Approach

- Groundwater, aquifers and subsurface space
- Taking the ‘sub surface’ from being out of sight to into the mind
- A framework for a Cooperation – example from Haute Savoï–Geneva (fresh water) & Lower Bavaria – Upper Austrian (hydro geothermal aquifer)
- How does cooperation of over transboundary aquifers help now, & in the distant future?
- The *new frontier* is the well managed sub surface space
- Take Home messages…
Global Aquifer distribution...

Transboundary aquifers in the EU
Lower Bavaria – Upper Austrian

Bucharest Nov 2014

Haute Savoi – Geneva

Bucharest Nov 2014

1960’s decline of aquifer level, by 7 m
Plans for artificial recharge with Arve water formulated
Swiss Canton of Geneva started negotiations with the French Department of Haute Savoie
Birth of an original decentralized transboundary cooperation project.
Signatures on 9 June 1978, of an agreement between the Canton & the Prefect of Haute Savoie,
Agreement concerning the protection, utilization, and recharge of the French-Swiss aquifer of the Genevois.

18 Dec 2007, new Agreement for 30 years
Signatories the Canton of Geneva and, the Associations of Local Authorities of the Annemasse and Geneva regions, and the Municipality of Viry;
Cooperation, sound governance urgently needed

- Over 300 transboundary aquifers across all Continents
- The largest of them contain enough freshwater to provide for the whole planet for 200 years (e.g., Guarani, Nubian, Rim–Saq)
- Many contain hydrogeothermal energy, can store and deliver potable water, can purify water in the natural filtration process
- Some contain useful dissolved minerals, can be used to sequester CO2, and some are linked to Shale gas reservoirs
- Better understanding, protection, conservation and good governance is urgently needed, as aquifers have been overlooked for too long
Take Home messages…

In the sub surface of all Continents, there is 'space', which is transboundary
- this space is host to water, energy & other resources
- arguably, the water in the subsurface is a global common
- transboundary aquifers on all continents need to be recognised and principles of good governance should be adopted by countries
- the UN ECE Model Provisions and the UN ILC Draft Articles on the use of transboundary aquifers, provide a framework for cooperation on the sub surface resources
- Member States of the EU could lead the way, as has been achieved by the Water Framework Directive and the Daughter Groundwater Directive
- The IAH invites EU Parliamentarians to support the outreach on aquifers

The valley of Susamyr in the transboundary Tien Shan mountainis…

Thanks you for your attention!
Questions?
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