

# The Dutch environment sector

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**Pioneers in international business**

# The Netherlands



## Some data

- 16,8 million inhabitants (18,6% younger than 15)
- fits > 208 times in Brazil

but::

- 5th in global competitiveness index (2013)
- 4th in global innovation index (2013)
- 4th in human development index (2013)
- 17th economy (GDP)
- 7th largest trading nation
- 6th largest trade partner with Brazil
- 2nd largest exporter of agricultural products
- 1<sup>st</sup> for environmental technology in Europe
- largest investor in food research and development
- 85% of our research universities in top 200 ranking
- 3rd in scientific citation index

Why is the environment so important for us?

# Our roots

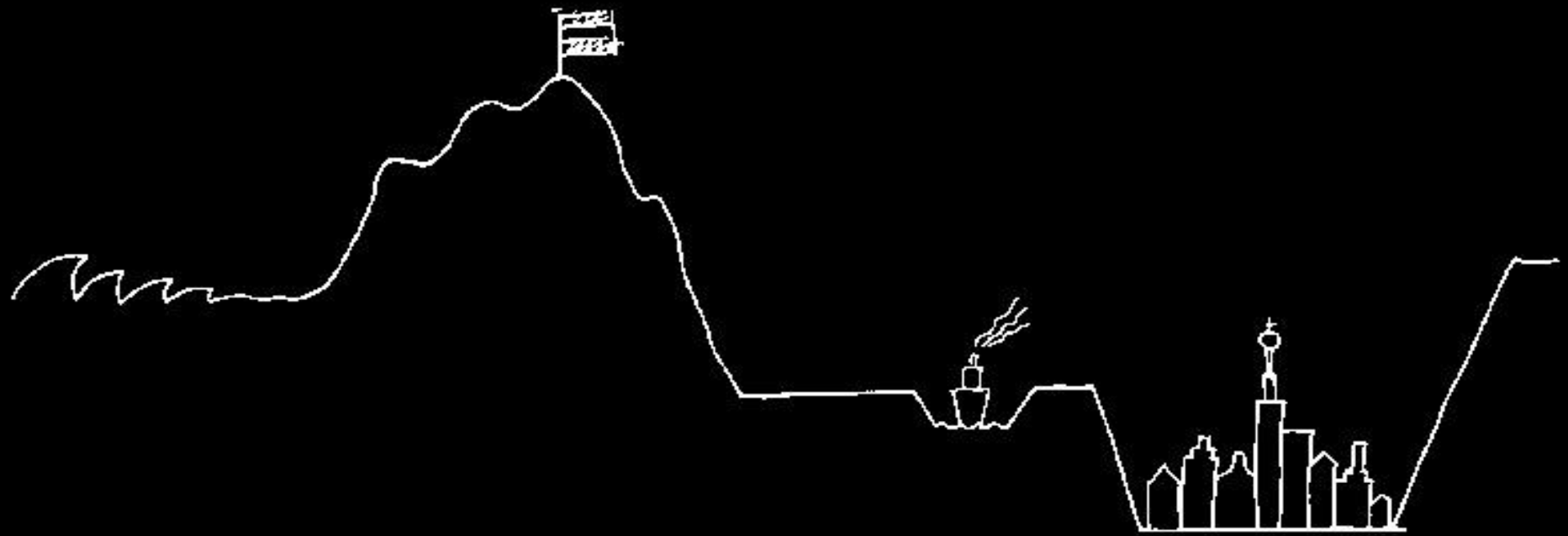
**Around 1200**



**Present**



# The system





# The reality





**Our ground water is our drinking water  
and is close to the top layer of the soil.**

**SO.....**

**If we want to be safe and healthy.....  
we have to protect this eco-system,**

## Legislation and agreements:

- Spatial Planning Act
- Soil Protection Act
- Environmental Management Act
- Dutch Guidelines on Soil Protection for industrial activities (prevention)
- Agreements with organizations of drycleaners, railways, filling stations and industries

## As a result of changing policy and legislation:

- new **targets:**

from removal of all pollution to "suitable for use"

- new **executors:**

from authorities and polluters to stakeholders

- new **approach:**

from case by case to sustainable use and development of the area

- new **technology:**

from dig and dump, pump and treat to "plug and play"

## Policy targets:

- In 2015, no more unacceptable risks for current use (human, ecological and migration)
- In 2030 the soil should be fit for use; everywhere !

# Position in Europe

	Regulation in force	Public and/or private organiza- tions	Allocated financial tools	Methodolog- ical and technical tools	Inventories	National remediation industry's share of remediation country's	
Austria	4	3	3	4	5	3	10 %
Belgium	5	5	4	4	5	5	60 %
Bulgaria	3	2	3	2	1	1	10 %
Cyprus	1	2	1	2	3	1	0 %
Czech Republic	2	4	4	3	3	3	25 %
Denmark	5	5	5	5	5	4	40 %
Estonia	2	1	2	1	3	2	25 %
Finland	5	5	4	4	5	4	70 %
France	4	5	4	5	4	5	80 %
Germany	5	5	4	5	5	5	50 %
Greece	3	2	4	2	3	1	10 %
Hungary	4	2	2	3	4	4	25 %
Ireland	2	2	2	2	2	3	75 %
Italy	5	4	4	5	4	4	80 %
Latvia	3	3	3	3	4	3	10 %
Lithuania	2	2	4	3	3	3	20 %
Luxembourg	1	1	1	2	3	2	0 %
Malta	1	1	2	1	2	1	10 %
Netherlands	5	5	5	5	5	5	55 %
Poland	3	2	4	1	2	2	10 %
Portugal	1	2	3	1	1	3	70 %
Romania	4	3	2	2	3	2	80 %
Slovakia	4	3	3	2	4	3	80 %
Slovenia	3	2	3	2	2	3	10 %
Spain	5	5	3	5	3	5	60 %
Sweden	4	4	5	5	5	4	60 %
UK	5	5	4	5	2	5	70 %

## GROUP COUNTRIES

**Group A** Belgium, Denmark, Germany, Netherlands

**Group B** Austria, Finland, France, Italy, Spain, Sweden, Hungary, United Kingdom

**Group C** Bulgaria, Czech Republic, Estonia, Greece, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia, Slovenia

**Group D** Cyprus, Luxembourg, Malta, Ireland

## Our position globally:

- Large number of expert companies, operating world wide
- Leading in knowledge and technologies for soil remediation

# The Value of our environment

- Pro-business
- 85% of Dutch waste is put to good use
- Excellence in:
  - Waste collecting and processing
  - Water purification
  - Soil remediation
  - Environmental management and consultancy



Source: Bollegraaf Recycling Machinery



# Water purification

- Distinguishing between grey and black water
- Nereda new treatment technology
- ANAMMOX reactor



Source: DHV

# Waste collection and processing

- From discharge and land filling, to incineration and recovery
- New ways to collect waste
- Recycling glass and paper
- Reducing size and number of landfills
- Waste to energy



Source: NLAgency

# Soil remediation

- 1,200 projects, up to €400 million a year
- Sense of urgency spurs development of new technologies
- PER-eating bacteria
- BioSoil: in situ and on site expertise
- HMVT: enhanced natural attenuation
- Groundwater Technology: heat enhanced extraction

# Clean technologies and consultancy

- Focus on clean technologies and clean production, e.g.
  - Better oil separation
  - New coating techniques
  - Underground heat and cold storage
- Environmental consultancy
  - ISO/EMAS standards
  - Impact studies
  - Sustainability reports
  - CSR advice

# Air purification and noise management

- Economic and urban growth mean more air/noise pollution
- Expertise in modelling, measuring, climate change and bad odours
- Expertise in noise abatement facilities and technologies
- Including companies like
  - Mesys
  - U.C. Technologies
  - Vermeulen Product Engineering
  - DGMR



# Collaboration

- TNO - environmental and geoscience research
- Imares - applied marine research
- Wetsus - biotechnology and separation technology
- NWP - NGO with 175 members in the area of water
- NSP - promoting exports of Dutch soil technology
- NWMP - Export of waste disposal technology
- VLM – environmental techn.



Source: Bakker Magnetics

## Expertise for the world

- Urgency of climate change and related problems
- Stringent regulations and issues of sustainability
- Need for expertise in
  - Recycling, incineration, organic waste
  - Cleaning and managing water
  - In situ, biological soil remediation
  - Management and consultancy

Source: Paques



## Dutch-Brazilian collaboration

- Lol on environmental cooperation, regarding waste management and remediation
- Program for International Business for Brazil on waste management
- MoU S&T&I between governments
- Several agreements in the area of Bio Based Economy (incl. bamboo)
- Technical Cooperation Term on environmental management of water

# Obrigado, thank you !

