



# Articles on 19<sup>th</sup> World Energy Congress Sydney, Australia September 6-9, 2004

Prepared by  
Members of the  
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L to R: Kinley Dorji, Pradeep Puri, Balaji Chandramouli, Bikash Thapa, Anton Tyron Devotta, Baduil Alam, Prakash Adhikari, Mollah Hossain, Ericka Monger with USEA, A.A. Shanikla Sriyananda

# INTRODUCTION

The World Energy Congress (WEC) is recognized as the principal triennial event of the global energy sector. The Congress brought together thousands of participants from the more than ninety WEC Member countries and others. Participants included leaders and professionals in the energy industries, government ministers; advisors and officials; head of international energy organizations; academics and researchers representatives of the media; and many others.

The Program consisted of Keynote Addresses, Round Tables, Technical Paper Sessions and Media Press Briefings. The Theme for the Sydney WEC Congress was “Delivering Sustainability: Opportunities and Challenges in the Energy Industry.”

The U.S. Energy Association (USEA) organized an executive business trip as part of the South Asia Forum for Energy Journalists for nine South Asian journalists to attend the 19<sup>th</sup> World Energy Congress in Sydney, Australia from September 6-9, 2004. This program was funded by the U.S. Agency for International Development as part of the South Asia Regional Initiative for Energy Cooperation and Development (SARI/Energy). This program gave energy journalists an opportunity to learn about the energy accessibility, availability and acceptability, which is fundamental to political stability worldwide. The theme challenged the world energy community to set the right course for the sustainable supply of energy and for its use for the benefit of all.

As part of the program the nine energy journalists participated and covered the Congress. During the five days of events, the journalists covered a variety of topics and participated in numerous press briefings by energy officials and ministers. Attached are the articles that they submitted to their media organizations during their time at the WEC Congress.

The journalists that attended the 19<sup>th</sup> World Energy Congress are listed below:

- Baduil Alam, City Editor, The News Today, Bangladesh
- Mollah M. Amzad Hossain, Editor, Energy & Power, Bangladesh
- Kinley Dorji, Reporter/Web editor, Kuensel Corporation, Bhutan
- Balaji Chandramouli, Special Correspondent, Hindu Business Line, India
- Pradeep Puri, Managing Editor, Petrowatch, India
- Prakash Adhikari, Secretary, National Union of Journalists, Nepal
- Bikash Thapa, Reporter, Kantipur Daily, Nepal
- Anton Tyron Devotta, News Director, MTV Channel 1, MBC Network Pvt. Ltd, Sri Lanka
- A.A. Shanika Priyangani Sriyananda, Journalist, Sunday Observer, Sri Lanka

Note: These articles are unedited versions and were sent by the reporters to their organization’s editors. The attached text are not the edited the versions.

# THE News Today



**Badiul Alam**  
City Editor  
The News Today  
**BANGLADESH**

## **19th World Energy Congress**

### **Opens**

**Sydney, September 5, 2004**

**By Baduil Alam, The News Today**

The 19th World Energy Congress has begun in the Sydney's Convention and Exhibition Hall today with an apprehension that the current price of hike of sorts of energy especially the oil price would have tremendous impact on the growth of the both developed and developing economies.

Just before opening the Congress, Secretary General, World Energy Council (WEC) Gerald Doucet told the press that if the present price hike of oil continues, the world average economic growth would be reduced by at least one percent. The world average economic growth has been predicted three percent during the next decade, would come down to two percent, Doucet observed.

The WEC Chief Executive said that the oil price hike has put pressure on the price of coal and gas in the international market. According to him, coal price and gas price have been registered a 20 and 10 percent hike after the abnormal price hike of oil, average \$50 per barrel.

He warned if the energy producers and countries failed to arrest the energy price hike situation, economies of both developed and developing countries would be in bad shape. It would be difficult on the part of the developing countries to attain the millennium goal of development.

Doucet was in the opinion that all options of energy resources including the nuclear energy should kept open to meet the energy challenges. He said that though nuclear energy is costly one but countries who can afford the cost should opt for the nuclear energy. He criticized the German's government decision to close down the some nuclear power plant and said that it would put pressure on the fossil energy sources. According to him 38 percent energy demand of Germany are met from the nuclear source.

Talking with a group of Bangladeshi journalists, Doucet emphasized regional cooperation in the South Asian region to meet the energy challenges. According to him, South Asian region has potential of both hydro and gas energy resources, it should be harnessed through a regional approach.

The five days energy conference would devote on the issues like the energy price hike in the international market, energy and climate change and the investment for the development of the alternative energy sources.

Opening the WEC Congress, Australian Prime Minister John Howard MP made a frustrating statement that his country would not sign the Koyoto Protocol to reduce the green house emission. Australia is the world largest coal producer and exporter and contributing global warming.

He said that the current Koyoto Protocol would harm the interest of the Australian energy companies and it would also reduce the job opportunities for the Australian people.

Howard, however, promised billion dollar investment to develop the technology to reduce fossil fuel emission.

Around 2000 thousand energy sector people from the different corner of the globe gathered in the Sydney Convention Hall to discuss the challenges related with the energy. Bangladesh being a energy hungry country is poorly represented in the Congress. Only one private operator--Tajul Islam Faruque, chairman, Westmont Power Co attended the Congress. No representative from the government side attended the Congress though picture and name of state minister for power Iqbal Hasan Mahmood was printed in the conference documents as the participant.

## **\$16 B Investment Needed**

**Sydney, September 7, 2004**

**By Baduil Alam, The News Today**

An investment of around US\$16 billion would be required by the year 2030 to ensure the sustainable and reliable supply of energy, both in the developed and the developing countries.

The UN under Secretary-General, Department of Economic and Social Affairs Jose Antonio Ocampo told this while addressing a session: "The path of sustainability: accessibility, availability, acceptability.

The global energy demand would increase 1.8 percent per annum to match up the demand all options of the energy generation should have to be considered, speakers both from the developed and the developing nations said.

They also said that the energy price would be critical issue to ensure the accessibility of energy of the common people of the developing countries.

It was told in the session after the liberalization of market in the 1990, the average energy bill of a customer had been increased by four percent but the reliability of supply did not improve much. Power cut is a common phenomenon in the developing countries but the outage of power had been experienced by the Europe and America too, said a top executive of the German company.

The UN under-secretary general in his speech said that the developing nations due fund constraints have to develop on the foreign direct investment (FDI) to develop their energy sector but merely depend on the FDI follow would not be possible to ensure energy at the commoners level because of higher price.

He suggested public investment along with the FDI to develop the energy sector in the developing countries. For this purpose he suggested the strengthening of the global

renewable energy development fund by injecting more funds from the west.

To have less cost power in the developing countries, the UN under secretary emphasized on the gas fired power plants. He urged upon the world companies to invest in the small and marginal gas fields of the developing countries.

He said that the developing nations in collaboration with their developed partners should have to develop a national natural gas exploration and development scheme.

Ocampo in his speech praised the role of the Grameen Bank of Bangladesh for the rural energy sector development and said other countries should follow the model of the Grameen Bank.

The seminar was chaired by Indian Power Minister P.M. Sayeed who in his speech expressed total agreement with the UN under-secretary general statement.

He said: "Haves should have some partnership with have nots for the technological innovation for the cost effective energy sector development".

In the backdrop of the US led West opposition about the spread of the nuclear technology, all speakers of both developed and the developing nations have talked about nuclear energy option to face current and the future energy crisis.

The Indian power minister said his country is now producing 2008 m.w. power from the nuclear source and would have another 10,000 m.w. and 20,000 m.w. electricity from the same by the year 2012 and 2020 respectively.

The German firm top executive said: "the nuclear energy is very much linked to the challenge of accessibility and acceptability of energy in the coming years". He criticised the German government's decision to opt out of nuclear power. In the year 2000, the German utility industry and the government signed an

agreement to phase out nuclear powers stations by about 2020.

## **Performance of Generating Plants**

**Sydney, September 7, 2004**

**By Baduil Alam, The News Today**

If power plant performance were substantially to improve, a savings of US\$80 billion a year could be realized, says performance of generating plant: New Realities.

New Needs, a report recently published by the World Energy Council (WEC). According to the report, improving the availability of existing plants would not only eliminate the need for new capacity but could also result in the reduction of global green house gas (GHG) emissions by one billion tonnes CO<sub>2</sub>e (about 4 percent of the total GHS emissions) each year.

Performance of Generating Plants, which was released at the 19th World Energy Congress in Sydney, also analyses generating plant performance indicators, reliability issues and benchmarking approaches in the context of evolving competition in the global electricity supply industry. The report was prepared under the auspices of WEC's performances of generating plant committee and continues WEC's 30 year tradition of triennial reporting on performance data for power generating plants worldwide and advances techniques for improving power plant performance.

"Performance improvement of existing power plants is the most cost-effective way to increase the energy-producing capabilities of a utility, improve the overall energy efficiency of the industry and produce substantial environmental benefits", the report said.

## **No Shortage of Energy Resources**

**Sydney, September 7, 2004**

**By Baduil Alam, The News Today**

The World Energy Council (WEC) survey predicated there would not be a shortage of the energy sources.

Findings of the survey was available in the WEC Congress venue on Wednesday, September 8, 2004.

The WEC survey findings said: "Although there is no shortage, the physical concentration of the leading strategic resources in only a few regions is a serious concern for many countries dependent of imports. A versified energy mix is absolutely vital for stability of prices and supply and should be taken into consideration when countries are developing national energy plans or long-term business strategies," said Dr. Alessandro Clerici, who served as Chair of the Executive Board which oversaw preparation of the survey.

The Survey finds that the trebling of the oil price over the last five years has not been caused by dwindling reserves; global reserves of oil are still adequate to meet demand for the next few decades, continuous improvement in exploitation and processing technologies may extend this even further. Concentration of oil reserves in a few regions and long supply routes to main markets are major challenges.

Natural gas reserve are considerably larger than oil reserves. Bringing more gas to the market, in particular to the main consuming countries in Europe and North American, is a significant challenge, not least because of the enormous investment required to build new pipelines and LNG erminals.

## **Oil Price Uncertainty**

**Sydney, September 8, 2004**

**By Baduil Alam, The News Today**

OPEC secretary general and Indonesian Minister of Energy and Mineral Resources Dr Purnomo Ysgiantoro has blamed the geopolitical tensions, higher-than-expected demand and the downstream bottlenecks speculations for the current oil price hike and warned that it would have serious impact on the growth of economies of the developed and the developing countries.

According to him the exceptional conditions may account for US\$10-US\$15 per barrel in current price of oil which is now around US\$50 per barrel.

According to him, the world oil demand was 79 million barrel per day which was shot up to 83.2 million per day in the fourth quarter of 2004. As against the demand on an average 83 million barrel oil was available in the market but price has been remained in the higher side because of the non-economical factors.

The OPEC members countries fixed crude oil price at US\$28 per barrel in the year 2002 and they are going to change the bench mark of said price in the next Viena meeting. The OPEC leader said that new price would be fixed by adjusting the inflation and other economic factors.

He also forecasted that the current price hike oil may witnessed a down trend at the end of the general elections of USA and Iraq. USA is going to have new president in November while general election in Iraq is schedule to take place in January05.

Iraq has a market share of 3 million barrel per day which has been disrupted seriously due to Iraq war.

In the backdrop of the increasing demand of the oil in the world market, the OPEC members in their next Viena meeting would consider the issue of increasing the production. Currently the

OPEC source is supplying around 27 million barrel per day, the rest demand is met from the non-OPEC source. Dr. Yusgiantoro urged the non-OPEC members to come forward to face the current oil price hike. According him world economic growth would reduced by one percent if the oil price hike could not be arrested. The OPEC leader was addressing a session "Markets, geopolitics and energy security".

Addressing the session, Canadian deputy minister for Natural Resources George R.M. Anderson said that the geopolitical tension specially the Iraq and Middle East situation was the key issue to stabilize the oil price.

Posing a question Anderson said: "Will major geopolitical factos--major ruptures or seismic shifts in the geopolitical nature of international relations-play a similar (like of 1973) important role in driving the energy story in the coming thirty years".

He said that he was asking this question when terrorism was at centre stage, when a war was still unfinished in Iraq, when an Arab-Israeli peace settlement seems further than even and when relations between the Muslim world and the west were exceptionally strained.

The OPEC secretary-general also emphasized on more investment in harnessing the oil reserve of the OPEC countries, estimated to be around 891 billion barrels which is 78.3 percent of the world reserve.

According to him an amount of US\$70-95 billion investment would be required from 2005 to 2010 to increase the production of the OPEC source of oil.

The session was chaired by Vice-chairman, Federation of Electric Power Companies, Japan. He in his introductory remarks attributed the position shift of China and Indonesia for the current volatile situation in the international oil market. According to him, both China and Indonesia were the oil importing countries to oil importer countries. He said China's imports of petroleum were reported to have overtaken

Japan's in 2003, making China the world's second oil importer after the USA. China's dependence on imported oil, which stood at 35 percent in the year 2000, is expected to rise to 83 percent by 2030.

Anatoly Chubiais, Chief Executive Officer, RAO/UES, Russian Federation also spoke in the session. He limited himself within liberalization of the Russian energy market and sounded that the Russian electricity market was around US\$820 million.

## **Congress Recommendations**

**Sydney, September 9, 2004**

**By Baduil Alam, The News Today**

The 19th World Energy Congress (WEC) is concluded here today with a call for a regional collaboration and regional action plan to ensure the sustainable supply and use of energy for the greatest benefit of all people of the globe.

The WEC also made it clear that keeping the one third world population, around 2 billion, mostly in developing countries, outside the energy net, a energy supply system would neither sustainable nor it would be acceptable.

Pointing to the volatile international energy market situation, the WEC Congress concluded that it would pose severe difficulties for expanding access to modern energy services to the on the hird people who still do not have it.

It also concluded that the market interventions (e.g. subsidies or taxes waiver) may be needed to achieve essential goals, including energy access, security of supply, the promotion of innovation and a level playing field in which external environmental impacts are reflected prices.

"The more pragmatic approach allows for such interventions, while recognizing they should distort price signals as little as possible".

On regional collaboration WEC declaration said: "Regional collaboration needs to be enhanced to

harmonize development of energy regulation and create the necessary infrastructure. It is also the key to optimizing the water-energy nexus".

The declaration also called for all energy options must be kept open and no technology should be idolized or demonized. "Energy source diversity is the bedrock of a robust system, even if the optimum mix will vary according to local circumstances. It also called to devote larger share of global infrastructure investment to energy. Simultaneously it also emphasized the need for a regulatory frameworks to provide stability and transparency to attract the necessary investment in a timely manner.

Earlier in the morning Algerian Energy minister Chakib Khelil warned that without easing tensions both at the international and domestic level, it would be hard to end the volatile situation in the international oil market.

He particularly pointed out that situations in Iraq and unrest situation in Saudi Arabia, Russia, Nigeria and Venezuela were contributed a lot to increase the prices of oil.

The robust growth of energy demand throughout the world in general and the demand growth of USA, China and Japan in particular also contributed oil price. He, however, advocated a moderate oil price to ensure economic growth in the world. The OPEC's Viena meeting would consider a new benchmark of oil price. A committee has been working on this issue, he added.

He also ruled out the ending of fossil fuel regime in the next two or three decades. According to him everything would depend on the technological innovation to extract the hydrocarbon.

He said in the year 1972 we were told that our energy sources would be depleted by this time but today we have the same oil reserve, 39 billion barrel, what was in 1972.

Algeria is currently producing 1.3 million barrel oil per day and it would increase its production

by 1.5 million barrel per day in the year 2005, according to Khelil.

## **Fossil Fuel Regime Would Not End in the Near Future**

Sydney, September 9, 2004

By Baduil Alam, The News Today

Algerian Energy Minister Chukib Khelil has ruled out the possibility of ending the fossil fuel regime in the near future.

Addressing the ministerial forum of the World Energy Congress (WEC) today Khelil said that the ending of the fossil fuel regime was a old debate. Some 20 years back a geologist forecasted about the ending of fossil fuel regime by this time but that has proved wrong because development of the new technology.

He said the world was under the regime of 2D and 3D seismic survey regime and now we are considering about the conducting the 4D seismic survey to discover the hydrocarbon and ultimately the technology would decide when the fossil fuel regime would end.

He said that it was forecasted in the year 1972 that the Algeria's hydrocarbon reserve would end by this time but today we have the same reserve of hydrocarbon as it was in 1972. Current oil reserve in Algeria has been estimated 39 billion and the country is extracting 1.3 million barrel per day and it has the plan to extract 1.5 million barrel per day from 2005. Besides that Algeria has a good reserve of natural gas reserve.

The Algerian minister also spoke on the current oil price hike situation. According him growth of the world economy in general and the growth of energy demand in the USA, China and the Japan were the one of reason of the current volatile situation in the international oil market.

Geopolitical situation specially tension disestablished situation in Iraq and domestic political tension in Saudi Arabia, Nigeria, Russian and Venezuela also contributed to the current oil market situation, he observed.

He also observed that without stability in the both international and domestic political situation, it would be hard to arrest the current volatile situation in the international oil market.

## **Energy Efficiency Policies**

Sydney, September 9, 2004

By Baduil Alam, The News Today

The World Energy Council (WEC) and Agence de (Environment et de la Maltrise de (ADEME) have collaborated on a new study, Energy Efficiency Policies: A worldwide view. The report was relapsed at the 10th WEC Congress in Sydney.

"This new report and the associated WEC Energy Efficiency project ai to facilitate the global exchange of information and experience relating to energy efficiency and can be extremely useful in helping to identify the most effective policy measures for countries where have recently embarked on the development and implementation of energy demand management policies, stated Francois Moisan, Chair of the study and Director of Strategy and Communication at ADEME.

The report evaluates energy efficiency policies in 63 countries, looking at the specific policy measures:

1. Minimum energy efficiency standards for household electrical appliances;
2. Innovative energy efficiency funds;
3. Voluntary/negotiated agreements on energy efficiency/CO<sub>2</sub>;
4. Local energy information centre and
5. Packages of measures.

## **Overview on the Just Concluded World Energy Congress**

**Sydney, September 10, 2004**

**By Baduil Alam, The News Today**

The just concluded World Energy Congress (WEC) although called to keep all energy sources open to have a sustainable and reliable energy supply but it has overemphasized on the fossil fuel specially on the coal.

The coal is no doubt is the major source of the world energy but the use of coal has been criticised from environmental consideration. The coal is the major source of CO<sub>2</sub> emission responsible for the global warming despite that it has played dominant role in WEC along with other fossil fuel.

Observers are in the opinion that WEC Congress was funded by the different energy companies and they have interest in the fossil fuel energy including the coal and they have succeeded to give the fossil fuel a clean chit ignoring the protest of the environmental groups.

During the five days Congress discussion was held on all source of energy including the nuclear and hydro. But in the declaration there was no mention about the nuclear or hydro energy. The secretary general of the WEC could not give any satisfactory answer why there no direct reference about the nuclear energy although large number of speakers including the representative of France, China, India and Germany strongly advocated for the nuclear energy option.

The WEC secretary general said in the WEC declaration it was stated to keep all source of energy open to have a sustainable energy net and in this way nuclear energy issue was addressed properly. When asked why there was no direct reference on the nuclear energy, he just avoided the question.

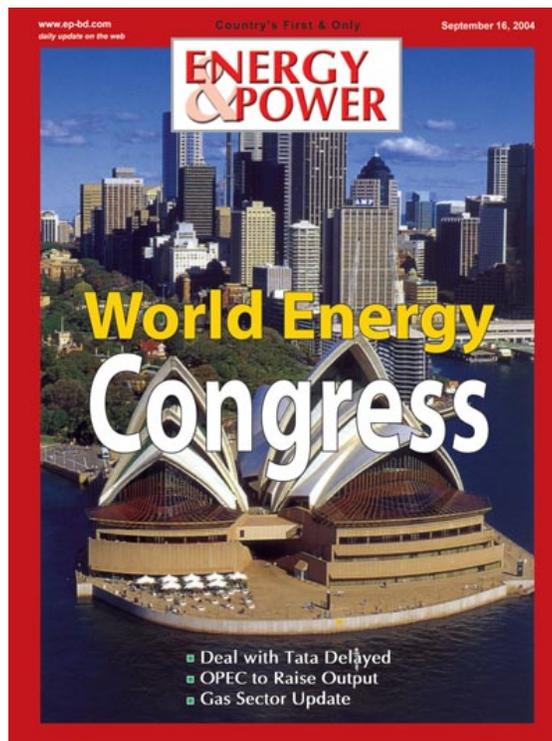
Observers also believe as the western countries do not want the spread of nuclear technology to the developing countries for which there was no direct mention about the nuclear energy.

Hydro energy is one of the important source of energy. Different region of the world including the China and the South Asian region have good prospects of hydro energy but it failed to get prominence in the WEC declaration.

The renewable energy question was included the WEC declaration but much had not been said how it would be possible to make the renewable energy cost effective. It is generally believe that the renewable energy is only potential source to ensure the energy to the rural people of the developing countries. But because of the high cost, it could not be popularized in the different region of the world. Emphasis should have to given on the innovation of new technology to reduce the cost of generation of renewable energy, according to a observer.

# ENERGY & POWER

Mollah M. Amzad Hossain  
Editor  
Energy & Power  
**BANGLADESH**



## **World Energy Congress: Keep All Options Open**

**Sydney, September 16, 2004**

**By Mollah Amzad Hossain, Energy & Power**

The World Energy Council (WEC) is the foremost global multi-energy organization in the world today. Having national member committees in 96 countries, including most of the largest energy-producing and energy-consuming countries, the 80-year old world body covers all types of energy -- coal, oil, natural gas, nuclear, hydro and renewables. Based in London, the WEC is a UK-registered charity and accredited with the UN.

The WEC arranges a World Energy Congress in every three years to bring all the people concerned in brainstorming sessions on related issues. This year the Congress was held in Sydney, Australia on September 5-9, at a time when the energy industry is concerned about the skyrocketing energy prices. It was the 19th Congress organized by the WEC. The next Congress will be held in Rome, Italy.

More than 2,500 industry leaders, government ministers, press and individuals from around the world participated in the Sydney Congress. Over 40 keynote addresses, roundtables and discussion sessions, along with a series of poster sessions, focused on the Congress theme: "Delivering Sustainability: Opportunities and Challenges for the Energy Industry."

"Because Asia will be the major energy demand driver in the coming years, holding the 19th World Energy Congress in Sydney was most timely," says WEC Secretary General Gerald Doucet. "We now have to get on with the job of implementing the Congress conclusions," he said.

Taking account of the conclusions, WEC's business plan for the three years until its 2007 Congress in Rome will balance continuity with change. WEC's executives said its mission to promote the sustainable supply and use of energy for the greatest benefit of all people is

reconfirmed. Regional collaboration will be emphasized, with the development of the regional action plans.

At the same time, the benefit of WEC's global, multi-energy perspective will be retained through studies such as the planned new long-term energy scenario and a joint study with the United Nations on the measures necessary to realize the energy goals set at the World Summit on Sustainable Development in Johannesburg in 2002.

"Through this program of work, the WEC will play a leading role in delivering energy sustainability in the decades ahead," said Gerald Doucet.

The Congress wound up its five-day discussions on the key issues facing the world's energy saying that sustainable energy systems people have hoped for are achievable. The Congress encouraged all energy options open -- with "no technology should be idolized or demolished" so as to keep sustainable energy systems.

"Energy source diversity is the bedrock of a robust system," the Congress concluded, referring to both the conventional options of coal, oil and gas, nuclear and hydro, and the new renewable energy sources. Nuclear has been one of the hot topics discussed at the Congress as European and the US delegates showed increasing interests.

A number of European countries and the United States used to virtually suspend their nuclear energy projects during the past decade or so after a number of fatal accidents like the Chernobyl. A German delegate told the Congress that Europe should now need to reconsider its reluctance to accept nuclear energy again.

Apart from energy options, delegates have repeated there is no one-for-all energy reform pattern to guarantee the success of sustainability. "You must take into account the difference in each country's circumstances," said Francois Aillert, chair of study of the WEC.

The Congress also called for a larger share of global infrastructure investment, saying the energy systems that fail to do so are not sustainable. Delegates said more pragmatic market interventions like subsidies may be needed to make sustainability, but without doing much to affect prices.

They also stressed the need of a reliable electricity supply and regional integration of energy supply systems to boost supply security. "Supply disruptions -- experienced by many in developing countries on a recurring basis and by North America and Europe in the blackouts of 2003 -- exact a heavy economic penalty, highlighting the importance of ensuring security of supply in an increasingly interdependent global energy system," said the summit declaration.

Technological innovation and development is vital to satisfy energy demand while protecting the environment at the same time, delegates agreed, calling for stronger support to research and development. There has been a call for cooperation between developed and developing countries in helping to solve the energy poverty problem in developing countries.

Aillert said rising power prices and other energy problems could bar about 2 billion people in the world from gaining access to electricity. And a cooperation link between developed and developing countries will have a potential win-win result, he said.

In what caught the Congress's attention on the last day of the convention, a delegate from Botswana said poor countries have been neglected in the world's largest energy gathering, pointing out few of the 2,500 delegates are from the poor countries.

The triennial Congress drew industry leaders, government ministers and researchers from around the world to discuss the key energy issues under the auspices of the WEC.

However, the WEC Congress was a reversal of World Renewables Energy Conference held in

Bonn on June 1-4 this year. The action plan of Bonn summit asked to decrease dependence on coal and nuclear and introduce renewables massively to bring the emission level to zero. But the Sydney Congress observed that renewable energies in the next 30 years will contribute only 10 percent of world's total energy requirement. It said renewables can play an important role as a mix for sustainable energy supply, but in no way it can be the alternative.

Representatives of energy hungry countries like China, India and USA told the Congress that they can't come out of coal dependence in next 30 years. But they said they controlled the emission through sophisticated technology and will go for further control. On the other hand, other energy hungry countries like Japan and Korea said nuclear is a better option for them as their total energy is import-based.

All the countries in the sessions said that yet they don't have any alternative to fossil fuels. But they congratulated Germany as it washed out nuclear energy and went for massive energy mix through renewables. As there are apprehensions that the fossil fuels are being exhausted, studies placed in the Congress showed that the world still have enormous energy resources. But all had the concern over price hike of oils.

### **Congress Opens**

The 19th World Energy Congress began in Sydney's Convention and Exhibition Hall on September 5 with a note of fear that the current oil price spiral would have a tremendous impact on growth of both the developed and developing economies.

Immediately before the opening of the Congress, WEC Secretary General Gerald Doucet told the press that if the present price hike in oil continues, the world average economic growth would be reduced by at least one percent. The world average economic growth has been forecast three percent for the next decade. But it would come down to two percent due to the oil price hike, Doucet observed.

The WEC chief executive said that the oil price hike had put pressure on the price of coal and gas in the international market. According to him, coal and gas prices have been registered 20 percent and 10 percent hike respectively after the abnormal price hike in oil, about 50 US dollar per barrel.

He warned if the countries which have surplus energy fail to arrest the price hike in oil, economies of both developed and developing countries would face a tough time. It would be difficult on the part of the developing countries to attain the millennium goal of development, he observed.

Talking to a group of Bangladeshi journalists, Doucet emphasized regional cooperation in South Asia region to meet the energy challenges. According to him, South Asia region has potential of both hydro and gas energy resources which should be harnessed through a regional approach.

Opening the WEC Congress, Australian Prime Minister John Howard MP made it clear that his country would not sign the Kyoto Protocol to reduce the green house emission.

Australia is the world's largest coal producer and exporter.

He said that the current Kyoto Protocol would harm the interest of the Australian energy companies and it would also reduce the job opportunities for the Australian people.

Howard, however, promised billion dollars investment to develop the technology to reduce fossil fuel emission.

### **Poor Representation from Bangladesh**

Some 2,500 energy sector people from different parts of the globe gathered in Sydney to discuss the energy related issues and future challenges. Though Bangladesh is an energy hungry country its representation in the Congress was very poor. A small delegation of Bangladesh chapter of World Energy Council took part in the summit.

The delegation was led by Tajul Islam Faruque, Chairman of Westmont Power Company. There was no representative from the government side although picture and name of State Minister for Power Iqbal Hassan Mahmood was printed in the conference documents saying he will preside over a session.

### **Global Energy Award**

German energy leader, coal and gas expert, lawyer and energy association executive Dr. Gerhard Ott was named winner of the WEC's 2004 Global Energy Award. The award was presented to Dr. Ott by WEC Chairman Antonio del Rosario on the concluding day of the conference.

Gerhard Ott's career has spanned several decades. After graduation from Munich Law School, Dr. Ott became a member of the Institute for Foreign and International Patent, Copyright and Trademark Law and completed his academic education with post-graduate studies at the University of Michigan Law School in the US. He was for many years General Manager of the West German National Coal Association and also served as Managing Director of the Gas Union GmbH in Frankfurt.

In his work in the international energy sector, which has stretched over many decades, Dr. Ott stresses, "I have always made it a particular point to focus on issues and strategies of a global and long-term nature, as against often too narrow and too short-term politics. I have also committed myself - beginning with the Munich Congress in 1980 - to creating a better understanding of the needs of developing countries in order to build bridges instead of deepening the gap between the so-called First and Third Worlds".

Created by the WEC in 1998, the Global Energy Award is presented at each triennial Congress to an eminent international personality who has contributed substantially to the understanding of the global energy sector, who has supported the WEC in its work and who has made significant contributions to his company or organization,

government, community and country. Nominations for the award are made by WEC member committees, and the winner is selected by WEC's Board of Trustees.

### **WEC: Studies**

During the five-day Congress, the WEC presented findings of a number of survey-based studies. The major studies were on: energy resources, sustainable global energy development, energy end-use technologies for the 21st century, energy efficiency policies, energy market reforms and performance of generating plants.

### **Energy Resources**

The WEC's "Survey of Energy Resources" concludes that there is no shortage of global energy resources. The study, a unique global review of reserves, production and consumption, covers 17 main energy resources and provides expert commentaries and country data for each. The WEC has been producing such reports on energy resources since 1934 and the latest edition was 20th of its kind.

The survey draws the following conclusions about the major energy resources:

**Oil:** After the low oil prices and ensuing complacency in the late 20th century, energy security is back in the forefront of political discussions. Oil's volatile nature has become clear in recent years, as has the world's continuing dependence on this leading resource. The survey finds that the trebling of the oil price over the last five years has not been caused by dwindling reserves; global reserves of oil are still adequate to meet demand for the next few decades, and continuous improvement in exploration and processing technologies may extend this even further. Concentration of oil reserves in a few regions and long supply routes to main markets are major challenges.

**Natural Gas:** Its reserves are considerably larger than oil reserves. Bringing more gas to the market, in particular to the main consuming countries in Europe and North America, is a significant challenge, not least because of the

enormous investment required to build new pipelines and LNG terminals. LNG is expected to become increasingly important in supplying remote markets. Its production costs will continue to decline as a result of technological developments in liquefaction processes and upstream gas production.

**Biomass:** Biomass is potentially the world's largest and most sustainable energy source. To progress from the "potential" stage, however, both the production and use of biomass must be modernized.

**Wind:** It is often considered the most advanced of the renewables after hydropower. Offshore projects spur development of larger machines; wind turbines of up to 5 MW are about to enter the market. With the increasing share of wind power, many electricity systems will face new challenges. In Denmark, for example, more than 20 percent of electricity is now produced by wind turbines, which has implications for grid stability and requires new concepts for power system control.

**Geothermal:** It is an important renewable resource which can be deployed for base-load electricity production. The best geothermal fields are located within well-defined belts of geologic activity. Today, geothermal power generation plants have a total installed capacity worldwide of more than 8,000 MW. Geothermal energy converting systems can provide electricity with an annual capacity load factor of over 90 percent.

### **Sustainable Global Energy**

The study on "Sustainable Global Energy Development: the Case of Coal" examines whether coal can be both economical and sustainable in meeting global energy demand to 2030.

The study concludes that:

- Coal will be available to meet the steeply rising demand for steam coal, while the supply of coking coal will be adapted to reduced demand. Despite the drain on coal reserves, these will remain significant

in absolute terms and compared to oil and gas reserves.

- Coal will be accessible, mostly in the form of electricity, to a growing number of people. Thanks to significant productivity gains, international coal prices will remain stable and competitive. Thus coal could make a significant contribution to reducing the number of people in the world who currently have no access or unreliable access to commercial energy.
- Coal will continue to be used in electricity generation, but synthetic gases, liquids and hydrogen from coal will also emerge as long-term options;
- Coal will be more environmentally acceptable in that by 2030, 72 percent of coal-based power generation in the world is likely to use cost-effective clean coal technologies, given the right market conditions.

### **End-Use Technologies**

The study on “Energy End-Use Technologies for the 21st Century” looks at the potential of both energy end-use technologies and of research, development, and demonstration (RD&D) into those technologies on a global scale. A follow-up to WEC's 2001 study on source and conversion technologies, this latest research focuses on transportation, buildings, and industrial processes as well as cross-cutting technologies.

The report identifies important technologies for the next 20-50 years that could potentially increase the benefits of energy. It also looks at the roles that industry and governments might play in the development of these technologies and predicts the investment required to bring these technologies to the stage where they can be assessed for their usefulness.

The study concluded that globally, robust research and development followed by demonstrations of new end-use technologies can potentially save at least 110 EJ/year by 2020 and

over 300 EJ/year by 2050. If achieved, this translates to worldwide energy savings of as much as 25 percent by 2020 and over 40 percent by 2050, over what may be required without these technologies.

### **Energy Efficiency Policies**

The study on “Energy Efficiency Policies: A Worldwide Review” evaluates energy efficiency policies in 63 countries, looking at five specific policy measures: minimum energy efficiency standards for household electrical appliances; innovative energy efficiency funds; voluntary/negotiated agreements on energy efficiency/CO<sub>2</sub>; local energy information centers; and packages of measures.

The report concludes that:

- Adequate pricing is necessary to promote energy efficiency. The first step in developing any energy efficiency policy is to adjust energy prices in order to give correct signals to consumers.
- Energy sector liberalization and the globalization of economies make the intervention of governments much more difficult because unilateral measures, such as energy taxes, can weaken domestic industries facing international competition.
- Climate change will impose a constraint on energy consumption, even if flexibility mechanisms alleviate this temporarily. CO<sub>2</sub> emissions tradable permits may allow Annex 1 countries to avoid major constraints on their industries in the short term, but in the long term, the prices of permits would increase, making energy more costly.
- Infrastructure investment decisions should incorporate the possibility of increased energy prices and constraints on CO<sub>2</sub> emissions.

## **Energy Market Reforms**

The study on “Energy Market Reform: Lessons Learned and Next Steps with Special Emphasis on the Energy Access Problems of Developing Countries” examines market reforms in electricity and natural gas. It looks at such key areas as empowering end-users, security of supply, wholesale market design, tariff-setting and energy poverty.

While the study concludes that there is no "one size fits all" solution for every market reform situation, it does draw some broadly applicable messages:

- Market reforms in energy systems are necessary to ensure that organizations and work methods evolve to accompany changes in the societal and business environments.
- To adapt to the new business and social circumstances, reforms should proceed at the same pace in all sectors. The agenda for reforms cannot be limited to the energy sector only.
- Energy markets need to be designed at the regional level to fit the specific circumstances and should provide for regional integration as a means to reduce regulatory uncertainties and create economies of scale.
- There are three key aspects that need to be reviewed carefully in any design: the way distribution is addressed, the balance between competition and potential market power and the adequacy of transmission.
- A good market design should address these three aspects and envisage their dynamics over time, starting from simple and reliable schemes to progressively more complex and competitive approaches.

## **Performance of Generating Plants**

If power plant performance were substantially improved, a savings of US\$80 billion a year could be realized, says the “Performance of Generating Plant: New Realities, New Needs” report.

According to the report, improving the availability of existing plants would not only eliminate the need for new capacity but could also result in the reduction of global GHG emissions by one billion tons CO<sub>2</sub> (about 4% of the total GHG emissions) each year, with proportional reduction of other pollutants.

It also analyzes generating plant performance indicators, reliability issues and benchmarking approaches in the context of evolving competition in the global electricity supply industry.

Based on data and case studies from utilities and companies around the world, the report concludes that while some technology enhancements and equipment upgrades will be required, the majority of plant performance improvements will result from addressing human factor issues and changes in power plant management. It also notes the need for new reliability indices that better reflect the realities of the current market place and the competitive global economy. The report further states that old "technical" definitions of reliability must be amended to link better plant performance with the actual cost of electricity supply. Rather than applying traditional measures calculated over both demand and non-demand periods, the new competitive environment emphasizes plants being available to generate when required by the market and when the income and profit potential is highest.

## **Delivering Sustainability**

As delivering sustainability has become a clear priority of the energy sector, the principal conclusion of the 2004 World Energy Congress was that sustainable energy systems are achievable, but the challenges are many and need to be tackled urgently if sustainability is to be achieved in this century.

It said: Recent increases in energy prices are likely to be the precursor of a longer term trend. While they will encourage much needed energy efficiency and stimulate investment, they pose severe difficulties for expanding access to modern energy services to the one third of people who still do not have it, or whose access is inadequate for economic development. An energy system embodying such inequities is neither sustainable nor acceptable.

Equally, it said, supply disruptions - experienced by many in developing countries on a recurring basis and by north America and Europe in the blackouts of 2003 - exact a heavy economic penalty, highlighting the importance of ensuring security of supply in an increasingly interdependent global energy system.

“Delivering sustainability demands that this access and security of supply be provided, while avoiding environmental impacts which would compromise future social and economic development.”

Drawing on the wide-ranging discussions of the Congress, the World Energy Council draws the conclusions:

- All energy options must be kept open and no technology should be idolized or demonized. These include the conventional options of coal, oil gas, nuclear and hydro (whether large or small), and the new renewable energy sources, combined of course with increased energy efficiency. Each is subject to uncertainties, “we cannot afford to jettison any one of them”. Energy source diversity is the bedrock of a robust system, even if the optimum mix will vary according to local circumstances.
- A larger share of global infrastructure investment must be devoted to energy. For this cost-reflective prices are essential. Energy systems which do not pay for themselves over the medium- to long-term are not sustainable. Regulatory

frameworks must recognize this and provide stability and transparency to attract the necessary investment in a timely manner.

- A more pragmatic approach to market reform is emerging. It is now widely recognized that market interventions (for example, subsidies or taxes) may be needed to achieve essential goals, including energy access, security of supply, the promotion of innovation and a level playing field in which external environmental impacts are reflected in prices. The more pragmatic approach allows for such interventions, while recognizing they should distort price signals as little as possible.
- The reliability of electricity supply is an important priority. In industrialized countries, consumers demand 100 percent reliability, while those in developing countries often suffer frequent disruptions. The cost burden of these disruptions has already been noted.
- Regional integration of energy supply systems can boost access and energy supply security. Regional collaboration needs to be enhanced to harmonize development of energy regulation and create of the necessary infrastructure. It is also the key to optimizing the water-energy nexus.
- Climate change is a serious global concern, calling for changes in consumer behavior, but offering potential win-win opportunities. These include increased transfer of efficient technologies from industrialized to developing countries and incentives to investment through emerging voluntary or regulated emissions trading or other mechanisms.
- Technological innovation and development is vital to reconciling expanded energy services for more equitable economic development with protection of the environment.

Improvements to existing energy supply and utilization technologies are as critical to increased efficiency and to reduced costs and environmental impacts as new "breakthrough" options.

- Research and development must be more strongly and consistently supported than has been the case. It is the pre-condition of the innovation, which is needed. A starting point is the reduction of R&D redundancies through international cooperation. A further priority is the transport sector where R&D is the key to improving sustainability.
- Public trust must be won and retained. This in turn depends on energy sector transparency. Cost-reflective pricing will not always be popular with consumers. Great public understanding of the issues involved will be needed to obtain acceptance and avoid political pressures that risk deflecting governments from essential policies.
- Public understanding and trust starts with the youth. The Congress Youth Symposium Declaration clearly demonstrates the importance youth attaches to sustainability and their understanding of the issues and challenges involved in achieving it in practice.

### **Energy Prices on the Rise**

Australian energy prices are on the rise as environmental concerns start to impact costs, but consumers may not necessarily pay more if consumption patterns change, an international conference heard on Monday.

Speaking at the 19th World Energy Congress in Sydney, Energy Australia Managing Director Paul Broad said the days of low energy prices in Australia were gone.

"We have lived on the luxury of very low energy costs for most of the last three generations," he said.

"We have done that by under pricing the environment in our price equation. Those days are coming to an end. "Prices are on the move now whether it be here, South Australia, Victoria, the time framework now being set for us is five years."

However, Mr. Broad said while energy prices were likely to go up, the bills sent out to consumer might not, because of a predicted change in consumption patterns.

"Like anything else if you under price it you tend to undervalue it, and you then tend to over consume it," he said. "We can change the pattern of energy use dramatically by changing demand and giving the right signals.

"If you have the wrong signals, you have the wrong mechanisms don't be surprised if you have inefficient use of energy."

Mr. Broad said Australian consumers had not been given the right information and had been allowed to build homes that were incredibly energy inefficient.

"Once we have changed that attitude and changed that thinking, then I think bills won't go up by much," he said.

"Prices will but the consumption patterns will certainly change."

Mr. Broad said a change in demand reduced energy consumption and reduced CO2 emissions.

However he said ultimately the consumer would pay for the higher energy prices.

"(Prices) are on the way up but (Australia) is still the second lowest energy cost country in the world," he said.

Mr. Broad also called for the establishment of clear national green regulations.

He said Australia's ability to come together and to establish clear green credentials nationally has not been successful.

"Each state in this country has followed its own path in developing green regulatory outcomes," Mr. Broad said.

"Which means businesses like ours trade one state against another to satisfy our green credentials, without necessarily producing a better green outcome.

"What we need desperately is a national approach to green, particularly an emission trading type approach.

"If we actually get the national regulatory framework right we will get existing plants to improve their outcomes considerably."

Mr. Broad said while renewable energy in Australia would be important at the edges, the bottom line for base load generation would either come from cheap brown coal, black coal or a combination of both.

He also said Australia would have to decide soon on whether a new base load generator should be built on the eastern sea board.

"The next base load generation is going to come from coal and the decision about that has to be made reasonably soon given it takes about seven years to go from getting approval for a coal fired power station to having it up and running."

## **World Energy Congress Begins with Cautious Note**

**Sydney, September 5, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

The 19th World Energy Congress began in the Sydney's Convention and Exhibition Hall today with a note that the current price hike of energy, specially the oil, would have tremendous impact on the growth of the both developed and

developing economies. Immediately before the opening of the Congress, World Energy Council (WEC) Secretary General Gerald Doucet told press that if the present price hike of oil continues, the world average economic growth would be reduced at least by one percent.

The world average economic growth has been predicted at three percent during the next decade. The WEC chief executive said the oil price hike has been putting pressure on the price of coal and gas in the international market. According to him, coal and gas prices registered 20 and 10 percent hike after the abnormal rise of tariff of oil.

Doucet was in the opinion that all options of energy resources including the nuclear energy should be kept open to meet the energy challenges. He said that though nuclear energy is costly one, countries who can afford the cost should opt for the nuclear energy.

Talking to a group of Bangladeshi journalists covering the Congress, Doucet emphasized regional cooperation in the South Asian region to meet the energy challenges. According to him, South Asian region has potential of both hydro and gas energy resources. "It should be harnessed through a regional approach."

The five days energy conference would devote on the issues like the energy price hike in the international market, energy and climate changes and the investment for the development of the alternative energy sources.

Opening the WEC Congress, Australian Prime Minister John Howard MP made a frustrating statement that his country would not sign the Koyoto Protocol to reduce the green house emission. Australia is the world's largest coal producer and exporter.

He said that the current Koyoto Protocol would harm the interest of the Australian energy companies and it would also reduce the job opportunities for the Australian people.

Howard, however, promised billion dollar investment to develop the technology to reduce fossil fuel emission.

Some 2,000 thousand energy sector people from different corners of the world gathered in the Sydney Convention Hall to discuss the challenges related to the energy.

Bangladesh, being an energy hungry country, is poorly represented in the Congress. Only one private operator--Tajul Islam Faruque, Chairman, Westmont Power Co is attending the Congress. No representative from the government side attended the Congress though the picture and name of State Minister for Power Iqbal Hassan Mahmood was printed in the conference documents as a participate.

## **Nuclear Energy: An 'Atomic' Dream or a Nightmare**

**Sydney, September 6, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

Nuclear power as a source of energy is a controversial issue that will be widely discussed among global energy 'hot shots' who have gathered at the 19th World Energy Congress in Sydney, Australia.

In a press release from the World Energy Council, the sponsor of the Congress, the nuclear issue would be kept as an 'all options open' approach while discussing the future energy policy.

Developing nations like India and China with their mammoth-sized population and increasing demand for energy see that nuclear power would secure their future supply of energy.

Many feel that nuclear will play an important and a major role in delivering sustainable energy in both the developed and developing nations in the world.

'We have to stop fretting about last minute statistical risks of cancer from chemicals or radiation', said British scientist Professor James Lovelock to the Independent newspaper whilst calling for the energy industry to use the best technology, including nuclear energy.

However, if there are nuclear energy supporters there are also a group of people among the Congress delegates who are vehemently against the use of nuclear power.

Their reason is straight and simple, nuclear power is 'unsafe' and their strong evidence is the 1986 Chernobyl power plant disaster.

The uneconomic, unsafe and the growing radioactive waste problems, the reality of nuclear weapons proliferation and an increasingly informed and skeptical global community are some of the other arsenals that people carry against nuclear energy.

A Sydney resident said that nuclear energy should be promoted since it provided a secure and optimum supply of energy for the future but 'first the technology should be safer so that people do not lose lives in the quest for easy means of energy.'

The verdict whether nuclear energy is an 'atomic' dream or a nightmare will be out when the discussion session titled 'Nuclear Energy: Inevitable or Irrelevant' would be held on September 8 under the chairmanship of the director general of the OECD Nuclear Energy Agency, Luis Echavarri.

## **Global Transition to Renewable Energy Inevitable: Expert**

**Sydney, September 6, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

Asia Pulse - The global transition to renewable energy is inevitable as the cost of fossil fuels continue to increase, an international conference heard today. The former chief executive of the Global Environmental Facility and the facilitator

at the recent Bonn Renewable Energies 2004 conference in the US, Mohamed El-Ashry, said while fossil fuels would remain at the core of world energy supply, the global challenge was to work towards a sustainable energy future.

"Rather than saying the use of fossil-based energy was coming to a close... the age of renewable energy has begun," he said at the 19th World Energy Congress in Sydney.

"I strongly believe that the global transition to renewable energy is inevitable."

Mr. El-Ashry said the importance of developing alternative forms of energy was not because the supply of fossil fuels would run out.

Rather it was because the cost of using traditional energy supplies would continue to rise, unless the world looked to renewable energy.

"Costs will increase as (the) environmental effect of fossil fuels use is incorporated into the cost of energy, and the cheaper alternatives are depleted," Mr. El-Ashry said.

"Cost will also increase as the result of political instability as we have witnessed in the last few months."

Mr. El-Ashry warned that as supply remained the same or shrank and demand continued to grow, the price of oil could only go in one direction - up.

He said the only hope to satisfy basic human need for power in the developing world and sustain the standard of living in the developed world was to accelerate the pace of developing renewable energy.

"In my view, large increases in renewable energy use combined with higher levels of energy efficiency and development of ... technology can go a long way to towards a more secure and global sustainable energy path," Mr. El-Ashry said.

"We need to act now... but through strategies."

However, Mr. El-Ashry said while there was no shortage of good ideas for developing renewable energy there was a shortage of political will.

Also speaking at the Congress, Electricite de France (EdF) chairman and chief executive Francois Rousseley said energy was the key global issue of the 21<sup>st</sup> century.

The head of France's main power company said more than two billion men and women had no access to electricity and said the figure would rise very quickly in coming decades.

Mr. Rousseley said all energy options must say open and he said the world could not continue to idealize some and demonize others energy sources, like nuclear power.

With world oil supply expected to diminish in coming decades there was an urgent need to find an environmentally-friendly way of exploiting clean coal - "a resource which is abundant and widely available in notably developing countries".

However, Mr. Rousseley also said the current level of international cooperation fell well short of what was required to meet the energy challenge.

"Numerous studies on fighting climate change have proved that the euros spent in developing countries are far more effective than in the industrialized nations," he said.

"We should... cooperate with each to introduce more equity and efficiency."

Mr. Rousseley said all countries, particularly those in the early stages of development, must implement the reforms necessary to allow cooperation to develop.

"There must... be a major role for international bodies to play in improving public service management in these countries," he said.

## **French, Chinese Power Giants Back Nuclear Power at World Energy Congress**

Sydney, September 6, 2004

**By Mollah M. Amzad Hossain, Energy & Power**

The head of France's monopoly power company said Monday it was wrong to "demonize" nuclear power as China confirmed plans to more than double its nuclear output.

Electricite de France (EdF) chairman and chief executive Francois Roussey told the World Energy Congress that nuclear power remained an important part of the search to deliver sustainable power.

"All energy options must stay open, we cannot idealize some and demonize others," Roussey said.

"Will we have the courage to admit that nuclear power cannot be ignored?" he asked delegates at the Congress. "There is a demagoguery and essential contradiction in extolling a withdrawal from nuclear power while worrying, quite rightly, about global warming."

Roussey said it was intolerable that two billion people around the world had no access to electricity.

"Real political will, orchestrated on a world scale, and a long-term commitment over at least 20 or 30 years are essential to raise the several billion euros or dollars per year needed to fund significant progress," he said.

Roussey refused to comment on his future as head of the state-owned power utility, which the French government wants to open up to private investment.

The vice-chairman of China's state development and reform commission Zhang Guo-bao said his country planned to expand its power output from nuclear plants to 30 gigawatts in the next 16 years as industrial expansion continued.

Speaking through a translator, Zhang said by 2020 nuclear plants would generate four percent of China's electricity needs, up from 1.8 percent currently.

He said Beijing planned to call for tenders for new nuclear power stations in the next two months.

The triennial Congress, which is examining ways to deliver sustainable energy, continues until September 9<sup>th</sup>.

## **Carbon Count Could Double by 2050**

Sydney, September 6, 2004

**By Mollah M. Amzad Hossain, Energy & Power**

Carbon dioxide emissions could double within 50 years unless the world gets serious about saving energy, a conference in Australia was told on Monday.

Anne Lauvergeon from the World Business Council for Sustainable Development told the World Energy Congress in Sydney that reducing carbon dioxide would mean switching to natural gas, nuclear energy, renewable energy, bio-products and low energy appliances.

"To give figures, in 2000 the world emitted around eight gigatons of carbon," Lauvergeon said. "Under a business-as-usual scenario, in 2050 emissions could double to reach around 16 gigatons, so if we don't act now our future may become out of control."

The Geneva-based Council, a lobby group for 175 energy companies, released a report calling on the energy industry to start the switch now or take the risk that "the consequences may spiral out of control".

Council president Bjorn Stigson said the transport industry was a laggard in terms of energy conservation.

"Even if we start introducing low-emission vehicles, your traditional vehicle will continue to grow in volume up to 2040," Stigson told the audience. "And we cannot find one single scenario that will mean core emissions from transport will peak and start to go down before 2030."

Stigson said people were slow to adopt environmentally friendly products.

"Changing lifestyle patterns takes a very long time and generally speaking people don't do what they say," Stigson said. "Most people say they are willing to buy 'green' products but they don't unless they believe they are of equal price and quality."

Earlier this year the Australian Conservation Foundation's (ACF's) Don Henry said emissions from the energy sector in Australia had increased by about 30 percent since 1990. "We're actually facing a greenhouse disaster scenario in our energy and transportation sectors," he said.

On a per capita basis, Australia is the world's biggest generator of greenhouse gases. It has refused to join with other developed countries and ratify the Kyoto Protocol on reducing the rate of greenhouse gas emissions. The United States, which is the biggest polluter overall, is also holding out against Kyoto.

To take effect, the Kyoto initiative needs to be ratified by no fewer than 55 countries that together account for 55 percent of global emissions. Russia, initially a Kyoto skeptic, announced earlier this year that it intended to ratify the accord - a surprise move that, if carried through, would set the Kyoto process in motion.

## **Energy Demand Could Double, Triple**

**Sydney, September 7, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

As population rises and developing countries expand their economies, a new study found that energy demand could double or triple by 2050.

The Geneva-based World Business Council for Sustainable Development study ponders whether change in technologies and policy frameworks could help companies move toward sustainable energy systems, and which energy options can help reshape the energy future.

The study "Facts and Trends to 2050: Energy and Climate Change" was released at the ongoing World Energy Congress in Sydney. It is based on the practical experiences of a cross-section of industry leaders. The report explores challenges in achieving a sustainable energy situation globally, and future energy options and infrastructures.

WBCSD President Björn Stigson told a briefing at the Congress that starting the process now is a matter of urgency and business has a key role to play. "Change in energy supply and demand can help shift to a truly sustainable energy path. But change takes time, and laying the foundations for the future should not be delayed."

"2050 may seem far off, but it is not mere prospective. In 2050 the next generation, our children, will be driving the planet," says Anne Lauvergeon, Chairman of the Executive Board, AREVA, and a co-chair of the WBCSD's Energy and Climate Program.

Addressing the session, she said: "it is like a super-tanker, said, "it takes time to change direction, and you must anticipate. If you do not start on time, you cannot recover the situation and the consequences may spiral out of control."

Facts and Trends state that if the developing world is to aspire to the levels enjoyed in OECD

countries, improved efficiency, diversity and technological development in energy systems will be the keys to achieving this without escalating emissions unsustainably. And there are already signals of change, such as an increased use of gas, the introduction of advanced forms of renewable energy and high efficiency vehicles offered to the consumer.

Stigson said that the Facts and Trends was meant to serve as a platform to engage a broad set of stakeholders in a discussion around energy and climate change dilemmas and options.

“Our intent was to explore the issues without being dictatorial about the solutions. Here we lay out the facts in terms that everyone can relate to, and one of our key messages is that we have today the means to act.”

## **Carbon Emission to Double**

**Sydney, September 7, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

The World Energy Congress, being held here, was today told that carbon dioxide emissions could double within next 50 years unless the world gets serious about saving energy.

Reducing carbon dioxide would mean switching to natural gas, nuclear energy, renewable energy, bio-products and low energy appliances, said Anne Lauvergeon of the World Business Council for Sustainable Development.

With in 2000 the world emitted around eight gigatons of carbon, Lauvergeon said: under a business-as-usual scenario, in 2050 emissions could double to reach around 16 gigatons... if we don't act now our future may become out of control.

The Geneva-based Business Council, a lobby group for 175 energy companies, released a report calling on the energy industry to start the switch now or take the risk that "the consequences may spiral out of control".

Council President Bjorn Stigson said: even if we start introducing low-emission vehicles, your traditional vehicle will continue to grow in volume up to 2040. And we cannot find one single scenario that will mean core emissions from transport will peak and start to go down before 2030.

## **Other Countries Can Follow Grameen Energy Model: UN**

**Sydney, September 7, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

About US\$16 billion would be required as investment by the year 2030 to ensure sustainable and reliable supply of energy both in the developed and developing countries, discloses

UN under Secretary General, Department of Economic and Social Affairs, Jose Antonio Ocampo.

Addressing a session on "the Path of Sustainability: Accessibility, Availability, Acceptability" at the ongoing World Energy Council here, he suggested public investment along with the FDI to develop the energy sector in the developing countries.

For this purpose he suggested the strengthening of the global renewable energy development fund by injecting more funds from the west.

To have less cost power in the developing countries, the senior UN official emphasized the gas fired power plants. He urged the world companies to invest in the small and marginal gas fields of the developing countries.

Antonio Ocampo opined that the developing nations in collaboration with their developed partners should develop a national natural gas exploration and development scheme.

The UN official in his speech praised the role of the Grameen Bank of Bangladesh for the rural energy sector development and said other

countries should follow the model of the Grameen.

The seminar was chaired by Indian Power Minister PM Sayeed who in his speech fully supported the statement of the UN official. He said: Haves should have some partnership with have nots for the technological innovation for the cost effective energy sector development.

In the backdrop of the US led West opposition about the spread of the nuclear technology, all speakers -- both from developed and the developing nations -- talked in favor of nuclear energy option to face current and the future energy crisis.

The Indian power minister said his country is now producing 2008 MW power from the nuclear source and would have another 10,000 MW and 20,000 MW electricity from the same by the year 2012 and 2020 respectively.

Taking part in the discussion, speakers from both developed and developing nations informed that the global energy demand would increase by 1.8 percent per annum to match up the demand of all options of the energy generation.

They also said that the energy price would be critical issue to ensure the accessibility of energy of the common people of the developing countries. It was told in the session that after the liberalization of market in the 1990, the average energy bill of a customer had increased by four percent but the reliability of supply did not improve much.

### **Power Plant: New Realities, New Needs**

**Sydney, September 7, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

A saving of US\$80 billion a year is possible if power plant performances were substantially improved, says "Performance of Generating Plant: New Realities, New Needs" report

published by the World Energy Council (WEC) in the World Energy Congress being held in the Australian city.

According to the report, improving the availability of existing plants would not only eliminate the need for new capacity but could also result in the reduction of global green house gas (GHG) emissions by one billion tonnes CO<sub>2</sub>e (about 4 percent of the total GHG emissions) each year.

The report also analyses generating plant performance indicators, reliability issues and benchmarking approaches in the context of evolving competition in the global electricity supply industry.

It was prepared under the auspices of WEC's performances of generating plant committee and continues WEC's 30 year tradition of triennial reporting on performance data for power generating plants worldwide and advances techniques for improving power plant performance.

"Performance improvement of existing power plants is the most cost-effective way to increase the energy-producing capabilities of a utility, improve the overall energy efficiency of the industry and produce substantial environmental benefits", the report said.

### **RD& D And End-Use Technologies –Answers to the Energy Problem?**

**Sydney, September 9, 2004**

**By Mollah M. Amzad Hossain, Energy & Power**

The World Energy Council (WEC) has today released Energy end-use technologies for the 21st century, which looks at the potential of both energy end-use technologies and of research, development and demonstration (RD & D) into those technologies on a global scale. A follow-up to WEC's 2001 study on source and conversion technologies, this latest research focuses on

transportation, buildings, and industrial processes as well as cross-cutting technologies.

The report identifies important technologies for the next 20-50 years that could potentially increase the benefits of energy. It also looks at roles that industry and governments might play in the development of these technologies and predicts the investment required to bring these technologies to the stage where they can be assessed for their technologies.

“This is the first attempt to examine the future of energy end-use technologies on a global scale, both geographically and across the energy spectrum. While preliminary, it should nevertheless encourage industry and governments to undertake more detailed investigations. While surprises are likely, current research development offer a picture of what may happen in the future as new technologies face the competition of the marketplace,” said study chairman Dr. Robert Schlock, senior fellow at the center for global security research, Lawrence Livermore national laboratory, USA.

The main conclusions of the study are, Globally, robust research and development followed by demonstrations of new end-use technologies can potentially save at least 110 EJ/years by 2020 and over 300 EJ/ years by 2050. If achieved, this translates to worldwide energy savings of as much as 25% by 2020 and over 450% by 2050, over what may be required these technologies.

The success of new end-use technologies depends on RD & D investments and policy decisions made today. Key technologies will be available earlier and will impact more and diverse sectors of then global population with early and sustained investment.

It is almost certain that no single technologies or even a small set of technologies, will dominate in meeting all the needs of the globe in any foreseeable performance. A diverse portfolio of RD&D and related policy measures, with specific technology performance targets and market incentives, is required.

Government and industry should encourage more in-depth studies as well as studies as all potential technologies. Such studies should be performed in concert and from a global perspective. In particular, the temporal and geographic development of major technologies on a global scale should be studied in detail.

Governments, in close cooperation with industry, should carefully consider RD&D incentives and policies that can help get end-use technologies from the laboratory or test bed to market. This will involve a careful examination of regulations and incentives for technologies themselves and the capital markets that will help in their development.



**Kinley Y. Dorji**  
Reporter / Web Editor  
Kuensel Corporation  
**BHUTAN**

## **19th World Energy Congress**

### **Underway in Sydney**

**Sydney, September 6, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

More than 2000 government officials and energy power brokers from around the world are attending the 19th World Energy Congress meeting in Sydney, Australia.

The Congress is bringing World Energy leaders on a common forum to discuss energy-related problems like green house effect, increasing level of carbon monoxide due to the increased burning of fossil fuel and other related issues.

The Congress will also be a catalyst for governments, energy companies, utilities and regulators to engage in a constructive dialogue about the key issues and challenges facing the world community as it works to provide greater accessibility and availability of energy.

Sustainable development, nuclear and renewable energy, balancing supply and demand in oil markets and the future of financial investment in the sector are some of the main issues which would be discussed is one of the main issues being discussed during the five-day conference.

The Congress with its theme 'Delivering Sustainability: Opportunities and Challenges for the Energy Industry', was declared open by the Australian Prime Minister John Howard before a packed auditorium at the Sydney Convention Centre yesterday.

## **Nuclear Energy: An 'Atomic'**

### **Dream or a Nightmare**

**Sydney, September 6, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

Nuclear power as a source of energy is a controversial issue that will be widely discussed among global energy 'hot shots' who have gathered at the 19th World Energy Congress in Sydney, Australia.

In a press release from the World Energy Council, the Sponsor of the Congress, the nuclear issue would be kept as an 'all options open' approach while discussing the future energy policy.

Developing nations like India and China with their mammoth-sized population and increasing demand for energy see that nuclear power would secure their future supply of energy.

Many feel that nuclear will play an important and a major role in delivering sustainable energy in both the developed and developing nations in the world.

'We have to stop fretting about last minute statistical risks of cancer from chemicals or radiation', said British scientist Professor James Lovelock to the Independent newspaper whilst calling for the energy industry to use the best technology, including nuclear energy.

However, if there are nuclear energy supporters there are also a group of people among the Congress delegates who are vehemently against the use of nuclear power.

Their reason is straight and simple, nuclear power is 'unsafe' and their strong evidence is the 1986 Chernobyl power plant disaster.

The uneconomic, unsafe and the growing radioactive waste problems, the reality of nuclear weapons proliferation and an increasingly informed and skeptical global community are some of the other arsenals that people carry against nuclear energy.

A Sydney resident said that nuclear energy should be promoted since it provided a secure and optimum supply of energy for the future but 'first the technology should be safer so that people do not lose lives in the quest for easy means of energy.'

The verdict whether nuclear energy is an 'atomic' dream or a nightmare will be out when the discussion session titled 'Nuclear Energy:

Inevitable or Irrelevant' would be held on September 8 under the chairmanship of the director general of the OECD Nuclear Energy Agency, Luis Echavarri.

## **Coal: Will It Survive 2030?**

**Sydney, September 7, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

Coal will greatly contribute to reducing the number of people in the world who currently have no access or reliable access to commercial energy, according to a World Energy.

The report, Sustainable Global Energy Development, looks into the possibility of whether coal can be both economical and sustainable in meeting global energy demand till the year 2030.

The report is comprised of two sections, firstly the overview section examining coal demand and trade, production, restructuring, coal mining technologies, coal based power plant technologies, policy issues and projections for coal demand to 2030.

The case study section features data of national, technical, environmental, institutional and social aspects of coal use.

Thanks to significant productivity gains, international coal prices are forecast to remain stable and competitive. Coal would mainly be used for providing electricity.

“Based on the outcomes of the study, we see coal continuing to grow as a low-cost foundation for economic and social development, thus making a significant contribution to eradicating energy poverty,” said Zbigniew Bicki who chaired the study.

“Developments in clean technologies will result in bearable costs in terms of technological sophistication and in low costs in terms of international technology transfer,” he added.

However, the report stated that people involved in the coal business first needed to bring out even-handed Council (WEC) report.

The report also states that coal would be more environmentally acceptable by the year 2030 with 70 percent of coal-based power generation in the world likely to use cost-effective clean coal technologies.

Coal according to the study will continue to be used in electricity generation, but long term options like synthetic gases, liquids and hydrogen will also emerge.

However in order to make coal a reliable and clean source of energy, new technologies are needed to extract it through a safer and a cleaner way.

According to Preston Chiaro, the Chief Executive of Energy, Rio Tinto, United Kingdom, chairing the discussion on ‘Coal: Confronting the Challenges’ today, at the 19<sup>th</sup> World Energy Congress, coal by most people was considered as dangerous, dirty, and a dying source of energy.

Mr. Chiaro said that coal always had its detractors since the 14<sup>th</sup> century stating an example where people who could afford firewood were against the use of coal.

The environmental impacts from mining, acid rain, stress on workers etc. were some of the other reasons that painted a grim picture of coal.

However, he said that there were many advantages of coal which people were unaware of. “Coal can be mined safely with high efficiency and low emission,” he said.

Coal, according to Mr. Chiaro was the answer for sustainable energy, the main stay for the economy in large nations like India and China.

“We are yet to see better technologies for coal mining and until that comes it is doubtful if coal can survive 2030,” said a delegate.

## **Enough Global Resources**

**Sydney, September 9, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

Contrary to apocalyptic predictions of many pessimistic thinkers, the World Energy Council say that there is no shortage of global energy resources in its report, 'Survey of Energy Resources,' which was released at the Sydney Convention Centre during the 19th World Energy Congress.

The survey reviews the global reserves, production and consumption of vital energy resources and covers 17 main energy resources also providing expert commentaries and country data for each.

The survey looks at several important energy resources like oil, natural gas, biomass, wind and geo-thermal energy.

The survey states that after the low oil prices and ensuing complacency in the late 20th century, energy security is back in the forefront of political discussions.

Oil's volatile nature has become clear in recent years due to political involvement as the world continues to depend on this leading resource.

According to the survey, the drastic increase of oil price over the last five years was not caused by dwindling reserves. The global reserves of oil were still adequate to meet global demand for the next few decades, which would extend further if there were continuous improvement in exploration and processing technologies. The only challenge that it posed was the long supply routes to main markets since oil was concentrated in a few regions only.

According to the survey, natural gas reserves were considerably larger than oil reserves therefore, bringing more gas to the market, in particular to the main consuming countries in Europe and North America.

Though in large reserves, the enormous investment required to build pipelines and LNG terminals to supply natural gas to remote markets was the main challenge.

However, experts believe that the production cost of natural gas will continue to decline with technological developments in liquefaction processes and upstream gas production.

Another potential source of energy and the world's largest and most sustainable energy source is biomass. However, to advance from the 'potential' stage to production and use of biomass needed modernization.

With offshore projects spurring development of 5 MW wind-powered machineries in the market, it poses a new challenge to many electrical systems. For instance, in Denmark, more than 80 percent of electricity was now produced by wind turbines, which had implications for grid stability and required new concepts for power system control.

Geothermal, which is an important renewable resource and can be deployed for base-load electricity production, power generation plants have a total installed capacity of over 8000 MW worldwide.

The survey of energy resources also covers 'less common' resources such as peat, oil shale, wave, natural bitumen, and wood.

Though the survey report concludes that there are enough global energy resources, there is the problem of in-equitable distribution of important natural resources.

According to the survey, with only a few countries having the resources it created a problem for many other countries, which depended on imports.

"A diversified energy mix is absolutely vital for stability of prices and supply and should be taken into consideration when countries are developing national energy plans or long-term business

strategies,” said Dr. Alessandro Clerici, who served as the chairman of the executive board, which oversaw the preparation of the survey. Survey of Energy Resources is an annual publication by the World Energy Council and has been produced since 1934.

## **Study On Future Energy Saving Technologies**

**Sydney, September 9, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

Energy End-use Technologies for the 21st Century, a study conducted by the World Energy Council and released in a special session at the 19th WEC yesterday, looks at the potentially energy saving technologies of the future.

The study researches on the potential of both energy end-use technologies and of research, development, and demonstration (RD&D) that are focused on transportation, buildings and industrial processes.

It identifies important technologies for the next 20 to 50 years that could potentially increase the benefits of energy.

The study also probes into the ways in which industries and governments could play a vital role in the development of these cross-cutting technologies and predict the investment required to bring out these technologies for daily use.

“This is the first attempt to examine the future energy end-use technologies on a global scale, both geographically and across the energy spectrum. While preliminary, it should nevertheless encourage industry and governments to undertake more detailed investigations. While surprises are likely, current research developments offer a picture of what may happen in the future as new technologies face the competition of the marketplace,” said Study Chairman Dr. Robert Schock, senior fellow at the Center for Global Security Research, Lawrence Livermore National Laboratory (USA).

The study concludes that globally, robust research and development followed by demonstrations of new end-use technologies could potentially save at least 110 EJ every year by 2020 and over 300 EJ per year by 2050.

If achieved, this translates to worldwide savings of as much as 25 percent by 2020 and over 40 percent in 2050.

According to the study, it is almost certain that no single technology, or even a small set of technologies, will meet all the needs of the globe in any foreseeable timeframe.

The study also recommends that governments and industry encourage more in-depth studies as well as studies of all potential technologies. Such studies should be performed *in concert* and from a *global perspective* should be studied in detail. The study was supported by the Japan Energy Association, the Swedish Energy Agency, the United States Energy Association (USEA) and the WEC.

## **Hike In Oil Price Foreseen**

**Sydney, September 9, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

The President of the Organization of Petroleum Exporting Countries (OPEC), Dr. Purnomo Yusgaintoro said that OPEC might raise its oil price band between US \$ 26 to US \$ 34 at its meeting in Vienna next week.

According to the OPEC President, the final agreement on official prices depended on opinions about future demand, noting that demand from China, India and USA was strong.

Strong global demand and continuing pressure on supplies were some of the factors that could increase the cost of oil, according to Dr. Yusgiantoro speaking at the World Energy Congress yesterday.

He also called for non-OPEC members to raise their oil output to keep stable the global oil prices.

Dr. Purnamo also said that he hoped Iraq's would soon start its target production of three million barrels after the elections in January next year.

Iraq at the moment produces about two million barrels a day having failed to meet its target production of three million barrels a day due to internal instability and unrest.

Contrary to what most believe, a World Energy Council report states that the drastic increase of oil price over the last five years was not caused by dwindling reserves due to political problems as in the case with Iraq.

Dr. Yusigiantoro said that despite the present high crude oil prices there was still at least 1.5 million barrels a day of excess production in the market.

OPEC crude oil production is currently running at 30 million barrels a day which he said even at the recent high spot prices, he did not foresee an immediate impact on global economic demand for oil.

## **19th World Energy Congress** **Concludes**

**Sydney, September 10, 2004**

**By Kinley Y. Dorji, Kuensel Corporation**

The 19th World Energy Congress concluded yesterday with the more than 2000 government and energy power brokers from 98 countries unanimously agreeing that sustainable energy systems were achievable but the challenges were many and needed to be tackled urgently if sustainability was to be achieved in this century.

With a wide ranging discussions of the Congress since September 5, the World Energy Council (WEC) concluded that all energy options must be

kept open and no technology should be idolized or demonized, which means that nations should also keep room for the development of other sources of energy like coal, oil, gas or nuclear energy.

The WEC's mission to promote the sustainable supply and use of energy for the benefit of all people was reconfirmed with regional collaboration to be emphasized, with the development of regional action plans.

The benefit of WEC's global, multi-term energy perspective would also be retained through studies such as the planned new-term energy scenarios and a joint study with the UN in order to realize the energy goals set at the World Summit on Sustainable Development in Johannesburg in 2002.

The World Energy Congress was held under the auspices of the WEC with over 40 keynote addresses, roundtables and discussion sessions along with a series of poster session, focused on the Congress theme "Delivering Sustainability: Opportunities and Challenges for the Energy Industry."

# P E T R O W A T C H

Market Intelligence from the Oil, Gas & Power Sector in India

**Pradeep Puri**  
Managing Editor  
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**INDIA**

## **Energy Congress Begins**

**Sydney, September 6, 2004**

**By Pradeep Puri, Petrowatch**

Indians are there all over the 19th World Energy Congress in Sydney. But India is not. Despite a strong contingent, mainly comprising junior officials from state-owned power companies, not much is heard about India. Joint Secretary A.K. Srivastava and Petronet LNG Managing Director Suresh Mathur are the only two flag bearers of India's oil sector.

Delegates do make some insignificant references to India emerging as a large energy consumer along with China. But that's all about it. Try telling them about the strides being made in exploration and production of oil and gas and they dismiss these as flash in the pan. "Yes we heard about a gas discovery (Reliance) some time back, but such things happen all the time all over," an Australian delegate told this report. Less said the better about a small stall put up in one corner of the exhibition hall jointly by all Indian power and oil companies. In a most unimaginative manner, it seeks to depict India rising like a Phoenix in the World Energy scene. The stall is bereft of any details of how the country is set to achieve this feat. Most of the time it is bereft of the officials who have been sent to Sydney just for the purpose. Try finding where they are, comes the prompt reply, "Don't you know it is a beautiful city. One has to do the entire sight-seeing in these four days."

The World Energy Council has released its new study on Drivers of the Energy Scene. The study concentrates on oil and natural gas markets because of their importance in energy supply and pricing, and focuses on past GDP and energy trajectories, examines the challenges the energy scene faces today and addresses the most important economic, social, environmental and technological feedbacks. It links each of these to the well-established WEC goals of energy accessibility, energy availability and energy acceptability.

The report also looks at the role of energy in economic development, evolution of the demand for increasing sophisticated energy services and the availability of primary energy in terms of both quality and quantity. It focuses on three drivers, including the GDP driver, which describes which energy demand reveals about GDP growth; the energy demand driver which covers the nature and evolution of energy consumption in the distinct services of heating, mobility and electricity; and the energy supply driver, which deals with the availability and cost of energy and their feedbacks on the prospects for economic growth and energy demand.

Finally, it questions whether the overall feedbacks of energy accessibility, availability and acceptability will drive GDP growth leading, in turn, to an acceleration or deceleration of energy growth in the future.

## **Australians Eye India Gas Market**

**Sydney, September 6, 2004**

**By Pradeep Puri, Petrowatch**

Australian energy major BHP Billiton is eyeing Indian LNG market. It plans to supply 7 mt/y of LNG on the east coast at a price comparable with the Qatar LNG being supplied on the west coast. "Negotiations are on," said an Indian official attending the 19th World Energy Congress at Sydney even as BHP CEO Charles Goodyear told this report that though his company is interested in doing business with India, it has not started any dialogue on the issue.

The Indian side is learnt to be more keen on getting the gas on the west coast since the country will soon be getting the gas from the KG discovery shortly on the east coast. Indians are also hopeful that given the keen competition among the international LNG suppliers, it would not be difficult for them to make BHP deliver the gas on the west coast at the price they want to supply on the east coast. Preliminary, Indians may like to get the Australian LNG on the proposed import terminal of Petronet LNG at

Kochi, “but if it comes to that, others like NTPC can also put up their terminals to receive LNG.”

## **\$80 B Savings from Power Plant Improvement**

Sydney, September 7, 2004

By Pradeep Puri, Petrowatch

An annual savings of \$80 billion can be realized in case power plant performance is substantially improved. In its latest report titled Performance of Generating Plant: New Realities, New Needs, an improvement in the existing power plants would not only eliminate the need for new capacity it could also result in the reduction of global GHG emissions by one billion tones each year, with proportional reduction of other pollutants.

The report analyses generating plant performance indicators, reliability issues and benchmarking approaches in the context of evolving competition in the global electricity supply industry. “Performance improvement of existing plants is the most cost-effective way to increase the energy-producing capabilities of a utility, improve the overall energy efficiency of the industry and produce substantial environmental benefits,” the report says.

“Availability is a critical indicator for assessing the overall performance of the power plant in both technical and commercial terms. Moreover, it is a public demonstration of the service the plant provides to its customers. The importance of reliable service should not be underestimated, especially in the increasingly competitive market environment in which many utilities around the world are operating today,” the report said.

## **The Future of Coal**

Sydney, September 7, 2004

By Pradeep Puri, Petrowatch

Coal will be both economical and sustainable in meeting the global energy demand till 2030. This has been concluded by the latest study by the

World Energy Council titled “Sustainable Global Energy Development: The Case of Coal.”

The study says that coal will be available to meet the steeply rising demand for steam coal, while the supply of coking coal will be adapted to reduced demand. Despite the drain on coal reserves, these will remain significant in absolute terms and compared to oil and gas reserves.

It says that coal will be accessible, mostly in the form of electricity, to a growing number of people. Thanks to significant productivity gains, international coal prices will remain stable and competitive. Thus coal could make a significant contribution to reducing the number of people in the world who currently have no access or unreliable access to commercial energy.

The study concludes that while coal will continue to be used in electricity generation, but synthetic gases, liquids and hydrogen from coal will also emerge as long-term options. “Coal will be more environmentally acceptable in that by 2030. 72percent of coal-based power generation in the world is likely to use cost-effective clean coal technologies, given the right market conditions,” the report says.

## **India Oil Company Considers Power Generation**

Sydney, September 7, 2004

By Pradeep Puri, Petrowatch

Bharat Petroleum-owned Kochi Refineries is planning to spread its wings. It wants to enter power generation and gas marketing. Late last month, KRL managing director BK Menon discussed the issue with his counterpart in Petronet LNG Suresh Mathur. Menon offered to lift 2 mt/y of the 2.5 mt/y of LNG that Petronet LNG proposes to import at its proposed Kochi terminal. “This is a huge quantity,” Mathur told this report. “In case this deal is finalized, we can take further steps to implement the project.”

Kochi Refineries is understood to be considering replacing naphtha with natural gas as feedstock

for its hydro cracker and plans to set up a mega gas-based power plant. Moreover, it wants to sell RLNG to other industrial consumers in Kerala. "Menon did not give me the break-up, but said he would need 2 mt/y of gas", Mathur said. Besides Menon, Kerala government has also pressing Mathur to implement the project and has assured him that there will not be any problem in utilizing the entire gas within the state. The state government has also signed some MoUs for the sale of RLNG. "But MoUs are not good enough", says Mathur. "We want firm gas sales agreements. We will implement the project only if sales agreements have been signed for at least 60% of the proposed imports," Mathur said.

### **Incentives Needed for Investment**

**Sydney, September 8, 2004**

**By Pradeep Puri, Petrowatch**

It is necessary for all the governments to ensure that energy markets provide right incentives and conditions for the much-needed investment in sustainable development. "The shared vision for clean power and expanded access to reliable energy supply can be achieved only through clear and long-term government frameworks," global head of energy at Ernst and young Richard Wilson said at the 19th World Energy Congress in Sydney.

He said the dilemma facing energy markets is how to reconcile greenhouse gas reduction targets with competitive business outcomes and market demand. "This is where we see the government stepping in to stimulate investment in R&D and to contribute directly, particularly in developing nations," Wilson said.

Wilson urged governments and multinational agencies to act in concert with investors to leverage in tens of trillions of dollars that will be required as world energy use doubles over the next 30 years.

The challenges of funding sustainable technologies to fuel escalating worldwide need

for energy and electricity can only be met when focused policies and regulatory regimes are in place to provide greater assurance and certainty for private investors. "One of the crucial elements for the future of power is security of supply: trying to get a balanced supply of energy sources for all of the end users. This means diversifying across a mix of renewables and traditional sources like nuclear, coal, gas, oil and hydro where there's a mandate to raise social and environmental performance," Wilson said.

### **Sustainability at the Core of Energy Business**

**Sydney, September 8, 2004**

**By Pradeep Puri, Petrowatch**

The concept of sustainability is fundamental to the future of the business of energy companies who should look at ways to address the greenhouse challenge and minimize their environmental impacts, while maximizing the broader benefits that they can bring to the society.

"Energy has been the key to growth in the developed world and is essential for the future growth of the developing countries. The question is how to provide sustainable energy to support the growth of developed and developing economies without compromising the quality of life for future generations," chief executive officer of BHP Billiton Chip Goodyear said while delivering a keynote address at the 19th World Energy Congress at Sydney.

Goodyear said the companies must expect continued discussion around climate change in general and in particular the role of fossil fuels in the future energy mix." It is not a question or choice between renewable energy or fossil fuels, they can and need to coexist if we are to meet energy needs in a sustainable way that does not compromise economic benefits. What we are seeking is a low emission future and we believe society can have that while continuing to use fossil fuels," he said.

He said that the actions that the industry takes in the next 20 years to develop technologies necessary for the sustainable use of fossil fuels, and to promote the uptake of these technologies, will determine the success of the industry and the society over the balance of this century and beyond.

**Balaji Chandramouli**  
Special Correspondent  
Hindu Business Line  
**INDIA**

## **Drivers of the Energy Scene**

Sydney, September 7, 2004

**By Balaji Chandramouli, Hindu Business Line**

The World Energy Council (WEC) today released a study titled “Drivers of the Energy Scene” at the World Energy Congress here. The study concentrates on oil and natural gas markets because of their importance in energy supply and pricing.

It focusing on past GDP and energy trajectories, examines the challenges the energy scene faces today and addresses the most important economic, social, environmental and technological feedbacks. The study also links each of these to the well-established WEC goals of energy accessibility, energy availability and energy acceptability.

The report also looks at the role of energy in economic development, evolution of the demand for increasingly sophisticated energy services and the availability of primary energy in terms of both quality and quantity.

It focuses on three ‘drivers’, including the GDP driver, which describes what energy demand reveals about energy growth; the Energy Demand Driver, which covers the nature and evolution of energy consumption in the distinct services of heating, mobility and electricity; and the Energy Supply Driver, which deals with the availability and cost of energy and their feedbacks on the prospects for economic growth and energy demand. Finally, it questions whether the overall feedbacks of energy accessibility, availability and acceptability will drive GDP growth leading, in turn, to an acceleration or deceleration of energy growth in the future.

## **The Energy Future**

Sydney, September 7, 2004

**By Balaji Chandramouli, Hindu Business Line**

A visit to the wash room after a trans-continental journey to Australia reminds one of the need to visit contrarian postures. For, the running water in the wash basin runs in a clockwise manner, contrary to the converse in the entire northern hemisphere.

Indeed no better prelude to the triannual World Energy Congress (WEC) which took off here on Sunday to discuss the crucial issue of our energy future delivering sustainable development. Development, on the one hand, to provide electricity to the two billion worldwide who do not have access to electricity. And, and on the other hand, to tackle and adapt to the rising energy costs on the back of hardening fuel prices and environmental concerns like global warming.

Growth in demand for energy in certain pockets of the world is making the situation no better. China recorded a 16 percent growth in electricity consumption over the last 18 months, with the Canton province proving to be extremely power hungry, registering a 25 percent growth in the same period.

## **Sustainable Development Tops Energy Meet Agenda**

Sydney, September 7, 2004

**By Balaji Chandramouli, Hindu Business Line**

THE crucial issue of the world's energy future being delivered in a sustainable manner took centre stage at the tri-annual World Energy Congress (WEC).

Besides sustainable development, there were two critical issues that went hand in hand, yet were contrary to each other. On the one hand was the delivery of electricity to the two billion worldwide who have no access to it, and on the other were the hitches that arose in tackling and

adapting to the rising energy costs on the back of hardening fuel prices and environmental concerns such as global warming.

Making the situation no better was the stronger growth in demand for energy in certain pockets of the world. China recorded a 16 percent growth in electricity consumption over the last 18 months, with the Canton province proving to be extremely power hungry, registering a 25 percent growth in the same period.

"We need to approach the situation with a coherent strategy for practical energy solutions," argued Mr. Francois Rousselly, Chairman and CEO of EDF, France, in his inaugural address at the WEC.

Meanwhile, the energy strategy is still cooking, awaiting Russia's response on whether or not to ratify the Kyoto Protocol. The protocol binds the developed nations, the major emitters of green house gases like carbon dioxide that cause global warming, into a commitment to limit their emission over time. This would be done through market mechanisms such as carbon trading. Europe already has a 'grey' market in carbon trading.

Renewable energy sources like solar and biogas, among others, offer themselves in the market place with several riders. For one, they are expensive. Secondly, they are yet to demonstrate their ability to satiate the growing demand of the industrial and commercial world.

In Europe, the economics of renewable projects is enhanced owing to the fiscal regime that is stringent on emission norms and rewards renewables with tax breaks. The pressure groups voting for green power are aided by the fact that in most countries the minister for environment holds the portfolio of renewable energy sources.

Carbon trades in Europe have already indicated that the price of power is going to go up by around 20 percent in the next few years once the carbon quotas are assigned to various countries, most likely next year if the Protocol is ratified,

according to experts. In that case, the power intensive industries would be rendered non-competitive. This, since power contributes to around 80 percent of the greenhouse gas emissions and the quotas would be clamped on the main culprit, the coal-fired stations.

In the ultimate analysis, the issue is one of abatement of carbon emission.

The opportunities for India are immense. Consultants Ernst & Young are already working on over 30 projects to bring in capital from large overseas corporates keen on reducing their emission. Since carbon is a commodity, priced currently in the unofficial European market, the abatement of carbon emission by the project would generate a revenue stream that will minimize the cost of financing the project.

## **OPEC Not to Consider India's Plea to Cut Crude Prices**

**Sydney, September 8, 2004**

**By Balaji Chandramouli, Hindu Business Line**

The Organization of Petroleum Exporting Countries (OPEC) will not consider India's request to take up the issue of a \$1 per barrel reduction in the price paid by the Asian buyers for crude oil purchase from OPEC suppliers. The OPEC is slated to meet next week in Vienna.

"We have received a letter from the Indian Government on the matter. However, it is not for OPEC to consider such proposals. Such negotiations can be done only on a bilateral basis," Dr. Purnomom Yusigiantoro, Secretary General, OPEC, said on Wednesday at the World Energy Congress (WEC) in reply to a question from *Business Line*. Last month, the Petroleum Minister, Mr. Mani Shankar Aiyar, said in New Delhi that India would be raising the issue of OPEC countries charging a \$1 per barrel premium on crude oil sold to the Asian countries.

India imports 70 percent of its crude oil requirements. It imported 90.83 million tonnes in 2003-04 for around Rs 84,000 crore.

During the first quarter of the current fiscal, crude import bill jumped 51 percent over the previous quarter's bill to around Rs 30,000 crore, driven by high global crude prices.

Speaking at the World Energy Congress (WEC) here, Dr Yusgiantoro said that 'exceptional conditions' were responsible for \$10-15 per barrel in the current price of crude which is hovering around \$40 per barrel price.

"This (\$10-15 per barrel premium) is between about one-fourth to one-third of the current market price. This restricts room for maneuver," he argued.

"I expect the exceptional factors to mitigate once elections are held in Iraq early next year and, hopefully by then, there will be some peace in the region," said Dr Yusgiantoro, who is also the Indonesian Minister of Energy and Mineral Resources. This way, Iraqi oil will flow into the market and aid in softening prices.

"The starting point for sound investment strategy is market order and stability today, with reasonable, predictable prices," he argued.

According to the OPEC chief, the global market is well supplied with crude.

However, it is the "higher than expected demand, geopolitical tensions, downstream bottlenecks and speculation" that have resulted in the hardening of crude oil prices.

The OPEC producers have a spare capacity potential of around 1-1.5 million barrels per day. The OPEC countries have a proven crude oil reserve of 891 billion barrels, or 78.3 percent of the world's reserves, pointing to more reliance on OPEC oil in the future, according to the OPEC chief. The key long-term issue facing the OPEC countries is the uncertainty over investments in the future.

## **Technology in Power Sector Needs to Mature to Mitigate Emissions'**

**Sydney, September 8, 2004**

**By Balaji Chandramouli, Hindu Business Line**

It is not the first time that coal is being vilified. In the 14th century, a certain section of society in Europe was against coal as a fuel since it were very comfortable using firewood instead, according to Mr. Preston Chiaro, Chief Executive Officer of \$10.3-billion UK-based mineral resources major, Rio Tinto.

Now, the coal industry has to contend with the criticism that it is the single largest environmental polluter, the chief culprit behind global warming. "I am not here to defend coal but to explore the possibility of defining a practical agenda to enable coal to remain sustainable," the Rio Tinto chief said at the World Energy Congress.

Today, unlike in the 14th century, coal has established itself. Mined in 50 countries, it fuels 40 percent of the global power generation capacity. Its domination is not relenting either - it grew by 6.3 percent in 2003, the fastest growing fuel in the global power sector for the year. Interventions to mitigate coal-related emissions come with a cost that will drive up energy prices and affect the competitiveness of the industry. This will affect the fortunes of the producers as well.

Australia, the world's largest exporter of coal, is certainly not silent on the issue. The Australian Prime Minister, Mr. John Howard, said in his speech at WEC on Sunday, that although he believes in the principles of the Kyoto Protocol, the terms of the treaty are not fair and equitable for the developed countries.

The Protocol, which seeks to discipline developed countries, the major emitters of greenhouse gases that cause global warming, is awaiting ratification since it requires 55 percent of its members to vote for it.

"Industrial competitive position must go hand in hand with sustainability," according to Mr. John

Smith, President, coal operations, BHP Billiton, Australia. BHP Billiton, a \$25 billion multinational, operates several commodity businesses and is Australia's largest coal producer.

Carbon trade, the market mechanism to regulate emissions, is already being practiced in the European market. Here, emitters like bigger industries pick up equity stakes in foreign projects that are based on renewable energy, thus mitigating their liabilities on the emission front. Other forms of mitigation include purchase of 'carbon' credit from the market. The European market, however, is not an official one.

Other initiatives include internal measures using technology to mitigate emissions. Technology in the power sector has tried to lend a shoulder to the coal industry to mitigate the emission issue. However, it has not matured in the same way as the sulphur emissions industry.

"Commercial technology was in existence to bring down sulphur emissions. So, a mild market nudge like in the case of US ensured that the emissions were reduced while not affecting the viability of industry. In the case of coal industry, technology is not ripe enough," according to Mr. Smith.

"Over last decades, the efficiency of coal-based power stations has risen. The emission levels have reduced. There are technologies like Integrated Gasification Combined Cycle that reduce emissions and bring in efficiencies close to that of gas fired turbines. However, carbon trade requires to be backed up with technological breakthroughs," Mr. Smith argued.

## **Indonesia's Gas Market Reforms** **Sydney, September 9, 2004** **By Balaji Chandramouli, Hindu Business Line**

Indonesia is in the midst of a reform process in its natural gas market. The world's largest exporter of natural gas is looking at moving to

market based pricing of natural gas in its domestic market.

Addressing the World Energy Congress (WEC) here, Mr. Hanan Nugroho, National Development Planning Agency, Indonesia, said that the debate is that of the pricing regime for the gas supply in the domestic market. Currently, Indonesia cross-subsidizes sale of gas in the domestic market with market-priced export of LNG. Domestic consumption accounts for 41 percent of the production as compared to exports, which constitute 54.5 percent (2003 data).

For the domestic sector, gas is priced on a 'cost-plus' basis, with no linkage to opportunity costs, etc. This way, industries get low-priced fuel, making their products competitive in the global market place.

Industry pays only \$1-3 per million british thermal units (mmbtu). For example, the fertilizer industry pays \$1-2 per mmbtu; steel pays \$2 per mmbtu; power generation sector \$2.45 -3 per mmbtu; cement \$2.7-3 per mmbtu; and the refinery sector pays only \$1.49 per mmbtu.

This might change in times to come with the possibility of a shift from the present cost-plus system to Long Run Marginal Pricing (LRMC) of fuel for the domestic market. LRMC is a step below introduction of market-based pricing.

The issue is whether this will lead to an economic and efficient pricing framework for the natural gas industry, according to Mr. Nugroho. The other issues which are also being debated include that of gas transmission and distribution costs besides its pricing structure besides model contracts for producer prices. Further, what should be the role of government agencies in determining natural gas prices?

## **Japanese Power Market Shifting to Nuclear Gen for Future**

Sydney, September 8, 2004

By Balaji Chandramouli, Hindu Business Line

The Japanese power market is seeking to shift its reliance on to nuclear energy in the future. Addressing the World Energy Congress (WEC), Mr. Masumoto, Federation of Power Electric Companies, Japan, said that to ensure energy supply stability, Japan intends to go in for a nuclear fuel infrastructure in a big way.

Currently, nuclear power accounts for a third of the generation capacity in the country. The preference of nuclear power to LNG a popular power generation fuel in Japan, is also on account of the hardening of the global oil markets, which impinges on the LNG market.

According to Mr. Masumoto, the demand for power in Japan is not rising sharply and so capacity expansion through the nuclear route is adequate.

Dwelling on the Russian market, Anatoly Chubais, chairman, RAO UES said that that the Russian market has evolved over time. In the late Nineties, the consumer payments did not exceed 17 percent of supply; there was non-transparent financial flows and absence of a budgeting system; growth of payable accounts and inadequate corporate governance. This resulted in bankruptcy looming over 20 companies of RAO UES holding.

Today, the consumer payments are in excess of 100 percent (including payment of previous years' debts; strict financial discipline, accounting and audit practices; and well-structured corporate governance system. RAO UES holding is now in a financially secure position. RAO UES controls the bulk fo the Russian electricity sector, including 72 percent of generation capacity and 96 percent of transmission grids.

## **Life Cycle Assessment Can Help Identify 'Best' Energy Options: WEC Study**

Sydney, September 9, 2004

By Balaji Chandramouli, Hindu Business Line

Life Cycle Assessment (LCA) is a scientific way of arriving at optimal energy options. The World Energy Council has, at the World Energy Congress here, released its latest report, 'Comparison of Energy Systems Using Life Cycle Assessment', which offers interesting insights into the mechanics of selecting the optimal energy options.

Energy options differ considerably in the nature and scale of environmental impact. The report describes the role of life cycle assessment in analyzing environmental impacts of various energy options and outlines the steps in a "full life cycle approach", which examines the entire production chain from exploration and extraction to processing, storage, transport, transformation into secondary fuels and its end use.

The study also explains the benefits and limitations of using LCA and looks at the role that LCA can play in an effective decision making process. It examines comparative results for electricity, space heating and transportation and makes specific observations on various primary energy sources.

According to Mr. Francois Ailleret, Chair of WEC's studies Committee, which oversaw the project, "The new study will be extremely useful for practitioners and decision makers in the energy industry. The information gathered here, which is based on results of past LCA studies, highlights the value of LCA as a decision making tool and shows how it can be used to make trade-offs and advantages of various energy options, allowing the decision makers to see not only the full impact of the alternatives but also the effect of their choices on human health and the environment." The report is priced at 45 pounds. WEC is a leading global multi-energy

organization with member countries in 96 countries around the world.

## **Performance of Generating Plants- an \$80 Billion**

### **Benchmarking Bonanza**

**Sydney, September 9, 2004**

**By Balaji Chandramouli, Hindu Business Line**

Power plant world-over have room to improve their efficiency, reduce emissions and generate power at lower costs. If power plant performance were improved significantly, a savings of \$80 billion per annum could be achieved, according to report published by the World Energy Council (WEC) titled "Performance of Generating Plant: New Realities, New Needs". According to the report released here at the World Energy Congress (WEC), improving the availability of existing plants would not only eliminate the need for new capacity but could also result in the reduction of global Green House gas (GHG) emissions by 1 billion tonnes of carbon dioxide per annum, which is around 4 percent of the total GHG emissions. This will also ensure proportional reduction of other pollutants.

The report analyses generating plant performance indicators, reliability issues and benchmarking approaches in the context of evolving competition in the global electricity supply industry. This is based on data and case studies from utilities and companies around the world.

The report concludes that while some technology enhancements and equipment upgrades will be required, the majority of plant performance improvements will result from addressing human factor issues and changes in power plant management. It also notes the need for new reliability indices that ensure better reflection of the realities of the current market place and the competitive economy.

According to Dr. Karl Theis, executive managing director of VGB PowerTech e.V (Germany) and chair of WEC's performance of Generating Plant Committee, "Performance improvement of existing power plants is the most cost-effective way to increase the energy producing capabilities of a utility. It improves the overall energy efficiency of the industry and produces substantial environment benefits. Availability is a critical indicator for assessing the overall performance of the power plant in both technical and commercial terms. Moreover, it is a public demonstration of the service the plant provides to the consumer. The importance of reliable service should not be underestimated, especially in the increasingly competitive market environment in which many utilities around the world are operating today." The report is priced at 85 pounds and is part of the WEC's triennial reporting on performance data for power generating plants worldwide and advanced techniques for improving power plant performance through benchmarking.

**Prakash Adhikari**  
Secretary  
National Union of Journalists  
**NEPAL**

## **Stable Political Force is Must to Develop Energy Industry.**

Sydney, September 7, 2004

**By Prakash Adhikari, National Union of Journalists**

Energy giants and the leaders have come to a conclusion that for the development of an energy sector a reliable and stable political frame is indispensable.

This comment was expressed at the 19th Congress of the World Energy Council, in Sydney, the capitol of Australia, on the 5<sup>th</sup> of September. Harry Roels, Chief Executive Officer of RWE, AG a German Electricity company said, "In mature utility markets competition must remain the pivotal principle to ensure efficiency and viability for the benefit of the customer. In any case, a reliable and stable political framework is indispensable for the development of the industry".

He made his comment to the theme "The Path to Sustainability: Accessibility, Availability, Acceptability". According to Roels, two billion population of the poorer countries have no access to modern energy. This is the biggest challenge of today. On one hand this large portion of the world population must be provided the electricity as the economic as well as social upliftment of these people is directly associated with the availability of the modern energy at the affordable rate. On the other hand the lifestyle of the developed nation and the urban and semi-urban areas of the world is much more dependant on energy and it is very difficult to change the trend. A survey conducted in Bangladesh to access the socio-economic impact of rural electrification had proven that electricity not only light, but also enlighten the people. So the rate of reducing the poverty and achieving the millennium development goal is very slow due to the unavailability of the desired modern energy. Reducing the poverty by half of 1990 up to 2015, universal primary education, reduction of infant and child death rate by two thirds, modern maternity service to all, and reducing the number of population by half who have no

access to safe drinking water, i.e. doubling the effort to provide the safe drinking water facility are some key factors of the MDG.

World leader and key player of the energy sector are more concerned about the sustainability of the energy as well. They are determined to leave all the option open for this purpose. None of them are against the Nuclear, coal or any form of energy that are presumed to be risky and harmful to the human being, the living beings & the mother earth. They opied that these risks of nuclear leakage, greenhouse gas emission and nuclear waste and environmental hazardous factors can be minimized and brought in to zero level by developing and adopting technological advancement.

Though the key note speakers, panelist of the different technical sessions and the participant on the Congress have indicated the merits and demerits of the all form of the available energy sources and more or less agreed on maximizing the meritous part and minimizing the demerits, they are stressing to harvest the new possibilities of the modern sources which have the minimal adverse impact on climate, the mother earth and the living beings including the human beings. RWE AG CEO Harry Roels said, "We have to push forward our search for new technologies and operational excellence with massive expansion in the use of sun, wind, water and biomass technologies that have minimal climate impacts."

The XIX World Energy Congress is opened by the Prime-minister of Australia John Howard's at Sydney Convention and Exhibition Center popularly known as Darling Harbour and more then 2200 people from all over the world are participating the triannual Congress.

## **Door is Still Opened for All Sources of Energy**

Sydney, September 7, 2004

**By Prakash Adhikari, National Union of Journalists**

To meet the immediate and the forecasted demand the Energy giants and the leaders, who are assembled here to discuss on the much more relevant theme “Delivering Sustainability in Energy” have called to keep the door open for the development and advancement of existing sources of energy.

All the key players of the World Energy representing from both the governmental as well as the private sector took part in the 19th Congress of the World Energy Council, in Sydney, the capitol of Australia, on the 5<sup>th</sup> of September. Speaking on the third day of the Congress the key note speaker, the Power Minister of India P.M. Sayeedd talked about the accessibility, availability and acceptability, i.e. different aspect of sustainability. Charles Goodyear, Chief Executive Officer of BHP Billiton Australia; Harry Roels, Chief Executive Officer of RWE; Jose Antonio Ocampo, Under Secretary General, Department of Economic and Social Affairs of United Nations; & Harry Roels President and CEO of RWE AG a German Electricity company Spoke as a panelist. Though there is no uniform voice to choose the safest mode of energy, each of the speaker stressed to keep the door open to explore all forms of available energy resources to meet the future need.

## **Issues of Villages in the WEC**

Sydney, September 8, 2004

**By Prakash Adhikari, National Union of Journalists**

A girl child, looks like typical rural Nepali, sitting in a smoked kitchen for cooking food, pushing a firewood & keeping a water pot and a bottle of Kerosene next to her has dragged the attention of the energy leaders and the stakeholders who

are here to take the part in the XIX Congress of world Energy council to discuss the different aspect of energy sustainability.

The eye catching scene of girl child and woman, non availability of modern energy, its negative consequences and the responsibilities of the have groups is put forward by Gordon Waynand, Director Energy Program, Office of Energy and Information technology, Bureau of Economic growth Agriculture and trade united States Agency for International Development (USAID).

In his presentation on “the Global village Energy Partnership: The Clean Energy Initiative In Action” director Weynand said,” Women and children spent one third of their productive life in transporting firewood and water, unless this situation remains non of the program on alleviating poverty, empowering women can be succeed.” To end this pitiful situation of women and children and accelerating the rural village economy USAID has initiated a new program.

Global Village Energy Programme (GVEP) is such type of program under the clean energy initiative announced in World Summit on Sustainable Development held two years ago. It aims to increase the access of modern energy at affordable rate to the poorer people of the world. In its 10 years plan GVEP aims to serve more than 400 millions people and 50 thousand communities of more than 30 nations.

In the short span of time it has got success to kick of the programs in Guatemala, Zambia, Brazil and India. In Guatemala, USAID has supported to study gap analysis, put proposal with World Bank to support and generating funding of US\$15 million. While in Zambia, Rural Energy working group has been established and rural electrification blueprint has been already prepared. USAID is facilitating to the government with World Bank for the US\$ 100 million loan on Increased Access to Energy Services. In Zambia the internet telecenter services has been setup to support for health education and cultural programmes. Under this programme 800 household of Ahamabad, India had upgraded from illegal and unreliable

electricity service to legal. Efficiency, reliability enhanced and unaccounted losses is reduced at the par of industrial standard of 10 percentage. GVEP provides the services ranging from program and policy planning, capacity development, facilitating of financing, knowledge management, and result and impact monitoring. Over 300 agencies including donor government, developing countries, international organization industries and civil societies has been joined as partner for the program. Though the Intermediate Technology Development Group (ITDG) has been its member, Nepalese Government has not been listed as the partner member of this program which could have helped to uplift the rural pours of the country.

## **Asia Will be the Energy Demand Driver**

**Sydney, September 9, 2004**

**By Prakash Adhikari, National Union of Journalists**

The five-day meeting of XIXth World Energy Congress which concluded here today has focus its eyes on the Asian market terming it as “Major Demand driver.”

In his concluding remark Secretary General of World Energy Council Gerald Doucet said, “Because Asia will be the major energy demand driver in the coming years, this Congress is timely, we have to go on implementing the Congress conclusion.”

The Sydney Congress has passed 10 points conclusive resolution. In its resolution it states, “All the energy options must be kept open and no technology should be ideologies of demonized.” This has given equal opportunities to develop and modernize the all sources of energy i.e. coal, oil, gas, nuclear, hydro, and renewals.

The Congress has realized the importance of investment as well. It states that a larger share of global infrastructure investment must be devoted to energy.

Similarly for ensuring acceptability, secure supply, innovation promotion reducing adverse environmental impacts it has stressed to adopt more pragmatic approach to market reform.

As the developed nation are also facing disruption in supply in energy, it has given the reliability a high priority. To optimize the water energy nexus, it has stressed regional integration of energy supply system.

The Sydney Congress has taken the climate change as the serious issue of global concern. For increasing efficiency, reducing cost minimizing adverse environmental impact it has pointed technological innovation and deployment as vital point.

The Congress also stressed on research and development. It states, “R&D must be more strongly and consistently then has been the case. Further priority in transport sector will be given.”

For the first time in the council’s history it has given importance of youth & urge to understand and win the trust of youth. And retain the public trust.

The XIX Congress of WEC decided to hold the next Congress in Rome, the capital city of Italy.

## **Attracting Investment a Tough Job**

**Sydney, September 9, 2004**

**By Prakash Adhikari, National Union of Journalists**

Energy leaders and the stakeholders assembled in Sydney has expressed their deep concern on attracting required finance for the growing needs of future energy.

Secretary General of World Energy Council. Gerald Doucet said, “Energy market reform needs to reflect local circumstances and will only help for customers if there is healthy dose of appropriate investor-friendly regulation to support them.”

Energy consumption of the world is nearly equivalent to 68 billion barrels per year i.e. nearly 200 barrels per day. On this coal, gas, and oil shares 86 percentage and atomic renewal, hydel composite only 14 percentage. The energy demand is growing at the pace of 1.8 percent per annum but the demand trend is very interesting. Demand in the developing countries is much higher due to two reasons. In one hand, the household demand is growing because of urbanization. It is estimated that 80 percent of world population will be urbanized by 2050. On the other hand, capital good manufacturing industries are concentrated in these countries.

International Energy Association in its publication World Energy outlook 2003 has pointed the need of US\$ 16 trillion investment to meet the demand forecast scenario for the 30 years i.e. average of 550 billion US\$ in each year. As the demand is concentrated in the developing countries and their countries are more or less suffering by world geopolitical situation, the issues of financing seems to be more tough.

The trend of energy consumption and the future forecast has pointed out some serious issue in the field of energy. By year 2025, demand and supply of power from coal may rise but market share will go down. This automatically leads to the pressure on oil and natural gases which requires further investment on new infrastructure on refining, converting, shipping and transmission sector. As the cross sector capital competition, project location risk and long pay back period, it is tough job to attract the required investment in the sector.

Addressing the World Energy Congress, Richard Wilson Global Head of Energy at Ernst and Young said, "The investment market is crying out for certainty, transparency and longevity, without a clear picture of risks and opportunities inherent in these energy projects many promising technologies and areas of great needs may not get financed."

## **'Energy Resources Still Abundant!'**

**Sydney, September 9, 2004**

**By Prakash Adhikari, National Union of Journalists**

Energy experts have pointed that world has still abundant source of energy to meet the present and the future demand.

It is stated in the 20<sup>th</sup> Edition of the survey of energy resources which is published today by World Energy Council. There is no shortage. The concern of import dependent countries is the physical concentration of lending resources from the exporters" Dr. Alessandro Clerici said. Dr. Clerici was the chairperson executive board to oversee the survey.

Dr. Clerici had emphasized to Lonix develop and all form of energy for the stability of price and reliability-of-energy. This survey covers review of energy sources and production and consumption.

The survey states, "Tripling of oil price over the last five years has not been caused by dividing reserve global reserve of oil are still adequate to meet the demand for next few decades." The report has clearly mentioned continuous improvement in exploration and processing technology may extend the availability of energy.

On the gas side, the report states, "Gas reserves are considerably larger than oil and its production cost will continue to decline as a result of technological advancement."

The report has pointed the vast possibility of expediting Bio-man as energy resource in the rural poverty stricken areas. "The production and use of biomass must be modernized" it states.

The survey of Energy Resources has pointed the commercial and practical usage of wind power. Stating the case of Denmark, where 20 percentage of power is produced by wind turbine, it mentions, "wind is considered as most

advanced form of renewable energy, after the commence of JMW turbine, it will provide the grid stability.”

The report has mentioned hydropower as the most reliable source of clean energy and the scope of optimal usage of it. The survey has mentioned the geothermal plant as another optimistic option.

## **Fusion: Viable Source of Future Energy**

**Sydney, September 10, 2004**

**By Prakash Adhikari, National Union of Journalists**

“Please touch!” What an ideal ad!! What a contradiction!!! A substance made up of glasses puts “Please touch” instead of “Don’t touch” or “Glass. Handle with care”, which are the usual practices.

When you touch, what happens? It is also interesting. The fibre like smoke glows in the inner side of the bulb in which part you touch. This interesting type of electric bulb is developed and brought into Sydney energy Congress and Exhibition by energy research groups. The process by which the bulb glows is known as fusion technology, the process from which sun and star generates energy. Fusion is a nuclear reaction in which two light atom Deuterium and Tritium, both are isotopes of hydrogen stick together and fuse releasing huge amounts of energy.

Scientists had already got success to produce power from fusion. The Joint European Torus (JET) which is located at Culham Science Centre, near Oxford is a fusion power device which produce 16 MW energy since 1997. Scientist and researchers are now testing the commercial and technical viability of this technology. With the help of JET, European fusion development Agreement has entered new phase ITER, which is expected to be launched this year.

This project aims to develop 500 MW fusion power plant and commence on national grid.

Professor Trans Minh Quang and Dr. Casci Federico R. of European Fusion Development Agreement supporting group of Germany states JET had used Deuterium and Tritium (both isotopes of hydrogen) as such Deuterium is widely available on the earth and can be extracted from water, and Tritium can be bred from lithium which is available on the earth crust and sea water. Lithium on earth crust are estimated to be up to 800 million tonne and in the sea water  $0.17 \text{ g/m}^3$ . The potential resources is about 230 billion, which is enough for the energy demand for more than 2000 years.

Scientists and researchers are optimistic toward the fusion power, which is clean, safe, sustainable, accessible to all the nations.

## **Friendly Environment, Australians Key to Success**

**Sydney, September 10, 2004**

**By Prakash Adhikari, National Union of Journalists**

What will happen if the whole power supply system of Australia is cut down at once? Of the energy crisis is arisen at once? Probably the whole life of the nation will not only be disturbed, but also will be stopped losing millions or billions of dollars in national economy.

But none of the Sydney resident has ever experienced such kind of situation. They are proud that their federal government has provided the reliable basic utility services to them. The government proudly announces that Australia has the most favorable environment to attract the global investment. So as the case in energy sector as well in a report, “Australia’s energy economy” it is stated that Australia has been ranked number one in terms of investment. World investment risk survey published by resource stocks has mentioned low level of political and policy risk, access to high quality and low cost pre-competitive data, reliable in

fracture, relatively low level of red tape, and quality workforce and industrial relation system are the strength of the Australian government.

Australian government has been determined to maximize its strength to attract required investment in the field of energy as well. “We welcome foreign investment and impose no mandatory local equity or local content requirements on energy resource development” Australia’s energy economy an brief publication states.

Australia remains relatively under explored particularly in the field of petroleum offshore. To attract the required private capital, the government has increased the value of exploration deductions and additional improvement made to land access approval process.

The government has emphasized the 10 point to invest in Australia’s energy sector. Strong economical credentials, stable and democratic political situations, highly skilled and multilingual workforce, dynamic financial services, sophisticated telecommunication and informal system, innovative culture with excellent R&D in fracture, cost competition location, open and efficient regulatory environment, stratic time zone, welcoming attitude and excellent quality of life are her strengths.

Australian private sector, Snowy Mountain Engineering Corporation (SMEC) has taken license to develop West Seti hydel project of capacity 750 MW but the construction is delayed due to the lack of agreement on power purchase with India.

## **Energy Leader Ready to Confront With Donor Agency?**

Sydney, September 10, 2004

**By Prakash Adhikari, National Union of Journalists**

After the concluding ceremony of XIX Meeting of energy council, a pertinent question arised in the field of Energy. Whether our energy leaders are ready to confront with the multinatural donor agencies led by World Bank and Asian Development Banks?

The Congress which concludes here yesterday, has made a landmark decision on subsidy. In its ten points declaration, it states, “It is now widely recognized that market intervention e.g. (subsidies or taxes) may be needed to achieve essential goals including energy access, security of supply, the promotion of innovation and a level of playing field in which external environmental impacts are reflected in prices.” The world energy leader are committed to adopt more pragmatic approach to market reform. But at the same time, the multilateral agencies like WB and ADB are pressuring on government to cut the subsidies in every sector in the name of financial restructuring, or, privatization and in the process of world trade organization’s membership.

“The Councils resolution may compel to adopt consumer friendly policies to the donors as well as national government.” Janak lal Karmacharge Managing Director of Nepal Electricity Authority (NEA) said.



आपसकै लागि कान्तिपुर  
**कान्तिपुर**

**Bikash Thapa**  
Reporter  
Kantipur Daily  
**NEPAL**

## **India to Make 20,000 MW Power**

**Sydney, September 7, 2004**

**By Bikash Thapa, Kantipur Daily**

Indian Power Minister P.M. Syeed has said that India would make 20,000 Megawatts capacity power plants within 15 years. The neighboring country India has already made agreements with Nepal in order to develop a major hydel project in Nepal.

These remarks came on the third day of 19th World Energy Congress, held in Sydney, Australia. Indian minister Syeed, who spoke at the Keynote Address Session of the Congress, revealed that in coming 2012 India would build 10,000 MW. "There will be electricity for all citizens," he said. According to him, the programme of adding additional capacity energy, there would be 40 new power plants, upgrading of existing power plants and reducing of loss. 'Cost-effective production would lead not only to energy cheap, but transmission, distribution and other expenditure also minimized', he added. Minister Syeed disclosed that more than 57 percent of Indian people do not have electricity access. He said, "Due to lack of sufficient power India has lost billions of rupees every year." The per capita energy consumption in India is 500 kilowatt hour (unit), where as in America, Germany, Australia etc. countries' per capita energy consumption rate is more than one thousand. At the same time, Nepal's energy consumption rate is one of the least in the world, i.e. 60 units per year.

Prior to this, India has already interested in order to make Sapta Koshi High Dam, carrying the potential power generation capacity of 30,000 Megawatts, Upper Karnali (300 MW), West Seti (750 MW). Indian Power Minister said, "the developed countries could play significant role in the area of sustainable development."

On the same program, Jose' Antenio Ocampo, the Under Secretary General of United Nations Development Programme (UNDP) said that the energy should be in the access of poor people. On the occasion, Harry Rolls, the Chief

Executive Director of RDJ, said that there were 2 billion people do not have energy access in the world. According to him, there should be more than 160 billion Euro investment in 2030 A.D. in order to increase the capacity of the installation. Out of which 70 percent should be built now a days. "The price of energy should be the availability of poor people of the world," he said.

## **OPEC's Concern Over Oil Price**

**Sydney, September 8, 2004**

**By Bikash Thapa, Kantipur Daily**

Oil and Petroleum Producers' Countries (OPEC) have expressed their deep concerns over the frequently increasing oil prices.

Supplied about 80 percent all over the world, OPEC said that it was not able to manage the demand side management. "The expected demand cannot be fulfilled," said Dr. Purnomo Yusgiantoro, who is Secretary General of OPEC, addressing the World Energy Congress Keynote Address Session on Wednesday in Sydney.

OPEC is considering to maintain the demand and supply of crude oil. Dr. Yusgiantoro revealed that without making the market stable the price could not be balanced.

Dr. Yusgiantoro, who is also Minister of Energy and Mineral Resources of Indonesia, said on the occasion that pricing factor of the oil always remained at the geopolitics. According to him, OPEC is seeking to reduce the geopolitics tension and keep stability on the region. "Geopolitics and market stability should be maintained" he said.

To retain the price constant OPEC has increased the production of crude oil. He said, giving information about the crude oil production status by OPEC, that since July it has enhanced the production by 255 million barrel per day. Now OPEC has been producing 300 million barrel per day. The price of crude oil is 10 to 15 US Dollar.

As per the investment in production the prices may vary, he said. To fulfill the demand of 2010 AD OPEC should increase the production capacity by 700 to 955 million US Dollar. This investment phenomenon will solely depend on the uncertainty over the government policy and the development on the technology.

According to the OPEC Secretariat, the economic growth for 2004 is 4.7 percent. This will be 4.3 in 2005. As per the increment of economic growth rate, the consumption of oil also increases. In previous year, OPEC had produced 89 billion barrel crude oil, which is the 78 percent of world's reserve strength.

## **No Shortage of Energy : Survey**

**Sydney, September 9, 2004**

**By Bikash Thapa, Kantipur Daily**

The survey of Energy, conducted by World Energy Council, of its 20th edition has revealed that there is no shortage of energy resources globally.

The survey, global review of reserves, production and consumption, covers seventeen main energy resources and provides expert commentaries and country data for each. The latest edition is being released by the World Energy Council at its 19th World Energy Congress in Sydney. The survey report has been publishing since 1934.

“Although there is no shortage, the physical concentration of the leading strategic resources in only a few regions is a serious concern for many countries dependent on imports,” said Dr. Alessandro Clerici, who served as Chair of the Executive Board.

The survey finds that the trebling of the oil price over the last five years has not been caused by dwindling reserves, global reserves of oil are still adequate to meet demand for the next few decades, and continuous improvement in exploration and processing technologies may extend this even further. “Concentration of oil reserves in a few regions and long supply routes

to main markets are major challenges”, the report said.

According to the survey, the natural gas reserves are considerably larger than oil reserves. Bringing more gas to the market, in particular to the main consuming countries in Europe and North America, is a significant challenge. “Not least but enormous investment is required in order to build new pipelines”, the survey said.

“Wind is often considered the most advanced of the renewable after hydropower” says report. Offshore projects spur development of larger machines; wind turbines of up to 5 MW are about to enter the market. Stating the instance of Denmark, for than 20 percent of electricity is now produced by wind turbines, the survey has mentioned with the increasing share of wind power, many electricity systems will face new challenges. The survey, however, explain the biomass’ potentially the world’s largest and most sustainable energy source. To progress form the potential stage, however, both the production and use of biomass must be modernized. According to Dr. Clerici, a diversified energy mix is absolutely vital for stability of prices and supply and should be taken into consideration when countries are developing national energy plans or long-term business strategy.

## **World Energy Congress Concludes With New Agenda**

**Sydney, September 9, 2004**

**By Bikash Thapa, Kantipur Daily**

The 19th World Energy Congress, which was held in Sydney (Australia), concluded today focusing all energy options must be kept open and technology should be idolized or demonized. Over 2,500 industry leaders, government ministers, media and individual experts from around the world participated Congress has made 10 points conclusions an findings.

“Energy source diversity is the bedrock of a robust system” says the declaration paper of Congress, “the conventional options of coal, oil,

gas, nuclear and hydro, and the new renewable energy sources.”

Over 40 keynotes address, roundtables, and discussion sessions, along with a series of poster sessions, focused on the Congress theme: “Delivering Sustainability: Opportunities and Challenges for the Energy Industry.” World Energy Council Secretary General Gerald Doucet said that Asia would be the major energy demand driver in the coming years. “We now have get on with the job of implementing the Congress conclusions.”

Recent increases in energy prices are likely to be the precursor of a longer term trend. The Congress has revealed, in these connections, that a larger share of global infrastructure investment is required to develop the energy sector. Prior to this, OPEC’s Secretary General has said that to fulfill the demand of the world market the investment should also be enhanced. “Energy systems which do not pay for themselves over the medium to long term are not sustainable”, a press statement, after the concluding the Congress, issued by World Energy Council has said, “Regulatory frameworks must recognize this and provide stability and transparency to attract the necessary investment in a timely manner.”

The another major conclusion of the Congress is more pragmatic approach to market reform is emerging. It is now widely recognized that market interventions may be needed to achieve essential goals, including energy access, security of supply, the promotion of innovation and a level playing field in which external environmental impacts are reflected in prices. Likewise, the Congress has given high consideration to the reliability of electricity supply. Since industrialized countries’ consumers demand hundred percent reliability, while those in developing countries often suffer frequent disruptions. “The cost burden of these disruptions has already been noted,” says the Congress findings.

The important conclusion of the Congress has regional integration of energy supply systems can be boost access and energy supply security. It

says, “Regional collaboration needs to be enhanced to harmonize development of energy regulation and create the necessary infrastructure.” “The public trust must be won and retained” is the most significant declaration of the Congress. This in turn depends on energy sector transparency. Cost effective pricing will not always be popular with consumers.

According to the findings of the Congress, public understanding and trust starts with youths. The WEC is global multi-energy organization in the world, with national Member Committees in 96 countries. The next World Energy Congress will be held in Italy.

# Sunday Observer

**A.A. Shanika Priyangani Sriyananda**  
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## **The Energy Future**

**Sydney, September 6, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

The energy experts gathered at the 19th World Energy Congress, which is the largest conference where the major energy issues are discussed, emphasized the need of taking decisive progress in clean energy coal technology.

Francois Roussely, Chairman and CEO of the Electricite de France, one of the largest companies in the energy sector, delivering the Key Note Address he said that the energy was the key issue in the 21st century. "We should debate collectively on our themes - quantitatively, qualitatively, structurally and institutionally," he said.

Questioning the World Bank why it ruled out some of the projects it considered for funding Roussely said that the energy experts gathered at the 19th World Energy Congress, which is the largest conference where the major energy issues are discussed, emphasized the need of taking decisive progress in clean energy coal technology.

He said that with the oil supply expected to diminish in the next decades one can ignore the nuclear power, which greatly help to bring down global warming.

He emphasized the need of exploring the ways and means of an environmental - friendly exploitation of clean coal as the oil supply expected to diminish in the next decades. " Coal is a resource which is abundant and widely available, especially in developing countries", he said.

According to him, over 2 billion people living around the world have no access to electricity, which is one of their primary human right. " A real political and long term commitment is essential to over come this problem", he added. Questioning the progress on improving energy efficiency after the last Congress he invited to introduce an effective, coherent strategy to

modify consumption patterns and a practical energy solutions. The energy consumption figures of people in different countries will tell the story", he said.

Roussely also said that it was essential for international financial agencies to find out sustainable ways of funding.

According to Roussely it is time for all countries including those who are in the early stages of development to introduce necessary reforms to implement the correct institutional and legal framework. " International bodies can play a major role in improving public service management in these countries", he pointed out.

## **2000 Energy Leaders Attend Congress**

**Sydney, September 7, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

The 19th World Energy Conference (WEC), which brought over 2000 people, including experts and high governmental officials representing 98 countries, discussed adopting innovative ways to reduce risks of green gas emission and climate change in the coming years with growing demand for energy, which is estimated to be doubled over the first 35 years of this century.

The WEC now at the Sydney Convention and Exhibition Centre was opened by the Australian Prime Minister John Howard and the experts are discussing the challenges for the energy industry in future under the slogan 'Delivering Sustainability in Energy'.

Energy experts said that the biggest single threat facing the world today is the climate change and the need of the hour is to draw a long-term vision and strategic action plan for transition to a clean energy future based on reducing carbon emissions.

According to experts, developing countries will account for 58 percent of global energy growth and while all sources of energy will be in greater demand, primary fossil fuels will cater considerably in the next two decades. Renewable energy sources are also expected to increase. However, over two billion of people around the world do not have access to electricity yet.

Experts, who say 'yes' to coal, emphasized the need of implementing improved environmental performances of coal to reduce green house gas emissions. " Coal is abundant, easy and safe to transport and store. And it is relatively affordable fuel source", said Charles Goodyear, CEO, BHP Billiton. He added that the new coal-fired plants are already more cleaner than they were in the past and clean coal technologies like 'Integrated Gasification Combined Cycle(IGCC)' plants remove high level pollutants and also have thermal energy efficiency compared to Combined Cycle Gas Turbine' plants.

"Further improvements in IGCC technology, which is scheduled to introduce in 2010 will bring installation cost down and this will attract coal more", he said.

Experts said that the key role of governments, especially the developing nations is that to adopt new technologies which lower the risk of green house emission.

The Congress, which will conclude on Thursday released several studies on energy issues. Releasing the latest WEC study on 'Coal's role in sustainable global energy development', which looks the possibilities of coal as an economical and sustainable source of energy in meeting global demand to 2030 states that "coal will be available to meet the rising demand and despite the drain on coal reserves, it will remain compared to oil and gas reserves. Coal will be accessible and international coal prices will remain stable and competitive".

It also states that Coal will continue to be used in Electricity generation, but synthetic gases, liquids and hydrogen from coal will emerge as long-term options. " Coal will be more environmentally

acceptable by 2030 as 72 percent coal based power generation in the world is likely to use cost effective clean coal technologies", the study says.

## **Coal: A Major Player**

**Sydney, September 8, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

Coal, which is available in abundance and easily accessible, is likely to be the most popular fossil fuel in global electricity generation in the coming years but according to energy experts coal power plants need to implement Clean Coal Technologies (CCT) to minimize greenhouse gas emission.

With escalating oil prices, which was increased by 57 percent in the last 12 months, using coal, natural gas and nuclear in electricity generation was much debated at the 19 World Energy Congress (WEC) held Sydney Convention and Exhibition Centre from September 5 to 9. High governmental officials and energy experts from 98 countries participated the WEC, where they discussed the future challengers in the energy sector.

According to experts, over 40 percent of world's electricity generation is from coal and this fossil fuel and is expected to be grow by 60 percent by 2030 due to rapid increase in electricity demand. There will be a high demand for coal in developing countries as their demand for electricity is growing rapidly, experts said. However, while promoting coal as one of the best options for developing countries, the experts urged the coal using countries to implement policies for CCT. Most of the developing countries will experience more hotter and colder days than earlier due to climate change which created due to high concentration of carbon dioxide, sulphur dioxide, nitrous oxide and particles emit from coal power plants.

The energy experts said that the environmental damages could be minimize if countries generate electricity use zero emission technologies for

coal. "The 'Integrated Gasification Combined Cycle' (IGCC) is the most promising option in zero emission technologies", they pointed out.

Meanwhile, Dr. Hans Schiffer, Energy Economics and Senior Manager of Germany based RWE Power, one of the biggest companies dealing with electricity, coal, gas and water told the 'Sunday Observer' that coal would be the best option for Sri Lanka as the oil prices are going up. But, according to him, the country must adopt clean coal technologies to bring down carbon dioxide emission.

"Ninety percent of emission from SO<sub>2</sub>, NO<sub>x</sub> and dust emission can be brought down by applying CCT in coal power plants", he said adding that importing of coal would not be a problem since lots of coal deposits are in some of the Asian countries.

## **Nuclear Power and Climate Change**

**Sydney, September 8, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

Installation of a nuclear power plant is an ideal option for Sri Lanka than coal to bring down the electricity prices and also to face the future electricity demand, which is growing by 10 percent every year, a high official of the Public Utilities Commission of Sri Lanka (PUCSL) says.

Prof. Priyantha Wijetunge, Director General of the PUCSL in an interview with the 'Sunday Observer' said that the country needed to start considering the nuclear from now as it would take at least 15 years to train fully qualified nuclear power plant operating experts. "We have some experts at the Atomic Energy agency but they are not trained to operate a nuclear power plant", he said

He, representing the government officials headed by the Secretary of the Ministry of Power and Energy P. Weerahandi, attending the 19th World Energy Congress, where over 98 countries

discussed their future challengers in energy, held in Sydney, Australia, presented a paper on 'Greenhouse gas emission mitigation through distributed renewable energy systems. According to him, they did not consider nuclear due to non availability of small nuclear plants. "But now South Africa has developed small 100 mws nuclear power plants for the developing countries where they lack space to accommodate large nuclear power plants. So they are ideal for Sri Lanka, especially because nuclear waste is very small in quantity", he said adding that nuclear was the best solution for the greenhouse gas emissions the only solution which could replace coal.

"Not only coal most of the other very efficient energy sources are emitting a considerable amount of carbon dioxide per kilo watt hour. In a bid to prevent global warming many countries now promote nuclear energy", he added. However, according to Prof. Wijetunge, safety and other environmental impacts need to be seriously considered if we are to installed such.

He also said that though construction cost of a nuclear plant was high operation cost is very low compared to all other fossil fuel power generation plants. "Uranium is cheap and 1000 tones of coal is equal to one kilo of uranium", he said.

According to Prof. Wijetunge, Sri Lanka has the potential of uranium and some reasearches have already found that the country has some uranium deposits. "We are sure that uranium is available in Sri Lanka but unfortunately no one is still interested in it", he claimed.

He said that nuclear was an option which could be considered in the planning process particular in the context of global warming and climate change issues.

## **Renewables In The Future**

**Sydney, September 8, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

A tenfold increase in non-fossil energy is needed by 2050, to stabilize carbon dioxide emissions at 450ppm to bring down global warming says the Global Energy Network Institute (GENI) at the 19 World Energy Congress held in Sydney last week.

According to GENI, carbon free emission power generation must grow from 1.5 terawatts today to 15 terawatts in 2050, which is expected grow three times from now. "Without aggressive policy intensives to support this new market, the goal of 50 percent clean emission free energy will not be attained", it says.

Meanwhile, it invites every country to seriously consider of developing the renewable energy sector, which is abundant and sustainable on every continent, to stabilize the greenhouse gas concentrations.

The GENI sources say that the Kyoto Protocol, which was implemented to put greenhouse gas emissions at bay to lower the global warming, is not sufficient and its leading edge policies are only a start. "What is needed is a strong commitment of people to meet new demand from renewable energy", they say.

According to UN Framework Convention on Climate Change, even due carbon dioxide stabilization at 450ppm earth's temperature will rise to 1.4 to 5.8c, and it will be the largest warming recorded in 10,000 years.

Dr. Khalid Rahman, Deputy Director General, Asian Development Bank said at the Congress that greenhouse gas emissions are expected to rise from 22 percent in 1990 to 28 percent by 2010 in Asia due to growing demand for energy. "Asia today is energy efficient and it has a great potential for renewable energy sources", he said.

Highlighting the benefits of kyoto protocol, he said that Asian countries can improve the renewable energy sector by bringing new technologies. "What we need to do is today think about the framework given under the Kyoto Protocol and think what we really want. As developing nations we have to think energy in a more complex way and we need lot more to do in achieving targets of energy efficiency. We need to put clear targets on what we want as renewables", he added.

## **Renewable Resources**

**Sydney, September 9, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

Bio mass will be the largest and most sustainable energy resources in the world in the coming years due to its capability of reducing greenhouse gases, says the latest survey, which says that 'there is no shortage of global energy resources, released by the World Energy Council (WEC) held at Sydney.

The survey has found that biomass consumption in rural areas of developing countries (including all types of biomass and end-uses) was about 1 tonne (15% moisture, 15GJ/t) per person/year and about 0.5 tonne in semi-urban and urban areas. The total amount of biomass energy is increasing.

"However, to progress from the 'potential' stage, both the production and use of bio-mass must be modernized", the survey recommends.

Emphasizing the vital need of Dr. Alessandro Clerici, of Survey team says that countries need to consider a diversified energy mix for stability of prices and supply when they are developing national energy plans or long-term business strategies.

Producing surveys since 1934, World Energy Council released this latest survey covering seventeen main energy resources and it states that global oil reserves are still adequate to meet

demand for the next decades and improved technologies used in continues exploration and procession will extend it further. " The trebling oil prices over the last five years has not been caused by dwindling reserves", it states.

The production cost of natural gas will continue to decline due to technological improvements in liquefaction process and these reserves are much larger than oil reserves, says the survey.

According to the survey with increasing energy supply from wind, which is the most advanced renewables after hydropower, many other electricity systems will face new challenges.

The survey has also identified geothermal, peat, oil shale, tidal, OTEC, natural batmen, wave and wood as other potential energy resources.

## **Congress Conclusions**

**Sydney, September 9, 2004**

**By A.A. Shanika Priyangani Sriyananda,  
Sunday Observer**

Concluding the 19th World Energy Congress (WEC) held in Sydney, Australia, all countries agreed that sustainable energy systems are achievable through wining some challenges such as affordable access and security of supply and avoiding environmental impacts which would compromise future social and economical development.

One of the major conclusions that arrived at the end of the Congress was that all energy options must be kept open and no technology should be idolized or demonized. These include the conventional options of coal, oil, gas, nuclear and hydro and the renewable energy sources. Experts and high governmental officials representing over 98 countries agreed at the Congress to to devote a larger share of global infrastructure investment to energy. They said that for this 'cost reflective prices are essential and energy systems which do not pay for themselves over the medium to long term are not sustainable.

Some of the other main concusions of the Congress are the reliability of electricity supply, boost access and energy supply security in regional integration of energy supply, technological innovation and deployment and wining of public trust.

The Congress also called for changers in consumer behavior to face the climate change. Increased transfer of efficient technologies from industrialized to developing countries and incentives to investment through regulated emissions trading also in the final conclusion at the Congress.

The next Congress will be held in Rome in 2008.



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## **The Nuclear Option**

**Sydney, September 6, 2004**

**By Anton Tyron Devotta, MBC Network Pvt. Ltd.**

Sri Lanka should seriously look into the installation of nuclear power plants to face future power problems the Public Utilities Commission of Sri Lanka says.

In an interview with News 1<sup>st</sup> the Chairman of the Public Utilities Commission Priyantha Wijaytunga said that nuclear power would give us the required impetus to reduce electricity prices.

Wijaytunga is a part of a Sri Lankan government delegation attending the World Energy Congress in Sydney, Australia where leaders and experts from 98 countries are discussing energy issues for the future.

The Secretary of the Ministry of Power and Energy P Weerahandi is a part of the delegation.

The Public Utilities Chairman says that Sri Lanka had not looked into this option previously as the size of nuclear power plants were too large for the Sri Lankan market. But now he says that there are smaller proto types in South Korea and South Africa.

## **Environmental Group Opposes Nuclear**

**Sydney, September 6, 2004**

**By Anton Tyron Devotta, MBC Network Pvt. Ltd.**

Greenpeace has come down hard on what it calls a ploy by the nuclear industry to reinvent itself as a green house friendly energy source.

In a hard hitting statement presented at the World Energy Congress in Sydney, Greenpeace says that the nuclear advocates see a life line in the growing community concerns over the impact of climate changes when using fossil fuels.

They say adopting a flawed technology to address the problems of another is not good policy and nuclear power is no solution to climate change.

Nuclear power is not carbon free and it is a myth that is greenhouse neutral. Nuclear power generates significant greenhouse emission through the uranium mining and enrichment, fuel fabrication, plant construction and waste management stages Greenpeace says.

The environmental lobbying organization says that independent research has demonstrated that improved energy efficiency is several times more efficient than nuclear power in reducing greenhouse emissions.

## **Sri Lanka's Coal Plant**

**Sydney, September 6, 2004**

**By Anton Tyron Devotta, MBC Network Pvt. Ltd.**

Sri Lanka will not go for the latest technology in coal power generation a top government official told News first today.

The Power and Energy Ministry will shortly go into the planning stages to set up a direct combustion model with flue gas desulphurization technology.

The 300 mega watt plant which is now slated to be constructed in Norachcholai will be at an approximate cost of 300 million US dollars.

Power and Energy Secretary P Weerahandi told News 1<sup>st</sup> that they will be going in for the combustion technology as it is the most proven in the world. The model is also expected to be cheaper than the gasification type.

However the main disadvantage in the combustion model is that it is said to be less environmental friendly when compared to the gasification model.

The government plans to build three plants of 300 MW each to increase the generation capacity of the CEB to meet the rising demand.

The Secretary to the Ministry of Power and Energy is presently in Sydney, Australia as a part of a government delegation to the 19<sup>th</sup> World Energy Congress.

## **The Danger of Over Regulation**

**Sydney, September 7, 2004**

**By Anton Tyron Devotta, MBC Network Pvt. Ltd.**

State intervention and regulations in the energy market should be done only when absolutely necessary says Harry Roels says a keynote speaker at the World Energy Congress.

The Congress presently being held in Sydney, Australia has ninety eight countries participating and has close on two thousand delegates attending.

Harry Roels the CEO of an Electricity Power Plant in Germany says that in mature markets electricity and gas production, trading and sales activities don't need to be regulated.

In case of regulation he says we need regulatory principles that are internationally compatible as energy issues are rarely national in nature.

He adds that a reliable and stable political frame work is indispensable for investments in the energy industry.

## **OPEC Warns of Rising Prices**

**Sydney, September 8, 2004**

**By Anton Tyron Devotta, MBC Network Pvt. Ltd.**

The OPEC says they are concerned about rising oil prices but a higher than expected demand and geopolitical tension were among the key factors pushing prices up.

OPEC's Secretary General Dr. Purnomo Yusgiantoro speaking at the 19<sup>th</sup> World Energy Congress in Australia says the Organization shall devise ways and means of ensuring the stabilization of oil prices in international markets, with a view to eliminating harmful and unnecessary fluctuations.

However he says due regard shall be given at all times to the interests of the producing nations and to the necessity of securing a steady income to the producing countries. He also stress the need for an efficient, economic and regular supply of petroleum to consuming nations and a fair return on their capital to those investing in the petroleum industry.

The OPEC Secretary General says that cooperation will better prepare the industry to meet the challenges that lie before it in the early 21<sup>st</sup> century. The industry is better-off with underlying consensus on handling major issues like pricing, stability, security, investment, environment and sustainable development he says.

## **Japan Looks to Nuclear**

**Sydney, September 8, 2004**

**By Anton Tyron Devotta, MBC Network Pvt. Ltd.**

Japan says that it has made huge strides in diversifying its power supply.

Speaking at the 19<sup>th</sup> World Congress presently being held in Australia Yohsaku Fuji the Chairman of the Federation of Electric Power Companies of Japan says that nuclear power has come to play a central role in the diversification of power supply.

He says Japan's dependency on oil fired thermal power accounts for only nine percent of their total power supply.

Singing the praises of nuclear power he says that nuclear fuel has a high energy density and only relatively small masses are required which

facilitates storage. Because of this availability of nuclear fuel is unlikely to be effected by minor fluctuations in fuel supply.

The Chairman of the Federation of Electric Power Companies of Japan says that the other advantage of nuclear power is that it does not emit a green house gas like carbon dioxide. He says that Japan is committed to tackling the global warming problem.

The 19<sup>th</sup> World Energy Congress presently being held in Australia has close on two thousand delegated attending from ninety-eight countries. The themes of the conference is “delivering sustainability in energy”.

## **Energy Supply Mix Options**

**Sydney, September 9, 2004**

**By Anton Tyrone Devotta, MBC Network Pvt. Ltd.**

Sri Lanka has to carefully plan its energy supply mix if have to met the demands of the future says that Public Utilities Commission of Sri Lanka.

With demand doubling every seven to eight years Sri Lanka is expected to have a peak power demand of about four thousand mega watts in about fifteen years.

Priyantha Wijetunga the Director General of the Public Utilities Commission says that coal is the best option for the immediate future as it can drastically bring down the unit cost of electricity. He also says that we should look into nuclear powered plants for generation on the long term.

If we have to look into nuclear power as a long term solution to our energy problems we have to start now as it takes about fifteen years to mature he says.

The nuclear waste has been demonized; if we have the discipline we can tap into this cheap energy source says the DG of the Public Utilities.

Analyzing the quantum of waste he says that a person in a developed country generates waste to about the size of a golf ball if he uses electricity from a nuclear power plant throughout his life.

Priyantha Wijetunga the Public Utilities Director General is a part of a government delegation presently participating in the 19<sup>th</sup> World Energy Congress in Sydney, Australia.