Draft proposal for Infrastructure rev3

Infrastructure and capital goods:

This section provides rules for infrastructure and capital goods, such as the building in which the product or upstream materials or components are produced, machinery used in the manufacturing of the product or its materials or components, vehicles used for transportation in the product system, the equipment used in the production and supply of energy (e.g. electricity generation equipment), and for the use-phase the construction and maintenance of roads and production of charging infrastructure. The applicable infrastructure and capital goods are limited to those that are not consumed and retained their function for a certain period.

In general, the production and end-of-life processes of infrastructure and capital goods used in the product system shall be excluded in the system boundaries. The exception are those infrastructure and capital goods for the production of fuels and electricity for the use stage of the vehicle lifecycle at least, which should be included by default within the system boundary, as is also the best practice adopted by UNECE publications on LCA of electricity generation[[1]](#footnote-2). Production of infrastructure for the transport, distribution and deliver of fuels or electricity (e.g. transmission and distribution infrastructure, refuelling or recharging stations) are still excluded by default from the system boundary.

This is relevant for LCA studies across all of Level 1 to Level 4, where the inclusion of impacts from infrastructure for the use stage fuel production or electricity generation may significantly affect the impacts and comparisons between similar vehicles using different fuels and/or powertrain types.

Deviations from the above requirements may be possible without any consensuses in the following cases:

* Infrastructure/capital goods (other than for/resulting from production/generation of fuels and electricity) may be included if a dataset used for A-LCA already includes infrastructure/capital goods, and it is not possible, within reasonable effort, to subtract the data on infrastructure/capital goods from this dataset.
* Infrastructure/capital goods for production/generation of fuel or electricity may be excluded/cut-off if the resulting impacts are less than x.x% following the cutoff criteria defined as clause x.x.x. In this case an appropriate scoping assessment should be provided as evidence/justification for the cut-off. Examples of cases where production/generation infrastructure impacts may be excluded without an additional scoping assessment, or shall be included are provided in the following Table X.

**Table X: Criteria to help determine potential cut-off criteria for inclusion of impacts from fuel production or electricity generation infrastructure**

|  |  |
| --- | --- |
| **Infrastructure for use stage fuel production or electricity generation:** | **Criteria based on use-stage energy consumption** |
| *May* be excluded without additional scoping study, where the share of use stage energy supplied over the life of the vehicle is: | 1. Renewable electricity share of consumption is <50%
2. Use-phase hydrogen consumption involves a share of hydrogen produced with renewable electricity <25%
3. Use-phase fuel consumption is based on a share of RFNBO (e.g. e-fuels) <10%
 |
| *Shall* always be included, where the share of use stage energy supplied over the life of the vehicle is: | 1. Renewable electricity share of consumption is >50%
2. Use-phase hydrogen consumption involves a share of hydrogen produced with renewable electricity >25%
3. Use-phase fuel consumption is based on a share of RFNBO (e.g. e-fuels) >10%
 |

*Note*: \* Individually or weighted average of total energy consumption (e.g. for PHEVs using electricity and liquid fuel).

1. [Life Cycle Assessment of Electricity Generation Options | UNECE](https://unece.org/sed/documents/2021/10/reports/life-cycle-assessment-electricity-generation-options) [↑](#footnote-ref-2)