

Residential Air Conditioning



The Basics

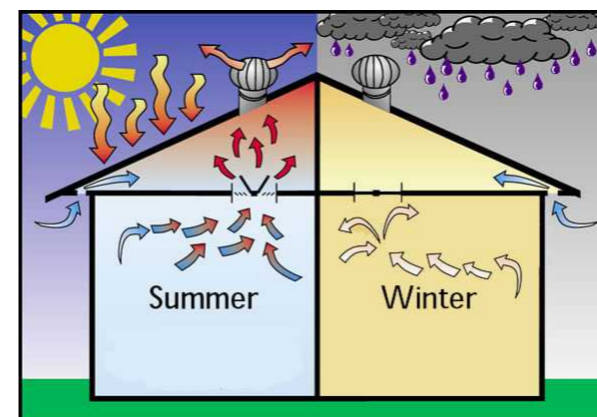
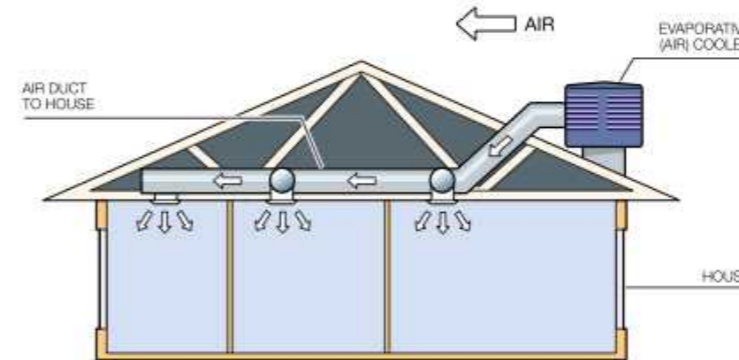
Laurie Reeves



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Types of HVAC

- Split Systems
- Ducted Systems
- Evaporative
- Alternative



The Important Questions

- What size do I need?
- How much noise will it make?
- How much energy will it use?



Things to Consider

- Location
- Orientation
- Shading – Internal/External
- Insulation
- Sealing
- Installation



Considerations

- local and site climatic conditions
- correctly orientating your home
- keeping summer sun out and letting winter sun in
- capturing cooling summer breezes and excluding cold winter winds
- shading eastern and western walls and glass all year round to minimise heat gain
- locating rooms to get light and heat where it's needed most



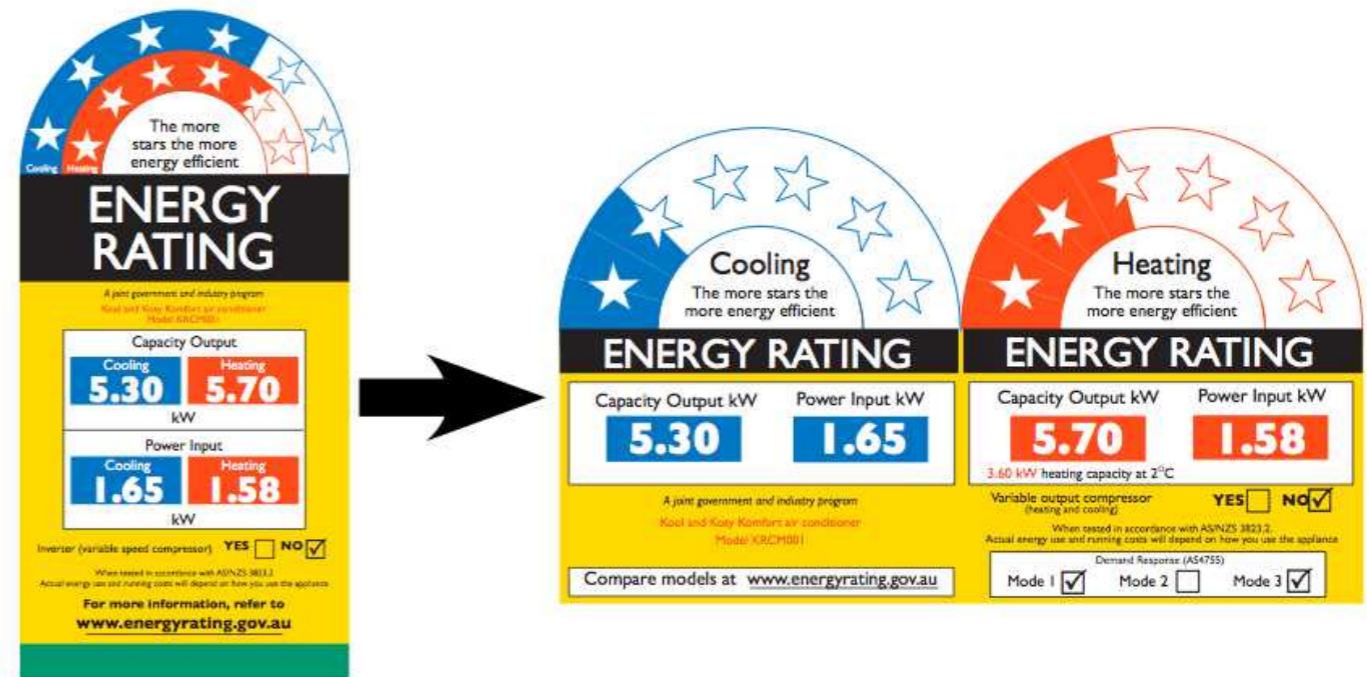
Considerations

- insulating walls, roof and floor to minimise summer heat gain and winter heat loss
- building high ceilings and open plan living areas to facilitate air movement
- installing screened and shaded areas for outdoor living in summer



Energy Use

- Energy Labels & MEPS



- 1 April 2010 – All relevant products manufactured or imported on or after this date must be compliant with and registered to the new standard.

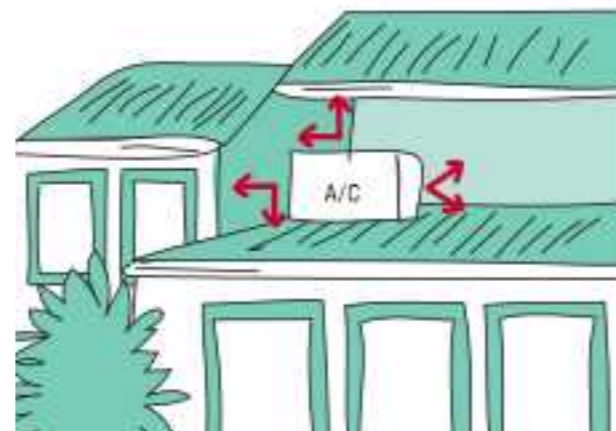
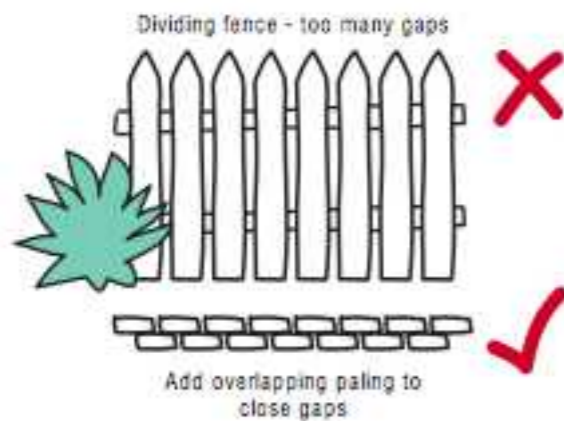
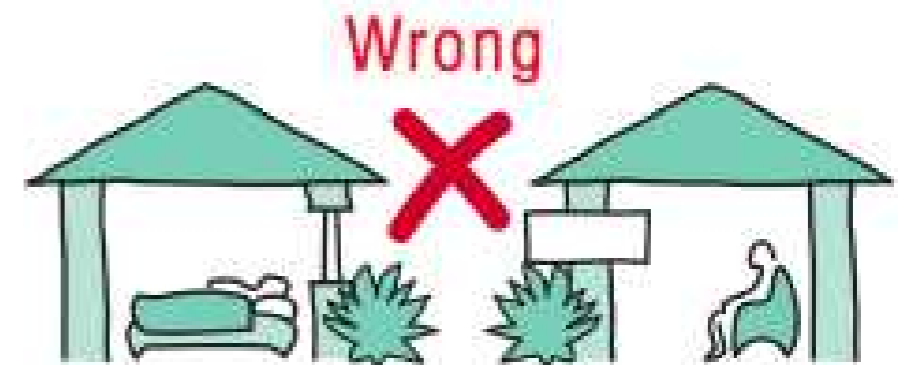
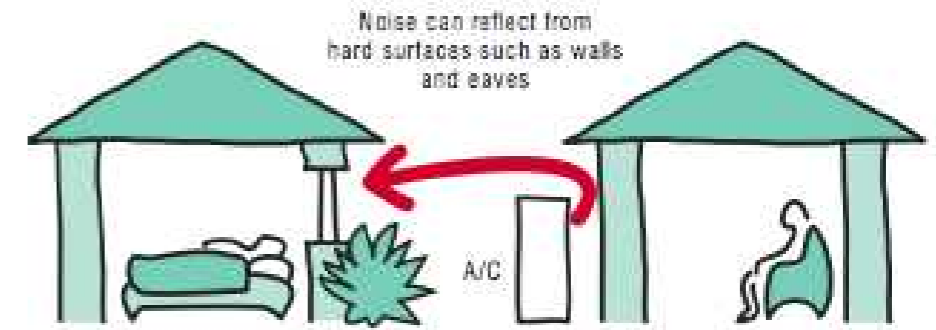
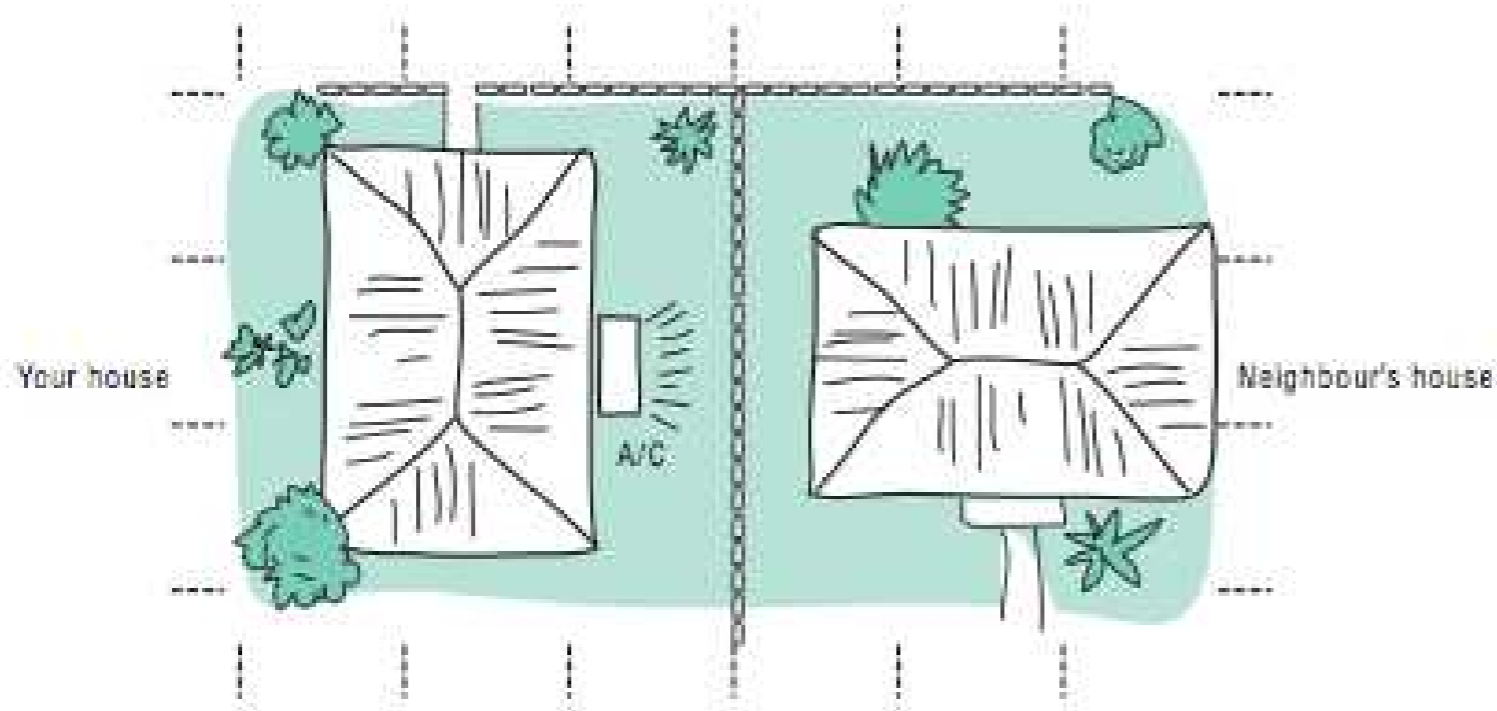


Refrigerants

- Fluorocarbon refrigerant used in most modern air conditioners
- One kilogram R410a, has the same global warming impact as two tonnes of carbon dioxide
- In older air conditioning units, the refrigerant is both a synthetic greenhouse gas and an ozone depleting substance.
- If leaked into the atmosphere, it has the same effect as driving a four-cylinder car for six months.



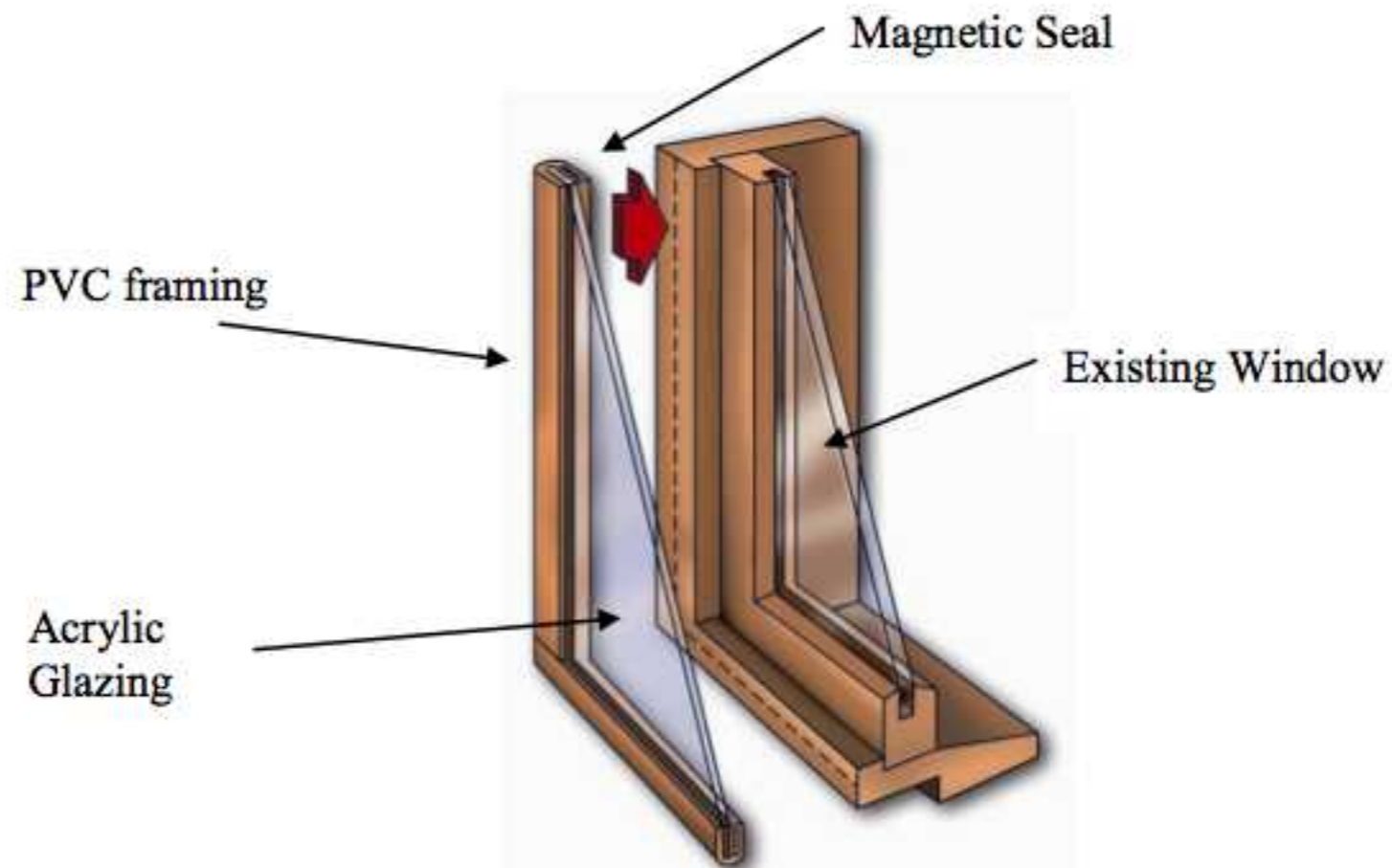
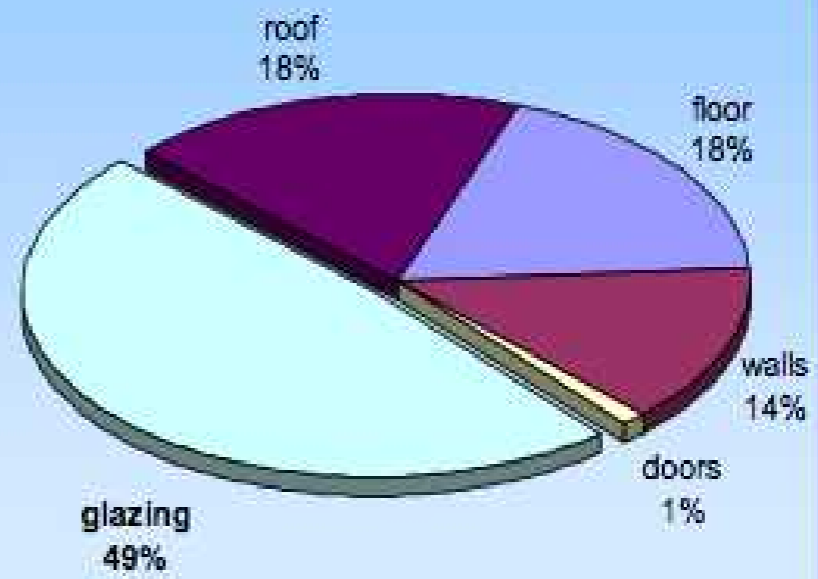
Acoustic Privacy



Shares of envelope heat gain



Shares of envelope heat loss



Installation

















AC Checklist

- Insulate your home
- Consider alternatives - rooftop fans, vents
- Window shading - trees, awnings, shrubs
- Check noise criteria - Councils
- Buy quietest available model
- Consider reverse cycle - heat/cool



AC Checklist

- Single room or whole house
- Inverters – small to medium
- Reputable installer – experience, licenced
- Ventilation around unit – warranty
- www.fairair.com.au
- www.airah.com.au



Thank You

Questions?

www.meltfm.com.au

