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Glossary

biodegradable	capable of being decomposed by bacteria or other living organisms
Critical Protection Time	time/s of day and year when protection from solar UVR is most important at a site
custom made structures	built shade structures that are designed specifically for a site
design brief	documents the issues that need to be considered during the design stage of the shade project
direct UVR	UVR which reaches the earth from the sun in a straight line through the atmosphere
discretionary use areas	areas of a site where people make a choice to be there, eg grassed spectator areas at sports grounds
down-cycling	tendency for recycled materials to be used in lower grade applications than the initial use
ecologically sustainable design	relational approach to design in which possible negative environmental impacts of a proposed design are minimised
embodied energy	sum of all energy used to produce a material, product or structure including extraction and processing of raw materials, manufacturing, assembly and transportation
environmental UVR protection strategies	seek to create outdoor spaces that provide protection from both direct and indirect UVR
equinox	times of the year when day and night are of equal length, ie 21 March and 23 September
indirect UVR	UVR which reaches the earth from any direction after being 'scattered' by atmospheric particles or clouds and/or 'reflected' off surfaces and terrains
macroclimate	prevailing climatic conditions
magnetic north	the direction of north as indicated by compass readings; not to be used for shadow projections
microclimate	local climatic conditions
Minimal Erythema Dose (MED)	amount of exposure to UVR required to produce the first detectable reddening of the skin
non-discretionary use areas	areas of a site where people are compelled to be, eg numbered seating in grandstands at sports grounds
non-renewable resource	resource that is concentrated or formed at a rate much slower than its rate of consumption, so for all practical purposes it is non-renewable

observation method	method of assessing existing shade at a site by marking the shade patterns on the ground, measuring them and plotting them to scale
off-the-shelf structures	built shade structures that are pre-manufactured
projection method	method of assessing existing shade at a site by projecting the shade patterns using sun angles and plotting them to scale
recycling	to treat a material so that new products can be manufactured from it, the main benefit of recycling is that it helps stem the flow of waste to landfill. However recycling is not always automatically environmentally beneficial. It consumes large amounts of energy, and can disperse poisons into the environment
renewable resource	ability of a resource to be produced as part of its natural functioning system at rates comparable with its consumption
Shade Audit	procedure for determining the adequacy of existing shade at a site and whether there is a need for more shade
Shade Inventory	procedure for prioritising the provision of shade across multiple sites or for large sites with a number of precincts
solar azimuth angle	angle of the sun, measured clockwise from north in a horizontal plane
solar altitude angle	angle between the sun and the horizon at a given latitude
solar noon	time of day when the sun is highest in the sky. This does not necessarily correspond to noon (local time) but changes during the course of the year, as do the times for sunrise and sunset. During the critical summer months, solar noon in Sydney varies over 30 minutes, from 11.40am EST (12.40pm DST) in November to 12.10pm EST (1.10pm DST) in February
solar UVR	part of the spectrum of electromagnetic radiation emitted by the sun, comprising UVA, UVB and UVC; cannot be seen or felt
Solar UV Index	information supplied by the Australian Bureau of Meteorology on UVB levels (predictive or actual) for capitals and other cities across Australia
solstice	times of year when the sun is furthest from the equator, ie the 21 June, the day with the shortest period of daylight and the 22 December, the day with the longest period of daylight
stratospheric ozone	gas present in the earth's upper atmosphere, that absorbs most of the solar UVR entering the atmosphere, before it reaches the earth's surface

summer protective shade	shade that minimises UVR levels, as well as reduces heat and light
thermal mass	sum of all materials used that are able to store and discharge heat (usually walls, floors and thick slabs). The greater the density of a material, the greater the thermal mass
true north	direction of north when magnetic variation is corrected. Magnetic variation differs according to location and should be determined by consulting a surveyor or referring to navigational charts. The azimuth angle at solar noon is always true north, expressed as 0 degrees
Ultraviolet Protection Factor (UPF)	scale developed by the Australian Radiation Laboratory (ARL) to rate the UVR protection provided by materials. A material's UPF rating is based on the percentage of UVR transmitted through the material
UVR protective shade	shade that minimises exposure to both direct UVR and indirect UVR
UVR reflectance	degree to which a surface material or terrain can reflect UVR
winter protective shade	shade that minimises UVR levels, while allowing for the transmission of sufficient levels of heat and light