**Integral environmental assessment of maintenance scenarios in the existing housing stock**

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In the existing housing stock, energy saving measures with an equal energy gain can have a different life cycle performance because of the materials used. Also different maintenance scenarios can have widely varying environmental performances due to different materials used, different energy saving performances or different maintenance intervals. To help housing associations and maintenance companies to determine which maintenance scenarios have the best overall environmental performance for existing houses, a methodology has been developed to determine an integrated sustainability profile for maintenance scenarios. This profile is based on the energy consumption related to the building, on the indoor environment and on the life cycle performance of the materials used. In the sustainability profile, the following building components have been included: façades, façade openings, ground floor, roofs, balconies and galleries, and heating and ventilation equipment. In two case studies, the integrated sustainability profiles have been determined for different maintenance scenarios. The measures with the highest potential for increase of the environmental performance for maintenance were found to be: application of insulation and energy efficient heating equipment, use of photovoltaic panels, decrease of transport during maintenance, decrease of the time span between different maintenance activities by increasing the lifespan of materials, and use of sustainable materials, for example cellulose or glass wool instead of rock wool or cork.