AMENDMENT C278 GREATER GEELONG MARSHALL PSP

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MARSHALL PSP & ESD

- Marshall PSP places a strong emphasis on the delivery of zero carbon & climate resilient neighbourhoods.
- The PSP seeks:
  - ZERO CARBON AND ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT
  - CREATING ZERO WASTE COMMUNITIES
  - CONNECTIVITY
  - MAXIMISING CANOPY COVERAGE
  - SUPPORTING COMPACT HEALTHYNEIGHBOURHOODS
  - HOUSING CHOICE AND DIVERSITY
  - AN INTEGRATED APPROACH TO MANAGING WATER
  - PROTECTING BIODIVERSITY
  - ENABLING SMART CITIES
- Many of these rely heavily on the proposed 'ESD' provisions.

'ESD' IN THE PSP

- Clear articulation within the PSP as to the ambition to support the delivery of carbon neutral outcomes via growth area planning.
- Content relating to:
  - The planning for energy infrastructure aligned with zero carbon outcomes.
  - The delivery of canopy vegetation, having regard to the varying capacity of different areas of the precinct, and the measure required to support ongoing growth of canopy.
  - The inclusion of lot scale responses designed to improve resilience to urban heat in the absence of comparable building regulations.
  - The inclusion of requirements around the provision of EV infrastructure and future capacity.
  - Transparency around, and consideration of, the opportunities for reduction in embodied energy and emissions associated with construction waste.

'ESD' REQUIREMENTS IN UGZ7

- Application Requirements (Subdivision):
  - Written report against the objectives requirements and guidelines.
  - A Canopy Cover Plan.
  - A Zero Carbon Operational Energy Plan.
- Application Requirement (General):
  - A Zero Carbon Operational Energy Plan.

- Permit Conditions addressing:
  - ESD Residential Design Guidelines to be applied as a restriction on the relevant plan of subdivision.
  - Requirements for Green Star (or equivalent) ratings for mixed use & non-residential buildings.
  - Requirements to estimate embodied emissions (via a lifecycle assessment) and steps taken to reduce these.
  - A Requirement for a Construction Management Plan which documents how recycling of construction waste will be maximised.
  - A Requirement for no reticulated gas connection.

SUBMISSIONS

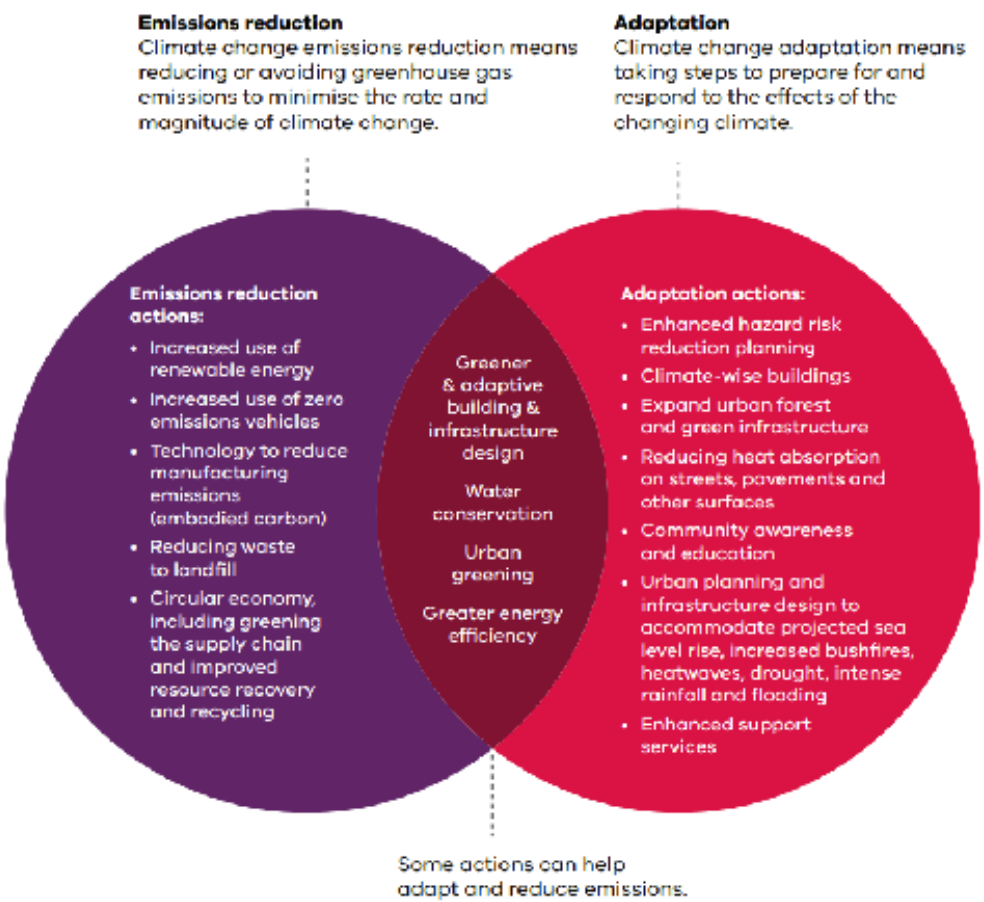
- 29 Submissions, 4 raised issues related to ESD provisions, 25 made no objection.
- Issues included:
  - Alignment with "current best practice / industry standards".
  - The role of the PSP and level of detail.
  - Issues of sufficient flexibility.
  - Alignment with building regulations.
  - Specific nature of Requirement 18.
  - Cost implications for housing.

Source: Geelong Times

CLIMATE CHANGE & PLANNING

- The Built Environment is recognised as very important.
- Strategic planning requires a 'long term' view.
- Climate change will inevitably alter the environment in which these new communities will live.
- It is approproate that planning for these areas has regard to that change in order to deliver the *Objectives* of planning and the use the Planning Scheme for its intended *Purpose*.
- Planning has a role in not only Adaptation, but also Mitigation.
- Urban Heat will be a key adaptation consideration in this context.

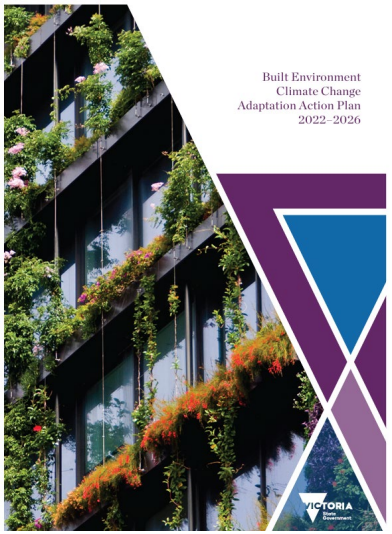
Figure 2. Relationship between urban climate change emissions reduction and adaptation



Source: Built Environment Adapataion Action Plan Victorian State Government

POLICY CONTEXT

- Legislation.
- Strategic Context.
- State Planning Policy.
- Local Planning Policy.
- Council's Climate *Change Response Plan*.



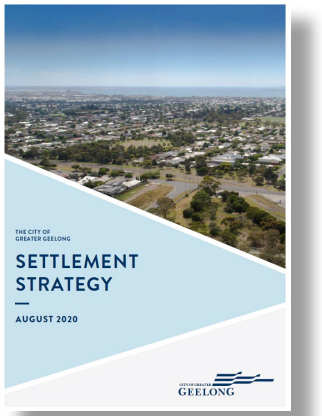
"support[ing] responses to climate change" (Clause 01)

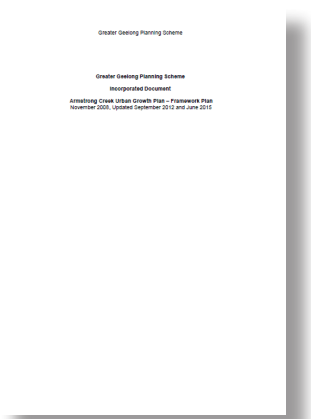
"a target of net zero community emissions by 2035"

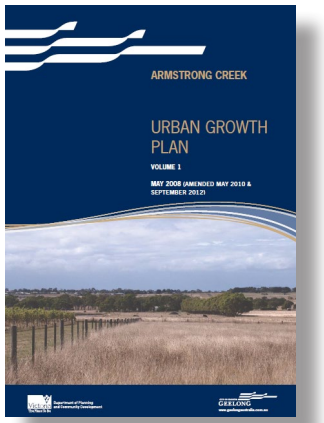
"to become a climate-ready municipality, with increased resilience to current and future climate risks"

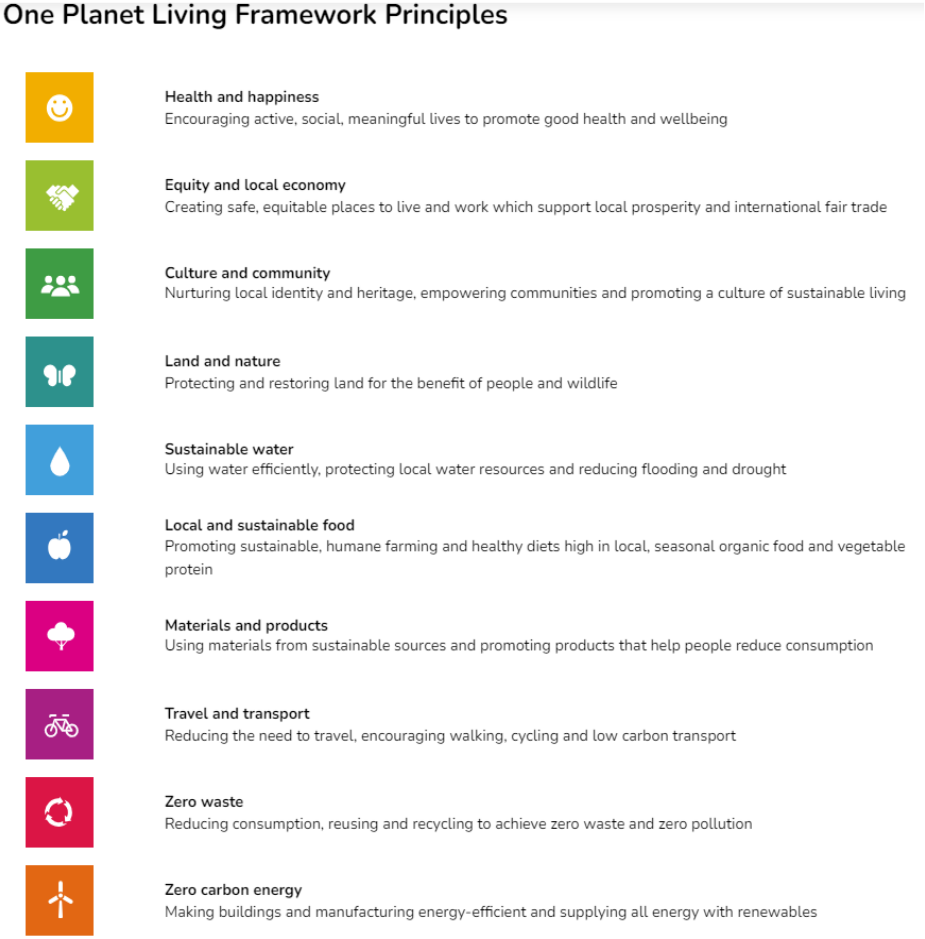
ARMSTRONG CREEK & MARSHALL

- Settlement Strategy.
- Armstrong Creek Framework Plan (incorporated).
- Armstrong Creek Growth Plan (background).
- Marshall Precinct Structure Plan (the place specific implementation).









ROLE OF PSPs - BEST PRACTICE

Setting an overarching ambition for carbon neutrality	**YES – embedded in the Objectives of the PSP**
Establishment of sustainable urban structures, such as 20 minute neighbourhoods and the delivery of most housing where there is good access to public transport and required services and facilities.	**YES – delivered via requirements on urban structure and the inclusion of IDAs.**
Urban forms which support 'streets for people' / 'complete streets'	**YES – delivered through the 'complete streets' approach embedding the PSP**
Avoiding fossil fuel use	**YES – delivered through the requirements for a ZCOEP, requirements for no gas connections and for all electric buildings (for both residential and non-residential buildings).**
Requiring provision of renewable generation and management of energy loads	**YES – delivered through the requirements for a ZCOEP alongside guidelines supporting approaches which manage energy loads.**
Ensuring all energy sources are renewable	**YES – as above**
Increasing energy efficiency	**YES – to a degree, noting state policy requirements for subdivision address matters such as lot orientation and building regulations address matters such as NatHERS ratings pertaining to the energy efficiency of specific buildings.**
Supporting sustainable and zero emission transport	**YES – through the 'complete streets' approach and the inclusion of requirements regarding EV infrastructure**
Using materials with lower or no embodied carbon	**YES – to a degree, through requirements for transparency around materials and adaptive reuse potential**
Zero waste and circular economy outcomes to avoid emissions from waste production	**YES – to a degree, through requirements for construction waste to be managed sustainably**
Eliminating emissions associated with provision of services such as water and sewerage	**NO – however this is addressed via existing obligations on relevant authorities under Victoria's Climate Change Act.**

CURRENT & 'STANDARD' PRACTICE

- PSP Guidelines.
- Setting of the 'rule' to guide subsequent planning stages.
- Disconnect between aspirations and delivery.
- New approach required, aligned with Framework Pan vision.

"The Armstrong Creek urban growth area will be developed into a sustainable community that sets new benchmarks in best practice urban development."

ZERO CARBON

- Operational Energy vs Embodied Energy.
- Long held intent, supported by policy.
- Flexibility via Zero Carbon Operational Energy Plan and Guidelines.
- Minor change in scope suggested.
- No gas connection supported.
- Requirement for Plan at subdivision stage via PSP is appropriate. Consistent with standard practice.

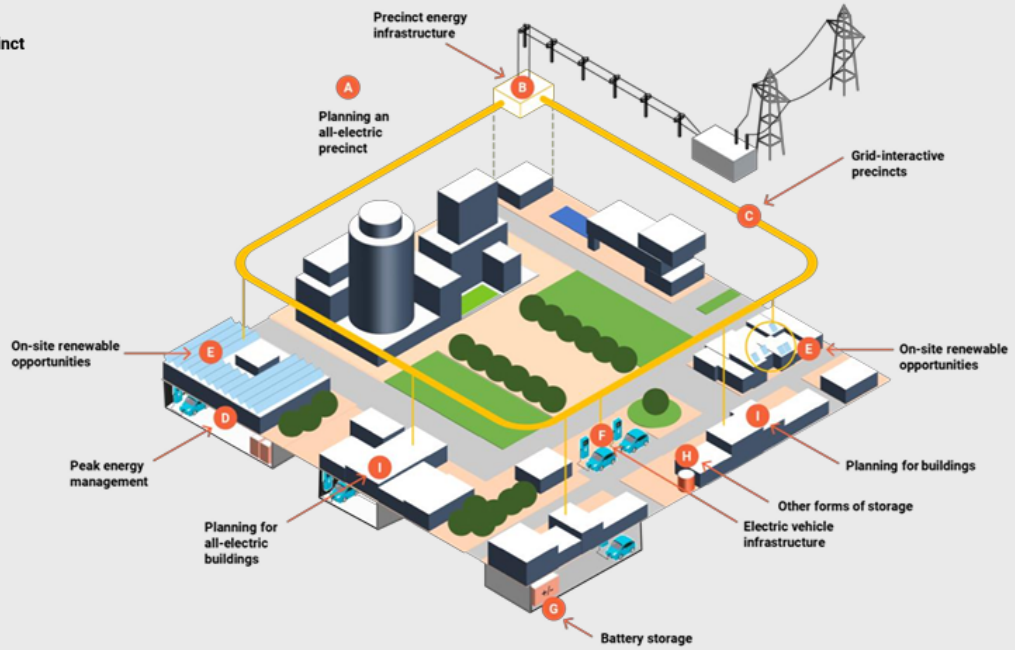
Source: DEECA, Victorian State Government

Design considerations in all-electric grid-interactive precincts

An all-electric grid-interactive precinct acts as the interface between the electricity grid and the buildings in the precinct. Designing an all-electric precinct requires consideration of both the physical infrastructure (what is installed and who owns it) and the commercial arrangements (how the electricity is traded). The physical infrastructure is critical as this is difficult and expensive to modify later, whereas the commercial arrangements (buying, selling and storing electricity) can vary over time, provided the right easements and metering is in place to provide flexibility for this.

The diagram highlights the key components to consider when planning and delivering an all-electric precinct. These are described in more detail in the following pages of the guide.

- A **Planning an all-electric grid-interactive precinct**
- B **Precinct energy infrastructure**
- C **Grid-interactive precincts**
- D **Peak energy management**
- E **On-site renewable opportunities**
- F **Electric vehicle infrastructure**
- G **Battery storage**
- H **Other forms of storage**
- I **Planning for all-electric buildings**



LOT SCALE RESPONSES

- All electric buildings.
- 75% responsive to Urban Heat Impacts.
- EV infrastructure.
- Lot scale solar.
- Proposed response to submissions supported:
  - *Simplified*
  - *Adjusted SRI*
  - *Clearer link to Guideline flexibilty*

LOT SCALE RESPONSES - MECHANISM

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9. Roof Form & Materials

9(a) Roofs are to be a simple composition of shapes with the use of architectural elements to create interest in the elevations.

9(b) Roof materials are limited to Colorbond® profiled metal or flat/shingle profile concrete tile roofing of a natural non-reflective colour that must be approved by DAP.

All other concrete roof tile profiles will not be permitted.

9(c) Roof colours must have a maximum Solar Absorptance of 0.69.

9(d) Bright reflective colours are not permitted as they create a lack of visual amenity to adjoining homeowners and may interfere with a person's use and enjoyment of another home by causing glare.

9(e) Hip roofs must be a minimum pitch of 22.5 degrees for the main building.

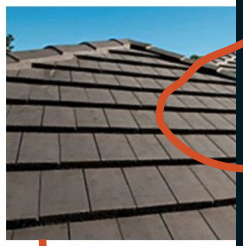
9(f) Skillion roofs must be a minimum of 10 degrees for the main building.

9(g) Other variations to roof form may be considered based upon architectural merit for secondary parts of the building such as verandahs, patios and secondary roof elements.

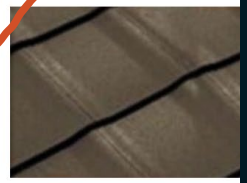
9(h) Homes are to provide eaves with a minimum depth of 450mm to the majority of the home and specifically any wall with glazing to protect openings from the elements and provide shade.

Parapets are permitted with alternative/lower roof pitches that must be concealed from street view. Parapets should return a minimum of 3m down the side of the building.

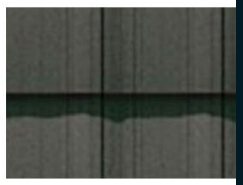
9(i) All gutter and down pipe treatments must complement the home design.



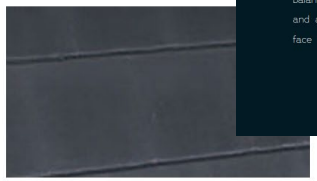
FLAT TILE PROFILE



BRISTILE CLASSIC YEOMAN SHINGLE



BRISTILE CLASSIC YEOMAN SHAKE



MONIER HORIZON

The Eucalee Covenants aim to reflect this theme by being responsive to the natural surroundings by combining the best of Australian contemporary design.

In your discussions with the DAP, you will be encouraged to incorporate simple architectural design principles with articulated elements such as terraces, balconies, verandahs and pergolas to create interest and variety in the streetscape.

Homes will be contemporary using simple architectural design elements to create enjoyable and comfortable living environments. The homes will maximise the potential of the homesite but will not encroach on the privacy of neighbouring homeowners.

Homes will adopt a lighter palette of colours, materials and finishes complementary to the setting to assist with energy saving and provide thermal comfort to the homeowner. Roofs are to be a simple composition of shapes with the use of architectural elements to create interest in home elevations.

All homes are to provide interest and variation to the streetscape through articulated elements including, but not limited to, deep porches, variation in materials/ finishes and colours, and large clear windows from a habitable space such as a bedroom or living area.

Homes are expected to present with a balanced façade in relation to the lot width and an equal measure of rendered masonry/ face brick and lightweight cladding.

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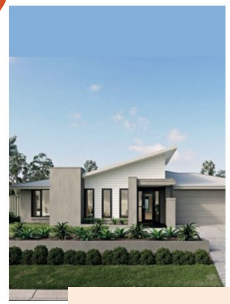

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SETTLEMENT GUIDE | LENDLEASE COMMUNITIES

Design & Covenant Approval Process

You must receive Lendlease design approval of your home and landscaping plans prior to obtaining relevant building approvals. We are here to assist you through every step of the approval process.

STEP 1
Design Your Home

While designing or selecting your home, please reference the community's Home Building Design Guidelines (see page 16) with your selected builder or architect.

STEP 2
Submit Plans for Design Approval

Within approx.12 months of your land settlement, work with your builder to submit your plans by completing the checklist and Design Approval Form available in your community's Home Building Design Guidelines.

STEP 3
Receive Design Approval

Your plans will be assessed and once all requirements have been met and your design complies with the required guidelines, approval should be received within 2 weeks.

STEP 4
Building Application

Once you have design approval from Lendlease, please provide a stamped copy of this approval to your builder who will handle your Building Permit Application.

You are now ready to commence construction!

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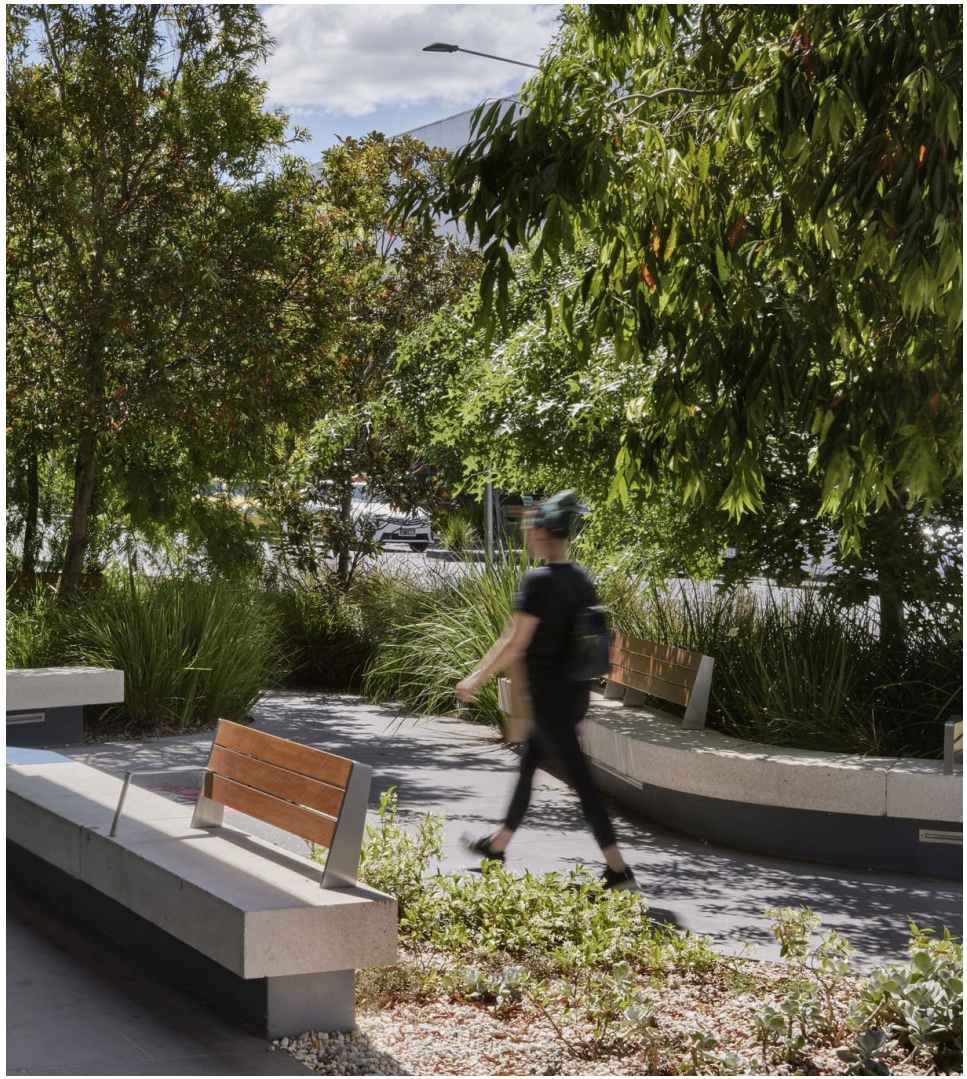
URBAN GREENING

- Urban Heat will be a signficant impact of climate change affecting this growth area.
- The PSP implements Council *Urban Forest Strategy* and *Climate Change Response Plan.*
- The approach adopted is sound and based on good planning principles.
- Due regard has been given to implementation matters to ensure longevity.

Action 6.1.1 Ensure local planning schemes, standards, codes and policies support the use of best available climate change data and adaptative planning principles as part of decision making, particularly as it relates to infrastructure, development and land use changes. Climate Change Response Plan



EMBODIED CARBON

- National Standard and Framework underway.
- Transperancy around reduction vs specific requirements.
- Construction Waste Management.

"There are significant gains to be made, especially in material-intensive sectors such as construction, manufacturing and food and fibre. A global circular economy could reduce greenhouse gas emissions from four major industry sectors (plastics, steel, aluminium and cement) by 56 per cent in developed economies by 2050. Greater recycling and reuse of materials within a more circular economy could also lower the costs of reducing emissions in those sectors by between 40 and 45 per cent". (Recycling Victoria Pg 14)

Source: Australian Governemnt - your sustainable home

GREEN STAR

- Green Star or equivilent requirement is both justified and has precedent.
- Rating level should be aligned with current approach, noting Green Star changes support zero carbon operations for all ratings.

PRECEDENTS:

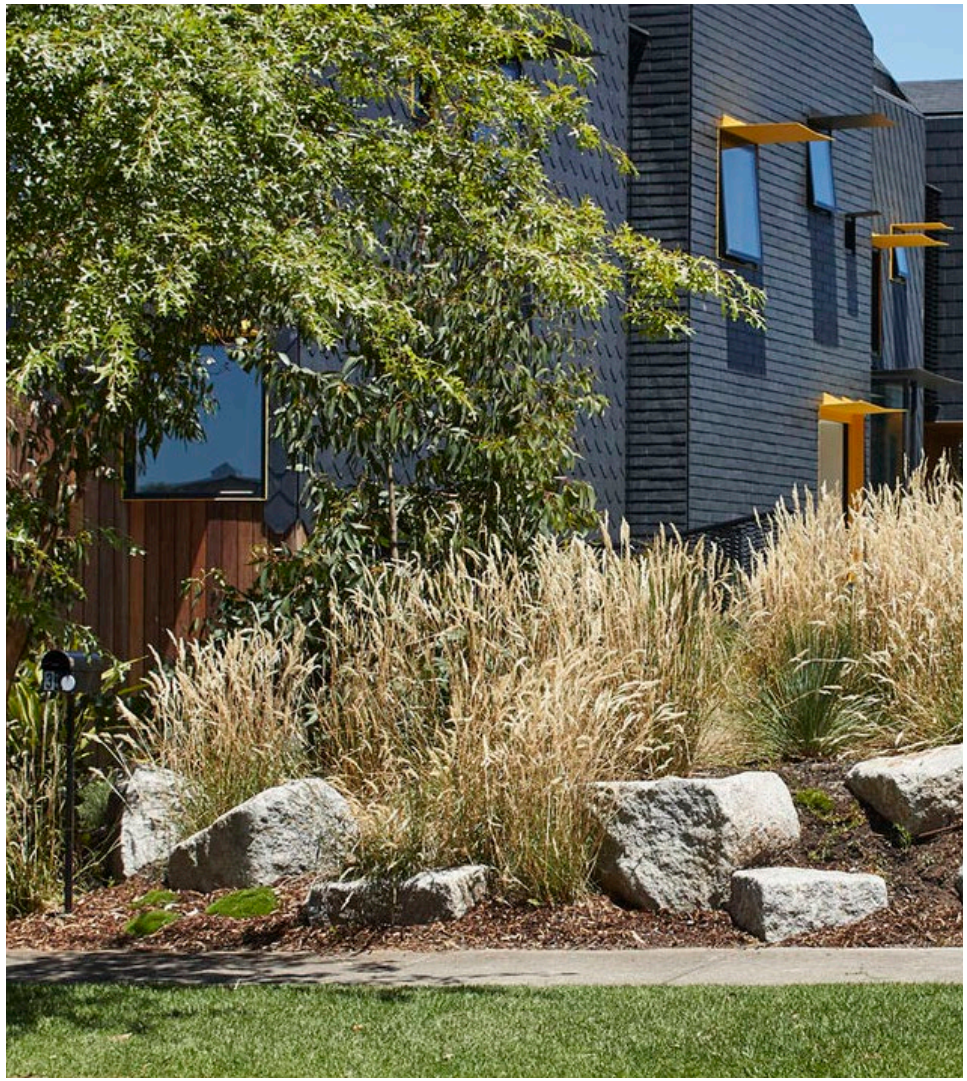
- ***Arden Precinct Structure Plan***
- ***Controls for Geelong CBD***

Found to be accceptable via numerous Panel reports.

Source: Land Lease - 100 Green Star Buildings

SUMMARY OF OPINION

- There is clear support for addressing adaptation and mitigation in response to climate change as part of planning processes.
- Precinct scale planning is critical to the delivery of these.
- The matters addressed by the Amendment are aligned with best practice.
- The approach adopted provides sufficient flexibility.
- The Amendment, while innovative, seeks to appropriately address these matters and fill gaps which have led to unintended conseqnences in the past.
- Subject to minor changes, I support the ESD elements of Amendment C278ggee.



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