

# Discussion

## Main processes influencing on intercontinental transport

- Intercontinental transport of POPs is significantly influenced by such processes as gas-particle partitioning and gaseous exchange with underlying surface.
- Degradation rates for gaseous phase of POPs due to reactions with atmospheric radicals should be refined taking into account their spatial and temporal variations.
- Modeling of source-receptor relationships for the Arctic region requires taking into account specific climate conditions, POP transport with sea ice and sea currents, snow scavenging and accumulation in soil and seawater, etc.

## Monitoring

- Coordination and collection of high-volume air measurement data from various international and national programs
- Analysis of availability of measurements in soil, seawater, vegetation and etc.
- Passive air samples may provide complementary information to high-volume air samples
- Simultaneously measurements of gaseous and particulate phases in the atmosphere and other environmental compartments

## Emissions

- Collaboration with UNEP Chemicals, GEIA and national programs
- Availability of global emission data of PCBs, HCB, HCHs allows one to start modeling of intercontinental transport of POPs

## Modeling

- Modeling of intercontinental transport of POPs requires a usage of multicompartment approach
- Modeling of POPs requires consideration of POP accumulation during sufficiently long time periods (depending on life time of POPs in the environment)
- Evaluation of source-receptor relationships of POPs should take into account re-emission as a separate source
- Aerosol particles play an important role in the global transport of semi volatile POPs

## Uncertainties

- Knowledge on the sources and emissions are likely to remain among the least understood features with respect to the overall behavior and fate of many of POPs

## Model validation

- Model intercomparison is an essential tool for validation of modeling of source-receptor relationships for POPs in addition to comparison with measurements
- Widening of the base of the comparison between measurements and model results is of great importance