Comments on Draft UNFC Anthropogenic Resource Specifications

First of all I would like to point that this is the first kind of document I met that deals with Anthropogenic Resources.

Only anthropogenic resource mostly covered by national mining legislation is stockyard from mining, and mostly it isn't spread to other anthropogenic resources.

Other anthropogenic resources such as secondary row material, ash from thermal processing of hazardous waste, old landfills, etc are mostly covered by waste management legislation , which covers waste recovery, reuse and recycling, but sometimes can ban the efforts for exploitation of reusable components from, for example, old dumpsites.

So this document could represent solid guideline for national legislation bodies to spread legislative into exploitation of reusable material from for example waste management, in order to enable easier reuse of some components that are sometimes recognized as hazardous waste and needs special treatment.

Although the document is general, I would suggest giving more detail specification of resource types. For example:

1. Energetic resources: biomass, oily waste, old tires.....
2. Metallic mineral resources: metal waste (old cars, washing machines, etc....)
3. Non metallic mineral resources: waste from civil engineering, old plastic, glass, paper, etc...
4. Potential REE resources: ash from coal, ash from thermal processing of waste, etc...

It would be also good to point economical benefits of 'exploitation' of secondary resources, such as:

Greenhouse gas emissions from biomass fuel don’t enter into Emission trading system, in other words, they are free.

Companies that reuse waste such as old tires (as a fuel in cement factory), old glass, metal, etc, actually doesn't buy raw material, on the contrarily, they get payee to be certified waste collectors.

At page 7 chapter c. G-axis, verse 20. I can't agree with statement: *It is recognized that the reference to ''geological knowledge'' is not generally applicable to Anthropogenic Resources*.

First of all, in this document *''geological knowledge''* is only recognized through the G-axis which isn't totally correct.

Geological knowledge actually is often applicable to Anthropogenic Resources, why?

Because G-axys categories reflects to quantities and reservoir properties, since it was taken from UNECE (2013). Beside quantities geological knowledge is important in estimation of resource quality, for example: expected geochemical alterations of metal waste in landfill body during ten years, or expected production and quality of landfill gas after landfill closure in the future.

All these parameters are important in future planning of exploitation, choosing of proper technology, which is input data for Feasibility studies (F axis) and calculation of economic feasibility which is input data for E axis.

And I would like to point that definition of parameters for G, F and E axis is usually prepared by Economical Geologist.

Relationship between G, F and E axis are nicely displayed at Fig 1 in UNECE (2013), so I recommend putting it into this document at the beginning of chapter B.

Definitions of categories should be adapted to type of resources; I think that it isn't always applicable and it cannot just be copied from a Classification for Fossil Energy and Mineral Reserves and Resources.

Issues of anthropogenic resources overwhelmingly overlaps with waste management issues, but in Bibliography I noticed only one document that deals with waste management, so I think that this part should be treated in more detail.

Ph.D. Ratko Vasiljević, M.S. Geol.