

NAWIC Member Contribution

Helen Armstrong, House of Stars

House	Zones	Rating	Adjusted Cooling	Adjusted Heating	Adjusted Total
1	1	1 Star	62.5 MJ/m ²	134.9 MJ/m ²	197.4 MJ/m ²
2	5	5 Star	26.4 MJ/m ²	23.5 MJ/m ²	49.9 MJ/m ²
3	7	7 Star	21.8 MJ/m ²	11.7 MJ/m ²	33.5 MJ/m ²

House	Zones	Adjusted Cooling	Adjusted Heating	Adjusted Total
1	1	8317 MJ	17957 MJ	26274 MJ
2	5	3514 MJ	3129 MJ	6643 MJ
3	7	2908 MJ	1552 MJ	4460 MJ

Please refer to the above table.

House A: 1 Star Rated Home represents a home with FC Sheeting Cladding and no roof insulation (maybe a typical uninsulated existing home). Assumes an estimated Total of 197.7mj of combined artificial heating and cooling is required per m² per year to maintain comfort

House B: 5 Star Rated Home. The same design, however with Sarking to External Walls and Anticon to the underside of an iron roof. Assumes an estimated Total of 49.90mj of combined artificial heating and cooling is required per m² per year to maintain comfort

House C: 7 Star Rated Home. The same design, however with Sarking + R1.5 Bulk Insulation to external walls and R2.5 Insulation to the ceiling. Assumes an estimated Total of 33.50mj of combined artificial heating and cooling is required per m² per year to maintain comfort

Summary

House A: 1 Star Rated Home is presumably uncomfortable during the year, especially during the peaks seasons of summer and winter. May require a significant amount of artificial heating and cooling to be considered as a comfortable living environment.

House B: 5 Star Rated Home is naturally more comfortable and may require as much as 259.59% less energy when using artificial heating and cooling than that of House A.

House C: 7 Star Rated Home requires as much as 489.25% lesser artificial Heating and Cooling that House A to maintain comfort. May require as much as 48.95% less than that of a House B, 5 Star Rated Home.

Please note the exactly same home design has been simulated in the BERS Software Program. Actual results will vary significantly with each design, orientation, climate zone and individual occupants behavior. These calculations have been provided simply to highlight the benefits of New Construction vs. many Existing Homes.

However, there are some existing homes particularly where there is external brickwork walls and ceiling insulation which may require far lesser artificial heating and cooling than that described than House A above.

The current move toward a 6 Star Rating requirement may be subject to the inclusion of appliances. It is yet to be confirmed which appliances will be applied to the Energy Rating calculation and the resultant impact on the overall rating. It seems that artificial lighting may soon contribute to the equation and perhaps a solar hot water system could adopt additional credits.

The Industry Stakeholders believe that if any such appliance can contribute to the overall Energy

Efficiency Rating, then homes with Photovoltaic Power should also apply for additional credits.

At this time Energy Rating Assessors using the Software Verification Methods can only assume that houses that already meet the 6 Star Energy Rating in the Software Verification Method may be "safe as houses". The Software Verification Method's programs to date have not implemented the performance criteria of any of the appliances speculated under the consultation process.