

Social Issues in classical and social LCA: from identification of overlaps to an integrated framework

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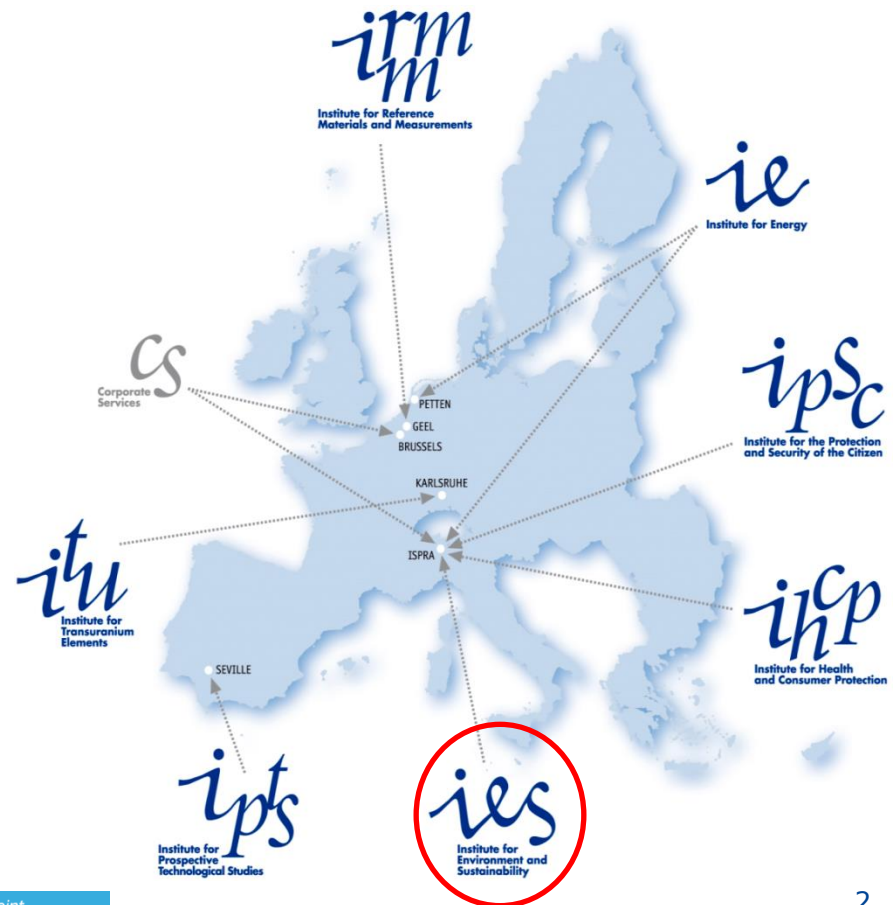
4th Seminar Social LCA, Montpellier, November 2014

1. Introduction:

The JRC inside the European Commission

European Commission,
Joint Research Centre (JRC),
Institute for Environment and
Sustainability (IES)

“The mission of the IES is to provide scientific-technical support to the European Union's policies for the protection and sustainable development of the European and global environment”



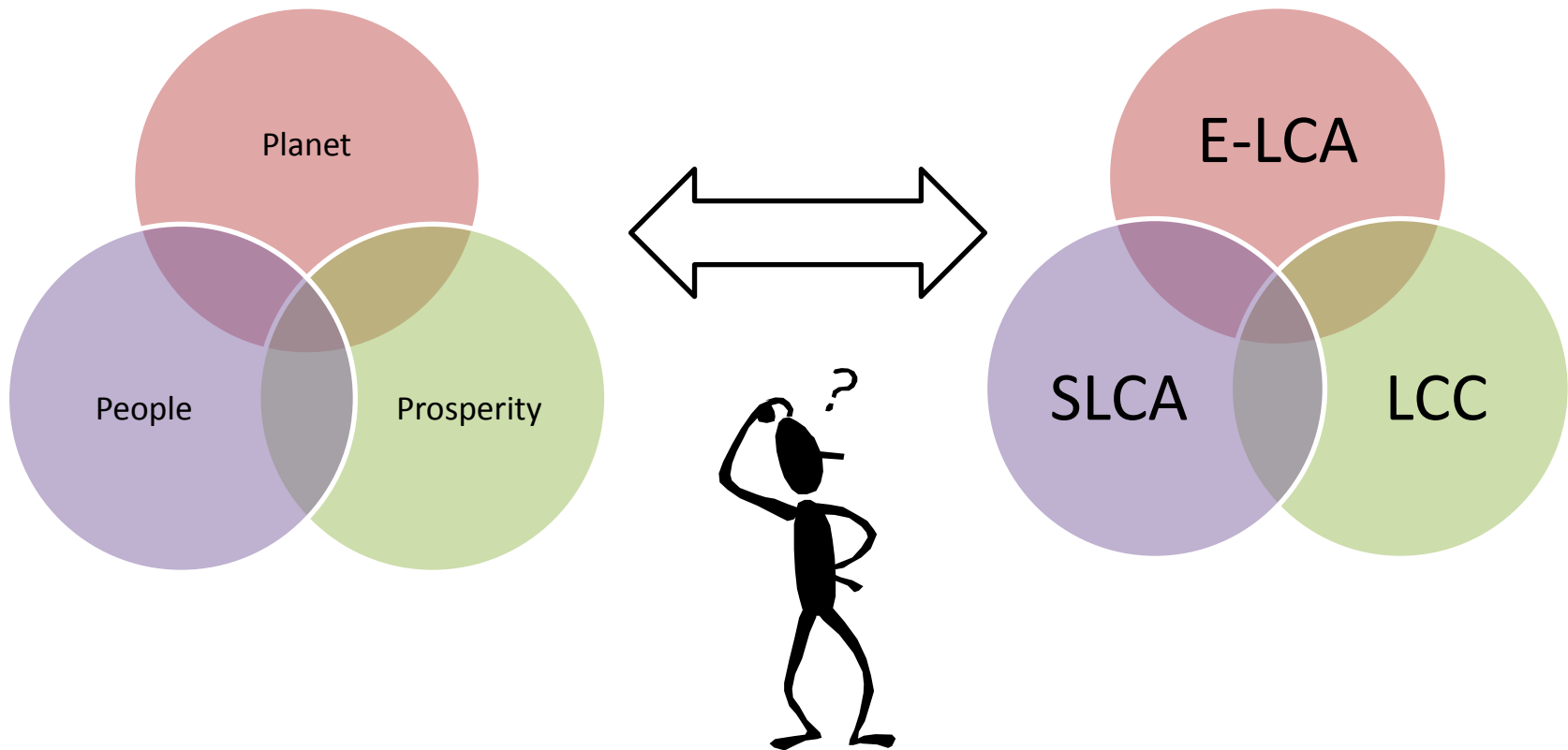
The “Sustainability Assessment” Unit

The Sustainability Assessment Unit fosters sustainability principles in EU policies by developing an integrated assessment framework towards environmental quality and socio-economic viability in the decision making process.

Two existing integrative platforms are at the core of the development:

- The Land Use Modelling Integrated Sustainability Assessment Platform (LUMP/LUISA)
- The European Platform on Life Cycle Assessment (EPLCA).

Context: Life Cycle Sustainability Assessment



Fields of domain of LCA and SLCA

Life Cycle Assessment AoP

Human health

impact due to physical exchanges in between the ecosphere and technosphere, in terms of changes in mortality and morbidity

Natural resources

consequences of future reduction in resource availability

Natural environment

Social Life Cycle Assessment AoP

Human dignity and wellbeing

Incl. decent life, respect and social membership + basic needs fulfillment

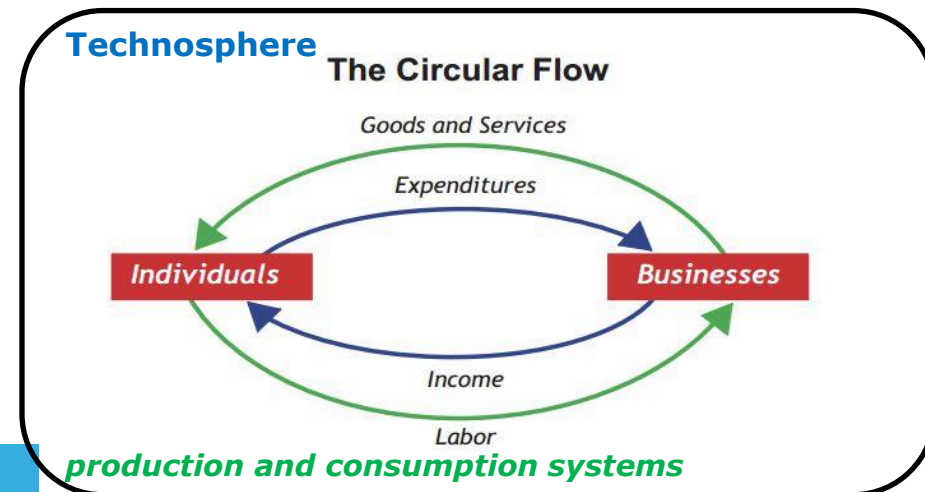
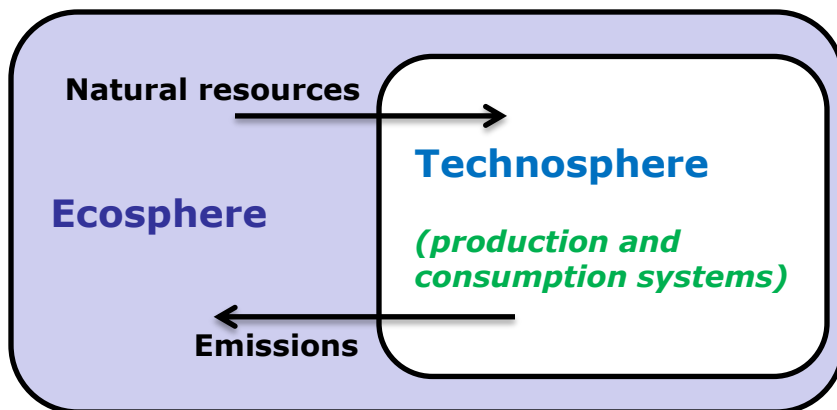


AoP «Humans»

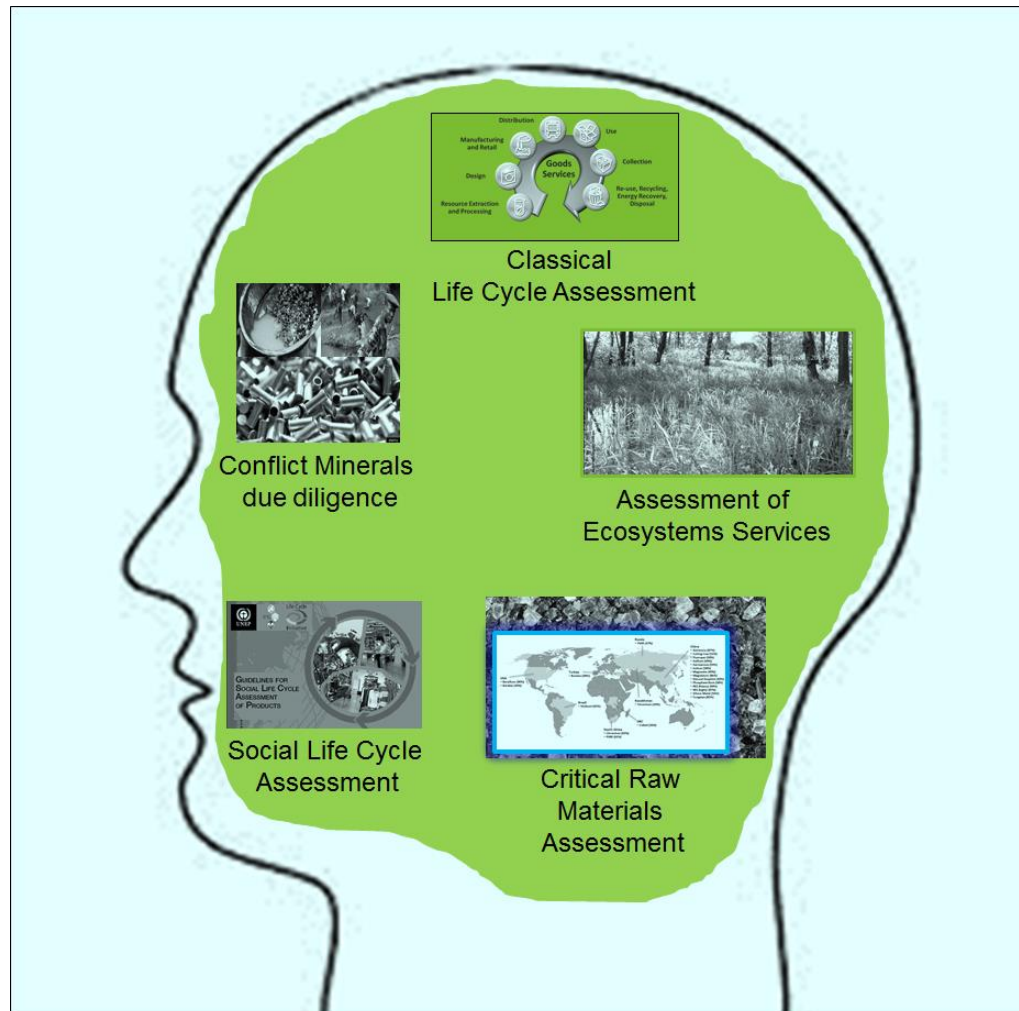
Antropocentric
approach

Towards an integration: analysis of cause-and-effect chain in LCA

- Exchange of flows between ecosphere and technosphere: accounted in LCA
- Exchange of flows within the socio-economic system (labor for income; expenditure for good and services): economic analysis



3. The diversity of the sustainability assessment toolbox



Need for integration:
towards LCSA?



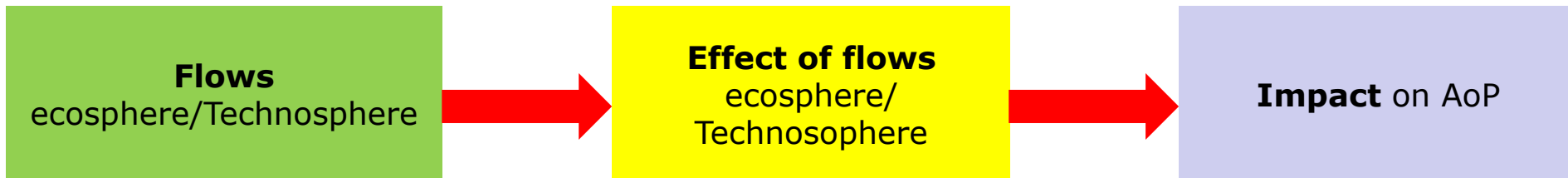
Starting with LCA & SLCA



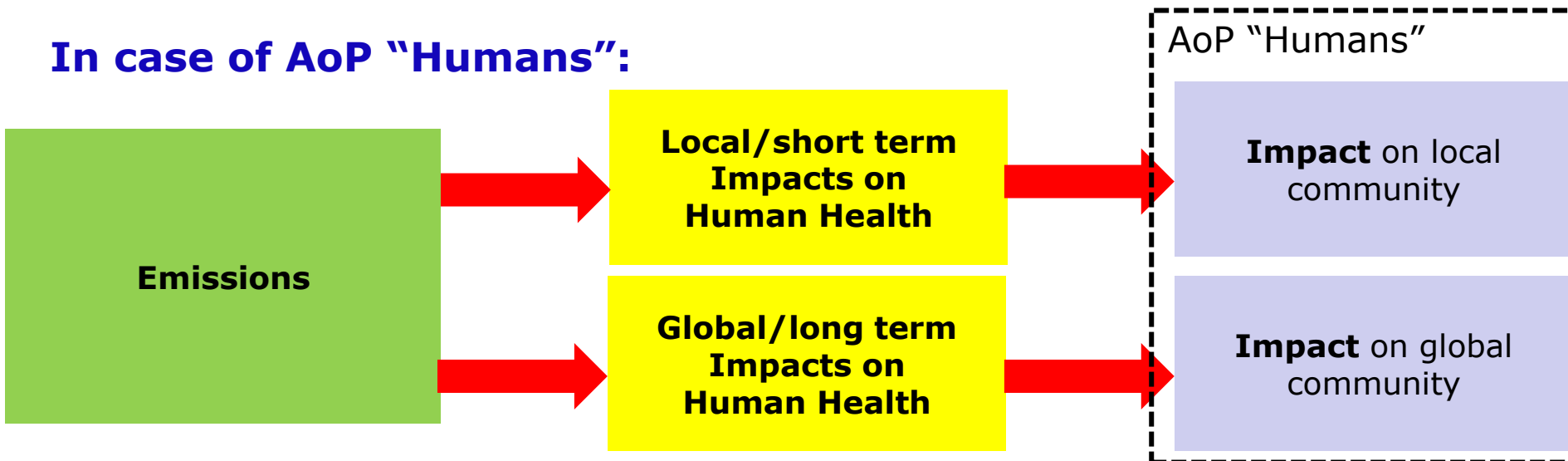
Similarities ?

4. Towards an integration

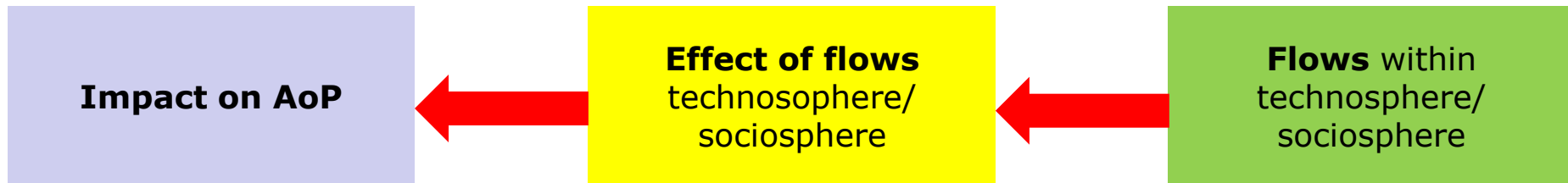
Analysis of cause-and-effect chain in LCA:



In case of AoP "Humans":



Bringing the cause and effect chain principle into Social in LCA:



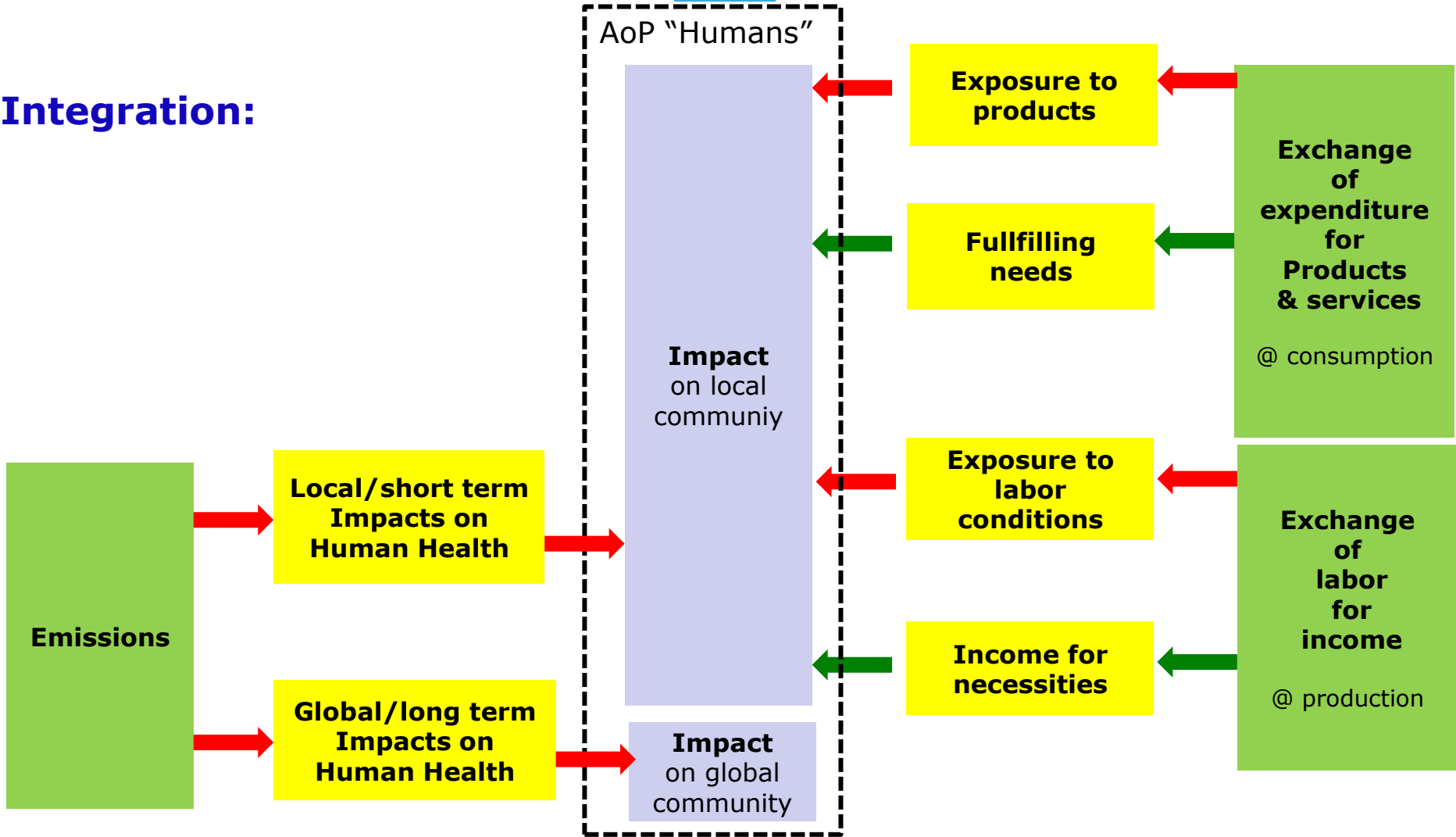
In case of AoP "Humans": cause and effect of production systems:



In case of AoP "Humans": cause and effect of consumption systems:



Integration:



5. Discussion

Observations:

- Similarities in cause-and-effect chain
- Different causes lead to complementarities
- Identification of positive effects, next to negative effects:
 - Production phase: income
 - Consumption phase: fulfilling needs

Next steps: towards an implementation of integration?

- Analogy in cause-and-effect chain:
starting point for integration
- Integration requires similar physical and econ. quantification
- First step might be integration of negative effects:
 - Economic valuation of impact on humans?
 - physical valuation of impact on humans?Difficulties in quantification so far: DALY versus mrh_{eq}
- Integration of positive effects: more challenging

6. Conclusions

- Sustainability:
triple bottom line
- Sustainability Assessment community can increase impact
by addressing different bottom lines simultaneously
- Sustainability Assessment community can take advantage of
recent SLCA developments
- Integration of LCA and SLCA: starting point for LCSA
- Cause-and-effect chains analysis: a valuable starting point

Joint Research Centre

Thank you!



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<http://sa.jrc.ec.europa.eu/> (Sustainability Assessment Unit website)