

- ✓ Things we would do similar to this home if we were to build again
- ✗ Things we would do differently to this home if we were to build again

Topic	Lessons from the Ginninderry Demonstration Home	If building again...
Step 1: Getting Started		
Think about your needs	Listing our key priorities for this home at the start helped us make choices as we went along. Our priorities were: <ul style="list-style-type: none"> - Have a light and open living space - Use sustainable (natural, recycled, local, etc.) materials wherever possible - Keep costs low – if sustainable materials were too expensive we used alternatives that were slightly less sustainable - Showcase interesting and inspiring options 	✓ We would list our priorities like we did for this house and depending on the project, the top three priorities we listed for this project would remain on our list.
Step 2: Plan your budget		
Invest in the long term	We carefully chose where to spend the budget and where we could reduce costs. We reduced the costs of some of the internal finishes (kitchen, robes and bathrooms) and the landscaping, so we could afford aspects that would give us a higher performing building shell (double-glazed windows, well-sealed and wrapped). Both the internal finishes and landscaping will be easy to upgrade in the future unlike the building shell.	✓ We would look to reduce costs in some areas to ensure we could afford energy efficiency gains, like we did for this house.
Future proofing	We made sure to incorporate conduit and options for future electrical works, such as charging an electric vehicle, NBN, etc.	✓ We would incorporate the future-proofing options like we did in this house.
Step 3: Choosing where to live		
Choosing a block and floor plan	We had to be very selective about which block we chose, to ensure we could have a north orientation to the long side of the block and it was a block size that would fit our preferred floor plan. As we had already chosen the floor plan we wanted (Your Home Design for Place 'Banksia'), we found a suitable block and made some minor adjustments to the floor plan to make it fit on the block. Key adjustments to reduce the length of the home were changing the layout and size of the walk in robe and ensuite, moving the laundry into the garage, and reducing the size of the hallway.	✓ We would use this floor plan and make adjustments to suit the block, like we did in this house.
Step 4: Choosing your home		
Knowing the rules	As we had some trouble fitting the length of the home on our block, we discovered we could gain a bit of extra space by including a courtyard at the front of our home. This meant the garage did not need to be set back 1.5m from the front of the home. (This is an ACT planning requirement but similar rules may apply in other States and Territories.)	✓ We would review the rules in the area where we are building and make sure we make the most of the block like we did in this house.
Floor Plan	Key features to note that we would recommend: <ul style="list-style-type: none"> - Have all key living areas and bedrooms facing north with windows located to allow for good cross-ventilation. - Have a multi-purpose room to the south that stays cooler in summer. We incorporated a slightly wider sliding door on the media room to make it a multi-use space with the living area, but the door also allows it to be separated from the living area. - Have a single car garage. This saves space and costs, it discourages hoarding as there is less storage space and it encourages other transport modes. - Put the laundry in the garage. This saves space for a room that is not used very often and reduces sound from the washing machine travelling through the rest of the home. - Have a basin and toilet separate from the main bathroom. This allows people to use the basin for multiple purposes (like brushing teeth) while someone is in the bathroom or in the toilet. - Have a spot to remove your shoes at the front door and garage. This stops dirt being trampled through your home. 	✓ We would include all of the key features we included in this house.
Aim for the stars	As this home is well designed, it easily achieved a 7 star NatHERS rating and with the slightly better performing windows, achieved an 8 star NatHERS rating.	✓ We would aim for 8 stars.
Eaves	We incorporated a wide eave to the north and it works wonders. The sun is kept out of the home from mid-October to mid-February and then lets the sun in to warm the home in the cooler months. We have no eaves to the other sides of the home, as this was a design feature, but a skillion roof with larger eaves is available as an option.	✓ We would do the same large eave to the north. ✗ We would put an eave to the south, east and west to keep rain from dripping down the outside of the walls and provide additional shade.
Insulation	We put good insulation in all walls (R2.5) and in the roof we put insulation on the ceiling (R4.1) and under the roofing (Anticon reflective foil with insulation R1.4). On the east and west walls we incorporated a large area with double studs, which allowed for an extra layer of wall insulation (R2.5). This means the two worst sides that would heat up from morning and afternoon summer sun have R5.0 insulation. The walls were also wrapped and sealed really well, to stop drafts. As garage doors are always leaky, the garage will always be hotter or colder than ideal, so we also insulated, wrapped and sealed the two internal garage walls. Sound insulation was included in between internal walls to reduce noise transfer between rooms. We did not include any downlights to get the best out of the ceiling insulation and sealing of the home.	✓ We would do the same insulation levels. ✗ We would use a firmer insulation batt in the ceiling if there was no compromise to its performance, as the batt floppiness (loft) made it difficult to install. ✗ On the south wall of the kitchen we would add an extra stud layer or batten the wall out, so one layer could be used to run all the services like water pipes, electrical, etc. and the other layer could be fully insulated. As there were so many services running along the south wall, it was difficult to fully insulate it.
Windows	We used thermally broken, double and triple glazed windows. The lift-and-slide large sliding doors work really well, as they are light enough to open while sealing better than standard sliding doors.	✓ We would use high performing windows. ✗ We would reconsider the design of the south facing inward-opening glazed doors and instead use outward-opening doors. ✗ We would consider the window sizes and whether the sizing is right for off-the-shelf blinds and curtains.
Roof	We used timber framing for the walls and roof trusses made off-site. This was quite economical. However, as the slope of the roof is quite low and we did high ceilings in the living spaces, there is not much roof space to crawl around in some areas. We also installed extra metal battens or timber planks in the areas where we planned to install ceiling mounted curtain tracks, as these provide a much more solid fixing than through plasterboard only.	✓ We would use timber trusses. ✓ We would install extra metal battens or timber planks where ceiling mounted curtain tracks were going to be installed. ✗ We would consider creating a roof space that is easier to get into and have some areas of the roof sloping to face north for solar panels. ✗ We would consider using a proprietary product like Ezy Pelmet, which creates a built-in pelmet while giving a very neat finish to the plasterboard.

Step 6: Working with your Expert (room by room)		
Living areas	We incorporated a high ceiling, large sliding doors and windows, and high windows to the living and dining areas, to make a lovely open, light-filled space. Given this is the most used space in the home, it was worth the additional cost of a high ceiling. We also incorporated a multi-use space (media room) off the living space, which is a more intimate space. All of the living areas can be zoned from the rest of the house, reducing the amount of heating and cooling needed from appliances.	<ul style="list-style-type: none"> ✓ We would do a similar large, open living space like we did in this house. ✓ Budget focused builders could also price the option of a coffered ceiling (a rectangle area raised slightly in the centre of the room) without the highlight windows.
Thermal mass	We incorporated burnished concrete floors throughout the home to act as thermal mass for each room. These floors are left exposed to capture the heat from the sun in winter and to provide cooling during summer. Protecting this floor during construction to ensure it was not damaged did require additional effort. A reverse brick veneer wall was included in the master bedroom for demonstration purposes. While this could be good if thermal mass on the floors cannot be achieved, it does add other complexities, such as how it is finished when it abuts other walls and where electrical wiring is going, as it is difficult to move them afterwards.	<ul style="list-style-type: none"> ✓ We would incorporate burnished concrete floors throughout the home in the areas that capture the sun. ✗ Because we have so much thermal mass on the north side with the burnished concrete floor, we would not add a reverse brick veneer wall unless we could not do a concrete floor. However, that room is maintaining a degree warmer than the other north facing bedrooms, which may be due to the reverse brick veneer wall.
Home Office	We created a desk space off the dining room with storage area and we have a separate studio space that could be used as a home office.	<ul style="list-style-type: none"> ✓ We would incorporate a study/home office space off the dining room and consider a separate studio depending on the block.
Kitchen	We used standard Ikea products for the kitchen, which have a high recycling content in the doors and reduced costs. We spent our efforts on a nice, recycled timber feature benchtop from Thor's Hammer, and used stone around the wet and cooking areas given it is less susceptible to marking.	<ul style="list-style-type: none"> ✓ We would do a similar kitchen and keep costs lower in the kitchen so we could spend the funds elsewhere.
Bathroom & laundry	We separated the toilet from the bathroom, which allows people to use the bathroom and toilet at the same time. We put the laundry in the garage to save space and allow it to be a multi-use area.	<ul style="list-style-type: none"> ✓ We would separate the toilet and put the laundry in the garage. ✗ We would move the ensuite toilet onto the external wall, so the flush couldn't be heard from the media room.
Bedrooms	The bedrooms are all north facing and have thermal mass floors to capture the warm winter sun.	<ul style="list-style-type: none"> ✓ We would face the bedrooms north and have thermal mass floors. ✗ We would consider making the bedrooms slightly larger, if the block allowed.
Step 8: Selecting heating and cooling, fittings and appliances		
Hot water	We installed a heat pump hot water system near the kitchen and bathroom to minimise pipe runs. It is relatively quiet.	<ul style="list-style-type: none"> ✓ We would install a heat pump hot water system in a similar location.
Space heating & cooling	We do not think the home will need much heating and cooling from appliances. We have therefore focused heating and cooling appliances in the two main living areas only, with a single outside unit that supports two room units. These rooms can also be separately zoned from other spaces to reduce the amount of area that needs to be heated or cooled at any time.	<ul style="list-style-type: none"> ✓ We would do the same approach, although we have not lived through a winter yet and may change our minds after a winter.
Solar	Given the low angle of the roof, we chose to face our solar panels slightly south rather than put them on struts to face north. By doing this there was only a slight reduction in panel efficiency and by not paying for the struts, additional money was available to get a couple more panels to make up for the inefficiencies.	<ul style="list-style-type: none"> ✓ We would install solar.
Lighting	We used pendant lights instead of downlights in all rooms. This reduced the number of holes in the ceiling, improving both the weather sealing and insulation of the ceiling.	<ul style="list-style-type: none"> ✓ We would use pendant lights and not downlights.
Appliances	Energy and water efficient appliances were used.	<ul style="list-style-type: none"> ✓ We would use energy and water efficient appliances like we did in this house.
Step 9: Selecting colours and finishes, and outdoor areas		
Flooring	We used a floating timber floor in some parts of the home. As we had to lay this floor quite early in the construction process we covered it to protect it, but stones still got under the cover and scratched the floor.	<ul style="list-style-type: none"> ✓ We would use floating timber floors again. ✗ We would install the timber floor at the end of the build process.
Cladding	We used Weathertex for the cladding, which is a great sustainable timber product.	<ul style="list-style-type: none"> ✓ We would use the 300 wide weatherboards and the grooved panels. ✗ We would not use the smooth panels again, as the fixings were more challenging and as the panels are smooth, they show any variations in the straightness of walls.
Paints and paint colours	We used light colour paints on all external surfaces to reduce the temperature of the home in summer.	<ul style="list-style-type: none"> ✓ We would use similar colours.
Outdoor living spaces	A grass driveway and courtyard, grassed backyard areas and a deck covered with Australian decking timbers, provide a range of different outdoor spaces to enjoy and for children to play on.	<ul style="list-style-type: none"> ✓ We would do a similar outdoor living space as used in this house, although consideration would need to be given to the grass driveway following a longer time to see how it performs.
Planting	We used a range of Australian native flowering plants to attract birds and bees, combined with edible plants, such as rosemary and sage.	<ul style="list-style-type: none"> ✓ We would use the same plants as used in this house.
Step 12: Finishing off		
Accessing your building site	We did this as an Owner Builder, so had no difficulties accessing the site throughout the build. While we would not do as much of the build next time, we did see the importance of being able to visit the site regularly to ensure we were getting what we expected.	<ul style="list-style-type: none"> ✓ We would definitely visit the site regularly. ✗ We would consider not doing Owner Builder and instead get a builder to manage the majority of the project.
Final inspection	We did this as Owner Builder, so have been doing ongoing inspections throughout the process and not making payments until the work is complete.	<ul style="list-style-type: none"> ✓ We would do final inspections and not make payments until work is complete.
Operating your home	We have collected all operation guides from products and put them in a folder. We have also monitoring equipment to measure temperatures of the home. This will inform us about how the home operates and potentially how we need to manage it differently.	<ul style="list-style-type: none"> ✓ We would collect all operation guides into a folder. ✓ We would consider installing monitoring equipment to inform us about how the home performs.