LIKOM Greenhouse Gas Emissions Goal and Target

What is climate change?

Climate change is the greatest environmental challenge facing the world today. Rising global temperatures are bringing changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. The effects are being felt in the world; internationally there are severe problems for people in regions that are particularly vulnerable. Climate change is caused by the release of greenhouse gases into the atmosphere.

What are greenhouse gas emissions?

The key greenhouse gas emissions are Carbon Dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O), Fluorinated Gases - hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Each gas has a different capacity to cause global warming. Carbon dioxide is expected to be responsible for about two thirds of the anticipated future warming.

What causes greenhouse gas emissions?

Burning Fossil Fuels, Deforestation and Land Use Changes, Agricultural Practices, Industrial Processes, Use of Fluorinated Gases are the human activities that have significantly increased the concentration greenhouse gas emissions in the atmosphere, intensifying the greenhouse effect and driving global climate change.

Which activities in organization release greenhouse gas emissions?

We need to identify which activities in our organizations are responsible for GHG emissions being released into the atmosphere. The most widely accepted approach is to identify and categorize emissions-releasing activities into three groups. The three scopes are:

Scope 1 (Direct emissions):

- Activities owned or controlled by the organization that release emissions straight into the atmosphere. They are direct emissions. Examples of scope 1- Fuel Combustion, Industrial Processes, Waste Management.

Scope 2 (Indirect Emissions from Purchased Energy):

- Emissions being released into the atmosphere associated with the consumption of purchased Electricity Use and Purchased Steam and Heating/Cooling (external providers). These are indirect emissions that are a consequence of the organization's activities but which occur at sources you do not own or control.

Scope 3 (Other Indirect Emissions):

- Emissions that are a consequence of the actions, which occur at sources which you do not own or control and which are not classed as scope 2 emissions. Examples of scope 3 emissions are business travel by means not owned or controlled by your organization, waste disposal, or purchased materials or fuels and emissions from employees traveling to and from work.

Why should Likom measure greenhouse gas emissions?

Regulatory Compliance:

- **Meeting Regulations:** Compliance helps avoid legal penalties and aligns with environmental standards.

Environmental Impact:

- **Understanding Impact:** Measuring emissions helps Likom understand its environmental footprint and identify major sources of greenhouse gases.

- **Improving Sustainability:** It allows for the development of strategies to reduce emissions and improve overall sustainability.

Cost Management:

- **Reducing Costs:** Identifying energy inefficiencies and emissions sources can lead to cost-saving opportunities, such as through energy efficiency measures or process improvements.

- **Resource Optimization:** Efficient resource use can reduce operational costs and improve financial performance.

Stakeholder Engagement:

- **Investor Expectations:** Investors are increasingly interested in companies' environmental performance. Transparent emissions reporting can attract investment and support from environmentally-conscious stakeholders.

- **Customer Demand:** Consumers are becoming more environmentally aware and may prefer to support companies with lower carbon footprints.

Risk Management:

- **Mitigating Risks:** Understanding and managing GHG emissions helps in anticipating and mitigating risks related to climate change, such as supply chain disruptions or regulatory changes.

Corporate Responsibility:

- **Enhancing Reputation:** Demonstrating a commitment to environmental stewardship can enhance Likom's reputation and brand value.

- **Corporate Social Responsibility (CSR):** Effective emissions management aligns with broader CSR goals and demonstrates responsible business practices.

Strategic Planning:

- **Setting Targets:** Measuring emissions provides a baseline for setting realistic and achievable reduction targets.

- **Tracking Progress:** Regular measurement allows Likom to track progress against sustainability goals and make data-driven decisions.

Innovation and Competitive Advantage:

- **Encouraging Innovation:** The need to reduce emissions can drive innovation in processes, products, and technologies.

- **Gaining a Competitive Edge:** Companies that actively manage and reduce their GHG emissions can differentiate themselves in the market.

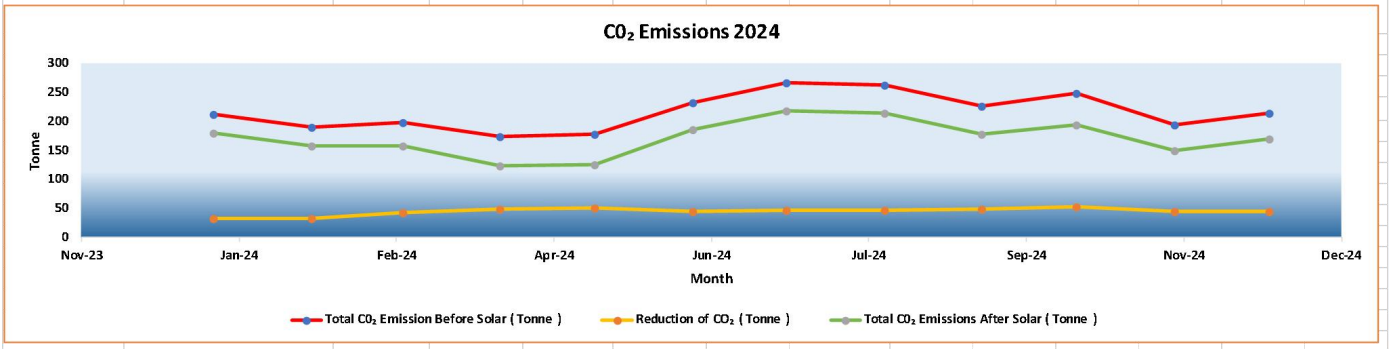
Reporting and Certification:

- **Accreditation and Certifications:** Measuring emissions is often a prerequisite for environmental certifications and standards, such as ISO 14001 certification.

Likom Based Targets

"Likom commits to a 50% absolute reduction of scope 1, 2, and 3 global greenhouse gas emissions by 2040 "

	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Total CO_2 Emission Before Solar (Tonne)	213	191	199	173	177	232	266	262	226	248	194	214
Reduction of CO_2 (Tonne)	33	33	42	49	51	45	47	47	49	54	45	44
Total CO_2 Emissions After Solar (Tonne)	180	158	157	124	126	187	219	215	177	194	149	170
% of CO_2 Reduction	15	17	21	28	28	19	18	18	22	22	23	20



The graph showing the CO_2 emissions data before and after the implementation of a solar energy solution in year 2024. Here are some the observations and calculations based on the given data:

1. Monthly CO_2 Emission Trends:

- The highest CO_2 emission is in July-24 (266 tonnes) and the lowest is in April-24 (173 tonnes).
- The emission levels are generally higher in the first half of the year and lower in the second half.

2. Monthly Reduction in CO_2:

- The highest reduction is in April-24 (49 tonnes) and the lowest is in January-24, February-24, August-24, and September-24 (33 tonnes each).
- In some months, like June-24, July-24, August-24, September-24, the reduction is the same each year

3. Total CO_2 After Solar:

- The highest total CO_2 emission after the reduction is in July-24 (219 tonnes) and the lowest is in April-24 (124 tonnes).
- The average reduction in CO_2 is 43.17 tonnes per month.

4. Percentage of Reduction:

- The percentage of reduction in CO_2 ranges from 15% in January-24 to 28% in April-24.
- The average percentage of reduction in CO_2 is 19.83%.
- The percentage of reduction is mostly consistent, ranging from 18% to 23% in most months.

5. Comparing Monthly Reduction with Total CO_2 Reduction:

- In some months, like January-24, February-24, August-24, September-24, and November-24, the reduction (33 tonnes) is the same but the total CO_2 level before emission varies.

6. Monthly CO_2 Emissions After the Reduction:

- The overall trend shows a reduction in CO_2 emission levels due to the solar energy solution.

7. Comparing the Average CO_2 Levels Before and After the Reduction:

- Before the emission: 214.17 tonnes (average of all monthly values)
- After the reduction: 173.08 tonnes (average of all monthly values)

It appears that the solar energy solution has had a positive impact on reducing CO_2 emissions across all months. The highest reduction is in April-24, and the lowest reduction is in January-24, February-24, August-24, and September-24.

LIKOM SOLAR PHOTOVOLTAIC SYSTEM

In view of the rising cost of doing business, the demand for compliance to environmental, social and governance (ESG) for sustainability management and the demand to support reduction of greenhouse gas (GHG) emissions with clean energy resources, Likom has embarked on the solar photovoltaic system project since May 2023.

On March 2024, Likom was granted a public license by Suruhanjaya Tenaga (ST) to officially operate the Solar PV under Net Energy Metering (NEM) scheme for 527.90kWp or 420kWac. We are expected to generate about 840MWh of solar energy per year, which is can reduce about 173 ton CO_2e.

Picture 1: 910 pieces of Jinko solar panels on the factory roof top.

Picture: Units of Huawei Inverters

Graph: Energy Trend