Draft sustainability and target setting report

Reporting period:

01/01/2020 – 31/12/2020

Vietnam – 26/07/2021

Prepared by: ABC Factory

# Introduction

This report provides a summary of the GHG emissions from ABC’s operations from 01/01/ 2020 to 31/12/2020.

Company information and the reporting period are presented in Table 1.

Note: Only some data used for this assignment, detail data will be hidden for information security.

Table 1: Company information

| Company information | |
| --- | --- |
| Website |  |
| Business area | Main production is shirt. Production is to supply to a Brand for exporting.  The factory is located at Hanoi, Vietnam |
| Reporting period | 01/01/2020 – 31/12/2020 |

## Methodology

The GHG accounting and reporting procedure is based on the ‘The Greenhouse Gas Protocol: GHG Protocol: A Corporate Accounting and Reporting Standard – Revised Edition’ (GHG Protocol) – the most widely used international accounting tools for government and business leaders to understand, quantify, and manage GHG emissions. The standards were developed in partnership between the World Resources Institute and the World Business Council for Sustainable Development.

The accounting was based on the principles of the ‘GHG Protocol’:

* **Relevance:** an appropriate inventory boundary that reflects the GHG emissions of the company and serves the decision-making needs of users;
* **Completeness:** accounting includes all emission sources within the chosen inventory boundary. Any specific exclusion is disclosed and specified;
* **Consistency:** meaningful comparison of information over time and transparently documented changes to the data;
* **Transparency:** data inventory sufficiency and clarity, where relevant issues are addressed in a coherent manner; and
* **Accuracy:** minimised uncertainty and avoided systematic over- or under-quantification of GHG emissions.

## System boundaries

### Operational boundaries

Under the ‘GHG Protocol’, emissions are divided into direct and indirect emissions. Direct emissions are those originating from owned or controlled sources by the reporting entity. Indirect emissions are generated as a consequence of the reporting entity’s activities, yet they occur at sources owned or controlled by another entity.

The direct and indirect emissions are divided into three scopes as found below.

Scope 1

Scope 1 includes all carbon emissions that can be directly managed by the organisation (direct GHG emissions). This includes the emissions from the combustion of fossil fuels in mobile and stationary sources (e.g. owned or controlled boilers, power generators and vehicles) and carbon emissions generated by chemical and physical processes as well as fugitive emissions from the use of cooling and air conditioning (AC) equipment. Table 2 (below) gives an overview of the emission sources considered in Scope 1.

Table X: Overview of Scope 1 emission sources for 2020

| Category | Emission sources | Boundary |
| --- | --- | --- |
| Stationary combustion | DO  LPG  Coal | DO (diesel oil) for backup generator and Boiler  Coal for boiler  LPG for canteen |
| Mobile combustion | DO for operating 01 Car | The car used for travelling of factory |
| Fugitive emissions | Emissions from the use of cooling systems and AC equipment are included |  |

Scope 2

Scope 2 includes indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling purchased by the organisation from external energy providers. The factory only has purchasing electricity for operating; therefore Scope 2 of factory only has electricity consumption. Table 3 below gives an overview of the emission sources considered in Scope 2.

Table 3: Overview of Scope 2 emission sources for 2020

| Category | Emission sources | Boundary |
| --- | --- | --- |
| Electricity | Purchased electricity | For whole factory |
| Steam | Not used |  |
| District heating | Not used |  |
| District cooling | Not used |  |

# Emission calculations summary

Total emissions in this report refers to the emissions sources covered, as described in Section 1.2.

Table 4: GHG emissions by scope and activity for 2020

| Activity | Consumption | Unit | Emissions (tCO2e) | Percentage of total (%) |
| --- | --- | --- | --- | --- |
| **Scope 1: direct GHG emissions** | | |  |  |
| **Stationary combustion** |  |  |  |  |
| Diesel | 62580 | litre | 0.163 | 5.11% |
| LPG | 855 | kg | 0.002 | 0.08% |
| Coal | 453640 | kg | 1,198 | 36.37% |
| **Mobile combustion** |  |  |  |  |
| Diesel | 204600 | litre | 556.433 | 16.86% |
| **Refrigerant leakage** |  |  |  |  |
| R22 | 10 | Kg | 18.10 | 0.55% |
| HFC - 134 | 5 | Kg | 5.50 | 0.17% |
| R410A | 5 | kg | 10.44 | 0.32% |
| **Scope 2: indirect GHG emissions from purchased electricity, heating and cooling** | | |  |  |
| **Electricity** |  | **MWh** |  |  |
| Grid | 1520 | MWh | 1336.84 | 40.55% |
| **Total GHG emissions** | | | **3296.94** | **100%** |

# Target setting and emission reduction strategy

ABC company is taking environmental responsibility for its operation by developing an overall emission reduction target (25% by 2030) through its sustainability action plan, using the baseline of year 2020

Table 5: ABC sustainability targets action plan

| 2020 – 2030 Objectives | Key Performance Indicator (KPI) | 2025 Target | 2030 target |
| --- | --- | --- | --- |
| 1. Reduce electricity consumption for lighting system | Reduce 10000 kWh/year (just assumption) for lighting system by replace traditional light by LED light | Reduce 0.27% | Keep reduce 0.27% |
| 2. Reduce electricity consumption for compressed air system (CAS) | Reduce 10000 kWh/year (just assumption) for CAS by reduce air leakage | Reduce 0.27% | Keep reduce 0.27% |
| 3. Reduced diesel use for heating | Remove DO boiler by fix leakage at canteen and production process ~ reduce 5.51% DO consumption for whole factory ((just assumption) | Reduce 5.51% | Keep reduce 5.51% |
| 4. Convert coal boiler to biomass boiler | Establish plan to replace:  + Investment cost  + Technology options  + Installing and running test  + Operating for production | Finish establish plan and prepare investment cost in year 2025 | This project should complete testing in 2028 and operate in 2029 for adjust to meet target reduce CO2 emission from Coal.  With emission ratio from coal boiler is ~36%, if convert from coal boiler to biomass boiler which will help factory reduce ~36% CO2 emission, therefore it will meet target in year 2030. |
| 5. Or use solar PV | If replace whole electricity from grid by solar PV it can help factory reduce ~ 40% CO2e emission |  |  |

# Annex I

## Emission factors

Table 13: Emissions factors

| Activity | Emission factor reference |
| --- | --- |
| Electricity | 0.8795 (IGES Vietnam 2018) |
| DO | IPCC 2006  Net calorific: 43.0 TJ/Gg  Density: 0.84 kg/litre  Emission factor is calculated from each emission of CO2, CH4, N2O ~ 74.5 tons CO2e/TJ |
| Coal | 99.0 tons CO2e/TJ  Do the same method with DO |
| LPG | 63.3 tons CO2e/TJ  Do the same method with DO |
| Refrigerant | R22: 1810 tons CO2e/ton  R410A: 2088 tons CO2e/ton  HFC-134: 1100 Tons CO2e/ton |

