INTRODUCTION

The Greenhouse Effect is a natural phenomenon that has made the Earth a perfect place for life. Greenhouse gases in our atmosphere trap the Sun’s heat, similar to heat trapped inside a car on a warm day. Without greenhouse gases, our planet would be frozen.

Greenhouse gases enter the atmosphere through natural sources—from volcanoes, wetlands, and forest fires. They also enter the atmosphere through human sources—fossil fuels, livestock, and rice paddies. Since the Industrial Revolution, humankind has burned fossil fuels to drive vehicles, to power factories, and to heat homes. The burning of fossil fuels has increased the amount of greenhouse gases in the atmosphere. Over time, more and more heat is retained, leading to an increase in the Earth’s average surface temperature—global warming.

Climate change refers to long-term changes in the climate. Climate change can be natural or might be caused by changes people have made to the land and atmosphere. Based on evidence from tree rings, ice cores, and other natural records and scientific observations made around the world, Earth’s average temperature is already warmer than it has been for at least the past 1,300 years.1 Average temperatures have increased markedly in the past 50 years, especially at the North and South Poles. Measurements have shown that the increase in Earth’s temperature tracks with the increase of carbon dioxide (CO2) in the atmosphere.