Peri-Urban Living Labs (PULLs) are processes during which key actors collaboratively generate innovations. They are supported by the GDSE – a customised interactive tool which allows the storage of relevant (GIS) data and models, testing of alternative eco-innovative solutions and evaluating their impacts. It is meant to support discussions rather than direct to the “best” choice among the chosen alternatives.

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Based on the changes a certain solution will entail on the initial data, achievement of objectives may be estimated in two ways:
1) through automated simulation models,
or
2) through elicitation of expert judgement.

Impact Modelling for Circular Economy:
Geodesign Discussion Support Environment

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CIRCULAR ECONOMY

aspect
benefit
damage
measure
qualitative
quantitative
reversibility
reversible
irreversible

direction
Context on Decision
Decision on Context
magnitude
ordinal
interval
ratio
probability
distribution

accuracy
single
continuous
repeating
duration
unlimited
limited
activity
increasing
decreasing
stable

SPATIAL PROPERTIES

LOCATION

FIELD

NETWORK

OBJECT

EVENT

origin
e.g. placement of incinerator, municipal policy, etc.
e.g. terrain change, temperature change
e.g. material flow change
e.g. change of consumption patterns in different households, businesses
e.g. change of waste collection patterns

receiver
e.g. municipality, vulnerable region, protected point of interest
e.g. air, terrain, soil, underground water
e.g. transport network, energy network, material flow network
e.g. households, businesses, materials
e.g. transition to a different system

spreading
e.g. no spreading, affects only single location
e.g. through air, terrain, soil, underground water
e.g. through transport network, energy network
e.g. in households, businesses, materials
e.g. during festivals, holidays, calamities

spreading limit
e.g. administrative boundaries, water boundaries
 e.g. gradual change of terrain, soil, climate
e.g. through transport network, energy network

accumulation
e.g. controlling policies, building multiple facilities
 e.g. pollution from different sources, noise from multiple facilities
 e.g. traffic jams, storage, facility overcrowding
 e.g. effects on certain households, social classes, businesses
 e.g. lack of resources during transition period

impact expiry, end of transition period, political changes

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