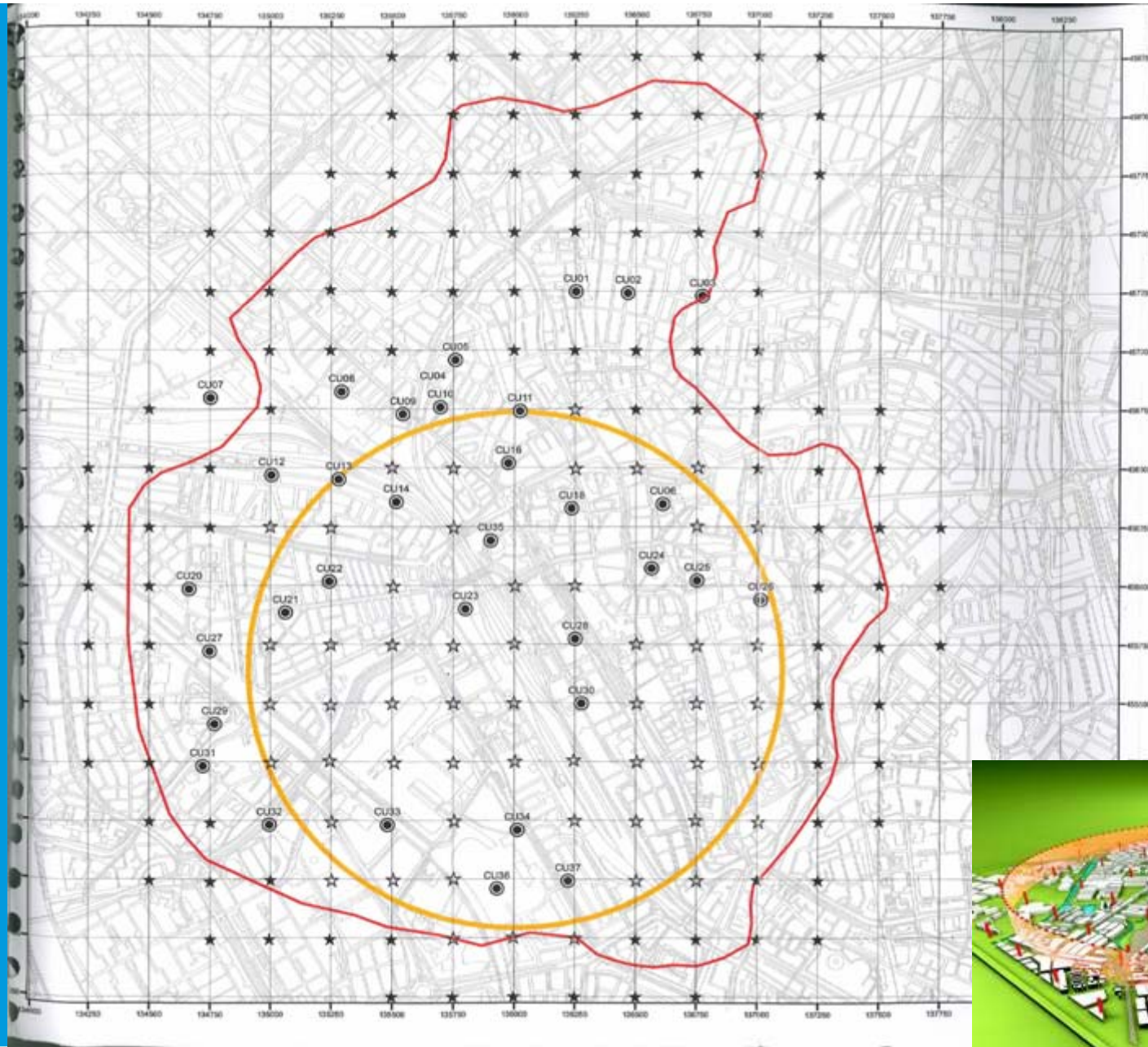




sinking layer







### Legenda

- Voorlopige systeemgrens gebiedsgerichte aanpak
- Stationsgebied (fase 1)
- Reeds geplaatste peilbuis meetnet (fase 1)
- ☆ Peilbuis te plaatsen in fase 1 : 51 stuk
- ★ Peilbuis te plaatsen in fase 2

↓ 64  
↑ 40  
112 stuk fase 2





- standard period of validity for a spatial plan is 10 years (Biowashing machine 30 years)
- the sensitivity of the use of the area to the present soil contaminants may change









# profit principle





## who profits?

- parties confronted with remediation costs
- parties with interests in the groundwater
- paying for participation





## the sectoral scope of rules and regulations

- specialty principle: only those interests which a certain law or regulation regulates
- spatial planning: social and environmental aspects





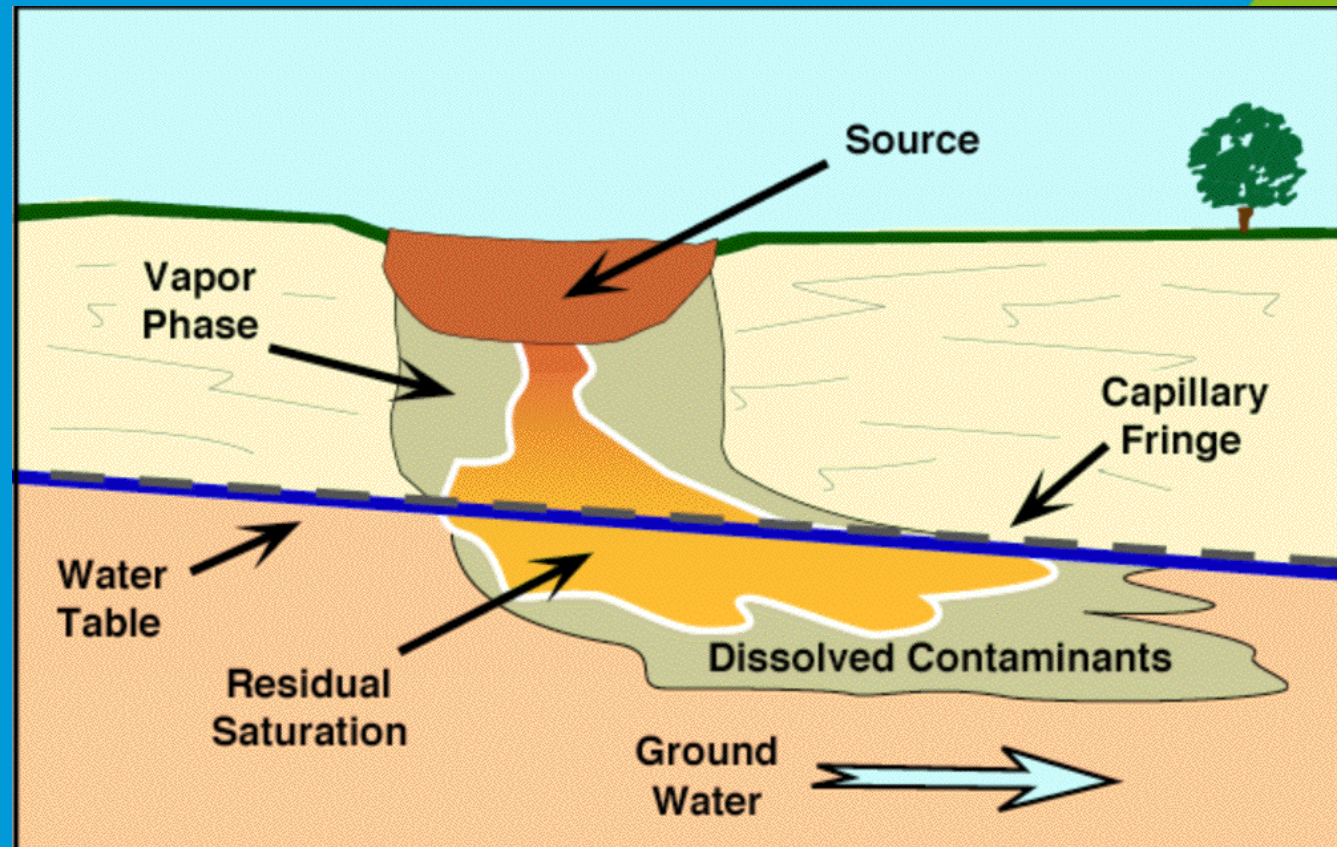
- spatial rules and regulations allow an integrated consideration
- formalized in a spatial agreement to obtain legal status

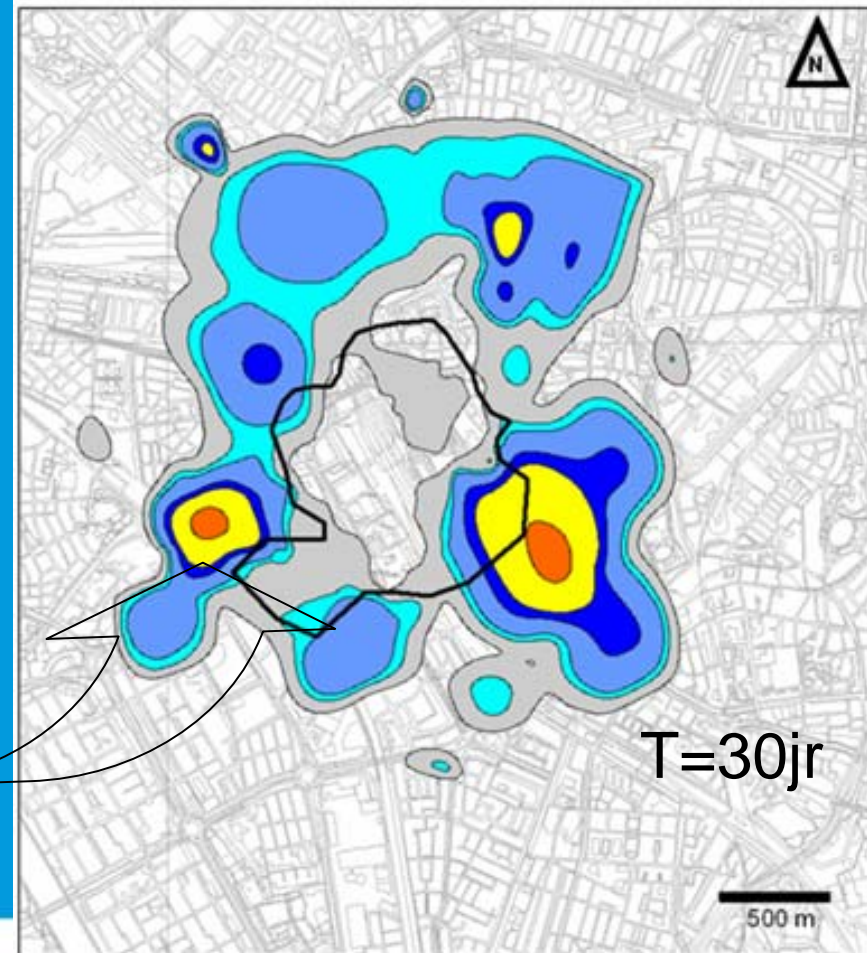
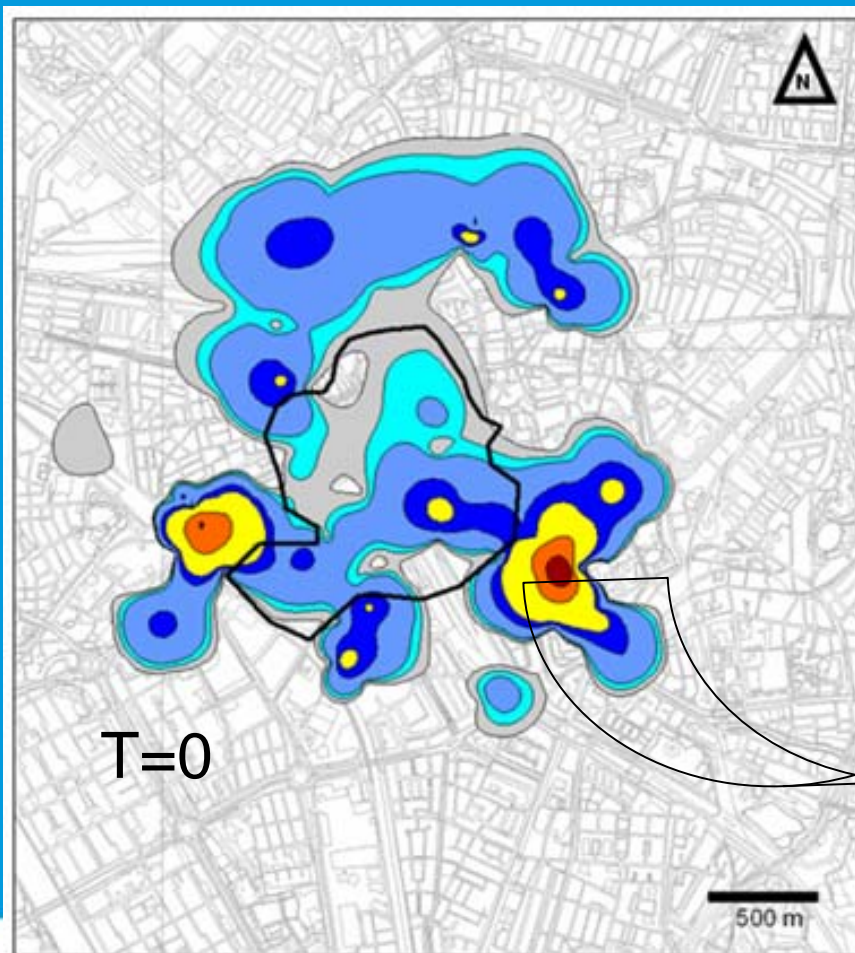




# city chlor stand still principle

- Contamination may not increase









Yes!  
An area oriented  
approach is allowed

