A macro level of assessment of material circularity

Aguilar Hernandez, G.A.

Propositions
A macro level assessment of material circularity
By Glenn A. Aguilar Hernández

1. The recent development of hybrid-unit input–output and supply-use tables will advance the modelling of circularity interventions in a consistent framework (This thesis, Chapter 2).

2. The circularity gap metric can be used as a starting point for discussing the meaning of the potential of material circularity at national and regional level, which can lead to best practices to quantify material circularity gap and its potential for improving resource use (This thesis, Chapter 3).

3. Understanding the material inflows to in-use stocks is crucial for a circularity transition as stock additions can be seen as material reservoir for the future (This thesis, Chapter 4).

4. An effective circularity transition would require to some extend policy interventions that lead to create the 'win-win-win' situation in terms of macroeconomic, social and environmental impacts (This thesis, Chapter 5).

5. The implementation of circularity interventions could generate a 'win-win-win' situation with respect to GDP, job creation and CO_2 emissions, but these will be incremental (This thesis, Chapter 5).

6. There is a degree of material circularity from informal or illegal waste treatments that is still unknown at present (Tisserant *et al.* 2017).

7. The current rate of stock additions will limit a circularity transition, independently on whether a 100% waste recovery can be achieved (Nuss *et al.* 2017, Krausmann *et al.* 2017).

8. The relevance of modelling circularity interventions will not only rely on how well a model describes the reality, but also on how a model can support the decision making process (Vogstag 2009).

9. Waste and dissipative emissions (as well as natural capital) are, in many cases, not value at all in the current economic system (Potočnik 2020).

10. "Afval bestaat niet" [waste does not exist] (Boersema 1997). If this is true, thus, a circular economy is simply a paradigm to put materials in their right place at the right time.

11. As Marcus Miller once said about jazz music, "It encourages musicians with very strong, and many times, very different points of view to work together as a team while, at the same time, giving them the space to express their individuality", I think that sustainability research is a sort of "jazz music" for scientists.