

Calculator: Carbon Pilot

<http://www.mottmac.com/corporateresponsibility/sustainability/sustainabilitytools/>

Summary

Carbon Pilot is a carbon and energy modelling tool for pre-design evaluation of the carbon impact of new buildings. The current version is specifically for UK offices but it will be extended to other typologies in the future.

Developers: Mott MacDonald

Applicable sectors							Themes		
All Infrastructure	Buildings	Roads	Water	Energy	Transport	Construction	Materials	Ecology	Wastewater
							Potable Water	Carbon/GHG	Other
Countries	UK					Access	Commercially available from Mott MacDonald		
Compatibility with other tools	INDUS; Sustainable Water Engineering Opportunity Tool					Guidance for Users	Carbon Pilot support comes in the form of Mott MacDonald consulting services.		
Inputs & Outputs	<p>Carbon Pilot uses hour-by-hour outputs of dynamic thermal simulation (by a TAS model) to produce predictions of energy consumption, CO2 emissions, operating costs and occupant comfort.</p> <p>Carbon Pilot allows for a range of basic building types, local climate, building orientation and whether the building conforms to a deep or a narrow plan geometry.</p> <p>It also permits the user to enter nearly a</p>					Methodology	<p>Carbon Pilot estimates the carbon benefits of incorporating different low carbon design measures (passive or active, particularly renewables) in early building design. It takes into consideration criteria such as building orientation, lighting, cooling and heating and produces cost, energy and carbon data.</p> <p>Building design data is compared to a base-case building design based on UK National Calculation Methodology (NCM) default values.</p>		
Database library	<p>Carbon Pilot contains in-built National Calculation Methodology (NCM) default values for occupancy times, equipment loads, occupancy density and temperatures.</p> <p>This is used for the base -case building and enables comparison with the building design in question.</p>					Data intensity & flexibility	<p>Data intensity is relatively low due to the tool's accompanying database and consultancy services. It is meant for very early stage use before the design has gelled sufficiently to warrant using dynamic thermal simulation.</p>		