



# Handbook of Energy and Environmental Security

Edited by  
Muhammad Asif



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**Muhammad Asif**

King Fahd University of Petroleum and Minerals,  
Dhahran, Saudi Arabia



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# Evaluating climate change towards sustainable development

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## 1. Introduction

There is a growing awareness that our planet Earth is rapidly changing, and scientists have related those occasions to climate change. The Earth's surface temperature has been gradually rising since the late 19th century. The change is the result of a huge scale release of carbon dioxide (CO<sub>2</sub>)-related products into the air. Since 2001, CO<sub>2</sub> emissions have been more rapid and seen in an upward trend.

# Handbook of Energy and Environmental Security

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*An integrated reference of the interwoven topics "energy security" and "environmental security"*

*Handbook of Energy and Environmental Security* educates the reader about the wider dimensions of the distinctive yet intertwined subjects of "energy security" and "environmental security."

It uniquely addresses these two increasingly important topics in a comprehensive and composite manner, describing the concepts and wider dimensions of energy- and environmental security in technological, economic, social, and geopolitical perspectives. Divided into three main parts, the first part deals with the subject of energy security in terms of its concepts, broader dimensions, and allied issues, while the second part will focus on environmental security. The third part of the book will cover both subjects in a cohesive manner discussing their important interfaces and commonalities.

Providing a valuable scholarship for academics, researchers, and analysts in the fields of energy and the environment, through case studies at national and international levels, it is a source for energy- and environmental security challenges, especially in the areas of sustainable development and climate change, which require sustained cooperation on multiple fronts including knowledge and technology transfer.

## Key Features:

- Discusses the critical subjects of "energy security" and "environmental security" in a composite manner.
- Incorporates up-to-date data, case studies, and comparative assessments.
- Energy- and environmental policy frameworks are covered both from the perspective of the developed and the developing countries.

Edited by  
Muhammad Asif

Dr. Asif is a Senior Lecturer at the Glasgow Caledonian University (GCU). He completed his PhD in Applied Energy Engineering from Edinburgh Napier University in 2002. Dr. Asif is a Certified Chartered Engineer (UK), Certified Energy Manager (AEE, USA), Member of the Energy Institute (UK), and Fellow of the Higher Education Academy (UK). He sits on several international energy forums including the accreditation panel of the Energy Institute and his areas of research interests include renewable energy, energy policy, sustainable development, and life cycle assessment. He has authored over 100 research publications and 3 books. His work has been cited in several European policy documents and directives and he has provided consultancy services to a number of prominent international organizations including European Commission, Nor-Dan (Norway), and BAE Systems (UK).



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**Abstract**

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