

## Greenhouse Gas Management

The issue of greenhouse gas emissions and global warming has intensified and continues to cause widespread impacts and damage across the world. This global crisis is one of the most serious challenges facing humanity today. Over the past decades, climate change has attracted increasing attention from all sectors, from international organizations to the general public. This is reflected in global cooperation frameworks such as the *United Nations Framework Convention on Climate Change (UNFCCC)*, the *Kyoto Protocol*, and the *Intergovernmental Panel on Climate Change (IPCC)*.

Global warming not only leads to rising temperatures and changing seasons, but also contributes to the emergence of new diseases and unpredictable natural disasters, including severe storms, floods, tsunamis, landslides, and earthquakes. These phenomena result in significant impacts on human life, consumption behavior, and economic conditions, while also prompting the introduction of new regulations and policies to address these challenges.

Kirk University recognizes the importance of greenhouse gas management and has initiated various projects to support the reduction of emissions generated from its educational operations. These initiatives include promoting efficient use of resources and energy, increasing the share of renewable energy in place of fossil fuels, and applying technology to reduce natural resource consumption, all of which contribute to lowering greenhouse gas emissions.

### Targets

By **2025 (B.E. 2568)**, Kirk University aims to reduce greenhouse gas emissions by **10% compared to the baseline year 2023 (B.E. 2566)**. The University has also set a long-term goal of achieving **Net Zero emissions by 2037 (B.E. 2580)**.

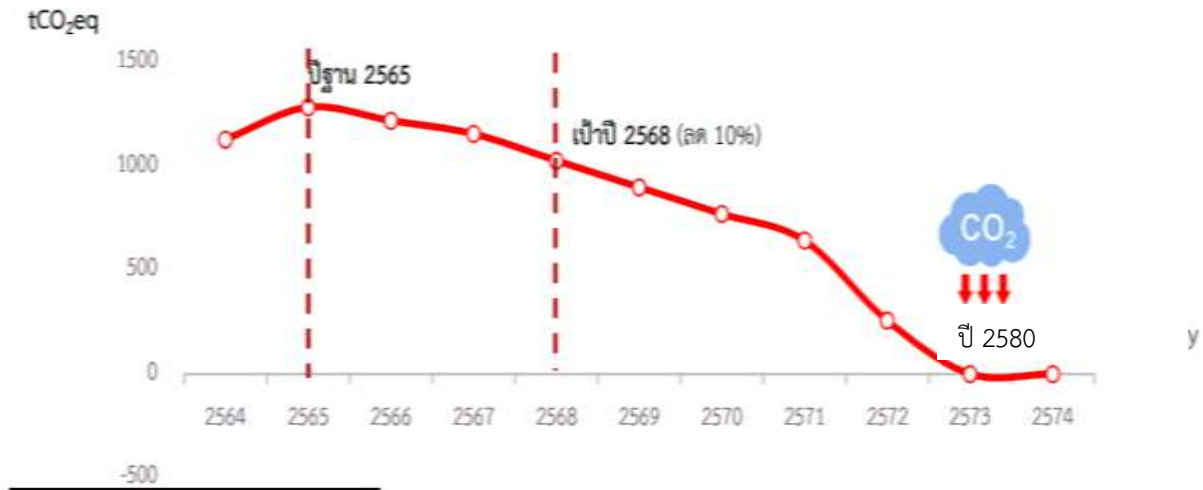


Figure 1.1: Solar Energy Generation from Renewable Energy Sources

### Key Operations in the Past Year

The assessment of the organizational carbon footprint is one of the key approaches used to quantify greenhouse gas (GHG) emissions resulting from the University's operations. This process provides essential data that supports the development of effective management strategies aimed at reducing emissions.

According to the Thailand Greenhouse Gas Management Organization (Public Organization), an organization's carbon footprint refers to the total amount of greenhouse gases emitted from its activities—such as fuel combustion, electricity consumption, waste management, and transportation—expressed in tons of carbon dioxide equivalent (tCO<sub>2</sub>e). These emissions are categorized into the following three scopes:

#### Scope 1 (Direct Emissions):

Emissions generated from direct fuel combustion within the University, such as gasoline and diesel used in university-owned vehicles and transportation.

#### Scope 2 (Indirect Emissions from Energy Consumption):

Emissions resulting from purchased electricity consumed across university facilities, including office buildings, academic buildings, air conditioning systems, lighting, and office equipment.

#### Scope 3 (Other Indirect Emissions):

Emissions from other sources related to University activities, including water consumption, paper usage, and waste generated from operations.