

## Report normalization land transformation

This report contains the data used, the references and the calculation methods for the normalization of ReCiPe for land transformation in SimaPro.

Transformation type	EU25+3	World
Transformation, from arable	5,47E+08	
Transformation, from dump site	1,17E+08	
Transformation, from forest	7,76E+07	1,63E+09
Transformation, from heterogeneous, agricultural	6,84E+07	
Transformation, from industrial area	2,07E+09	
Transformation, from mineral extraction site	5,69E+08	
Transformation, from pasture and meadow	1,66E+08	
Transformation, from permanent crop	4,35E+07	
Transformation, from sea and ocean	2,91E+06	
Transformation, from shrub land, sclerophyllous	2,64E+07	
Transformation, from traffic area, road network	1,95E+08	
Transformation, from urban, continuously built	6,89E+08	
Transformation, from urban, discontinuously built	1,47E+10	
Transformation, from water bodies, artificial	2,57E+06	
Transformation, from water courses, artificial	5,17E+05	
Transformation, from tropical rain forest		7,15E+10
Transformation, to arable	1,55E+07	
Transformation, to dump site	1,18E+08	
Transformation, to forest	5,46E+06	
Transformation, to heterogeneous, agricultural	5,35E+06	
Transformation, to industrial area	2,11E+09	
Transformation, to mineral extraction site	5,62E+08	
Transformation, to pasture and meadow	1,16E+07	
Transformation, to permanent crop	7,54E+05	
Transformation, to sea and ocean	1,40E+04	
Transformation, to shrub land, sclerophyllous	1,23E+06	
Transformation, to traffic area, road network	2,05E+08	
Transformation, to urban, continuously built	6,93E+08	
Transformation, to urban, discontinuously built	1,47E+10	
Transformation, to water bodies, artificial	2,74E+07	
Transformation, to water courses, artificial	3,87E+06	

The source of the world land transformation was FAO (<http://www.fao.org/forestry/site/fra2005/en>). The total average annual change in primary forest was calculated from the year 2000 to 2005. The same was done for all forest and from this figure the annual change of the primary forest was subtracted.

The figures of the EU25+3 were obtained from Sleeswijk et al<sup>1</sup>.

<sup>1</sup> NORMALISATION IN PRODUCT LIFE CYCLE ASSESSMENT: An LCA of the Global and European Economic Systems in the year 2000, SUPPORTING INFORMATION , Anneke Wegener Sleeswijk, Laurant van Oers, Jeroen Guinée, Jaap Struijs and Mark Huijbregts