Subject: Comments to Draft Specifications for Application of UNFC-2009 to Renewable Energy Resources: from Professor Marinela Panayotova, University of Mining and Geology, Department of Chemistry, Bulgaria
10 September 2014

Thank you very much to the members of the Renewables Task Force, and in particular to the Chair, Mr. Frank Denelle, for their huge efforts in preparing this document!
Thank you to Ms. Griffiths for her devoted work!
Please find below some proposals for amendments in the text.

Page, paragraph	**Text in the proposed draft document**	**Text with the proposed amendment**
Page 3, Paragraph 4 from the top	The main difference with fossil fuels or solid minerals is that, during the life time of the project, the renewable energy source is being replenished[3]	The main difference with fossil fuels or solid minerals is that, during the life time of the project, the renewable energy source is being replenished ***at an average annual rate equal or higher than consumed***[3]
Justification/Comment The text proposed in the draft document, especially with the footnote 3, leaves room for classifying non-RES as RES. A RES has to ensure the replenishment at an average annual rate equal or higher than the consumption rate even, if varying in the seasons.		
Page 5, Footnote 6	[6] In the renewable context, the G set of categories does not necessarily represent the level of confidence in the geological knowledge and potential recoverability (except for Geothermal) but in other factors that play a role in the uncertainty in the quantity of Renewable Energy ***Source*** that may be available for extraction via the Project.	[6] In the renewable context, the G set of categories does not necessarily represent the level of confidence in the geological knowledge and potential recoverability (except for Geothermal) but in other factors that play a role in the uncertainty in the quantity of Renewable Energy ***Resource*** that may be available for extraction via the Project.
Justification/Comment For the sake of clarity		
Page 7, column 3, Table-line 1	Extraction is currently taking place; or, implementation of the ***Renewable energy*** Project is underway; or, sufficiently detailed studies have been completed to demonstrate the feasibility of extraction by implementing a development Project or mining operation.	Extraction is currently taking place; or, implementation of the ***development*** project or mining operation is underway; or, sufficiently detailed studies have been completed to demonstrate the feasibility of extraction by implementing a defined development project or mining operation.
Justification/Comment The term "renewable energy project" is not available in the UNFC-2009 Annex I (ECE ENERGY SERIES No.39). Either it has not to be in gray, or the term "development project" to be left in column 3, which is clear with the explanation from column 4. Otherwise, the text in column 3 is a mixture of UNFC-2009 Annex I and the new proposal		
Page 8, column 4	The G-axis represents the level of confidence in estimates of the quantities of extractable, or potentially extractable, Renewable Energy Resources associated with	The G-axis represents the level of confidence in estimates of the quantities of extractable, or potentially extractable, Renewable Energy Resources associated with

	the Project. These could be considered as reflecting uncertainties impacting the Project and typically would cover areas such as meteorology, climatology, ecology, ***geography*** and geology (for Geothermal Projects). Typically the various uncertainties will combine to provide a full range of possible outcomes, comparable to the extraction of fluids in the petroleum sector. In such cases, categorisation should reflect three scenarios or outcomes that are equivalent to G1, G1+G2 and G1+G2+G3.	the Project. These could be considered as reflecting uncertainties impacting the Project and typically would cover areas such as meteorology, climatology, ***topography and other branches of*** geography, ecology, and geology (for Geothermal Projects). Typically the various uncertainties will combine to provide a full range of possible outcomes, comparable to the extraction of fluids in the petroleum sector. In such cases, categorisation should reflect three scenarios or outcomes that are equivalent to G1, G1+G2 and G1+G2+G3.
Justification/Comment For the sake of clarity		
Page 10, C. Effective date	New	Renewables – additional context: Reported quantities are estimates of those energy quantities that are potentially recoverable from renewable sources on the basis of existing technology or technology currently under development, and are associated with actual or possible future Projects development.
Justification/Comment It is difficult to speak about remaining quantities when discussing solar, wind and hydro energy.		
Page 11, Footnote 8	[8] For example, the sugar produced from a Sugarcane Ethanol mill and the ***minerals***, such as silica, lithium, manganese, zinc and sulfur, that can be extracted from geothermal fluids represents a value to the project (and the revenue generated by their sale may be included in the economic evaluation of the project), but would not be classified as Renewable Energy resources	[8] For example, the sugar produced from a Sugarcane Ethanol mill and the ***inorganic materials***, such as silica, lithium, manganese, zinc and sulfur, that can be extracted from geothermal fluids represents a value to the project (and the revenue generated by their sale may be included in the economic evaluation of the project), but would not be classified as Renewable Energy resources
Justification/Comment For the sake of clarity - actually metals are extracted mainly under the form of minerals from the geothermal fluids; however the metals lithium, manganese, zinc are too broadly classified as minerals.		
Page 12	Renewables – additional guidance: Typical uncertainties that impact the level of confidence in the estimated quantities of Renewable Energy Resources are meteorology, climatology, ecology, geography and geology (for Geothermal Projects)	Renewables – additional guidance: Typical uncertainties that impact the level of confidence in the estimated quantities of Renewable Energy Resources are ***related to*** meteorology, climatology, ecology, geography and geology (for Geothermal Projects)
Justification/Comment For the sake of clarity		
Page 14,	New	Renewables – additional context:

R. Classification of quantities associated with Exploration Projects		Instead of site-specific geological studies and exploration activities, site-specific studies, relevant to the corresponding RES are meant; Instead of deposit, renewable energy resource is meant; Instead of drilling or testing, relevant to the corresponding RES measurements and testing methods are meant; Instead of geological province, geographic area is meant;
Justification/Comment For the sake of clarity		
Page 15, S. Classification of additional quantities in place	New	Renewables – additional context: Instead of deposit, renewable energy resource is meant;
Justification/Comment For the sake of clarity		
Page 16, Table raw 7		
Evaluator and the terms description has to be moved on another raw of the Table **Justification/Comment** For the sake of clarity		
ANNEX 1 – GLOSSARY OF TERMS	New	Energy extraction and conversion - Technological processes where energy is recovered from RES - the equivalent of the term development or mining operation in the Project description.
Justification/Comment For the sake of clarity		

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