Renewable Energy Resources Classification System

WHAT: Global Classification System for Renewable Energy Resources based on UNFC

WHY: To allow comparison between different renewable energy resource estimates and to be comparable with non-renewable energy resource classifications so allowing all forms of energy to be compared on an equal basis.

WHO: United Nations Economic Commission for Europe Expert Group on Resource Classification (UNECE EGRC)

Background to the project

For many years, the petroleum industry has estimated and classified their oil and gas resources as major drivers of value for exploration and production companies. Clear definitions and guidelines have been essential for investors, regulators, governments and consumers not only in assessing the value of petroleum resources and helping identify their impact on countries and local communities, but also in determining the outlook for the world's energy supply.

While fossil fuels – oil, gas and coal – together with uranium still supply the majority of the world's energy, a rapidly increasing proportion is now coming from renewable energy sources, in particular hydropower, wind, solar, biomass and geothermal. This trend is expected to continue and accelerate with renewable energy progressively replacing fossil fuels wherever possible to both protect the Earth of the negative effects of fossil fuels and to answer the growing energy demands of future generations in a sustainable and environmentally-friendly way. Estimating and classifying renewable energy resources in a representative, coherent and consistent manner is becoming an important need for the renewable energy industry and all its stakeholders, as well as for other energy investors looking to divest from fossil fuels or diversify their portfolios and include renewable energy resources.

What will the project deliver?

The project will develop the necessary concepts, sources and methods for classifying renewable energy resources based on UNFC complemented by practical guidelines and case studies describing how renewable energy resources can be appropriately quantified prior to their classification. It will provide standard classification definitions and methods (specifications) together with consistent quantification guidelines to help companies, governments and investors assess and compare energy projects of all types.
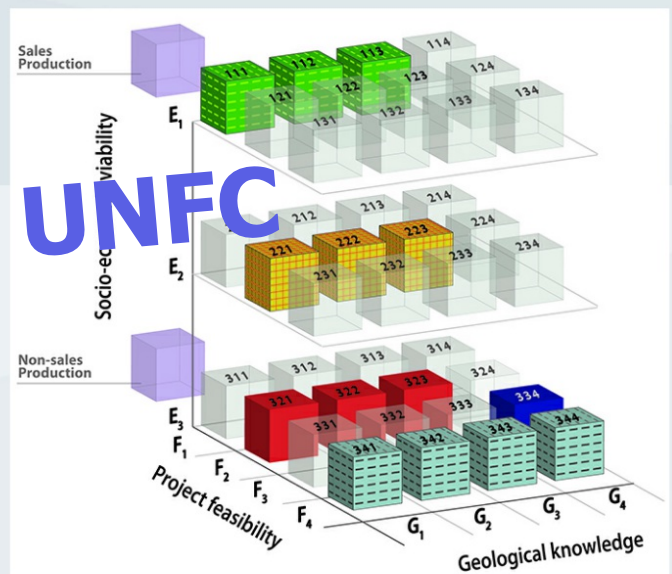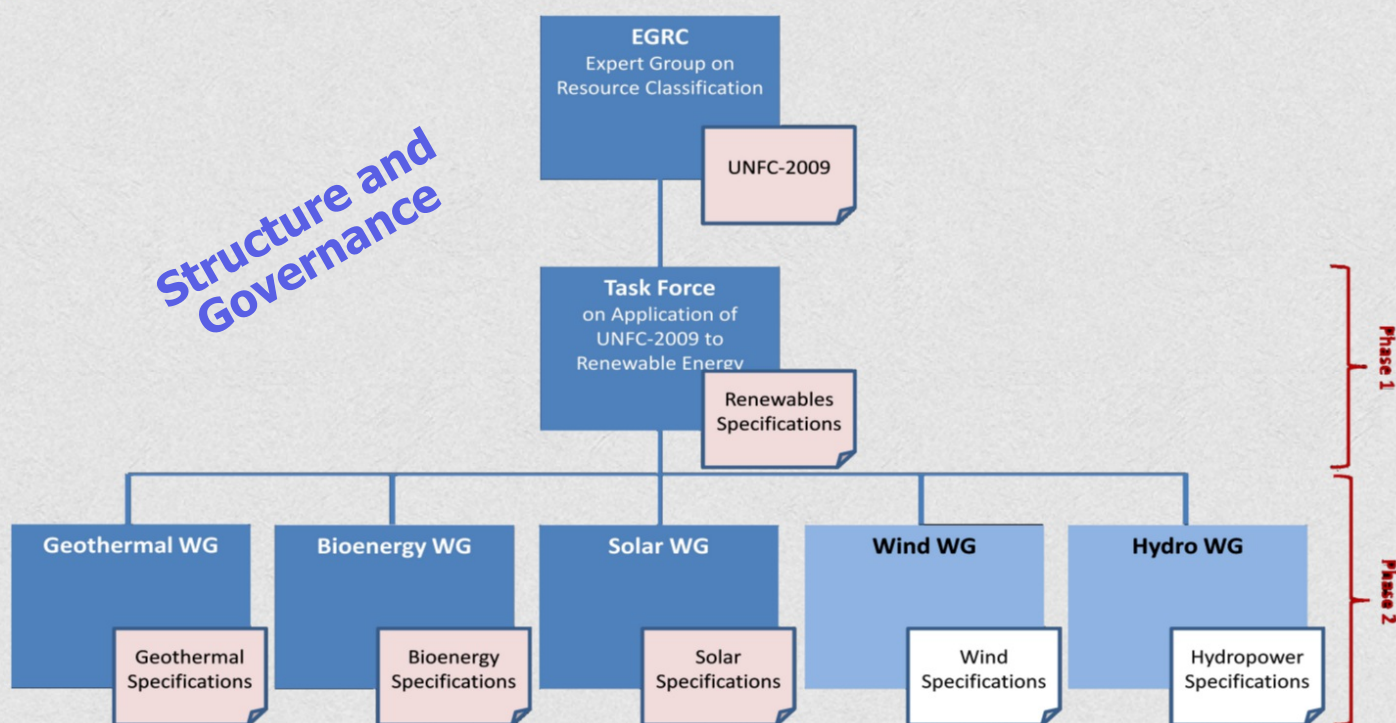

UNFC: this project is based on UNFC (United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources). Now that UNFC is applicable to renewable energy it will be renamed.

Who will benefit?

The Classification System for Renewable Energy Resources will help companies and governments to quantify the renewable energy resources of their projects and assets, and assess the technical and commercial maturities of these renewable energy resource estimates as well as their uncertainty. It will also facilitate comparison of renewable and non-renewable energy resources. This will assist various stakeholders, for example companies will be able to compare and optimize investments including their transition away from fossil fuels. Additionally, information classified under UNFC will illustrate where the greatest available energy resources lie, together with potential social, economic and environmental considerations and as such will be able to guide government policies and support international studies. The renewables classification promises to be a much needed input to the formulation of robust and long-sighted energy policies. At a global level, such a resource classification system will make it easier to determine the outlook for future renewable energy supply.

Who is doing the work?

For each type of renewable energy, rules of application (i.e. specifications) are being prepared closely related to and supported by UNFC, followed by the development of quantification guidelines and case studies. The work is being conducted by a Task Force of energy specialists and by commodity-specific Working Groups under the governance of UNECE (United Nations Economic Commission for Europe) and EGRC (Expert Group on Resource Classification) with the partnership and/or engagement of large international organizations such as IGA (International Geothermal Association) for geothermal and ISES (International Solar Energy Society) for solar.

Structure and Governance

EGRC
Expert Group on Resource Classification

UNFC-2009

Task Force
on Application of UNFC-2009 to Renewable Energy

Renewables Specifications

Phase 1

Phase 2

Geothermal WG	Bioenergy WG	Solar WG	Wind WG	Hydro WG
Geothermal Specifications	Bioenergy Specifications	Solar Specifications	Wind Specifications	Hydropower Specifications

Timing

Effective 30 September 2016, the Renewable Energy Specifications became operational. They are to be used in conjunction with UNFC incorporating Specifications for its Application (ECE Energy Series No. 42) and the aligned commodity-specific specifications (currently under development) for specific types of Renewable Energy Resources. Within those specifications, the Geothermal Specifications are completed and just published, the Bioenergy Specifications are well advanced and the development of the Solar Specifications has been initiated. Work on Wind Specifications and Hydropower Specifications will start in 2017. The project is expected to be completed by end-2020 with an integrated Renewable Resource Classification System covering Geothermal, Bioenergy, Solar, Wind and Hydropower available to the Renewable Energy industry and all its stakeholders

**For more information, contact: reserves.energy@unece.org
or visit: www.unece.org/energy/se/reserves.html**

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