

FOREWORD

Energy policy has been a prime area where mathematical modelling and applications blossomed since the oil crisis in early seventies. The increasing concerns about environmental impacts of energy use - such as manifested in local particulate pollution, regional effects like acid rain and global phenomenon like climate change - have led to models that now integrate the analysis of energy and environment. In the past decade, significant advancements in energy- environment modelling arose to delineate policy responses for addressing global climate change. The integrated models interface multifarious modelling methodologies and paradigms from diverse disciplines ranging from natural sciences, engineering, economics and social sciences.

Papers in this volume report both modelling and policy applications. Models reported here fall under two paradigms - top-down and bottom-up. The applications range across several countries and are focussed on national level long-term policies. The collection of papers has two-fold utility. For interest of modellers, the papers include a range of mathematical formulation and large-scale applications. Those with policy interests can derive comparative insights from applications under varying conditions across several countries. I am indebted to authors for their excellent contributions and reviewers for their painstaking work.

Prof. P. R. Shukla

Guest Editor