

Energy in Buildings: Best Practice

The Clean Energy Finance Corporation has published "Energy in Buildings – 50 Best Practice Initiatives" (2017, 20 pages).

It presents a pictographic summary and comparison of the 50 design options classified and compared by:

- Cost
- Payback period
- Building types suited
- Climate zones suited
- Brief description of each

ARCHITECTURAL BUILT FORM

1	2	3	4	5	6	7	8	\$	<5							
<p>REDUCES HEATING, COOLING, LIGHTING AND VENTILATION ENERGY USE</p> <p>'Passive design' aims to exclude direct sun during hot weather, admit direct sun during cold weather, optimise natural daylight, control glare - and in naturally ventilated buildings, maximise access to breezes. A rectangular building footprint stretched from east to west helps minimise direct sun from angles where it is difficult to control. Optimising the size of external windows is important - for curtain walls a raised sill is helpful. A narrow floor plate is desirable, atria can be included, and often a central core is preferable. Incorporating prominent stairs can also help by reducing lift energy use.</p> <p><i>AMDC, Swinburne University of Technology, VIC</i></p>																

Review comments have included:

- "This represents all the ideas you could explore with a mechanical engineer / sustainability expert in a green building over months or years. What a great guide!" [Name withheld]
- "Brilliant. . . and all in only 20 pages. One of the most extremely useful and concise papers I have seen" [Name withheld]

ENHANCED INSULATION & THERMAL BREAKS

1	2	3	4	5	6	7	8	\$\$\$	<20							
<p>REDUCES HEATING AND COOLING ENERGY USE</p> <p>The thermal resistance of insulation (measured as 'R-value', where higher is better) and its continuity as it wraps around a building help to minimise heat transfer - as does the avoidance of 'thermal bridges' (localised points in steel or concrete structures where heat transfers more easily). Exceeding the minimums in the National Construction Code is often worthwhile. Rigid insulation can be installed outside of the structure - for example 'insulated sandwich panel' for roofs, or 'insulated sheathing' for walls. Structural 'thermal break' products can help where a structural element penetrates through the line of insulation.</p> <p><i>Right Homes - The Siding, Lathlain, WA</i></p>																

"Energy in Buildings – 50 Best Practice Initiatives" can be [downloaded here](#) .

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