

100-year global warming potentials and other coefficients for calculating emissions and sequestration in CO₂-equivalents

Global warming potential coefficients for the most commonly emitted greenhouse gasses, published by the International Panel of Climate Change (IPCC). Coefficients used for calculating CO₂-equivalents in emissions and sequestration

100-YEAR GLOBAL WARMING POTENTIAL (GWP) FOR CALCULATING CO ₂ -EQUIVALENCIES OF GREENHOUSE GASSES		
GREENHOUSE GAS	COEFFICIENT	SOURCE
Carbon dioxide (CO ₂)	1	IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change
Methane (CH ₄)	28	
Nitrous oxide (N ₂ O)	265	
Tetrafluoroethane (HFC-134a)	1,300	
Sulphur hexafluoride (SF ₆)	23,500	

COEFFICIENTS FOR CALCULATING CARBON EMISSIONS AND SEQUESTRATION				
TYPE OF EMISSION / SEQUESTRATION	ENERGY SOURCE/ SEQUESTRATION	UNITS	COEFFICIENT	SOURCES
Transportation / Backup power	Gasoline	kg CO ₂ /L fuel	2.31	orkusetur.is; kolvidur.is
	Diesel	kg CO ₂ /L fuel	2.68	orkusetur.is; kolvidur.is
	Flights	See calculator**	Variable*	International Civil Aviation Organization (ICAO)**
Waste	Emission from landfills	kg CO ₂ /kg of waste	0.58	Efla's Life Cycle Analyses (LCA) application
	Emission from compost	kg CO ₂ /kg of waste	0.1894	National Inventory Report 2016
Carbon sequestration	Forestry	t CO ₂ /ha***	4.40	Snorrason A, et al 2002. Carbon sequestration in forest plantations in Iceland. Icelandic Agricultural Sciences, 15, 81–93.
	Land reclamation	t CO ₂ /ha	2.75	National Inventory Report 2008
Emission reduction	Wetland reclamation	t CO ₂ /ha	20	Gudmundsson, J., & Oskarsson, H. 2014. Carbon dioxide emission from drained organic soils in West-Iceland. Soil carbon sequestration for climate food security and ecosystem services pp. 155-159.

* Coefficient variable for fuel type, duration of trip, type of aircraft, payload weight etc.

** Calculator for flight emissions: <http://www.icao.int/environmental-protection/CarbonOffset/Pages/default.aspx>
On premises of calculator: http://www.icao.int/environmental-protection/CarbonOffset/Documents/Methodology_ICAO_Carbon_Calculator_v9_2016.pdf

*** Based on 2.000 trees per hectare