



**Economic and Social
Council**

Distr.
GENERAL

ECE/ENERGY/76
2 April 2008

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

COMMITTEE ON SUSTAINABLE ENERGY

Sixteenth session
Geneva, 28-30 November 2007

**REPORT OF THE COMMITTEE ON SUSTAINABLE ENERGY
ON ITS SIXTEENTH SESSION**

Executive Summary

At its sixteenth session the Committee on Sustainable Energy considered matters arising from the sixty-second session of the Commission of concern to the Committee, issues related to investing in and financing the hydrocarbon sector to enhance global energy security, issues and trends on investment in electricity, overview of the fifteenth session of the Commission on Sustainable Development, review of activities of the subsidiaries bodies of the Committee and on the regional advisory services programme on energy during 2005-2007, planning for performance evaluation of the 2008-2009 programme of work, programme of work in the field of energy for 2008-2009, and cooperation and coordination with other bodies.

The Committee also endorsed the request by the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology for the renewal of its mandate for a further two years.

The work of the Committee was also presented by the Chairman and Vice Chairs to the Executive Committee on implementation of the sustainable energy programme of work for the past twelve months and major planned activities for the forthcoming twelve months.

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I. ATTENDANCE

1. The sixteenth session of the Committee on Sustainable Energy was held from 28 to 30 November 2007 with the participation of 223 representatives from the following 39 UNECE member States: Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Moldova, Norway, Poland, Portugal, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Switzerland, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America and Uzbekistan. Representatives of the European Community also participated.
2. The United Nations Conference on Trade and Development (UNCTAD), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Framework Convention on Climate Change (UNFCCC), International Atomic Energy Agency (IAEA) and World Trade Organization (WTO) were also represented.
3. The following intergovernmental and non-governmental organizations were in attendance: Center for Energy Defence, Clean Air Foundation, Council of Europe, Council of European Energy Regulators (CEER), Energy Charter Secretariat, European Renewable Energies Federation (EREF), International Center for Research on Biofuels and Patents, International Centre for Trade and Sustainable Development (ICTSD), International Committee for Coal and Organic Petrology (ICCP), International Energy Agency (IEA/OECD), International Institute for Applied Systems Analysis (IIASA), International Institute for Industrial Environmental Economics (IIIEE), International Institute for Sustainable Development (IISD), International Organisation for Standardization (ISO), Moscow International Petroleum Club, Organization for Security and Cooperation in Europe (OSCE), Vernadsky Foundation, World Coal Institute (WCI), World Energy Council (WEC), World Business Council for Sustainable Development (WBCSD) and World Trade Institute (WTI).
4. The Chairperson of the Committee on Sustainable Energy opened the meeting, outlining the format and speakers for the Special Session.
5. The Executive Secretary of the United Nations Economic Commission for Europe, Mr. Marek Belka, commended the meeting for the Forum held the day before on fostering investment in cleaner electricity production from fossil fuels and outlined how environmental sustainability and energy efficiency would continue to be one of the key challenges faced by the UNECE region.
6. The Executive Secretary introduced the Special Session on investing in and financing the hydrocarbon sector and the associated energy security risks. He outlined how developments over the last few years had contributed to an increased sense of vulnerability among countries about the availability of reasonably priced energy. These concerns had also spilled over into strategic security and foreign policy agenda. He asked delegates to consider the approval of a statement on "Investing in Energy Security Risk Mitigation", which included a number of suggested initiatives to be undertaken under the auspices of the Committee over the next few years. The

Executive Secretary also introduced a panel session of the Committee entitled “Biofuels – A Reality Check” to discuss the current status and future perspectives of biofuels, their limitations and advantages, and the extent to which biofuels production could enhance energy security and reduce greenhouse gas emissions.

II. ADOPTION OF THE AGENDA (Agenda item 1)

Documentation: ECE/ENERGY/75

7. The agenda was adopted without change.

III. ELECTION OF OFFICERS/ BUREAU OF THE MEETING (Agenda item 2)

8. The elected officers were as follows: Chairman: Mr. Jean-Christophe Fügé (Switzerland); Vice-Chairpersons: Mr. Renaud Abord-de-Chatillon (France), Ms. Barbara McKee (United States of America), Mr. Sergei Mikhailov (Russian Federation), Mr. Laszlo Molnar (Hungary) and Mr. Nick Otter (United Kingdom).

IV. MATTERS ARISING FROM THE SIXTY-SECOND SESSION OF THE COMMISSION OF CONCERN TO THE COMMITTEE (Agenda item 3)

Documentation: ECE/ENERGY/2007/1 and ECE/ENERGY/68/Add.1; section II

9. The Committee took note of the decisions taken by the Commission at its sixty-second session held in April 2007, including the adoption of the Terms of Reference of the Committee.
10. The discussants at the energy segment of the sixty-second session of the Commission entitled “Sustainable Energy Policies: the Key to Energy Security”, noting the massive investment required in global energy infrastructure over the next three decades, urged the Committee on Sustainable Energy to undertake an intergovernmental expert dialogue on energy security specifically in the area of energy infrastructure investment and financing.
11. The Commission recommended that this enhanced technical dialogue on energy security be conducted during the annual sessions of the Committee with the participation of representatives of governments, energy industries, the financial community and relevant international organizations.
12. The Committee was also urged to consider extending this expert dialogue in the future to cover any/all of the following areas: (a) data and information sharing and increased transparency; (b) legal, regulatory and policy framework; (c) harmonization of standards; (d) research, development and deployment of new technologies; and (e) investment/ transit safeguards and burden sharing in situations of crisis (E/ECE/1448, Annex II).

V. INVESTING IN AND FINANCING THE HYDROCARBON SECTOR TO ENHANCE GLOBAL ENERGY SECURITY (Agenda item 4)

Documentation: ECE/ENERGY/2007/2 and ECE/ENERGY/2006/3

13. A special one-day session on the theme “Investing in and Financing the Hydrocarbon Sector to Enhance Global Security” was held as the basis for in-depth consideration of this issue by the Committee. The view from representatives of international organizations was first presented followed by the perspective of various segments of the private sector during the afternoon. Keynote presentations from international organizations were delivered by the OSCE, the European Commission, the Energy Charter Secretariat and the IEA. All speakers pointed out that the UNECE region would continue to rely heavily on oil, natural gas and coal to meet increasing energy demand for decades to come. A multi-stakeholder approach was therefore needed to address the key challenge of sustainable energy development, bringing jointly energy security, climate and economic benefits.

14. The Director of the Sustainable Energy Division presented the UNECE publication “Emerging Global Energy Security Risks” (ENERGY SERIES No. 36). This publication is the result of the analyses and discussions conducted by the Energy Security Forum on the global dimensions of emerging energy security risks facing UNECE member States. It presents global energy security risks from three different points of view: the European Union, the Russian Federation and North America. These views were reconciled during the deliberations of the Energy Security Forum arriving at a consensus on the conclusions and recommendations on how to mitigate these risks.

15. As an overview basis for a future UNECE publication, the Chairman and Chief Executive Officer of Taylor-DeJongh, United States, delivered a presentation on investing in and financing the hydrocarbon sector to enhance global energy security. He noted that the most effective way to manage supply risk and increase global energy security was to invest in technology and infrastructure: changes in the energy market had given rise to new challenges in meeting these investment requirements. He concluded that active cooperation between national oil companies and international oil companies, together with stable host government policies, could help ensure that the required capital was mobilized in support of hydrocarbon investments.

16. During the second segment of the special session, the Committee heard presentations from the private sector on managing risks, mobilizing capital resources, providing insurance and guarantees services for hydrocarbon investments. Views and concrete experiences were presented by the President and CEO of the Nordic Investment Bank; the Executive Director of the Aon Global Risk Consulting; the Vice President of KazMunayGas; the Assistant to the Program Manager South Stream, Gas and Power Division of ENI; the Manager Director, Co-Head of Project and Structured Finance Gazprombank; and Global and US Regulatory Policy Leader, Deloitte.

17. At the conclusion of the session, the Chairman issued a Summary of the deliberations on “Investing in Energy Security Risks Mitigation” (Annex I).

18. The Committee:

(a) Took note, with appreciation, of the presentations of the speakers and panellists to the special session on energy security;

(b) Expressed appreciation to the Energy Security Forum members, authors and national experts for their contributions to the UNECE publication “Emerging Global Energy Security Risks”;

(c) Welcomed the conclusions and recommendations contained in “Emerging Global Energy Security Risks”, in particular concerning the development of international cooperation on energy security under the auspices of UNECE;

(d) Noted that the Work Plan on UNECE Reform called on the Committee on Sustainable Energy to strengthen activities, inter alia, in the fields energy security and diversification of energy sources;

(e) Requested the secretariat to issue a publication on Investing in Energy Security Risk Mitigation in English, French and Russian based on the reports, presentations and deliberations of the special session on energy security;

(f) Requested the secretariat to report on progress achieved and the initial results of these studies to the seventeenth session of the Committee on Sustainable Energy.

VI. INVESTMENT IN ELECTRICITY IN THE UNECE REGION: SELECTED ISSUES AND TRENDS (Agenda item 5)

19. The secretariat delivered a presentation on investment in electricity in the UNECE region and conclusions of the Forum on Fostering Investment in Cleaner Electricity Production from Fossil Fuels held on 27 November 2008.

20. The Committee:

(a) Approved the Terms of Reference of the recently established Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels;

(b) Approved the programme of work of the Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels;

(c) Took note, with appreciation, of the presentations of the speakers at the special Forum on Fostering Investments in Cleaner Electricity Production from Fossil Fuels;

(d) Noted the conclusions and recommendations of the Forum on Fostering Investments in Cleaner Electricity Production From Fossil Fuels as contained in the report of the first session of the Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels.

VII. OVERVIEW OF THE FIFTEENTH SESSION OF THE COMMISSION ON SUSTAINABLE DEVELOPMENT (Agenda item 6)

21. The Committee:

(a) Noted the cooperation with the Committee on Environmental Policy in the preparations for the fifteenth session of the Commission on Sustainable Development (CSD-15) and during the session itself;

(b) Noted that the CSD-15 session did not reach any agreement and therefore follow-up activities are not envisaged at this stage.

VIII. REVIEW OF ACTIVITIES OF THE SUBSIDIARY BODIES OF THE COMMITTEE (Agenda item 7)

Documentation: ECE/ENERGY/2007/8 and ECE/ENERGY/WP.4/2007/2

22. The Committee received a succinct briefing on the activities and future programme of work of each of its subsidiary bodies, notably:

A. Steering Committee of the Energy Efficiency 21 Project, Ad Hoc Group of Experts on Energy Efficiency Investments for Climate Change Mitigation (Agenda item 7(a))

23. The Committee:

(a) Took note of the positive role of the Energy Efficiency 21 Project and its sub-regional project have in mitigating climate change in member states;

(b) Welcomed progress in the development of the project and the initiation of operational activities, in particular, on financing energy efficiency investments for climate change mitigation beginning in 2008;

(c) Expressed appreciation to SwissRe, Conning & Company and TCW for developing the European Clean Energy Fund in relation to the Energy Efficiency 21 Project;

(d) Welcomed the Seminar on Financing Energy Efficiency Investments with the European Clean Energy Fund for the development of investment project proposals and for providing experience in working with an equity fund;

(e) Took note that the Ministers and Heads of Delegations to the Environment for Europe Conference welcomed the UNECE project on Financing Energy Efficiency Investments for Climate Change Mitigation and will consider participating as public sector investors in the

energy efficiency investment fund which is being created through the Energy Efficiency 21 Project;

(f) Welcomed the cooperation established on energy efficiency with the other international organizations and agencies of the United Nations system including the UNFCCC, Global Environment Facility, UNEP, UNDP as well as the Energy Charter and the International Energy Agency;

(g) Expressed appreciation to the national participating institutions, National Coordinators and supporting institutions for the support in project financing, co-financing and “in kind” contributions for the implementation of project activities;

(h) Expressed appreciation, in particular for the financial support of the United Nations Foundation and United Nations Fund for International Partnerships; French Ministry of Foreign Affairs and French Global Environment Facility; UNEP Global Environment Facility and the European Business Congress e.V..

B. Working Party on Gas, Ad Hoc Group on the Supply and Use of Gas, and the Gas Centre (Agenda item 7(b))

24. The Committee:

(a) Welcomed the high level of international cooperation on natural gas issues undertaken within the framework of the UNECE through the Working Party on Gas, the Ad Hoc Group of Experts on the Supply and Use of Gas, and the Gas Centre;

(b) Noted with appreciation the launching of a new Study on Gas Saving to Reduce Natural Gas Demand and Enhance Energy Security and invited the secretariat to report on the progress achieved in the implementation of this project at the next session of the Committee; and

(c) Encouraged the Working Party on Gas to further develop, in cooperation with the UNECE Inland Transport Committee, the Blue Corridor project – an intersectoral activity, aimed at establishment of transport corridors in Europe for heavy-duty vehicles using natural gas as fuel, instead of diesel.

C. Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology (Agenda item 7(c))

25. The Committee:

(a) Expressed appreciation to the Bureau and the members of the Ad Hoc Group of Experts for their continuing efforts to promote a common global terminology for fossil energy and mineral reserves and resources through the use of the United Nations Framework Classification for Fossil Energy and Mineral Resources (UNFC);

(b) Approved the existing terms of reference for the Ad Hoc Group of Experts for another two years through 2009, recommending that it meet at least annually to deliver on the terms of reference;

(c) Noted that significant progress has been made to implement ECOSOC Resolution 2004/233, which encourages Member States of the United Nations, the United Nations regional commissions and international organizations to consider taking appropriate measures for ensuring worldwide application of the UNFC;

(d) Welcomed the cooperation and collaboration of UNECE and non-UNECE member countries, other United Nations agencies and international organizations, intergovernmental bodies, and professional associations including IAEA, IEA, International Energy Forum Secretariat (IEFS), Organisation for Economic Cooperation and Development (OECD), Organization of the Petroleum Exporting Countries (OPEC), American Association of Petroleum Geologists (AAPG); European Federation of Geologists (EFG); Committee for Mineral Reserves International Reporting Standards (CRIRSCO), International Accounting Standards Board (IASB), International Valuation Standards Committee (IVSC), Society of Petroleum Engineers (SPE), Society of Petroleum Evaluation Engineers (SPEE), World Energy Council (WEC), World Petroleum Council (WPC) and the private sector;

(e) Endorsed the programme of work of the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology for 2008, including continued consideration of alternative governance structures to ensure long-term stability and reliability of the UNFC;

(f) Requested that appropriate documentation be prepared to support the programme of work for 2008 that could include: (i) a report on the mapping of the UNFC with other major resource classification systems for petroleum and minerals; (ii) a revised UNFC for petroleum and minerals based on the results of the mapping exercise; (iii) a report from the Bureau on options for specifications and guidelines to support implementation of the UNFC; (iv) detailed specifications and guidelines for the UNFC following the decisions of the Ad Hoc Group of Experts on appropriate options; (v) a thorough review of remaining options for a governing structure; (vi) development of a trust fund to support the activities of the Ad Hoc Group of Experts or successor bodies; and (vii) case studies analysing the application of the UNFC; and

(g) Directed the Ad Hoc Group of Experts to submit any revised UNFC for consideration by the Extended Bureau of the Committee on Sustainable Energy in 2008 in order to facilitate worldwide application of the UNFC.

**D. Ad Hoc Group of Experts on Coal Mine Methane
(Agenda item 7(d))**

26. The Committee:

(a) Expressed appreciation to the Bureau and the members of the Ad Hoc Group of Experts on Coal Mine Methane for their work to promote the recovery and use of methane gas from coal mines to support the three pillars of sustainable development: economic prosperity, environmental protection, and social development;

(b) Welcomed the cooperation and collaboration of UNECE and non-UNECE member countries, other United Nations agencies and international organizations, intergovernmental bodies, and professional associations in the work of the Ad Hoc Group of Experts on Coal Mine Methane including the United Nations Development Programme, the International Labour Organization, the World Bank, the Methane to Markets Partnership and the World Coal Institute;

(c) Recognized the contribution of the Ad Hoc Group of Experts in the proceedings of the ministerial-level Environment for Europe meeting held in Belgrade in October 2007 through its submission of a Category II paper on the work of the Ad Hoc Group of Experts to promote the recovery and use of methane in the Eastern Europe, Caucasus and Central Asia region through effective partnerships;

(d) Endorsed the programme of work for the Ad Hoc Group of Experts on Coal Mine Methane for 2008;

(e) Expressed support for a workshop to be held in Poland in partnership with the Central Mining Institute of Katowice, the US Environmental Protection Agency, and the Methane to Markets Partnership and, possibly, two other workshops within the Eastern Europe, Caucasus and Central Asia region in 2008; and

(f) Requested that appropriate documentation be prepared to support the programme of work for 2008 that could include: (i) a glossary of terms and definitions commonly used in the coal and coal mine methane (CMM) industries worldwide; (ii) a report on development of regulatory frameworks to encourage effective methane drainage in coal mines and use of CMM including the impact of using low-quality methane; (iii) a report summarizing cooperation with the insurance industry to encourage improved mine safety; (iv) a final report on the extrabudgetary project to support financing of CMM projects in the Eastern Europe, Caucasus and Central Asia region expected to be completed in September 2008; and (v) an announcement and meeting report for each CMM workshop in 2008.

**E. Ad Hoc Group of Experts on Cleaner Electricity Production
from Coal and Other Fossil Fuels
(Agenda item 7(e))**

27. The Committee:

- (a) Approved the Terms of Reference of the recently established Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels;
- (b) Approved the programme of work of the Ad Hoc Group of Experts;
- (c) Took note, with appreciation, of the presentations of the speakers at the special Forum on Fostering Investments in Cleaner Electricity Production From Fossil Fuels;
- (d) Noted the conclusions and recommendations of the Forum on Fostering Investments in Cleaner Electricity Production from Fossil Fuels as contained in the report of the first session of the Ad Hoc Group of Experts.

**IX. UNECE REGIONAL ADVISORY SERVICE PROGRAMME
IN THE FIELD OF ENERGY DURING 2005-2007 (Agenda item 8)**

28. The Director of the Division and the secretariat provided an update on the Regional Advisory Services, including subregional activities, in the field of energy.

29. The Committee:

- (a) Thanked the Regional Advisor for the report provided on the UNECE Regional Advisory Services Programme in the field of energy during 2005-2007;
- (b) Took note with appreciation of the Regional Advisory services provided to the Energy Efficiency 21 Project and the project on the Rational and Efficient Use of Energy and Fuel Resources in the Commonwealth of Independent States;
- (c) Welcomed the contribution of Regional Advisory services to national project coordinators, local authorities and central government ministries, in particular in relation to UNDP Global Environment Facility (UNDP/GEF) supported energy efficiency and climate change mitigation projects in Belarus, Kazakhstan, Russian Federation and Ukraine;
- (d) Welcomed with appreciation the work on the project to elaborate a Strategy for the Fuel and Energy Complex Development in the Euro-Asian Economic Community Member States in collaboration with the High Level Experts Group and secretariat of the Eurasian Economic Community (EurAsEC);
- (e) Noted that a new Regional Advisor for Energy had been appointed.

**X. PLANNING FOR PERFORMANCE EVALUATION
OF THE 2008-2009 PROGRAMME OF WORK (Agenda item 9)**

30. A questionnaire for the Programme Performance Assessment 2007-2008 was distributed during the session. The questionnaire is also posted on the UNECE website.
31. To prepare for the 2008-2009 biennial evaluation, the Committee discussed and approved a document prepared by the secretariat containing the draft expected accomplishments corresponding to the subprogramme's clusters of activities, including the related indicators (ECE/ENERGY/2007/4).
32. Under the same agenda item, the Committee reviewed the draft strategic framework for 2010-2011 for its subprogramme, prepared by the secretariat (Annex II to ECE/ENERGY/2007/4).

**XI. PROGRAMME OF WORK IN THE FIELD OF ENERGY
FOR 2008-2009 (Agenda item 10)**

Documentation: ECE/ENERGY/2007/9, ECE/ENERGY/2007/8 and ECE/ENERGY/2007/10

33. The Committee reviewed and adopted its programme of work for 2008-2009, including the work programme of its subsidiary bodies, on the basis of a note prepared by the secretariat.
34. The Committee reviewed the structure of the Committee and its intergovernmental bodies and took note of the changes implemented at the end of 2006 in response to the Work Plan on ECE Reform.
35. The Committee approved the provisional calendar of meetings for 2008.

**XII. COOPERATION AND COORDINATION WITH
OTHER BODIES (Agenda item 11)**

Documentation: ECE/ENERGY/2007/5, ECE/ENERGY/2007/6; ECE/ENERGY/2007/7 and ECE/CEP/AC.11/2007/9

36. The Committee was briefed on the activities of common interest of other Sectoral Committees and on cooperation with other intergovernmental and non-governmental organizations, industry associations and the business community.

37. The Committee welcomed its cooperation with the:

(a) Committee on Environmental Policy

(i) in the preparation of inputs for the sixth Ministerial Conference "Environment for Europe", Belgrade, 10-12 October 2007, notably the Category I and II papers relating to activities undertaken on energy efficiency and coal mine methane respectively. In the final Declaration, Ministers welcomed the project on Financing Energy Efficiency Investments for Climate Change Mitigation and will consider participating as public-sector investors in the energy efficiency investment fund, which is being created through the Energy Efficiency 21 Project;

(ii) in the preparation of the UNECE regional inputs to the fourteenth and fifteenth sessions of the Commission of Sustainable Development (CSD-14 and CSD-15); and in relation to the UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention).

(b) Timber Committee

(i) on the use of wood as a source of renewable energy and noted with appreciation the discussion held during the Committee session entitled Biofuels – A Reality Check, jointly organized with the UNECE Timber Committee/ Food and Agriculture Organization of the United Nations (FAO). Opportunities for future cooperation and collaboration were noted and welcomed.

38. In relation to the cooperation with international governmental and non-governmental organizations, the French National Committee of the WEC delivered a presentation on vulnerability indicators. The Global Energy Assessment in full Executive Committee and the Director of IIASA presented the Global Energy Assessment, an initiative to support decision makers address the challenges of providing energy services for sustainable development. The IAEA and IEA outlined the activities of their organizations in relation to the work of the Committee. The Chairperson of the IEA Working Party on Fossil Fuels, Director of the Carbon Sequestration Leadership Forum (CSLF) Secretariat and Vice-Chair of the Committee on Sustainable Energy, presented an overview on near-term opportunities for carbon capture and storage.

39. The outcome of the Joint UNEP/ UNECE Expert Meeting on Energy Subsidies held in Geneva on 15-16 November 2007 and cooperation with the Committee on Environmental Policy on Reforming Energy Pricing and Subsidies were presented by UNEP and UNECE representatives.

XIII. OTHER BUSINESS (Agenda item 12)

40. No issues were tabled for discussion under this item.

**XIV. ADOPTION OF THE REPORT OF THE MEETING
(Agenda item 13)**

41. The Committee agreed that the meeting report be drafted in consultation with members of the Bureau and approved by the Bureau and then circulated to countries.

ANNEX I

CHAIRMAN' S SUMMARY INVESTING IN ENERGY SECURITY RISKS MITIGATION

1. On 28 November 2007, government representatives discussed how to assess and mitigate the energy security risks facing the UNECE region with regard to financing the global investments in energy infrastructure that will be required over the next three decades to meet growing energy demand. This intergovernmental expert dialogue was conducted with representatives of the energy industries, the financial sector and other international organizations under the auspices of the UNECE Committee on Sustainable Energy. Participants in the discussion concluded that:

(a) Development and investment in energy sources to meet growing energy demand in a sustainable manner will remain a key global challenge over the coming years. The shifting focus from private sector to public sector ownership of hydrocarbon assets, as well as from established to emerging markets, will require new and innovative policies and measures in order to ensure the future security of energy supplies;

(b) Global capital markets have the capacity to finance the large energy sector investments that will be required. However, capital will flow only to the companies, projects and countries where the risks and likely return on investments are predictable and acceptable. Countries with an attractive investment climate, where commercial agreements are enforceable, and with a stable political and social structure are more likely to attract capital than those where the rule of law is uncertain and political and social conditions are unstable;

(c) To reap the most benefit from policies and investments in fuel diversification and energy efficiency, it is important to have transparent, competitive and well-functioning markets, at the regional and global level, supported by a robust regulatory framework;

(d) The oil market is likely to continue to be tightly balanced with new investments in supply barely sufficient to meet the incremental increase in oil demand. There is a danger of under-investment in a number of key producing countries, which could lead to a further reduction in available spare oil production capacity and thus further tighten markets. With supply and demand finely balanced and little spare oil production capacity available, geopolitical and energy security concerns as well as political and social instability in some producing regions are likely to continue to add a premium to global oil prices;

(e) The rapid growth in natural gas consumption is boosting the import dependence of many UNECE countries. While this may not be a problem in the short to medium term, meeting demand over the longer term could become a challenge as new sources of supply become increasingly more remote and more costly to develop. There will also be a need for increased imports of liquefied natural gas (LNG), requiring investment in additional LNG gasification plants and export terminals, as well as new re-gasification infrastructure and infrastructure to

transport the gas to consuming inland markets. Gas market developments could increasingly be impacted by the recent unprecedented upturn in the coal market.

(f) With a large and growing population coming out of poverty, the energy resources to sustain this development need to be secured through ever increasing efficiency in energy production, conversion, transportation and use. In particular, an improved recovery of fossil energy needs to be sought through timely and balanced investments to avoid waste and to secure high recovery later. Stability and security are prerequisites for the adoption of the long-sighted energy policies that this requires;

(g) Climate change continues to be of uppermost concern to UNECE countries, with energy at the centre of the debate on how climate protection can best be achieved. Considerable efforts are now being expended by governments and the private sector to develop and commercialize more advanced coal combustion and nuclear technologies, renewable energy technologies, transportation biofuels, hybrid systems, hydrogen-based processes, carbon capture and storage technologies, and energy efficient technologies and practices that could significantly reduce energy demand and energy-related greenhouse gas emissions in the future and that are more acceptable to societies than many of the technologies and processes currently in use. These efforts need to be sustained and strengthened over the longer term with clear policy goals and measures;

(h) Without effective, market-based, mechanisms for carbon pricing, the incentives to deploy low carbon technologies will be inadequate. A global price for carbon would provide significant encouragement;

(i) Energy production and consumption are intertwined. While energy consumers seek security of energy supplies, energy producers and transit providers seek security of energy demand to reduce the risks associated with their large long-term investments. Hence, there is a need for systematic exchange of information and dialogue on long-term energy strategies between countries along the entire supply chains. Investment cooperation could be greatly enhanced by both consumers and producers taking full advantage of and having open access to investment opportunities;

(j) Large energy resources alone will not be enough to attract the investments required to meet future energy needs. Governments, energy industries and the finance community will need to ensure that private investors are able to properly assess and take on new energy development opportunities. They should be subject to fair and stable fiscal and regulatory environments. A variety of sources of finance should be possible.

2. Based on the discussion, the participants noted that:

(a) Some energy security risks can be managed by governments, some can be managed by the energy industries themselves and others by the international financial sector. Yet, some energy security risks may also be reduced through multilateral intergovernmental cooperation frameworks, programmes and initiatives. A broadly shared intergovernmental expert dialogue on information sharing and transparency, infrastructure investment and financing, standards, policies and practices, research and development of new technologies and burden sharing in case of disruptions, building on bilateral and multilateral frameworks already in place could be helpful in mitigating some current concerns, notably regarding the security of energy supplies and the security of energy demand;

(b) Energy security risks tend to be perceived differently by governments, the energy industries, the financial community, international organizations and associations and other partners of civil society. A better understanding of these perceptions of energy security risk could enhance international dialogue and cooperation on energy security;

(c) The challenge of enhancing energy security while promoting sustainable energy development can best be achieved by addressing both in tandem. Policies for enhancing energy security should be closely correlated with measures to promote sustainable energy development, including ensuring the environmentally benign use of energy resources and their availability for future generations;

(d) The expert dialogue on energy security at UNECE could be significantly enhanced by an assessment of the energy vulnerability of each member country based on consistent, objective and transparent statistical indicators.

3. In view of these conclusions participants noted that the following initiatives be undertaken:

(a) The objectives, activities and results of intergovernmental programmes on energy security conducted by international and supranational organizations and associations¹ be presented to the next session of the UNECE expert dialogue on energy security to take place during the seventeenth session of the Committee on Sustainable Energy;

(b) The secretariat, together with interested national and international experts, should undertake the following:

¹ Such as the Energy Charter, European Business Congress, European Commission, International Energy Agency, International Energy Forum, Organization of the Petroleum Exporting Countries, United Nations, World Economic Forum and World Energy Council and others.

- (i) A study of how energy security risks are perceived by decision makers in governments, energy industries, the international financial sector and international and supranational organizations and associations;
- (ii) An analysis of how policy measures to promote sustainable energy development can enhance energy security;
- (iii) An appraisal of the use of statistical indicators to measure the energy vulnerability of UNECE member States;
- (iv) An assessment of the complementarities between the energy security strategies of different UNECE sub-regions.

4. Progress achieved and the initial results of these studies should be reported to the seventeenth session of the Committee on Sustainable Energy.

ANNEX II

CALENDAR OF MEETINGS OF THE COMMITTEE ON SUSTAINABLE ENERGY AND ITS IMPLEMENTING BODIES IN 2008

The Committee on Sustainable Energy requests that it be provided at each session with a provisional calendar of meetings for the ensuing calendar year.

COMMITTEE ON SUSTAINABLE ENERGY

- Committee on Sustainable Energy, seventeenth session, 19-21 November, Geneva (including meetings related to Energy Security)
- Ad Hoc Group of Experts on Coal Mine Methane, workshop and preparatory meeting for fourth session, 27-28 February, Szczyrk, Poland
- Extended Bureau Meeting of the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology, 27-28 February
- Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology, fifth session, 15-16 April, Geneva
- Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels, second session, 18 April, Geneva
- Ad Hoc Group of Experts on Coal Mine Methane, fourth session, 17 November, Geneva
- Ad Hoc Group of Experts on Cleaner Electricity Production from Coal and Other Fossil Fuels, third session, 18 November, Geneva

STEERING COMMITTEE OF THE ENERGY EFFICIENCY 21 PROJECT

- Ad Hoc Group of Experts on Energy Efficiency Investments for Climate Change Mitigation, tenth session, 21-22 February, Geneva
- Steering Committee of the Energy Efficiency 21 Project (EE21), nineteenth session, 28-30 May, Geneva
- Ad Hoc Group of Experts on Energy Efficiency Investments for Climate Change Mitigation, eleventh session, 25-26 September, Geneva

WORKING PARTY ON GAS

- Working Party on Gas, eighteenth session, 22-23 January, Geneva
- Ad Hoc Group of Experts on Supply and Use of Gas, ninth session, 24 January, Geneva

GAS CENTRE

- Executive Board of the Gas Centre, thirteenth session, 21 January, Geneva
- Task Force on Gas Transportation Pipelines, fourth session, February, Geneva
- Task Force GATE 2010 on Transportation and Tariffs, nineteenth session, 13 March, Paris
- Task Force on Implementation of EU Gas Directives, fifteenth session, April
- Database Technical Committee, eighteenth session, May, Geneva
- High-Level Conference, fourteenth session, June, Norway
- Task Force on Gas Transportation Pipelines, fifth session, September
- Task Force GATE 2010 on Transportation and Tariffs, twentieth session, October
- Bureau Meeting, October/November, Geneva
- Database Technical Committee nineteenth session, November, Geneva
- Task Force on Implementation of EU Gas Directives, seventeenth session, December
