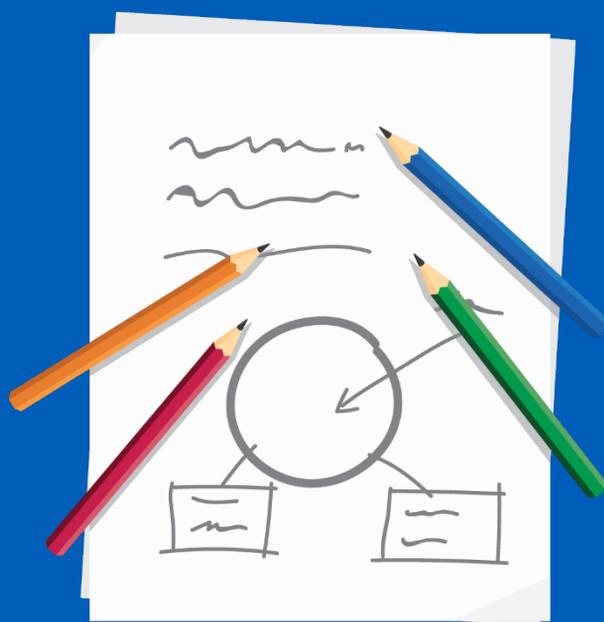




True Value case study:

# Vondellaan 47

Analysis of the environmental and socio-economical value of Heerema Marine Contractors changing office.



# Vondellaan 47 - True Value case study

## HEEREMA MARINE CONTRACTORS AT VONDELLAAN 47

While searching for a new office, Heerema Marine Contractors ('HMC') were advised by Delta Development Group to return to a well-known location, Vondellaan 47. With BREEAM certifications for demolition activities ('Very Good') and the building itself ('Excellent'), it has managed to find a building that is future-proof from an environmental, social and economic perspective, as will be further outlined in this case study.

### WHY

Managing and developing real estate is no longer a spreadsheet exercise: quality of the asset and resulting value created for asset owners, financiers and tenants has become key. The quality of buildings is not limited anymore to traditional value drivers (e.g. rents, maintenance, service costs): buildings also contain and contribute an economic, social and environmental value.

To assess the impact of the sustainability solutions implemented at the Vondellaan office, KPMG was asked to perform a True Value analysis of the property. The goal of the analysis is to quantify the environmental and socio-economical value created (or depleted) by the building, with a special focus on the effects of the building design, lay-out and features on employee well-being.

### HOW

A value bridge is conventionally used to show the impact of individual value drivers on a given baseline. The approach is well-suited for comparing the True Value of office locations, as the impact of each environmental and socio-economic factor can be shown individually and at an aggregate level. The indicators describe a cost, a prevented cost or a benefit for society. For this case study two value bridges have been prepared: A value bridge showing the True Value of the environmental indicators and another value bridge showing the socio-economical value created for Heerema by taking office in the new building.

**STEP 1 OBJECTIVE SETTING AND SCOPING** Selection of the most significant environmental and socio-economic indicators (value drivers) of the buildings.

In discussions with Heerema and Delta Development a limited list of indicators was selected to enable an effective and efficient further steps. Table 1 shows the selection of indicators ins. In the construction phase the focus is on material use and reuse, while the socio-economic indicators like productivity and absenteeism are the main topics in the usage phase.

	Construction & Renovation	Usage
Socio-economic	-	<ul style="list-style-type: none"><li>• Productivity</li><li>• Absenteeism</li><li>• Retention</li></ul>
Environment	<ul style="list-style-type: none"><li>• Resource efficiency</li><li>• Raw material use</li></ul>	<ul style="list-style-type: none"><li>• Resource efficiency</li><li>• Water consumption</li><li>• GHG emissions</li></ul>

Table 1 – selection of indicators in scope

**STEP 2 MEASURING AND VALUATION** Quantification of selected indicators via data collection, expert / stakeholder engagement and modelling.

For this case study it was chosen to calculate the net present value for the different indicators for a 20 year rental period and including construction of the building. As the values for investments and operational costs are already monetized these indicators proved robust to determine. The impact of the environmental indicators was determined by using the social cost of carbon and water and eco-costs for material (re)use.

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The quantified impact of the new building on productivity, absenteeism and retention was based on combining the results of the Leesman studies on workplace effectiveness, with multipliers from literature on potential improvements / declines and the influence on costs and revenues.

**STEP 3 ANALYSIS AND EVALUATION** Discussion on the key impacts and possible future steps.

As the scope of this analysis was limited we acknowledge that the results shown below may not be fully in line with the actual value created. However, the significant results indicate that (1) reusing material of existing buildings pays off in societal terms and (2) further research into actual impact effects of healthy buildings is needed.

## RESULTS

**Investing in circularity compensates half of the material impact:** Through a circular approach and reusing materials from the existing building for construction HMC has significantly improved the new building's environmental True Value in terms of materials (Figure 1). The total impact, however, is slightly negative, which could be compensated during exploitation by, for instance, becoming an energy positive building in the near future. In the construction phase, for future buildings, one could make use of renewable and reusable materials to reduce the impact even further.

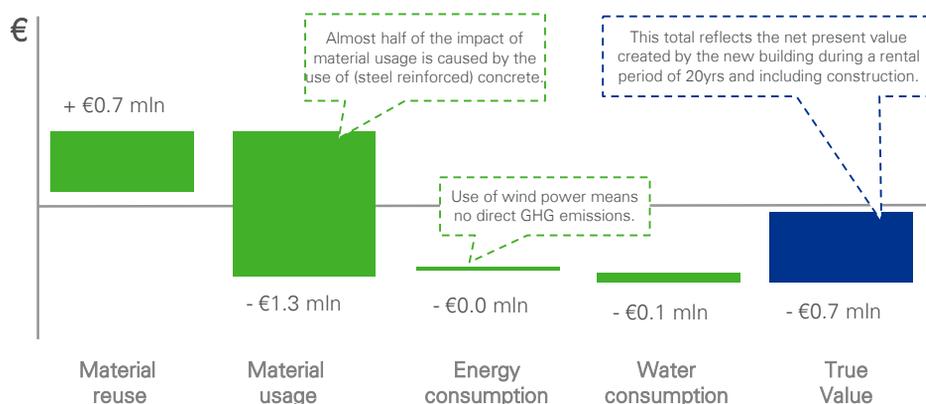


Figure 1 – True Value bridge environmental indicators

**The building has significant potential to improve well-being:** Employee well-being is best reflected by productivity, absenteeism and retention rates. The Leesman survey has shown that overall well-being has improved compared to the old situation and will create significant value in the 20-year rental period (Figure 2). Office design potentially increases the retention rate, while improved access to daylight and air quality reduces absenteeism. On the other hand the lack of greenery inside the building potentially increases absenteeism for HMC.

Although the value bridge potentially shows significant results for the coming 20 years, further research into the actual effects of the building is needed to increase the understanding between perceived improvements and actual impact. In the case of productivity, the theoretical value created and reduced due to office parameters was so significant that we decided further research is required to understand the real life impact better. For instance, the office lay-out is perceived to improve the support for activities by almost 16%, which could in theory increase productivity by the same value. In practice, however, perceived support, actual support and use of the support can not be related one on one. It was, therefore, decided not to include productivity in the value bridge.

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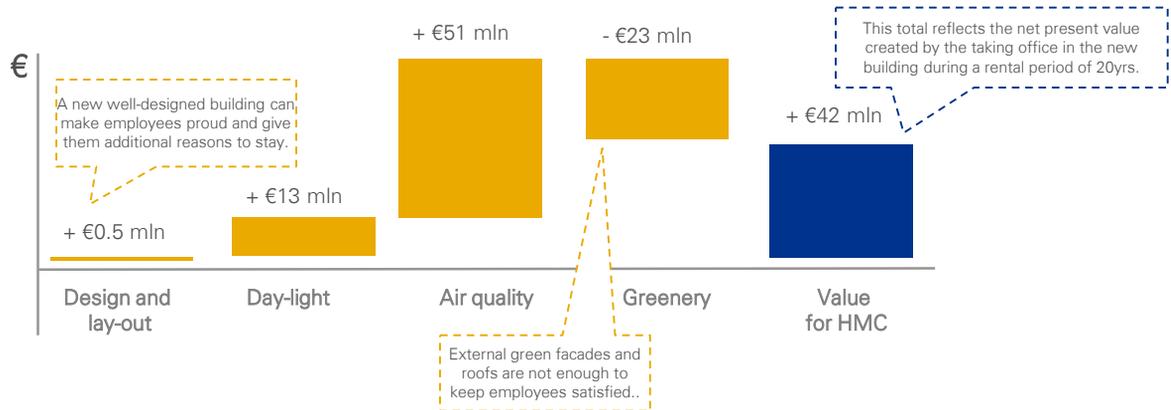


Figure 2 – Value bridge on social and health indicators from the perspective of HMC

## LIMITATIONS AND NEXT STEPS

As mentioned above, the True Value analysis performed, is only a limited reflection of the value created / reduced by the new building at the Vondellaan 47 in Leiden. In addition, assumptions made to calculate impacts on productivity, retention and absenteeism do not take market dynamics into account, neither the effects of training, management or health of the employees.

Further analysis and data points over a longer period are needed to better understand and value how results found in literature relate to day to day performance. Additionally, training employees to make the best use of their new surroundings may have significant influence on perceived productivity and is worth a consideration for further research as well.

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