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COMMITTEE ON SUSTAINABLE ENERGY

Ad Hoc Group of Experts on the Supply of Fossil Fuels
First Session, 10-11 November 2004

REPORT

I. INTRODUCTION

1. The first session of the Ad Hoc Group of Experts on Supply of Fossil Fuels was convened on 10-11 November 2004 in accordance with the decision taken by the UNECE Committee on Sustainable Energy at its thirteenth session held in November 2003 (ECE/ENERGY/53, paragraph 16). The purpose of this Meeting was to launch a new programme of work providing an improved basis for considering more efficient and benign extraction of energy resources from the earth, including support for the development of strategies for their exploration in line with the need for sustainable energy supplies. This calls for improving the present methods of resource assessment, valuation, classification and reporting, based primarily on the principles of the United Nations Framework Classification for Energy and Mineral Resources (UNFC). The Economic and Social Council (ECOSOC) considered the latter at its annual session in July 2004, where the decision was taken to invite the Member States of the United Nations, international organizations and the regional commissions to consider taking appropriate measures for ensuring worldwide application of the Framework Classification (ECOSOC Resolution 2004/233).

II. PARTICIPATION

2. The meeting was attended by representatives from the following UNECE member countries: Bulgaria, France, Germany, Italy, Norway, Poland, Romania, Russian Federation, Slovakia, Slovenia, Switzerland, Turkey, United Kingdom and United States of America.

3. Representatives of the following countries participated under Article XI of the Commission's Rules of Procedure: Algeria, Iran (Islamic Republic of), Kuwait, Saudi Arabia, and Syrian Arab Republic. The participation of OPEC Member States was facilitated through the OPEC Secretariat in Vienna.

3. The following United Nations organizations were represented: United Nations Economic and Social Council for Western Asia (ESCWA) and United Nations Conference on Trade and Development (UNCTAD).

4. The following international organizations were represented: European Federation of Geologists (EFG), International Organisation of Oil and Gas Producers (OGP), International Energy Agency (IEA), International Energy Forum Secretariat (IEFS), International Valuations Standards Committee (IVSC), Organization of the Petroleum Exporting Countries (OPEC), Society of Petroleum Engineers (SPE), World Energy Council (WEC) and World Petroleum Congress (WPC).

III. OPENING OF THE MEETING

6. Mr. George Kowalski, Director, Industrial Restructuring, Energy and Enterprise Development Division, opened the session. Mr. Kowalski provided an overview of the UN Framework Classification (UNFC) and reminded the Meeting of the original need for its development, notably that a new system for the assessment of energy resources was essential for the upstream segment of the energy sector to operate under competitive market conditions and for its infrastructure to attract the investments it merited.

7. Mr. Kowalski noted that the UNFC was the latest effort to present a universally acceptable and internationally applicable scheme for the classification and reporting of energy reserves/resources data. Designed as an all-encompassing framework, it enables the incorporation and unification of existing national systems, while allowing their classification units and terms to be retained. It was noted that the principal objective of the UNFC is to enhance international communication by providing a simple, user-friendly and uniform format for the reporting of energy commodity reserves/resources, using market-based economic criteria. Mr. Kowalski highlighted that by working together with the other relevant international organizations represented at this meeting and the International Atomic Energy Agency (IAEA), the UNECE intends to harmonize the different terminologies used in oil, natural gas, coal and uranium resources, and also to provide more objective criteria for resource evaluation. Mr. Kowalski then thanked all these organizations for their ongoing cooperation and collaboration.

8. Mr. Kowalski advised that the UNECE had initiated the extension of the UNFC to oil, natural gas and uranium three years ago and that substantive work had been undertaken in doing so, including the organization of a number of meetings, regional seminars and consultations. The regional seminars held to date in Moscow, in Stavanger, in Vienna at the OPEC Headquarters and most recently in Beirut in 2004, which was jointly organized with OPEC, ESCWA and the UN Statistical Division (UNSD) of New York, had all provided a bridge to initiate the extension of the UNFC to hydrocarbons. Mr. Kowalski noted that a number of case studies were now being considered with a view to understanding whether and how national classifications and deposits could be adapted to the UNFC principles.

9. Mr. Kowalski informed the Meeting that ECOSOC had adopted the UNFC as developed by the UNECE at its annual session held in New York in July 2004. Notably, the Council Resolution “invited the Member States of the United Nations, international organizations and regional commissions to consider taking appropriate measures for ensuring worldwide application of the Framework Classification”. A copy of ECOSOC Resolution 2004/233 of 16 July 2004 was made available to delegates.

10. In closing, Mr. Kowalski thanked the Secretariat of OPEC, the Secretariat of ESCWA and also the representatives of all non-UNECE member countries represented at the Meeting for their ongoing support.

11. The representative of the Ministry of Petroleum and Mineral Resources, Saudi Arabia, delivered the official view of Saudi Arabia on these UN efforts, which is outlined under Item V “Discussion of the Draft Terms of Reference”.

IV. ELECTION OF THE BUREAU

12. Mr. S. Heiberg (Norway) was re-elected Chairman; Mr. A. Subelj (Slovenia) and Mr. T. Ahlbrandt (United States) were both re-elected as Vice-Chairmen. It was further recommended that the UNECE invite the Russian Federation and the OPEC Secretariat to be represented on the Bureau.

V. DISCUSSION OF THE DRAFT TERMS OF REFERENCE

13. The Meeting considered the draft Terms of Reference at Annex I to the Provisional Agenda (ENERGY/GE.3/2004/1).

14. Saudi Arabia objected to the draft Terms of Reference on the grounds that it would not support this Ad Hoc Group of Experts addressing issues related to the supply of fossil fuels.

15. The objection was noted. A member of the Bureau of the Committee on Sustainable Energy reminded the Group of Experts that the draft Terms of Reference clearly indicated that the Group’s contribution would be the improvement of current methods of energy resources assessment. While the objectives of the Group’s work are the methods of assessment and not the issues of supply, the task is given to experts on supply. This is done to ensure that the methods are appropriately designed for applications addressing issues of supply. To do so in an operational sense is though not within the mandate of this Group.

16. Alternative formulations for the name of the Group and of the text of the draft Terms of Reference were explored to avoid the apparent miscommunication, but without success. Saudi Arabia was not in a position to agree to a reformulated text at this time.

17. The OPEC representative requested clarification of the UNECE’s global engagement with respect to the development of a Framework Classification for Energy and Mineral Resources. The UNECE Project Manager for the previous Ad Hoc Group of Experts on the Harmonization of Energy Reserves/Resources Terminology, as well as for the preceding “Inter-agency Task Force on the Implementation of the United Nations Framework Classification for

Reserves/Resources: Solid Fuels and Mineral Commodities”, responded by explaining that from time to time UN regional commissions take up issues of global interest. UNECE had done so when it embarked on the development of this framework classification. In such instances, stakeholders from outside the Commission’s member States are invited to contribute, and cooperation is automatically sought with the relevant regional commissions. Following commencement of this work in 1992, the UNECE has cooperated extensively with such stakeholders and commissions, the most recent example being the joint workshops held in Beirut, Lebanon, in June 2004 where UNECE, ESCWA, UNSD and OPEC all cooperated together. The final product of these efforts, in this instance the UN Framework Classification for Fossil Energy and Mineral Commodities (UNFC), was subsequently submitted to ECOSOC, comprising most UN Member States, for consideration. This resulted in a unanimous resolution by ECOSOC (Resolution 2004/233) on the UNFC in July 2004. The Meeting was further advised that the work of this Ad Hoc Group was a direct continuation of the work of the previous Groups and followed the same constructive pattern of cooperation as witnessed by the invitations issued for this meeting.

18. Proposals were put forward that the Group of Experts should continue under both the name and Terms of Reference of the predecessor Ad Hoc Group of Experts on the Harmonization of Energy Reserves/Resources Terminology (as expressed by OPEC, Kuwait, Islamic Republic of Iran and the Russian Federation) and that it should more directly express the link that exists to securing production and supply of fossil fuels (as expressed by France).

19. Finally, a suggestion was made to separate the activities relating to petroleum from activities relating to other energy and minerals resources. In response, the International Valuations Standards Committee (IVSC) clarified that there was a strong need for a few but strong principles governing the classification for the extractive industries. Commodity specific classifications cannot meet this need. One of the many difficulties with separate and commodity specific classifications is the grey area that arises for those commodities that may fit several of them. A single classification framework will pave the way for fewer and better-understood rules and regulations. It will, for example, facilitate the development of only one set of international financial reporting standards for all of the extractive activities. Norway and Turkey agreed that separate classifications would be a retrograde step, but suggested that commodity specific aspects could be developed separately in the Guidelines.

20. Based on the preceding discussions, the Bureau decided to propose to the Committee on Sustainable Energy that the Ad Hoc Group of Experts takes the name of the previous ad hoc group of experts. The proposed name will then be The Ad Hoc Group of Experts on the Harmonization of Energy Reserves/Resources Terminology. As this group now has completed the task of harmonisation that it was established for, namely harmonise the petroleum and uranium classifications with the UN Framework Classification for Solid Fuels and Mineral Commodities, an updated terms of reference will be discussed at the next session of the Ad Hoc Group of Experts to be held 10-11 November 2005.

**VI. ROUND TABLE DISCUSSION
ENERGY RESOURCES/FOSSIL FUELS – UNTIL WHEN? WHAT SHOULD
PUBLIC POWER AND INDUSTRY URGENTLY DO TO PRESERVE/EXTEND
THEIR LIFE CYCLE?**

(a) Part I – Seeking Efficiencies

21. During the first session of the Roundtable, which focussed on the theme “Seeking Efficiencies”, the following presentations¹ were delivered:

- Introduction by Sigurd Heiberg, Statoil.
- The Physics and Economics of Maximising Economic Recovery in the Oil and Gas Sectors by Kate Hadley Baker, Distinguished Advisor, Subsurface, BP.
- Communicating Information about Reserves and Resources for Financial Management and Public Awareness by Michael Lynch-Bell, Partner in Charge, EMEA, Energy, Chemicals & Utilities, Transaction Advisory Services, Ernst & Young LLP.
- Securing Investments through Appropriate Financial Reporting – Application of IVSC and IASB Standards by Trevor R. Ellis, CPG, CMA, CGA, FAusIMM, Leader, Extractive Industries Task Force, International Valuations Standards Committee.
- Reporting Standards in G&E Studies: a Key to Subsurface Transparency by István BÉRCZI, The MOL Group and the European Federation of Geologists.

22. The purpose of the sequence of presentations was to stimulate discussion on how to secure the required efficiency in exploration and production of energy and mineral resources, and in particular petroleum. The motivation for addressing this issue was the recognition that maximising economic recoverable quantities requires a global and unusually long-sighted resources management perspective. This is to a large extent due to the irreversible nature of many recovery processes.

23. The Chairman thanked the presenters and the Group of Experts for both the quality of the presentations and the ensuing discussions. The Chairman also noted the high level of consensus for developing powerful principles that may be aligned across jurisdictions.

(b) Part II – Creating Synergies

24. During the second session of the Roundtable, which focussed on the theme “Seeking Efficiencies”, the following presentations were delivered:

- Opening by Charlotte Griffiths, Secretary, Ad Hoc Group of Experts on Supply of Fossil Fuels.
- Justification for proposing a study of large fields by Timothy R. Klett, US Geological Survey.

¹ Presentations are available in full on the UNECE website at: <http://www.unece.org/ie/se/reserves.html>

- Developing reliable energy statistics in the ESCWA region by Wafa Aboul Hosn, Sectoral Statistics, Sustainable Development and Productivity Division, ESCWA.
- World Energy Outlook 2004, by Nicola Pochettino, Energy Analyst, International Energy Agency.
- Contribution from the International Energy Forum by Bruno Castellano, Energy Analyst (JODI), International Energy Forum Secretariat.
- Contribution from the International Association of Oil and Gas Producers (OGP) by Alan Grant, Executive Director, OGP.
- Contribution from the World Petroleum Congress (WPC) by Pierce Riemer, Director-General, WPC.
- Contribution from the World Energy Council (WEC) by Nada Zupanc, WEC, Ljubljana, Slovenia.
- SPE's Contribution by Kate Hadley Baker, 2004 SPE President.

25. During the ensuing discussion, the representative of SPE expressed the view that the UNFC definitions needed to be underpinned by clear Guidelines, with examples, and she also raised concern over the number of categories used in the UNFC. While acknowledging the benefits of a unified scheme for extractive mineral resources, whether liquid, gaseous or solids, she observed that much work remained to be done to establish that a single scheme could be successfully applied to such diverse assets. She also argued for a set of guidelines that emphasized the use of the minimum number of categories required to meet the needs of the stakeholders, including companies themselves, governments and the international investment community.

26. The SPE representative then stated that the SPE was keen to collaborate with the Ad Hoc Group of Experts on the Supply of Fossil Fuels in order to deeply understand the mapping between the UNFC and the SPE/WPC and AAPG Reserves and Resources Definitions and work toward the "grand vision" shared by all stakeholders, notably: a set of reserves and resource definitions universally adopted by the oil and gas industry, international financial organizations, and regulatory and reporting bodies, which remains applicable with evolving accounting and financial standards, and an associated set of estimating guidelines, which are current best practice, maintained by a process that allows for the integration of new technologies and methodologies.

27. The OPEC representative asked the SPE representative on the possible contributions that SPE might make with respect to relating reserves to production capacity. The SPE representative explained that, as far as she was aware, there was no systematic survey relating remaining resources to the rate of recovery. The OGP representative explained that industry is well aware of the instantaneous capacity and that SPE could be mobilised to help in this respect.

VII. PARALLEL SESSIONS ON PETROLEUM AND ON SOLID FUELS

28. Mr. Andrej Subelj, Vice Chairman of the Bureau of the Ad Hoc Group of Experts, introduced the work of the two parallel sessions by reminding the Meeting of the history of the development of the UNFC dating back to the first request made by the then newly formed Russian

Federation. Mr. Subelj noted that experience has demonstrated that developing the Classification was not the major task, however, writing the Guidelines was.

(a) Solid Fuels and Minerals

29. At the beginning of this session focussing on solid fuels and minerals, Ms. Mucella Ersoy, the Leader of the Solid Fuels and Minerals Task Force, introduced the existing Guidelines to the UNFC for Reserves/Resources – Solid Fuels and Mineral Commodities. Ms. Ersoy then outlined a draft document updating these guidelines and put this forward for discussion (see the presentation on the UNECE website at: unece.org/ie/se/pp/adclass11.html). The following issues were discussed and/or concluded:

- to update the existing Guidelines to UNFC for Reserves/Resources – Solid Fuels and Mineral Commodities by including developments since 2001 and by adapting it to the final version of the UNFC;
- to include, in principle, the “uranium section” in the new and updated Guidelines since “uranium” had been included with the coal and mineral commodities in the final version of UNFC as noted by the amended “Coal, Uranium and Other Solid Minerals”. However, it was noted that if required, Guidelines to the UNFC for Uranium could be prepared as a separate document; and
- not to remove the “general information” section from the existing document such as objective, background, classification and codification related with coal and mineral commodities,

(b) Petroleum

30. The Petroleum Task Force leader, Mr. Per Blystad, provided a brief introduction to the session focussing on petroleum and described the status of the work undertaken on the Guidelines. He described the initial suggestion to include explanatory notes in the main UNFC document, but explained that the recommendation at the moment, however, was for the Guidelines to be published as a separate document. In this latter case, changes to the Guidelines could then be made without having to change the main document, which would make the process much simpler. Key discussions that needed to be addressed were then identified, including the level of detail that should go into the Guidelines and whether or not case studies and examples should also be incorporated. Mr. Blystad referred to the proposed Guidelines for UNFC applied to minerals, which was a slim document of 30-40 pages. He also proposed that shared topics between the commodities should not be duplicated. Mr. Blystad then advised that the Bureau of the Ad Hoc Group of Experts and the Petroleum Task Force would be responsible for establishing the Guidelines and in that regard they would especially welcome the support of and close cooperation with SPE and also with the relevant financial organisations. The composition of the work group would be determined by the comprehensiveness of the Guidelines. The SPE representative responded that she would need to refer to the SPE Oil and Gas Reserves Committee, but indicated that without a very close cooperation with SPE this work would prove a very difficult task. The representative of Ernst & Young stressed the importance of starting the required cooperation with SPE at the earliest opportunity. The SPE representative assured the Meeting that the SPE Board would address the issue at its next Board Meeting in January 2005.

31. Mr. Blystad shared his view that the UNFC would primarily be used as a harmonisation tool, but that it also should be able to stand on its own for voluntary use. He confirmed that SPE should have a central role in the work to be undertaken on development of the Guidelines and

supported the various comments identifying a strong need for a thorough dialogue in order to arrive at a common understanding.

32. The OPEC representative reminded the Meeting that whilst most countries and organisations claim to follow the SPE system, there was still not a reliable total world estimate. He stressed that it was important to keep in mind that classification and estimation are two different issues and also underlined the importance of establishing a process of communicating the UNFC work to the governments.

(c) **Summary**

33. Ms. Mucella Ersoy summarised the discussion of the Solid Fuels Session to the full Group of Experts: the Guidelines should be developed with one general section, valid for energy and mineral resources, and a commodity specific section. The commodity specific sections for solid fuels and minerals could be developed easily from the pre-existing Guidelines to the United Nations International Framework Classification for Reserves/Resources (document ENERGY/2001/11). The points requiring change were identified.

34. Mr. Per Blystad summarised the discussions of the Petroleum Session by stating that there was a need for close cooperation with SPE. The ambitions for the Guidelines would be based on further process and discussions. He noted the view expressed to have separate classifications for petroleum and minerals, but that the combined version were regarded by many as a significant achievement and that he expected the process with SPE would be an important test to achieve this.

35. As there are no pre-existing Guidelines for the application of the UNFC to Petroleum, a considerable amount of flexibility still exists. Input from financial institutions to the Guidelines is required, both to ensure compliance with their needs and to ensure that the dimensions of value and of ownership are properly addressed in the combination of classification-, valuation- and financial-reporting standards.

VIII. CASE STUDIES

36. Comprehensive case studies on the application of the UNFC were presented by Algeria, Norway, Poland, Russian Federation, Slovenia, Turkey and Venezuela. The presentations are all available on the UNECE website at: <http://www.unece.org/ie/se/reserves.html>.

37. These and other case studies are highly valuable, in particular when writing Guidelines. The Russian Federation was commended for its thorough and well-prepared expose of the evolution of the classification systems and of the comparison between them. This was seen as an important contribution. The handling of multiple projects to improve oil and gas recovery in developed and well-known fields was discussed. It was noted that the UNFC easily distinguishes quantities recovered from separate recovery projects.

38. The suggested framework and sequence of work for the preparation of case studies is included in Annex I to this Report.

IX. UNFC AND INTERNATIONAL SURVEYS OF ENERGY RESOURCES

39. It was noted that this agenda item had been covered under the earlier discussions and would therefore not be addressed separately.

X. TECHNICAL/ADVISORY ASSISTANCE TO COUNTRY COORDINATORS AND TEAMS – MODALITIES AND FINANCING, WORK PROGRAMME AND BUDGET FOR 2005

40. The Chairman proposed that the above items should be taken together. The recommendation was to ensure there was sufficient capacity in the UN to be able to provide consistent and constructive guidance from a small team of international experts to national experts on the application of the UNFC. The development of this capacity would be concurrent with the development of the UNFC Guidelines. The Group of Experts should seek full cooperation with the main stakeholders and with the key bodies collecting and disseminating reserves and resources information.

41. Following discussions, the consensus was that the appropriate way to deal with this issue would be to explore with stakeholders the financing of a dedicated Trust Fund under the UNECE.

42. The Group requested the Bureau to proceed with the above proposal regarding financing of technical and advisory training for country coordinators and teams.

43. The Group also requested the Bureau to discuss and agree upon the future Programme of Work for 2005.

XI. NEXT MEETING

44. The dates of the next session of the Ad Hoc Group of Experts are confirmed as 10-11 November 2005. The meeting will be at the Palais des Nations, Geneva.

ANNEX I

SUGGESTIONS FOR THE PREPARATION OF CASE STUDIES

It is suggested that each commodity sub-group establishes one pilot study consisting of several case studies, predominantly of large fields. The basis for this may be demonstrated by examining the petroleum sector where it is well established that:

1. Most of the recoverable quantities are concentrated in a limited number of large fields. This holds true for regions, countries and the world.
2. Old large fields have, on the average, had their reserves estimates revised upwards substantially over the last two decades (reserves growth). (*Reference: T. A. Ahlbrandt, 2002¹; T.R. Klett and J.W. Schmoker, 2003².*)
3. Reserves growth has occurred to different degrees and at different times in different regions of the world. This may be due to known differences in definitions of reserves, geological differences, differences in available technology, industrial infrastructure and urgency to maximize economic recovery, as well as differences in economic and commercial conditions.
4. Recovery processes are physically irreversible to a large extent. Application of policies and technologies to maximize economic recovery will therefore be more effective now than later.

Similar but less dramatic effects are expected in the coal and uranium sectors.

This approach may help meet the overall objective of the case studies, which are to demonstrate the use of the UNFC in providing a basis for maximizing the economic recovery of energy resources.

The following sequence of work is suggested:

1. Apply the UNFC for Energy and Mineral Resources to a select number of well-documented fields in order to refine effective and accurate procedures.
2. Establish a representative list of large fields and call for studies on them.
3. Each commodity sub-group should provide appropriate and more detailed Guidelines. At the end of each phase, the commodity sub-group should summarize the results in a report to the Ad Hoc Group of Experts giving their recommendations for further work. The report should always include a review of earlier Guidelines for the application of the UNFC to ensure that best practices are maintained.

References:

[1] Ahlbrandt, Thomas A., 2002; "*Oil and Natural Gas Liquids: Global Magnitude and Distribution*" in Encyclopaedia of Energy, Volume 4, Elsevier Inc.

[2] Klett, T. R.; Schmoker, J. W., 2003; "*Reserves Growth of the World's Giant Oil Fields*" in M. T. Halbouty, ed., Giant oil and gas fields of the decade 1990-1999, AAPG Memoir 78, pp. 107-122.