

LCA to evaluate impacts and solutions on sludge treatment

The benefits of Salsnes Filter technology over a conventional primary wastewater treatment

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Objective

The objective of this study is to compare and evaluate the impacts of using a conventional primary treatment to using a rotating belt filter (RBF) with fine mesh sieves using Salsnes Filter technology using LCA methodology. Provide the decision-maker a methodology to implement the Directives 2014/23/EU, 2014/24/EU, 2014/25/EU (IT Decree 50/2016)

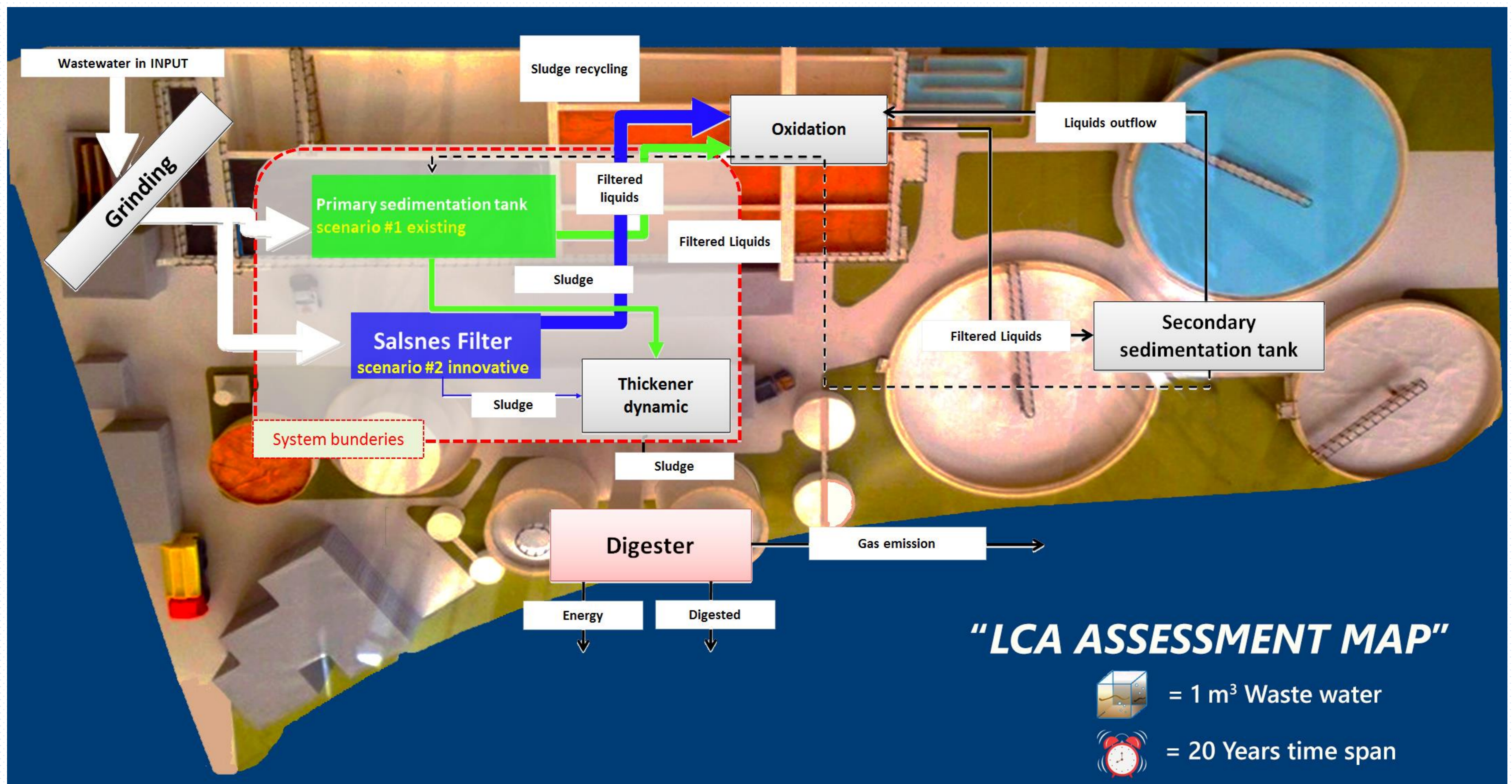
Methodology

The LCA (Life Cycle Analysis) methodology based on ISO 14040 & ISO 14044 allows to quantify the main impacts of the product on the impact categories classified within international methods.

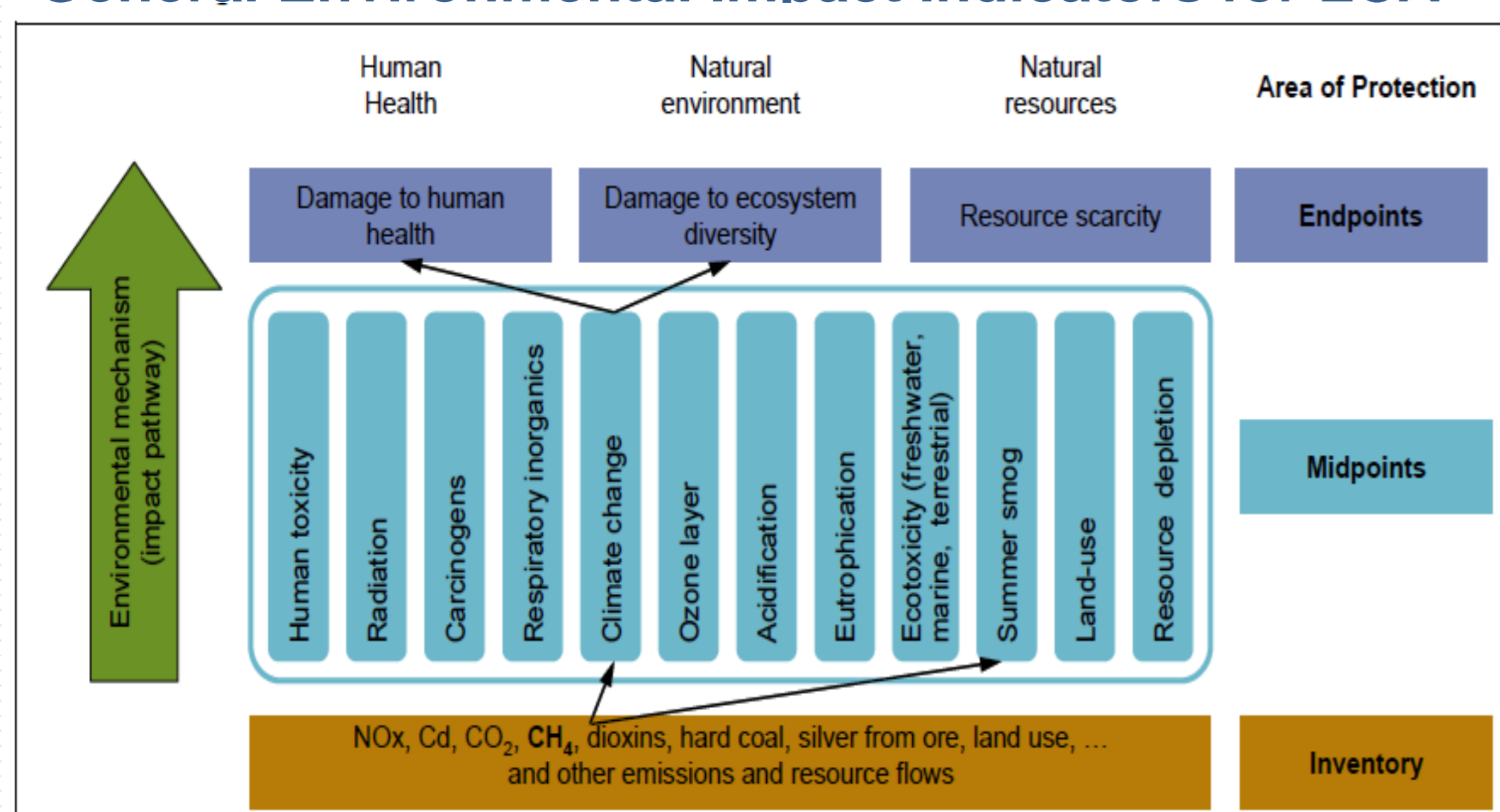
The adopted LCA methodology provides an overview of reliable global impacts through the selection of specific indicators (ILCD – International Reference Life Cycle Data System)

Approach

For this study Gabi software Version 6 and Eco Invent Version 3.3 have been used for the assessment and the comparison between the Salsnes Filter technology and the conventional primary treatment technology. Evaluation is done over a time span of 20 year the environmental impacts are based on functional unit of 1m³ of primary wastewater treated.



General Environmental Impact Indicators for LCA



- Decision Makers:**
- Projects evaluation
 - Better development policies
- Plant designers:**
- Best Available Technology choices to achieve low carbon plant
 - "Ecodesigners" project

Envisioned Project

This work represents the preliminary part to highlight the environmental impact differences between Salsnes filter (innovative scenario) compared with traditional one used in wastewater treatments. In the second work will be drawn up a report with the final results.

Acknowledgement

Trento Province and Salsnes cooperation in implementing this kind of study
 Ecomondo, the green technology Expo – Rimini 08-11 November 2016 - Ready-to-Market resource recovery technologies. Scale-up of low-carbon footprint material recovery techniques for upgrading existing wastewater treatment plants: the smart-plant Horizon 2020 innovation action