



National Institute for Public Health  
and the Environment  
*Ministry of Health, Welfare and Sport*



# POP beoordeling binnen Verdrag van Stockholm

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## Overview presentation

- Aim: presenting the POP assessment within the Convention
- Background information about the Convention
- Process of listing
- Two conventions
- Case: Pentachlorobenzene
- Developments within the Convention
- Conclusions



# Stockholm Convention on POPs - Background

- Worldwide convention (2001)
  - 176 Parties; Not included: Italy, Malta, USA
- Objective
  - to protect human health and the environment from persistent organic pollutants
- How?
  - Preventing or limiting production and use
  - Limiting unintentional releases
- Content/process
  - Substances in three annexes (A,B,C)
  - Originally 12 substances ('dirty dozen')
  - Adding substances to the convention



# Stockholm Convention on POPs - Background

- **Annex A Elimination**
  - Production and use
  - Specific exemptions
    - › Aldrin, Chlordane, Hexachlorobenzene, Heptachlor, PCBs
- **Annex B Restriction**
  - Production and use
  - Acceptable purpose or specific exemption
    - › DDT, PFOS
- **Annex C Unintentional production**
  - › Dioxins/furans, Hexachlorobenzene, PCBs



# Stockholm Convention on POPs - Background

- Hazard characteristics
- Precaution mentioned in considerations, article 1 (objective), 8 and annex C
- Lack of full scientific certainty shall not prevent the proposal from proceeding



# Stockholm Convention on POPs - Process

## Nomination to Convention Secretariat

### Screening criteria: Annex D

- > Persistence
- > Bioaccumulation
- > Potential for Long range transport
- > Adverse effects

### Risk profile: Annex E

- > Production, uses and releases
- > Hazard assessment
- > Environmental fate and exposure
- > Monitoring data

### Socio-economic considerations: Annex F

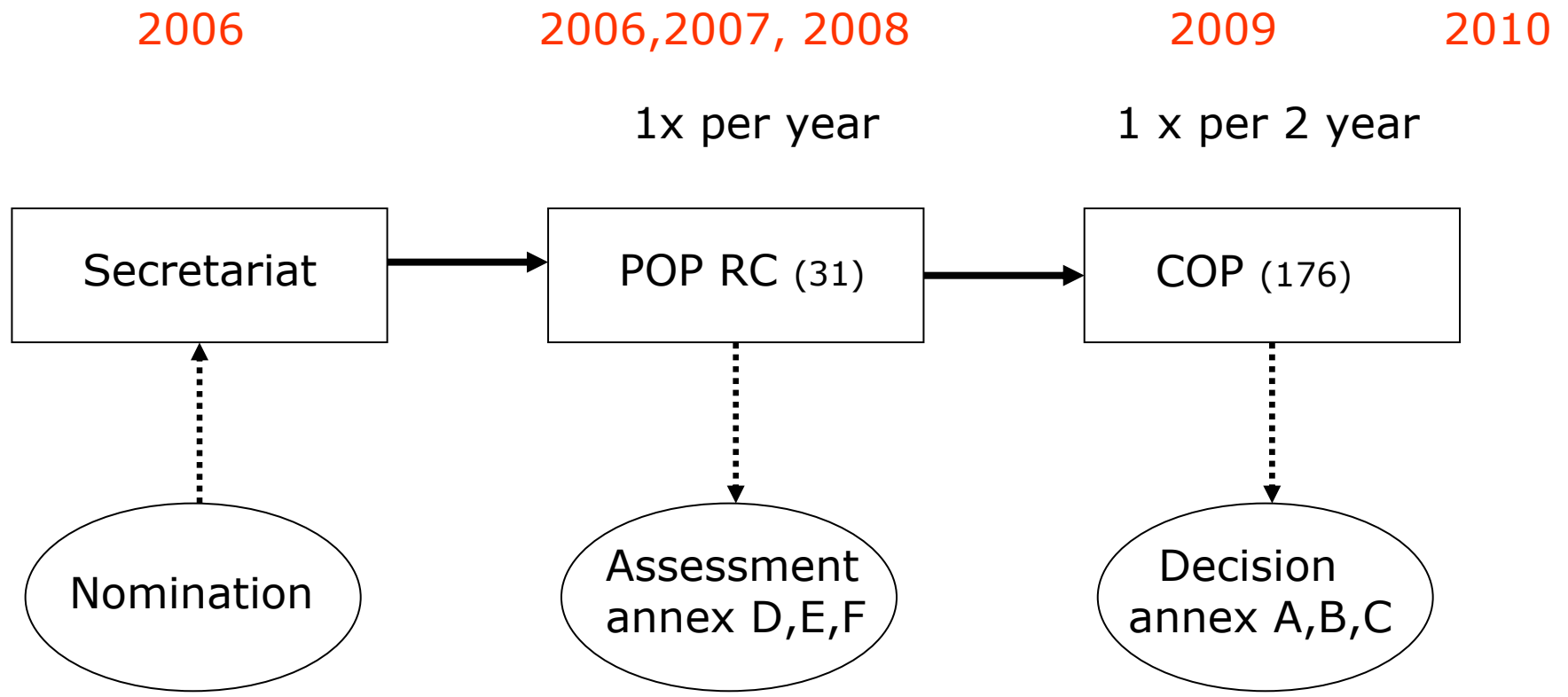
POP review cie

Decision by the COP





# Stockholm Convention on POPs - Process





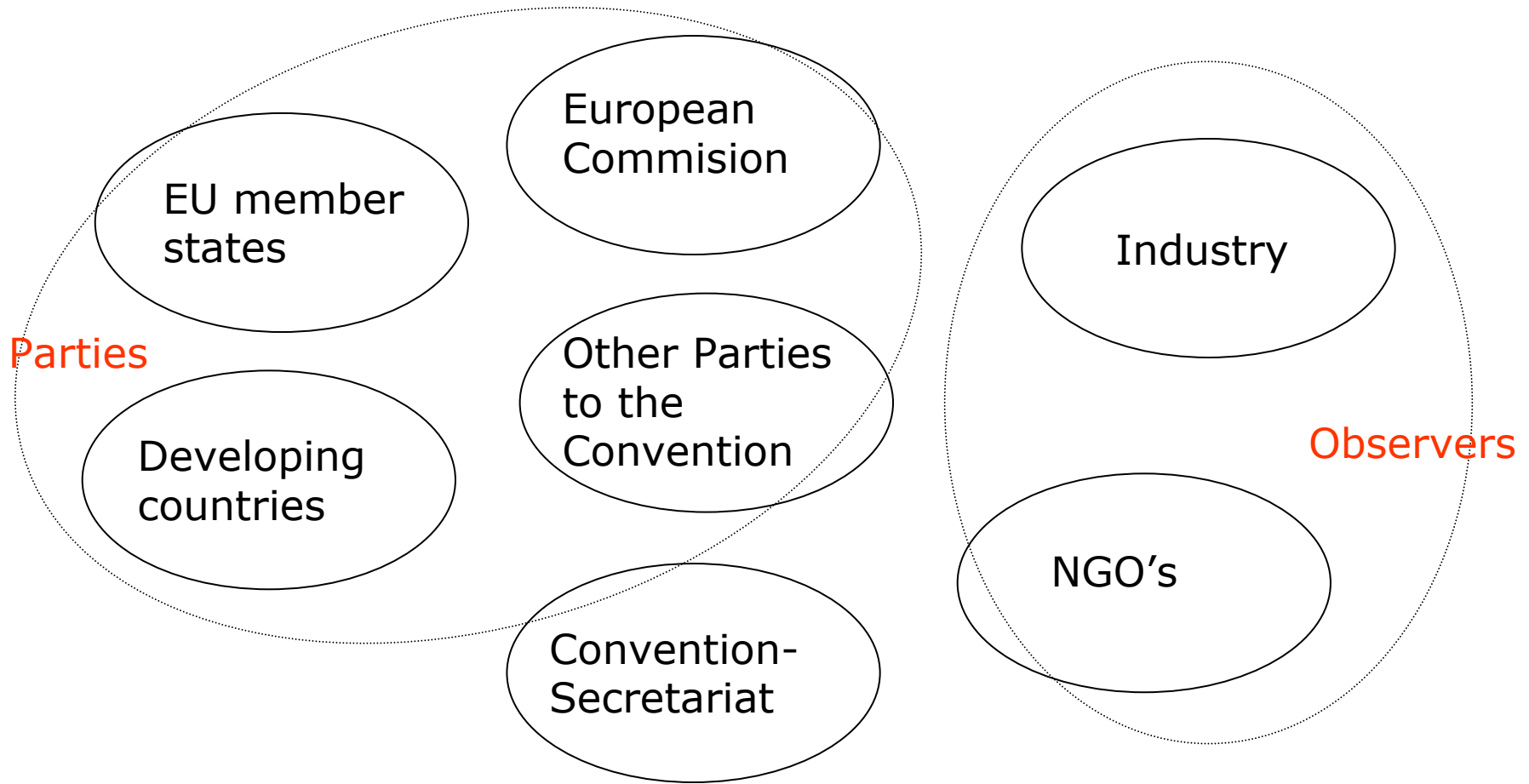
# Stockholm Convention on POPs - Process





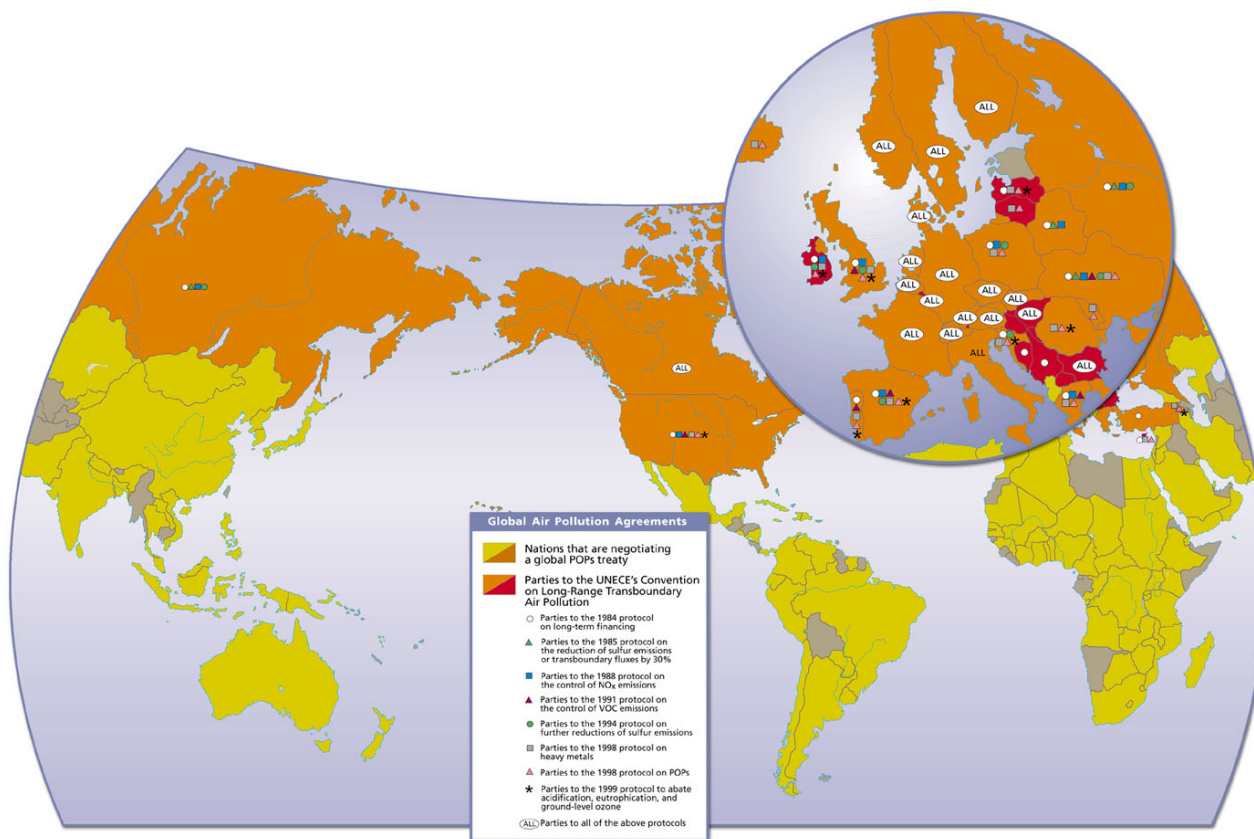


# Stockholm Convention on POPs - Process





# Two POP conventions: UNECE and UNEP





# Pentachlorobenzene – nomination (2006)

- Clear single chemical structure
- Fulfills the criteria for P, B, T and LRT
- Reasons for concern
  - > Still present as impurity in pesticides
  - > Unclear use in other parts of the world
  - > Because LRT, single countries cannot abate the pollution caused by PeCB



# Pentachlorobenzene – risk profile (2007)

- Sources and releases
- Data on P, B, T and LRT available
  - 40 BCF data from five taxonomic groups (13 refs)
  - data on degradation in soil and sediment, not in water
- Exposure data available
  - Data on levels in remote areas available
  - No trend data for remote areas
  - Human exposure data available
- Toxicity and ecotoxicity data



## Pentachlorobenzene – socio-economic cons. (2008)

- Not produced anymore in developing countries
  - (Past) uses
    - > used to reduce the viscosity of PCB products
    - > impurity in pesticides
    - > **laboratory reagent**
  - Unintentional emissions %
    - > Anthropogenic sources (e.g. barrel burning)
    - > **Natural sources (forest fires)**
  - Consequences of listing
- 
- Proposal: Listing in annexes A and C
  - Decision by COP: 2009
  - Implementation: 2010



## Pentachlorobenzene – different points of view

### ● Industry

- Sound science, increase 'scientific credibility'
- Information should be the sole base for decisions
  - Consider degradation
  - Focus on natural circumstances
  - Investigate all precursors separately
- Have decreased significantly
- Risk based approach
  - compare exposure vs risk
- A focus on certainties
  - World wide emission
  - 85.000 kg/yr

### ● NGO's

- Convention focusses on precaution, not only on science.
- Seem to decrease
- Hazard based approach
  - Substance characteristics sufficient
- A focus on uncertainties
  - Do not mention world wide emissions because of the uncertainties



## Pentachlorobenzene – different points of view

### ● Industry

- PVC is not a relevant source of PeCB
- Substance is unlikely to cause significant effect
- Substance already phased out -> listing in annex A not necessary
- Listing in annex C leads to unnecessary costs of monitoring, reporting and measures
- Listing in annex C not feasible as no emission factors available for estimating releases

### ● NGO's

- PVC is relevant source of PeCB
- Substance is likely to cause significant effect
- Substance already phased out -> listing in annex A prevents new production
- Measures to comply with listing in Annex C already taken through measures for dioxins



# Pentachlorobenzene – role as drafter



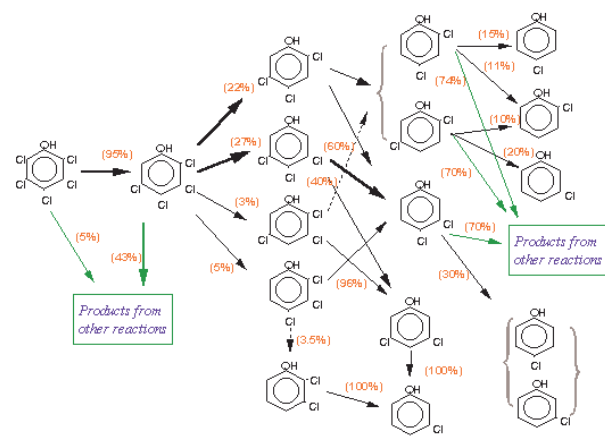




# Developments

- Waste management
  - PFOS: fire fighting foam, textile
  - BDEs: TVs, computer monitors
- Alternatives
  - Evaluation (endosulfan, DDT)
- Toxic interactions
- Degradation products/precursors
  - PCP, PCA, HCB, HCH

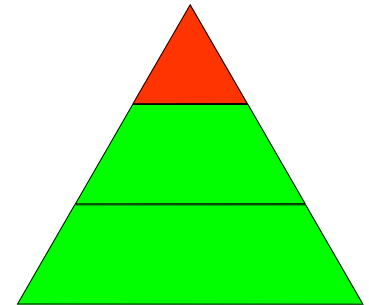
Substance	CAS no.	P	B	P+B
<b>endosulfan</b>	<b>115297</b>	<b>0.87</b>	<b>0.47</b>	<b>1.34</b>
spinosad	168316958	0,91	0,35	1,26
fenbutatin oxide	13356086	1,00	0,00	1,00
teflubenzuron	83121180	0,99	0,00	0,99





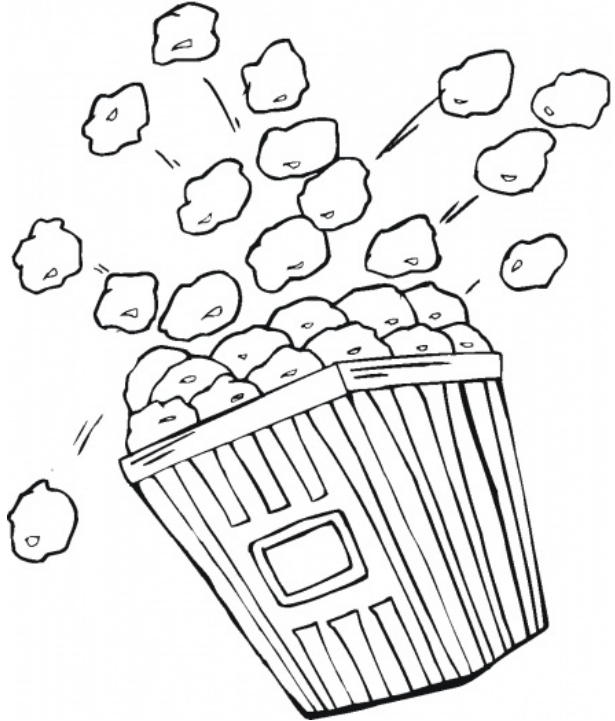
# Stockholm Convention on POPs - conclusions

- POPRC: Important scientific component, but not only
- POPRC: Economic interests mainly in socio-economic considerations
  - PFOS production in China: exemptions
  - HBCD alternatives: time
  - Endosulfan – production in India: exemptions
- In Conference of Parties economic interests more prominent
  
- Convention successfull in listing potential POPs
  - After the initial 12, 9 listed in 2009 and 1 in 2011





Een stof is pas POP als er POP op staat



Thanks for your attention !