# Energy, Environment and Sustainability of Green Buildings

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# CHAPTER TWO -THE NEGATIVE IMPACT OF NUCLEAR ENERGY ON THE ENVIRONMENT

*Shamzani Affendy Mohd Din & Rawia Marwan Abdul Aziz*

## 2.1 Introduction

Nuclear energy has been developed in the world over the last 50 years in order to increase the effectiveness of energy utilization and to deploy emission-free technologies. According to the International Atomic Energy Agency data, currently they are 436 nuclear power reactors in operation around the world. However, the nuclear renaissance would be harm for environment, public safety and national security with its radioactive waste and horrible hazard accidents (Dutzik, 2006). Furthermore, every year, the countries who are in charge with nuclear energy production spend massive amount of money around tens of billions of dollars on nuclear processes. For example, The United States, Europe and Japan spent tens of billions of dollars in the 1970s and 1980s trying to develop plutonium fast breeder reactors. One of the major problems that the nuclear power plant face is its location in the centers of population particularly in the coastal zone (Dutzik, 2006, p.p. 21). Thus, if an event of a nuclear accident occurs, high population density would make efficient evacuation difficult within a limited time, if not impossible.

## 2.2 ENVIRONMENTAL STATEMENT ON NUCLEAR ENERGY

The effects of nuclear energy on environment pose serious concerns that need to be considered especially the radioactive wastes, long-term disposal of solid wastes, impact of radioactive waves on organs and utilizing ocean water for plant cooling. All can be explained in the following point:

## 2.3 POWER PLANT EMISSIONS OF CARBON DIOXIDE

Nuclear power plants use uranium as fuel, therefore, they may not emit carbon dioxide during operation but definitely amounts of carbon dioxide are emitted in activities related to building and running the plants.