



**Asia-Pacific
Economic Cooperation**

Cleaner Coal: Moving towards Zero Emissions

2009 APEC Clean Fossil Energy Technical and Policy Seminar

**Oct 12 (Mon) - Oct 14 (Wed), 2009
Songdo Convesia, Incheon, Korea**

**Organized under the direction of the
APEC Expert Group on Clean Fossil Energy (EGCFE)**

Steering Committee

Japan: Ministry of Economy, Trade and Industry (METI)

Korea: Ministry of Knowledge Economy (MKE)

USA: Department of Energy (DOE)

Supported and Sponsored by

Japan: New Energy and Industrial Technology Development Organization (NEDO)

Japan Coal Energy Center-Japanese Center for Asia Pacific Coal Flow (JCOAL-JAPAC)

Korea: Korea Institute of Energy Technology Evaluation & Planning (KETEP)

Incheon Global Fair & Festival Organizing Committee (IGFFOC)

Korea Institute of Energy Research (KIER)

USA: Department of Energy (DOE) National Energy Technology Laboratory (NETL)

October 12, 2009 (Mon)

Room No: Premier Ballroom A (2F)

08:30-9:00 Registration

09:00-10:00 Opening Session

Session Chair: (Korea) Prof. Hee Chan Cho, Seoul National University

09:00-09:05 **Opening Address 1**

Mr. Scott Smouse, APEC EGCFE Chair

09:05-09:10 **Opening Address 2**

(Korea) Mr. Hong Jin, Director General for Energy Policy, Ministry of Knowledge Economy (MKE)

09:10-09:15 **Opening Address 3**

(Korea) Mr. Kab-Won Oh, Senior Vice Chairman of Global Fair & Festival, Incheon

09:15-09:20 **Opening Address 4**

(Korea) Dr. Joon-Hyun Lee, President, Korea Institute of Energy Technology Evaluation and Planning (KETEP)

09:20-09:40 **Keynote Address**

(Japan) Mr. Yoshihiko Nakagaki, Chairman, JCOAL & Corporate Adviser, J-Power

09:40-10:00 **Keynote Address**

(Korea) Dr. Jong Nam Kim, Director of Climate Change Technology Research Division, Korea Insitute of Energy Research (KIER)

10:00-10:15 Coffee Break

10:00-12:15 Session 1: Coal Demand/Supply Outlook in APEC Region (i) – Environmental Friendly Coal Policy (i)

Session Chair: (Canada) Dr. Frank Mourits, Senior Climate Advisor, Natual Resources Canada (NRCan)

10:15-10:35 **Speech 1 Coal Demand/Supply Outlook in China**

(China) TBA, Energy Bureau, National Development & Reform Commission(NDRC)

10:35-10:55 **Coal Demand/Supply Outlook in India**

(India) Mr. KS Kropha, Joint Secretary, Ministry of Coal (MOC)

10:55-11:15 **Coal Demand/Supply Outlook in Korea**

(Korea) Mr. Jae Hyeok Jang, Deputy General Manager, Korea East-West Power Co

11:15-11:35 **Coal Demand/Supply Outlook in Indonesia**

(Indonesia) Mr. Mangantar S. Marpaung, Directorate of Mineral, Coal & Geothermal Technics and Environment, Ministry of Energy and MineralResources (MEMR)

11:35-11:55 **Coal Policy in Japan**

(Japan) Mr. Yoshitaka Watabe, Director for Coal Policy, Director-General's Secretariat, Agency for Natural Resources and Energy (ANRE), Ministry of Economy, Trade and Industry (METI)

11:55-12:15 Q&A

12:15-13:30 Lunch

Room No: 113(1F)

Room No: 114(1F)

13:30-15:30	Session 2-A Advanced Clean Coal Technologies I Session Chair: (USA) Dr. Chao Chen, Manager, Power Select, Maison WorleyParsons	13:30-15:30	Session 2-B Carbon Capture & Storage (CCS) R&D I Session Chair: (Korea) Dr. Byoung Moo Min, Pricipal Researcher, Korea Institute of Energy Research (KIER)
13:30-13:50	Development of the Circulating Fluidized Bed for the Energy Technology in Korea <i>(Korea) Dr. Do Won Shun, Principal Researcher, Korea Institute of Energy Research (KIER)</i>	13:30-13:50	International Energy Agency Perspective on CCS <i>(IEA) Dr. Keith Burnard, Senior Energy Technology Specialist, International Energy Agency (IEA)</i>
13:50-14:10	R&D on Coal Water Mixtures as Preparation of a CWM Demonstration Plant in Indonesia <i>(Indonesia) Dr. Datin Fatia Umar, Dr. Bukin Daulay and Mr. Chiaki Suyama, tekMIRA</i>	13:50-14:10	Guidelines for CCS-Ready Power Plants in APEC Developing Economies (APEC Project Report) <i>(Australia) Dr. Rod Boyd, Associate, Aurecon</i>
14:10-14:30	Role of Advanced Coal Cleaning Technologies in Greenhouse Gas Reduction <i>(USA) Dr. Roe-Hoan Yoon, Director, Center for Advanced Separation Technologies, Virginia Polytechnic University</i>	14:10-14:30	CCS Policy and Development Status in Japan <i>(Japan) Dr. Masato Takagi, Director, Tokyo Branch, Research Institute of Innovative Technology for the Earth (RITE)</i>
14:30-14:50	R&D on Clean Coal Technology in Indonesia <i>(Indonesia) Dr. Bukin Daulay, Head, Agency of R&D for Energy and MineralResources, R&D Centre for Mineral and Coal Technology (tekMIRA), Ministry of Energy and Mineral Resources</i>	14:30-14:50	Update on the Weyburn CCS Project <i>(Canada) Dr. Frank Mourits, Senior Climate Advisor, Natual Resources Canada (NRCan)</i>
14:50-15:10	Plasma Ignition Technology for New and Retrofit Pulverized Power Plants <i>(China), Ms. Zhao Xin, Deputy manager of Securities Dep., Guodian Technology & Environment Group Co., Ltd.</i>	14:50-15:10	GreenGen-Near Zero Emission Coal Based Power Demonstration Project in China <i>(China) Dr. Xu Yue, Director, Thermal Power Research Institute (TPRI)</i>
15:10-15:30	Q & A	15:10-15:30	Q & A

15:30~15:50 Coffee Break

15:50-17:50	Session 3-A Advanced Clean Coal Technologies II Session Chair: Dr. Roe-Hoan Yoon, USA	Session 3-B Carbon Capture & Storage (CCS) R&D II Session Chair: Dr. Keith Burnard, Senior Energy Technology Specialist, International Energy Agency (IEA)
15:50-16:10	NEDO's Activities for Clean Coal Technology (Japan) Mr. Manabu Hirata, Project Coordinator, Environment Technology Development Dept., NEDO	Current Status CCS R&D in Korea (Korea) Ms. Ga-Hye Yun, Researcher, Korea Institute of Energy Technology Evaluation and Planning (KETEP)
16:10-16:30	KIER CTL Project's Status and Prospect (Korea) Dr. Heon Jung, Center Leader, Clean Fossil Energy Research Center, Korea Institute of Energy Research (KIER)	Update on CCS in the United States (USA) Mr. Scott Smouse, Senior International Manager, U.S. Department of Energy, National Energy Technology Laboratory (USDOE/NETL)
16:30-16:50	EcoNomics - A Systematic Analysis Methodology and Tool for Fossil Fuel Power and CCS Project Evaluation (China/USA) Dr. Chao Chen, Manager, Power Select, Maitson WorleyParsons	GCCSI Update (Australia) TBA, Global CCS Institute
16:50-17:10	Development Status of IGCC in Korea (Korea) Dr. Dal Hong Ahn, Leader of IGCC Project, Korea Electric Power Research Institute (KEPRI)	Oxy-Combustion: A Sound Near-Term Technology to Achieve CO₂ Emissions Reduction - Developments and Next Steps. (USA) Dr. Nsakala Y. Nsakala, Oxy-CFB Program Manager, Alstom Power, Inc.
17:10-17:30	Australian CCT and CCS Developments (Australia) Mr. John Karas, Manager, Clean Coal Technology Section, Resources Division, Department of Resources, Energy and Tourism (DRET)	Present Status of Oxy-fuel Combustion Project in Korea (Korea) Dr. Sung Chul Kim, Leader of Oxy-fuel Combustion Project, Korea Electric Power Research Institute (KEPRI)
17:30-17:50	Q&A	Q&A

17:50 Day 1 Adjourns

18:30-20:30 Dinner Reception (Hosted by Incheon Global Fair & Festival)

Room No: Premier Ballroom B

October 13, 2009 (Tue)

Room No: Premier Ballroom A (2F)

08:00-08:30 Registration

08:30-10:10 **Session 4: Coal Demand/Supply Outlook in APEC Region (i) – Environmental Friendly Coal Policy (ii)**
Session Chair (US) Dr. William Watson, Coal Team Leader, Energy Information Administration (EIA), DOE

08:30-08:50 **Coal Demand/Supply Outlook in Canada**

(Canada) Dr. Frank Mourits, Senior Climate Advisor, Natural Resources Canada (NRCan)

08:50-09:10 **Coal Demand/Supply Outlook in Vietnam**

(Vietnam) Dr. Cao Quoc Hung, Director General, Int'l Cooperation Dept., Ministry of Industry and Trade (MOIT)

09:10-09:30 **Coal Demand/Supply Outlook in Malaysia**

(Malaysia) En Ahmad Johari Jaffar, Head of Market Operations Unit, Electricity Supply Regulatory Department, Energy Commission, Ministry of Energy, Green Technology and Water (KettHA)

09:30-09:50 **Coal Demand/Supply Outlook in the Philippines**

(Philippines) Mr. Nenito Jariel, Jr., or Mr. Redentor Morelors, Department of Energy (DOE)

09:50-10:10 **Coal Demand/Supply Outlook in Australia**

(Australia) Mr. John Karas, Manager, Clean Coal Technology Section, Resources Division, Department of Resources Energy and Tourism (DRET)

10:10-10:30 Coffee Break

10:30-11:00 **Featured Address; (Korea) Energy Policy for Climate Change, Dr. Jin Kyu Oh, Director, Department of Climate Change Research, Korea Energy Economics Institute (KEEI)**

11:00-13:00 **Session 5: Coal Demand/Supply Outlook in APEC Region (i) – Environmental Friendly Coal Policy (iii)**

Session Chair (Canada) Dr. Frank Mourits, Natural Resources Canada (NRCan)

11:00-11:20 **Coal Demand/Supply Outlook in United States**

(USA) Dr. William Watson, Coal Team Leader, Energy Information Administration (EIA), Department of Energy (DOE)

11:20-11:40 **Coal Demand/Supply Outlook in Russia**

(Russia) Mr. Dmitry Sokolov, International Researcher, Center for Energy Research, Northeast Asia (CERNA), Korea Energy Economics Institute (KEEI) seconded from System Energy Institute (SEI), Siberian Branch of Russian Academy of Science (SBRAS)

11:40-12:00 **Coal Demand/Supply Outlook in Thailand**

(Thailand) Mr. Sittichod Wantawin, Executive Director, Bureau of Energy Policy & Planning, Energy Policy and Planning Office (EPPO), Ministry of Energy (MOE)

12:00-12:20 **Coal Demand/Supply Outlook in Chinese Taipei**

(Chinese Taipei) Mr. Hung-Shie Lo, Chief, Electricity Division, Bureau of Energy, Ministry of Economic Affairs, Ministry of Economic Affairs (MOEA)

12:20-12:40 **Coal Demand/Supply Outlook in the World**

(Japan) Dr. Shigeki Sakurai, Senior Executive Director, Japan Coal Energy Center (JCOAL)

12:40-13:00 Q&A

13:00-14:30 Lunch

Room No : Premier Ballroom B (2F)

14:30-15:00 **Featured Address; (Korea) Obstacles and Path for Actual Implementation of CCT in Korea**
Dr. Yongseung Yun, Head of Plant Engineering Center, Institute for Advanced Engineering

15:00-16:00 **Session 6: Panel Discussion: Cleaner Coal - Towards Zero Emission**

Moderator: Prof. Hyung Taek Kim, Ajou University, Korea

Panelist 1: (IEA) Dr. Keith Burnard, Senior Energy Technology Specialist, International Energy Agency (IEA)

Panelist 2: (USA) Dr. Nsakala Y. Nsakala, (USA) Dr. Nsakala Y. Nsakala, Oxy-
CFB Program Manager, Alstom Power, Inc.

Panelist 3: (Australia) Mr. John Karas, Manager, Clean Coal Technology Section, Resources Division, Department of Resources, Energy and Tourism (DRET)

Panelist 4: (Japan) Mr. Hirotohi Kunitomo, Director, Coal Division, Natural Resources and Fuel Department, Agency for Natural Resources and Energy (ANRE), Ministry of Economy, Trade and Industry (METI)

16:00-16:10 **Closing Remarks : Mr. Scott Smouse, APEC EGCFE Chair**

16:10 Day 2 Adjourns

16:30-19:30 **APEC EGCFE Business Meeting (Official Representatives Only)**

Room No : 301 (3F)

October 14, 2009 (Wed)

TECHNICAL TOUR

9:30 ~ 12:00

Yeongheung Thermal Power Plant