Submission No 203

INQUIRY INTO PLANNING SYSTEM AND THE IMPACTS OF CLIMATE CHANGE ON THE ENVIRONMENT AND COMMUNITIES

Organisation: Eurobodalla Shire Council

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17 November 2023

The Hon. Sue Higginson MLC
Chair
Portfolio Committee No 7 - Planning and Environment
Parliament House
Macquarie Street
SYDNEY NSW 2000

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Dear Sue,

Submission to the Inquiry into the planning system and the impacts of climate change on the environment and communities

Eurobodalla Shire Council welcomes this Inquiry into the adequacy of the NSW planning system to adapt to climate change. Our submission is attached to this letter which includes the Eurobodalla Shire Council's Climate Change Advisory Committee's contribution (Appendix A).

This submission addresses each of the terms of reference of this inquiry, noting that the issues are complex and inter-related. The impacts of climate change need to be addressed consistently by all levels of government and actions to adapt to climate change need to be integrated into all plans, strategies, policy, and guidance.

The NSW planning system needs significant reforms to address the impacts of climate change. Any reforms should result in:

- integration of climate change adaptation into all levels of planning
- consistent, clear, and complementary legislation, policy, and guidelines for planning, natural resource management and hazard resilience
- opportunities to improve the climate change resilience of older housing stock and built or zoned settlement areas
- equity to ensure the impacts of climate change are not experienced more by vulnerable groups or Aboriginal Australians
- improved standards for new building and subdivision designs that adequately consider climate change risks
- flexibility to adapt to changing social economic and environmental circumstances including by strategic planning.

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Urban and regional planning requires balancing a range of environmental, community and economic development priorities that might sometimes compete and even conflict with climate change adaptation options. It is fundamental that the NSW Government shows strong and consistent leadership to guide the difficult decision-making process by providing clear evidence and consistent approaches within the NSW planning system. Conflicting or inconsistent legislation, agendas and targets will not lead to long-term sustainability. Through a collaborative, adaptive, and equitable planning framework, our communities can be healthy and resilient to climate change impacts now and in the future.

Should you require further information, please contact Divisional Manger Strategic and Sustainable Growth, Elizabeth Rankin, on or via email to council@esc.nsw.gov.au.

Yours sincerely

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Director Planning and Sustainability Services

Encls.

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a) developments proposed or approved:

(i) in flood and fire prone areas or areas that have become more exposed to natural disasters as a result of climate change,

(ii) in areas that are vulnerable to rising sea levels, coastal erosion or drought conditions as a result of climate change, and

(iii) in areas that are threatened ecological communities or habitat for threatened species

Eurobodalla is largely bushfire prone, with our three main towns and other villages flood prone, and we have 143km of coastline with some areas subject to coastal hazards. Eurobodalla Council plans for the impacts of climate change on the environment and communities with limited resources. Planning includes:

- preparation and implementation of the Eurobodalla Climate Action Plan 2022-32
- establishing a Climate Change Advisory Committee that provides advice to Council and the community about how to effectively deliver the actions set out in the Climate Action Plan. The committee also identifies and advises on emerging issues and opportunities in climate change
- preparing and implementing flood management programs in accordance with the NSW Flood Risk Management Manual
- preparing and implementing coastal management programs in accordance with the NSW Coastal Management Manual
- preparing a Biodiversity Strategy (in draft)
- looking for opportunities to supply renewable energy to Council facilities and pledging to cut energy emissions as part of the Cities Power Partnership Program
- investigating ways sustainability and climate change adaptation principles can be incorporated into masterplans and development control plans (underway).

There are many guidelines available to help planning projects consider climate change, including:

- NSW Draft Greener Places Design Guide (nsw.gov.au)
- NSW Climate change, green cover and open spaces | AdaptNSW
- NSW Coastal Design Guidelines
- NSW Flood Risk Management Manual
- Planning for Bushfire Protection 2019
- Adapt NSW's website.

However, the guidance does not provide the level of detail required for local governments to integrate climate change adaptation into the local planning framework, especially for existing subdivisions and developments. Greater detail and clarity on what planning scenarios should be adopted and how local governments can integrate the guidance is required to enforce the intent of these guidelines.

This is especially important where policy or legislative requirements are in conflict eg, the *NSW Biodiversity Conservation Act 2016* and the *Rural Fires Act 1997* and the *Local Land Service Act 2013*. The contradictions make decision making complex, which largely rests on local councils to navigate.

NSW guidance, policy and legislation needs to address the inequities of the assessment and offsetting pathways for clearing native vegetation and biodiversity impacts on urban, rural and conservation zoned land. Planning needs to better integrate with other natural resource management, terrestrial and marine biodiversity legislation to be considered more wholistically.

Local government can only plan for climate change impacts by undertaking studies, reviewing management plans regularly, and integrating sustainability principles into planning instruments and development controls. To implement the current guidelines, manage known hazards, engage meaningfully with the community, and weigh up the decisions of competing issues, local capacity needs to be enhanced through ongoing funding programs and technical support.

The NSW Government should continue and expand programs for improving energy efficiency, climate resilience and other sustainability parameters in older housing stocks. There needs to be a cost-effective process to improve bushfire and climate resilience of older homes. Many older homes have been constructed prior to the introduction of bushfire construction and management standards. The NSW Government should provide greater certainty for landowners to implement options to improve the bushfire resilience of existing dwellings that do not result in continued biodiversity decline.

Local government needs support to undertake biodiversity certification projects in areas that have already been zoned for development to minimise the need for site-by-site assessments. There needs to be greater consideration of mechanisms to support landowners in the management of biodiversity, especially where the biodiversity benefit to the broader community has a higher value than the development outcome. This support should include reducing the risk of entering Biodiversity Stewardship Agreements (BSA) eg, there is an unreasonable financial investment up front before knowing whether a site would be profitable as a BSA, and there is an unreasonable expectation that credits would be sold slowly, over possibly many years, before payments to manage the land, or profits, would be realised.

Regional conservation planning and local strategic planning processes should be integrated to identify biodiversity certification areas to facilitate development in appropriate locations. Conservation zones, priority biodiversity offset areas, and wildlife corridors should also be identified and avoided and/or better managed. High value ecosystems susceptible to climate change need surrounding lands (buffers) considered to provide options for retreat, wildlife connectivity and migration pathways. This should also enable the provision of local biodiversity offsets for local developments. Eurobodalla is not a priority area for the Biodiversity Conservation Trust to invest in BSAs, however BSAs are not being created by the open market. As a result, biodiversity offset credit requirements are paid straight into the Biodiversity Conservation Fund, and local offsetting is not being delivered.

There needs to be a State-wide program to protect and establish wildlife corridors that enhance biodiversity (and climate migration pathways). Management should be at a regional scale and rely less on site-by-site assessments through the development assessment process. It is also imperative that the NSW and Australian Governments collaborate to ensure the biodiversity assessment and approval pathway is effective, consistent and complementary.

Planning mechanisms aimed towards protecting the natural environment (for example in areas with threatened species) can disproportionately affect Aboriginal owned and managed land (eg, land owned by Local Aboriginal Land Councils (LALCS) and land subject to native title). Traditional Owners, LALCs and other Aboriginal groups should be consulted so that reforms can be equitable and use traditional land management knowledge. More incentives and resources are needed to manage and rehabilitate lands in public and private ownership, especially where they do not fit the criteria for a BSA.

Heat stress in existing housing stock is flagged as a particular concern, even in modern developments where lack of insulation and passive design elements mean higher energy usage for heating or cooling. Towns or CBDs also need to be planned to ensure public space is adapted to the impacts of climate change. For example, the NSW Government should provide greater financial and technical support to local councils for the planning, design and implementation of programs for plantings and/or artificial shading of existing urban streetscapes, carparks and playgrounds.

(b) the adequacy of planning powers and planning bodies, particularly for local councils, to review, amend or revoke development approvals, and consider the costs, that are identified as placing people or the environment at risk as a consequence of:

(i) the cumulative impacts of development,
(ii) climate change and natural disasters,
(iii) biodiversity loss, and
(iii) rapidly changing social, economic and environmental circumstances

The planning powers of local governments to review, amend or revoke development approvals where the consequences of climate change are not tolerable, is inadequate. Land zoning and developments approved prior to current knowledge and understanding of climate change, flooding, bushfire risk and biodiversity decline are difficult to change under the NSW planning system.

Litigation for *actions* such as removing existing development rights is a concern for local governments. For example, if development potential is removed from an area with a known hazard, landowners may seek compensation. For some local governments this may mean substantial costs. Litigation for *inaction* is also of concern. There is a lack of funding resources to engage staff to prepare the studies and plans that lead to the liability exemptions under s733 exemption in the *Local Government Act 1993* would apply.

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Eurobodalla Council rejected a residential development on flood-prone land due to the unacceptable risk it would pose to future residents of the proposed dwelling. The land had been zoned C2 Conservation but had a dwelling 'entitlement' based on previous zoning. The applicant's appeal was upheld (Smith v Eurobodalla Shire Council [2023] NSWLEC 1345). This is a clear example of the inadequate planning powers for local councils to plan for the impacts of climate change on future communities.

Topography, riparian values, biodiversity, Aboriginal cultural values, as well as hazards such as bushfire and flooding, pose challenges in the design of and provision of residential land and housing developments. The area is naturally very constrained making it difficult to develop, more costly to develop, reducing dwelling yields, more difficult to work through the planning process and a higher risk for developers.

There is also a lack of suitably qualified development specialists in regional areas eg, urban designers, architects, surveyors, and development engineers. Without mandatory requirements to consider climate change, this can:

- result in poor quality subdivision and housing development applications requiring lengthy negotiation processes and council resources to ensure that even minimum standards are addressed
- prevent the development industry from developing new housing products better suited to the market need.

The lack of flexibility of the NSW planning system to adapt to rapidly changing social, economic, and environmental circumstances after recent floods, bushfires, COVID-19 and the housing affordability crisis is clear. The planning system needs more options for housing for recovery, especially for low and very low-income households.

(c) short, medium and long term planning reforms that may be necessary to ensure that communities are able to mitigate and adapt to conditions caused by changing environmental and climatic conditions, as well as the community's expectation and need for homes, schools, hospitals and infrastructure

The consideration of climate change mitigation and adaptation should be incorporated into the NSW planning system, encompassing all key stages of the planning process, from strategic land-use planning to environmental impact assessment and development assessment. This should be integrated into the existing planning system eg, not delivered by a standalone State Environmental Planning Policy.

Any reforms need to consider the fatigue local councils have from the ad-hoc NSW planning reform agenda. Reforms must be efficient, drive efficiency, and deliver clear benefits to planning outcomes. NSW planning reforms should:

- consider and align with Australian Government's Land Use Planning for Disaster Resilient Communities 2020
- consider and align with Planning Institute of Australia's Climate Conscious Planning Systems 2021
- consider and align with the Council Alliance for a Sustainable Built Environment (CASBE) Sustainable Subdivisions Framework

- consider Chapter 4 of the parliamentary report on the Current and Future Impacts of Climate change on Housing, Buildings and Infrastructure
- consider and align with NSW Government Architects guidelines including:
    - Draft Greener Places Design Guide (nsw.gov.au)
    - Connecting with Country Framework
- factor in projected climate change impacts into strategic planning and development assessment decision-making
- use consistent modelling techniques to map climate change risks and integrate mapping to show the cumulative ways they may affect existing and future settlements to better inform local decision making
- include specific guidance on climate change considerations in the NSW Government's *Local Environmental Plan Making Guideline (2023)* and local planning directions under s9.1(2) of the EP&A Act
- support local councils by preparing sustainability guidelines for new subdivisions that can be integrated into Development Control Plans and applied to development assessments
- address inequities. For example, households particularly vulnerable to heat stress are more likely to live in housing with poor insulation for heating and cooling such as low-income, renters and residents in public housing
- emphasise the benefits of engagement with Traditional Owners, experts, stakeholders, and the wider community, to identify and plan for climate change. It should note the process of meaningful engagement is a key part of building more resilient communities
- ensure the NSW Government's BASIX tool considers projected future climate change scenarios (including those for extreme heat) that are specific to the region in which the development is proposed, and that elements that will most effectively address the impacts of climate change are required
- require occupancy certificates for single residential properties to confirm the Energy Rating prepared at the start of the project has been achieved
- support local councils by offering optional amendments to LEPs eg, as was done for the special flood considerations clause and natural disaster clause
- resilience should be embedded in regional strategic plans to better communicate climate risks and priorities to avoid and minimise climate change impacts. They should protect the strategic values of a region, including identifying what settlements and other areas will be supported to adapt to climate change, and identifying staging and alternative scenarios to deal with uncertainty
- ensure the planning framework supports innovation and is flexible where required to provide the right outcomes for each community
- enable the delivery of housing to be more responsive to market shifts and more affordable by investing more in strategic planning. This should include strategic planning for green energy projects, waste and resource recovery projects, multi-hazard analyses and biodiversity certification
- incorporate green space requirements, ensuring that new developments include trees and other vegetation, connected open spaces, and shaded active transport links. Affordable housing should incentivise to be near these landscape elements to encourage mixed income communities

- promote the incorporation of green infrastructure, nature-based solutions and sustainable land-use practices
- encourage collaboration and information-sharing between all levels of government to facilitate a cohesive and comprehensive response to climate-related challenges
- energy efficiency standards for rental properties to reduce energy costs for renters.

The NSW Government should advocate to the Australian Government and relevant national bodies to improve the National Construction Code (NCC) and Nationwide House Energy Rating Scheme (NatHERS) to integrate new standards to mitigate the impacts of extreme heat events. Strengthening the NCC and tools like BASIX are necessary to ensure residents can live and work in safer, more resilient, and sustainable buildings.

Regional councils do not have adequate resources and cannot always operate at a landscape or catchment scale. The NSW Government needs to provide more flexible support and funding towards preparing and maintaining hazard mapping using up-to-date climate data, multi-hazard risk assessments and implementing wholistic climate change adaptation measures to land-use zoning and developments. This will help to ensure a coordinated State-wide approach at both strategic planning and development assessment levels. It will also result in the development of mitigation and adaptation plans at more regular intervals.

(d) alternative regulatory options to increase residential dwelling capacity where anticipated growth areas are no longer deemed suitable, or where existing capacity has been diminished due to the effects of climate change

Support from the NSW Government is needed to investigate options where anticipated growth areas are no longer deemed suitable. Where the risk or impacts of climate change are not tolerable, difficult decisions must be made using a collaborative and sensitive process.

There also needs to be NSW Government support to continue to deliver housing for vulnerable people and households with low and very low incomes. For example:

- Direct financial involvement by the NSW Government to support the provision of climate adapted social and affordable housing by government or in partnership with not-for-profit organisations in locations that are resilient to climate change.
- Provide financial incentives (eg, tax, stamp duty relief) under appropriate contractual arrangements to the private sector where they are able to provide affordable housing solutions as part of their development.
- Create more ongoing funding programs for local government to fund strategic planning work (housing strategies, master planning, development control plans, multi-hazard planning etc,) that will assist in the provision of residential land and housing to meet the needs of the community, and that considers the impacts and risks associated with climate change.

(e) any other related matters.

Diseases and pest outbreaks are also predicted to occur more often under all climate change scenarios. The impacts of climate change also need to consider food security, and homes and towns that can accommodate people's needs during outbreaks (including access to open space and outdoor dining for example). These should be considerations in strategic planning for climate change.

Skill shortages exist in the planning and related professions, especially in local governments. This impacts on the ability of local governments and the community to respond to the challenges of climate change. Building the human capacity in councils, especially in regional areas, will better promote sustainable development through the planning process. This should include advocating for programs to develop greater sustainable development expertise through the National Cabinet Planning Reform Blueprint, which includes a goal of "adequately resourcing built environmental professionals, including planners, in local government".

Councils rely on grants to deliver infrastructure projects. The grants do not prioritise projects that will minimise emissions or that will lead to climate resilience (eg, that include shade trees). Green infrastructure, nature-based solutions, and trees should be embedded in infrastructure funding opportunities such as 'Get NSW Active' grants. Offsetting as part of funded projects should also be embedded in the grant requirements.

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Appendix A – Supporting information provided by Eurobodalla Shire Council's Climate Change Advisory Committee

1. Introduction

Decisions on building design and land development for residential and commercial subdivision will have impacts for more than fifty years[1] in the case of individual houses, and hundreds of years in the case of subdivisions. These decisions have probably the longest lifetime impacting the community of any decisions taken by local government and by individuals in the community.

It is therefore critical that the decisions taken today set us up to ensure the housing stock of the future, and our villages, towns, and suburbs, are designed to:

- improve our climate resilience, including our ability to cope with a hotter climate and more extreme weather events, and
- lower our carbon footprint, particularly by reducing household and building energy-related greenhouse gas (GHG) emissions and emissions from related sectors like transport.

Lifting the energy and climate performance of our built environment offers a range of benefits for households and our community.

- The built environment is responsible for almost a quarter of Australia's national climate emissions, and therefore provides a significant opportunity to reduce our carbon footprint. Setting energy standards for new buildings could deliver at least 78 million tonnes of cumulative emissions savings nationally and play an important role in reducing emissions locally.[2]
- Homes with better climate and energy performance are healthier and more resilient. There were reportedly 36,000 deaths in Australia associated with the heat between 2006 and 2017, and heat waves are predicted to get worse. Cold homes are also a problem in Australia contributing to twice as many deaths here than in Sweden where it gets much colder, but homes are built for greater climate resilience.
- Better energy performance means lower energy bills. For example, the Australian Building Codes Board found that households would save up to $576 per year if stronger requirements were applied under the National Construction Code.[3]

Now is a crucial time to improve the NSW planning system to ensure better quality, more energy efficient and climate-resilient developments are mandated. In Eurobodalla Shire, many houses are decades old and likely to come up for renovation or replacement in the coming decade. Eurobodalla is also witnessing significant growth in new housing stock. How

[1] "On average, the generally expected and acceptable lifespan of a home should last at least 60 years" (Source: https://propertyregistry.com.au/how-long-will-a-new-house-last/)
[2] Buildings | solutions project | Climateworks Centre
[3] *Building Ministers' Meeting Communiqué March 2022.* https://www.industry.gov.au/news/building-ministers-meeting-communique-march-2022

these developments proceed, and how they incorporate sustainability principles, will have long-lasting consequences for future residents of the shire.

2. Key principles

There are some key principles that should be central to the way the NSW planning system treats new developments. These include the following:

- The NSW planning system, and NSW Government particularly, should support local councils in their efforts to strengthen requirements for new buildings, and to improve the quality of existing buildings from the perspective of climate resilience and carbon emissions.
- The NSW planning system should not constrain local councils in prescribing better sustainability and resilience standards for new buildings or developments (eg, energy and water efficiency, liveability under heat stress).
- The cost-benefit assessment of proposed housing standards, and of standards that relate to new developments, should be assessed as whole-of-life costs and benefits, and must consider the liveability and costs from the perspective of future residents. The calculation and weighting of costs should not emphasise short run development costs at the expense of depreciated future costs, or the energy efficiency savings that accrue over time for households, because this favours the financial interests of today's professional land developers over future residents who will bear not only higher financial costs but also physical and other risks associated with climate change.

3. Building design

The report *Senate inquiry into impacts of climate change on housing* (Commonwealth of Australia 2018) highlights various pathways through which built infrastructure may be affected by climate change, including flooding and inundation, increased bushfire frequency and intensity, and heat.

Acute heat is a crucial issue in the face of climate change. "*In Australia, heat events have killed more people than any other natural hazard experienced over the past 200 years*" (Commonwealth of Australia 2018). People are most often indoors during heatwave periods, hence health outcomes are significantly influenced by the design of buildings, particularly with respect to their performance under acute heat conditions is (Commonwealth of Australia 2018). Building design affects energy use (and hence whole-of-life energy costs) for heating and cooling and affects thermal comfort levels for residents during temperature extremes.

The Centre for Sustainable Infrastructure at Swinburne University of Technology notes an increasing dependence on air-conditioning to reduce the impact of heat stress[4], and this can overload the power grid and create power outages – which happened during 2009 and 2014 heatwaves in Melbourne and Adelaide – at which point the occupants of houses that depend on air conditioning to cope with heat are significantly more vulnerable than those in houses

[4] By March 2014, 74% of dwellings in Australia had coolers, up from 59% in 2005.

which do not depend on air conditioning. They argue that buildings need to be designed to be thermally comfortable without air conditioning during a heatwave (Commonwealth of Australia 2018).

Those most at risk from heat stress include the elderly, disabled and the young. Additionally, some households are particularly vulnerable to heat stress because they are more likely to live in housing with poor insulation for heating and cooling such as low-income, renters and residents in public housing (Commonwealth of Australia 2018).

The Commonwealth Inquiry's report notes plainly that, based on evidence received, **Australian buildings are generally not well suited to the existing climate, let alone a future further affected by climate change**. Heat stress in existing housing stock is flagged as a particular concern. In its submission to the Inquiry, the National Climate Change Adaptation Research Facility (NCCARF) notes "*In many parts of Australia, housing is poorly adapted to the current climate, and this is particularly the case for many modern developments, where lack of insulation and passive design elements mean that auxiliary heating or cooling, which accounts for about 40% (or much more in some climates) of energy use in the average Australian home, are the only way to maintain a comfortable environment for much of the year*" (Commonwealth 2018, Submission 28).

2.1 New buildings

Once a house is built, there are only limited ways of improving performance, so decisions made at the initial design and construction stage have a long impact. The National Climate Change Adaptation Research Facility (NCCARF) identifies that financial capacity and cost constraints, knowledge and understanding of risks, insurance issues and/or government restrictions will affect whether some private house owners take action to respond to climate-related risks through building alterations or at initial design stage. The Commonwealth Inquiry notes that the uptake of voluntary schemes intended to improve housing standards, such as the Green Building Council Australia's Green Star rating scheme, is not occurring as rapidly as is required (Commonwealth of Australia 2018).

The Commonwealth Inquiry highlights that State and Local governments need to play a central role by ensuring land-use planning policies that guide better development outcomes in the face of climate change risks are adopted and implemented.

Today's building design standards need to be significantly improved.

In Eurobodalla, the standard of buildings today is highly diverse. Many homes have been built in the past with relatively poor consideration of passive heating/cooling principles or thermal comfort, and even the majority of houses being built today may fare poorly from a climate resilience perspective.

New builds are required to be designed and constructed to meet minimum performance standards – for water and energy use and average thermal comfort – which are prescribed by the NSW Government's BASIX tool. However, studies indicate that most building designs which today pass the BASIX standards will fail those same standards under projected climate change scenarios for our region (WSP 2021).

A survey of some councils as part of the *Future Proofing Residential Development to Climate Change project* (WSP 2021) identified the following deficiencies in current standards and tools used for modelling thermal performance of buildings:

- BASIX standards are outdated and not stringent enough – today's BASIX-compliant buildings fail under projections of our future climate.
- Climate data used in models like the *Nationwide House Energy Rating Scheme* (NatHERS) – which are used to model the thermal performance of buildings in order to meet BASIX standards – is not representative of current, let alone future, climate (Commonwealth of Australia 2018). Although the climate files in NatHERS were updated in 2022 to incorporate historical data from 1990 to 2015, most of the hottest years on record have all occurred since 2015 – the warmest was 2019 – and thus are not accounted for in the current tool.
- The thermal performance metric in BASIX, and the National Construction Code, balances winter and summer conditions (ie, use an average performance measure over the year) but does not look at performance in acute heat conditions. Climate change will drive supercharged summers and fading winters, so **metrics that address extreme heat are needed** (Commonwealth of Australia 2018).
- NatHERS is driving greater reliance in modern homes on mechanical cooling to cope with heat, which is in fact creating new homes with lower intrinsic heat resistance than older homes. Increasing people's dependence on air conditioning becomes hazardous without AC during heatwaves, as can happen during grid failure. Unless building assessment tools like NatHERS are modified, they risk adversely impacting on human health by making occupants more vulnerable during heatwaves (Commonwealth of Australia 2018; Hatvani-Kovacs et al. 2018).
- There is a lack of industry support or compliance to ensure that buildings are being built and construction certified to the performance levels implied by the design specifications that pass BASIX.

Various other reasons may contribute to buildings performing poorly from a sustainable design perspective:

- Lack of awareness among designers or their clients about the costs and benefits of sustainable buildings.
- A 'business as usual' approach where no consideration of future impacts is undertaken.
- Lack of economic assessment or costing models using whole-of-life costs, when assessing the merits of housing design proposals.
- Different incentives between developers/home builders and future occupants (Environment Australia 2013; Bird and Hernández 2012; MacAskill et al. 2021). This occurs for example where houses are designed by initial owners who do not intend to live in the house longer-term, but rather to either rent or on-sell the house once it is constructed – which is an increasing trend. The initial owner has a financial incentive to keep construction costs as low as possible, and no interest in long-term or whole-of-life costs. Hence, the incentives for land developers and builders do not align with long term energy savings, or liveability of buildings, and a set of climate-related risks may be passed on to future residents. These range from energy

inefficiency (which correlates often with comfort and liveability of housing as well as operational costs) to, in extreme cases, potential un-inhabitability or un-insurability. This may create financial costs and climate-related risks to future homeowners/residents, and indirectly to Council and the community too since higher energy and water demands create flow-on costs for the provision of local infrastructure to meet demands.

- At present, there are no requirements for a building designer to be certified as such or to demonstrate relevant formal training.

Many respondents to the Commonwealth Inquiry argued the need for stronger and/or additional minimum building requirements to ensure inhabitants of the NSW housing stock are resilient to the impacts of climate change and especially to heat. "*Better use and integration of building codes with other mechanisms could allow for significant reduction in heatwave risks, and support adaptation to a changing climate*" (March et al. 2021).

The integration of heat stress resistance into the NCC/NatHERS is needed, and NSW should advocate for and support this.

Elements of the solution space are relatively well mapped out. Building design to reduce heat stress can be achieved by looking at "*orientation, shading, provision of appropriately sized eaves, light colours, reflective roofing, inclusion of a cool refuge, (and) complimentary landscaping*" (Commonwealth 2018, Submission 28); however, none of these are formalised in the *National Construction Code* (NCC). Despite being updated in 2022, the NCC still does not address heatwaves or the role of dwellings and other buildings in reducing heatwave health risks (March et al. 2021). The integration of heat stress resistance into the NCC/NatHERS is needed (Hatvani-Kovacs et al. 2018). Further, occupancy certificates required for single residential properties should confirm that the Energy Rating prepared at the start of the project has actually been achieved once the build is completed (Commonwealth of Australia 2018) – which is not standard practice today.

From an equity perspective, strengthening the National Construction Code and tools like BASIX are necessary to ensure residents can live and work in safer, more resilient, and more sustainable buildings. Recent research on the costs and benefits of proposed changes to the NCC in 2021 (ie, increasing from 6 to 7 stars for thermal performance and a stronger energy budget) concluded the up-front costs of these changes be repaid on average over 6-8 years, households will be saving money from day one (comparing energy savings per month with any increased mortgage repayment costs to cover additional up-front construction costs), and the proposed changes will deliver a net present value of between $9,500 to $13,500 (over 20 years with 2% discount rate) (Renew 2021). In other words, such changes make strong economic sense for household and for the local economy.

2.2 Existing buildings

The NSW Government, along with the Australian Government, should provide ongoing public funding to help existing homeowners upgrade elements of their homes that significantly reduce GHG emissions, or can improve a house's liveability during extreme heat without air conditioning systems.

The thermal performance of existing buildings is also a critical issue, though this is more difficult to address than for new buildings. A key strategy is retrofitting low efficiency dwellings so that internal temperatures are kept within safe ranges during extreme heat events.

It is helpful to see that the NatHERS rating scheme is being expanded to include existing dwellings. However, as indicated already, once a home is built there is often only limited scope for owners to dramatically improve its performance or liveability under extreme weather conditions – hence the imperative to dramatically improve standards for new buildings.

For some residents, such as lower income households, financial assistance is needed to ensure they can take advantage of energy savings measures, participate in the transition to cleaner energy, and improve the liveability of homes during extreme weather events.

For renters, which include many low-income households, there is a strong case for mandatory energy efficiency standards to ensure rental properties are safe for tenants. This should include free energy audits on private rental properties built before 5-star ratings were introduced. Organisations including the Australian Council on Social Services (ACOSS) recommend that the Federal Government provide up to $5,000 for energy efficiency and/or solar installation for qualifying poor performing rental properties targeted at low-income renters.[5] The Energy National Cabinet Reform Committee is currently working on a framework to implement mandatory energy efficiency standards for rental properties, and we encourage advocacy for strong standards and government support, particularly for low-income households.

3. Subdivision design

Many of the challenges described for buildings are mirrored in the issue of subdivision design, and decisions on subdivision development have even longer lifetimes than those for buildings. It is crucial that the impacts of climate change over the entire life of a new subdivision are integrated into its design and approval. The sustainability and resilience of our communities, and our natural ecosystems, will be directly influenced by initial subdivision design.

> "*Well-designed built environments make sound economic sense. They contribute to our health and wellbeing and to successful and thriving places. They respond to the needs and aspirations of people and communities; are made up of attractive buildings and spaces we visit often and feel comfortable in; include quality open spaces, facilities and streets we can easily access and relax in; support good growth and productivity; enhance our comfort through green infrastructure; provide a diversity and mix of neighbourhoods; increase our ability to walk and cycle to local services; and adopt sustainable and resilient practices to minimise our impact on the environment and sustain it for future generations*" (DPIE 2021).

[5] Brief-Proposal-and-implementaion-plan-for-National-Low-income-Energy-Productivity-Program-September-2021.pdf (acoss.org.au)

Various guidance exists on the issues that need to be addressed (see for example OEH 2016; Norman, Newman, and Steffen 2021).

The NSW government should work with local councils across NSW to develop sustainable subdivision guidelines and standards, as an urgent priority.

The Victorian model offers a potential way forward. In Victoria, the Council Alliance for a Sustainable Built Environment in partnership with sixteen local governments has developed the *Sustainable Subdivisions Framework* (CASBE 2019a). The framework "*seeks to mitigate the impacts of a fundamentally changing climate to create subdivisions that can adapt to the changing climate… (it) has been developed with a focus on environmental sustainability outcomes, which have social and economic benefits, for example the way green infrastructure can provide improved amenity or recreation value*". It integrates guidance on seven categories that together create more sustainable subdivisions: Site Layout and Liveability; Streets and Public Realm; Energy; Ecology; Integrated Water Management (IWM); Urban Heat; Circular Economy (Materials and Waste).

As an example, the Framework's *energy conservation* objectives include the provision of lots with areas and dimensions that ensure dwellings can be sited for best solar access and ensuring streetlights and other public infrastructure requiring energy supply (pumps etc,) are of the highest efficiency standard available and integrate smart technology, where appropriate. *Renewable energy* objectives include orienting lots to encourage roof lines capable of supporting solar PV, maximising the provision of renewable energy to the subdivision, and promotion of battery storage uptake at either the subdivision or lot scale. Lot orientation is an important factor.

The NSW government should include more specific guidance on how consideration of climate change should be integrated into the formulation of council-level policies and plans, including Local Environment Plans (LEPs).

While Council's own planning instruments are important to guiding the character of new development, much of the urban planning space is regulated, or constrained, by the NSW Government. The *Environment Planning and Assessment Act 1979* sets out the objectives and the framework for decision-making associated with the built environment across NSW, which are then to be translated and implemented at the local level by Councils' local planning instruments (Local Strategic Planning Statement, Local Environment Plan, Development Control Plans, codes, etc). Where there are standards in place at the NSW Government level, local councils are prevented from requiring higher standards – even if, as now, the NSW standards are insufficiently protective of the climate itself or of future residents under a changing climate.

The NSW Audit Office notes that the NSW Planning Department's 2018 *Guide to preparing Local Environmental Plans (LEPs)* for councils does not mention climate change, and their review of 143 council LEPs (in March 2020) found that all make a reference to climate change but only in relation to flood planning (NSW Audit Office 2021). The NSW Government's 2023 updated *Local Environmental Plan Making Guideline* now mentions climate change twice, in general terms, but provides no helpful guidance on the ways in which climate change should be considered by, or integrated into, LEPs. Given the significance of this issue, and the generally low levels of awareness among the development industry about how consideration of climate change *should* influence the character of new developments, this should be specifically addressed.

4. Summary of recommendations

The NSW Government should:

- upgrade NSW existing requirements for sustainability measures in new buildings, including strengthening existing *BASIX standards* and introducing a measure that assesses new builds under extreme heat scenarios. State and National standards and assessment tools should assess new proposals' building performance without the use of air conditioning as a measure to mitigate extreme heat effects, since otherwise we are locking in development that is dependent on electrified air conditioning to maintain safe, comfortable homes
- advocate to the Australian Government and relevant national bodies to improve the *National Construction Code* so as to integrate new standards related to acute heat risks (ie, extreme heat events)
- work together with NSW councils to prepare Sustainability Guidelines for new subdivisions. These should support councils to ensure new development areas are better designed from a sustainability and climate resilience perspective
- add more specific guidance on how consideration of climate change should influence the preparation of Local Environment Plans into the NSW Government's *Local Environmental Plan Making Guideline (2023).*

Furthermore, the NSW Government should:

- build the human capacity in councils, especially in regional areas facing significant growth, to better promote sustainable development through the planning process. This should include advocating for programs to develop greater sustainable development expertise through the National Cabinet Planning Reform Blueprint, which includes a goal of "adequately resourcing built environmental professionals, including planners, in local government"[6]
- continue and expand programs for improving energy efficiency, climate resilience and other sustainability parameters in older housing stocks
- provide greater financial and technical support to local councils and community organisations for the design and implementation of programs for plantings and/or artificial shading of strategic urban streetscapes, carparks and playgrounds.

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