



Ministry of Energy of Mongolia



Energy Charter Secretariat

Ulaanbaatar Energy Charter Forum: **Developing Renewable Energy across Gobitec and Asian Super Grid in Northeast Asia**

Mongolia, 26 June 2014

Forum Report

The Ulaanbaatar Energy Charter Forum addressed important regional initiatives on developing renewable energy across Gobitec and Asian Super Grid. The Energy Charter Secretariat and the Ministry of Energy of Mongolia brought together more than 150 representatives of the governments, business sector and international organisations to debate the current status of developments and discuss how to move forward to support Mongolia and interested countries in the region of Northeast Asia that wish to develop more renewable energies sources (RES) and improve electricity interconnections in the region.

President of Mongolia Elbedorj Tsakhia stated, in his opening remarks, that Mongolia has huge potential of solar and wind and strategic location, which implies that Gobi desert will become an energy hub in the region, producing a quarter of its energy from renewable sources and potentially exporting electricity generated by wind and solar. He stressed that further progress requires active engagement and cooperation of the countries in Northeast Asia.



Opening of the Forum

Gobitec and the Asian Supergrid are ideas to use the vast renewable energy potential of wind and solar energy of the Gobi desert on the one hand and on the other hand to connect North East Asia with a transmission line allowing exchanging electricity between the participating countries.



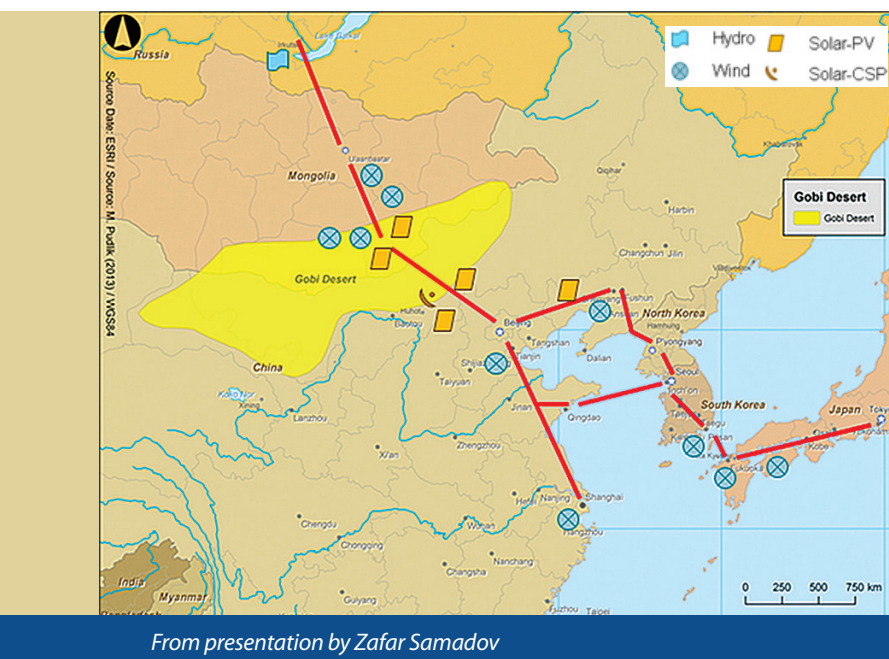
The President highlighted the importance of collaboration with the Energy Charter, Asian Development Bank and other international organisations. It was noted that the Asian Super Grid is financially and economically viable. To supplement solar and wind, Mongolia will develop hydro energy in a transition toward a low-carbon economy in a way that enhances energy security and creates new sources of economic growth and employment.



Minister of Energy Sonompil Mishing noted that the Gobi Desert, shared by Mongolia and China, is estimated to be the third largest potential source of solar energy in the world, and with steady, strong wind speeds, it's an ideal place for both solar and wind power plant projects. The Gobitec initiative aims to boost production of clean energy from renewable energy sources in the Gobi and deliver electricity to regions with high energy demands. Minister also reported on the many measures that have been adopted by the Government of Mongolia to develop RES, such as improved investment climate, tax incentives and feed in tariff. In concluding remarks Minister pointed out the plan to cooperate with China on electricity trading.



Energy Charter Secretary General Amb. Urban Rusnak emphasized that climate change is recognised as a global challenge. Development of renewable energies is becoming a priority for many countries around the world. The key challenge is how to build political support for large scale initiatives to boost renewable energies. He noted that the most important objective is that the regional cooperation should be structured in such a way that benefits are concentrated not only for a few countries but are distributed among all countries in the region. Secretary General stated that currently the Energy Charter and interested countries are jointly negotiating World Energy Charter, which would be an important political declaration to address needs of the modern energy world and interests of different countries.



The Asian Super Grid and the Gobitec initiatives will deliver a number of economic, social and environmental benefits to Mongolia and to the other participating countries. These benefits include, among others, improved energy security, job creation, economic growth and reduction of carbon dioxide emissions. The high voltage lines of the Asian Super Grid could interconnect strategic countries in Northeast Asia, namely Russia, Mongolia, China, Korea and Japan with electricity generation areas in the Gobi Desert.

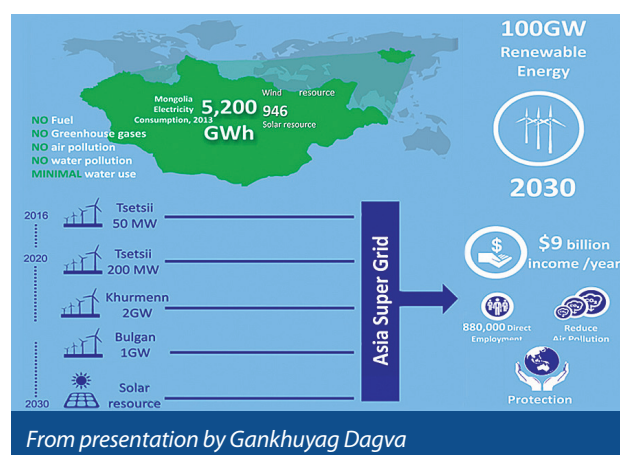
From presentation by Zafar Samadov

During the first session, representatives from various state entities of Mongolia and private sector discussed why and how to attract large-scale investments in wind and solar projects in the Gobi desert. It was underlined that the new Law on Investment of 2013 of Mongolia has significantly improved the investment landscape. The government has eliminated restrictions on private foreign investment, reduced approval requirements for foreign state investment and introduced a more open investment process.

According to the “National Renewable energy program 2005-2020” the Government of Mongolia has set the target to increase the share of Renewable energy in total energy supply up to 20-25% share by the year 2020 which implies that an increased use of renewable energy systems will be an important contribution.

Experiences of the private sector regarding construction of the 50MW Salkhit wind farm is a flagship project for Mongolia’s renewable energy sector and the energy sector as a whole. The project has set an example for successful partnership between the government and private sector. This positive experience will pave the way for future investments in the energy and other vital infrastructure sectors and acts as a concrete demonstration of the government’s green development agenda.

Mongolia is rich with renewable energy resources and Salkhit is the first step towards the aspiration of making Mongolia Asia’s renewable energy champion. The site at Salkhit (meaning “windy mountain”) – will generate about five per cent of the country’s electricity needs. The European Bank for Reconstruction and Development, which contributed funding the project, plans to invest in further renewable projects.



Visit to Salkhit wind farm, Mongolia

Wind power projects in Mongolia

Developer	Location	Capacity in megawatts
Clean Energy	Salkhit, Sergelen soum of Tuv province	49.6
Qleantech	Nomgon, Khanbogd, soum of Umnugovi province	250
Sainshand Wind Park	Ulaan Ereg, Sainshang soum of Dornogovi province	52
Aydiner Global	Choir, Sumber soum of Govi Sumber province	50.4
AB Solar Wind	Choir, Sumber soum of Govi Sumber province	100
Salkhinii Erch	Ulaanboom, Taishir soum of Govi-Altai province	9
		Total: 511.0

Source: Asian Development Bank, 2013

Why and how to attract large scale investments in wind and solar projects in the Gobi Desert?

Chair: Mr. Byambasaikhan Bayanjargal, the Chairman of the Business Council of Mongolia

- Implications of new Investment Law and business opportunities in Mongolia
Mr. Javkhlanbaatar Sereeter, Director General, Invest Mongolia Agency
- Successes and challenges faced by the business sector to develop wind farms in Mongolia
Mr. Gankhuyag Dagva, CEO, Clean Energy Asia, Newcom Group, Mongolia
- How to invest in solar power potential of Gobi Desert
Mr. Angarag Myagmar, Director of Renewable Energy Division, Ministry of Energy of Mongolia

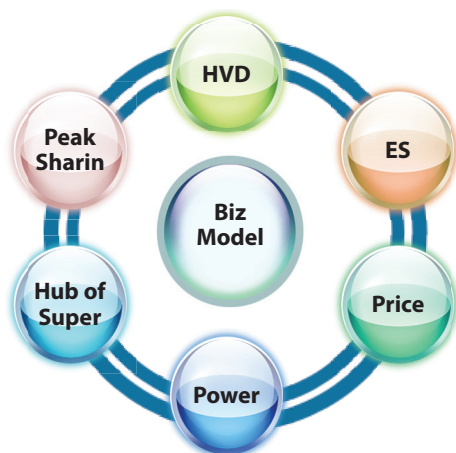


In the second session, invited experts discussed feasibility of delivering electricity from the Gobi to the demand centres via the Asian Super Grid. The Gobi desert and Siberia with strong hydropower potential are attractive geographic zones for development of renewable energy sources but the region is very isolated. The first cross-border interconnections and eventually Asian Super Grid will allow for the free exchange of electricity between countries in Northeast Asia in the future, thus providing large economic, social and environmental benefits.



It was reported that the Northeast Asia region has sufficient conditions to implement the Asian Super Grid. The region is emerging as a world best market due to its increasing energy trade and growing economies. The price gaps, natural energy resource imbalance between nations were identified as important factors for regional electricity trade. Creating various types of business models and more intense cooperation in the region is required.

Combined with modern power transmission technologies, renewable energy could support the long-term economic prosperity of Mongolia and the region. However, this geographic zone, attractive in terms of the development of renewable energy sources, is very isolated and requires investment and connection to the regional energy market.



The experts recommended to reduce the investment risk by a stable and transparent legal framework which could be developed on an international platform. Only then could the risk, and therefore the cost of capital, be reduced to a level that could turn the vision into a reality. Creating such a non-discriminatory framework is crucial for the realisation of Gobitec/ASG. It is recommended to start with developing smaller projects and aligning them along the Gobitec/ASG vision. Such projects could be started nationally and later be evolved into bilateral projects.

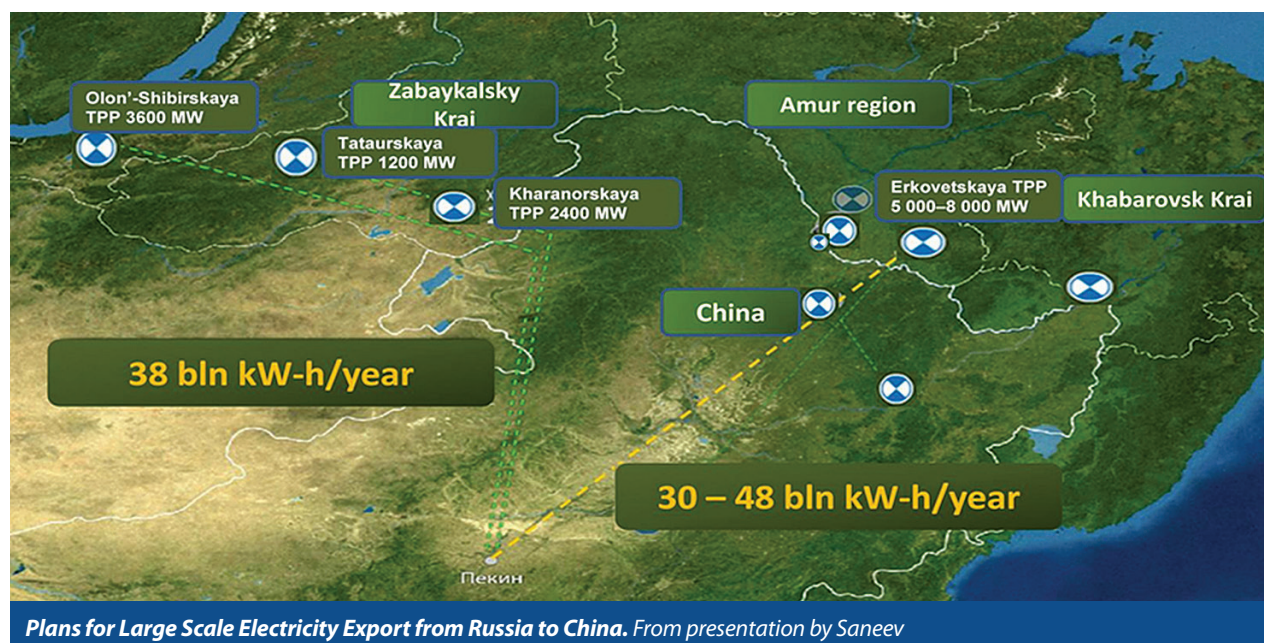
Cross-border regional cooperation to develop Asian Super Grid

Chair: Mr. Shigeki (Sean) Miwa, General Manager, CEO's Office, SoftBank, Board of Director, "Clean Energy Asia"

- Asian Super Grid with focus on interconnection between the Republic of Korea and Japan
Mr. Park Kab-ho, Director General, Power Grid Planning Department, Korea Electric Power Corporation
- Formation of Gobitec and the Asian Supergrid: Its Impact on the Energy Development in Russia and Mongolia and on the Energy Cooperation between the Two Countries
Prof. Boris Saneev, Deputy Director, Energy System Institute of Russia
- Interconnections between Russia-China, Russia-Japan and Russia-Korea in the framework of possible electricity unification.
Mr. Dmitry Sokolov, Energy System Institute of Russia
- Implications of the European electricity interconnection experiences for the region of Northeast Asia and the German case study on RE Implementation
Dr. Martin Pudlik, Competence Center Energy Policy and Energy Markets, Fraunhofer Institute for Systems and Innovation Research ISI, Germany

The energy infrastructure projects are not necessarily the most attractive among various competing investment opportunities. To facilitate badly needed investment in the cross-border electricity interconnections cooperation among countries in the region is indispensable. There are already a number of bilateral interconnection projects that are facilitated by the private sector and require support from the governments.

Mobilising private investors and capital require a concerted effort to reduce political and regulatory uncertainties. Looking into the experience of the European Union, the investment required to maintain the reliability of the electricity system is unlikely to materialise with the current design of power markets. The investment path falls well short of reaching climate stabilisation goals, as today's policies and market signals are not strong enough to switch investment to low-carbon sources.





In the third session, representatives of international organisations discussed ways and opportunities to support Gobitec and Asian Super Grid. It was noted that Asia-Pacific energy demand is projected to grow by 2.4% a year for the next 20 years. Between now and 2050, Asia will be transformed as its urban population nearly doubles from 1.6 billion to 3.1 billion. Asia is projected to surpass the OECD before 2030 to become the world's largest energy consuming block. The uneven distribution of energy resources within the Asia-Pacific presents a variety of challenges at the national level in terms of supply security.

Energy trading is currently occurring within the Asia-Pacific region however it is primarily limited to bilateral agreements between neighboring states. The economically sound allocation of energy resources is likely to be more efficiently accessed and distributed using regionally integrated energy planning and trading. It is important that in May 2012, member states of the UN Economic and Social Commission for Asia and the Pacific ESCAP adopted a Resolution to enhance regional energy security through by improving efficiency, connectivity, and promoting a greater share of renewable and clean energy for a more sustainable future.

Legal Certainty and Transparency	A supra-national legal framework of binding character enhances transparent procedures and legal certainty
Foreign investment Protection	Energy Charter Treaty provides security for investments
Transmission	Common rules must coordinate interconnected systems
Cross border power trade	Cross border trade is a must in an integrated power system
A common regulatory framework, Energy Charter Treaty (ECT), covering key areas including investment protection, trade, transit, dispute resolution, environmental aspects can significantly encourage the development of Gobitec and Asian Super Grid initiatives. The ECT can be seen as a political guarantee and a legal insurance for the development of large scale infrastructure.	

A prospective cross-border project for the transportation of electricity raises a multitude of complex political, commercial, fiscal, environmental, technical and legal issues. The complexity of these issues poses an unnecessary barrier to the realization of Gobitec/ASG project. The legal frameworks are critical success factors in creating a regional power pool. The governments and the operators of their respective national power grids shall be able to define a common legal and regulatory framework to facilitate

achievement of regional objectives. The Energy Charter Treaty provides a multilateral framework for energy cooperation which is designed to promote energy security through the operation of more open and competitive energy markets, while respecting the principles of sustainable development and sovereignty over energy resources.

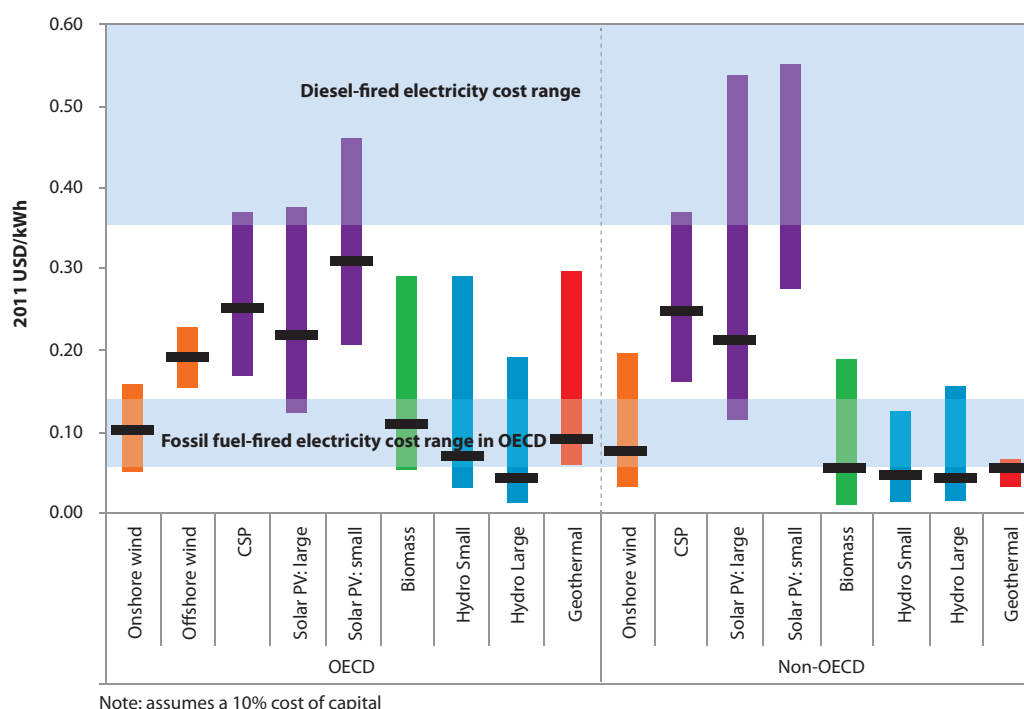


Gobi desert of Mongolia

Role of international organisations in supporting Gobitec and Asian Super Grid initiatives

Chair: Mr. Ernesto Bonafé, Expert, Energy Charter Secretariat

- Common legal framework for cooperation in the energy sector
Mr. Zafar Samadov, Senior Expert, Energy Charter Secretariat
- Supporting Gobitec and Super Asian Grid through the Asian Energy Highway
Mr. Hongpeng Liu, Chief, Energy Security and Water Resources Section, Environment and Development Division, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
- Facilitating innovation, technology and knowhow transfer for renewable energies
Mr. Masaomi Koyama, Senior Programme Officer on Innovation and Technology, International Renewable Energy Agency (IRENA)
- Supporting regional energy cooperation in Northeast Asia
Mr. Teruhisa Oi, Senior Energy Specialist, Asian Development Bank



Source: IRENA

According to IRENA, dramatic falls in cost are making renewable energy competitive with fossil fuels across the world, and the least-cost option in a growing number of markets. The rapid deployment of renewables, working in combination with high learning rates, has produced a virtuous circle that is leading to significant cost declines, and helping to fuel a renewable revolution. Rapid growth in the deployment of solar and wind is driving a convergence in renewable electricity generation costs at low levels.

It was underlined that the present available AC and DC transmission technologies for Asian Super Grid, underground and sea cables, stations and auxiliary systems do not pose practical limits to interconnections: the main limits are political, regulatory and financial. Further progress on the Gobitec and Asian Super Grid requires strong support and cooperation from International Financial Institutions. It was very encouraging to hear from the Asian Development Bank (ADB) about availability of technical and financial assistance schemes for the countries that are interested to promote renewable energies. As a way forward the ADB is interested to continue cooperation with the Government of Mongolia and consider providing technical support which includes activities aimed at creating a regional platform for regional power trade, studies for preparation of road map and to support regional conferences for knowledge sharing and consensus building

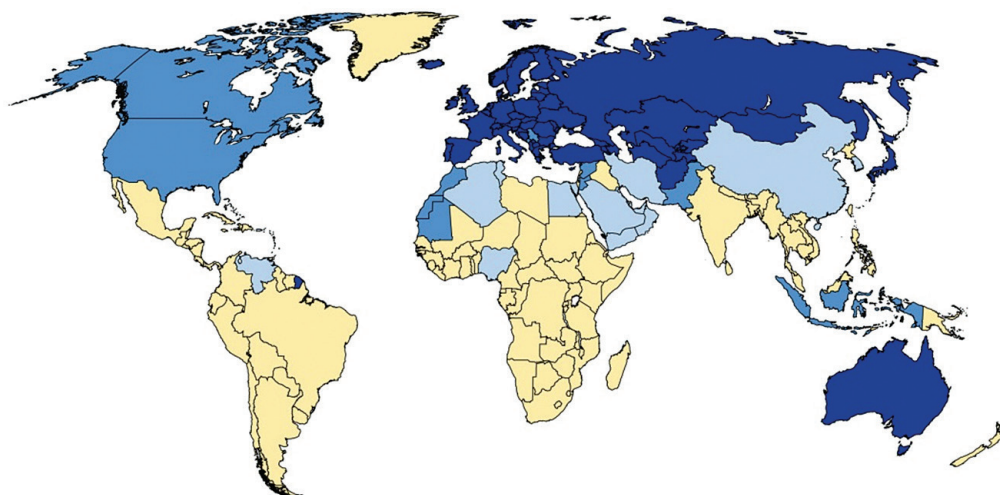


Family picture of Ulaanbaatar Energy Charter Forum



About Us

The Energy Charter Secretariat monitors the implementation of the Energy Charter Treaty and provides support to the Treaty-based international organisation, the Energy Charter Conference (52 states). The aim of the Treaty is to strengthen the rule of law on energy issues, by creating a level playing field of rules to be observed by all participating governments, thereby mitigating risks associated with energy-related investment and trade. The Treaty focuses on: the protection of foreign investments; non-discriminatory conditions for energy trade; reliable energy transit; the resolution of state-to-state and, in the case of investments, investor-state disputes; and energy efficiency policies.



This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

MEMBERS OF THE ENERGY CHARTER CONFERENCE– signed the 1991 Energy Charter and the 1994 Energy Charter Treaty

Afghanistan, Albania, Armenia, Australia*, Austria, Azerbaijan, Belarus*, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, European Community (now part of the European Union) and Euratom, Finland, France, Georgia, Germany, Greece, Hungary, Iceland*, Ireland, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Mongolia, the Netherlands, Norway*, Poland, Portugal, Romania, Russian Federation^, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

* – denotes state in which ratification of the Energy Charter Treaty is still pending

^ – the Russian Federation signed the Energy Charter Treaty and was applying it provisionally until 18 October 2009 inclusive

OBSERVERS TO THE ENERGY CHARTER CONFERENCE– signed the 1991 Energy Charter

Canada, Indonesia, Jordan, Mauritania, Montenegro, Morocco, Pakistan, Serbia, Syria, United States of America

OBSERVERS TO THE ENERGY CHARTER CONFERENCE– by invitation of the Conference

Algeria, Bahrain, China, Egypt, Iran, Korea, Kuwait, Nigeria, Oman, Palestinian National Authority, Qatar, Saudi Arabia, Tunisia, United Arab Emirates, Venezuela, Yemen

International Organisations with Observer Status:

ASEAN, BASREC, BSEC, CIS Electric Power Council, EBRD, IEA, OECD, UN-ECE, World Bank, WTO

The Energy Charter Secretariat also has signed in November 2007 a Letter of Understanding on Cooperative Activities with the Secretariat of the International Energy Forum.

This report was prepared by Ernesto BONAFÉ and Zafar SAMADOV.

For further information, please contact the Energy Charter Secretariat on info@encharter.org.