



QUESTIONNAIRE FOR INFRASTRUCTURE PROJECTS (SECTOR RELATED QUESTIONS)

The completion of this questionnaire is voluntary. However, replying to the relevant questions as completely as possible will facilitate and speed up the assessment of the environmental, social and human rights impacts of the project for which the German export supplies or services offered for cover are intended. This – together with the questionnaire not related to a particular sector, the completion and submission of which should also be considered in order to speed up the assessment procedure – can replace the description of the environmental, social and human rights impacts in the memorandum.

The questionnaire provides guidance on what information may be important for this sector. It is based on the World Bank/IFC General Environmental Health and Safety (EHS) Guidelines and the EHS Guidelines for Water and Sanitation, the EHS Guidelines for Waste Management Facilities, the EHS Guidelines for Toll Roads, the EHS Guidelines for Railways, the EHS Guidelines for Airports, the EHS Guidelines for Airlines, the EHS Guidelines for Ports, Harbors and Terminals, the EHS Guidelines for Telecommunications, the EHS Guidelines for Health Care Facilities as well as the EHS Guidelines for Tourism and Hospitality Development. Additional information on the applicable standards can be found at the [AGA Portal](#).

This is a list of possible questions. Depending on the individual case only some of them, or perhaps also additional information, may become relevant in the course of the application procedure. Because of the specific features of each project further clarification may be required.

CONTENT

- A. Water supply (page 2)**
- B. Wastewater treatment and discharge (page 3)**
- C. Waste treatment and disposal (page 4)**
- D. Road and railway construction (page 9)**
- E. Airports (page 11)**
- F. Ports and harbours (page 13)**
- G. Telecommunications (page 15)**
- H. Health care facilities and tourism developments (page 17)**
- I. Additional information (page 22)**

A. Water supply

A.1. Process

- What is the purpose of the water supply system (drinking water, process water, industry, agriculture, etc.)?
- Please state the origin (groundwater, surface water, desalination, etc.) and the amount of the water abstraction.
- Please give a technical description of the individual process steps (extraction, treatment, distribution, etc.). Please describe in particular the treatment processes as detailed as possible (use of chemicals, etc.).
- Will the water quality meet national drinking water standards throughout the whole system or in the absence of such standards the drinking water standards of the World Health Organisation (http://www.who.int/water_sanitation_health/publications/2011/dwq_guidelines/en/index.html)?
- If the water supply system involves the construction of canals, please provide details on the construction, length and width of such canals, erosion mitigation measures, etc.
- Please provide also information on any ancillary plants that may be necessary (electricity generation, quarries, additional infrastructure measures, etc.).
- What effects will the project have on quantity and quality (sedimentation, salinization, introduction of contaminants, etc.) of the groundwater and/or the surface water bodies?
- Please describe possible effects of sensitive areas (aquatic ecosystems) and on aquatic flora and fauna, which may result from the water abstraction, as well as any mitigation measures planned.
- Please describe what recultivation measures are planned for areas affected by the construction work.
- How is the proper functioning of the water supply guaranteed (pressure losses, leakages, etc.)?

A.2. Wastewater

- What wastewater streams are generated by the project?
- How are effluents treated before they are discharged? Please also state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea). If there are discharges, please provide information on the quantities of the wastewater streams (e.g. m³/h or l/s).
- Please state the pH as well as the temperature of the treated effluents and/or the temperature increase at the point of discharge.

A.3. Hazardous materials and waste

- Please describe the handling and storage of the chemicals used.
- What relevant waste products (sludge, concentrates, chemicals, etc.) are generated by the project?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?
- What relevant air emissions (chlorine gas, aerosols, etc.) are caused by the project and what measures are planned to avoid them?

A.4. Occupational health and safety

- What safety measures and/or control systems are planned to prevent accidents (e.g. chlorine gas)?
- How are safety and health (in particular with regard to chemical hazards, hazardous atmospheres, pathogens, noise, etc.) guaranteed at the workplace?

A.5. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. contamination, pathogens, water quality and supply, storage and transport of chemicals, odours, etc.) for adjacent communities?
- What measures are taken to guarantee that affected persons' rights of way are not adversely affected (during construction and operation)?
- Please describe possible conflicts over the water use with other users (agriculture, local drinking-water wells, ecosystems, neighbouring states, etc.).

B. Wastewater treatment and discharge

B.1. Process

- Please give details regarding the origin of the wastewater streams to be treated/discharged (private households, industrial wastewater, other facilities, stormwater, etc.).
- Please describe type, mode of operation, capacity, etc. of the wastewater treatment and discharge plants. In the case of municipal plants please also state the number of persons connected (pe = population equivalent).
- Please give a technical description of the individual process steps.
- Please provide also information on any ancillary plants that may be necessary (electricity generation, additional infrastructure measures, etc.).
- How is the proper functioning of the water treatment and discharge guaranteed (pressure losses, leakages, etc.)?

B.2. Air emissions

- Please provide information on the origin and treatment of air emissions and odours (chlorine gas, aerosols, etc.).

B.3. Effluents

- Please state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea). If there are discharges, please provide information on the quantities of the wastewater streams (e.g. m³/h or l/s).
- Please state the pH as well as the temperature of the treated effluents and/or the temperature increase at the point of discharge.
- Please describe the monitoring of the effluent parameters.
- What effects will the project have on the quantity and quality (sedimentation, salinization, introduction of contaminants, etc.) of groundwater and/or surface water bodies?
- Please describe possible effects on sensitive areas (aquatic ecosystems) and on aquatic flora and fauna, which may result from the project, as well as any mitigation measures planned.

B.4. Hazardous materials and waste

- What chemicals (e.g. for precipitation/flocculation) are used and how are they handled and stored?
- What relevant waste products are generated by the project?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?

B.5. Occupational health and safety

- What safety measures and/or control systems are planned to prevent accidents (e.g. chlorine gas)?
- How are safety and health (in particular with regard to chemical hazards, hazardous atmospheres, pathogens, noise, etc.) guaranteed at the workplace?

B.6. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. contamination, pathogens, water quality and supply, storage and transport of chemicals, odours, etc.) for adjacent communities?
- What measures are taken to guarantee that affected persons' rights of way are not adversely affected (during construction and operation)?

C. Waste treatment and disposal

C.1. Process

- Please give a technical description of the individual process steps (collection, separation, receiving control, storage, treatment, disposal, etc.).
- What types and quantities of waste are treated in the plants and/or disposed of.
- Where do the different types of waste originate and how are they collected and transported?
- On basis of what criteria was the project's site chosen?
- Please provide also information on any ancillary plants that may be necessary (electricity generation, additional infrastructure measures, etc.).
- What recultivation measures are planned in the case of landfills after their closure?
- Please describe what measures are implemented to avoid a possible contamination of soil and ground-water (waste storage, waste handling, fleet of vehicles, etc.).
- Please describe to what extent the groundwater in the surroundings is monitored.

C.2. Noise

- Please state the noise impact (existing background noise level and additional noise emissions of the project) on the nearest receptors (industrial estates and residential areas) in dB(A) for day and night after completion of the project in accordance with the table below.

Noise Level Guidelines ¹				
Receptor	One Hour LA _{eq} (dBA)			
	Guideline Value Daytime (07:00-22:00)	Project Value Daytime (07:00-22:00)	Guideline Value Nighttime (22:00-07:00)	Project Value Nighttime (22:00-07:00)
Residential; institutional; educational ²	55		45	
Industrial; commercial	70		70	
Notes:				
¹ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, WHO, 1999.				
² For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).				
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 53				

- Do the project's noise emissions lead to an increase of the background noise level at the nearest receptors by more than 3 dB(A)?
- Are measures to mitigate noise and vibrations necessary or planned? If so, what measures?
- How far is the nearest residential area away?

C.3. Air emissions

- Please provide information on the origin, treatment and monitoring of air emissions and odours.
- Please state the expected maximum values for air emissions (in particular bio-aerosols, ammonia, amines, sulphides, dust, VOC, CO, NO_x, SO₂, greenhouse gases, etc.) in mg/Nm³ as well as any mitigation and reduction measures planned.
- Please complete the applicable table for air emissions of waste incineration plants. Occasionally, not all pollutants listed in the table are emitted or others specific to the project have to be added. Please inform us if that is the case.

Air Emission Standards for Municipal Solid Waste Incinerators in the EU and US			
Parameter	EU	USA ^a	Project Value
Total Suspended Particulates	10 mg/m ³ (24-hr average)	20 mg/dscm	
Sulfur Dioxide (SO₂)	50 mg/m ³ (24-hr average)	30 ppmv (or 80% reduction) ^b	
Oxides of Nitrogen (NO_x)	200 - 400 mg/m ³ (24-hr average)	150 ppmv (24-hr average)	
Opacity	n/a	10%	
Hydrochloric Acid (HCl)	10 mg/m ³	25 ppmv (or 95% reduction) ^b	
Dioxins and Furans	0.1 ng TEQ/m ³ [6 – 8 hr average]	13 ng/dscm (total mass)	
Cadmium	0.05 – 0.1 mg/m ³ [0.5 – 8 hr average]	0.010 mg/dscm	
Carbon Monoxide (CO)	50 - 150 mg/m ³	50 – 150 ppmv	
Lead (Pb)	(see Total Metals below)	0.140 mg/dscm	
Mercury (Hg)	0.05 – 0.1 mg/m ³ [0.5 – 8 hr average]	0.050 mg/dscm (or 85% reduction) ^b	
Total Metals	0.5 – 1 mg/m ³ [0.5 – 8 hr average]	n/a	
Hydrogen fluoride (HF)	1 mg/m ³	n/a	
Notes: a All values corrected to 7% oxygen b Whichever is less stringent TEQ = toxicity equivalent; mg/m ³ = milligrams per cubic meter; mg/dscm = milligrams per dry standard cubic meter; ppmv = parts per million by volume			
Source: WORLD BANK/IFC EHS Guidelines for Waste Management Facilities 2007, page 29			

Air Emission Standards for Hazardous Waste Incinerators in the EU and US			
Parameter	EU	US ^a	Project Value
Particulate Matter	See Table above	1.5 mg/dscm	
Carbon Monoxide (CO) of Hydrocarbons (HC)	See Table above	100 (CO) ppmv 10 (HC) ppmv	
Total Chlorine (HCl, Cl ₂)	See Table above	21 ppmv	
Mercury (Hg)	See Table above	8.1 µg/dscm	
Semi-Volatile Metals (Pb, Cd)	See Table above	10 µg/dscm	
Low Volatile Metals (As, Be, Cr)	See Table above	23 µg/dscm	
Dioxins and Furans	See Table above	0.11 dry APCD or WHB 0.20 other sources (ng TEQ/dscm)	
Destruction and Removal Efficiency	See Table above	99.99% - 99.9999%	
Notes: a All values corrected to 7% oxygen TEQ = toxicity equivalent; APCD = air pollution control device; WHB = waste heat boiler; mg/m ³ = milligrams per cubic meter; mg/dscm = milligrams per dry standard cubic meter; ppmv = parts per million by volume Source: WORLD BANK/IFC EHS Guidelines for Waste Management Facilities 2007, page 30			

Air Emission Standards for Industrial Non-Hazardous Waste Incinerators in the EU and US			
Parameter	EU	US ^a	Project Value
Opacity	See first table	10%	
Particulate Matter	See first table	70 mg/dscm	
Carbon Monoxide (CO)	See first table	157 ppmv	
Oxides of Nitrogen (NO _x)	See first table	388 ppmv	
Sulfur Dioxide (SO ₂)	See first table	20 ppmv	
Hydrogen Chloride (HCl)	See first table	62 ppmv	
Cadmium (Cd)	See first table	4 µg/dscm	
Lead (Pb)	See first table	40 µg/dscm	
Mercury (Hg)	See first table	470 µg/dscm	
Dioxins and Furans	See first table	0.41 ng TEQ/dscm	
Notes: a All values corrected to 7% oxygen. Based on 3-run average (1-hr minimum sample time per run), except for opacity, which is based on 6-minute averages. TEQ = toxicity equivalent; mg/m ³ = milligrams per cubic meter; mg/dscm = milligrams per dry standard cubic meter; ppmv = parts per million by volume Source: WORLD BANK/IFC EHS Guidelines for Waste Management Facilities 2007, page 30			

- Please describe the handling of landfill gases (methane, CO₂, etc.).
- What limit values for ambient air quality are applicable in the buyer's country (please make a table available)? Please state the relevant expected air emission levels. Please comment on any changes in the ambient air quality before and after the project implementation. If there are no national limit values, please use the table below.

WHO Ambient Air Quality Guidelines^{1,2}

	Averaging Period	IFC Guideline Value [µg/m³]	Guideline Value Host country	Project Value (baseline status) [µg/m³]	Project Value (after implementation) [µg/m³]
Sulfur dioxide (SO₂)	24-hour	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)			
	10 minute	500 (guideline)			
Nitrogen dioxide (NO₂)	1-year	40 (guideline)			
	1-hour	200 (guideline)			
Particulate Matter (PM₁₀)	1-year	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)			
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)			
Particulate Matter (PM_{2.5})	1-year	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)			
	24-hour	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)			
Ozone	8-hour daily maximum	160 (Interim target-1) 100 (guideline)			

Notes:

¹ World Health Organization (WHO). Air Quality Guidelines Global Update, 2005. PM 24-hour value is the 99th percentile.

² Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines.

Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 4

C.4. Effluents

- What wastewater streams are generated by the project (in particular leachate)? Please describe to what extent leachate and any other wastewater streams are monitored.
- How are effluents treated before they are discharged? Please also state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea). If there are discharges, please provide information on the quantities of the wastewater streams (e.g. m³/h or l/s).
- If wastewater is discharged directly into a surface water body, please state the maximum values of the pollution levels in mg/l in accordance with the table below. Occasionally, not all pollutants listed in the table are emitted or others specific to the project have to be added. Please inform us if that is the case.

Effluent Standards for Landfills						
Pollutants	Units	Hazardous Waste Landfills		MSW Landfills		Project Value
		Daily Max	Monthly Avg.	Daily Max	Monthly Avg.	
BOD ₅		220	56	140	37	
pH		6-9	6-9	6-9	6-9	
Total suspended solids	mg/l	88	27	88	27	
Ammonia (as N)	mg/l	10	4.9	10	4.9	
Arsenic	mg/l	1.1	0.54	--	--	
Chromium	mg/l	1.1	0.46	--	--	
Zinc	mg/l	0.535	0.296	0.20	0.11	
a-Terpineol	mg/l	0.042	0.019	0.033	0.016	
Analine	mg/l	0.024	0.015	--	--	
Benzoic Acid	mg/l	0.119	0.073	0.12	0.071	
Naphthalene	mg/l	0.059	0.022	--	--	
p-Cresol	mg/l	0.024	0.015	0.025	0.014	
Phenol	mg/l	0.048	0.029	0.026	0.015	
Pyridine	mg/l	0.072	0.025	--	--	
Source: WORLD BANK/IFC EHS Guidelines for Waste Management Facilities 2007, page 31						

- What national standards are applicable in the buyer's country for the discharge of **sanitary sewage**? How is sewage treated before it is discharged? Please state the expected maximum values of the pollution levels in the sewage. If there are no national limit values, please use the table below.

Indicative Values for Treated Sanitary Sewage Discharges ¹			
Pollutants	Units	Guideline Value	Project Value
pH	pH	6-9	
BOD	mg/L	30	
COD	mg/L	125	
Total nitrogen	mg/L	10	
Total phosphorus	mg/L	2	

Oil and grease	mg/L	10	
TSS	mg/L	50	
Total coliform bacteria	MPN ² /100 ml	400 ¹	
Notes: ¹ Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. ² MPN = Most Probable Number			
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 30			

C.5. Waste residuals

- What relevant waste residuals (ash, slag, etc.) are generated by the project?
- What measures are taken to avoid, treat and dispose of the waste residuals (solid/liquid) generated and where/how are they deposited/reused?

C.6. Occupational health and safety

- How is the risk of fires caused by spontaneous combustion minimized?
- What safety measures and/or control systems are planned to prevent accidents?
- How are safety and health (in particular with regard to physical and chemical hazards, dust, noise, pathogens, etc.) guaranteed at the workplace?

C.7. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. unauthorised access, physical, chemical and biological hazards, litter, noise, odours, dust, etc.) for adjacent communities?

D. Construction of roads and railways

D.1. Process

- Please give a technical description of the individual construction and process steps and a detailed description of the roads and/or railway lines (use, length, course, number of lanes/tracks, etc.).
- Please also provide information on any ancillary plants that are necessary (electricity generation, quarries, production of asphalt/concrete, further infrastructure works, etc.).
- What recultivation measures are planned for areas affected by the construction works?
- Please describe possible impacts on sensitive areas (protected areas, etc.) that may be caused by the project and any mitigation measures planned.
- Please describe the maintenance measures planned (clearing of vegetation, use of herbicides, vehicle maintenance, etc.).
- Please describe the measures planned to reduce and mitigate air emissions.

D.2. Effluents

- What wastewater streams are generated by the project (including the maintenance of vehicles)?
- Please describe the stormwater management and the treatment of polluted wastewater (in particular with regard to the risk of flooding and oil, grease and lubricants).
- What national standards are applicable in the buyer's country for the discharge of **sanitary** sewage? How is sewage treated before it is discharged? Please state the expected maximum values of the pollution levels in the sewage. If there are no national limit values, please use the table below.

Indicative Values for Treated Sanitary Sewage Discharges ¹			
Pollutants	Units	Guideline Value	Project Value
pH	pH	6-9	
BOD	mg/L	30	
COD	mg/L	125	
Total nitrogen	mg/L	10	
Total phosphorus	mg/L	2	
Oil and grease	mg/L	10	
TSS	mg/L	50	
Total coliform bacteria	MPN ² /100 ml	400 ¹	
Notes: ¹ Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. ² MPN = Most Probable Number			
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 30			

D.3. Noise and vibrations

- Please state the noise impact (existing background noise level and additional noise emissions of the project) on the nearest receptors (industrial estates and residential areas) in dB(A) for day and night after completion of the project in accordance with the table below.

Noise Level Guidelines ¹				
Receptor	One Hour LA _{eq} (dBA)			
	Guideline Value Daytime (07:00-22:00)	Project Value Daytime (07:00-22:00)	Guideline Value Nighttime (22:00-07:00)	Project Value Nighttime (22:00-07:00)
Residential; institutional; educational ²	55		45	
Industrial; commercial	70		70	
Notes: ¹ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, WHO, 1999. ² For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).				
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 53				

- Do the project's noise emissions lead to an increase of the background noise level at the nearest receptors by more than 3 dB(A)?
- Please describe the measures planned to mitigate the impact of noise and vibrations.
- Are there any residential areas in close proximity (< 1 km)?

D.4. Waste

- What relevant waste products are generated by the project (including the waste generated by passengers, restaurants and shops during operation)?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?
- What safety measures and control systems are planned to prevent (road) accidents?

D.5. Occupational health and safety

- How are safety and health (in particular with regard to physical, electrical and chemical hazards, diesel exhaust gas, fatigue, electrical and magnetic fields, traffic safety, noise and vibrations, risk of falling, etc.) guaranteed at the workplace?
- Please make accident statistics for the past two years available to us.
- How are subcontractors integrated into the health and safety measures?
- Please describe the handling and storage of hazardous materials (fuels, fuelling systems, etc.).
- Please describe any workers' accommodation that may exist (size, occupancy, sanitary facilities, health care, etc.).

D.6. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. safety of other road users, in particular pedestrians, at level crossings, etc., transport of hazardous materials, management of emergencies, noise, etc.) for adjacent communities?
- What measures are/have been taken to guarantee that affected persons' rights of way (during construction and operation) are not/have not been adversely affected?
- What safety measures and/or control systems are planned to prevent collisions?
- How is the risk of forest fires reduced?

E. Airports

E.1. Process

- Please give a technical description of the individual construction and process steps and a detailed description of the airport (use, length of the runways, etc.).
- What recultivation measures are planned for areas affected by the construction works?
- Please also provide information on any ancillary plants that are necessary (electricity generation, further infrastructure works, etc.).
- Please describe measures planned to save energy and water.

E.2. Air emissions

- Please state the expected maximum values for air emissions (in particular dust, VOC, NO_x, SO₂, etc.) as well as measures planned to reduce and mitigate them.

E.3. Effluents

- What wastewater streams are generated by the project?
- How are effluents treated before they are discharged? Please also state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea). If there are discharges, please provide information on the quantities of the wastewater streams (e.g. m³/h or l/s).
- Please state the relevant effluent parameters as well as the pH and the temperature of the effluents and/or the temperature increase at the point of discharge.
- How are stormwater and de-icing fluids as well as effluents from cleaning and maintenance collected and treated?
- What national standards are applicable in the buyer's country for the discharge of sanitary sewage? How is sewage treated before it is discharged? Please state the expected maximum values of the pollution levels in the sewage. If there are no national limit values, please use the table below.

Indicative Values for Treated Sanitary Sewage Discharges ¹			
Pollutants	Units	Guideline Value	Project Value
pH	pH	6-9	
BOD	mg/L	30	
COD	mg/L	125	
Total nitrogen	mg/L	10	
Total phosphorus	mg/L	2	
Oil and grease	mg/L	10	
TSS	mg/L	50	
Total coliform bacteria	MPN ² /100 ml	400 ¹	
Notes: ¹ Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. ² MPN = Most Probable Number			
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 30			

E.4. Noise and vibrations

- Please state the noise impact (existing background noise level and additional noise emissions of the project) on the nearest receptors (industrial estates and residential areas) in dB(A) for day and night after completion of the project in accordance with the table below.

Noise Level Guidelines ¹				
Receptor	One Hour LA _{eq} (dBA)			
	Guideline Value Daytime (07:00-22:00)	Project Value Daytime (07:00-22:00)	Guideline Value Nighttime (22:00-07:00)	Project Value Nighttime (22:00-07:00)
Residential; institutional; educational ²	55		45	
Industrial; commercial	70		70	
Notes: ¹ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, WHO, 1999. ² For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).				
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 53				

- Do the project's noise emissions lead to an increase of the background noise level at the nearest receptors by more than 3 dB(A)?
- Please describe the measures planned to mitigate the impact of noise and vibrations.
- How far is the nearest residential area away?

E.5. Hazardous materials and waste

- Please describe the handling and storage of the hazardous materials (fuels, fuelling systems, de-icing fluids, etc.).
- What relevant waste products are generated by the project?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?

E.6. Occupational health and safety

- What safety measures and/or control systems are planned to prevent accidents?
- How are safety and health (in particular with regard to physical hazards, chemicals, noise, fatigue, contagious diseases, etc.) guaranteed at the workplace?
- Please make accident statistics for the past two years available to us.
- How are subcontractors integrated into the health and safety measures?
- Please describe any workers' accommodation that may exist (size, occupancy, sanitary facilities, health care, etc.).

E.7. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. wildlife strikes, aviation safety, noise, airport security, etc.) for adjacent communities?
- What measures are/have been taken to guarantee that affected persons' rights of way (during construction and operation) are not/have not been adversely affected?

F. Ports and harbours

F.1. Process

- Please give a technical description of the individual construction and process steps and a detailed description of the port/harbour (use, size of ships for which the port/harbour is accessible, etc.).
- Please provide in particular information on necessary dredging work (scope, minimization of impacts, storage and disposal of dredge spoil, etc.).
- What recultivation measures are planned for areas affected by the construction works?
- Please also provide information on any ancillary plants that are necessary (electricity generation, quarries, further infrastructure works, etc.).
- How is the implementation of the International Convention for the Prevention of Maritime Pollution from Ships (MARPOL) guaranteed?
- Please describe possible impacts on sensitive areas (aquatic ecosystems, coastal areas, etc.) as well as on aquatic flora and fauna which may be caused by the project and planned mitigation measures.
- Please describe possible impacts on fishing in the vicinity of the port/harbour and planned mitigation measures.

F.2. Air emissions

- Please state the measures to reduce and mitigate air emission planned for the project (including ships).

F.3. Effluents and ballast water

- What wastewater streams are generated by the project (including ships)? How is ship wastewater collected, treated and disposed of?
- How are effluents treated before they are discharged? Please also state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea). If there are discharges, please provide information on the quantities of the wastewater streams (e.g. m³/h or l/s).
- Please state the relevant effluent parameters as well as the pH and the temperature of the effluents and/or the temperature increase at the point of discharge.
- What national standards are applicable in the buyer's country for the discharge of sanitary sewage? How is sewage treated before it is discharged? Please state the expected maximum values of the pollution levels in the sewage. If there are no national limit values, please use the table below.

Indicative Values for Treated Sanitary Sewage Discharges ¹			
Pollutants	Units	Guideline Value	Project Value
pH	pH	6-9	
BOD	mg/L	30	
COD	mg/L	125	
Total nitrogen	mg/L	10	
Total phosphorus	mg/L	2	
Oil and grease	mg/L	10	
TSS	mg/L	50	
Total coliform bacteria	MPN ² /100 ml	400 ¹	
Notes: ¹ Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. ² MPN = Most Probable Number			
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 30			

F.4. Noise

- Please state the noise impact (existing background noise level and additional noise emissions of the project) on the nearest receptors (industrial estates and residential areas) in dB(A) for day and night after completion of the project in accordance with the table below.

Noise Level Guidelines ¹				
Receptor	One Hour LA _{eq} (dBA)			
	Guideline Value Daytime (07:00-22:00)	Project Value Daytime (07:00-22:00)	Guideline Value Nighttime (22:00-07:00)	Project Value Nighttime (22:00-07:00)
Residential; institutional; educational ²	55		45	
Industrial; commercial	70		70	
Notes: ¹ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, WHO, 1999. ² For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).				
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 53				

- Do the project's noise emissions lead to an increase of the background noise level at the nearest receptors by more than 3 dB(A)?
- How far is the nearest residential area away?

F.5. Hazardous materials and waste

- Please describe the handling and storage of the necessary chemicals as well as the safety measures to avoid contamination.
- What relevant waste products are generated by the project (including dredging and ships)?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?

F.6. Occupational health and safety

- What safety measures and/or control systems are planned to prevent accidents?
- How are safety and health (in particular with regard to physical hazards, chemicals, confined spaces, dust, noise, etc.) guaranteed at the workplace?
- Please make accident statistics for the past two years available to us.
- How are subcontractors integrated into the health and safety measures?
- Please describe any workers' accommodation that may exist (size, occupancy, sanitary facilities, health care, etc.).

F.7. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. contamination, port security, port marine safety, visual impacts, etc.) for adjacent communities?
- What measures are/have been taken to guarantee that affected persons' rights of way (during construction and operation) are not/have not been adversely affected?

G. Telecommunications

G.1. Process

- Please provide specific information on the design of the telecommunications system (number of towers, height, extension, cable routes, other plant, etc.).
- Please also provide information on any ancillary plants that are necessary (electricity generation, further infrastructure works, etc.).
- Are any migration corridors of birds affected by the project?
- Does the laying of cables of the construction of access roads affect any aquatic habitats and what measures are taken to protect aquatic flora and fauna?
- Please describe the use of the facilities' surroundings in view of possible visual impacts of the facilities on the landscape.

G.2. Hazardous materials and waste

- What chemicals (PCBs, radioactive substances, chlorofluorocarbons, etc.) are used and how are these handled and stored?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?

G.3. Noise

- Please state the noise impact (existing background noise level and additional noise emissions of the project) on the nearest receptors (industrial estates and residential areas) in dB(A) for day and night after completion of the project in accordance with the table below.

Noise Level Guidelines ¹				
Receptor	One Hour LA _{eq} (dBA)			
	Guideline Value Daytime (07:00-22:00)	Project Value Daytime (07:00-22:00)	Guideline Value Nighttime (22:00-07:00)	Project Value Nighttime (22:00-07:00)
Residential; institutional; educational ²	55		45	
Industrial; commercial	70		70	
Notes:				
¹ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, WHO, 1999.				
² For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).				
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 53				

- Do the project's noise emissions lead to an increase of the background noise level at the nearest receptors by more than 3 dB(A)?
- How far is the nearest residential area away?

G.4. Occupational health and safety

- What safety measures and/or control systems are planned to prevent accidents?
- How are safety and health (in particular with regard to chemical hazards, electromagnetic fields, electrical safety, risk of falls, traffic safety, confined spaces, work on glass fibres, etc.) guaranteed at the workplace?
- Please complete the table below on the effects of electric and magnetic fields on workers.

ICNIRP exposure guidelines for <i>occupational</i> exposure to electric and magnetic fields.			
Frequency	Electric Field(v/m)	Magnetic Field (μT)	Value
0.82 – 65 kHz	610	30.7	
10 – 400 MHz	61	0.2	
2 – 300 GHz	137	0.45	
Source: WORLD BANK/IFC EHS Guidelines for Telecommunications 2007, page 11			

- Please make accident statistics for the past two years available to us
- How are subcontractors integrated into the health and safety measures?

G.5. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. electromagnetic fields, access restrictions, aircraft navigation safety, traffic safety, etc.) for adjacent communities?
- Please complete the table below on the effects of electric and magnetic fields on the general public.

ICNIRP exposure guidelines for <i>general public</i> exposure to electric and magnetic fields.			
Frequency	Electric Field(v/m)	Magnetic Field (μT)	Value
3 – 150 kHz	87	6.25	
10 – 400 MHz	28	0.092	
2 – 300 GHz	61	0.20	
Source: WORLD BANK/IFC EHS Guidelines for Telecommunications 2007, page 10			

- What measures are/have been taken to guarantee that affected persons' rights of way (during construction and operation) are not/have not been adversely affected?

H. Health care facilities and tourism developments

H.1. Type of project

- Please describe the planned project (hospital, laboratory, research facility, hotel, resort, etc.).
- Please also provide information on any ancillary plants that are necessary (electricity generation, further infrastructure works, etc.).
- Please describe possible impacts on sensitive areas (protected areas, etc.) which may be caused by the project and planned mitigation measures.

H.2. Noise

- Please state the noise impact (existing background noise level and additional noise emissions of the project) on the nearest receptors (industrial estates and residential areas) in dB(A) for day and night after completion of the project in accordance with the table below.

Noise Level Guidelines¹

Receptor	One Hour LA _{eq} (dBA)			
	Guideline Value Daytime (07:00-22:00)	Project Value Daytime (07:00-22:00)	Guideline Value Nighttime (22:00-07:00)	Project Value Nighttime (22:00-07:00)
Residential; institutional; educational ²	55		45	
Industrial; commercial	70		70	

Notes:
¹ Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, WHO, 1999.
² For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 53

- Do the project's noise emissions lead to an increase of the background noise level at the nearest receptors by more than 3 dB(A)?
- Are any measures to mitigate noise and vibrations necessary or planned? If so, what measures?
- How far is the nearest residential area away?

H.3. Air emissions

- Please provide information on the origin, treatment, reduction and monitoring of air and odour emissions.
- Please complete the table below for the incineration of hospital waste. Occasionally, not all pollutants listed in the table are emitted or others specific to the project have to be added. Please inform us if that is the case.

Air Emission Levels for Hospital Waste Incineration Facilities^b

Pollutants	Units	Guideline Value	Project Value
Total Particulate Matter (PM)	mg/Nm ³	10	
Total organic carbon (TOC)	mg/Nm ³	10	
Hydrogen Chloride (HCL)	mg/Nm ³	10	
Hydrogen Fluoride (HF)	mg/Nm ³	1	
Sulfur Dioxide (SO ₂)	mg/Nm ³	50	
Carbon Monoxide (CO)	mg/Nm ³	50	
NO _x	mg/Nm ³	200-400 ^a	
Mercury (Hg)	mg/Nm ³	0.05	
Cadmium + Thallium (Cd + Ti)	mg/Nm ³	0.05	
Ab, As, Pb, Cr, Co, Cu, Mn, Ni, and V	mg/Nm ³	0.5	
Polychlorinated dibenzodioxin and dibenzofuran (PCDD/F)	ng/Nm ³ TEQ	0.1	

Notes:
a 200 mg/m³ for new plants or for existing incinerators with a nominal capacity exceeding 6 tonnes per hour; 400 mg/m³ for existing incinerators with a nominal capacity of 6 tonnes per hour or less
b Oxygen level for incinerators is 7%
Source: WORLD BANK/IFC EHS Guidelines for Health Care Facilities 2007, page 14

- What limit values for ambient air quality are applicable in the buyer's country (please make a table available)? Please state the relevant expected air emission levels. Please comment on any changes in the ambient air quality before and after the project implementation. If there are no national limit values, please use the table below.

WHO Ambient Air Quality Guidelines^{1,2}

	Averaging Period	IFC Guideline Value [µg/m³]	Guideline Value Host country	Project Value (baseline status) [µg/m³]	Project Value (after implementation) [µg/m³]
Sulfur dioxide (SO₂)	24-hour	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)			
	10 minute	500 (guideline)			
Nitrogen dioxide (NO₂)	1-year	40 (guideline)			
	1-hour	200 (guideline)			
Particulate Matter (PM₁₀)	1-year	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)			
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)			
Particulate Matter (PM_{2.5})	1-year	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)			
	24-hour	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)			
Ozone	8-hour daily maximum	160 (Interim target-1) 100 (guideline)			

Notes:

¹ World Health Organization (WHO). Air Quality Guidelines Global Update, 2005. PM 24-hour value is the 99th percentile.

² Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines.

Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 4

H.4. Fresh water and effluents

- How much (fresh) water is used?
- Where and how is the water withdrawn?
- What measures are planned to reduce the water and energy consumption?
- What wastewater streams are generated by the project?
- How are process, drainage and cooling water treated before they are discharged? Please also state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea). If there are discharges, please provide information on the quantities of the wastewater streams (e.g. m³/h or l/s).
- If wastewater is discharged directly into a surface water body, please state the maximum values of the pollution levels in mg/l in accordance with the table below. Occasionally, not all pollutants listed in the table are emitted or others specific to the project have to be added. Please inform us if that is the case.

Effluent Levels for Health Care Facilities

Pollutants	Units	Guidelines Value	Project Value
		Daily Max	Daily Max
pH	S.U.	6-9	
BOD	mg/L	50	
COD	mg/l	250	
Oil and grease	mg/l	10	
Total suspended solid (TSS)	mg/l	50	
Cadmium (Cd)	mg/l	0.05	
Chromium (Cr)	mg/l	0.5	
Lead (Pb)	mg/l	0.1	
Mercury (Hg)	mg/l	0.01	
Chlorine, total residual	mg/l	0.2	
Phenols	mg/l	0.5	
Total coliform bacteria	MPN ^a /100ml	400	
Polychlorinated dibenzodioxin and dibenzofuran (PCDD/F)	Ng/L	0.1	
Temperature increase	°C	<3 ^b	
Notes:			
^a MPN = Most Probable Number			
^b At the edge of a scientifically established mixing zone which takes into account ambient water quality, receiving water use, potential receptors and assimilative capacity			
Source: WORLD BANK/IFC EHS Guidelines for Health Care Facilities 2007, page14			

- What national standards are applicable in the buyer's country for the discharge of **sanitary sewage**? How is sewage treated before it is discharged? Please state the expected maximum values of the pollution levels in the sewage. If there are no national limit values, please use the table below.

Indicative Values for Treated Sanitary Sewage Discharges ¹			
Pollutants	Units	Guideline Value	Project Value
pH	pH	6-9	
BOD	mg/L	30	
COD	mg/L	125	
Total nitrogen	mg/L	10	
Total phosphorus	mg/L	2	
Oil and grease	mg/L	10	
TSS	mg/L	50	
Total coliform bacteria	MPN ² /100 ml	400 ¹	
Notes: ¹ Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. ² MPN = Most Probable Number			
Source: WORLD BANK/IFC GENERAL EHS GUIDELINES 2007, page 30			

H.5. Hazardous materials and waste

- Please describe the handling and storage of the necessary chemicals (e.g. pesticides, fertilizers, etc.) as well as the safety measures.
- What relevant waste products are generated by the project?
- What measures are taken to avoid, separate, reuse, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited/reused?
- Please give also details on possible waste incineration processes (type and quantity of waste, incineration temperature, etc.).
- Please describe existing and planned waste management systems (e.g. health care waste management system).

H.6. Occupational health and safety

- What safety measures and/or control systems are planned to prevent accidents?
- How are safety and health (in particular with regard to infections and diseases, hazardous materials, noise, fire protection, radiation sources, etc.) guaranteed at the workplace?
- Please describe any workers' accommodation that may exist (size, occupancy, sanitary facilities, health care, etc.).

H.7. Community health and safety

- What measures are taken to minimize impacts and possible risks (e.g. infections and diseases, hazardous materials, fire protection, radiation sources, etc.) for adjacent communities?

I. Additional information

Additional information on the **Common Approaches**, our **environmental, social and human rights due diligence** and the **applicable standards** can be found at:

<https://agaportal.de/en/main-navigation/schnellzugriff-aga-konsortium/verantwortung>

The **World Bank/IFC EHS Guidelines** can be found on the website:

http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines