

## Preface

The New Energy and Industrial Technology Development Organization (NEDO) and the Japan Coal Energy Center (JCOAL) have jointly prepared this guide as a review of the history of "Clean Coal Technology (CCT)" in Japan, to systematically describe the present state of CCT insofar as possible, and to provide useful material for novel technological innovation.

NEDO and JCOAL hope this brochure will be helpful in elucidating why Japan's CCT is an attractive technology in the ever-increasing complexity of coal utilization owing to global warming and other environmental issues. NEDO and JCOAL also hope this brochure will encourage rapid progress in CCT development and the foundation of innovative clean coal utilization systems.

As described herein, CCT development in Japan has reached the world's highest level of technological superiority, making the technology highly attractive to Asian countries that depend on coal as an energy source. In Japan, coal consumption has rapidly increased since 1998, with gross thermal power generation efficiency increasing from approximately 38% to 41% over the past dozen or so years. In addition, emissions of CO<sub>2</sub>, SO<sub>x</sub> and NO<sub>x</sub> per generated power unit from thermal power plants are far below the level of other industrialized countries. In this regard, CCT is expected to become standardized worldwide, satisfying both economic and environmental requirements by reducing CO<sub>2</sub> emissions and maintaining GDP growth.

Technological innovation has no boundaries; significant progress can be attained sustainably and progressively. Patient, consistent efforts to build on technological developments can support a continually evolving society. NEDO and JCOAL are confident this publication will contribute to CCT development and we look forward to the emergence of dramatic technological innovations in the coal industry.

