



**Asia-Pacific
Economic Cooperation**

***New Developments in Clean Coal and
CO2 Reduction Technologies***

APEC Clean Fossil Energy Technical and Policy Seminar 2010

FINAL ANNOUNCEMENT

(DRAFT#2)

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**HILTON FUKUOKA SEA HAWK
FUKUOKA, JAPAN
27-29 OCTOBER 2010**
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***ORGANIZED UNDER THE DIRECTION OF THE
APEC EXPERT GROUP ON CLEAN FOSSIL ENERGY (EGCFE)***

STEERING COMMITTEE

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

USA: Department of Energy (DOE)

Canada: Natural Resources Canada (NRCan)

Australia: Department of Resources, Energy and Tourism (DRET)

SEMINAR SECRETARIAT

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

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

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

USA: Department of Energy (DOE)

National Energy Technology Laboratory (NETL)

Canada: Natural Resources Canada (NRCan)

Australia: Department of Resources, Energy and Tourism (DRET)

Day 1

October 27, 2010 (Wednesday)

08:30-9:00 Registration

MC(Japan) Mr. Nobuyuki Hara, Director, Environment Department, New Energy and Industrial Technology Development Organization (NEDO)

09:00-10:50 Opening Session

Chair: (Japan) Mr. Sadao Wasaka, Senior Executive Director, New Energy and Industrial Technology Development Organization (NEDO)

09:00-09:10 Opening Address

Mr. Scott Smouse, APEC EGCFE Chair

09:10-09:20 Welcome Remarks 1

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

09:20-09:30 Welcome Remarks 2

(Japan) Mr. Wataru Aso, Governor, Fukuoka Prefecture

09:30-09:50 Featured Speech 1 Coal Policy and Contribution towards CO2 Reduction in the World

(Japan) ANRE, METI

09:50-10:10 Featured Speech 2 The Role of Coal in a Low-Carbon Future

(IEA) Mr. Bo Diefalussy, Director, Directorate of Sustainable Energy Policy and Technology, IEA

10:10-10:30 Featured Speech 3

(US) Mr. Jarad Daniels, Director, Office of Planning & Environmental Analysis, Office of Fossil Energy, Department of Energy (DOE)

10:30-10:50 Special Report Outlook of Coal Demand/Supply and Countermeasures towards CO2 Reduction in the APEC Region

(Japan) Mr. Atsuo Sagawa, Senior Analyst, Coal Group, Strategy and Industrial Research Unit, The Institute of Energy Economics, Japan(IEEJ)

10:50-11:10 Coffee Break

11:10-12:10	Session 1-A: Coal Policy in the APEC Economies(i) Chair: (US) TBA, DOE	Session 1-B: Coal Policy in the APEC Economies(ii) Chair: (Japan) Mr. Masamichi Hashiguchi, Director, Coal Division, Natural Resources and Energy (ANRE), Ministry of Economy, Trade and Industry (METI)
11:10-11:20	Speech 1: Coal Policy and CO2 Reduction in China (China) Mr. Sun Yang, Department of International Cooperation, National Energy Administration (NEA)	Speech 1: Coal Policy and CO2 Reduction in Australia (Australia) Mr. John Karas, Manager, Low Emissions Coal Policy Section, Department of Resources, Energy and Tourism (DRET)
11:20-11:30	Speech 2: Coal Demand & Supply in Canada (Canada) Dr. Frank Mourits, Senior Science & Technology Advisor, Natural Resources Canada (NRCan)	Speech 2: Coal Demand & Supply Situation in Russia (Russia) Mr. Konstantin Alekseev, Director, Coal and Peat Industry Department, Ministry of Energy of the Russian Federation
11:30-11:40	Speech 3: Coal Policy and CO2 Reduction in the Philippines (Philippines) Ms. Alicia N. Reyes, Director of the Energy Resources Development and Management (ERDB), Department of Energy (DOE)	Speech 3: Coal Policy and CO2 Reduction in Indonesia (Indonesia) Mr. Bambang Setiawan, Director-General, Mineral, Coal and Geothermal, Ministry of Energy and Mineral Resources(MEMR)
11:40-11:50	Speech 4: Coal Policy and CO2 Reduction in Korea (Korea) Dr. Sungchul Kim, Project Leader, KEPCO Research Institute	Speech 4: Coal Policy and CO2 Reduction in Vietnam (Vietnam) Mr. Le Tri Hung, General Manager, International Cooperation Division, VINACOMIN(tentative)
11:50-12:00	Speech 5: Coal Policy and CO2 Reduction in Malaysia (Malaysia) Ms. Loo Took Gee, Secretary-General, Ministry of Energy, Geology and Water(MEGW)(tentative)	Speech 5: Coal Policy and CO2 Reduction in Chinese Taipei (Chinese Taipei) Dr. Jyuung-Shiau Chern, Chief, Energy Affairs, Bureau of Energy, Ministry of Economic Affairs (MOEA)(tentative)
12:00-12:10	Speech 6: Coal Policy and CO2 Reduction in Thailand (Thailand) Dr. Boonrod Sajjakulnukit, King Mongkut's University of Technology Thonburi (KUMUTT) (former Senior Official, Ministry of Energy)	Speech 6: Coal Policy and CO2 Reduction in India (India) Mr. ICP Keshri, Joint Secretary (Thermal), Ministry of Power (MOP)(tentative)

12:10-13:30 Lunch

13:30-13:50 Featured Speech 4: Clean Energy in Asia

(Japan) Prof Dr. Hideo Nagashima, Vice President, Kyusyu University

13:50-15:10 Session 2: CO2 Reduction by Diffusion of High-Efficient Coal-Fired Power Generation (i)

Chair: (Japan) Mr. Tadahisa Okabe, Director General, Environment Department, New Energy and Industrial Technology Development Organization (NEDO)

- 13:50-14:10 **Keynote Address1; Japan's Role for solving the Environmental Issues in APEC region**
(Japan) Mr. Yoshihiko Nakagaki, Chairman, Japan Coal Energy Center (JCOAL)/ Corporate Adviser, J-Power
- 14:10-14:30 **Speech 1: Introduction and the Issues of USC Technology in China**
(China) Ms. Xiaolu Zhang, Vice President, China Power Investment Corporation (CPI)
- 14:30-14:50 **Speech 2: Introduction and the Issues of USC Technologies in Korea**
(Korea) Dr. Seonman Loh, General Manager, Power Department, Korea South-East Power Co.(KOSEP)
- 14:50-15:10 **Speech 3: CO2 Reduction by Development of High-Efficient Coa-Fired Power Generation in Japan**
(Japan) Mr. Kazuhiro Izaki, General Manager, Thermal Power Department, Thermal Power Generation Division, Kyushu Electric Power Co., Ltd.

15:10-15:30 Coffee Break

15:30-15:50 Featured Speech 5: ADB's Support towards Efficient Coal-Fired Power Generation
(ADB) Mr. Jong-Inn Kim, Lead Professional(Energy), Sustainable Infrastructure Division, Regional and Sustainable Development Department, Asian Development Bank (ADB)

15:50-16:50 Session 3: CO2 Reduction by Diffusion of High-Efficient Coal-Fired Power Generation (ii)
Chair: (Australia) Mr. John Karas, Manager, Low Emissions Coal Policy Section, Department of Resources, Energy and Tourism (DRET)

- 15:50-16:10 **Speech 1: IGCC and ICS – Advanced Technology from Japan to the World – From Demonstration To Commercial Application -**
(Japan) Mr. Takao Hashimoto, General Manger, IGCC & Gasification Business, Power Systems HQ, Mitsubishi Heavy Industries, Ltd. (MHI)
- 16:10-16:30 **Speech 2: China's GreenGen Project and CO2 Reduction**
(China) Mr. Zhang Suian, Department of Coal, National Energy Administration (NEA)
- 16:30-16:50 **Speech 3: IGCC plus CCS Project in US**
(US) Dr. Roe-Hoan Yoon, Mining and Minerals Engineering, Virginia Polytechnic Institute and State University

16:50 Day 1 Adjourns

17:30-20:00 Official Welcome Dinner

Day 2

October 28, 2010 (Thursday)

08:30-09:00 Registration

09:00-09:20 Featured Speech 6: Support towards CCS Demonstration Project by GCCSI
(GSSCI) Mr. Mark Bonner, Senior Specialist, Policy and Strategy, Global CCS Institute

09:20-12:00	Session 4-A (i): Low Rank Coal Utilization Technology (i) Chair: (Japan) Prof Isao Mochida, Kyushu University	Session 4-B (i): CCS Development in APEC Economies Chair: (Korea) Dr. Byungmoo Min, Principal Research Engineer, Korea Institue for Energy Research (KIER)
09:20-09:40	Speech 1: Low Rank Coal Utilization by HWT (Japan) Mr. Yoshiki Ueno, Senior Engineer, Technology and Development Department, JGC Corporation	Speech 1: Current Status of CCS R&D in Japan (Japan) Dr. Masato Takagi, Director, Tokyo Branch, Expert Director, Research Planning Group, Research Institute of Innovative Technology for the Earth (RITE)
09:40-10:00	Speech 2: Manufacturing of Chemical Materials by Low Rank Coal Gasification in China (China) TBA, Institute of Coal Chemistry	Speech 2: Overview and Status of CCS Developments in Canada (Canada) Dr. Frank Mourits, Senior Science & Technology Advisor, Natural Resources Canada (NRCan)
10:00-10:20	Speech 3: Investigation of Clean Methane Production from Low Rank Coal (Japan) Mr. Masataka Masuda, Manager, Process Engineering Team, AATG Process Development PJ Team, Engineering Department, Osaka Gas Co., Ltd.	Speech 3: Current Status of CCS Project in Korea (Korea) Dr. Kynwoo Han, Senior Research Engineer, Research Institute of Industrial Science and Technology (RIST)

10:20-10:40 Coffee Break

10:40-12:00	Session 4-A (ii): Low Rank Coal Utilization Technology (ii) Chair: (Indonesia) Mr. Bambang Setiawan, Director-General, Mineral, Coal and Geothermal, Ministry of Energy and Mineral Resources(MEMR)	Session 4-B (ii): CCS Development in APEC Economies (ii) Chair: (Canada) Dr. Frank Mourits, Senior Science & Technology Advisor, Natural Resources Canada(NRCan)
10:40-11:00	Speech 1: Low Rank Coal Utilization in Indonesia <i>(Indonesia) Mr. Jeffrey Mulyono, Vice Chairman, Standing Committee, Indonesia Chamber of Commerce and Industry (KADIN) / President Director, PT Bhakti Energi Persada</i>	Speech 1: Toshiba's Activity in Post Combustion CO2 Capture Technology <i>(Japan) Mr. Kiyoshi Miyaake, Senior Fellow, Thermal & Hydro Power Systems & Services Division Toshiba Corporation Power Systems Company</i>
11:00-11:20	Speech 2: New Brown Coal Utilization <i>(Australia) TBA, Monash University</i>	Speech 2: Current Status of CCS Project in US <i>(US) Dr. Nsakala Nsakala, Principal Consulting Engineer Alstom Power Co., Ltd.(tentative)</i>
11:20-11:40	Speech 3: Twin IHI Gasifier(TIGAR) Technology for Chemical Feedstock <i>(Japan) Mr. Shuzo Watanabe, General Manager Gasification & Oxy-Fuel Combustion, Power Plant Division, IHI Corporation</i>	Speech 3: Current Status of CCS Project in Chinese Taipei <i>(Chinese Taipei) Dr. Simon Chin-Yu Tung, Vice President and General Manager, Industrial Technology Research Institute (ITRI), Energy and Environment Research Laboratories (tentative)</i>
11:40-12:00	Speech 4: Future Perspective of Low Rank Coal Utilization <i>(Japan) Dr. Shunichi Yanai, Director, Environment Department, New Energy and Industrial Technology Development Organization (NEDO)</i>	Speech 4: Assessment of the Capture and Storage Potential of CO2 Co-Produced with Natural Gas in South-East Asia <i>(Australia) Dr. Guy Allinson, Senior Lecturer, School of Petroleum Engineering, University of New South Wales (UNSW)</i>

12:00-13:00 Lunch

13:00-14:45 Session 5 Panel Discussion : Direction on CO2 Reduction in APEC Region
Moderator: (Japan) Prof Takeo Kikkawa, Graduate School of Commerce and Management, Doctor of Economics, Hitotsubashi University

- Panelist 1 *(Australia) Mr. John Karas, Manager, Low Emissions Coal Policy Section, Department of Resources, Energy and Tourism (DRET)*
- Panelist 2 *(US) Mr. Jarad Daniels, Director, Office of Planning & Environmental Analysis, Office of Fossil Energy, Department of Energy (DOE)*
- Panelist 3 *(Indonesia) Mr. Bambang Setiawan, Director-General, Mineral, Coal and Geothermal, Ministry of Energy and Mineral Resources(MEMR)*
- Panelist 4 *(China) Mr. Sun Yang, Department of International Cooperation, National Energy Administration (NEA)*
- Panelist 5 *(Canada) Dr. Frank Mourits, Senior Science & Technology Advisor, Natural Resources Canada (NRCan)*
- Panelist 6 *(Japan) Mr. Masamichi Hashiguchi, Director, Coal Division, Natural Resources and Fuel Department, Agency for Natural Resources and Energy (ANRE), Ministry of Economy, Trade and Industry (METI)*

15:00-15:10 Closing Remarks: Mr. Scott Smouse, APEC EGCFE Chair

15:10 Day 2 Adjourns

15:30-18:00 APEC EGCFE Business Meeting (Official Representatives Only)

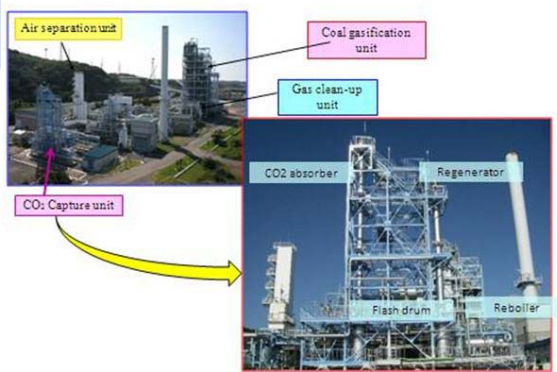
TECHNICAL TOUR
 8:30 ~ 16:00
EAGLE (Coal Gasification) Pilot Plant, J-POWER

- 08:30 Depart from Hilton Fukuoka Sea Hawk by bus
- 10:00 Plant tour
- 12:30 Depart from the Plant
- 13:00 Lunch
- 16:00 Arrival back to Hilton Fukuoka Sea Hawk

INFORMATION

EAGLE (Coal Gasification) PILOT PLANT, J-POWER

EAGLE Pilot Plant facilities



Specifications of EAGLE Pilot Plant

<p>Coal Gasifier</p> <ul style="list-style-type: none"> Coal Feed Rate Gasification Pressure <p>Cleanup System</p> <ul style="list-style-type: none"> Syngas Flow Sulfur Recovery <p>Air Separation Unit</p> <ul style="list-style-type: none"> Air Feed Rate Oxygen Production Oxygen Purity <p>CO2 Capture</p> <ul style="list-style-type: none"> Processed Gas Volume CO shift reactor CO2 absorption 	<p>Oxygen-blown Entrained-flow</p> <ul style="list-style-type: none"> 150 tons per day 2.5 MPag <p>Cold Cleanup Using MDEA</p> <ul style="list-style-type: none"> 14,800 m³N/h Limestone-gypsum process <p>Pressurized Cryogenic Separation</p> <ul style="list-style-type: none"> 27,500 m³N/h 4,600 m³N/h 95.0 vol% <p>Sweet CO shift & MDEA</p> <ul style="list-style-type: none"> 1,000 m³N/h 3-stage shift reactor (HTS× 2, LTS× 1) MDEA base absorbent
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EAGLE Pilot Plant

Hilton Fukuoka Sea Hawk

