

Summary

The Infrastructure Sustainability (IS) Materials Calculator evaluates environmental impacts in relation to use of materials in infrastructure projects throughout their life cycle. It is a support tool for the IS rating scheme, developed and administered by the Infrastructure Sustainability Council of Australia.

Developers: Infrastructure Sustainability Council of Australia (ISCA)

Applicable sectors							Themes		
All Infrastructure	Buildings	Roads	Water	Energy	Transport	Construction	Materials	Ecology	Wastewater
							Potable Water	Carbon/GHG	Other
Countries	Australia					Access	Free to download		
Compatibility with other tools	Designed for use with the IS rating and certification tool					Guidance for users	The calculator contains inbuilt guidance. It is also accompanied by the <i>IS Technical Manual</i> with more detailed guidelines.		
Inputs & outputs	<p>The calculator allows for input of up to 10 infrastructure components for a given project. Components include: airports, bridges, drainage, electricity distribution, gas distribution, ports & wharves, railways, roadways, telecommunications, tunnels, wastewater treatment plants, water supply systems, water transmission, waterway & foreshore management.</p> <p>Each component selected offers a choice of inbuilt sub-components. The user then indicates the quantity and transport information of materials involved in each component from a choice of: asphalt, concrete, aggregates, steel, aluminium, glass, timber, piping and waste.</p> <p>The calculator compares the environmental impact of materials used compared to a Reference design, and outputs the impact reduction achieved in terms of GHG emissions and Ecopoints awarded for the Materials</p>					Methodology	<p>The project team wishing to gain IS certification uses the calculator to compare the environmental impact of materials actually used with the impact of materials based on a Reference design. The Reference design may be an early design agreed by stakeholders that represents business as usual.</p> <p>The calculator compares environmental impact reduction in the actual design according to 12 themes, including GHG</p>		
Database library	The calculator contains inbuilt values on environmental impact, including greenhouse gases produced (in terms of tCO ₂ e) for each tonne of infrastructure material used (depending on material type), as well as for each km of transportation (depending on mode of transportation). These inbuilt values can not be altered by the user.					Data intensity & flexibility	<p>Data flexibility is low. The user uses the calculator by either inserting numerical values or making choices from a drop-down menu, and is not given the option of modifying inbuilt data on which calculations are based on.</p> <p>Data intensity is also low. The user need only know the types and quantities of materials being used for each project component, their mode of transport and the distances travelled.</p>		

Note: "Free to download" does not necessarily imply that it is free for commercial use.