VILLA WELPELOO ENVIRONMENTAL IMPACT					
Element	**Eco-Indicator 99Pt**	**Embodied Energy Mj**	**CO2 kg**	**Others Greenhouse Gases (CO2 Eq.) kg**	**Carbon Footprint global hectars**
wood reused	56	8650	223	522	0,12
steel reused	120	38104	2712	4842	1,06
new wood facade	132	11617	3521	641	0,14
new steel construction	725	319579	23698	45970	10

Villa Welpeloo Reused materials Life Cycle Data					
Element	**Transport**		**Shaping**		**Finishing**
steel 8400 kg	Truck 28t	37 km	Circular saw	(8 1/4")	Paint Solvant
90% reused	Alstatte	-Enschede	2 hours		230 m2
cable reels	Truck 16t	165 km	Circular saw	(7 1/4")	Platinisation
240 m2, 40 mm	Haaksbergen	Arnhem Enschede	1 hour		215 kWh/ton wood

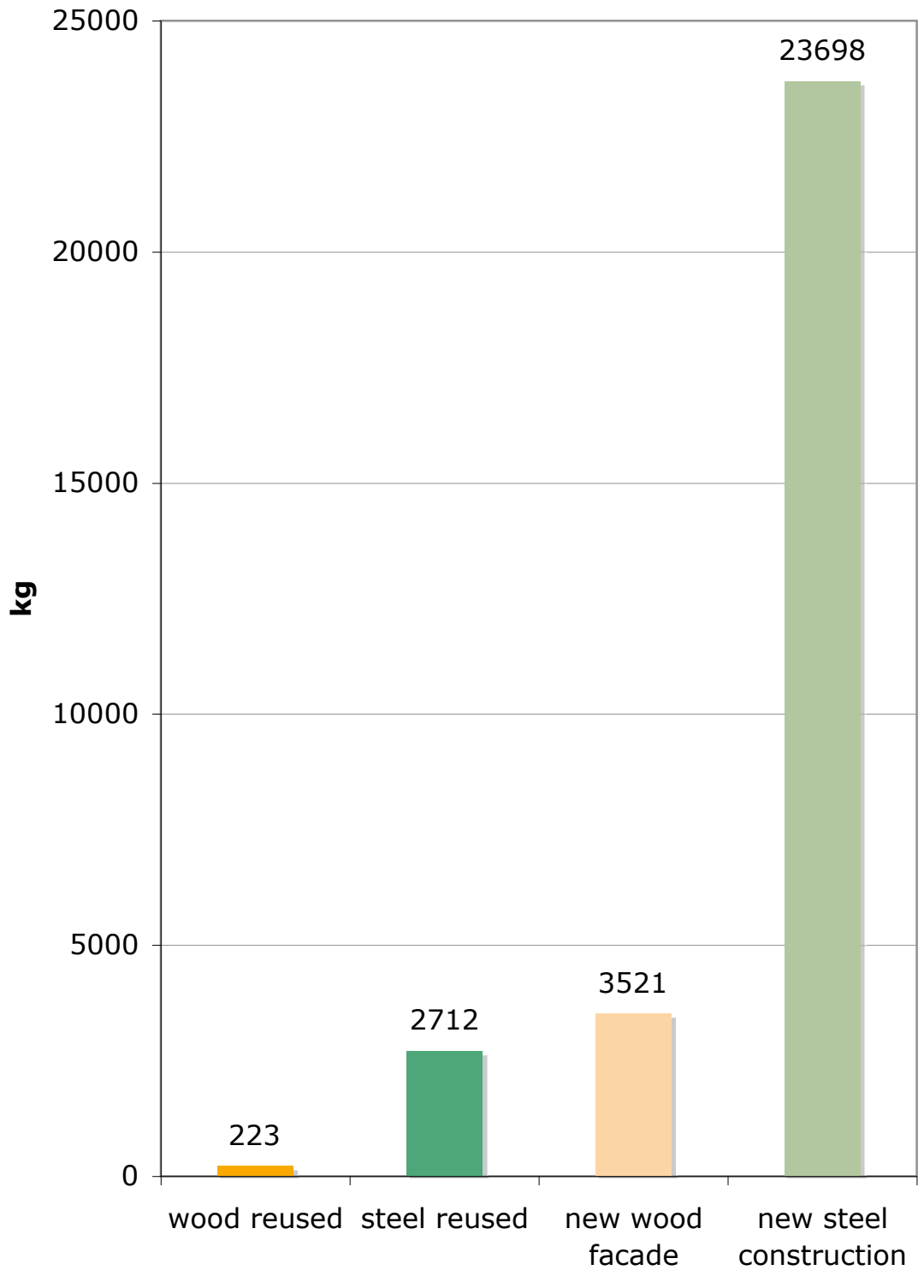
New wooden facade (splurce 240 m2, 20 mm)					
Stages	**EI 99 Pt**	**Embodied Energy Mj**	**CO2 kg**	**Others Greenhouse Gases (CO2 Eq.) kg**	**Carbon Footprint global hectars**
Production	122	9936	3478	542	0,119
Transp. Truck 28t, 90 km, Arnhem	10	1681	43	100	0,022

New steel construction(8400 kg)					
Stages	**EI 99 Pt**	**Embodied Energy Mj**	**CO2 kg**	**Others Greenhouse Gases (CO2 Eq.) kg**	**Carbon Footprint global hectars**
Production	722	319200	23688	45948	10,104
Transp. Truck 28t, 12 km, Alstatte	2	379	10	22	0,005

Materials Costs, Costs Effectiveness, EI Reduction				
Element	Life Exp. Yr	**Costs/€**	**R.E.I. %**	**C.E. %**
wood reused	min. 30	25300	58	183
steel reused	min. 30	26000	83	155
new wood facade	min. 30	13800		
new steel construction	min. 30	16800		

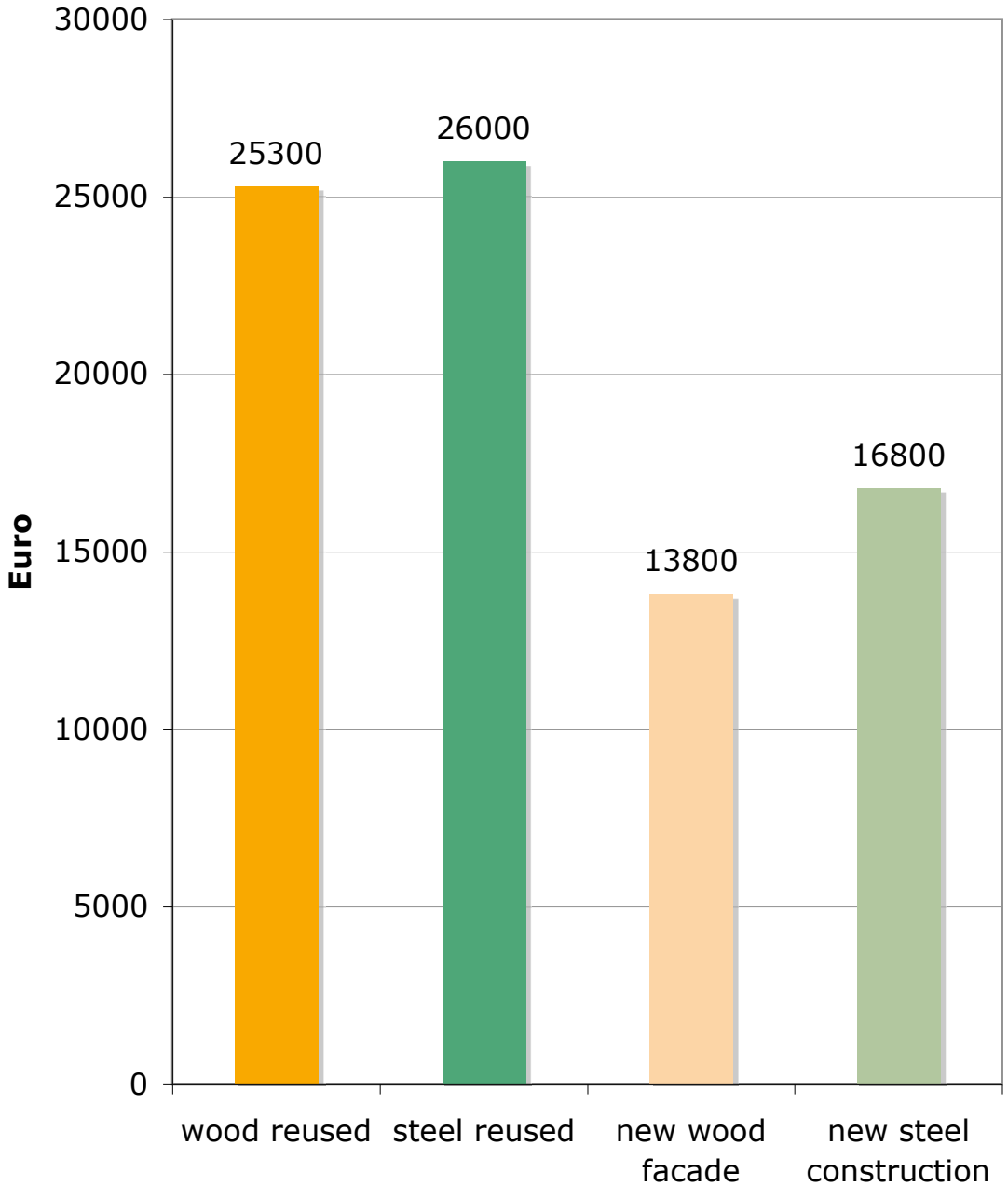
CO2

CO2 is the most diffused Greenhouse gas in the Earth's atmosphere.



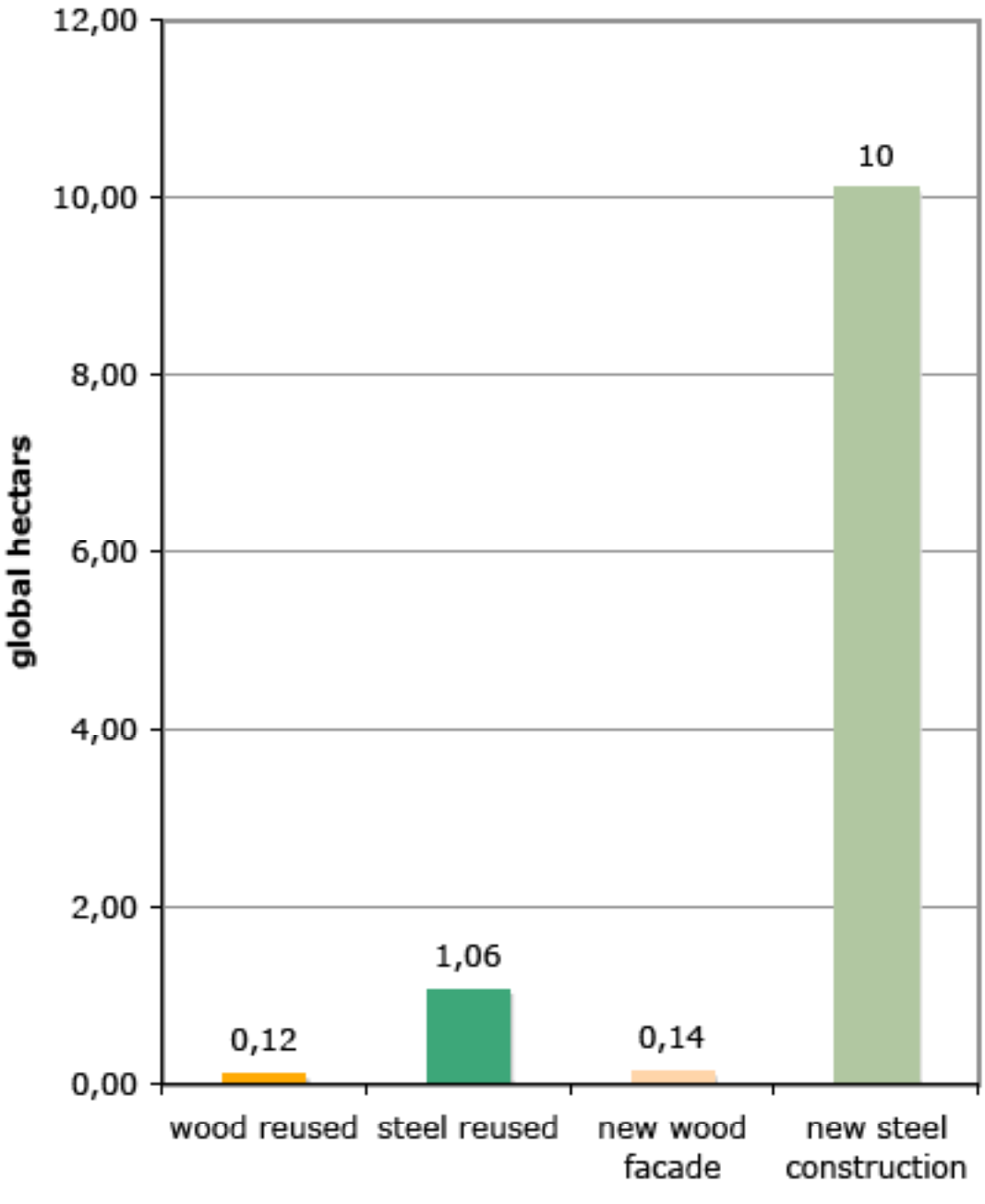
Costs

Costs in Euro including costs of materials, manufacturing and transport



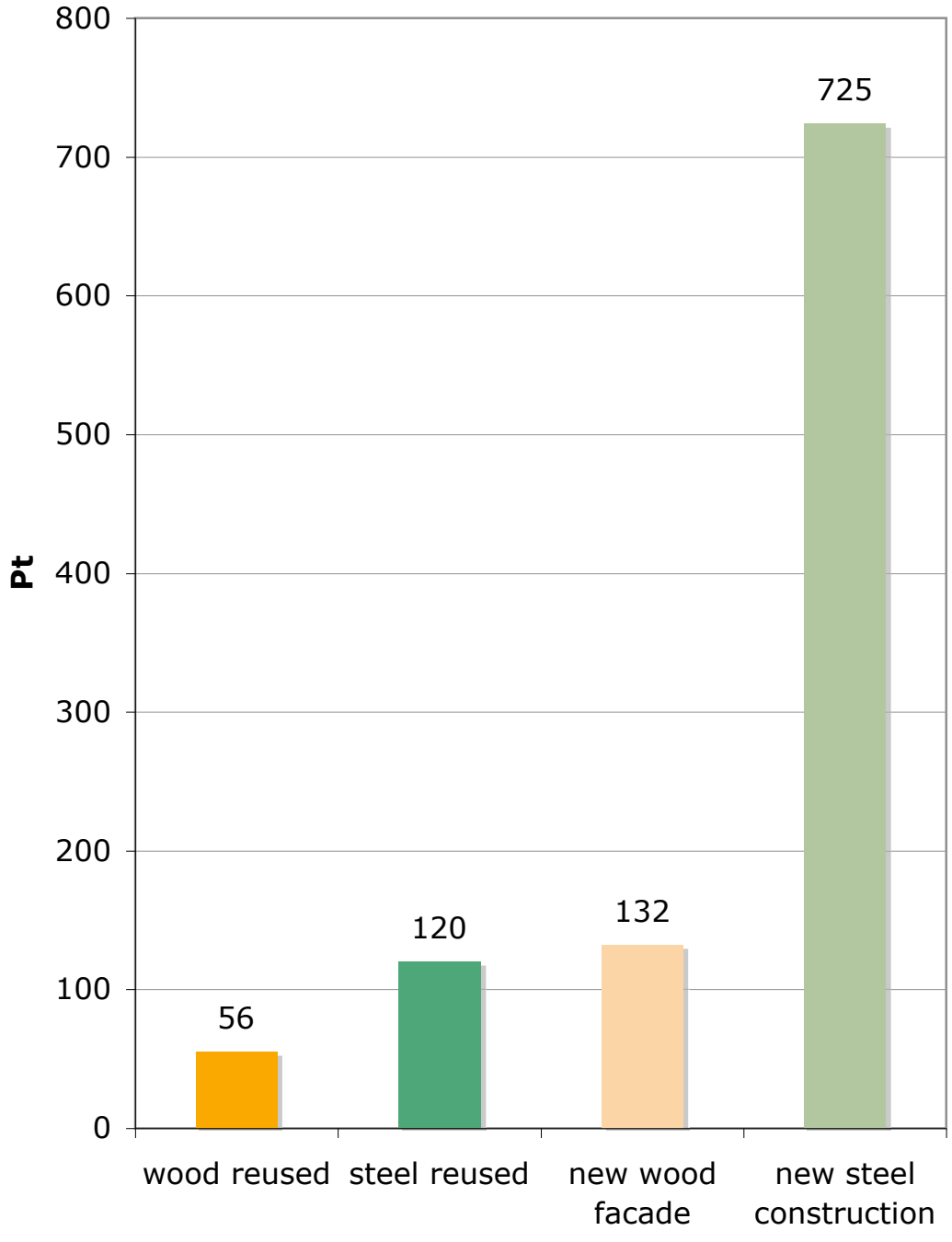
Ecological Footprint

The ecological footprint is a measure of human demand on the Eart`s ecosystem. It compares human demand with planet Earth`s ecological capacity to regenerate. It represents the amount of biologically productive land and sea area needed to regenerate the resources a human population consumes and to absorb and render harmless the corresponding waste. Using this assessment, it is possible to estimate how much of the Earth (or how many plantes Earths) it would take to support humanity if everybody lived a given lifestyle. For 2006, humanity`s total ecological services 1.4 times as fast as Earth can renew them.[1] Every year, this number is recalculated – with a three year lag due to the time it tales fort he UN to collect and publish all the underlying statistics.



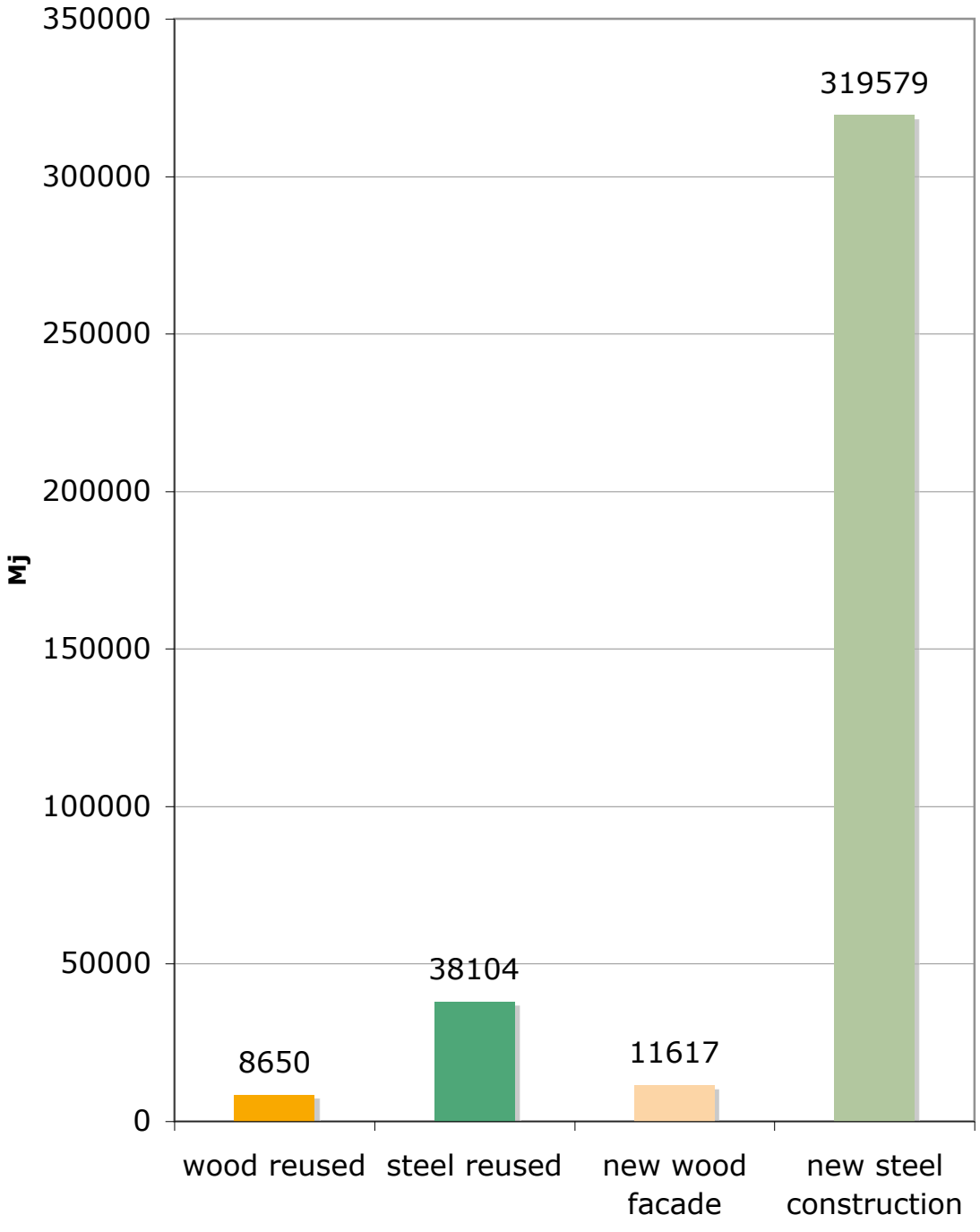
Eco Indicator 99

Every product damages the environment to some extent. Raw materials have to be extracted, products have to be manufactured, distributed and packaged. Standard Eco-Indicators are figures that express the total environmental load of a product or process.



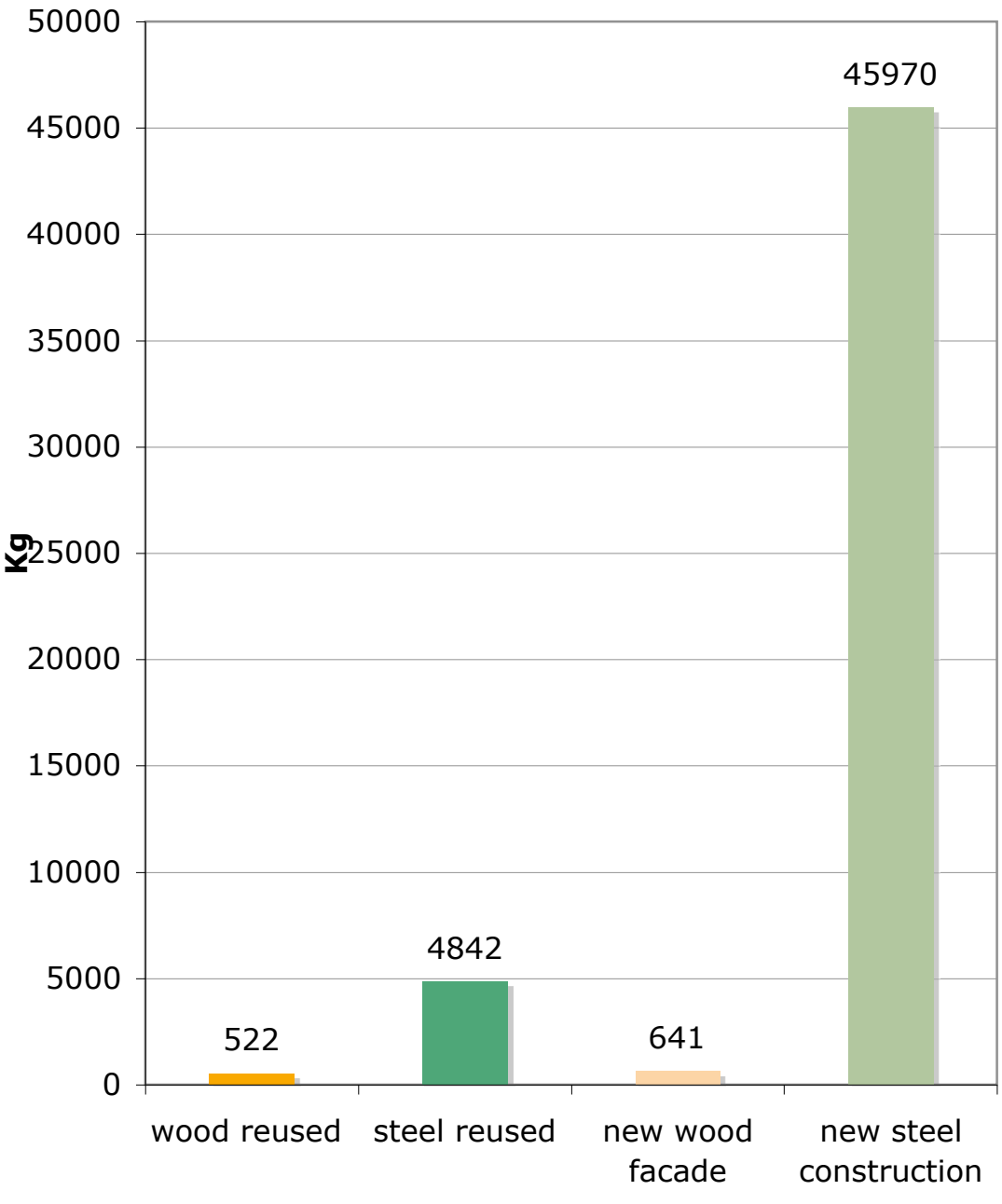
Embodied Energy

Embodied energy is an accounting methodology which aims to find the sum total of the energy necessary for an entire product lifecycle.
In this case Life Cycle phases considered for Reused materials are: transport, shaping and finishing. For new materials all the phases of production are considered: raw material extraction, transport to the factory, manufacture.



Greenhouse Gases/CO2 Equivalent

Carbon dioxide equivalent is a quantity that describes, for a given mixture and amount of greenhouse gas (CO, CH4, N2O), the amount of CO2 that would have the same global warming potential (GWP)



R.E.I.
Reduction of Environmental Impact

Reduction of Environmental Impact
100-(100/(EI/REI))
(EI= Eco-indicator value; REI= Reused material EI value)