

Paul Dolphin

A short guide to building a Sustainable House



Introduction

My Background

What is sustainability

Livability

How you achieve a sustainable house

Order of priority

Conclusion

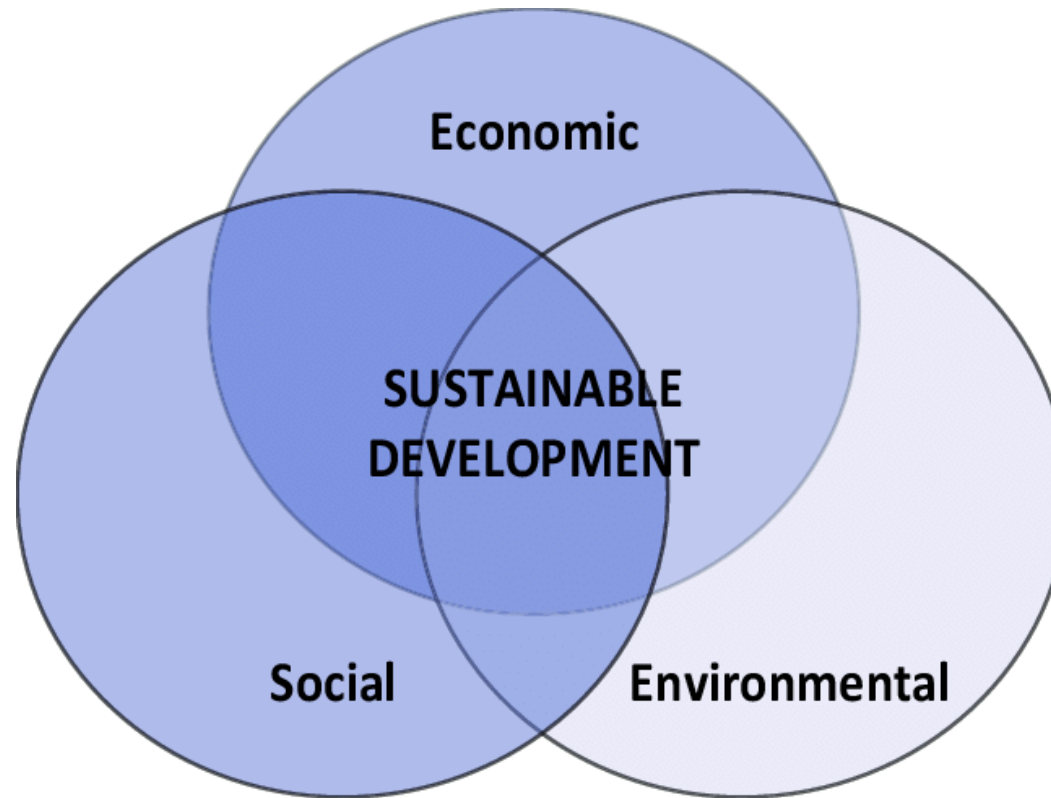
More people in Australia die of excess cold in their homes than they do in Sweden.

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Sustainability = efficiency

Brundtland Report: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



SustainAbility Design™ Specialist

My Background

Interested in deep eco design

Became a building surveyor

Senior sustainable designer for a housing association with 15,000 dwellings

Set up sustainable building design practice with 100s of successful DAs completed

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Defects usually mean water in the wrong place



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Defects usually mean water in the wrong place



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



SustainAbility Design™ Specialist

Defects usually mean water in the wrong place



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



My philosophy is the eco middle way

Balance all three aspects of sustainability to the clients' needs.

Use conventional material in a sustainable way.

20% of a building's energy is in its construction.

80% is in its running costs.

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Livability

Cool in Summer.

Warm in Winter.

The building meets the occupants' needs.

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



A sustainable house does not cost more

Put simply all you need is two things:

- A sustainable building designer
- A sustainable builder

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



My order of priority

- 1 Orientation – solar gain/shading
- 2 Slab on ground – thermal mass
- 3 Windows - double glazed to reduce convection
- 4 Roof insulation
- 5 Wall insulation/construction
- 6 Water Heating
- 7 Solar PV
- 8 Space heating

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



1. Orientation – solar gain/shading



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



1. Orientation – solar gain/shading



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



SustainAbility Design™ Specialist

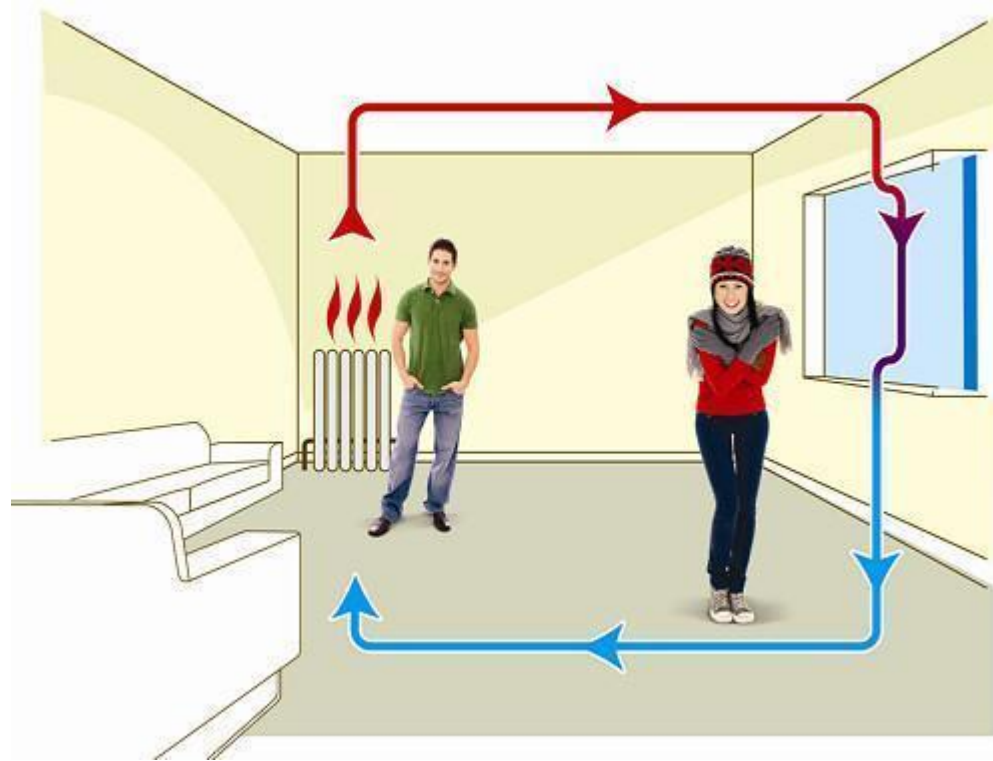
2. Slab on ground – thermal mass



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



3. Windows - double glazed to reduce convection



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



4. Roof insulation

5. wall insulation/construction



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



6. Water Heating
7. Solar PV
8. Space heating



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Rebuild or renovate?

- Does it have good bones/ orientation?
- Embodied energy.
- Liveability- the outcome is often not great.
- More materials used/wasted with a rebuild.
- Would you put a new engine in a 1960 Holden? Or try to put the guts of a smart phone in an old telephone?



Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Conclusion

Remember the three aspects of sustainability:

- Consider liveability
- Remember the middle way
- Think about the order of importance

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au



Contact

Paul Dolphin
Accredited Building Designer
Paul Dolphin Designs
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au

Paul Dolphin MBDA, MLPM, Msc.
SustainAbility Design Specialist
Mobile 0429204924
email paul@pauldolphindesigns.com.au
Web pauldolphindesigns.com.au

