

## Project 10 - Waste disposal installations for the incineration, chemical treatment or landfill of toxic and dangerous waste

Comments: Different areas of the environment are affected in different manners for the three of waste disposal installations. Incineration has a greater affect on air pollution; chemical treatment on water pollution; and landfill on ground water pollution.

Landfills produce large amounts of greenhouse gases due to the biological decomposition of organic matter under anaerobic conditions.

Leachates from landfills pollute groundwater and soils by trace metals and other toxic substances.

Incineration produces air pollution from the flue gases - dust, acidic gases, vaporized metals and metal salts being the major pollutants.

CATEGORY	FACTOR	COMMENTS
AIR	nitrogen and compounds	human health, flora, fauna, soil
	ammonia and compounds	flora, fauna, soil
	persistent organic pollutants (POP)	reference <a href="#">4</a>
	dioxins	possible carcinogen, priority toxic pollutant, fauna, human health, soil, aquatic life
	furans	possible carcinogen, priority toxic pollutant, fauna, human health, soil, aquatic life
	polychlorinated biphenyl (PCB)	carcinogen, hazardous material, hazardous waste constituents, priority toxic pollutants, human health, fauna, aquatic life
	carbon dioxide (CO <sub>2</sub> )	greenhouse gas, reference <a href="#">1</a>
	methane (CH <sub>4</sub> )	greenhouse gas, volatile, reference <a href="#">1</a>
	non-methane volatile organic compounds (NMVOC)	greenhouse gases, flora, human health, reference <a href="#">1</a>
	oxides of nitrogen (NO <sub>x</sub> ) / N <sub>x</sub> O	acid rain, flora, fauna, soil, human health, photoxidants, reference <a href="#">1</a>
	oxides of sulphur (SO <sub>x</sub> )	acid rain, flora, fauna, soil, human health, photoxidants, reference <a href="#">1</a>
	heavy metals:	reference <a href="#">2</a> , human health, flora, fauna, soil
	lead (Pb)	
	mercury (Hg)	
	cadmium (Cd)	
	chromium (Cr)	
	nickel (Ni)	
	zinc (Zn)	
	copper (Cu)	
	arsenic (As)	
particle emissions	human health, historical sites, flora, climate change	
odour	human health	
noise		
WATER	faecal coliforms	human health, water quality, aquatic life
	heavy metals:	reference <a href="#">2</a> , human health, flora, fauna, aquatic life, soil
	lead (Pb)	
	mercury (Hg)	
	cadmium (Cd)	
	chromium (Cr)	
	zinc (Zn)	
	copper (Cu)	
	arsenic (As)	
	nutrients C/N/P	water quality, aquatic life
	persistent organic pollutants (POP)	reference <a href="#">4</a>
	dioxins	possible carcinogen, priority toxic pollutant, fauna, human health, soil, aquatic life

CATEGORY	FACTOR	COMMENTS
	furans	possible carcinogen, priority toxic pollutant, fauna, human health, soil, aquatic life
	polychlorinated biphenyl (PCB)	carcinogen, hazardous material, hazardous waste constituents, priority toxic pollutants, human health, fauna, aquatic life
	salts	water quality, aquatic life
	oils	
	other hazardous substances	
	change in pH	
	suspended solids	
	dissolved solids	
	total solids	
	chemical oxygen demand (COD)	
	total organic carbon (TOC)	
	colour	
	odour	
CLIMATE	changes in ambient air temperature	
	particle emissions	
	changes in humidity	
	greenhouse gas emissions, ozone	CO <sub>2</sub> , methane gas, NMVOCs, NO <sub>x</sub> , SO <sub>x</sub> , CFC, HCFC
FLORA	changes in natural vegetation	project location, emissions
	disturbance of aquatic habitat	
	disturbance of plant habitat	
	disturbance of natural vegetation	
	decrease in biodiversity	
	impact of threatened species	
	changes in species population	
	changes in aquatic food web	
	changes in mammal food web	
impact on protected areas		
FAUNA	disturbance of wildlife habitat	project location, emissions
	decrease in biodiversity	
	impact on threatened species	
	changes in species population	
	impact on threatened area	
	changes in mammal food web	
SOIL	soil acidification	heavy metals, other pollutants
	soil contamination	
LANDSCAPE	land use changes	
	visual aspects	
	physical composition	
	impact on sensitive lands	
HISTORICAL MONUMENTS	changes to historical sites	acid rain, soiling, staining
HUMAN HEALTH & SAFETY	changes in ambient noise levels	
	changes in disease incidence	
	increase in cancer	
	risk of spills	
	risk of surface water contamination	
	risk of ground water contamination	
	risk of explosions	

CATEGORY	FACTOR	COMMENTS
<b>CULTURAL HERITAGE</b>	cultural changes	
	land use changes	
	way of life	
	changes to indigenously harvested food species	POPs
<b>SOCIO- ECONOMIC</b>	changes to well being of life	
	changes to quality of life	
	quality of recreational facilities	
	quantity of recreational facilities	
	present use of natural resources	
	potential use of natural resources	
	employment opportunity	
	economic development - transboundary	

References

1. Proceedings of the EMEP Workshop on Emission Inventory Techniques, Regensburg, Germany, 2-5 July, 1991, EMEP/CCC-Report 1/91
2. Economic Commission for Europe Convention of Long-range Transboundary Air Pollution, Task Force on Heavy Metal Emissions, June 1994
3. Economic Commission for Europe, Convention on the Transboundary Effects of Industrial Accidents
4. Economic Commission for Europe, State of Knowledge Report of the UN ECE Task Force on Persistent Organic Pollutants
5. Recommendations to ECE Governments on the Prevention of Water Pollution from Hazardous Substances