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CRITERIA TO EVALUATE ENVIRONMENTAL SUSTAINABILITY AND APPLICABILITY OF NO-DIG TECHNOLOGIES FOR THE INSTALLATION OF NEW PIPES AND THE *IN SITU* REHABILITATION OF EXISTING PIPES

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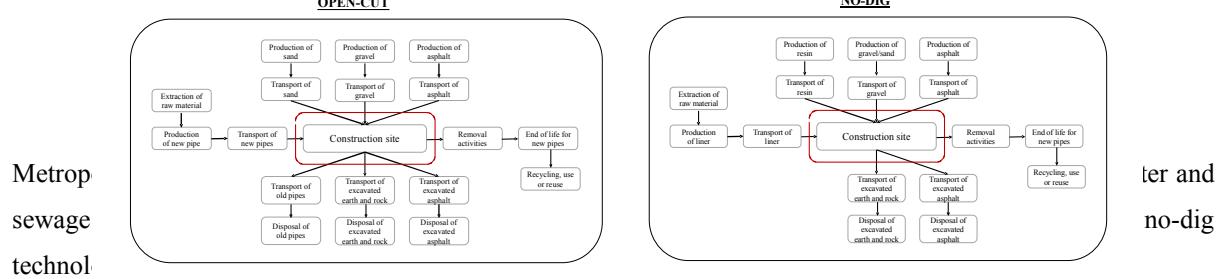
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ABSTRACT



No-dig technologies provide evident technical advantages compared to the traditional ones. In order to spread such techniques, a procedure to assess their overall sustainability in different cases was developed based on Technology Sustainable Assessment (TSA). TSA is a procedure adopted to support the decision-making process, and includes a set of indicators that take into account the technological, environmental, economic, and social implications of the intervention (Figure 1).

The procedure was then applied to compare two case studies of the city of Milan in order to disclose and assess the environmental, social and economic benefits that can be obtained from the reclamation of sewerage pipelines using no-dig technologies (CIPP) instead of replacing them by new pipelines with conventional excavation methods. Figure 2 shows the system boundaries of the study and highlights the main impact drivers analyzed for the two cases. For the environmental analysis, a comparative Life Cycle Assessment (LCA) was performed to support the TSA.

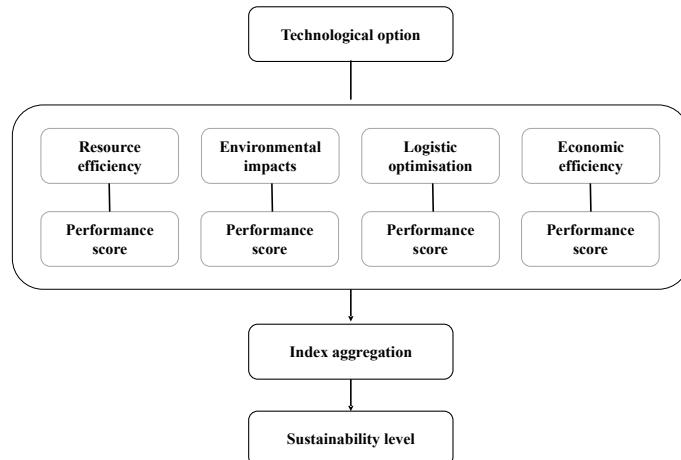


Figure 1 – Conceptual framework of the TSA

Figure 2 - Summary of the system boundaries of the study, for the two scenarios. In red the main impact drivers for the two cases

