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Committee on Sustainable Energy

Steering Committee of the Energy Efficiency 21 Project**Group of Experts on Global Energy Efficiency 21 (GEE21)****First session**

Geneva, 10 June 2010

**Report of the Group of Experts on Global Energy Efficiency
21 on its first session****I. Attendance**

1. Representatives from 15 member countries attended the session: Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, France, Germany, Italy, Kazakhstan, Republic of Moldova, Russian Federation, Serbia, Switzerland, the former Yugoslav Republic of Macedonia and Ukraine.
2. Representatives of Equatorial Guinea, Jamaica, Syrian Arab Republic, and Thailand participated under Article 11 of the Commission's Terms of Reference.
3. Representatives of the Economic Commissions for Africa (ECA), the Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic and Social Commission for Western Asia (ESCWA), the United Nations Department of Economic and Social Affairs (UN DESA), the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Programme (UNEP), UN-HABITAT, the African Biofuel & Renewable Energy Fund (ABREF), the Economic Community of Central African States (ECCAS), the Eurasian Economic Community (EurAsEC), the International Energy Agency (IEA), Pool Energetique de l'Afrique Centrale (PEAC), and the United Nations Foundation (UNF) participated in the meeting.

II. Opening session

4. The meeting was opened by the Director of the Sustainable Energy Division. He noted that the Terms of Reference of the Group of Experts were approved by the Committee on Sustainable Energy in November 2009 and that the United Nations Economic Commission for Europe (UNECE) Executive Committee gave a mandate to the Group through 31 December 2012. The Group was charged with guiding the

implementation of the Global Energy Efficiency 21 (GEE21) Project and would serve as a global forum on issues of energy efficiency, drawing on the expertise of the United Nations Regional Commissions (hereafter the Regional Commissions) to share experience in promoting self-financing energy efficiency improvements and market formation, raise economic productivity, diminish fuel poverty and reduce environmental pollution and greenhouse gas (GHG) emissions.

5. It was noted that while the 15th Conference of the Parties (COP15) of the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen in December 2009 may not have produced the expected results, important issues were negotiated to near-completion, including on technology, capacity-building and financing. Following COP15, many countries came forward with low-carbon and mitigation strategies and efforts were underway to prepare for a productive outcome to COP16 in Mexico in December 2010.

6. A reference was made to the joint meeting of the UN-Energy and the Secretary-General's Advisory Group on Energy and Climate Change held on 28 April 2010 in New York where the Secretary-General stressed the importance of attaining a UN system-wide approach to climate change mitigation, underlining the value of the UNECE work on energy efficiency and of GEE21 in particular.

7. The Director thanked the Government of the Russian Federation for its financial support of the GEE21 Project.

III. Adoption of the agenda (agenda item 1)

8. The agenda was adopted as contained in the document ECE/ENERGY/WP.4/GE.2/2010/1.

IV. Election of officers (agenda item 2)

9. The Group of Experts elected its Bureau, which included representatives from the regions from all five Regional Commissions: the United Nations Economic Commission for Europe (UNECE), the Economic Commission for Africa (ECA), the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Economic and Social Commission for Western Asia (ESCWA). The elected officers of the Group of Experts on Global Energy Efficiency 21 are Mr. Dominique Le Masne (France) – Chair, Mr. Conroy Watson (Jamaica), Mr. Abdul Halem Kassem (Republic of Syria), Mr. Prasert Sinsukprasert (Thailand), and Mr. Thierno Bocar Tall (African Biofuel & Renewable Energy Fund) – Vice-Chairs.

V. Recent developments in the Global Energy Efficiency 21 project (agenda item 3)

10. The Chairman welcomed Bureau members and participants to the meeting, noting the aim of the Group of Experts was to strengthen the field of energy efficiency worldwide, beginning with support for the establishment of an investment fund in the 12 participating countries of the Project on Financing Energy Efficiency and Renewable Energy Investments for Climate Change Mitigation (FEEI) and extending this experience to other regions through the other Regional Commissions.

11. Presentations were made by representatives of the United Nations and other international, intergovernmental and non-governmental organizations as follows: UNFCCC, DESA, UNF, UNEP Division of Technology, Industry and Environment (UNEP/DTIE), UNEP Global Environment Facility (UNEP/GEF), and IEA.

12. The speakers emphasized the importance and timeliness of the meeting of the Group of Experts, noting the vast potential for synergies among the different agencies and Regional Commissions to share best practice in the financing of energy efficiency (EE) and renewable energy (RE) projects and to raise awareness across the regions of the use of energy efficiency for climate change mitigation. In terms of energy access in developing countries, it was pointed out that energy efficiency measures and policy reforms contributed to access to energy by freeing up available resources.

13. A case study was cited by UNEP concerning cooperation with the Government of Algeria for a pilot project on a zero emission city. This aim was to construct the necessary infrastructure, including transport and sanitation and including recycling and green belts, while producing zero emissions.

14. A consultant to the secretariat presented the recent publication Financing Global Climate Change Mitigation (ECE/ENERGY/81, UNECE, 2010) outlining its main findings: it was difficult to objectively assess available financing mechanisms for EE/RE given the lack of evaluation in the public domain; there was a need for a thorough initial analysis in the country context; deal flow origination and preparation mattered as much as the provision of finance; and that quasi-equity public capital can be a catalyst for private capital. He noted the importance of governmental support in setting policies, targets and measures to promote EE/RE.

VI. Presentations of national representatives, intergovernmental representatives and focal points of the Regional Commissions (agenda item 4)

15. Presentations were made by representatives of the UN Regional Commissions, Governments and intergovernmental and non-governmental organizations in those regions as follows: ECA, UN-HABITAT, ABREF, ESCAP, EurAsEC, Ministry of Energy of Thailand, Ministry of Energy and Mines of Jamaica, ESCWA, Ministry of Electricity of the Republic of Syria and UNECE.

16. The representatives of the ECA region presented the energy efficiency situation in Africa, reflecting the importance of combating energy poverty and development together, as energy access was still a significant impediment to development. The New Partnership for Africa's Development (NEPAD) had been integrated into the structure and processes of the African Union and was undergoing a five-year review of its short-term action plan on the Status of Energy Development in Africa. The main objectives of NEPAD in the energy sector were: to increase African access to reliable and affordable solar energy resources, to reverse environmental degradation associated with the use of traditional biomass fuels and to develop the hydropower potential of the river basis of Africa.

17. Representatives of the ESCAP region pointed out the diversity of the region, with 64 member states and associated members and the need to develop energy efficiency concepts for the different sub-regions (e.g. Southeast Asia, South Asia, and Northeast Asia). Energy use in the ESCAP region was growing as countries developed economically. National responses to EE challenges were varied. For example, in China where there was a wide range of policies and measures, such as the Clean Energy Mechanism Fund and energy

conservation law that was amended in 2008 to help meet the targets of the 11th five-year plan of 20 per cent reduction in energy intensity and 10 per cent reduction in emissions.

18. One example of EE policy approaches in the ESCAP region was in the Ger district of Mongolia. The XAC Bank Green Project provided targeted loans for specific products, such as efficient cooking stoves and insulated blankets. Another example from the region was a pilot project in India for Clean Development Mechanism (CDM)-based lighting project for households, where 400 million incandescent bulbs would be replaced with compact fluorescent bulbs at the price of incandescent bulbs.

19. The representative of EurAsEc noted cooperation with ESCAP, in particular a project on strengthening institutional capacity to support EE in selected Asian countries, including exchange of best practice, analysis of case studies and development of guidelines and policy measures for EE.

20. The representative of Thailand underlined the importance of EE/RE in his country, noting that Thailand spends around US\$ 20 billion per year on imported oil and that it plans to reduce its energy intensity by 25 per cent by 2030. Regulations were in place to support EE/RE as well as financing schemes, capacity-building, awareness raising and knowledge management. One example of a financing scheme was the Revolving Energy Conservation Fund, wherein the Ministry of Energy provided funds to a commercial bank to on-lend to the commercial and industrial sectors in the fields of EE and RE. With a total budget of US\$ 210 million, the fund has supported 278 facilities.

21. The representative of Jamaica gave an overview of the EE situation in his country and made general remarks about the ECLAC region. He noted the high dependence of the region on imported oil and the low levels of EE and RE, owing in part to the regulatory environment. He noted recent efforts to improve EE, in particular in Jamaica, through, for example, the introduction of natural gas and pipeline distribution infrastructure and the modernization of energy infrastructure, such as the upgrading of state oil refineries and co-generation plants. Development of RE included wind, solar, biomass and converting waste to energy.

22. He noted improved efficiency in the electricity and bauxite/aluminum sectors would result in reduced energy intensity of the country and pointed out the national priorities of Jamaica for the way forward including monitoring of energy consumption, support for EE and RE technologies through public sector energy conservation and EE programmes, and greater utilization of mass transit systems.

23. The representative of ESCWA noted that the oil and gas sector was the largest economic sector in the region, with proven reserves of 53 per cent of the global reserves of oil and 27 per cent of the global reserves of natural gas. Despite this, issues of energy access remained a problem in many countries of the region. Electricity consumption per capita ranged from extremely low (e.g. in Sudan and Yemen) to very high (e.g. in Kuwait). The power sector is dominated by thermal power generation (more than 95 per cent).

24. EE and RE policies have been adopted in the majority of countries in the region, although further efforts were needed. ESCWA Member States are in the process of updating and strengthening legislative and regulatory frameworks to support EE and RE. Several initiatives are underway for fundraising for EE and RE projects, with increasing national and regional contributions. Subsidized electricity tariffs and oil and natural gas prices remain obstacles for widespread introduction of EE and RE. Technology transfer is crucially needed, taking into account enhancing relevant national capacity. Moreover, there is a need to promote public-private partnerships in the field, as well as a need for capacity building and awareness raising on EE and RE.

25. The representative of the Republic of Syria informed the Expert Group of the current status and future prospects of energy efficiency and renewable energy in the country. As the housing sector accounts for 43% of total energy demand, this can provide a vast potential for introduction of energy efficiency measures. There is legislation in place to support energy efficiency, including the thermal insulation code and the electricity law, which promotes power production from renewable sources and allows private sector investments. Future activities include inter alia development of a plan to increase the share of production from renewable energy sources to approximately 20 per cent of demand by 2030 and development of an energy efficiency code for buildings with pilot projects foreseen to be implemented in 2011–2015.

26. The Director of the Sustainable Energy Division noted that the UNECE region had a breadth of experience to offer other regions, in particular through its history of transition from centrally planned to market economies and through the experience of the Energy Efficiency 21 Programme in self-financing energy improvements and clean energy technologies. He noted that private sector capital was required for market forces to reduce GHG emissions and that governments could play a catalytic role in enabling the environment for EE. As 20 countries of the world produce over 50 per cent of global GHG emissions, a global strategy could reasonably be oriented to promote EE market formation through cooperation among the Regional Commissions.

VII. Draft programme of work for 2010-2011 (agenda item 5)

27. The secretariat introduced the draft work programme for 2010–2011 as contained in the document ECE/ENERGY/WP.4/GE.2/2010/4.

28. The Director of the Sustainable Energy Division noted that the complementarity of the work programmes among the Regional Commissions had been examined in the context of the publication Financing Global Climate Change Mitigation. He recalled that the intention of the GEE21 project was to bring additional expertise and resources to the project for all of the Regional Commissions to be able to pursue such work.

29. He outlined the elements of a Global Strategy for Energy Efficiency Market Formation to Mitigate Climate Change (see Annex) for the consideration of the Expert Group as an input to the preparation of the global strategy. This would require a consultative and iterative process to build consensus on what should be included in the strategy.

30. In order to support this process, proposals were being developed for submission for funding to the UN Development Account on regional aspects of GEE21 in the framework of UN-Energy. Each Regional Commission could select lead countries that have developed EE markets, products and services to spearhead the work under GEE21. This would provide an opportunity to further develop a global strategy in a regional context and with regional perspectives.

31. Delegates made a proposal to set up a Task Force consisting of representatives of all regions of the five Regional Commissions for the preparation of a draft Global Strategy for consideration at the next session of the Group of Experts.

32. The Group of Experts had a general discussion about the methods of work and the harmonization of the work programme with existing or planned activities among the Regional Commissions. It was noted that the Group of Experts would need to develop criteria for the identification and selection of energy projects to be funded or supported by the work of the Group of Experts.

33. Delegates made a proposal that the secretariat provides to the other Regional Commissions a list of investment project proposals prepared and/or financed under previous phases of the Energy Efficiency 21 (EE21) Programme.

VIII. Other business (agenda item 6)

34. No other business was discussed.

IX. Dates of next meeting (Agenda item 7)

35. The second meeting of the Group of Experts is scheduled to be held on 18–19 April 2011 in Geneva.

X. Conclusions and recommendations (agenda item 8)

36. After discussion, the Group of Experts:

(a) Expressed appreciation for the progress made in developing a global network devoted to energy efficiency and renewable energy issues with the participation of experts from other regions, United Nations Departments, Specialised Agencies, and the Regional Commissions of the United Nations system;

(b) Expressed appreciation for the contributions of the Regional Commissions to the UNECE publication Financing Global Climate Change Mitigation (ECE/ENERGY/81);

(c) Noted that the Group of Experts and the GEE21 Project can contribute to the UN system-wide approach to climate change mitigation through its activities in energy efficiency;

(d) Requested the secretariat to explore ways of enhancing the role of the GEE21 Project in coordinating work on energy efficiency carried out within the United Nations, inter alia through coordinating its work programme with the activities of the UN-Energy and as a contribution to respond to the recommendations of the Secretary-General's Advisory Group on Energy and Climate Change (AGECC);

(e) Requested the secretariat to work in cooperation with the other Regional Commissions to prepare submissions or a joint proposal, based on a common approach for support of the United Nations Development Account (UNDA) for the 8th tranche in October 2010;

(f) Expressed appreciation to the Government of the Russian Federation for its support for the GEE21 Project;

(g) Invited the Government of the Russian Federation and other Governments to consider additional funding to extend the project beyond 2010, in particular in light of the importance of the Project as a key activity of UN-Energy and an instrumental component of the UN-wide approach to climate change mitigation through energy efficiency;

(h) Approved its programme of work as outlined in the document ECE/ENERGY/WP.4/GE2/2010/4;

(i) Requested the secretariat to convene a meeting of the Extended Bureau of the Group of Experts on GEE21 in October 2010 to coordinate work on developing the Global

Strategy for Energy Efficiency Market Formation to Mitigate Climate Change on the basis of the elements considered and discussed at the current session (see Annex);

(j) Welcomed the organization of the Energy Efficiency Forum in Central Asia in 2010 and indicated its intention to promote participation in this event through its global network;

(k) Requested the secretariat to provide the Group of Experts with translation of all documents and interpretation of its meeting sessions in the six official languages of the United Nations.

Annex

Global Strategy for Energy Efficiency Market Formation to Mitigate Climate Change

A global consensus seems to be emerging that energy efficiency is the most effective method of mitigating climate change. This is partly because of the vast potential for energy efficiency improvements to reduce CO₂ emissions that can be implemented quickly, cheaply and reliably. At the same time, this is an attractive option because it allows governments to have a limited but catalytic role in bringing market forces to bear on slowing the growth of greenhouse gas emissions. Cost-effective energy efficiency improvements and clean energy technologies are self-financing given favourable economic and regulatory conditions in selected markets around the world today.

Some reports show that efficiency improvements alone could reduce global emissions 30 to 40 per cent. But in order to achieve meaningful results on a global scale, the investment potential for efficiency improvements is so large that only the private sector can provide the capital needed. This in turn will require a market for energy efficiency in which large investments can be made with low transaction costs at an acceptable ratio of risk to returns within a reasonable period of time.

Barriers to Market Formation: At present, private investors do not often finance energy efficiency projects in many countries because dedicated sources of financing are lacking and local banks are generally unfamiliar with such investments. Financing energy efficiency projects is unattractive in the absence of policy and institutional support for their implementation. The lack of knowledge and experience of how to select and formulate energy efficiency investment projects is often a challenge for local experts.

In order to address these obstacles, the **Financing Energy Efficiency Investments for Climate Change Mitigation Project**¹ began operations in 2008 aiming to promote an investment climate in which cost-effective energy efficiency and renewable energy projects can be developed and financed by local teams in twelve participating countries in Eastern Europe and Central Asia. It promotes energy efficiency market formation through capacity building to develop projects, assistance with policy reforms and developing dedicated public-private partnership investment funds. Given the global dimension of climate change mitigation, a new project was launched in 2008 to promote this approach in other regions.

The Global Energy Efficiency 21 Project is designed to transfer the valuable experience of UNECE countries on capacity building, policy reforms and investment project finance among countries to the other regions of the world through their UN Regional Commissions² in order to promote self-financing energy efficiency improvements that raise economic productivity, diminish fuel poverty and reduce environment air pollution such as greenhouse gas emissions. It seeks to disseminate the experience of UNECE energy efficiency projects that can be applied with UNECE assistance to the other Regional Commissions especially to ESCAP which shares common member states with UNECE. A

¹ Supported by the United Nations Foundation, United Nations Environment Programme/Global Environment Facility, Fonds Français pour l'Environnement Mondial and the European Business Congress E.V.

² UN Economic Commission for Europe (UNECE), UN Economic and Social Commission for Asia and the Pacific (ESCAP), UN Economic and Social Commission for Western Asia (ESCWA), UN Economic Commission for Africa (ECA) and the UN Economic Commission for Latin America and the Caribbean (ECLAC).

review of the energy and climate change mitigation activities of the other Regional Commissions shows what they would need to develop further in order to transfer, adopt and adapt locally the key features the UNECE energy efficiency work programme are shown in Table 1.

Fully functioning markets for energy efficiency and renewable energy technologies exist in each region of the world today but largely in Western Europe and North America. The UNECE Energy Efficiency 21 Project has provided technical assistance on technologies, policy reforms and financing mechanisms through a network of experts in western and eastern UNECE member states since 1991. Indeed, market economies have abundant examples of every aspect of successful energy efficiency and renewable energy applications including innovative financing models. They also have also made significant progress in transferring this experience to Eastern Europe through national programmes together with bilateral and international technical assistance projects.

Over half of global CO₂ emissions come from only twenty countries many of which are located in the UNECE region as shown in Table 2. The most economically advanced countries in each region of the world are also the largest producers of CO₂ emissions. Regional cooperation on energy efficiency market formation for climate change mitigation could most reasonably benefit from the experiences on these countries within each Regional Commission of the United Nations system.

Development of a Global Strategy: The Global Energy Efficiency 21 draft Programme of Work 2010-2011 (ECE/ENERGY/WP.4/GE.2/2010/4) calls for the development of a global strategy to promote market formation and self-financing energy efficiency improvements for implementation through the Regional Commissions of the United Nations system. It is to be based on a clear understanding of financing mechanisms and UN Regional Commission programmes appraised in the *Financing Global Climate Change Mitigation* publication (ECE/ENERGY/81). The strategy could include the following elements:

1. Energy Efficiency Market Formation in Western Europe and North America
2. International Trade and Cooperation on Energy Efficiency in the UNECE Region
3. Analysis of Energy Efficiency Market Formation in High Carbon Emission Producing Countries in each Region:
 - Central and Eastern Europe
 - Asia and the Pacific
 - Western Asia
 - Africa
 - Latin America and the Caribbean
4. Conclusions and Recommendations for Regional Cooperation on Energy Efficiency and Clean Energy Technology Market Formation
 - Information and institutions – Awareness campaigns and public sector agencies
 - Capacity building – investment project preparation and financing
 - Energy policy and regulatory reforms – energy pricing, tariffs, electric power grid access
 - Financing cost-effective investments – public-private partnerships and dedicated funds

The preparation of the draft strategy is to be undertaken by the Group of Experts on Global Energy Efficiency 21 for consideration by an inter-regional conference as guidance for

regional cooperation on climate change mitigation. The Group of Experts will provide the Regional Commissions with the opportunity to find synergies in their work programmes, identify complementary projects and develop regional concepts to implement the global strategy. The Group of Experts may wish to identify lead countries from each region to develop investment projects and to expand the global network of experts to assist in the effective implementation of its work.

Table 1

Energy Efficiency and Climate Change Mitigation Programmes of the United Nations Regional Commissions in Relation to the UNECE Technical Assistance Activities

<i>Technical Assistance Activities</i>	<i>UNECE</i>	<i>ESCAP</i>	<i>ESCWA</i>	<i>ECA</i>	<i>ECLAC</i>
Objective One: Capacity Building for the Development of Energy Efficiency Investment Projects					
a. Information campaigns, energy manager briefing sessions	●	●	●	●	●
b. Training courses financial engineering & business planning	●				
c. Business development workshops on project preparation	●	●	●		
Objective Two: Assistance to Participating Governments with the Introduction of Energy Policy Reforms					
a. Regional policy analysis of energy policy reforms	●	●	●	●	●
b. Case studies of energy efficiency policy reforms	●		●	●	
c. Senior policy maker seminars	●	●	●		
Objective Three: Financing Bankable Projects to Reduce CO2 Emissions					
a. Local commercial banks	●				
b. International Financial Institutions	●				
c. Public Private Partnership (PPP) Dedicated Funds	●				

Table 2
Carbon Emissions from Fossil Fuel Consumption in United Nations Regions – 2006

	<i>Country</i>	<i>Total Emissions (Million metric tonnes of CO₂)</i>	<i>Per Capita Emissions (Tonnes/capita)</i>	<i>Regional Commission</i>
1.	China	6017.69	4.58	ESCAP
2.	United States	5902.75	19.78	UNECE, ECLAC, ESCAP
3.	Russian Federation	1704.36	12.00	UNECE, ESCAP
4.	India	1293.17	1.16	ESCAP
5.	Japan	1246.76	9.78	ESCAP, ECLAC
6.	Germany	857.60	10.40	UNECE, ECLAC
7.	Canada	614.33	18.81	UNECE, ECLAC
8.	United Kingdom	585.71	9.66	UNECE, ECLAC, ESCAP
9.	Republic of Korea	514.53	10.53	ESCAP, ECLAC
10.	Iran	471.48	7.25	ESCAP
11.	Italy	468.19	8.05	UNECE, ECLAC
12.	South Africa	443.58	10.04	ECA
13.	Mexico	435.60	4.05	ECLAC
14.	Saudi Arabia	424.08	15.70	ESCWA
15.	France	417.75	6.60	UNECE, ECLAC, ESCAP
16.	Australia	417.06	20.58	ESCAP
17.	Brazil	377.24	2.01	ECLAC
18.	Spain	372.61	9.22	UNECE, ECLAC
19.	Ukraine	328.72	7.05	UNECE
20.	Poland	303.42	7.87	UNECE
21.	Total 20 Highest	15,657.60 (54%)		
22.	World Total	28,928.12		