Smart and Sustainable Homes Design Objectives Checklist

Smart and Sustainable Homes demonstrate good practice in designing, planning and building homes to make them more socially, environmentally and economically sustainable.

This checklist is a summary of the principles and objectives that are detailed in the Smart and Sustainable Homes Design Objectives (Design Objectives) — refer to this document for the requirements to achieve each criterion. If the majority of the items below are met, the home will be more likely to meet the changing needs of the occupants, as well as make it a more liveable, safe, secure, cost-efficient and environmentally friendly dwelling in which to live.

A minimum of 80% of the Essential criteria need to be met to achieve the requirements of the Design Objectives, as well as a minimum of 20% of the Desirable criteria. There is also scope to provide an alternative to the requirements outlined in the Design Objectives. If an alternative solution is provided, tick the 'Alternative' box, and provide a brief summary at the end of the checklist.

Project Name /Address

Date of Assessment

Name of person completing checklist:

Relationship to home (e.g. owner, builder, architect)

Essential criteria

		Environment				Social						Economic						
Criteria	Objective	Energy	Water	Materials and waste	Site impact	Human comfort	Human health	Safety	Security	Universal design	Sense of community	Initial costs	Maintenance costs	Running costs	Future Modifications	Community costs	Achieved	Alternative
Site and landscape	**Relates to site selection, landscaping, planting and pest protection**																	
Objective 1	Site conditions are assessed for a passively designed home to be constructed	•					•							•			☐	☐
Objective 2	The loss of biodiversity is minimised				•												☐	☐
Objective 3	The design of the home, and landscaping, uses land efficiently						•					•					☐	☐
Objective 4	Soil degradation (and need for fertilisers), sediment run off and storm water runoff has been reduced				•		•									•	☐	☐
Objective 5	The home does not significantly reduce privacy or daylight to adjacent dwellings	•									•					•	☐	☐
Objective 6	Landscaping reduces need for water, chemical and energy inputs	•	•		•		•							•			☐	☐
Objective 7	Creating a secure home and neighbourhood								•		•					•	☐	☐
Objective 8	Consider all natural hazards				•			•								•	☐	☐
Dwelling access	**Access by owners, visitors, emergency services and prevention of uninvited access**																	
Objective 1	Access to the main entry of the home from the street is easy for all occupants and visitors							•		•					•		☐	☐
Objective 2	The risk of children being run over by vehicles is minimised							•								•	☐	☐
Objective 3	The property and its entry point are easily identified							•	•								☐	☐
Objective 4	Emergency Services can easily find a dwelling when required							•	•								☐	☐
Objective 5	The home is secured from illegal entry								•					•		•	☐	☐
Objective 6	Visitors outside the home can be clearly identified								•								☐	☐

Essential criteria (continued)

		Environment				Social						Economic						
Criteria	Objective	Energy	Water	Materials and waste	Site impact	Human comfort	Human health	Safety	Security	Universal design	Sense of community	Initial costs	Maintenance costs	Running costs	Future Modifications	Community costs	Achieved	Alternative
General dwelling design	**Relates to overall design, safety, access, storage, passive design, etc**																	
Objective 1	People can quickly leave the home in the case of an emergency							•									☐	☐
Objective 2	Potential for safe and efficient active cooling within the home is maximised	•					•	•						•			☐	☐
Objective 3	The risk of a child falling from a window is minimised							•									☐	☐
Objective 4	Movement through the home is easy and safe for people of all ages and abilities							•		•					•		☐	☐
Objective 5	Provide maximum potential for natural ventilation to minimise the need for artificial cooling	•					•							•			☐	☐
Objective 6	The risk of injuries on stairs is reduced							•		•							☐	☐
Objective 7	The dwelling facilitates indoor and outdoor living	•					•										☐	☐
Objective 8	Balconies are designed to be safe for children							•									☐	☐
Objective 9	There is adequate storage space							•		•					•	•	☐	☐
Objective 10	Reduce energy consumption for drying clothes	•												•			☐	☐
Objective 11	Maximise natural daylight to minimise the need for artificial lighting	•						•						•			☐	☐
Objective 12	People of all ages and abilities can easily and safely open and close doors, cupboards and drawers							•		•					•		☐	☐
Objective 13	Injury from sharp corners is minimised							•		•							☐	☐
Objective 14	The dwelling design provides a comfortable internal environment to reduce the need for artificial heating and cooling	•					•							•			☐	☐
Building materials and finishes	**Relates to building materials, finishes, potential waste and quality of indoor environment**																	
Objective 1	Achieving an optimally sized dwelling for the owner to minimise material usage and waste	•		•						•		•		•			☐	☐
Objective 2	On-site construction waste is minimised			•												•	☐	☐
Objective 3	Use of safe insulation material			•			•										☐	☐
Objective 4	The impact of construction materials over their whole life cycle is considered	•		•			•									•	☐	☐
Objective 5	Household waste is reduced			•												•	☐	☐
Objective 6	The risk of rapidly spreading fire, and toxic gas release during a fire, is reduced			•			•	•								•	☐	☐
Objective 7	Finishing products contribute to good indoor air quality						•										☐	☐
Objective 8	Composite timber products contribute to good indoor air quality						•					•					☐	☐
Plumbing and drainage	**Relates to plumbing, drainage systems and water efficiency for the whole dwelling**																	
Objective 1	The hot water system is energy efficient	•												•			☐	☐
Objective 2	Hot water supply is efficient	•	•											•		•	☐	☐
Objective 3	Plumbing fittings can be used easily by people of all ages and abilities									•					•		☐	☐
Objective 4	Plumbing fittings efficiently use hot and cold water	•												•		•	☐	☐
Objective 5	The risk of scalding is minimised							•									☐	☐
Objective 6	Consumption of mains water supply is reduced		•											•		•	☐	☐

Essential criteria (continued)

		Environment				Social						Economic						
Criteria	Objective	Energy	Water	Materials and waste	Site impact	Human comfort	Human health	Safety	Security	Universal design	Sense of community	Initial costs	Maintenance costs	Running costs	Future Modifications	Community costs	Achieved	Alternative
Electrical, lighting and gas	**Relates to energy consumption and safety in the dwelling**																	
Objective 1	Maintenance of light fittings can be achieved safely							•									☐	☐
Objective 2	Electrical appliances are energy efficient	•												•			☐	☐
Objective 3	Stoves and ovens are safe to use							•									☐	☐
Objective 4	Electrical layout maximises the safety of using electrical appliances							•		•					•		☐	☐
Objective 5	Reduce the likelihood of electrical items coming into contact with water							•									☐	☐
Objective 6	Occupants can use light and power switches and telephone outlets easily									•					•		☐	☐
Objective 7	Artificial lighting, both inside and outside, is energy efficient	•												•			☐	☐
Kitchen design	**Relates to water and energy efficiency and safety and universal design**																	
Objective 1	People of all abilities can safely and efficiently use the kitchen							•		•							☐	☐
Objective 2	Injuries in the working area of the kitchen are minimised							•									☐	☐
Bathroom / toilet design	**Relates to the safety and universal design in the bathroom**																	
Objective 1	A bathroom can be used by a diverse range of people									•					•		☐	☐
Objective 2	A toilet can be used by people of all abilities									•					•		☐	☐
Objective 3	The growth of mould and bacteria is inhibited by good ventilation						•						•				☐	☐
Bedroom design	**Universal design of at least one bedroom in the dwelling**																	
Objective 1	The bedrooms can be used by a diverse range of people																☐	☐
Objective 2	Good visibility to the outside from the bed									•					•		☐	☐
Laundry design	**Relates to safety and universal design in the laundry**																	
Objective 1	The laundry can be used by a diverse range of people							•		•					•		☐	☐
Outdoor living area design	**Relates to making the outdoor living area safe especially for children**																	
Objective 1	Sun protection is provided for outdoor areas						•										☐	☐
Objective 2	Outdoor areas are secure for children's play activities							•	•								☐	☐
Objective 3	Outdoor areas are safe for children's play activities						•	•									☐	☐
Garage and shed design	**Relates to access and safety of the garage**																	
Objective 1	The garage can be used by a diverse range of people							•		•					•		☐	☐
Objective 2	Exposure to car fumes is minimised						•										☐	☐
Objective 3	Minimise the risk of injuries with outdoor tools and outdoor chemicals							•									☐	☐

Criteria	Alternative

Desirable criteria

		Environment				Social						Economic						
Criteria	Objective	Energy	Water	Materials and waste	Site impact	Human comfort	Human health	Safety	Security	Universal design	Sense of community	Initial costs	Maintenance costs	Running costs	Future Modifications	Community costs	Achieved	Alternative
Site and landscape	**Relates to site selection, landscaping, planting and pest protection**																	
Objective 9	Site orientation and dimensions are suitable for a passively designed home	•					•							•			☐	☐
Objective 10	The site needs minimal change to accommodate the home				•							•					☐	☐
Objective 11	Landscaping contributes to the passive design of the home	•					•							•			☐	☐
Objective 12	The choice of site will assist in reducing car usage	•									•					•	☐	☐
Objective 13	Maintaining privacy for the home								•		•					•	☐	☐
Objective 14	Termite protection does not pollute soil around the home				•		•						•				☐	☐
General dwelling design	**Relates to overall design, safety, access, storage, passive design, etc**																	
Objective 15	The structural integrity of the home is maintained					•	•	•					•				☐	☐
Objective 16	Casual surveillance of the street and adjoining public land is encouraged							•	•		•						☐	☐
Objective 17	Zoning for passive design	•					•							•			☐	☐
Objective 18	Roof design aids in controlling heat flow into dwelling reducing the need for artificial cooling	•					•							•			☐	☐
Objective 19	Shading and window treatment for prevention of unwanted heat gain and reduction of glare	•				•								•			☐	☐
Building materials and finishes	**Relates to building materials, finishes, potential waste and quality of indoor environment**																	
Objective 9	Flooring products contribute to good indoor air quality						•										☐	☐
Objective 10	Flooring products are safe and durable							•					•				☐	☐
Plumbing and drainage	**Relates to plumbing, drainage systems and water efficiency for the whole dwelling**																	
Objective 7	Reduce water usage and waste going to sewer		•													•	☐	☐
Electrical, lighting and gas	**Relates to energy consumption and safety in the dwelling**																	
Objective 8	Artificial lighting, both inside and outside, adds to the safety and quality of the home					•		•									☐	☐
Objective 9	Stoves and ovens are energy efficient	•												•			☐	☐
Objective 10	Climate control systems contribute to good indoor air quality	•					•							•			☐	☐
Objective 11	Produce electricity on-site by sustainable means	•												•			☐	☐
Kitchen design	Relates to water and energy efficiency and safety and universal design																	
Objective 3	Refrigerator is operated efficiently using minimum energy	•												•			☐	☐
Objective 4	Social and family activities may occur safely in close proximity to the functional areas of the kitchen										•						☐	☐
Objective 5	Stoves and ovens are positioned to maximise energy efficiency	•												•			☐	☐
Garage and shed design	**Relates to access and safety of the garage**																	
Objective 4	Garage designed for multiple use						•										☐	☐

Criteria	Alternative