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**ECONOMIC COMMISSION FOR EUROPE**

**COMMITTEE ON SUSTAINABLE ENERGY**

Seventeenth session  
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Item 3 of the provisional agenda

**PROGRESS REPORT ON UNECE STUDY ON SUSTAINABLE ENERGY POLICIES  
TO MITIGATE ENERGY SECURITY RISKS**

Note by the secretariat

**I. MANDATE**

1. During its sixteenth session in November 2007, the Committee held the first one-day energy security dialogue on “Investing in and Financing the Hydrocarbon Sector to Enhance Global Energy Security”. At the conclusion of that session, the Chairman issued a Summary of the deliberations on “Investing in Energy Security Risks Mitigation” (ECE/ENERGY/76, Annex I) in which participants noted that, inter alia, the following initiatives be undertaken:

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

The Committee 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 (ECE/ENERGY/76, para. 18). This activity is being carried out with the extra budgetary financial support of the European Business Congress B.V. and with the assistance of the EBC Energy Committee.

## **II. SECURE AND SUSTAINABLE ENERGY SUPPLIES**

2. There are a number of key reasons why energy security has emerged again as an overriding economic concern. Since 2003 steeply rising oil import demand in developing countries and the narrowing margin between oil supply and demand have driven up prices. The volatility of oil prices is further aggravated by international tensions, terrorism and potential supply disruptions. Hydrocarbon reserves and resources are abundant globally, but they are concentrated in a few geographic regions some of which are economically vulnerable and unstable. Even developing these reserves in some countries is difficult because of the restricted access of oil and gas companies. While energy-consuming countries seek the security of energy supplies, energy producers seek the security of energy demand to diminish the risks associated with large long-term investments.

3. Clearly the range, magnitude and complexity of these problems are daunting. Sustainable energy development is just as challenging. Ensuring the environmentally benign use of energy resources and their availability for future generations will not be easy to achieve. But it does offer a positive long-term dimension to the urgent need for secure energy supplies. In fact, a sustainable energy future is most likely to be a consequence of prudent energy security policies pursued today. The UNECE Committee on Sustainable Energy is structured to promote international cooperation on exactly these policies and measures.

## **III. PROJECT OBJECTIVES**

4. The long-term objective of UNECE Study on Sustainable Energy Policies to Mitigate Energy Security Risks is to promote a multilateral dialogue in which the energy security risks of UNECE member states can be diminished through the pursuit of sustainable energy policies. In order to accomplish this, the project seeks to determine how key decision makers in energy exporting countries and consuming countries alike perceive energy security risks. It will examine how sustainable energy policies, technologies and management practices can reduce energy security risks. In so doing, it will explain how international cooperation can contribute to the development of secure and sustainable energy systems.

5. The project has three immediate objectives. The first objective is to assess perceptions of energy security risk of representatives of governments, energy industries, the financial community and relevant international organizations. The second objective is to analyze the impact of sustainable energy policies on energy security risk including energy efficiency, renewable energy technologies, clean electricity production, inter-fuel substitution, energy reserves and resources. The third objective is to define the contribution of international cooperation between governments and private business in mitigating energy security risks.

#### **IV. PROGRESS ON SUBSTANTIVE ISSUES**

6. Considerable attention was devoted to an initial analysis of the impact of selected sustainable energy policies on energy security risks. Three main themes have been investigated. First, bearing in mind large increases in last five years in hydrocarbon prices, concerns about energy affordability and a major controversy concerning the role of speculators in those increases, the relationship between energy security and financial markets was of major interest for the project. In this complex framework, available sources for financing energy infrastructure were explored. A clear delineation was established between equity, debt and project finance and their roles in financing hydrocarbon projects all along the energy chain. Major lessons on the matter emerged with clear roles for the project owners, debt provides and the use of project finance structures when appropriate. Depending on the project configuration, its risk appetite and the position along the hydrocarbons industry chain, key differences in risk profile among various hydrocarbon projects could be identified. Consequently, the use of risk mitigation techniques should be tailored to the concrete project description.

7. Second, a detailed review of energy security risks related to long-term projections for the UNECE region was also undertaken. Energy security risks have been identified in three key subregions: North America, Europe and the Russian Federation. This pointed out a number of the risks, any one of which could significantly damage the capacity of the energy sector in UNECE member states to provide a sustained and affordable hydrocarbon supply to their economies and societies. This research has shown that there are many energy security risks all along the energy chain as opposed to the prevailing view that energy security is only upstream problem.

8. Third, in order to mitigate those risks, selected sustainable energy policies, technologies and practices were considered with their advantages and limitations. In particular, financing new technologies and practices, unconventional oil and energy efficiency were addressed in detail. A complex interaction between governments, private sector and technology providers in the attempts to create and bring new energy technologies to the market seems to be essential for the success. Large amounts of funds are involved and long period required to conceptualize and successfully test proposed technologies. Risk of failure is very significant as well. Unconventional oil, including oil sands and oil shale, are areas where considerable technological progress and unit cost reduction were achieved in recent years. Apart from large amounts of financing required, the challenges to bring larger and competitive supplies of oil sands and oil shale on the market certainly require further close cooperation of all agents where perhaps the state could step in and deal with either incomplete or missing markets. While there is an impressive array of supply side energy technologies that can be deployed to enhance energy production and resource recovery, demand side energy efficiency measures have proven to be reliable, readily available and comparatively inexpensive. Government policies, the availability of financing and, when necessary, adapted financing mechanisms appear to be essential for continuously improving energy efficiency which could decisively contribute to the enhanced energy security.

## **V. PROGRESS ON METHODOLOGICAL ISSUES**

9. A major methodological effort is required to identify perceptions of energy security risks, drivers for governments and private sector actions in the UNECE region. This project is developing a methodology which will allow perceptions of energy security risk to be compared and contrasted from the point of view of governments in energy exporting countries and importing countries, energy industries, banks, the financial community and specialised international organisations working in this field. The goal at this stage is to establish a work method for assessing perceptions of energy security risks among these groups, present a design for the study and to outline plans for carrying out that design.

10. The starting point for this part of the project is that not all risks are equally probable nor do they all have the same seriousness of consequences. While a number of conferences and reports have suggested many potential risks to energy security, there has been little effort to assess the likelihood of these different risks or the magnitude of their effects on the economic and social development of a country.

11. A combination of a survey and Delphi study is currently being examined as the best tools to evaluate the probability of these energy security risks or the extent of their effects on the economic and social development of the UNECE region.

## **VI. CONCLUSIONS**

12. Significant progress has been achieved in the first year of the Study on Sustainable Energy Policies to Mitigate Energy Security Risks. The project goals and work methods are clearly identified and carefully aligned with the mandate and programme of work of the Committee on Sustainable Energy. A major effort on substantive and methodological issues, which began early this year, will continue with the use of knowledge and expertise across the region.

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