

الاستمارة رقم (2) : المعلومات والبيانات الخاصة بالشؤون المناخية في التقارير البيئية الشهرية والدورية المقدمة إلى الوزارة.

Form No. (2): Monthly/Quarterly Climate Affairs Monitoring Reporting

A. Definitions about Climate Affairs

The following words and expressions shall have the meaning assigned to each of them unless the context otherwise requires:-

1. **The Ministry:** The Ministry of Environment and Climate Affairs.
2. **The concerned directorate in the Ministry-** The Directorate General of Climate Affairs.
3. **Environmental impacts assessment study-**A study conducted to determine whether the source or area of work would have any adverse impacts on the environment including measures required to deal with such impacts.
4. **Adverse effects of climate change-** Change in the physical environment or Biota resulting from climate change which have significant deleterious effects on the composition , resilience or productivity of natural ecosystem or on human health and welfare.
5. **Climate change** - A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere observed over comparable time periods.
6. **The environment-**The setting in which human beings live, including living organisms such as animals and plants as well as the surrounding air, water, soil and solid, liquid, gaseous or radioactive substances in addition to man-made stationary or non- stationary establishments.

7. **Sustainable development-** Linking environmental conditions with planning and development policy in order to satisfy needs and aspirations of the present generation without endangering future needs and requirements .
8. **Climate system-** The totality of the atmosphere, hydrosphere, biosphere, and geo-sphere and their interactions.
9. **The Convention-** The United Nations Framework Convention on Climate Change signed in 1992 and ratified by the Sultanate of Oman in accordance with the Royal Decree No. 119/1994
10. **The Protocol:** The Kyoto Protocol attached to The United Nations Framework Convention on Climate Change, signed in 1997 and ratified by the Sultanate of Oman in accordance with Royal Decree No. 107/2004 .
11. **Emissions-** The release of greenhouse gases and / or their precursors into the atmosphere over a specific area and period of time.
12. **Greenhouse gases-** Those gaseous constituents of the atmosphere , both natural and anthropogenic ,that absorb and re-emit infrared radiation to the atmosphere . Those gases include Carbon dioxide, Methane, Nitrous oxide, Hydro fluorocarbons, Per fluorocarbons and Sulphur hexafluoride .
13. **Sink-** Any process, activity or mechanism which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.
14. **Source-** Any process, activity which release a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.
15. **Area of work-** A terrestrial, coastal or a float site in ports or in Exclusive Economic Zone of the Sultanate where one or more sources of pollution exist.
16. **The owner-** Any natural or juristic person owning or leasing a source or an area of work or being responsible for operation or management of the same.

17. **Mitigation**- The anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases.
18. **Adaptation**- Means initiatives and measures to reduce vulnerability of natural and human systems against climate change impacts.
19. **Adaptation benefits**- The avoided damage costs or the accrued benefits following the adoption and implementation of adaptation measures.
20. **All stages of the project**- Include preparation, planning, construction, operation, closure and after closure of the project .
21. **Energy efficiency**- The ratio of useful energy output of a system, conversion process or activity, to its energy input.
22. **Measures**- Technologies processes and practices that reduce greenhouse gas emissions or their effects below anticipated future levels.
23. **Ozone Depleting Substances**- Substances having the characteristic of chemical stability in the lower atmosphere, comprising one or more chlorine or bromine atoms or both and beginning a series of reactions in the stratospheric ozone layer causing depletion of the ozone, and controlled by Montreal Protocol in substances that deplete the Ozone layer.
24. **Renewable energy**- The continuing or repetitive currents of energy occurring in the natural environment, and includes solar energy, hydropower, wind, tide and waves, geothermal heat and biomass energy.
25. **Sea level rise**- Rise in the sea level due to global warming resulted from increase in the total mass of water due to the melting of snow and ice , and changes in water density due to an increase in ocean water temperature and salinity change .
26. **Vulnerability of climate change**- Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.

B. Climate Affairs Information

1- Reporting Period: From To

2- Details of the Project

1	Name and Address of the Project	
2	Location (Attach location map of site)	
3	Category & Type of Project (Large/Medium/Small)	
4	Name & Address of Responsible person/organization/consultant for climate affairs issues with project along with contact details such as telephone, fax and email	
5	Number of person working in the Project	
6	Number of people living in the residential premises	
7	Brief process description with flow chart	

3- Use of Daily Raw Material

List of Raw Material	Utilization	Quantity in Tones/day

4- List of Main Products with Daily Designed Capacity

List of Products and by products	Quantity in Tones/day

5- Daily Use of Fuel in Operation and Other Misc. Activities

Petroleum oil	Diesel oil	Natural gas	Others

6- Provide the Energy Efficiency Tools used by the Project in the Past/reporting Period

Use/promotion of renewable energy	
Process modification and technological improvement which is energy efficient	
Reducing vehicles for the transportation	
Minimizing use of electricity for the lightening of industrial buildings	
Any future planning for energy saving in the industrial plant/technology modification	
Exploring the possibility of implementing Clean Development Mechanism (CDM) under Kyoto Protocol due to your energy efficiency programme, if any	

7- Energy Auditing in the Project

Whether, energy audit carried out in reporting period?	
if yes, please provide the details of the findings	
Planning for energy auditing?	

8- GHG sinks (Green Cover) in the Project

Total Area of the Project	
Proposed area for green cover/Plantation	
Percentage of green cover to total area of the Project	
Plantation made during reporting period	
Attach the landscaping plan/design of plantation/green cover made during reporting period, if any	

9- Ozone Depleting Substances (ODS) in the Project

Please provide the following information during reporting period

Types of ODS used in all stages of the industrial process	
Quantities of ODS used in all stages of the industrial process	
Name (s) of ODS supplier (s)	
Numbers and kinds of equipments that contain ODS	
Any alternatives for ODS has been used	
Project plan for the usage of ODS alternatives and the avoidance of any ODS release to the atmosphere	
Procedure to adhere to the requirements of the Regulations for the Control and Management of the Ozone Depleting Substances issued by Ministerial Decision No. 243/2005	

10- Greenhouse Gas (GHG) Emissions

Please provide the GHG emissions during reporting period from various activities required for the operation of the project. The quantification methodologies including use of emission factors etc should be provided in detail. Please provide GHG estimation as per following.

10.1 GHG Emissions from the Energy Sources- Combustion of fuel from the proposed project

1. Stationary Combustion processes

Reporting period	CO2	CH4	N2O

2. Mobile Combustion

Reporting period	CO2	CH4	N2O

3. Fugitive Emissions from Oil & Natural Gas System

Reporting period	CO2	CH4	N2O

4. Others

Reporting period	CO2	CH4	N2O

5. Details of GHG Emission Calculation¹

Type of activity	Methodology according to IPCC	Emission Factor	Quantity of fuel for combustion	Total Emissions
Stationary Combustion processes				
Mobile Combustion				
Fugitive emissions from Oil & Natural Gas system				
Others				

10.2 GHG Emissions from Industrial Processes of the Proposed project

Reporting period	CO2	CH4	N2O	SF6	HFC	PFC

Details of GHG Emission Calculation²

Type of activity	Methodology according to IPCC	Emission Factor	Total Production	Total Emissions

10.3 GHG Emissions from Solvent Use in the Proposed project

Reporting period	CO2	CH4	N2O	SF6	HFC	PFC

¹ Please provide information in detail and add separate sheets for additional information

² Please provide information in detail and add separate sheets for additional information

Details of GHG Emission Calculation³

Type of activity	Methodology according to IPCC	Emission Factor	Quantity of Solvents	Total Emissions

10.4 GHG Emissions from Solid Waste generating from project

Premises

Reporting period	CH4	N2O

Details GHG Emission Calculation⁴

Type of activity	Methodology according to IPCC	Emission Factor	Total waste quality	Total Emissions

10.5 GHG Emissions from Waste Water Treatment in the project

Premises

Reporting period	CH4	N2O

Details of GHG Emission Calculation⁵

Type of activity	Methodology according to IPCC	Emission Factor	Total quantity of waste water	Total Emissions

³ Please provide information in detail and add separate sheets for additional information

⁴ Please provide information in detail and add separate sheets for additional information

⁵ Please provide information in detail and add separate sheets for additional information

10.6 Reporting total amount of GHG Emissions from the project

Reporting period	CO2	CH4	N2O	SF6	HFC	PFC

11- Climate Change Impacts and Vulnerabilities during reporting period

Any climate change impacts identified over the Project in the reporting period? You are requested to identify any vulnerabilities/disasters in reporting period. The following “Climate Affairs Risks Matrix” could be used for the impact evaluation.

Climate Affairs Risks Matrix

Type of Risks	Frequency /degree of Vulnerability ⁶	Climate change Impacts due to identified Vulnerability ⁷	Risk Magnitude ⁸	Remarks, if any
Natural Disasters such as cyclone, earthquake, high waves, landslides and dust storms				
Sea Level Rise				
Temperature Increase				
Heavy Rains				
Flash Flooding				

⁶ Please assign 1, 2 and 3 for low, medium and high frequencies of vulnerability

⁷ Please assign 1, 2 and 3 for low, medium and high impacts due to identified vulnerabilities

⁸ Risk magnitude should be calculated multiplying frequency of vulnerability and climate impacts

12- What measures and tools have been used for the adaptation and mitigation of climate change impacts in case of any vulnerabilities/disaster (Storms, cyclones, high waves, floods, landslides, and dust storms, Sea level change, sea level rise, drought, increase in temperature, change of wind patterns, and change of groundwater level) happened in your project?