

**ECONOMIC COMMISSION FOR EUROPE**

**EXECUTIVE COMMITTEE**

109th meeting  
Geneva, 17 February 2020

Item 11

Informal Document No. **2020/7**

**Extrabudgetary project**

**Enhancing understanding of the implications and opportunities  
of moving to carbon neutrality in the UNECE region  
across the power and energy intensive industries by 2050**

**UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE  
TECHNICAL COOPERATION PROJECT FORM**

|  |                      |  |
|--|----------------------|--|
| <b>Project title:</b> Enhancing understanding of the implications and opportunities of moving to carbon neutrality in the UNECE region across the power and energy intensive industries by 2050  |                      |  |
| <b>Expected timing/ duration:</b> 1 June 2020 – 31 May 2022  |                      |  |
| <p><b>Objective and brief summary of the project:</b> The objective of the project is to enhance the understanding of the implications and opportunities for moving to carbon neutrality (or to net-zero societies) in the UNECE region across the power and energy intensive industries by 2050. “Carbon neutrality” refers to achieving net zero carbon emissions by balancing carbon emissions with carbon removal or simply by eliminating carbon emissions altogether. This will require deployment of carbon capture, utilization and storage technologies (CCUS) and other compensating technologies such as increasing the absorptive capacity of forests that would enable the persistence of fossil fuels in national energy mixes well beyond 2050. The project will build on the analytical capabilities developed in the “Pathways to Sustainable Energy” project (completed on 31 October 2019). The underlying analytical model is available for use to respond to a range of inquiries, in this case the requirements of net-zero carbon societies by 2050. The following three areas of activity are suggested: i) Refinement of data and assumptions of technology inputs: The objective is to reorientate the model towards net-zero carbon neutral societies and refine and solidify data and input assumptions. This approach will allow a better understanding of technology deployment curves and allow to risk adjust the models accordingly and per subregion. ii) Understanding the role of selected technologies and innovation towards carbon neutrality: This part seeks to analyse the potential of low-, zero- and negative carbon technologies across the region to identify and support lowest cost opportunities across the power and energy intensive sectors. iii) Collaboration across sectors towards carbon neutrality: The project proposes to collaborate across technologies and with the financial sector for a more meaningful and directed impact so that policy makers can develop a clear vision of how to achieve climate neutrality by 2050. The objective of the project will be achieved through the following activities:</p> <p>A1.1. Refining existing data and assumptions for the energy model for all included energy technologies and adjusting the model to new KPIs (consultations on carbon neutral concepts and technology data, development and deployment curves as well as desk research on technology, innovation and business model trends);</p> <p>A1.2. Organization of eight workshops to collect missing information for the models, to refine the set of policy options and to build stakeholder ownership;</p> <p>A1.3. Assessment of existing strategies towards carbon neutrality and gap analysis for the power and energy intensive sectors in selected subregions that heavily depend on fossil fuels (mainly coal) and are at different levels of economic development;</p> <p>A1.4. Preparation of a publication on a theoretical replicable framework carbon neutrality in UNECE across the power and energy intensive industries with case studies in selected countries / subregions;</p> <p>A2.1. Development of four briefs (technologies and business models in energy intensive industries);</p> <p>A2.2. Organization of a regional event to share experience and application of innovative technologies and business models;</p> <p>A3.1. Development of financial guidelines for the modernization of the power and energy intensive industries;</p> <p>A3.2. Multistakeholder dialogue for the vetting of the criteria for financing clean energy projects in a net zero carbon economy;</p> <p>A4.1. Development of a UNECE position paper on attaining carbon neutrality in the UNECE region;</p> <p>A4.2. Organization of a high-level policy dialogue on carbon neutrality.</p> <p>The project contributes to the achievement of SDGs 3, 5, 7, 8, 9, 11, 12, 13 and 17.</p> |                      |  |
| <b>Expected results of the project:</b>  |                      |  |
| EA1. Improved data and assumptions for the modelling for all energy technologies and the power and energy intensive sectors;   |                      |  |
| EA2. Enhanced knowledge of private sector, academia, civil society and policy makers on innovative, future-proof technology options for the carbon neutrality concept of the power and energy intensive industries from a regional perspective;  |                      |  |
| EA3. Improved knowledge of the financial sector on financing the modernization of fossil energy-based infrastructure;  |                      |  |
| EA4. Raising awareness of policy makers to develop a clear vision of how to achieve carbon neutrality by 2050.   |                      |  |
| <b>Target group and beneficiaries of the project:</b>  |                      |  |
| The target group are senior officials from ministries of energy and industry and experts from the business community, civil society, international organisations, academia and financial institutions. The beneficiary countries are UNECE member States.  |                      |  |
| <b>Justification of project and its relationship to the programme of work:</b>   |                      |  |
| The proposed project directly contributes to the objective of the Subprogramme 5 “Sustainable Energy” to “ensure access to affordable and clean energy for all and reduce greenhouse gas emissions and the carbon footprint of the energy sector in the region” of the UNECE programme budget for 2020. The project responds to the request by the Committee on Sustainable Energy to the Group of Experts on Cleaner Electricity Systems at its 28th session (Geneva, 25-27 September 2019) to develop ambitious instruments to reduce the environmental footprint of fossil energy use, including finalizing guidelines for new investment in fossil energy, and to draft a position paper of the UNECE on carbon-neutrality (ECE/ENERGY/123, para 27, 38-42). The Group of Experts discussed the request at its 15th session (Geneva, 5-6 November 2019) and recommended the priority technology areas coupled with new business models and innovation (ECE/ENERGY/GE.5/2019/2, para 11-12).  |                      |  |
| <b>Estimated UN regular budget resources (work months of RB staff/level of Staff):</b>   |                      |  |
| 0.5 month of RB/D1; 1 month of RB/P4; 1 month of RB/G5 annually  |                      |  |
| <b>Estimated extra budgetary resources</b>   |                      |  |
| <b>Donors</b>  | <b>Amount (US\$)</b> |  |
| Total  | 750,000              |  |
| United States Energy Association   | 350,000              |  |
| World Nuclear Association  | 400,000              |  |
| <b>Project Manager:</b><br>Stefanie Held   | 23.01.2020           | <b>Section/Division:</b><br>Sustainable Energy         |
| <b>Cleared by Programme Management Unit:</b><br>Catherine Haswell<br><b>Chief</b>  | 23.01.2020           | <b>Approved by EXCOM<sup>1</sup></b><br><br>17.02.2020 |

<sup>1</sup> See paragraph 31 (a) of Commission decision A(65).

**Annex**  
**Results-based budget for the extra-budgetary project**

| Expected accomplishments  | Planned activities   | Estimated cost (US\$)  |
|---|--|--|
| EA1. Improved data and assumptions for the modelling for all energy technologies and the power and energy intensive sectors | A1.1. Refining existing data and assumptions for the energy model for all included energy technologies and adjusting the model to new KPIs<br>P3 x 3 months x \$13,500<br>Contractual services for modelling institution (lump sum)  | 190,500<br>40,500<br>150,000   |
|   | A1.2. Organization of eight workshops to collect missing information for the models, to refine the set of policy options and to build stakeholder ownership<br>P3 x 2 months \$13,500<br>Travel of consultant: 8 missions x \$2,500 per mission<br>Travel of staff: 4 missions x 2 x \$2,000 per mission<br>Travel of experts/ participants: 6 missions x 10 participants x \$1,200 per mission<br>Contractual services (interpretation \$4,000 x 4 consultations)                         | 151,000<br>27,000<br>20,000<br>16,000<br>72,000<br>16,000  |
|   | A1.3. Assessment of existing strategies towards carbon neutrality and gap analysis for the power and energy intensive sectors in selected subregions that heavily depend on fossils (mainly coal) and are at different levels of economic development<br>P4 x 1 month x\$18,600<br>1 international consultant to develop a paper on carbon neutrality framework (2 months x \$5,000)   | 28,600<br>18,600<br>10,000   |
|   | A1.4. Preparation of a publication on a theoretical replicable framework carbon neutrality in UNECE across the power and energy intensive industries with case studies in selected countries / subregions<br>P3 x 2 months \$13,500<br>Travel of staff: 1 mission x \$2,000 per mission<br>Travel of participants: 1 mission x 10 participants x \$1,200 per mission<br>Contractual services (interpretation, editing, design, layout, translation, and printing of the report) (lump sum) | 45,000<br>27,000<br>2,000<br>12,000<br>4,000   |
|   | EA2. Enhanced knowledge on technology options  | A2.1. Research and development of four briefs (3x technologies, 1x business models in energy intensive industries)<br>P4 x 3 months x \$18,600<br>1 international consultant to develop 4 technology briefs (4 months x \$5,000)<br>1 international consultant to develop a report on CCUS mapping capacity across the region (2 months x \$5,000)<br>1 international consultant to prepare a report on the interplay of selected technology options within the carbon neutrality concept (2 months x \$5,000)<br>Contractual services (interpretation, editing, design, layout, translation, and printing of the report) (lump sum) |
| EA3. Improved knowledge of the financial sector   | A2.2. Organization of a regional event to share experience and application of innovative technologies and business models on carbon neutrality concepts<br>P3 x 1 month x \$13,500<br>Travel of staff: 1 mission x 2 staff x \$2,000 per mission<br>Travel of participants: 1 mission x 10 participants x \$1,200 per mission  | 29,500<br>13,500<br>4,000<br>12,000  |
|   | A3.1. Development of financial guidelines for the modernization of the power and energy intensive industries<br>P3 x 1 month x \$13,500  | 13,500<br>13,500   |
| EA4. Raising awareness of policy makers to develop a clear vision of how to achieve carbon neutrality by 2050               | A3.2. Multistakeholder dialogue for the vetting of the criteria for financing clean energy projects in the context of a net zero carbon economy<br>P3 x 1 month x \$13,500<br>Travel of staff: 1 mission x 2 staff x \$2,000 per mission<br>Travel of participants: 1 mission x 10 participants x \$1,200 per mission  | 29,500<br>13,500<br>4,000<br>12,000  |
|   | A4.1. Development of a UNECE position paper on attaining carbon neutrality in the UNECE region<br>P3 x 1 month x\$13,500   | 13,500<br>13,500   |
| EA4. Raising awareness of policy makers to develop a clear vision of how to achieve carbon neutrality by 2050               | A4.2. Organization of a high-level policy dialogue on carbon neutrality<br>P3 x 1 month \$13,500<br>Travel of participants: 1 mission x 10 participants x \$1,200 per mission<br>Contractual services (interpretation, editing, design, layout, translation, and printing of the report) (lump sum)  | 38,500<br>13,500<br>12,000<br>13,000   |
|   | <b>Budget summary</b>  | <b>640,400</b>   |
| Project evaluation (2%)   |  | 12,808   |
| 13% of Programme Support Costs  |  | 84,917   |
| <b>Total (rounded)</b>  |  | <b>740,000</b>   |
| 1% Coordination levy  |  | 7,400  |
| <b>Grand Total (rounded)</b>  |  | <b>750,000</b>   |