

Attention to: Groundwater Resources Working Group of the Expert Group on Resource Management, UNECE Sustainable Energy Division

Dear working group members,

Many thanks for opening for Public Comment the "Draft United Nations Framework Classification for Resources - Supplemental Groundwater Specifications". We understand that this document was prepared to support UNECE Member States in evaluating the viability and feasibility of projects tapping the groundwater resource.

However, while the document recognizes the inherent complexity of groundwater management, this recognition is not evident in the proposed framework. The complexity is encapsulated in the definition of the resource used in the recent World Bank report on the economics of groundwater entitled *The Hidden Wealth of Nations : The Economics of Groundwater in Times of Climate Change*: Groundwater resource, or sustainable groundwater resource, is the rate of groundwater flow that can be harvested indefinitely without causing unacceptable environmental or socioeconomic consequences, including severe lowering of the water table resulting in (often irreversible) changing flow pattern or adverse quality impacts. It does not correspond to a particular value that can be calculated according to a single rule but depends, within the limits of the average annual recharge, on the balance between benefits and impacts that each society decides to accept in an open and transparent process with the community. Given this definition, and recognizing that groundwater is more than a vector for geothermal energy or a "product", we strongly recommend that the approach be revised, with a special attention to the risks of unsustainable groundwater abstraction on the most vulnerable population.

Several concepts used in the document are controversial and have a significant impact on the validity of the proposed categorization. In our view, the use of "maximum capture" to describe "physically" sustainable groundwater abstraction is not appropriate. This definition considers only the stability of drawdown and overlooks many other impacts of groundwater abstraction, such as the viability of groundwater-dependent ecosystems or changes in flow patterns, both of which may be compatible with stable drawdown. Additionally, we note that the term "renewable" in the proposed classification (classes 2, 3, and 4) appears to be used in the sense of "reversible", describing the time required to recover groundwater drawdown (understood after the end of the abstraction). However, this reversibility is rarely complete, as many negative externalities of declining water levels are permanent (e.g., loss of surface ecosystems and associated socio-economic activities), regardless of the "response time of replenishment". We also emphasize that there is no generally accepted definition of the concept of "maximum groundwater recharge". Many authors consider groundwater recharge to be a long-term average value, recognizing the buffering capacity of aquifers. Moreover, the adoption of the framework (schedule E.A) based on a groundwater recharge criterion is overly simplistic and does not take into account the multitude of academic and institutional work on groundwater resources.

We acknowledge that the Framework Classification for Resources you are developing is intended for application across diverse sectors, primarily oil and gas, nuclear energy, minerals, and geological

storage of CO₂. We encourage you to evaluate the applicability of such a framework for groundwater resource of common-pool nature. If confirmed, the draft framework will need to be significantly adapted to better reflect this common-pool nature. The expertise of the UN-Water Expert Group on Groundwater would undoubtedly be valuable in refining this framework, if desirable for groundwater resource projects. Please do not hesitate to contact the UN-Water secretariat to engage this group in the process.

Best regards,

François Bertone

Sr Water resource Management Specialist (groundwater)

Water

World Bank Group