

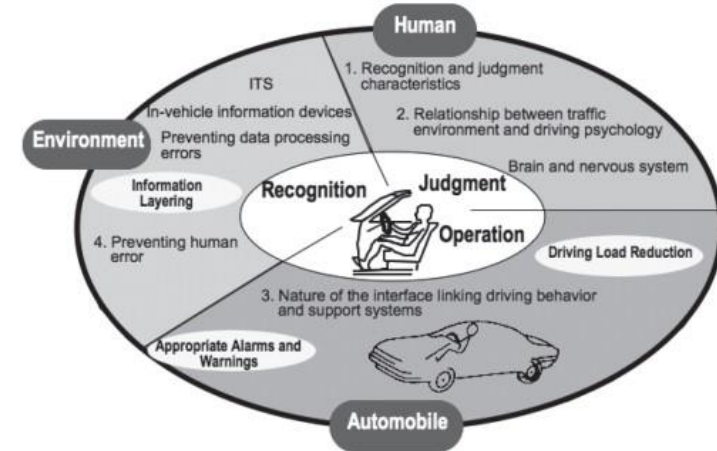
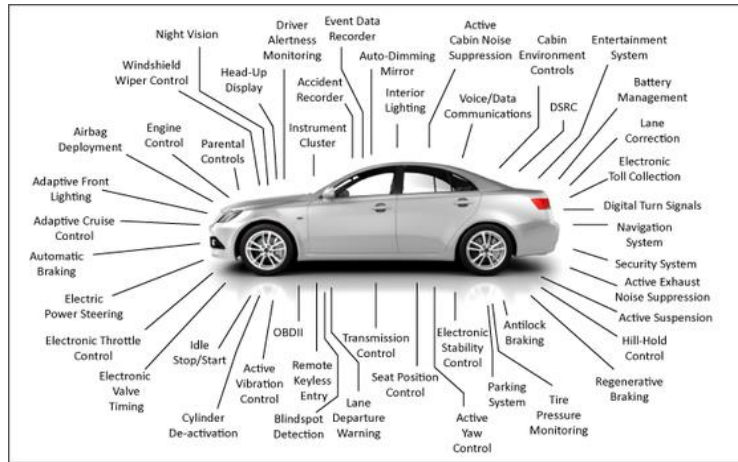


# Eco Design Advisor

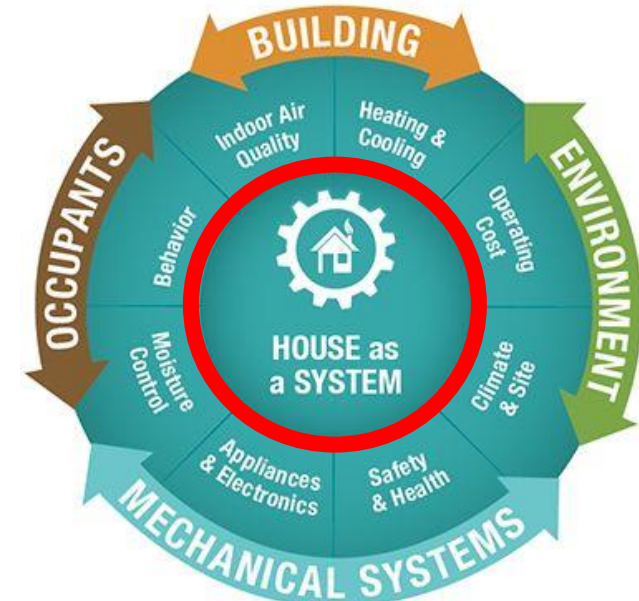
to build better now

how to make smart heating choices that are  
good for you and the planet.

25.10.2019

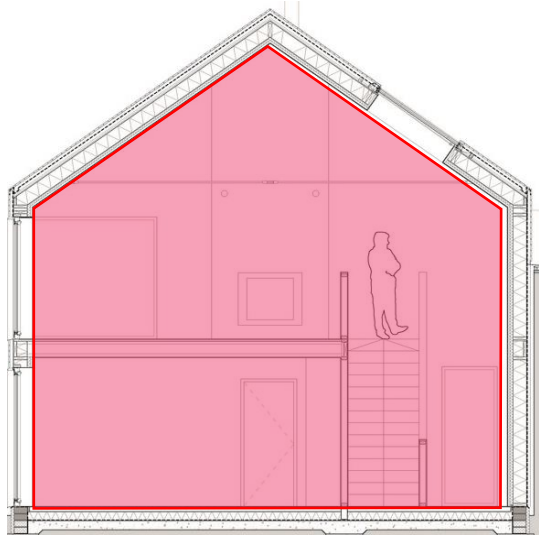


*Everything is linked*



## Understanding how things are connected

NEED



*heating everywhere*

I will have



Central Heating

I also want



Carpet everywhere





# How to choose the best heating system?

## You, the User

What type of heat do I like ?



Convection



Radiation

## The House

What type of house do I have?



## The heating device

How to interact with the system?

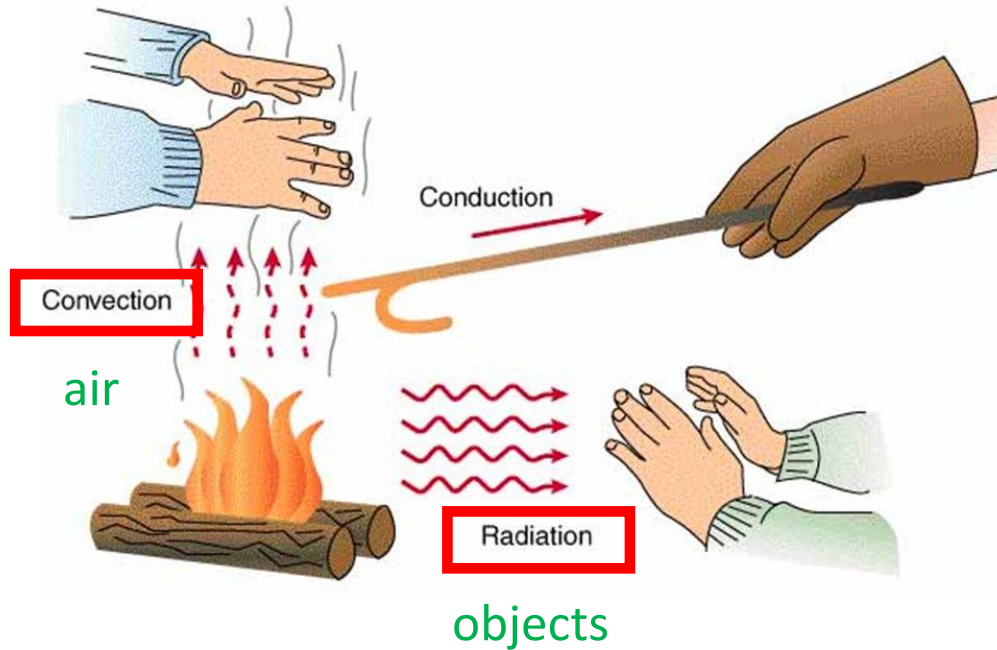


# How to choose the best heating system?

## Types of heat transfer

### CONVECTION

- Heat pump
- Pellet fire with fan
- Radiator with fan
- Convector
- Fan heater



### RADIATION

- Sun (passive solar)
- Wood burner
- Radiator
- Panel heater
- Underfloor heating



*Everything is linked*



## *The heating device*





## *New heating systems*



## *Cost of the system VS running cost*



**Fuel cost per year**

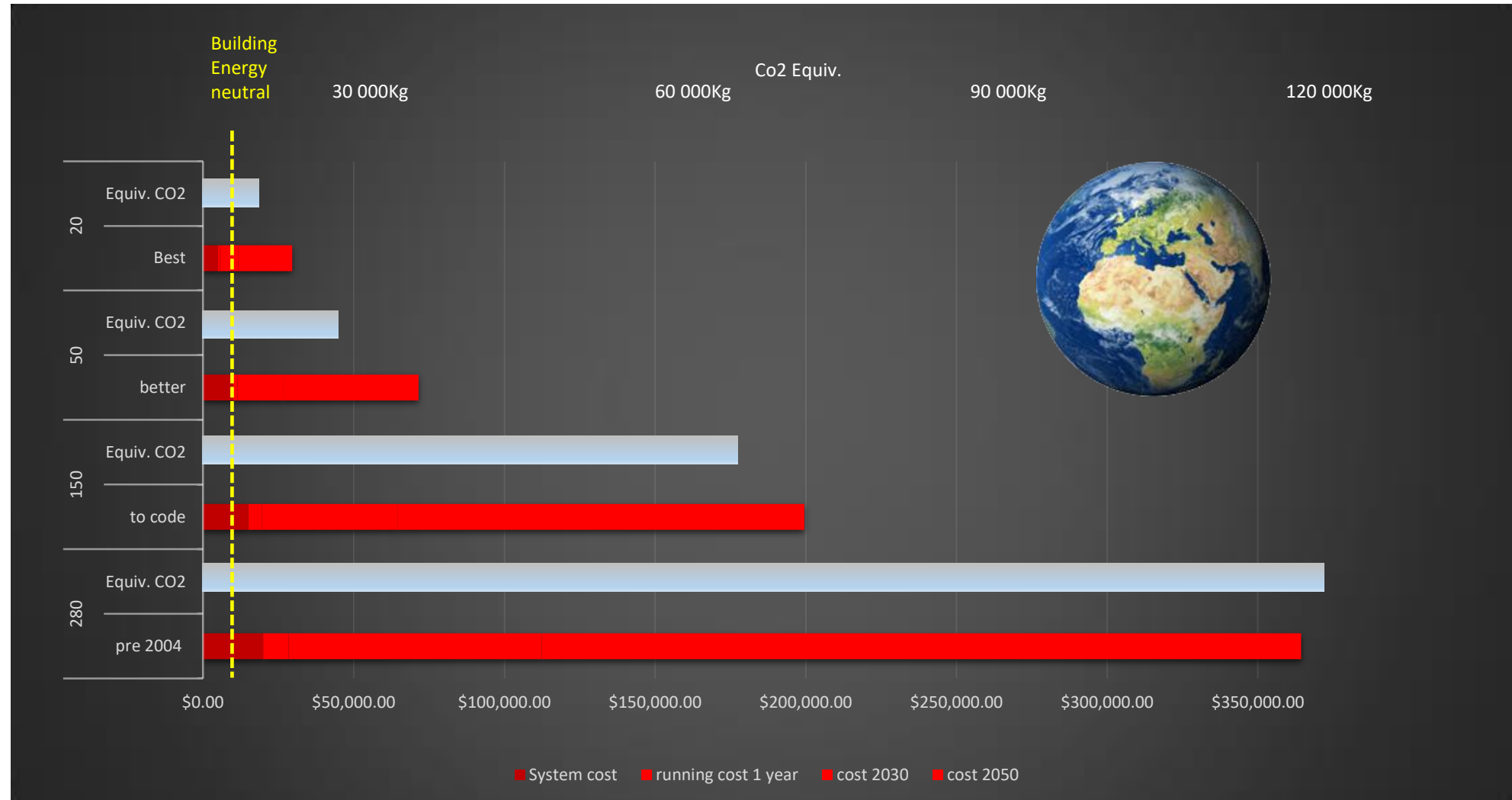
?

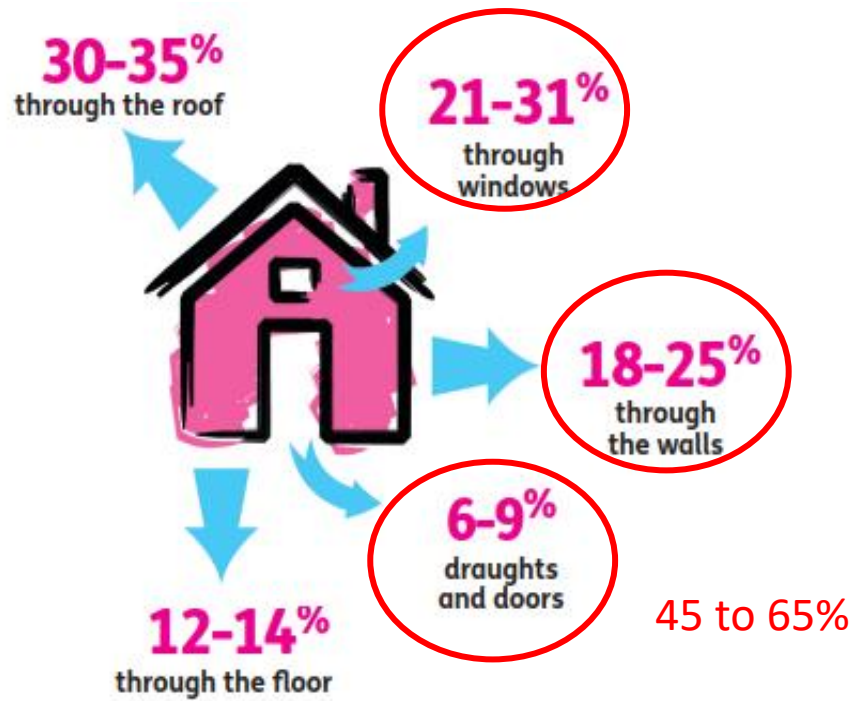
**Power bills per year**



# Cost of the system VS Cost for the planet

Cost & CO2 Equiv / 2020 > 2050



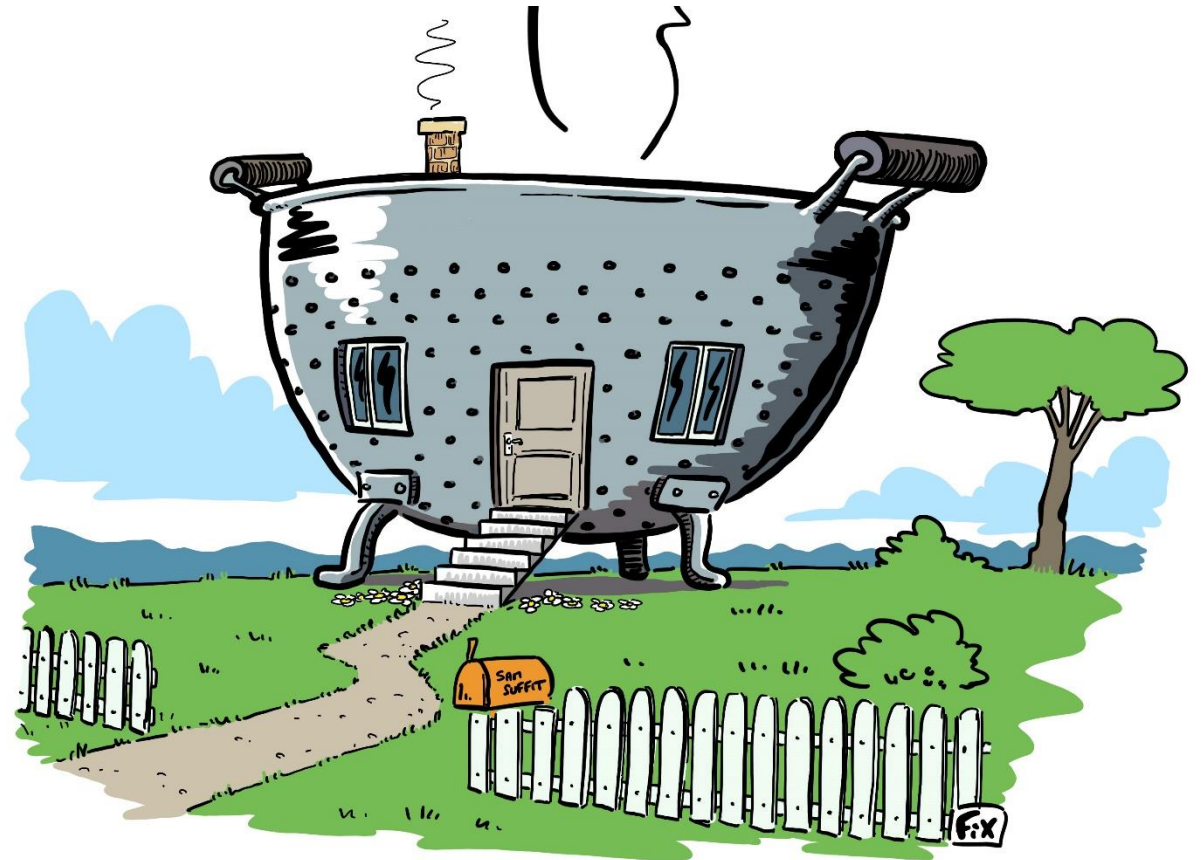


CAN YOU  
AFFORD TO  
LOSE THIS  
MUCH OF YOUR  
HOME'S HEAT?



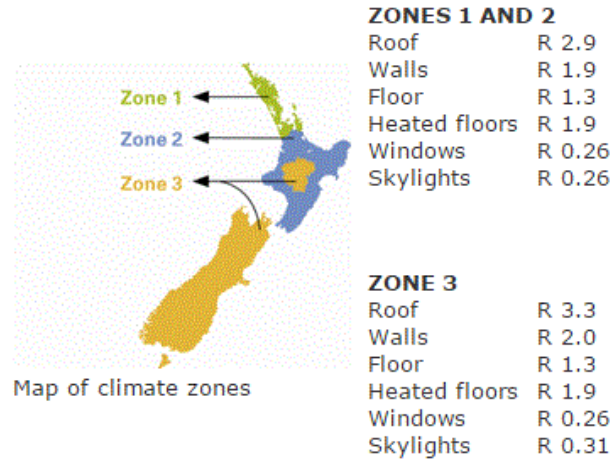
*Love, I wonder if we should  
redo the insulation ....*

*Sometimes, I feel like  
I am living in a strainer...*



## Get it right, insulate first !

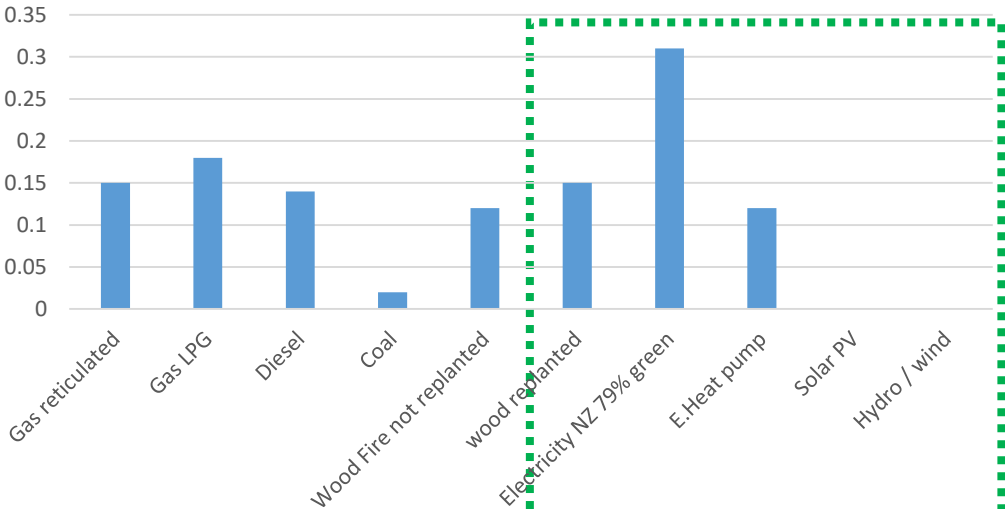
Building better:



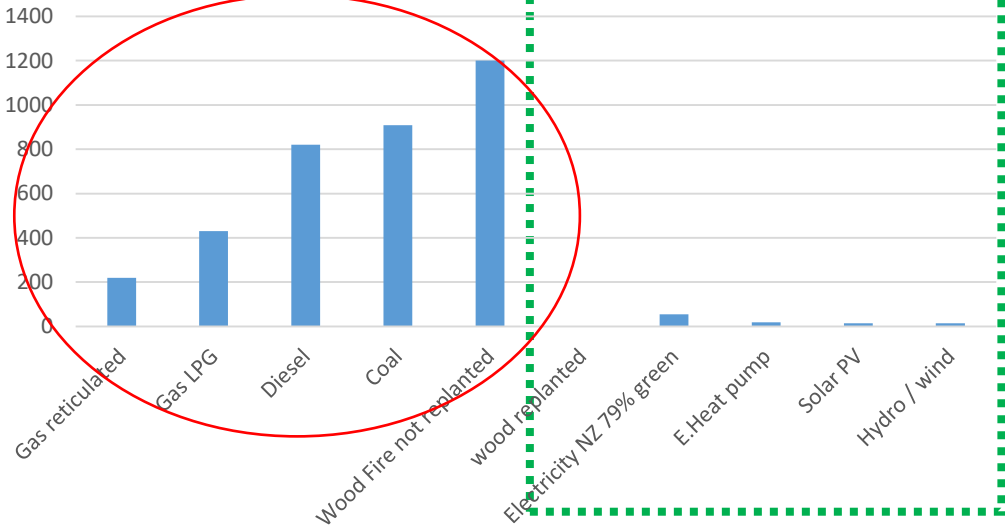
	NZ B C minimums	Better (NZGBC)	Best (UK)
floor	R 1.3	R 2	R 3
wall	R 2	R 3	R 4
roof	R 3.3	R 4	R 5
Windows	R 0.26	R 0.4	R 0.8
Skylights	R 0.31	R 0.5	R 0.8
heated floor	R 1.9		



Cost of Fuel per kWh of energy \$/ kWh energy



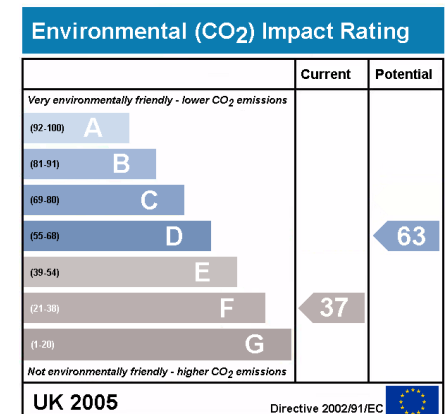
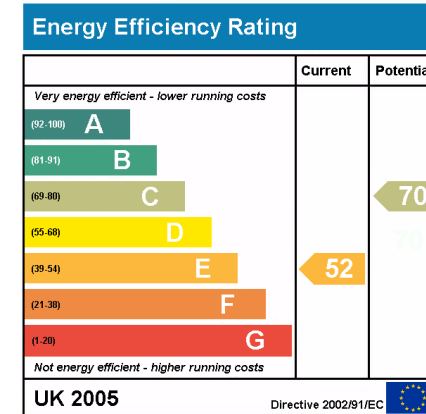
Cost of fuel for the planet g. Co2 eq. / kWh



# Key questions to answer for the perfect heating system

## Building better:

- Make sure you well insulated
- choose the heat you like / work with your home
- Choose how you want to interact
- Consider all the costs ( install – running – GHG)
- Plan for the future



## *Examples of thought process*







# Eco Design Advisor

[HOME](#) [NEW BUILDS](#) [EXISTING HOMES](#) [RESOURCES](#) [CONFERENCES](#) [NEWS & EVENTS](#) [SUPPORTERS](#) [ABOUT US](#) [CONTACT US](#)

## USEFUL LINKS

**Below are some informative websites on energy, water, material efficiency and behaviour change:**

[EECA](#): Energy Efficiency and Conservation Authority – EECA is the government agency that works to improve the energy efficiency of New Zealand's homes and businesses, and encourages the uptake of renewable energy

[EECA Energywise](#): Energy efficient appliances and products comparison database

[BRANZ](#): Are dedicated to the science behind buildings, materials and systems, and how they work together

[Beacon Pathway](#): Beacon have both research and projects in home performance and sustainable neighbourhoods and communities

[Futurefit](#): discover your impact on the planet...

[Homefit](#): Online check: This is designed for Kiwis looking at homes to buy or rent, or for homeowners looking to improve their property.

[Environmental Choice](#): In New Zealand, Environmental Choice is the official environmental label for friendly, safe and sustainable materials

[Design Navigator](#): The Design Navigator website offers you a range of online calculators for buildings. You also find a lot of useful information in the Solar Design FAQs and the listed links and case studies

[BRANZ LCA](#): It's purpose is to provide tools, information and data to help with better understanding the climate change and other environmental impacts to buildings.

[BRANZ REBRI](#): Material Waste. How to reduce your construction waste, including designing out waste, waste on building sites, through to demolition waste

[BRANZ Maintaining My Home](#): Practical advice on how to maintain different parts of your home, and on related issues such as building controls, health and safety, earthquakes, weathertightness and painting.

[Superhome](#): The Superhome Movement operates as a not-for profit organisation with a number of key activities centred around education and lobbying to support change in the New Zealand building industry

[Homestar](#): Homestar is a comprehensive, independent national rating tool, run by the not-for-profit Green Building Council, that measures the health, warmth and efficiency of New Zealand houses. A home is rated on a scale from 6 to 10.

### INFO SHEETS

[Heat Pump Water Heaters](#)

[Eaves/Shading](#)

[Windows](#)

[Passive solar design](#)

[Thermal mass](#)

[Reducing moisture & condensation](#)

[Ventilation](#)



homestar

FUTUREFIT.NZ



SUPERHOME  
movement

Christchurch  
City Council



Energy Efficiency and  
Conservation Authority  
Te Tari Tiaki Pūngao

*Thank-you*

*Any questions?*

