

Environmental sustainability assessment of urban systems applying coupled urban metabolism and life cycle assessment - DTU Orbit (09/11/2017)

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The necessity of assessing and addressing the environmental sustainability of urban systems is becoming increasingly relevant due to growing urbanization across the globe, higher consumption in urban systems and related competition for finite resource stocks. In this study we present how fused urban metabolism (UM) and life cycle assessment (LCA) can be applied to assess the sustainability of urban system, taking into account up- and downstream activities directly or indirectly linked to the metabolism of urban systems. Further we apply the fused UM-LCA approach to assess the absolute environmental sustainability of large urban systems by relating the environmental sustainability performance of urban systems with global environmental burden boundaries quantifying pollution thresholds beyond which performance of global ecosystems services may be detrimentally affected.

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