Assessing Environmental Sustainability of Remediation Technologies in a Life Cycle Perspective is Not So Easy - DTU Orbit (16/02/2019)

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Integrating sustainability into remediation projects has attracted attention from remediation practitioners, and life cycle assessment (LCA) is becoming a popular tool to address the environmental dimension. The total number of studies has reached 31 since the first framework for LCA of site remediation was published in 1999, and has almost doubled compared to number of studies in two reviews published in 2010. However, our analysis shows an increasing frequency of examples with serious methodological problems (compared to requirements in ISO standards or authoritative guidelines). Figure 1 shows that numerous studies have no or an incomplete definition of the functional unit, omit an appropriate quantification of primary impacts, or fail to include all relevant secondary impact categories. We will illustrate how ignoring these methodological challenges can lead to a misleading conclusion about the environmental sustainability of remediation technologies.

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