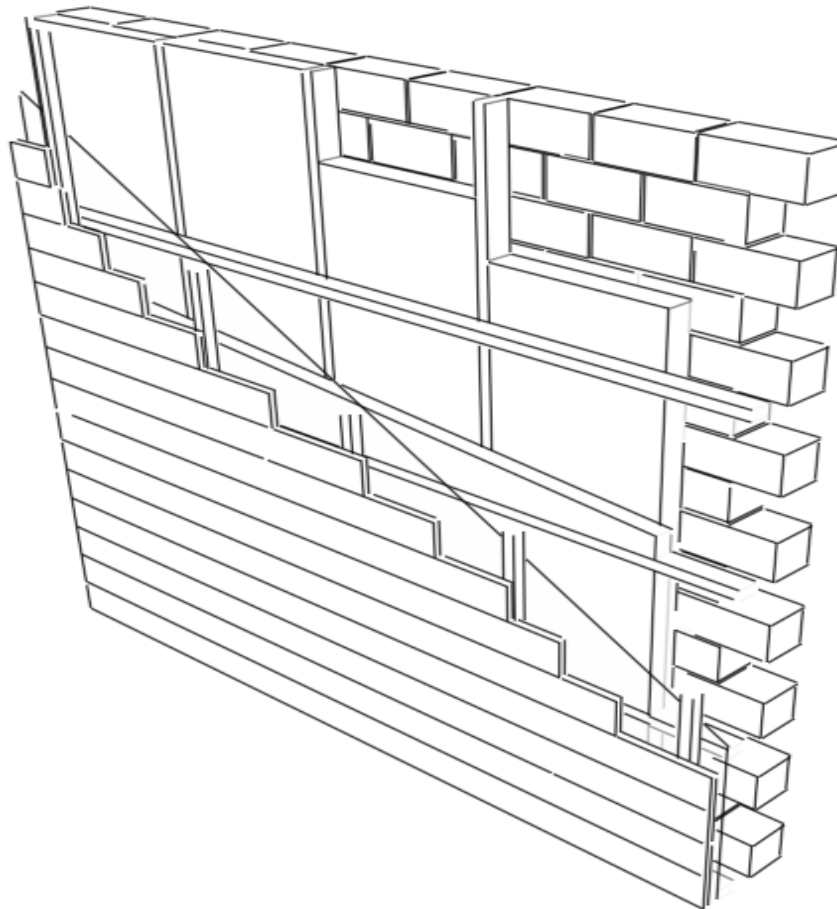


Wienerberger And Sustainability of The Wall Element

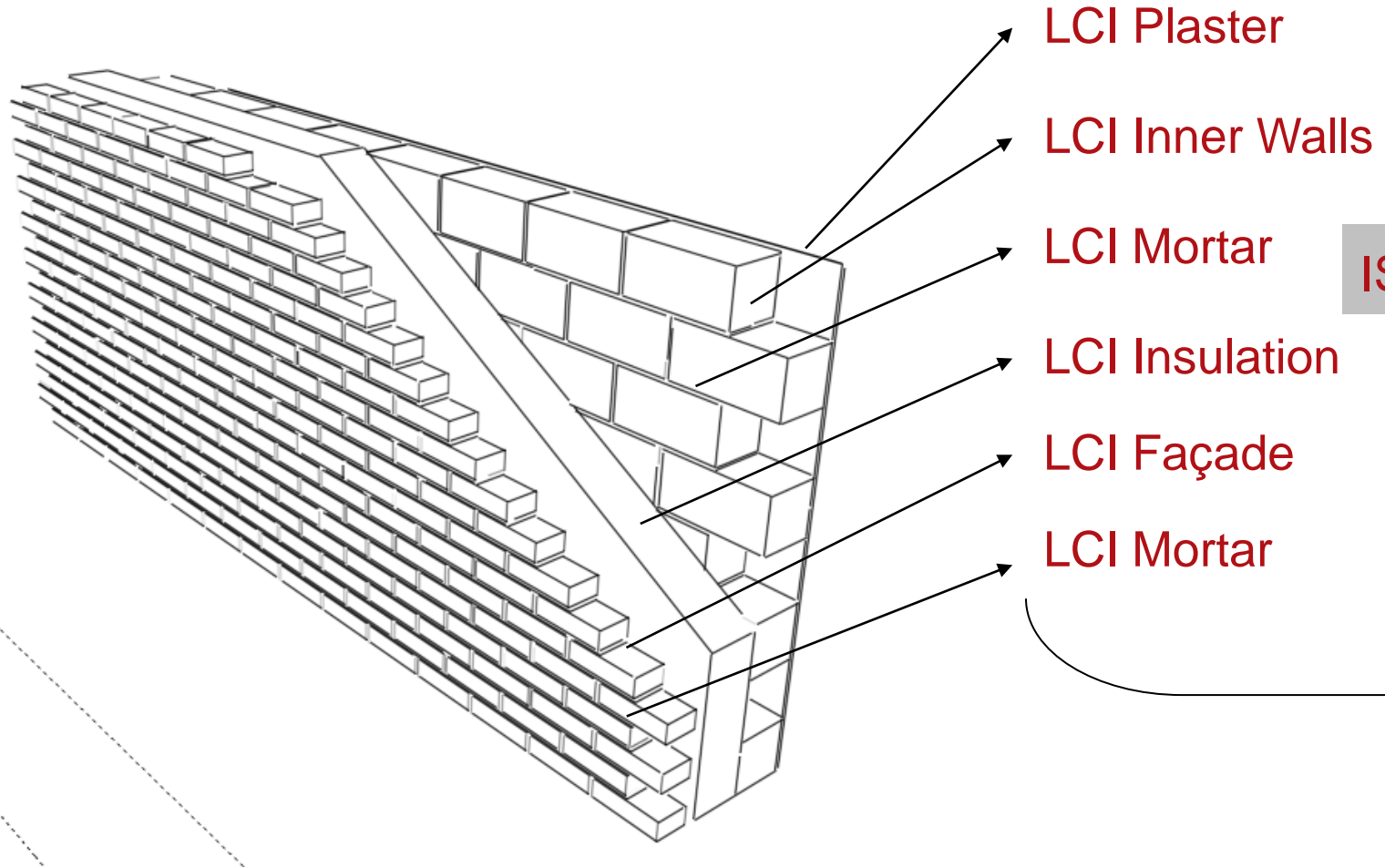


Wienerberger And Sustainability of The Wall Element

- What is sustainability of the wall element?

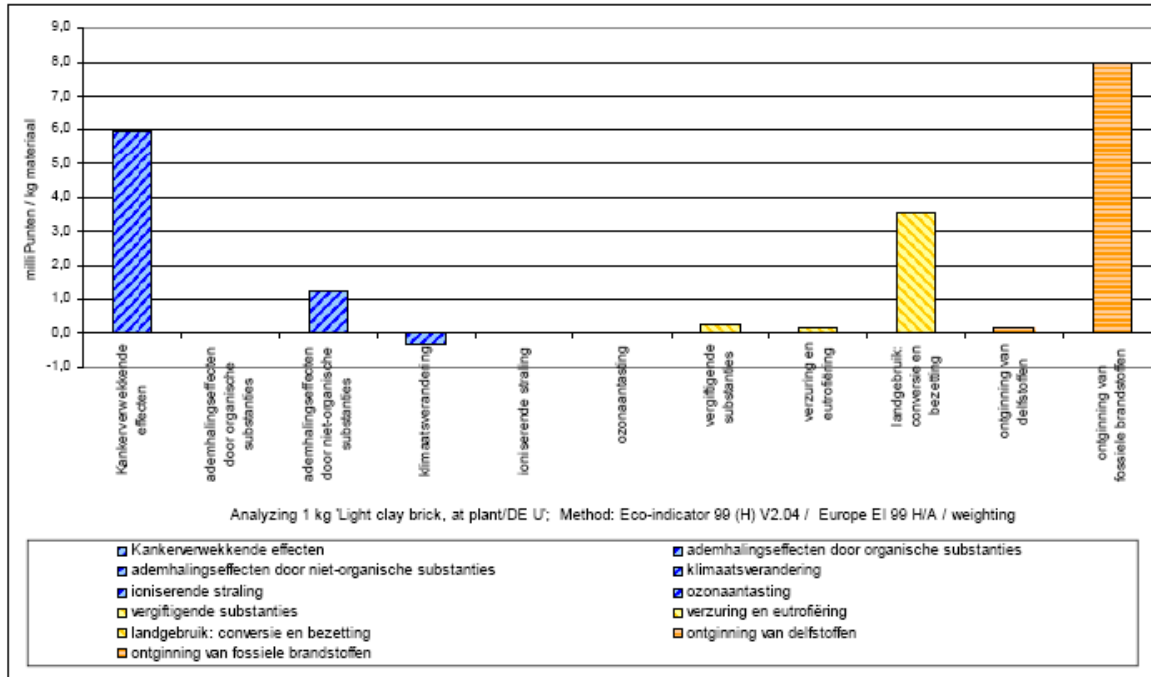


Wienerberger And Sustainability of The Wall Element

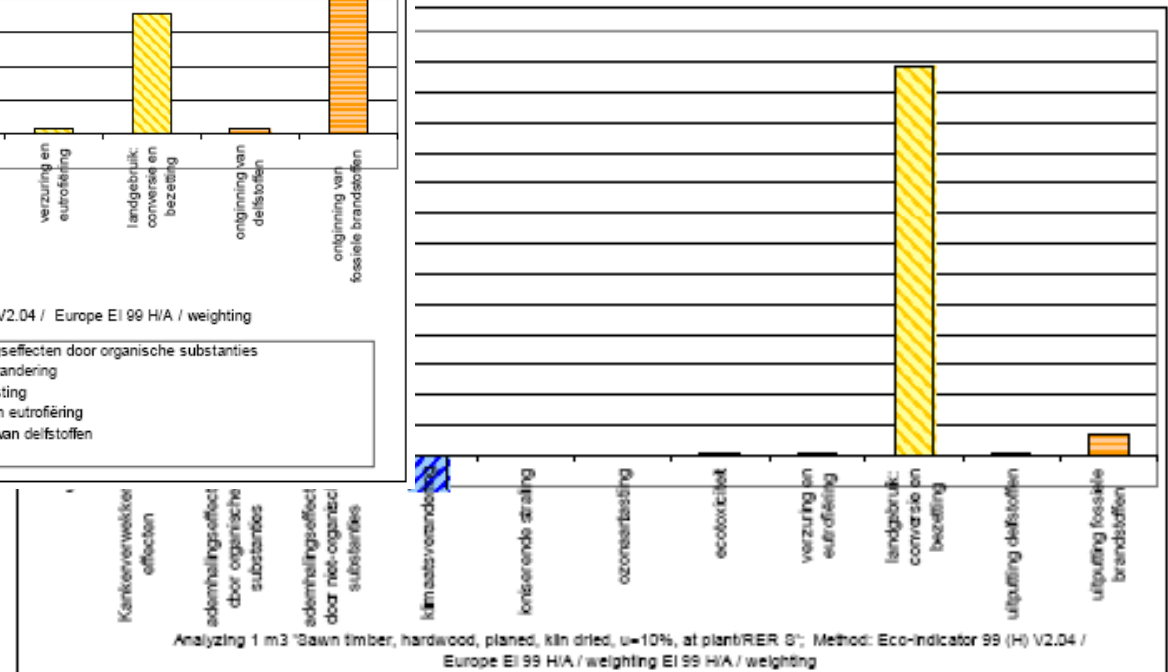


Wienerberger And Sustainability of The Wall Element

2.4.2. Light Clay Brick, at plant

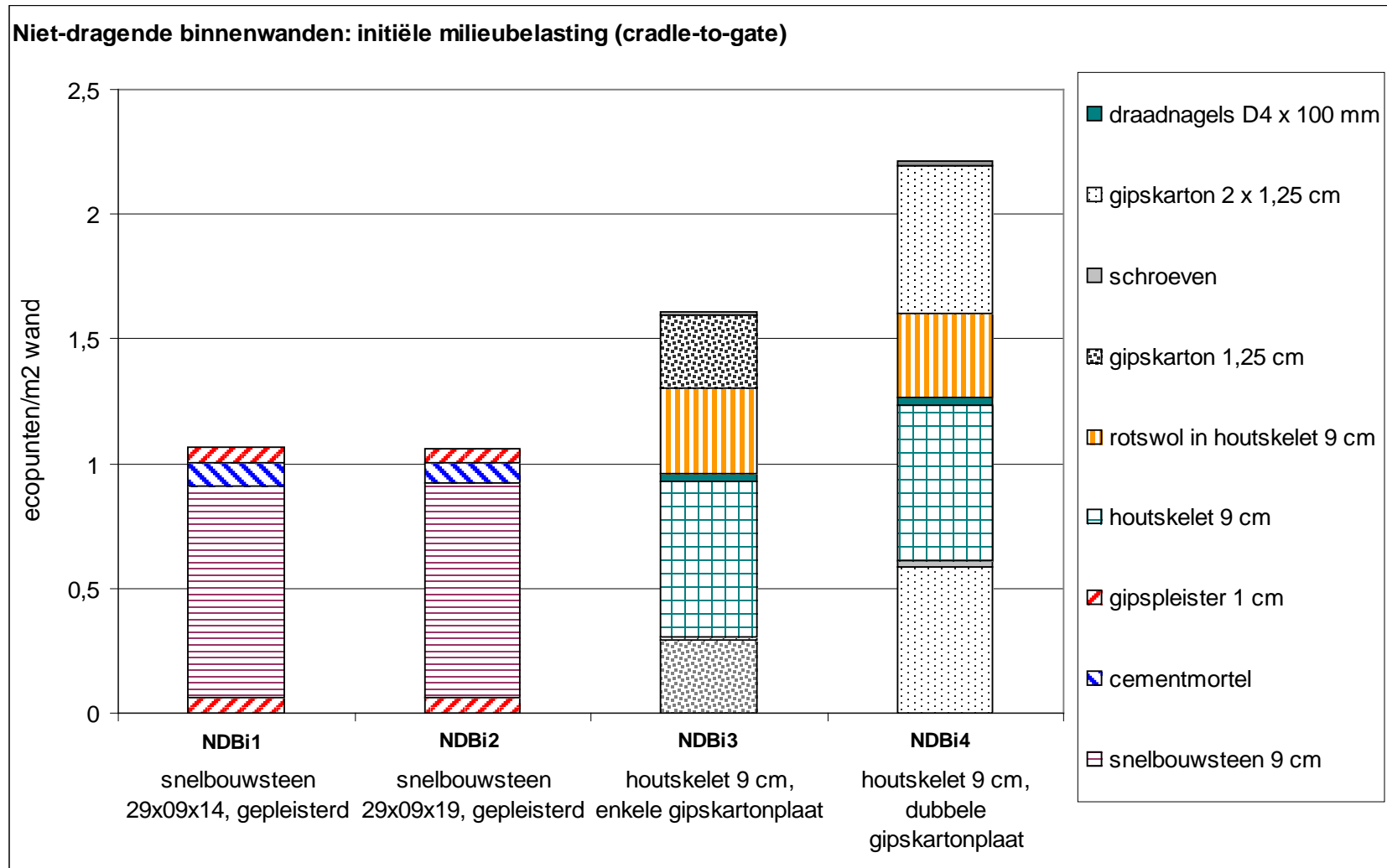


Some examples of LCAs

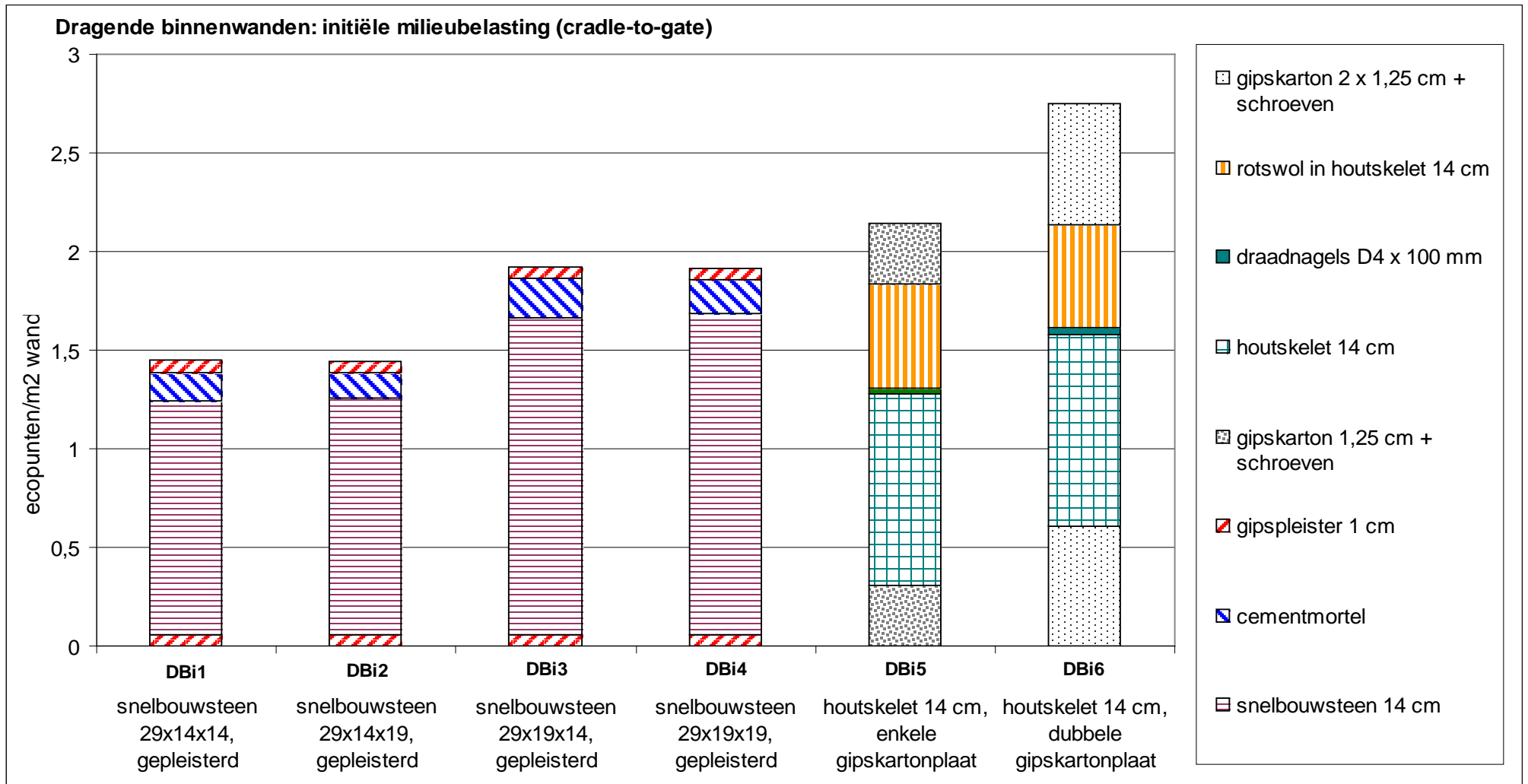


Figuur 23 Gewogen milieuprofiel van 'Sawn timber, hardwood, planed, kiln dried, u = 10%' met aanduiding van de verschillende milieueffecten.

Wienerberger And Sustainability of The Wall Element

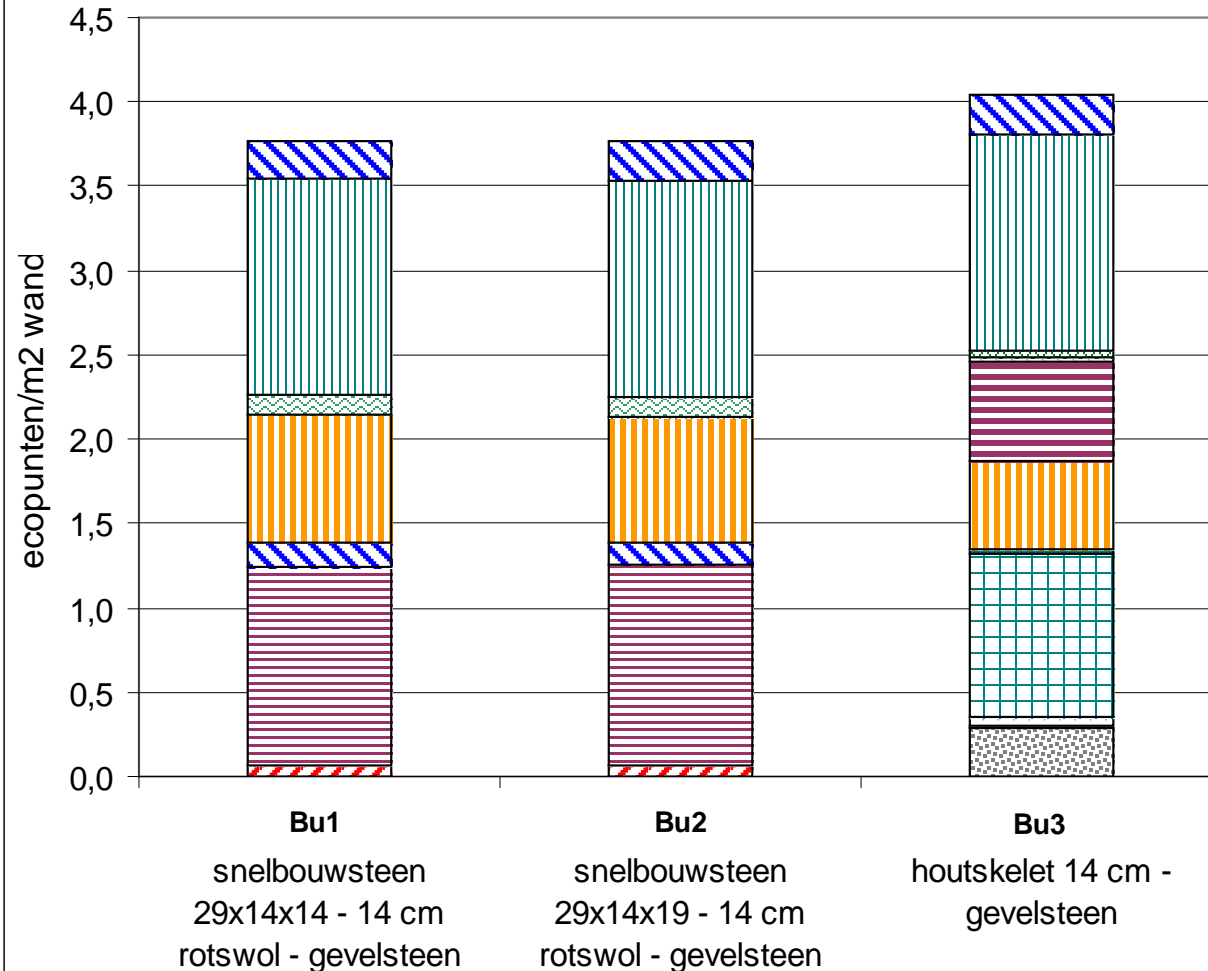















Wienerberger And Sustainability of The Wall Element



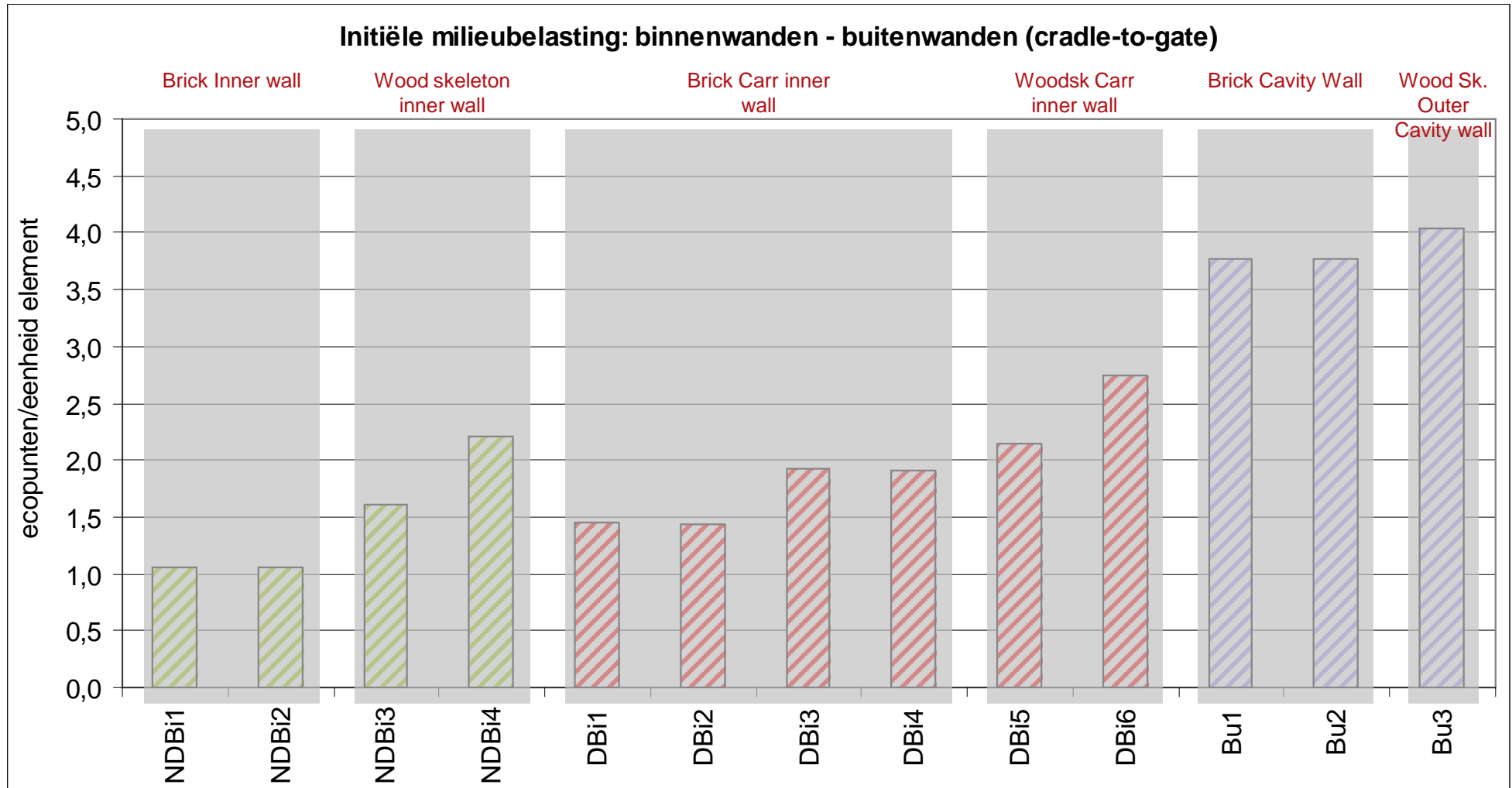
Wienerberger And Sustainability of The Wall Element

Buitenwanden: initiële milieubelasting (cradle-to-gate)



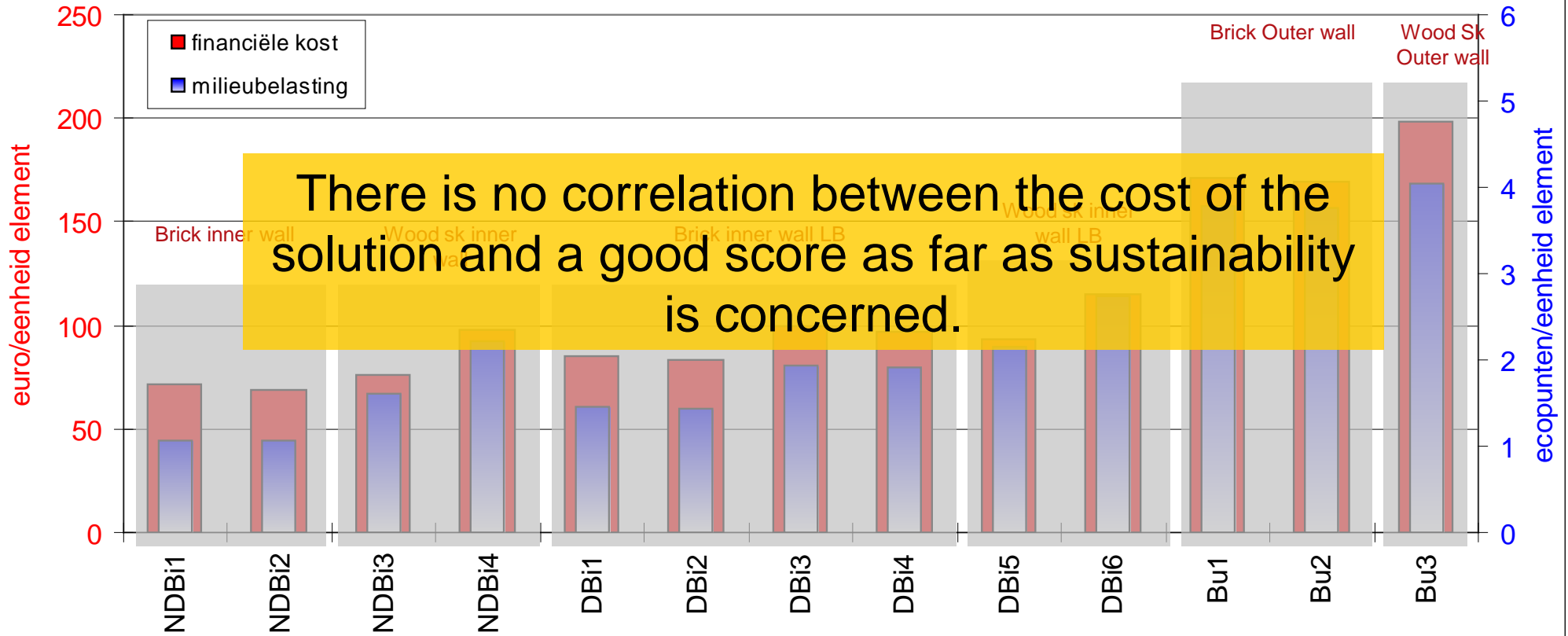
-  OSB
-  draadnagels D4 x 100 mm
-  houtskelet
-  dampscherm (PE/PP)
-  gipskarton (1,25 cm)
-  waterscherm (PE)
-  schroeven
-  gevelsteen
-  spouwanker staal
-  rotswol 14 cm
-  cementmortel
-  snelbouwsteen 14 cm
-  gipspleister 1 cm

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Initiële financiële kost en initiële milieubelasting: vergelijking binnenwanden - buitenwanden (ASPEN en Ecoinvent gegevens)



Wienerberger And Sustainability of The Wall Element

- Sustainability and life span

SUSTAINABILITY

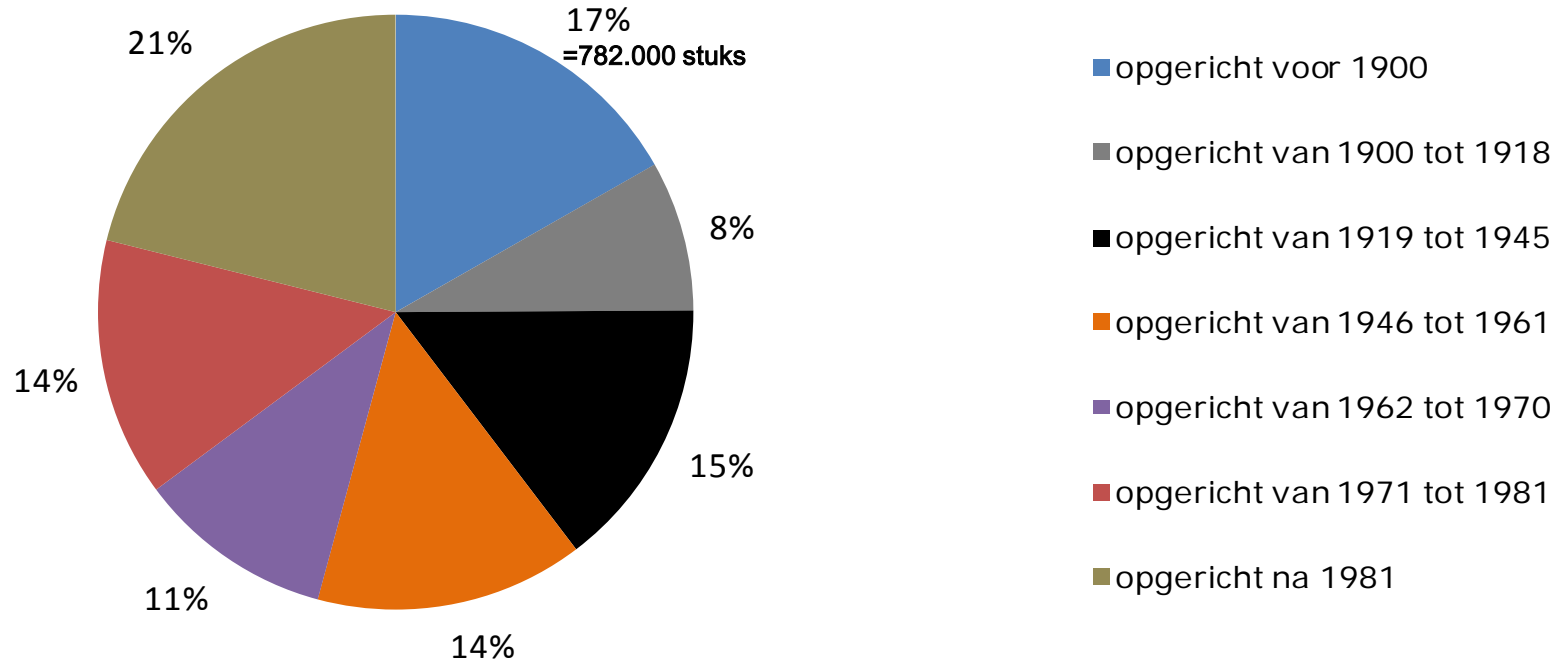
≈

LIFE SPAN

INITIAL IMPACT

Wienerberger And Sustainability of The Wall Element

■ Housing in Belgium (4,6 million)

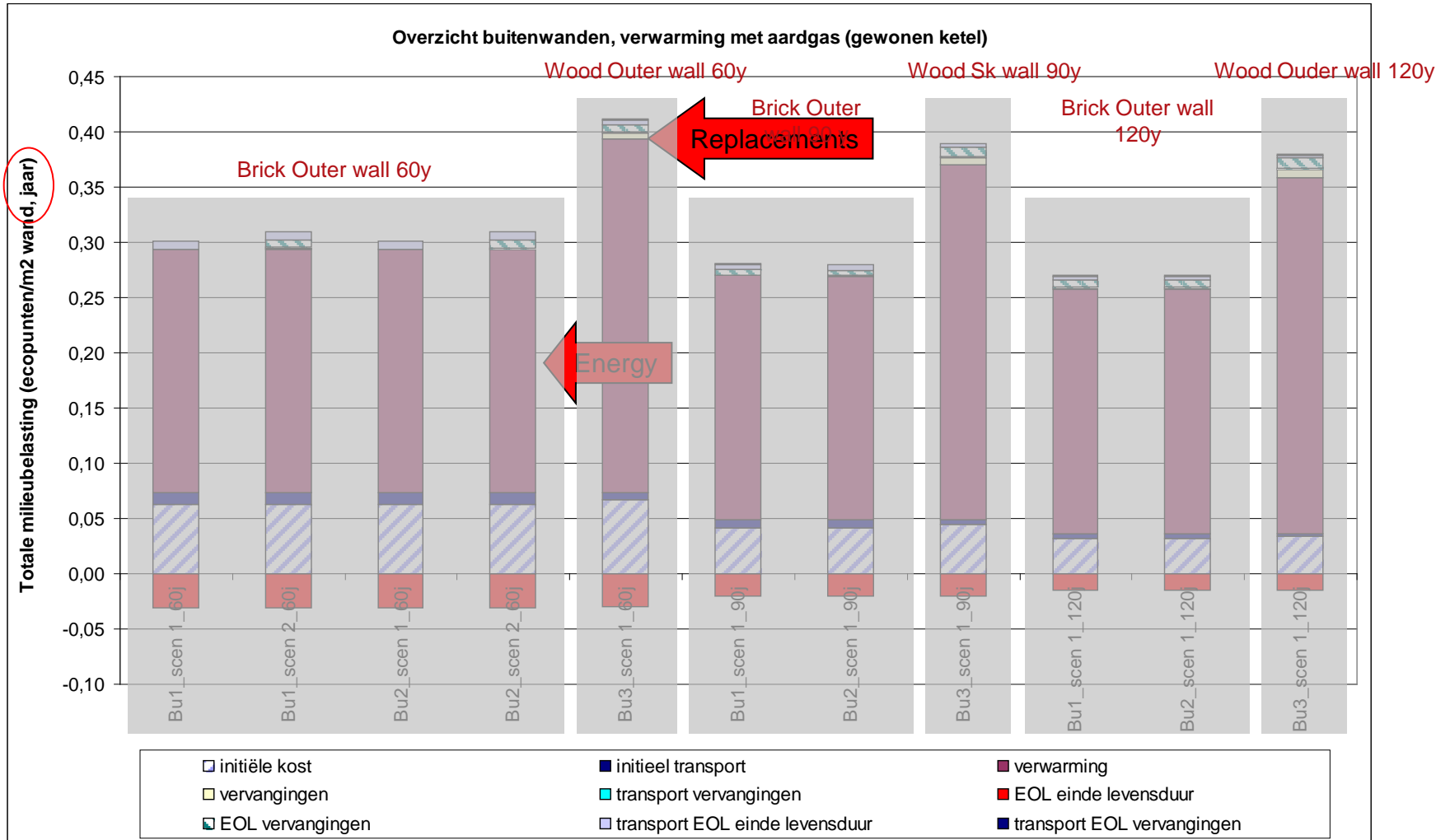


Wienerberger And Sustainability of The Wall Element



- Research by X-tra Muros on behalf of Wienerberger covering 1100 buildings
 - Of all houses with original building materials (48,6% of the total number) 34,98% are made of clay bricks, this means 70% of the original houses built before 1900 are made of bricks. For original houses built before 1850 this percentage is 68%!
 - Of all façades (original, restored, renovated) 68,8% are visibly constructed with bricks
 - Assuming that underneath the plastered walls there will be a brick layer 88,9% is made of bricks!
 - Of all façades studied 33,96% still had the original bricks (45,85% original plastering incl.)
 - When looking at the choice of materials for renovation (50,32% of all the considered buildings were renovated), 27,51% used bricks, this means that in half of the renovation cases people stick to bricks

Wienerberger And Sustainability of The Wall Element



Conclusions

- LCA studies are scientifically reliable tools to measure the sustainability of building materials.
- It makes no sense to compare building materials when looking at sustainability, because the performance of all materials used in the building are interrelated, hence the minimum level for comparison is the wall element.
- The Eco impact of ceramic walls is at least as durable/ecological as for wooden constructions.
- The impact of transportation on the eco score is huge. Therefore one cannot compare eco scores from one location to the one of other locations. It is worthwhile to produce and sell products locally as much as possible.
- When designing long lasting products, one has to take into account the impact of replacement scenarios: a solution which initially scored well may turn out to be less durable when considering its full life cycle.
- The longer the life span, the less important the initial impact of the element becomes, energy loss turned out to be the most important for walls in the long run, therefore especially in case of long life cycles, it is worthwhile to insulate more.
- NPV-cost optimisation of a cavity wall, is obtained through excellent insulation.