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Preface

The world's economic system is driven by easily available energy. Few of the advances made in the past two centuries would have been possible without the large-scale exploitation of fossil fuels. Resource depletion and predictions of severe environmental effects deriving from continued use of fossil fuels are spurring renewed interest in sustainable energy. The effort that will be required to shift from a fossil-based economy to one hinged on sustainability is massive, requiring advances in the basic sciences (materials, electrochemistry, heat transfer to name a few) through to systems engineering (buildings, electric grids, transportation) and all the way to international policymaking.

The evolution of new energy technologies and systems cannot follow the compartmentalized model that has worked so well in the past, because of the time constraint imposed by oil and global warming. All parts of the new energy economy are strongly interlinked, and researchers in the field must be aware of the entire enterprise to maximize their own contribution. This second Conference on Energy and Sustainability, offers an opportunity for scientists, professionals, policymakers and other parties to review recent developments in this rapidly changing environment. The papers contained in this book span many of the critical aspects of the new energy economy, including renewable energy technology, energy management, policy, environmental impacts, systems analysis, and efficiency.

The role of the International Scientific Advisory Committee was instrumental in promoting the meeting and attracting the many excellent contributions contained here, each of which represents years of dedicated efforts. The Editors would like to thank both the ISAC and the paper authors for their contribution.

The Editors
Bologna, 2009

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