



QUESTIONNAIRE FOR WOOD PROCESSING (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, the EHS Guidelines for Board and Particle-Based Products and the EHS Guidelines for Sawmilling & Manufactured Wood Products. 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.

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- B. Sawmills and wood products (page 8)**
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A. Boards of wood and other plant fibre

A.1. Process

- Please give a technical description of the individual process steps.
- Will any additional facilities (e.g. for electricity generation, water treatment, raw material processing, roads, plantations) be constructed as part of the project?

A.2. Raw materials

- Where do the required wood and plant fibre raw materials come from? Please describe the various sources of supply in detail (country, own plantations, nominated suppliers).
- How high is the annual consumption of wood and plant fibre raw materials?
- Will indigenous people¹ be affected by the project? Please explain both the direct and the indirect impacts (e.g. through plantations, which provide the raw materials).
- Does the buyer company practice supply chain management in order to guarantee a sustainable forest management in its own supply chain? If so, please provide additional information (standards, processes, responsibilities, etc.).
- Are the raw material sources certified in accordance with internationally accepted FSC (Forest Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification) standards or similar?
- Are raw materials used which were sourced in natural or endangered habitats (habitats, which are relatively undisturbed by humans, are of great biological, social or economic importance and are mainly inhabited by native fauna and flora and/or are protected under national or international law)? If not, how is guaranteed that this is not the case?
- Does the project or associated plantations involve the enlargement of existing or opening up of new plantation forests or managed natural forests? If so, please also reply to the questions in the sector-related questionnaire *Agriculture and Forestry*.
- Does the project or associated facilities (new roads, a new electricity line, own plantations, etc.) have an impact (e.g. through the conversion into plantation forests or managed natural forests) on natural habitats?
- Does the project or associated facilities (new roads, a new electricity line, own plantations, etc.) have an impact (e.g. through the conversion into plantation forests or managed natural forests) on endangered natural habitats?
- Please state the resources and energy consumption after the project's completion in accordance with the table below:

¹ Indigenous peoples are considered to be distinct social and cultural groups which (a) regard themselves as members of such a distinct indigenous cultural group and are recognised as such by others, (b) show a collective attachment to their geographically distinct habitats or ancestral territories in the project area and to the natural resources thereof, (c) have customary cultural, economic, social or political institutions that are separate from those of the mainstream society or culture or (d) speak a distinct language or dialect, which often differs from the official language of the country or region.

Resource and Energy Consumption			
Inputs per unit of product	Mass Load Unit	Industry Benchmark	Project Value
Conversion Efficiency - Plywood - MDF - Other	m ³ product/m ³ wood	55% 90% 95%	
Electricity use - MDF - Plywood - Other	kWh/m ³	260 280 150	
Heat use - MDF - Other	MJ/m ³	1000 630	
Water use - MDF - Other	m ³ water/m ³ product	300 100	
Source: WORLD BANK/IFC EHS Guidelines for BOARD AND PARTICLE-BASED PRODUCTS 2007, page 9			

A.3. Emissions and ambient air quality

- Please state the expected maximum values for air emissions after the project's completion for all process steps 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.

Air Emission Guidelines for Board and Particle-Based Products			
Pollutants	Units	Guideline Value	Project Value
Particulate Matter	mg/Nm ³	20 (MDF) 20 (Wood Dryers) 50 (Other Sources)	
Condensable VOCs	mg/Nm ³ (as carbon)	130	
Formaldehyde	mg/Nm ³	20 (Wood Dryers) 5 (Other Sources)	
Source: WORLD BANK /IFC EHS Guidelines for BOARD AND PARTICLE-BASED PRODUCTS 2007, page 9			

- Please also state the (expected) air emission values (in particular dust (PM), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂) and nitrogen oxides (NO_x) in mg/Nm³) for any steam and power generation. In the case of plants with a capacity of more than 50 MW_{thermic} please use the questionnaire *Conventional Energy* as guideline..
- Please describe what measures are taken to avoid/reduce air emissions.
- What limit values for ambient air quality are applicable in the buyer's country (please make a table available)? Please state the relevant expected emission levels. Please comment on 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/m ³]	Guideline Value Host country	Project Value (baseline status) [µg/m ³]	Project Value (after implementation) [µg/m ³]
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					

- Please describe the on-site monitoring of air emissions as well as ambient air quality levels.

A.4. Fresh water and effluents

- How much (fresh) water is used on site? Is the water recirculated?
- Where and how is the water withdrawn?
- What wastewater streams are generated?
- How are effluents treated? Please state whether effluents are discharged into a public sewage treatment system or into surface water bodies (river, lake, sea).

- If there are direct discharges into a surface water body, please describe possible effects of the discharge on the ecology of the water body. Please also give details on the condition and the size of the water body (e.g. flow volumes, flow rates) and the quantities of the wastewater streams (e.g. m³/h or l/s) in this context. Please also provide information on the protective measures taken.
- If wastewater is discharged directly into a surface water body, please state the maximum values of the pollution levels in mg/l (table "Effluent Guidelines"). 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 Guidelines for Board and Particle Based Products			
Pollutant	Unit	Guideline Value	Project Value
pH	S.U.	6-9	
BOD ₅	mg/L	50	
COD	mg/L	150	
Total Suspended Solids (TSS)	mg/L	50	
Formaldehyde	mg/L	10	
Temperature increase	°C	<3 ¹	
Note: ¹ 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 BOARD AND PARTICLE-BASED PRODUCTS 2007, page 9			

- Please describe the measures planned to avoid/reduce/treat wastewater.
- Please describe the on-site monitoring of the effluent values.
- 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 for 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			

A.5. Hazardous materials and waste

- What are the relevant hazardous materials used on site? Please describe the safety measures for handling and storage of hazardous materials.
- What relevant waste products are generated on site?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?
- Please give also details on possible waste incineration processes (type and quantity of waste, incineration temperature, etc.).

A.6. 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 L _{Aeq} (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?
- Are noise mitigation measures necessary or planned? If so, what measures?

A.7. 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 machine safety, log handling, burns, noise, dust emissions, hazardous materials, fire and explosions) guaranteed at the workplace?
- What average and maximum noise exposure is to be expected in the production? What safety measures are taken at workplaces where the noise exposure exceeds 85 dB(A)?
- Please make accident statistics for the past two years available to us.
- How are subcontractors integrated into the health and safety measures on site?

A.8. Health and safety of the population

- What measures are taken to minimize impacts and possible risks (due to noise, odours, dust and/or due to increased traffic) for adjacent communities?

B. Sawmills and wood products

B.1. Process

- Please give a technical description of the individual process steps.
- Will any additional facilities (e.g. for electricity generation, water treatment, raw material processing, roads, plantations) be constructed as part of the project?

B.2. Raw materials

- Where do the required wood raw materials come from? Please describe the various sources of supply in detail (country, own plantations, nominated suppliers).
- How high is the annual consumption of wood raw materials?
- Will indigenous people² be affected by the project? Please explain both the direct and the indirect impacts (e.g. through plantations, which provide the raw materials).
- Does the buyer company practice supply chain management in order to guarantee a sustainable forest management in its own supply chain? If so, please provide additional information (standards, processes, responsibilities, etc.).
- Are the raw material sources certified in accordance with internationally accepted FSC (Forest Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification) standards or similar?
- Are raw materials used which were sourced in natural or endangered habitats (habitats, which are relatively undisturbed by humans, are of great biological, social or economic importance and are mainly inhabited by native fauna and flora and/or are protected under national or international law)? If not, how is guaranteed that this is not the case?
- Does the project or associated plantations involve the enlargement of existing or opening up of new plantation forests or managed natural forests? If so, please also reply to the questions in the sector-related questionnaire *Agriculture and Forestry*.
- Does the project or associated facilities (new roads, a new electricity line, own plantations, etc.) have an impact (e.g. through the conversion into plantation forests or managed natural forests) on natural habitats?
- Does the project or associated facilities (new roads, a new electricity line, own plantations, etc.) have an impact (e.g. through the conversion into plantation forests or managed natural forests) on endangered natural habitats?
- Please state the resources and energy consumption after the project's completion in accordance with the table below:

² Indigenous peoples are considered to be distinct social and cultural groups which (a) regard themselves as members of such a distinct indigenous cultural group and are recognised as such by others, (b) show a collective attachment to their geographically distinct habitats or ancestral territories in the project area and to the natural resources thereof, (c) have customary cultural, economic, social or political institutions that are separate from those of the mainstream society or culture or (d) speak a distinct language or dialect, which often differs from the official language of the country or region.

Resource and Energy Consumption			
Inputs per unit of product	Units	Industry benchmark	Project Value
Sawmills			
Water used per unit of production	L/m ³	290	
Raw materials consumption per unit of production	Conversion efficiency, i.e. useful output (m ³) divided by round logs (m ³) input	60%	
Processing Plant			
Electricity consumption per unit of production	kWh/m ³	255	
Water used per unit of production	L/m ³	290	
Ex. Raw materials consumption per unit of production	Conversion efficiency, i.e. useful output (m ³) divided by sawn timber (m ³) input	40%	
Source: World Bank/IFC EHS Guidelines for SAWMILLING AND MANUFACTURED WOOD PRODUCTS 2007, page 12			

B.3. Emissions and ambient air quality

- Please state the expected maximum values for air emissions after the project's completion for all process steps 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.

Emission Levels for Sawmill Facilities			
Pollutants	Units	Guideline Value	Project Value
Wood dust	mg/Nm ³	50	
VOCs	mg/Nm ³	20	
Source: World Bank/IFC EHS Guidelines for SAWMILLING AND MANUFACTURED WOOD PRODUCTS 2007, page 11			

- Please also state the (expected) emission values (in particular dust (PM), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂) and nitrogen oxides (NO_x) in mg/Nm³) for any steam and power generation. In the case of plants with a capacity of more than 50 MW_{thermic} please use the questionnaire *Conventional Energy* as guideline.
- Please describe what measures are taken to avoid/reduce emissions.
- What limit values for ambient air quality are applicable in the buyer's country (please make a table available)? Please state the relevant expected emission levels. Please comment on 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}

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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

- Please describe the on-site monitoring of air emissions as well as ambient air quality levels.

B.4. Fresh water and effluents

- How much (fresh) water is used on site? Is the water recirculated?
- Where and how is the water withdrawn?
- What wastewater streams are generated?
- 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 direct discharges into a surface water body, please describe possible effects of the discharge on the ecology of the water body. Please also give details on the condition and the size of the water body (e.g. flow volumes, flow rates) and the quantities of the wastewater streams (e.g. m³/h or l/s) in this context. Please also provide information on the protective measures taken.
- If wastewater is discharged directly into a surface water body, please state the maximum values of the pollution levels in mg/l (table "Effluent Guidelines"). 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 Wood Treatment and Preservation Effluent ¹			
Pollutants	Units	Guideline Value	Project Value
pH	S.U.	6 – 9	
BOD ₅	mg/L	50	
COD	mg/L	150	
TSS	mg/L	50	
Oil and Grease	mg/L	10	
Phenol	mg/L	0.5	
Arsenic	mg/L	0.1	
Chromium	mg/L	0.5	
▪ Total		0.1	
▪ Hexavalent			
Copper	mg/L	0.5	
Fluorides	mg/L	5	
PAHs (each)	mg/L	0.05	
Dioxins/ Furans	mg/L	0.1	
Pesticides (each)	mg/L	0.05	
Toxicity	To be determined on a case specific basis		
Temperature	°C	<3 ²	
Notes: ¹ Process wastewater containing chemical preservatives should be contained as part of a closed loop application system. ² 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 SAWMILLING AND MANUFACTURED WOOD PRODUCTS 2007, page 11			

- Please describe the measures planned to avoid/reduce/treat wastewater.
- Please describe the on-site monitoring of the effluent values.
- 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 for 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	
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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			

B.5. Hazardous materials and waste

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- What relevant waste products are generated on site?
- What measures are taken to avoid, treat and dispose of the waste (solid/liquid) generated and where/how is it deposited?
- Please give also details on possible waste incineration processes (type and quantity of waste, incineration temperature, etc.).

B.6. 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)
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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?
- Are noise mitigation measures necessary or planned? If so, what measures?

B.7. 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 electromagnetic radiation, confined spaces, electrical hazards, fire and explosions, handling of toxic and hazardous substances, dust emissions, heat, noise) guaranteed at the workplace?
- What average and maximum noise exposure is to be expected in the production? What safety measures are taken at workplaces where the noise exposure exceeds 85 dB(A)?
- Please make accident statistics for the past two years available to us.
- How are subcontractors integrated into the health and safety measures on site?

B.8. Health and safety of the population

- What measures are taken to minimize impacts and possible risks (e.g. due to noise, odours, dust and/or due to increased traffic) for adjacent communities?

C. 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