



Process for Carbon Management and Reducing Carbon Dioxide Emissions

The organization has implemented a structured process for carbon management and reduction of carbon dioxide emissions. This approach includes the integration of renewable energy systems, research into sustainable energy storage technologies, and the gradual transition toward electric transportation. Together, these initiatives contribute to minimizing the organization's overall carbon footprint and supporting environmental sustainability goals.

1. Solar Energy Systems and CO₂ Savings

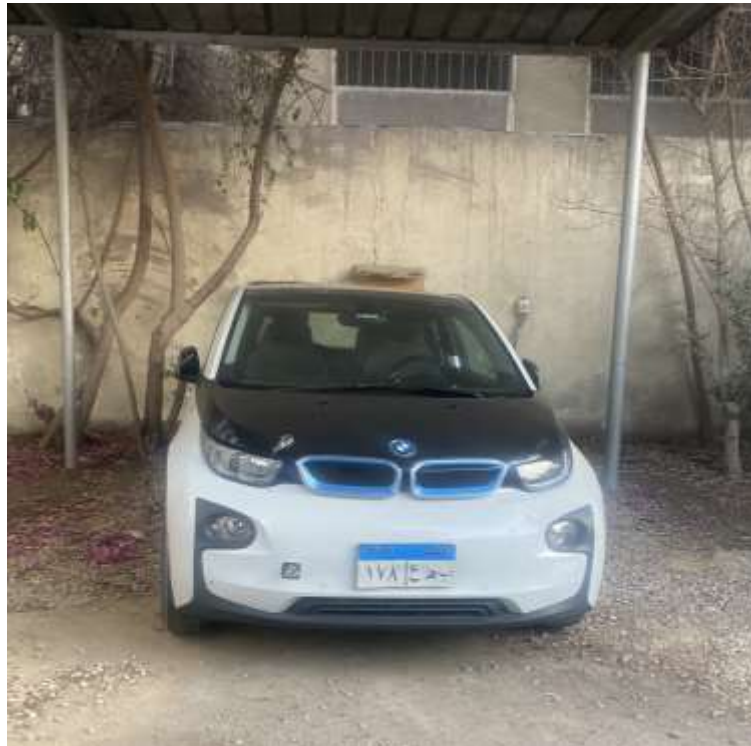
Solar photovoltaic systems have been installed across multiple sites to generate clean energy and reduce dependence on conventional electricity. The following table summarizes the installed capacities and the estimated CO₂ reductions achieved annually.

Location / Site	System Capacity (kW)	Estimated Annual Energy Production (kWh/year)	Estimated CO ₂ Reduction (tons/year)
Sekem Farm – Minya	486	777,600	544
Sekem Farm – Wahat	280	448,000	314
Sekem Farm – Sinai	38.8	62,080	43
Total	804.8	1,287,680	901



2. Transition to Electric Vehicles

As part of the carbon reduction strategy, the organization has initiated the replacement of traditional fuel-powered vehicles with electric vehicles (EVs). This process has already begun, with several electric cars integrated into daily operations for logistics and staff transportation. The transition to EVs aims to significantly reduce CO₂ emissions from transportation, while also lowering fuel consumption and maintenance costs. Photographs of the new electric vehicles will be included to demonstrate the organization's progress toward a cleaner and more sustainable transport system.



3. Research on Sodium Batteries

A dedicated research team has been established to explore the feasibility of replacing lithium-ion batteries with sodium-based alternatives. The aim of this research is to identify more sustainable, cost-effective, and environmentally friendly energy storage solutions. Sodium batteries offer advantages due to the abundance and lower cost of sodium compared to lithium, as well as their reduced environmental impact. The research focuses on evaluating performance, lifecycle, and recyclability in comparison with existing lithium-ion systems used in solar installations. This initiative supports the carbon management strategy by promoting cleaner energy storage technologies and advancing the transition to a low-carbon energy system.