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Ersatz Future Meteorological Years

Ersatz Future Meteorological Years (EFMYs) for 2030 and 2050 are based on CSIRO's Projected Change Values (PCVs)[i] for a range of worldwide greenhouse gas emission scenarios. An EFMY is prepared by manipulating the data in the respective specially generated Baseline Meteorological Years (BMYs) by the CSIRO's monthly average PCVs which can be negative or positive. CSIRO provides PCVs for T_{max}, T_{mean}, T_{min}, Relative Humidity (RH), Wind-speed and Global Solar. More detail on how these PCVs are applied and how the EFMYs can be used, such as checking the efficiency of a proposal or a system toward the end of its projected life, can be accessed by clicking here.

Sets of six EFMYs have been generated from the BMY for each of 80 locations. The BMY is the equivalent of a Typical or Reference Meteorological Year but calculated using data from 1975 to 2005 inclusive (but selecting typical months only from the higher quality post-1990 set) to coincide with the internationally agreed baseline year of 1990 for climate change projection science. The BMYs were generated using the B weighting (1/3 solar, 2/3 other elements) as per the US NSRDB Method where Direct Beam Solar is unavailable.

Each file is named in the general form "ACDB_EFMY1_CANBERRA_2030MM1_20100611.TXT" as per the convention set out in the following Table:

EFMY Number	EFMY Label	Description of Scenario	Cited Model
1	2030MM1	2030 Mid Emissions Most Likely (model A1B)	INM-CM3.0
2	2030MW2	2030 Mid Emissions Warmest Likely (model A1B)	CSIRO-MK3.5
3	2050LM3	2050 Low Emissions Most Likely (model B1)	INM-CM3.0
4	2050LW4	2050 Low Emissions Warmest Likely (model B1)	CSIRO-MK3.5
5	2050HM5	2050 High Emissions Most Likely (model A1Fi)	INM-CM3.0
6	2050HW6	2050 High Emissions Warmest Likely (model A1Fi)	CSIRO-MK3.5

EFMY Climate Data for Building Energy Rating and Simulation Software

EFMYs are available from ACADS-BSG, (03) 9885 6586, or from Exemplary Energy Partners.

Introductory Prices: $55 per weather site per scenario, or $220 per state group per scenario, or

$165 per weather site with all 6 scenarios, or $660 per state group with all 6 scenarios, or

$440 for all 80 sites per scenario or $2,640 for all 80 sites and all six scenarios.

All prices include GST. For more than one user in an office add 50%. Add a further 50% for offices in one extra state group (NSW-ACT, QLD, SA-NT, Vic-Tas and WA) and a further 15% per extra state group.

A 50% discount applies for academic institutions using the data for teaching purposes and/or unpaid research.

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[i] *Future climate data for 100 prospective Australian solar energy sites*. John M Clarke, Craig Heady and Dr Leanne Webb, CSIRO, September 2014. For a copy, click here. "Equivalent datasets were generated by Exemplary Energy to align with the climate projections reference baseline – the two decades centred on 1990."

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