Smart living.

Building what's best for you and the environment



Ginninderry



Building a new house is one of the most costly decisions you will make in your lifetime.

A new home - if built well - can last more than 100 years, so building it right the first time is important! The decisions you make around the size, orientation and materials can make a significant impact on the long term running costs of your home. At Ginninderry, our aim is to help you design a home that is more comfortable to live in, will provide a better lifestyle and will help you save on energy costs. Here we've put together some tips and guidelines to help you make the most of your investment.

Setting the Highest Standards



Star - Communities program.

Ginninderry has been designed with best practice sustainability features front of mind. Now it's your turn!

Ginninderry has achieved a World Leading 6 Star rating through the Green Building Council of Australia's Green

Your house Building the shell

Insulation and **Draught Proofing**

Controlling how air flows in and out of your home is important. The shell of your home should act like an esky - you want to seal and insulate it the best you can. Increasing the insulation in your ceilings and walls is one way to keep you warm in winter and cool in summer by giving you the greatest barrier between you and the external climate. This will not only help you save money on heating and cooling but will also stop air escaping unwillingly.

Consider having an air leakage test. A newly built house should achieve less than 10 air changes an hour.

Windows and Glazing

Windows and glass doors let in light, fresh air and provide good indoor and outdoor living connections. Windows are also the weakest link in the insulation of you building and can be a major source of unwanted heat gain in summer and significant heat loss in winter. Where possible, consider using double glazed, or low-e glass. The thermal performance of your windows also includes your frames. Aim for a window system with thermally broken frames, low U-values (less than 4.1) and high solar heat gain coefficient (around 0.66). A single glazed window can be up to 15 times worse at insulating your house than a wall. Choose the location of your windows carefully and size them appropriately.

Roof

Your roof plays an important part in orientating your solar panels. Your panels will work best if installed facing North at 30 degrees from horizontal. When designing your home, think about your roof design to easily cater for your panels. The more basic the design, the easier your job will be!

The colour of your roof could also affect how much heat your home absorbs. Pick lighter shades of roofing so yours doesn't have unwanted heat in your ceiling space.

Designing for the **Canberra** Climate

Canberra is a cool, temperate area of Australia. It has low humidity and large changes between day and night (diurnal) temperatures and four very distinct seasons. We have highly variable spring and autumn conditions, cold to very cold winters and hot, dry summers.

The variability of our climate will only become greater with climate change. Winter sun and summer shading will help to passively heat and cool your home when it needs it most.

- How can I achieve a higher EER?
- Should I install double glazing?

- Can I orientate my living areas to the North to make use of the sun in winter?

Energy Efficiency Rating

In the ACT, all new homes are required to meet a minimum 6 Star Energy Efficiency Rating (EER). The EER of your home assesses the building design, materials, and layout; and predicts how much heating and cooling you need to be comfortable. The overall EER is made up of both heating and cooling components. The heating load tells you how much heating is required to make your home comfortable. The cooling load tells you how much cooling you will require. The bigger the home, the more it takes to heat and cool your home and therefore affect your EER. The overall EER is a balance of both (like a see-saw) so make sure your EER is not weighted heavily to either heating or cooling. Or better still, ask how to achieve a higher EER!

Reduce Material Use

Think about a secure car port rather than a garage. While your car might need to be protected from the elements, you can create secure car ports that are cheaper than a fully bricked garage. Also consider future-proofing for electric vehicles by installing cabling in your garage or carport wall. This will save you time and money adapting in the future.

Questions to ask:

- Will my roof design allow for the PV panels I need?
- Is my heating load from my EER sensible for the Canberra climate?
- Is my insulation the highest it can be in my walls, floor, and roof?
- Do my windows give me good air flow throughout my home?
- Are my windows shaded from the summer sun?

Your house The inside

Generating, Managing & Storing Energy

Reducing the amount of energy you use is the most cost effective way to cut your energy costs.

Your PV panels and demand management system can help to provide renewable energy for you home.

Your demand management system (DMS) can help you monitor and manage your energy use. Air conditioner systems, heat pump hot water systems, lighting and security systems can also be managed by your DMS as long as the right appliances are selected.

Talk to your energy package provider about how appliances can be connected to your DMS.

Household Solar Battery systems can also store the power you generate with your PV system, letting you use the power when the sun isn't shining. Remember to consider the location of your battery - either now or allocating space for it in the future. It may need to be on an external wall or within a fire rated enclosure.

Indoor Air Quality

The paints, sealants and glues used in your home can sometimes be quite toxic. Look for materials with low or no Volatile Organic Compounds (VOCs). Removing VOCs from your home will result in a fresher, healthier home environment.

Designing for Accessibility

Designing for accessibility is about thinking about how your house caters for a range of mobility and health levels and how these needs can change over time.

Accessibility is important for:

Families with young children - making it easier to manoeuvre prams and strollers and removing trip hazards for toddlers

People with temporary injuries - larger doorways and step-free entries make it easier for people in wheelchair and crutches.

Ageing population - for both residents and elderly visitors, family and friends

People with a disability and their families - not only in their own homes but for visiting others.

Lighting

6

COVERED

PORCH

Think about using natural light from windows before using artificial light. Installing energy efficient LED lighting will save you money over time. Reduce the number of downlights you install in your home. If you really need them, make sure they are fully sealed, LED downlights which can allow insulation around them. Traditional downlights act as big holes in your ceiling - making your insulation less effective.

KITCHEN

VING ROOM

ENTRY

Reduce Materials

The less materials required to build your home, the cheaper it will be. Consider using polished concrete floors. exposed brick (rather than adding a render) and other material which don't require further finishes where sensible

Make Recycling Easy

Designing separate waste bins into your kitchen will make it easier on bin day! Design for composting, recycling and general waste.

Bike Storage

BEDROOM

Active living is an important part of Ginninderry. Make sure you allocate a space for your bikes. Make them easy to access so you're more likely to use them.

Zoning

Think about the areas of your home that you use and when you use them. By zoning your home, you can have better control of which areas you want to heat and when. The smaller the area you are heating at any one time, the cheaper your bills will be.

Efficient Appliances

Many new appliances come with Energy Rating Labels. The more stars an appliances has, the less energy it will use. Choose appliances not only by their price tag but also by how much they will cost you to run every day!

Saving Water

Using rain water to flush your toilets and wash your clothes (as well as for your garden) can help you save money on your water bill.

Installing water efficient fixtures and fittings will also help you save water.

Indoor Drying Space

Canberra winters are cold but we get really lovely sunny days. Consider space inside for your washing that gets good winter sun. This will reduce the need for a dryer.

BEDROOM

Heating and Cooling

The cheapest way to heat your home is with the sun. To make the most of it, your house should allow for lots of winter sun and keep out the harsh summer sun. Place rooms that you're likely to spend daylight hours in (typically your living rooms) to the north of your block. This will allow you to get good winter sunlight and reduce the hot summer sun.

Use thermal mass to store the sun's heat and provide night time warmth in cold conditions. This can be achieved with tiled or polished concrete floors in north facing living areas. This allows the sun to heat the area inside and contribute to a naturally cool home in summer.

Cross Ventilation

Your doors and windows can help cool your home on summer nights by allowing air to travel through your home. Install flyscreens to your openable windows and doors so that you can securely open your windows and doors.



Your house Landscape

Make your plants useful plantings

Whether you plant edible foods or plants that attract bees (or other pollinators and wildlife), your garden can not only look pretty but also have a higher purpose.

Space for **Bins**

The ACT Government is currently trialling green bins for garden waste. To futureproof for a potential ACT-wide rollout, allocate space for three bins:

- General waste (red lid)
- Mixed Recycling (yellow lid)
- Green waste (green lid)

Clothes Drying

Allocate an outdoor drying space that has good access to winter sun. This is usually on the northern side of your home. Using the sun to dry your clothes is a lot cheaper than a dryer!

Soft space vs Hard space

The more concrete or hard surfaces in your yard, the hotter your house will be in summer. Think about how you can use grasses, plantings or permeable pavers to limit the amount of hard spaces you have.

This will help you save money by reducing your energy and water required to keep your home cool.

Choose a garden you can maintain

Not everyone has a green thumb. Pick a garden design that suits your lifestyle. If you forget to water your plants, pick drought tolerant, hardy natives or woody herbs like rosemary that don't require a lot of attention.

Free Water

Most homes in Ginninderry have a rain water tank. Rain water is great for watering your plants.

Compost

Use your kitchens scraps as compost for your yard or get a worm garden. Don't have room? Donate your scraps to the Community Garden!

This will help reduce unnecessary waste going to landfill.

Green Shading

Plants do a great job of shading East and West facing windows. Use them to keep you cool in summer. Choose plants that can be pruned back in winter (or that are deciduous) so that you can let in the winter sun.



Conserving our Conservation Corridor

The plants that you plant in your yard will impact our conservation corridor. Bins and other animals will spread seeds through our landscape. It is therefore very important that we don't plant species that are considered weeds (easily spreading) or sleeper weeds (plants that could become weeds in the future or in other climate conditions).

Questions to ask:

- How can I reduce the amount concrete and hard spaces in my yard? • Can I use alternatives like permeable paving, groundcovers or mulch?
- Have I allowed enough space for my bins?
- Have I checked that my plants won't become weeds in the conservation corridor?
- Are my plants edible or good for birds, bees and other pollinators?
- Is my garden drought and frost tolerant?
- Have I made the most of my rain water tank?

Mandatory Requirements:

Check the Ginninderry Housing Development Requirements

More Info:

FACTSHEETS

Ginninderry Front Garden Landscape Concept Designs Ginninderry Energy Package Factsheet Are your garden plants going bush? ACT Government Parks and Conservation Service

WEBSITES

YourHome – Australia's guide to environmentally sustainable homes www.yourhome.gov.au Josh's House – showcasing the benefits of sustainable housing to the community through demonstration and inspiration www.joshshouse.com.au Scinergy – the science of energy efficiency www.scinergy.com.au/airleakage Water Efficient Labelling and Standards (WELS) Scheme www.waterrating.gov.au Energy Rating – the more stars the more savings www.energyrating.gov.au National House Energy Rating Scheme (NATHERS) www.nathers.gov.au Livable Housing Australia www.livablehousingaustralia.org.au

BOOKS

The Energy-Freedom Home: how to wipe out electricity and gas bills in nine steps. Beyond Zero Emissions (2015)

The CSIRO home energy saving handbook: how to save energy, save money and reduce your carbon footprint. John Wright, Peter Osman Peta Ashworth (2009)

Got More Questions?

Contact Ginninderry and ask to speak to our Design Co-ordinator or Sustainability Manager:

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ould not, without further inquiry, be relied upon as to their ultimate accuracy, to the ex w. The Suburban Land Agency, Riverview Developments and Riverview Projects (ACT