

Economic Commission for Europe

Committee on Sustainable Energy

Twenty-second session

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Item 7 of the provisional agenda

Review of the work of the Committee and its subsidiary bodies in light of Appendix II of the Outcome of the Review of the 2005 ECE Reform

Use of UNFC-2009 for Classifying Injection Projects – Deliverables and Timelines

Draft

I. Introduction

1. The Task Force on UNFC and Recipient Reservoirs was first established in 2010, following an agreement in the 2009-2010 Programme of Work for the Expert Group on Resource Classification (EGRC) to explore how the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009) could be used in classifying injection projects, such as natural gas storage, CO₂ storage or other waste disposal projects.

2. Since then, the activity in the Task Force has varied depending on the availability of the members. The main focus has been on CO₂ injection for long term storage. Status reports have been given annually at the Expert Group meetings. In 2013, the membership of the Task Force was extended, and a one day work meeting was held, kindly hosted by the International Energy Agency (IEA) in Paris, in which the way forward was discussed and agreed.

II. Mandate

3. As per the Programme of Work for the Expert Group on Resource Classification for 2013-2014, it was agreed that the Task Force continue work to investigate how, for example, oil and gas companies classify and evaluate the maturity of their gas injection projects today, and propose a draft bridging document for application of UNFC-2009 to injection projects, in particular to the storage of carbon dioxide. An update on any findings is to be provided to the fifth session of the Expert Group and relevant documentation prepared for that session.

III. Membership

4. The Task Force on UNFC and Recipient reservoirs currently has six members; Ms. Karin Ask (Statoil, Chair), Mr. Simplicio P. Caluyong (CCOP), Ms. Eva Halland (Norwegian Petroleum Directorate), Mr. Wolf Heidug (International Energy Agency), Mr. Sam Holloway (British Geological Survey), and Mr. Martin Hubbig (RWE Dea AG).

IV. Findings to date

5. The UNFC-2009 is a principles based system that classifies the maturity of a project activity. It was developed with extractive activities in mind. The principles of project maturity should however be applicable also to other, project based activities.

6. UNFC-2009 for extractive industries classifies quantities on the basis of the three fundamental criteria; economic and social viability (E), field project status and feasibility (F), and geological knowledge (G), using a numerical coding system. Combinations of these criteria create a three-dimensional system. Categories (e.g. E1, E2, E3) and, in some cases, sub-categories (e.g. E1.1) are defined for each of the three criteria.

7. Although the technical as well as the socio-economic challenges may differ from those of an extraction project, the same principles should still be applicable to injection projects. We need to understand the uncertainties related to the recipient reservoir (geological knowledge or G); evaluate the technical feasibility and the maturity of studies and commitments necessary to implement the injection project (project feasibility or F); and establish the commercial viability or value of the project, including financial aspects as well as legal, regulatory, environmental and contractual issues (social and economic conditions or E).

8. The Task Force believes that the same principles and the same framework can be applied to injection projects. It is expected that the application of the project feasibility (F) and geological knowledge (G) categories will be fairly straight forward; the challenges associated with mapping out the subsurface reservoir (G) are much the same as those associated with an oil and gas extraction project and the project feasibility criteria (F) reflect standard value chain management principles that should be applicable to a wide variety of projects.

9. The main challenge is considered to be how to apply the social and economic categories (E). Many injection projects, such as CO₂ storage projects, do not generate a positive net cash flow and are therefore not necessarily commercial in the same way an extraction project would be. The project may never the less have a certain value, and it should be possible to use this value to determine the maturity of the project within the UNFC-2009 framework. Other issues under the E category, legal, regulatory, environmental and contractual conditions, are considered highly relevant also for the evaluation and maturation of injection projects. When injection of gas (CO₂ or other) in to a producing oil field is done with the intention of enhancing the oil recovery (so called EOR projects), the injection activity becomes part of the extraction project rather than an injection project. In such cases, it is the maturity of the extraction project that should be classified and UNFC-2009 can be applied in its current form, the same way as for any extraction project.

V. The way forward

10. The Task Force has put together a simple questionnaire which will be sent out to relevant stakeholder groups in November 2013. The intention of this questionnaire is to find

out both how injection projects are evaluated today and what other classification systems that are used (if any), and to better understand what the most important criteria are when the maturity of a possible injection project is evaluated. The stakeholder groups will include traditional oil and gas companies, other energy/power companies, consulting companies, investment banks, policy makers, geological surveys etc.

11. Based on the responses to the questionnaire, and the general understanding and conclusions that the Task Force members have reached, a bridging document will be prepared, specifying how the UNFC-2009 can be applied to injection projects. The Task Force is working to have a draft bridging document ready at the time of the fifth session of the Expert Group on Resource Classification (29 April-2 May 2014).
