INTRODUCTION

Global warming caused by anthropogenic greenhouse gas emissions has raised the Earth's surface temperature at an unprecedented rate in recent history and may threaten the survival of human societies. According to the Intergovernmental Panel on Climate Change (IPCC), the average temperature of the Earth increased by 0.74°C during the period from 1906 to 2005. During the same period, average sea surface levels rose at an average of 1.8 mm/yr since 1961 and 3.1 mm/yr since 1993. Many studies have predicted that if global warming continues, sea levels will increase, and the most recent projections assessed by the National Research Council of the United States suggest possible sea level rise by 56 to 200 cm in this century.

In the face of this disturbing trend, the 1992 United Nations Conference on Environment and Development (UNCED) was held to develop a common global response. During the meeting, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted with the goal of reducing greenhouse gas emissions in advanced countries to the level of 1990 by 2000. Subsequently, the
Kyoto Protocol was established in 1997 to help reduce greenhouse gas emissions, and an international institutional foundation was established for practical implementation of this protocol among nations. Since the Kyoto Protocol, the European Union (EU) and the United States have struggled over whether to expand the existing Kyoto system or to approach climate change in a different way with several options on the table including a sectoral approach as an option. Role sharing and accountable relationships should be set between the ‘UN Process’ (led by the EU) and the ‘Leading Countries Conference Process’ (led by the United States). Although these approaches and supporting groups differ, each recognises the seriousness of climate change and the urgent need to respond at the global level (see Table 28.1).

Advanced countries such as the United States, Germany, France, and Japan have announced climate change policies in response to the Convention on Climate Change. In May 2009, the United States also implemented climate change policy at the federal level by creating standards for reducing exhaust gases from automobiles and for improving fuel efficiency.

This paper will focus on the experience of Korea in tackling the challenges faced by climate change and energy security. In Korea, climate change is addressed in the national policy of ‘Green Growth,’ in which the environment (Green) and economy (Growth) are combined as a new driving force that will maximise the synergic effects of both. For practical implementation of this direction, the ‘Comprehensive Measures of Green Technology Research and Development’ was established with the aim of doubling existing research funds by 2012.

Some have questioned prevailing views of climate change. For example, in his book *The Skeptical Environmentalist*, Bjorn Lomborg challenges the