

NINTH MEETING OF APEC ENERGY MINISTERS

FUKUI DECLARATION ON LOW CARBON PATHS TO ENERGY SECURITY: COOPERATIVE ENERGY SOLUTIONS FOR A SUSTAINABLE APEC

Fukui, Japan, 19 June 2010

Message from APEC Energy Ministers

1. We, Energy Ministers of the APEC economies, gathered in Fukui, Japan on 19 June 2010, to discuss Low Carbon Paths to Energy Security: Cooperative Energy Solutions for a Sustainable APEC. Such solutions should be integral to the APEC Growth Strategy.
2. We met with the understanding that we have to take on the difficult challenge of **enhancing regional energy security**, in the midst of emerging concerns about the global environment and world economy. More efficient use of energy and a cleaner energy supply will simultaneously boost our energy security, grow our economies and lower our emissions. To achieve all three goals at once will require strong leadership. We therefore commit to further strengthen the Energy Security Initiative (ESI) endorsed by the APEC Leaders in 2001 and to undertake new measures to build upon it.
3. **Fossil fuels** will continue to play a key role in the APEC energy market as economies develop new and unconventional energy sources. Open and transparent investment regimes, with due observance to each economy's respective laws and regulations, are important for development of new and traditional energy forms alike.
4. APEC economies should continually strengthen their ability to **respond to oil supply disruptions** through further development of emergency response mechanisms, improved real-time information sharing and establishment and effective management of strategic oil stocks as appropriate.

5. Enhanced **natural gas** production and trade, drawing upon new discoveries, can ease the transition to a low-carbon economy since gas has far lower carbon footprint than other fossil fuels for power production and enables greater use of intermittent renewable energy sources. Unconventional gas resources can also boost the region's energy security by making it more self-sufficient. We therefore need to evaluate the potential for unconventional gas resources to increase gas production and trade in APEC.

6. **Improving energy efficiency** is one of the quickest, greenest and most cost-effective ways to address energy security, economic growth and climate change challenges at the same time. More efficient transport, industry, buildings and equipment help limit direct fossil fuel needs as well as demand for electricity which continues to be generated in large part from natural gas and coal. Thus, energy efficiency measures can reduce the region's reliance on oil and gas imports and carbon emissions from fossil fuel combustion.

7. We commend the **Peer Review on Energy Efficiency (PREE)** which has been successfully carried out for four APEC economies and urge additional economies to participate. We also welcome the contributions made by Japan, Chinese Taipei and the United States to the APEC Support Fund to promote energy efficiency activities in the region.

8. The **aspirational energy intensity reduction goal** agreed to by the APEC Leaders, to reduce the ratio of energy use to economic output by at least 25 percent from 2005 levels by 2030, will be far surpassed if recent trends continue. We therefore instruct the Energy Working Group (EWG) to intensify analysis of the potential for further energy intensity improvement with a view to recommending an enhanced goal.

9. **Energy-efficient buildings and appliances** are key to a sustainable future since the building sector accounts for two-fifths of energy use in the region. Net Zero Energy Buildings are being developed using energy-efficient appliances, components and systems. Trade and investment in energy efficient appliances can be encouraged through more harmonized standards and testing methods. We are therefore launching a Collaborative Assessment of Standards and Testing (CAST) for such appliances.

10. **Fuel-efficient vehicles** using lightweight materials and other advanced technologies can greatly reduce both oil consumption and carbon emissions. **Electric drive and other alternative fuel vehicles** also provide a major opportunity to shift transport fuels from oil to other energy sources.

11. **Cleaner energy supply** also boosts both sustainable development and energy security. **Low emission power sources** - renewable, nuclear and fossil-fuels with carbon capture and storage - can allow electricity generation to expand in a sustainable fashion without the risk of needing to be curtailed to cope with climate change; their deployment should be promoted. Biofuels from sustainable biomass sources can displace a share of oil use and crude oil imports for transportation, and they have a far smaller carbon footprint. We remain committed to the 2009 Leaders' Declaration to rationalize and phase out over the medium term fossil fuel subsidies that encourage wasteful consumption, while recognizing the importance of providing those in need with essential energy services.

12. **Renewable energy** technologies, including solar, wind, geothermal and bioenergy for electricity and biofuels for transport, are declining in cost and diversifying the energy supply mix. We therefore urge continued technology development efforts to further reduce their costs, standardize products, develop supply sources, and share best practices to accelerate their use in electricity generation, buildings and transport sectors.

13. A growing number of interested economies are using **nuclear power** to diversify their energy mix and limit carbon emissions. These economies are reaffirming their international commitment to safety, security and non-proliferation as the fundamental elements for the peaceful use of nuclear energy. We therefore need to assess the emissions reduction potential of nuclear power in APEC. Solid financial frameworks, as well as cooperation among member economies and with relevant multilateral organizations, can help to support new nuclear power plant construction consistent with this commitment.

14. Cost-effective technologies for **carbon capture and storage (CCS)** are essential to reducing carbon emissions from power generation within the many APEC economies that still rely on coal and other fossil fuels for a significant portion of

- their electricity generation. **Clean coal technologies** are available to make the use of coal more efficient and lower-emitting. We therefore urge redoubled efforts to develop and deploy such technologies and share information on them through multilateral fora.
15. **Smart grid technologies**, including advanced battery technologies for highly-efficient and cost-effective energy storage, can help to integrate intermittent renewable power sources and building control systems that let businesses and consumers use energy more efficiently, and they can also help to enhance the reliability of electricity supply, extend the useful life of power system components, and reduce system operating costs.
 16. Introduction of low-carbon technologies in city planning to boost energy efficiency and reduce fossil energy use is vital to manage rapidly growing energy consumption in urban areas. We have therefore launched an **APEC Low-Carbon Model Town Project** to present successful models for coordinated usage of advanced low-carbon technologies.
 17. To enhance energy security and accelerate deployment of clean energy technologies throughout the APEC region, we encourage **enhanced cooperation** with other multilateral fora and with the private sector in our region whose experience and investment will be vital to this endeavor.
 18. We look forward to the first-ever joint meeting of energy and transport high level officials in the United States in 2011. We also anticipate an energy ministers' meeting to be held in Russia in 2012.

Instructions from APEC Energy Ministers

1. We instruct the Energy Working Group (EWG) to implement the studies and initiatives in its **Work Plan**, with support from the Asia Pacific Energy Research Centre (APEREC), Expert Group on Clean Fossil Energy (EGCFE), Expert Group on Energy Data and Analysis (EGEDA), Expert Group on Energy Efficiency and Conservation (EGEEC), Expert Group on New and Renewable Energy (EGNRET), Biofuels Task Force (BTF), and Energy Trade and Investment Task Force (ETITF), as well as through cooperation with relevant multilateral fora. We

direct the EWG and its subsidiary bodies to continue their important contributions to formulating and implementing the APEC Growth Strategy and its sustainable growth pillar.

2. We encourage the EWG and member economies to contribute to the implementation of the Copenhagen Accord taken note of at the 15th Conference of the Parties (COP-15) in December 2009 and promote technology diffusion through the public-private partnership.

ENERGY SECURITY

3. We instruct the EWG to develop joint programs with the International Energy Agency (IEA) to improve response to oil and gas emergency situations in the APEC region, such as energy response workshops and exercises, and we welcome the commitment of APEC member economies to participate in such activities.
4. We instruct the EWG to conduct an **Unconventional Gas Census** to evaluate the potential of unconventional resources and to recommend cooperative actions which could increase natural gas output, boost natural gas trade and use, and moderate natural gas prices to the extent appropriate both for producers and consumers in the APEC region, with assistance from APERC, EGCFE and EGEDA.
5. We instruct the EWG and BTF to continue assessing the **resource potential for biofuels** to displace petroleum-based fuels, the relative costs of biofuels, sustainable development practices for biofuels and strategies for expanding biofuels infrastructure, in cooperation with the Automotive Dialogue and the Transportation Working Group (TWG).
6. We instruct the EWG and EGEDA to continue collecting complete, accurate and timely **oil and gas data** for contribution to the Joint Oil Data Initiative (JODI) in cooperation with other relevant bodies where necessary, to extend their capacity building in energy statistics to interested economies, and to support multilateral initiatives for more transparent and less volatile energy commodity markets. We also instruct the EWG to work with the IEA to analyze remaining inefficient

fossil fuel subsidies that encourage wasteful consumption with a view to their rationalization and phase out.

7. We instruct the EWG to progress the Plan of Action for the Energy Trade and Investment Task Force, and in particular to support the APEC Environmental Goods and Services (EGS) Work Programme with assistance from the EGEEC, in view of the EWG's expertise on EGS in the energy sector. We also instruct the EWG to elaborate an Initiative of Capacity Building for Promoting Market Development of Green Energy Products in cooperation with the Committee on Trade and Investment (CTI).

ENERGY EFFICIENCY

8. We instruct the EWG to **assess the potential for reducing the energy intensity of economic output in APEC economies** between 2005 and 2030, beyond the 25 percent aspirational goal already agreed by the APEC Leaders, with assistance from APERC, EGEDA and EGEEC.
9. We Instruct the EWG and APERC to keep promoting energy efficiency through the **Peer Review on Energy Efficiency (PREE)** and the **Cooperative Energy Efficiency Design for Sustainability (CEEDS)**, and to consider follow-up efforts including capacity building activities, policy research support and processes to gauge the success of member economies' efforts to implement the recommendations of these programs.
10. We instruct the EWG and EGEEC to strengthen the APEC Energy Standards Information System (ESIS) and to conduct a series of **Collaborative Assessments of Standards and Testing (CAST)** for the energy-intensive appliances identified by CEEDS in cooperation with the Renewables and Efficiency Deployment Initiative (Climate REDI) of the Major Economies Forum (MEF).
11. We instruct the EWG to conduct a series of workshops on the potential **fuel and carbon savings from electrification of the transport sector, energy efficient freight, transit-oriented development and other energy efficient transport strategies**, in cooperation with the TWG.

CLEAN ENERGY SUPPLY

12. We instruct the EWG to explore mechanisms to encourage economies to set **individual goals and action plans for introducing low-emission power sources**, building upon the success of the PREE, with assistance from APERC and relevant technology expert groups.

13. We instruct the EWG to extend and **reinforce its analysis of technology options for CCS** and its dissemination of best practices for applying these technologies to new and existing powerplants, working with the EGCFE and other multilateral fora. We also instruct the EWG and EGCFE to **develop an initiative for deploying advanced clean coal technologies** such as Ultra Super Critical (USC) and Integrated Gasification Combined Cycle (IGCC) to make coal-fired powerplants more efficient.

14. We instruct the EWG to continue its **assessment of renewable energy options** for reducing carbon emissions, spurring investment and creating new jobs, in cooperation with EGNRET and the Small and Medium Enterprises (SME) Working Group.

15. We instruct the EWG to undertake a **Nuclear Power Emissions Reduction Potential Study (NUPERPS)** on the potential for existing and planned nuclear powerplants in interested APEC economies to reduce carbon emissions. We instruct the EWG to consider possible cooperation with other relevant organizations such as the International Atomic Energy Agency (IAEA), including its Asian Nuclear Safety Network (ANSN).

16. We instruct the EWG to start an **APEC Smart Grid Initiative (ASGI)** to evaluate the potential of smart grids to support the integration of intermittent renewable energies and energy management approaches in buildings and industry.

17. We instruct the EWG to develop **APEC Technology Development Roadmaps** for key energy technologies in cooperation with the IEA, the Major Economies

Forum (MEF) and others that accelerate collective efforts to deploy such technologies.

18. We instruct the EWG to establish a Task Force to implement an **APEC Low-Carbon Model Town Project**. The Low-Carbon Model Town Task Force should develop the concept of a Low Carbon Town, conduct feasibility studies to encourage creation of low-carbon communities in urban development plans, and share best practices for making such communities a reality.