# Environmentally Sustainable Development (ESD) Policy

## Background Report

HOBSONS BAY CITY COUNCIL

June 2018

**Acknowledgements**
This policy was compiled by the Hobsons Bay Strategy and Advocacy Department. For further information contact Hobsons Bay City Council on 9932 1000
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Council acknowledges the peoples of the Kulin Nation as the Traditional Owners of these municipal lands and waterways and pays respect to Elders past and present.

Council acknowledges the legal responsibility to comply with the Charter of Human Rights and Responsibilities Act 2006 and the Equal Opportunity Act 2010. The Charter of Human Rights and Responsibilities Act 2006 is designed to protect the fundamental rights and freedoms of citizens. The Charter gives legal protection to 20 fundamental human rights under four key values that include freedom, respect, equality and dignity.

# Executive summary

Environmentally Sustainable Development (ESD) is the philosophy of designing physical objects, the built environment and services to comply with the principles of social, economic, and ecological sustainability.

The Hobsons Bay 2030 Community Vision identified the need for Council to activate sustainable practices and enable visionary, vibrant and accountable urban planning for its residents. This background report presents the basis for the development of an ESD Policy Statement and associated policies and plans to implement the Community Vision.

The ESD Policy Statement will:

- demonstrate Council's commitment to and leadership in ESD practice by incorporating ESD within its own developments
- build the capacity of Council staff to implement the principles of ESD when planning, building or redesigning Council buildings and the public realm to continually improve environmental, social and economic outcomes
- advocate for sustainable design to be enforced through the regulatory framework through an ESD Local Planning Policy (LPP) and ensure that environmental performance is considered in the assessment of development proposals
- encourage and support private developers to lead by example
- develop awareness in the community of the value of enhancing ESD outcomes for their homes, their businesses and in their community and showcase best practice examples to enhance adoption and awareness

A Council of excellence is one that proactively identifies, adopts and implements best practice. To achieve this, Council is seeking to lead by example by embedding sustainability in Council buildings, infrastructure and public realm works. Following a review of the Sustainable Design in Council Facilities (SDiCF) Policy 2011, it was determined that compliance needed to be the focus of any future policy and that a process to support and encourage compliance be developed. These findings identified the need for a revision of the policy, including an emphasis on capacity building for staff.

If Council is to take a leadership role in relation to ESD, then benchmarked sustainability targets are required for all Council projects. Whilst a new Sustainable Design Policy for the Built Environment and Infrastructure should consider individual buildings, a triple bottom line approach is required for construction projects so that cumulative impacts and broader socio-cultural, economic and environmental impacts are considered. This includes developing a decision-making framework into Council's procurement policies and procedures to preference sustainability outcomes.

Council has long been an advocate of eco-minded urban development, encouraging and assessing ESD in planning permit applications since 2007. However, in the absence of an ESD LPP, the non-enforceable nature of Council's participation in the Sustainable Design Assessments Planning Process (SDAPP) means that many environmental initiatives are either being overlooked or over-ruled by the Victorian Civil and Administrative Tribunal (VCAT).

Currently, Sustainable Design Assessments (SDAs) submitted to Council identify how developments meet best practice environmental standards. An ESD LPP would provide

planners with leverage to seek higher ESD performance standards from future development. Formalisation of the SDAPP through an ESD LPP is an effective approach to embedding ESD in the planning system. However, this needs to be accompanied by a suite of fact sheets and educational materials to support developers (and designers), Council staff and the broader community to enhance their awareness of the benefits of ESD.

This background report recommends that Council:

- as a leader in ESD set a benchmark for all Council buildings of Green Star 4, 5 or 6 Rating OR BESS Excellence
- set a trigger in the ESD LPP to capture residential developments of two dwellings and above (currently 10 and above) and non-residential developments greater than 100m$^2$ to realise greater environmental gains.

Local case studies demonstrate that Council could conserve over eight Olympic size swimming pools worth of potable water and mitigate carbon emissions equivalent to taking forty one average Australian homes off the electricity grid. These findings demonstrate only a small portion of the benefits that can be gained by incorporating ESD into planning and development outcomes.

The ability of Council to complete assessments and achieve the benefits outlined above is dependent upon resourcing. Once the ESD LPP is adopted monitoring resource requirements is recommended to determine if additional resources are required to undertake ESD referral assessments. Resources will also be required to develop a suite of fact sheets and educational materials. In addition, emphasis will be on training Council staff, build awareness and knowledge within the community and monitor practices across the development sector to ensure the success of Council's approach.

RECOMMENDATION

Based on the findings presented in this report it is recommended that Council:

1. **develop an ESD Policy Statement** that will define Council's ESD commitments and establish ourselves as a leader in the application of sustainability in the built environment

2. **adopt an ESD Local Planning Policy**, in accordance with the proposed policy provided in Appendix C of this report, that formalises the use of SDAPP within planning permit assessments and incorporate it into the Hobsons Bay Planning Scheme as a Local Planning Policy

3. **complete the review of the SDiCF Policy and develop a new policy for Council buildings, infrastructure and the public realm** that is integrated across Council and highlights Council's role as a leading Council for environmentally sustainable development

4. **develop and implement a capacity building program within Council** to raise awareness, increase knowledge and expertise and update processes and systems to ensure improved ESD outcomes in Council operations and projects

5. **develop and implement a capacity building program that is supported by a series of fact sheet and information targeted to developers and the community** to raise awareness, increase knowledge and expertise to ensure improved ESD outcomes for the community

6. **develop an Electric Vehicle policy** that outlines the support required for Hobsons Bay to transition to low emissions vehicles, including guidelines for infrastructure to support the transition for Council and the community

# Contents

# Purpose of the background report

## What is ESD?

Environmental Sustainable Development (ESD) is the philosophy of designing physical objects, the built environment, and services to comply with the principles of social, economic, and ecological sustainability.

To ensure sustainability outcomes are achieved, ESD needs to be considered early in the planning and design process to maximise opportunities. Some examples are:

- for buildings this includes good solar orientation to create liveable, comfortable and energy efficient buildings and maximising permeable area for effective water management
- for land use planning the provision of a range of densities in urban areas, with higher densities in areas near employment centres to promote the integration of land use whilst enhancing public transport outcomes
- for infrastructure it includes considering the benefits and impacts of a project over its entire life cycle particularly with respect to climate change (e.g. designing drainage infrastructure to account for sea level rise and flooding)

Implementing sustainability early in the planning and design process is the most cost effective way to achieve good environmental outcomes.

## Scope of this report

It is crucial that all development, both residential and non-residential within Hobsons Bay, is of a high quality and contributes towards an environmentally friendly urban environment – to enhance the longevity and ongoing success of the municipality.

The intent of an ESD policy is to provide the broad strategic directions and a framework for decision-making. An ESD policy facilitates a coordinated and co-operative approach to environmentally sustainable development and encourages long-term planning for the benefit of the municipality and the broader environment over short-term gains.

This report provides the knowledge to support the development of three key policies:

1. an ESD Policy Statement. The ESD Policy Statement will outline Council's commitment to the community and identify the way in which Council will establish itself as a leader in ESD. Having a clear policy position with regards to ESD will provides guidance for future land use planning outcomes and guiding future development

2. an ESD Local Planning Policy (LPP). A significant part of this background report develops the evidence base for this policy. The policy is part of a Round Three process whereby a number of Victorian councils are collaborating on a Planning Scheme Amendment to increase their ability to influence improved ESD outcomes within their municipality

3. a Sustainable Design Policy for the Built Environment and Infrastructure. Council currently has a Sustainable Design in Council Facilities Policy 2011

(SDiCF), which aims to reduce the environmental impacts and operating costs of all Council-owned buildings. It outlines a process for Council to support the implementation of the Corporate Greenhouse Strategy 2013-20 which has a target of zero net emissions by 2020 A review of this policy is discussed later in this report

# ESD Policy Statement – Setting the standard for Council

Council is committed to creating an environmentally sustainable urban environment. Critical to achieving this commitment is for development to meet appropriate environmental design standards.

The ESD Policy Statement will outline the environmental standards to support sustainable development within our municipality. It will provide a blueprint for Council to become a leader in ESD as well as institute the standards of other councils who currently have ESD LPPs within their planning schemes.

The policy statement will provide a framework for:

a. an associated amendment to the Hobsons Bay Planning Scheme to include more robust ESD requirements with respect to urban development (an ESD Local Planning Policy (LPP))

   An ESD LPP will give statutory weight to ESD related permit requirements i.e. it will give Council the power to mandate 'Best Practice' during the planning application process. While Council has the technical expertise to suggest fair and reasonable sustainability upgrades that will improve the liveability of new developments and achieve environmental best practice, there can be resistance from applicants who are looking to develop sites and 'on-sell'[1] properties rather than self-occupy.

b. an internal Council policy to incorporate ESD principles in Council buildings, infrastructure and public realm works that Council undertakes

## ESD in Council buildings, infrastructure and the public realm

As Council represents and is accountable to the community, it is imperative for decision-making to be responsible and to meet the needs of current and future generations. This responsibility in embedded in Council's status as a Planning Authority under the *Planning and Environment Act 1987.* As the Planning Authority, Council can lead the community in urban renewal projects by showing leadership in sustainability through its own developments.

[1] To sell an asset, especially one recently acquired on to a third party, usually for profit

# Policy background

## Federal

National Construction Code

The National Construction Code (NCC) provides the minimum necessary requirements for safety and health, amenity and accessibility, and sustainability in the design, construction, performance and livability of new buildings (and new building work in existing buildings). Since 2011, the NCC requires all new housing to meet a six Star Nationwide House Energy Rating Scheme (NatHERS) standard.

In 2017, a study by Moore, Moloney, Hurley and Doyon[2] found that "Current minimum building code requirements fall significantly short of what is required for low carbon housing. As there is limited ability to use the building code to require improved environmental performance of housing, sustainability advocates and planners have been attempting to address this sustainability shortfall through the land use planning system." Further to this, the study suggests that "current regulations are limited in controlling buildings' environmental performance; it is widely recognised that "many major issues in ESD are well outside the scope of the current BCA" (Building Code of Australia) [40, p.19].

## State

*Local Government Act 1989*

The *Local Government Act 1989* defines the purpose and function of local government as well as providing the legal framework for establishing and administering Councils.

Under the Act, local government is required to implement the principles of sound financial management. Specific to ESD, Council must ensure that decisions are made and actions are taken having regard to their financial effects on future generations. Council also has a duty to ensure efficiency and economy of operations and the avoidance of waste.

The Act states that a Council must comply with the Best Value Principles. This includes that all services provided by a Council must be responsive to the needs of its community. The Act identifies factors to be considered when applying the principles and these include potential environmental advantages for the municipal area.

CASBE

The Council Alliance for a Sustainable Built Environment (CASBE) is an association of Victorian councils committed to the creation of a sustainable built environment within and beyond their municipalities.

It has a vision to support all Victorian councils to actively lead the creation of sustainable buildings and communities. CASBE's focus is on applying ESD principles to the built environment through the statutory planning system.

TAKE2

TAKE2 is the state's collective climate change program that supports individuals, government, business and other organisations to help Victoria achieve zero net emissions by 2050.

[2] http://cur.org.au/cms/wp-content/uploads/2017/09/implementing-sustainability-in-the-built-environment.pdf

Council is a founding member and has made the following pledge: “Working together, we pledge to play our part and take action on climate change for Victoria, our country and our planet.”

### Local

The Western Alliance for Greenhouse Action (WAGA)

The Western Alliance for Greenhouse Action (WAGA) is a partnership of eight councils to the west of Melbourne. Its members are the Cities of Brimbank, Greater Geelong, Hobsons Bay, Maribyrnong, Melton, Moonee Valley, Wyndham, and the Shire of Moorabool.

WAGA councils work collaboratively to respond to climate change across the region and encourage their communities – residents and businesses – to make a transition to a low carbon society. WAGA’s plans and projects focus on both the mitigation of greenhouse gas emissions and adaptation to the impacts of climate change.

## Historical context of ESD in Council works

In 2007, Council adopted a target of zero net emissions from its own operations by 2020 and to assist the community to achieve zero net emissions by 2030. These targets led to the development of three Council adopted documents, under the Climate Change Policy 2013.

1. Sustainable Design In Council Facilities (SDiCF) Policy and Strategy 2011
2. Greenhouse Action Plan 2008-2013 (which has now been superseded by the Corporate Greenhouse Strategy 2013-20)
3. Community Greenhouse Strategy 2013-30

The SDICF Policy applies to Council’s new buildings, extensions and maintenance works. The initial Greenhouse Action Plan was dedicated to emissions reductions from streetlights, existing buildings and Council’s fleet. The Community Greenhouse Strategy is dedicated to assisting the community to reduce their emissions through various programs.

## Current policy context

In May 2011 Council adopted its SDiCF Policy and associated Strategy.

The objectives of the SDiCF policy are to:

- reduce the environmental impacts and operating costs of all Council-owned buildings while achieving previously adopted corporate energy and water reduction and zero net emissions by 2020 targets
- reduce the environmental impact of the construction and use of Council buildings by embedding sustainable design principles into existing policies and procedures and developing procedures and resources to address gaps in existing policies
- lead the community towards achieving zero net emissions by 2030 by providing opportunities for public engagement with and access to inspiring sustainable buildings

The policy applies to all Council building works including:

- construction and management of all new Council buildings
- refurbishment, extension, retrofitting and management of existing buildings
- management of buildings that have participated in the Green Upgrade program

All new constructions, major refurbishments and extensions to Council-owned facilities must achieve the sustainable design targets listed in the SDiCF.

Whilst there are several facets to the SDiCF Policy, the associated Sustainable Design in Council Facilities Strategy breaks Council projects into tiers depending on their budget and ascribes 'sustainable design targets':

1. Showcase Constructions > $5 million (Green Star 4, 5 or 6 Rating OR BESS Excellence) (e.g. new community hub)

1. Major Capital Work $300,000 – $5 million (BESS Best Practice) (e.g. heating and cooling upgrade or a new library)

2. Minor Capital Works $100,000 - $300,000 (e.g. a pavilion upgrade)

3. Alterations and Maintenance Works < $100,000

Only major Council projects (1 and 2) require benchmarked sustainability targets to be met. Smaller Council projects (3 and 4) have guidelines that are intended to be written into consultant briefs, but a formal sustainability assessment via either BESS or Green Star is not currently required. There is also a Sustainable Design Checklist (SDC) that is applicable to major Council projects and is intended to be used by project managers to track sustainability targets.

## Council's greenhouse emissions

Council has been measuring and reporting on its emissions since 2008 as identified in *Figure 4* below. From Council's baseline year of 2010, our overall emissions from gas and electricity from buildings along with fuel decreased over ten per cent. A significant decrease in fuel of 65 per cent was experienced in the financial year of 2016/17 as along with a decrease in natural gas of just under ten per cent.

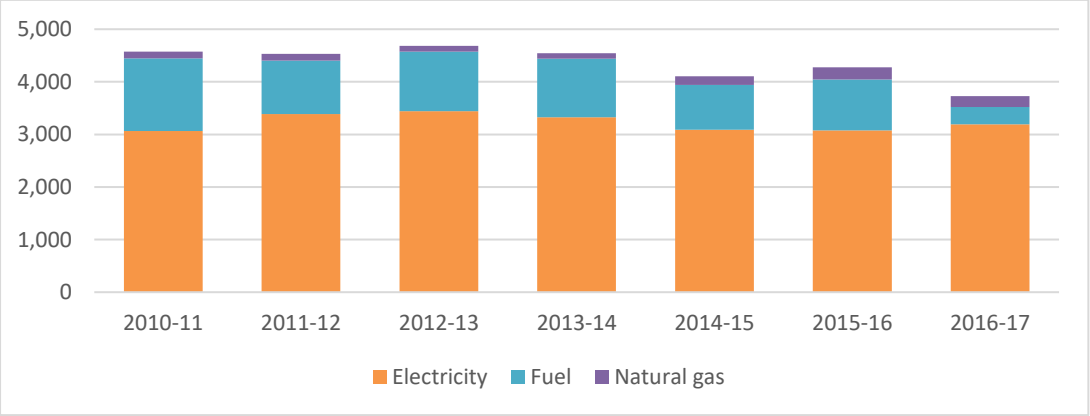



*Figure 4.* Council's greenhouse gas emissions 2010-17

As part of Council's Corporate Greenhouse Strategy 2013-20, emissions reduction works to date have achieved a 24.4 per cent reduction towards Council's target of reducing 2,265 tonnes of carbon emission reductions. These significant works have been completed between 2013 and 2017 with a cost of $1.376m as identified in *Table 1*.

**Table 1. Council's greenhouse gas emissions reduction works 2013-17**

| Works | Cost | Abatement ($tCO_2$-e/yr) | Percentage of 2020 target (Target = 2,265 $tCO_2$-e) | Annual electricity savings |
|---|---|---|---|---|
| Altona Library HVAC renewal in workroom | $92,000 | 5 | 0.22 | $963 |
| Altona Library lighting in workroom | $32,000 | 1.8 | 0.07 | $1,365 |
| Civic Centre lighting in toilets | $56,000 | 1.4 | 0.06 | $638 |
| Altona Library HVAC renewal in public area | $405,000 | 21.7 | 0.95 | $3,100 |
| Altona library lighting renewal in stack area | $93,000 | 21.2 | 0.9 | $6,100 |
| Altona Library natural ventilation in public area | $250,000 | 19.2 | 0.8 | $2,700 |
| Altona Library solar energy installation | $101,000 | 104 | 4.5 | $14,900 |
| Solar energy installations on four buildings | $347,000 | 384 | 16.9 | $48,000 |
| **Total** | **$1,376,000** | **558.3** | **24.4** | **$77,700** |

Whilst the reductions outlined above are not apparent in *Figure 4*, the Corporate Greenhouse Strategy 2013-20 and its associated Target 2265, have been key enablers for Council to achieve its target of zero net emissions. Whilst these two strategies have achieved emissions reductions, these have been offset by the addition of three large buildings to Council's portfolio since 2013. These three buildings have contributed over 660 tonnes or an additional 29 per cent on top of Council's 2265 tonne target and explains why savings from energy efficiency and renewable energy works have not made a significant difference to Council's overall emissions profile.

To progress an adaptive design approach and respond to climate change, a revised policy is required that establishes mandatory emissions reduction requirements for all Council buildings and infrastructure. The policy needs to place emphasis on capacity building across Council to realise its potential. The policy needs to provide Council with a clear process to embed ESD within all project management processes.

## Sustainable procurement

Council's Procurement Policy 2017 states that Council requires its contracting, purchasing and contract management activities to:

- support Council's corporate strategies, aims and objectives including, but not limited to those related to sustainability, protection of the environment, and corporate social responsibility
- span the whole life cycle of an acquisition from initial concept to the end of the useful life of an asset, including its disposal, or the end of a service contract
- achieve value for money and quality in the acquisition of goods, services and works by the council
- seek continual improvement including the embrace of innovative and technological initiatives such as electronic tendering processes to reduce activity cost
- generate and support business in the local community

To enhance sustainability outcomes, the decision making process needs to be weighted towards consideration of the whole life cycle of the asset, including its carbon footprint and impact on the environment. These considerations can achieve value for money but do not necessarily offer the lowest initial price. In some cases recycled and environmentally preferable products and materials may be less competitive, but may represent best value for money over the life of the asset.

The policy goes on to indicate:

- wherever possible, Council employees and contractors will pursue the following goals and support the specified principles when purchasing products, materials and services
- purchasing decisions shall be made in the context of the waste hierarchy to avoid, reduce, reuse and recycle

Council is committed to:

- minimum greenhouse gas emissions
- minimum habitat destruction
- minimum toxicity
- maximum water efficiency
- value for money rather than just the cheapest up-front purchase price
- tracking of environmental purchases

In practice, Council staff awareness of policies outside of their direct area of work can be limited due to workloads, competing interests and a lack of time to become familiar with all of Council's policies. This also raises the need for policy objectives to be better integrated in all Council operations and well communicated across the organisation. All staff should be made accountable for their application. Subsequently there is also a need for further capacity building with regards to considering basic environmental and life-cycle analysis in business cases and planning for new projects. Coupled with time and capital cost pressures all of these factors result in environmental impacts and benefits being overlooked or seen as an impost to projects progressing quickly.

The development of an ESD Policy Statement provides Council with an opportunity to establish clear sustainable procurement objectives and to outline how these may be achieved through policy updates, process changes and capacity building of staff.

### Electric vehicles (EVs)

A recent Council paper on electric vehicles recommends that Council policies on ESD along with the Planning Scheme Amendment to the LLP, include relevant considerations and future planning for EV adoption.

Australia's transport sector represents the third highest source of emissions, contributing to 17 per cent of total emissions in 2017 according to data from the Department of the Environment and Energy. Transport emissions are projected to rise by five per cent to 2020 despite overall emission falling. Transport emissions, specifically through the use of fuel, contributed around eight per cent of Hobsons Bay's greenhouse emissions in 2016/17 as highlighted in *Figure 4*. There has been a decrease in transport-related emissions between 2010-11 and 2016-17 of 1,052.72 tonnes (76 per cent). This was due to the use of alternative fuels, specifically biodiesel, as well as the increased efficiency of the vehicles.

EVs also represent a great opportunity to improve local air quality, particularly given the projected increase in vehicle emissions as part of the West Gate Tunnel project. Within Hobsons Bay this should be considered due to the large number of diesel heavy vehicles associated with freight movements and heavy industry, those most associated with poor air quality, within the council area. Additionally the City of Maribyrnong's incoming truck ban and the West Gate Tunnel project will result in poorer air quality as trucks are funnelled down Millers Road north onto the West Gate Tunnel. The combination of these two projects combined with population increases and the high level of car dependency within Hobsons Bay supports the need to enhance the adoption of electric vehicles, given their potential for zero emissions at the tail pipe. In addition, electric vehicles, their owners and electric vehicle charging stations (EVCSs) can also be thought about in terms of their capacity to add to the local economy.

Consideration of sustainable transport and in particular encouragement of the use of low and zero-emission transport needs to be included in any ESD Policy. This should include an analysis of sustainable transport trends, the potential of innovative parking solutions that facilitate their use, and the application of new technologies that support their uptake. In terms of designing charging points for EVs, energy provided from renewable sources either through council assets or externally supplied, is an important consideration.

## Sustainable Design in Council Facilities Policy Review

Despite Council endorsement of the SDiCF policy, utilisation has been undertaken on an ad hoc basis. This is likely due to a number of reasons including: a perception that incorporating ESD costs more; ESD being seen as a 'nice to have' element; a lack of understanding of the different types materials available; and gaps in process that ensure accountability. In late 2014, in-line with the review requirements of the policy, an internal review was completed to investigate compliance. The review found that compliance had

been poor as three major projects over $5m were constructed without achieving the ESD requirements of the policy.

The three buildings referred to above are Williamstown Library, Laverton Hub and Newport Hub. These buildings were not designed and certified as Green Star as per the SDiCF Strategy. The strategy assigns responsibility for meeting the requirements as “determined by project initiator and confirmed by CMT with a protected Sustainable Design budget”. It is possible that this situation occurred due to sustainability requirements not being clearly embedded within Council design, building and project management processes. Additionally, over time corporate knowledge and understanding of policy requirements can be lost due to staff turnover or lack of direct exposure and regular application. There has been an historical assumption that all Council project managers have a basic level of understanding of ESD principles and how to incorporate these into project management to ensure improved environmental outcomes. This has proven to be an inaccurate assumption that highlights the need for capacity building within Council.

If Council is to take a leadership role in relation to ESD, then benchmarked sustainability targets are required for all Council projects to provide exemplary examples of the benefits of ESD outcomes for the community.

A current review of the SDiCF Policy has identified several opportunities to improve the sustainability in Council building works including embedding sustainability in Council’s works in regards to infrastructure and the broader public realm. An assessment of the three policy objectives is provided as follows:

| Policy Objective | Review comments |
|---|---|
| Reduce the environmental impacts and operating costs of all Council-owned buildings while achieving previously adopted corporate energy and water reduction and zero net emissions targets by 2020. | This objective is limited in its description. Council has environmental policy relating to climate change, integrated water management, biodiversity, integrated transport and waste and litter.<br>It refers only to Council buildings. This could be expanded to apply to infrastructure and the public realm.<br>There is an opportunity to revise the policy to be more holistic and to provide a clear decision-making process to enhance ESD outcomes. |
| Reduce the environmental impact of the construction and use of Council buildings by embedding sustainable design principles into existing policies and procedures and developing procedures and resources to address gaps in existing policies. | This has not been undertaken effectively and presents an opportunity to review and update planning, procurement, design, implementation and monitoring and evaluation processes throughout Council. |

| Policy Objective | Review comments |
|---|---|
| Lead the community towards achieving zero net emissions by 2030 by providing opportunities for public engagement with and access to inspiring sustainable buildings. | This is yet to be attained. Council needs to develop a strategy that outlines a process to achieving the target. Developing partnerships with key stakeholders, such as the largest businesses within the municipality, offers significant potential. Developing a shared understanding of targets, agreeing on parallel targets and devising a clear pathway to reaching the target, develops a shared commitment to reducing emissions within the region. |

These findings highlight the need for a comprehensive revision of the policy, a review of Council processes and the importance of capacity building for staff along with associated materials. Development of a new policy must be seen as a renewal of the SDiCF Policy and be in alignment with Council values, particularly those of being bold and innovative.

## Recommendations

Council should create a new Sustainable Design Policy for the Built Environment and Infrastructure that takes a triple-bottom line approach to Council buildings, infrastructure and public realm works.

## Goals

The goals of the new policy are to:

1. strategically position Council to reduce current and future risks
2. assist Council to achieve its goal of zero net emissions by 2020 and beyond from Council operations
3. assist Council to achieve the objectives of its policies and strategies that are linked to buildings, infrastructure and the public realm
4. drive transformational change for Council to be recognised as a leader in sustainability and climate change
5. identify to the community that Council is a leader in the sustainable design space in accordance with being a Leading Council of Excellence
6. identify to the community that Council is activating sustainable practices as identified in Hobsons Bay 2030 Community Vision Priority 5
7. place emphasis on education and the capacity building of staff

# ESD Local Planning Policy amendment

## History of ESD in planning at Hobsons Bay City Council

Context for incorporating ESD into the planning system

Hobsons Bay City Council has long been an advocate of eco-minded urban development. Council was one of the founding members of CASBE in 2009, an association of Victorian councils committed to the creation of a sustainable built environment within and beyond their municipalities. Council was also one of the founding members of WAGA in 2006, an organisation focused on helping the western region of Melbourne prosper and thrive in a changing climate.

There are currently ten councils with ESD LPPs. Moreland, Banyule, Port Phillip, Stonnington, Whitehorse and Yarra, referred to as the 'First Round'. There are also two further councils, Darebin and Manningham (the Second Round), whose policy amendments came into effect on 31 August 2017. The Cities of Monash and Knox independently sought and obtained an ESD LPP at the end of 2016. The ESD LPPs are identical for consistency and have a Sunset Clause (expiration date) of July 2019. The Sunset Clause was enforced by the Victorian Government with a view that a state-wide approach would be introduced at some stage and supersede the ESD LPPs.

There is not currently a timeline or a firm commitment from the Victorian Government for the implementation of state-wide approach to ESD. In addition, it is likely to fall short of the standards currently being implemented by councils with ESD LPPs.

The Independent Panel and Advisory Committee that was appointed to judge the merit of the First Round councils' ESD LPPs had some findings that are of particular relevance:

*"It is clear planning not only has a role to play in achieving sustainability outcomes, it also has a clear obligation to do so"*

*"The Committee acknowledges that the Amendment [First Round] Councils have developed these policies in response to a lack of state-wide approach and are to be commended for their vision and commitment… even if a state-wide policy is introduced, local policies may still be appropriate where municipalities seek to 'raise the bar higher' either in specific locations, or where the community has higher sustainability expectations"*

**The Council Plan 2017 – 2021 lists the development of an ESD Policy as a Major Initiative 3.5.1 highlighting its commitment to enhancing ESD outcomes.**

History of resourcing ESD in the planning permit application process

In 2007 and 2008, Hobsons Bay had a dedicated ESD Officer for a period of 18 months. SDAs were requested for developments of two dwellings in size and above. The ESD Officer provided training to planners over this period, with the expectation that planners implement Best Practice environmental standards by the end of the ESD Officer's contract. The ESD Officer sporadically returned to Council after 2008 to provide training to new staff. As the success of the implementation process was varied, a permanent ESD Officer role was established in the Sustainability Team with the time allocation split between planning permit assessments and Council's internal ESD performance and projects.

➡ **The Statutory Planning team began considering environmental sustainable design a decade ago, rendering Hobsons Bay an ESD leader at the time**

In 2013, an internal study was conducted by Council's Statutory Planning team to investigate ESD practices of other councils that were similarly active. Sustainability Tools for Environmental Performance Strategy (STEPS) was the environmental benchmarking tool being used at the time. The study found that Council was in the minority when it came to planners assessing SDAs. All of the councils surveyed either had a dedicated ESD Officer, or were not requesting SDAs to be performed as a part of their planning approval process.

While some planners had the time and capacity to rigorously check SDAs and associated STEPS reports, without a dedicated ESD Officer, it became the responsibility of each individual planner rather than a more systemic approach. The reasons for this were two-fold and mutually reinforcing:

1. understanding of the STEPS tool was not comprehensive
2. provisions for ESD in the Hobsons Bay Planning Scheme were not viewed as strong enough to facilitate implementation

The outcome of the study was that Council changed its ESD triggers to capture developments larger than 10 dwellings in size and SDAs were referred on to Council's Sustainability team for assessment, a process that has remained. At this point in time, these triggers were consistent with other councils.

At the same time (2011-12), the Environmental Management and Sustainability team conducted a review and determined that an Environmental Planning Officer provide urban design and ESD advice to other areas of Council with the aim of systematically improving the environmental performance of Council's assets. The result was the development of a Sustainable Design Officer position. Whilst this position remains within the Sustainability team, its focus has been on implementing the Corporate Greenhouse Strategy 2013-20 which involves reducing the greenhouse emissions of Council buildings rather than solely providing ESD advice on planning permit applications. However, the position continues to undertake planning referrals captured under the current triggers. This resource currently spends approximately 0.2 EFT completing ESD planning referrals.

An updated Position Description has been developed for the Sustainable Design Officer to balance implementation of the Corporate Greenhouse Strategy 2013-20 with the provision of

ESD advice on planning permit applications. The aim of the position is to enhance ESD outcomes for Council through a new Sustainable Design Policy for the Built Environment and Infrastructure to meet greenhouse targets and to provide planning referral advice for the Town Planning team. A review of the position will be undertaken following the introduction of the ESD LPP to determine the appropriate balance of resources.

## Current planning permit application process

Council encourages the preparation of Sustainable Design Assessments (SDAs) for the following types of developments during the planning permit approval phase:

A. Large residential: 10 or more dwellings
B. Mixed use: retail/office space and apartments
C. Industrial/commercial: warehouses
D. Childcare facilities

SDAs submitted to Council are meant to show how respective developments meet Best Practice environmental standards before planning approval and ultimately construction takes place. Council informally utilises the SDAs in the Planning Process (SDAPP) framework to assess these applications.

The SDAPP framework has been developed and used by Victorian local governments for the past decade to provide a consistent method to identify opportunities for improved environmental performance for buildings and sites.

➡ **the Built Environment Sustainability Scorecard (BESS) is the recommended tool under SDAPP and has been utilised in Hobsons Bay since its release in mid-2015**

BESS (see page 26) is an assessment tool that assists builders and developers to show how a proposed development demonstrates sustainable design. It replaced the Sustainable Tools for Environmental Performance Strategy (STEPS) and the Sustainable Design Scorecard (SDS) initiatives led by Moreland City Council and the City of Port Phillip respectively, which have been in use since 2007. BESS forms a part of the SDAPP framework which is intended to facilitate environmental performance outcomes that are above the minimum requirements under building regulations, principally the Building Code of Australia (Victoria), with care taken to ensure no inconsistencies with these regulations. BESS was designed to help demonstrate that this has been achieved.

Council currently requests that planning applications include a BESS Report with a score of 50 per cent for the developments described above (A through D), because 50 per cent in BESS is considered overall Best Practice under SDAPP. To achieve this you have to get a minimum score of 50 in energy, water and indoor environmental quality (IEQ) and a score of 100 in stormwater. For each of these categories, a best practice development in BESS is one that has reduced its environmental impact through considered design commitments.

In the absence of an ESD LPP, the non-enforceable nature of Council's participation in SDAPP means that many environmental initiatives are either being overlooked or missed. For example, a Council planner might successfully request that energy efficient lighting be

used (based on advice from an ESD Officer), but could be simultaneously unsuccessful in negotiating that a rain garden be installed – the belief being that the applicant has met Council halfway. While the planners at Council can and do request Best Practice in BESS for applicable developments, they have little statutory weight to require applicants to adopt ESD measures.

➡ **currently, Council can only encourage Best Practice ESD outcomes as per BESS and the SDAPP framework**

The proposed LPP defines best practice as a combination of commercially proven techniques, methodologies and systems, appropriate to the scale of development and site specific opportunities and constraints, which are demonstrated and locally available and have already led to optimum ESD outcomes. Best practice in the built environment encompasses the full life of the build.

Planning permit applicants are often developers that are looking to on-sell, and planners receive resistance when advocating for benefits like ESD that come into fruition 'down the track'. Inclusions such as shading for north-facing windows to reduce solar heat gain in summer are seen as an upfront cost that only benefits the occupant. An ESD LPP would provide planners with greater leverage to require a higher ESD performance from future housing for the Hobsons Bay community. The formalisation of the SDAPP process and the ESD LPP would be accompanied by a suite of fact sheets and educational materials to support developers (and designers), Council staff and the broader community and inform them of the benefits associated with ESD. This also responds to Council's climate change policy commitments and more specifically, its commitment to promoting energy efficiency for residents, business and industry.

# Planning policy context

In considering an amendment to Council's planning scheme, the following section outlines the planning policy context.

## The Planning Scheme

Planning schemes set out policies for the use, development and protection of land. Each local government area in Victoria is covered by a planning scheme. The administration and enforcement of a planning scheme is the duty of a responsible authority. In most cases this will be a local council.

*The Planning and Environment Act 1987* provides for the Victoria Planning Provisions (VPP). The VPP is a suite of comprehensive planning policies and controls that establish a framework for governing land use across Victoria. The planning authority must provide the local planning policy content, including a Municipal Strategic Statement (MSS) and select the appropriate zones and overlays from the VPP, for inclusion in their planning scheme.

**State Planning Policy Framework**

A key component of the VPP, the State Planning Policy Framework (SPPF) is included within every planning scheme. The SPPF provides policy guidance within a number of

thematic clauses relating to settlement, environmental and landscape values, environmental risks, natural resource management, building environment and heritage, housing, economic development, and infrastructure. There is currently no specific ESD clause within the SPPF. This led to the introduction of ESD LPPs by a number of individual local governments as identified above.

**Local Planning Policy Framework**

The Local Planning Policy Framework (LPPF) sets a local and regional strategic policy context for a municipality. It comprises the MSS and specific local planning policies. The LPPF must be consistent with the SPPF and should, where possible, demonstrate how broader state planning policies will be achieved or implemented in a local context.

Local Planning Policies (LPPs) are found at Clause 22 of the Planning Scheme. These are one of the tools available for implementing objectives and strategies outlined in the MSS. A LPP is a policy statement of intent or expectation. It states what the responsible authority will do in specified circumstances, or the responsible authority's expectation of what should happen. A LPP gives a planning authority an opportunity to state its view of a planning issue and communicate its policy intentions for a specific area.

A LPP helps permit applicants and other users of the planning scheme to understand how Council will use its discretion in a development proposal that requires a permit and the key influences on its decision-making. Over time, the consistent application of policy will achieve a consistent and policy justified outcome.

**Municipal Strategic Statement**

A MSS is a part of the LPPF and is a statement of the key strategic planning, land use and development objectives for the municipality and identifies the strategies and actions for achieving those objectives. The SPPF and MSS provide the strategic basis for the application of the zones, overlays and particular provisions in the planning scheme and decision-making by the responsible authority. The MSS provides an opportunity for an integrated approach to planning across all areas of a council's operations and should clearly express links to the council's corporate plan. The MSS should be continually refined as the responsible and planning authority develops and revises its strategic directions in response to the changing needs of the community. The MSS must be taken into account when preparing amendments to a planning scheme or making decisions under the scheme.

Council's MSS is currently being reviewed. Through this process, it is seeking to strengthen its emphasis on achieving ESD outcomes so that it aligns with Council's commitment to adapting to climate change and being a leader in sustainability.

## Policy context

**Hobsons Bay City Council**

There is a significant level of responsibility associated with the development of an ESD Policy and an ESD LPP for the municipality. This responsibility is conferred through Council's status as a responsible authority and the directive from the community to activate sustainable practices and achieve visionary, vibrant and accountable urban planning outlined in the Hobsons Bay 2030 Community Vision.

Preparation of the ESD LPP has been identified as a major initiative in the Council Plan 2017-18. Its introduction will help to address issues identified in a number of Council policies, strategies and initiatives. These issues include reducing energy consumption and greenhouse emissions from the residential sector, promoting integrated water planning in new developments and reducing the community's vulnerability to climate change impacts.

A list of relevant current policies and how they support an ESD LPP is provided below.

- Hobsons Bay 2030 Community Vision
- Council Plan 2017-21
- Hobsons Bay Advocacy Strategy 2014-18
- Climate Change Adaptation Plan 2013 – 2018
- Corporate Greenhouse Strategy 2013 – 2020
- Community Greenhouse Strategy 2013 – 2030
- Integrated Transport Plan 2017-2030
- Integrated Water Management Plan 2014 – 2019
- Biodiversity Plan 2017-2022
- Hobsons Bay Housing Strategy (2017) – Volume One: Background Report (2016)
- Draft Open Space Strategy 2017
- Environmental Upgrade Agreements (EUA)*

*The EUA is a loan scheme that facilitates sustainability upgrades like solar panels and energy efficient lighting for businesses within the municipality.

**Hobsons Bay 2030 Community Vision** was developed by the community to guide Council's actions until 2030. It is based on evidence of current and future community needs and has been developed following an in depth community consultation and engagement process. It provides the first long term community vision for the municipality, along with six priorities for achieving that vision.

The community clearly outlined the following priorities which have direct relevant to an ESD Policy:

- visionary, vibrant, accountable urban planning
- community wellbeing and inter-connection
- proactive enrichment, expansion and conservation of the natural and urban environment
- activate sustainable practices
- an accessible and connected community

**Council Plan 2017-21** identifies the significant risks the community faces from climate change which includes an increase in the number of hot days, flooding from sea level rise and storm surges. These risks identify the importance of reducing water consumption, supporting changes in transport planning and industrial practices to enhance air quality as well as reductions in energy use and waste. There is also recognition of the need to balance heritage and neighbourhood character with environmental needs and population growth.

These challenges culminate in Council's commitment to the development of an ESD Policy as Major Initiative 3.5.

Hobsons Bay's **Advocacy Strategy 2014-18** identified the need for the Victorian Government to introduce stronger sustainable design requirements into the VPP. Whilst sustainable design is in principle supported within the SPPF, there are limited policies for Council to consider when negotiating for new development to meet best practice environmental outcomes. Importantly, in lieu of action from the State Government, the Advocacy Strategy also identified the need for Hobsons Bay to introduce an ESD Policy and an ESD LPP.

The **Climate Change Adaptation Plan 2013–2018** takes a risk management response that outlines the diverse range of threats that global warming poses to people, infrastructure and natural resources within the municipality. Risk 190 of the adaptation plan identifies the potential liability if land uses are approved in areas at risk of future flooding. Widespread use of WSUD, which could be implemented through an ESD LPP throughout the municipality has the capacity to reduce downstream flood risk throughout Hobsons Bay.

Risk 224 identifies increased heat impacts to 'at risk' members of the community. The heat vulnerability index developed by Monash University demonstrates that much of the municipality has a very high heat vulnerability. The recent trial of the WAGA climate change adaptation indicators also shows that there is a significant increase in the number of home and community care clients who present to hospitals on and in the aftermath of extreme heat events. An ESD Policy and ESD LPP has the capacity to address this through Urban Ecology. Points are available in BESS for developments that incorporate green walls, green roofs or provisions for growing food - all initiatives that reduce the urban heat island effect. Developments also achieve points for having a high percentage of vegetated areas with respect to total site area. Incorporation of green infrastructure in new developments has the potential to provide carbon offsets for Council which will be required if its target of zero net emissions by 2020 is not achieved.

The **Corporate Greenhouse Strategy 2013 – 2020** outlines a roadmap for Council to reach carbon neutrality by 2020. Whilst Council emissions remained relatively stable over the five year period between 2011 and 2016, it is anticipated Council's emissions profile will reduce as Council implements its Target 2265 plan. Target 2265 outlines a program of works that retrofits Council owned and managed buildings with LED lighting upgrades and solar power. The buildings include all libraries and community hubs as well as the highest emitter, which is the Hobsons Bay Civic Centre. As several new Council buildings have been constructed over the last few years, including the Laverton and Newport Hubs, the emissions profile of Council has increased. However, due to the implementation of Target 2265, the emissions profile of these buildings is being reduced.

Council' adopted corporate emissions reduction target of zero net emissions by 2020 is being achieved through the most cost effective actions, particularly reducing the emissions of Council activities. Given the current emissions trajectory, this will be coupled with the purchase of carbon offsets to achieve the target. Going forward, the ESD Policy Statement will outline a process to ensure that all new buildings are designed and constructed to achieve carbon neutrality.

The **Community Greenhouse Strategy 2013-2030** identifies a series of delivery mechanisms to reduce community greenhouse gas emissions and achieve the goal of becoming a zero net emissions community by 2030. On current trajectories, Council will need to purchase carbon offsets to reach carbon neutrality by 2030. Energy use in residential buildings is the third highest greenhouse gas emitter in the municipality (13 per cent overall, growing to 15 per cent by 2030) and energy use in non-residential buildings comes in at the fifth highest (six per cent overall and relatively unchanged by 2030). Therefore, energy use in the built environment in Hobsons Bay currently contributes approximately 19 per cent of total greenhouse gas emissions and this is set to grow to 21 per cent by 2030.

An ESD Policy Statement and ESD LPPF would provide a low cost measure for Council to curb any increase in carbon emissions, with planners having more leverage to advocate for low emissions buildings. This would ultimately allow Council to purchase fewer offsets as per its aforementioned commitment. In addition, a process of engagement with large emitters within the region provides an opportunity to challenge businesses to reduce their emissions emission profile through enhanced ESD outcomes.

**Integrated Transport Plan 2017-30**. Residential travel is the fourth largest greenhouse gas emitter within the municipality, currently sitting at approximately 11 per cent of total emissions and projected to increase to 13.9 per cent by 2030. While an ESD Policy and ESD LPP would not directly address this emissions category, with points available in BESS for adding sustainable transport options (e.g. bicycle racks and electric vehicle charge points), there is potential for this increase to be similarly curbed. This not only places Council as a responsible environmental steward but also leads to Council purchasing fewer offsets and ultimately saving money.

The **Integrated Water Management Plan 2014–2019 (IWMP)** has an associated action plan with one of three sections dedicated to ‘promoting integrated water planning in new developments’. Action 15a stipulates that the enforcement of water sensitive urban design (WSUD) needs to be improved. Action15b states that the progress of the ESD LPPs for the Round One councils will need to be monitored (at the time of writing the Round One councils had submitted their ESD LPP amendment and were awaiting approval from the Minister) and Action 15c calls for gaps in current policies and guidelines to be filled.

While stormwater management (WSUD) is only one component of BESS and the SDAPP framework, an ESD LPP that considers these provisions would provide a stronger implementation arm for Council when it comes to sustainable water management. Crucially, whilst some of the categories within the BESS tool are optional, stormwater management is one of the key tenets in the SDAPP framework. A ‘mandatory pass’ category is required in BESS meaning that any new developments have to address this component of ESD to a Best Practice standard when the assessment tool has been applied. Whilst the proposed ESD LPP encapsulates WSUD as part of the SDAPP framework, an independent WSUD LPP may be required in the future to enhance WSUD outcomes. Moreland and Moonee Valley City Councils currently mandate WSUD on the back of their ESD LPP and Council should consider this in any review of its Planning Scheme.

The community have consistently told Council that they place a high value on the natural environment, waterways and the coastline of Hobsons Bay. This is identified in the Hobsons Bay **2030 Community Vision, the Integrated Water Management Plan 2014–2019,** community consultation to develop the **Biodiversity Strategy 2017-22,** and through Council's Annual Community Surveys. Utilising an ESD LPP that addresses stormwater management would assist in both protecting these natural assets and meeting the objectives of the IWMP.

The draft **Open Space Strategy 2017** identifies the need for an integrated design manual to determine low cost/low maintenance options for open space and city infrastructure that relates to street furniture, wayfinding signage and other assets. In addition, service standards for the provision of drinking water, lighting and shade have been identified as necessary to build resilience and reflect community values. Public realm master planning is also advocated for in relation to key activity centres. The Sustainable Design Policy for the Built Environment and Public Realm has the potential to influence specifications outlined in the design manual as well as consideration of lighting and shade by providing guidance on enhancing sustainability outcomes and responding to life cycle analysis.

The **Hobsons Bay Housing Strategy Background Report (updated 2017)** identified the need to (1) formally adopt the SDAPP framework as a means of assessing planning applications and (2) to capture more developments for ESD assessment. Currently, applications for medium-to-large sized residential developments (between two and nine dwellings) are not requested to provide an SDA in Hobsons Bay.

These developments accounted for 304 multi-dwelling planning applications for the 2017 calendar year; which is 20 per cent of total applications. The majority of infill development occurring in Hobsons Bay are smaller scale medium density housing (e.g. two to four dwellings on a lot) so this is a missed opportunity.

With an ESD LPP, Council's planners could require SDAs of permit applicants and ESD requirements could be legitimately applied to planning permit assessments and would no longer be viewed as voluntary measures. An ESD LPP would formally adopt and apply the SDAPP framework to residential developments smaller than 10 dwellings.

**Victorian Government**

The recently released *Plan Melbourne 2017 – 2050* supports Council's strategic position, with *Policy 6.1.1* stating the following:

*"Many local councils are already incorporating environmentally sustainable development considerations into their planning processes. However, there is a need for a Statewide approach to achieve greater consistency and simplicity. Options to strengthen planning and building frameworks will be reviewed to determine the most cost-effective approach for lifting the efficiency of both new and existing building stock and requiring early consideration of sustainability in the planning, design and building process"*

While the Victorian Government has identified ESD as an important body of work, it is unlikely that any changes will be made to the Victorian Planning Provisions before July 2019.

➡ **Recent advice from the Minister for Planning indicates that the July 2019 Sunset Clause is being used as a deadline for the Victorian Government to draft and institute a Statewide ESD Policy.**

While a Statewide ESD policy approach has the potential to have positive outcomes, there is justified concern among CASBE councils that the Victorian Government will introduce ESD standards that are not as strong as the ones that are being advocated for and implemented by CASBE Councils through BESS and SDAPP. The recently released *Better Apartments Design Standards (BADS)* is evidence of this, despite CASBE taking a strong advocacy position and offering to collaborate with the Victorian Government. Many of the requirements outlined in BADS fall short of BESS and SDAPP Best Practice, particularly in regards to IEQ.

It is also important to outline the findings from the Panel and Advisory Committee for the First Round councils' ESD LPPs:

"*Even if a Statewide policy is introduced, local policies may still be appropriate where municipalities seek to 'raise the bar higher' either in specific locations, or where the community has higher sustainability expectations"*

Council will continue to liaise regularly with the Department for Environment, Land, Water and Planning (DELWP) to ensure any work undertaken to facilitate improved ESD outcomes (by local or state government) is well informed and understood as well as complimentary to existing measures such as the National Construction Code (NCC). Examples include the following points which CASBE submitted to the Australian Building Codes Board as part of their 2019 review process:

- there is currently a lack of regulatory certainty in relation to whether and how energy requirements will be updated each time the Code is upgraded. There is a need for targets to be established by the Building Ministers' Forum (BMF) that align with the transition to net zero emissions, along with a forward trajectory for the Code energy requirements to achieve these targets
- a recent report by the Australian Sustainable Built Environment Council and Climate Works Australia, entitled The Bottom Line - household impacts household impacts of delaying improved energy requirements in the Building Code, highlights the urgency with which the stringency of energy requirements need to be updated. The report demonstrates that Australia can cost-effectively strengthen residential energy efficiency standards in the Code and cut heating and cooling energy use by up to 51 per cent

➡ **Council should act to 'lock in' the environmental savings necessary to deliver on its broad range of sustainability objectives and strategies**

## Building regulations

There is an overlap between the role that planning and the building systems play in ESD. However, the building regulatory system is generally not involved at the initial design stage of development where many of the key opportunities of incorporating ESD into buildings occur. The involvement of planning at the early stages is therefore important to encourage early consideration of sustainable design initiatives. However, it should also be noted that planning permits are not required for all developments, particularly single dwellings, while building permits are. Thus both systems have an important role in ensuring favourable outcomes.

The Building Code of Australia (BCA) contains energy efficiency provisions that are to be met in satisfying the legislated energy ratings. The energy objectives for residential buildings is “to reduce greenhouse gas emissions”. The heating and cooling loads of sole occupancy units (of a Class 2 building or a Class 4) must collectively achieve an average rating of not less than six stars and individually achieve an energy rating of not less than five stars, using the house energy rating software.

For single dwellings, multi-dwellings and boarding house, guest house, hostel etc., the Victorian Variations for Energy Efficiency in the BCA includes the objective “to reduce greenhouse gas emissions and conserve water by efficiently using energy and water”. Single dwellings must also either have a rainwater tank connected to all sanitary flushing systems, or a solar water heater system installed.

The building regulations have an important role to ensure that developments that do not require a planning permit also achieve a minimum energy rating. The building regulations however do not cover the wider area of environmental sustainability (e.g. indoor environment quality), they only deal with the thermal energy rating of the building envelope.

One of the key weaknesses is that the building regulations do not include standards relating to the orientation or internal layout of buildings (Hobsons Bay Planning Scheme: Clause 54.03-5 – Energy efficiency protection and Clause 54.05-3 – Solar access to open space), meaning that the opportunity to site and orientate buildings and the location of habitable rooms and private open space to maximise solar access and reduce fossil fuel energy is lost.

It is for these reasons that Council should develop an ESD LPP to integrate ESD into the initial design stage of development to maximise the possible sustainable outcomes.

# ESD tools

Within Victoria, BESS and Green Star are the predominant ESD tools utilised in the SDAPP. These tools are referenced in the ESD LPPs of the First and Second Round councils (see Appendix B: ESD Local Planning Policy Example). MUSIC and STORM are stormwater management tools and are required to be used concurrently with either BESS or Green Star.

Council currently encourages the use of these tools.

## The Built Environment Sustainability Scorecard (BESS)

The BESS is an assessment tool created by local governments in Victoria. It assists builders and developers to show how a proposed development demonstrates sustainable design, at the planning permit stage.

BESS works on a credit based system. Developments need to achieve a score of 50 per cent to be deemed best practice, with a score of 70 per cent corresponding to Excellence.

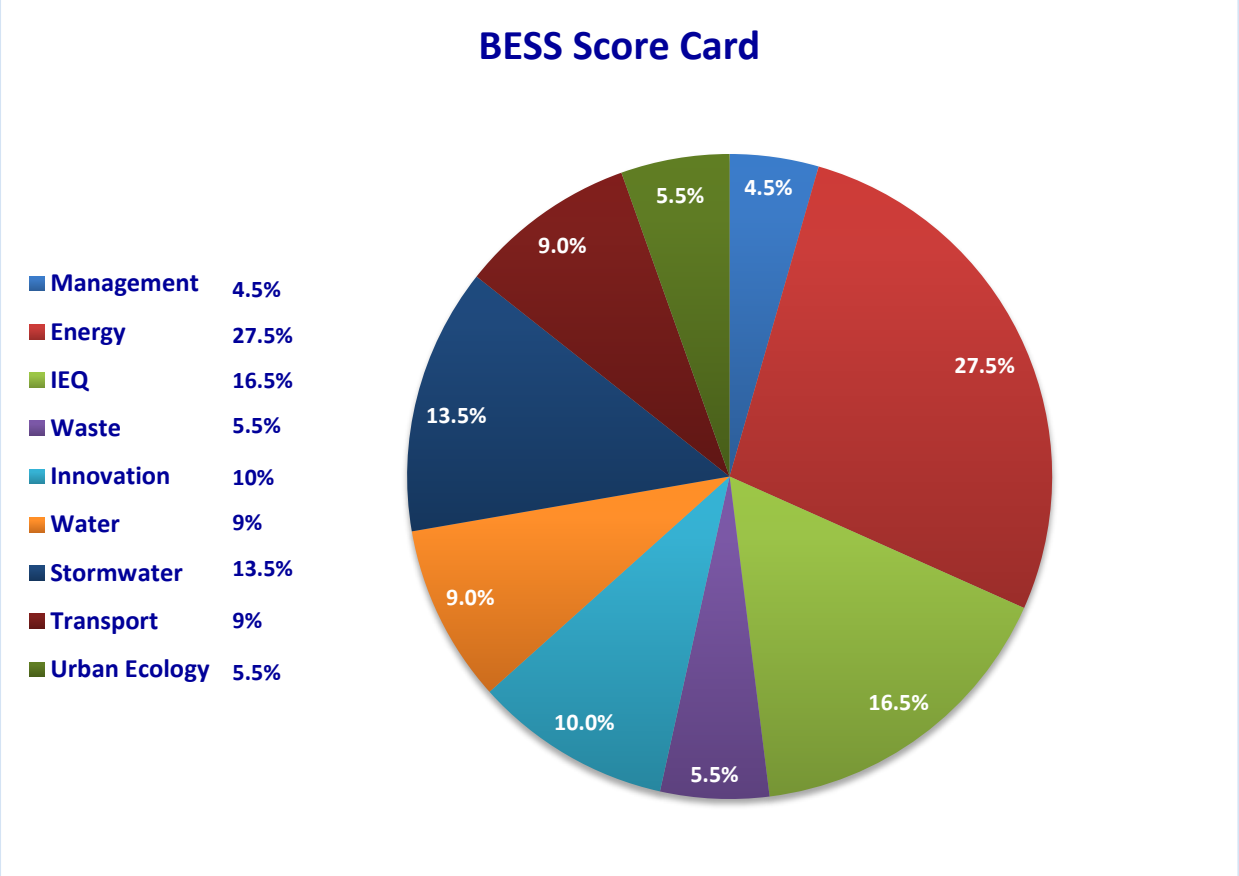



*Diagram 1:* Contribution of ESD elements to a BESS Score

These values represent the percentage contribution to the overall score for each category as outlined in *Diagram 1*. Therefore, credits in energy contribute more to the overall score than credits in waste or urban ecology. The categories that contribute the most – energy, indoor environment quality (IEQ), stormwater and water – also have 'minimum pass rates' i.e.

developments must obtain sufficient credits in these categories in addition to 50 per cent overall.

The minimum scores in the mandatory categories were developed with careful consideration to existing industry based standards. For example, preliminary credits are available in Energy when buildings commit to a 10 per cent improvement on the Building Code of Australia (BCA) requirements. These minimum scores are intended to demonstrate Best Practice and complement the current ESD LPPs and the SDAPP Fact Sheets. The rationale behind this is to maintain the flexibility within the tool while also driving users toward an improved outcome in these traditionally 'core' sustainability categories.

## Green Star

According to data collected by First Round councils, 98 per cent of planning applications from October 2016 to February 2017 (across six councils) utilised BESS as a means of demonstrating compliance with the ESD LPPs. Green Star made up the remaining two per cent (see Hansen Partnership and Sustainable Built Environments [3]) and is typically applied to larger developments as there are costs associated with its use. Table 2 provides Council's proposed ESD application requirements for different types of development. Green Star is a certification scheme spearheaded by the Green Building Council of Australia (GBCA).

**Table 2. ESD Application Requirements**

| TYPE OF DEVELOPMENT | APPLICATION REQUIREMENTS | EXAMPLE TOOLS |
|---|---|---|
| Accommodation/Mixed Use with residential component of: | | |
| ▪ 2-9 dwellings, or<br>▪ Development of a building for accommodation (other than dwelling) with a gross floor area between 50m$^2$ and 1000m$^2$ | Sustainable Design Assessment (SDA) | BESS<br>STORM |
| ▪ 10 or more dwellings, or<br>▪ Development of a building for accommodation (other than dwellings) with a gross floor area of more than 1000m$^2$ | Sustainability Management Plan (SMP) | Green Star<br>BESS<br>MUSIC<br>STORM |
| Non-residential | | |
| ▪ Development of a non-residential building with a gross floor area between100m$^2$ and 1000m$^2$, or | Sustainable Design Assessment (SDA) | BESS<br>MUSIC<br>STORM |

[3] *Sustainability Assessment in the Planning Process – Investigation Report*, prepared by Hansen Partnership and Sustainable Built Environments for the Victorian local sustainability accord project municipalities of Port Phillip, Darebin and Moreland, 2007.

| | | |
|---|---|---|
| ▪ Alterations and additions of between 100m$^2$ and 1000m$^2$ | | |
| ▪ Development of a non-residential building with a gross floor area of more than 1000m$^2$, or<br>▪ Alterations and additions greater than 1000m$^2$ | Sustainability Management Plan (SMP)<br>Green Travel Plan (GTP) | Green Star<br>BESS<br>MUSIC<br>STORM |

## Key differences between BESS and Green Star

BESS and Green Star are currently recommended to developers by Councils to implement their ESD policies. Table 3 highlights the different features of BESS and Green Star. Generally, BESS is free and easy to use and can be applied to the majority of development types. Green Star is more applicable to larger developments that may aspire to obtaining accreditation (which can subsequently be used to demonstrate environmental credentials in sales marketing).

### Table 3. Features of the BESS and Green Star tools

| BESS | Green Star |
|---|---|
| Built by Victorian councils (CASBE), for council planning teams | Technical team consisted of industry and academic members |
| Designed from the ground up as a Victorian planning phase sustainability tool | Designed to help 'high end' developments and is not a specific 'planning phase' tool |
| Focuses on improving the sustainability of 'typical developments' seen by Victorian councils in planning applications i.e. residential | Provides considerations for design teams that would like to seek a formal sustainability accreditation – Australian Excellence & World Excellence |
| It is free to use | There is a cost associated with Green Star certification, dependent on the size of the project |
| Smaller projects might not need an ESD Consultant | Green Star is a technical tool built for design teams with ESD skills |

Council is currently undertaking an assessment of available sustainability tools to establish the most effective and relevant for various development types.

# Environmental gains and best practice implications

The Hobsons Bay Housing Strategy Background Report (updated 2017) identifies an opportunity to lower the threshold to trigger an SDA so that it captures smaller scale developments through an ESD assessment. To implement this policy, it is recommended that a 'trigger point' of two dwellings and above require an SDA before a permit can be granted. This will enable Council to realise more environmental gains but will require more resourcing.

➡ **a higher trigger point means less environmental gains will be realised, but less of a resourcing issue for Council**

It is therefore critical to weigh up the long term environmental, social and health benefits against the resourcing implications for Council.

This section of the background report will investigate, through two case studies, the kinds of environmental gains that can be achieved if (1) two dwelling developments were being captured for ESD assessment and (2) if three dwelling developments were being captured.

The focus is on two and three dwelling developments because they make up the bulk of Hobsons Bay's development profile:

**Table 4. Breakdown of the Hobsons Bay urban development profile for 2015 - 2017**

| | Number of planning applications | | | Number of dwellings | | |
|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2015 | 2016 | 2017 |
| Single new dwelling | 36 | 22 | 26 | 36 | 22 | 26 |
| 2 dwellings | 154 | 168 | 192 | 308 | 336 | 384 |
| 3 dwellings | 113 | 112 | 74 | 339 | 336 | 222 |
| 4 dwellings | 36 | 28 | 22 | 144 | 112 | 88 |
| 5 dwellings | 10 | 14 | 9 | 50 | 70 | 45 |
| 6 - 10 dwellings | 11 | 16 | 7 | | | |
| 11 - 20 dwellings | 2 | 3 | 3 | | | |
| More than 20 dwellings | 5 | 9 | 5 | | | |
| New industrial or commercial buildings | 24 | 30 | 42 | | | |
| TOTAL | 391 | 402 | 380 | | | |

As can be seen in Table 4, the most common types of development in the years 2015, 2016 and 2017 for Hobsons Bay were:

- two dwellings on a lot
- three dwellings on a lot

➡ **two and three dwelling developments (on a lot) have accounted for approximately**

**82 per cent of all multi dwelling planning permit applications within the municipality over the past three years**

- **it is proposed that Council sets its trigger to capture two dwellings and above under an ESD LPP**

It should also be noted that Council has no ability to require ESD on single dwelling developments that do not require a planning permit.

# Hobsons Bay case studies

## Residential

Case studies were conducted on two typical development types in Hobsons Bay to assess the possible environmental benefits that can be gained from meeting a minimum BESS score of 50 per cent compared with the developments being approved as per the original planning application. These benefits were then extrapolated across the municipality to demonstrate the full extent of the value added through the SDAPP process.

- **Refer to Appendix A for detailed methodology, dwelling profiles, modelling assumptions of BESS and calculations**

**Table 5. BESS case study environmental savings**

| Property | Dwellings | Savings by achieving 50% BESS score | |
|---|---|---|---|
| | | Water use (kL/year) | Greenhouse emissions (kg $CO_2$/year) |
| Case study 1, Altona North | 2 | 70 | 1,064 |
| Case study 2, South Kingsville | 3 | 97 | 1,102 |

Based on the examples provided and only considering two and three dwelling developments within the municipality, Council could (conservatively) achieve the following annually (refer to APPENDIX A: CASE STUDIES for calculations):

- **conserve 8.2 Olympic size swimming pools worth of potable water**
- **mitigate carbon emissions equivalent to taking 41 average Australian homes off the electricity grid [4]**
- **these savings do not include the 15 per cent of multi-unit residential developments within Hobsons Bay which would be considered medium-to-large, even greater environmental gains could be realised**

[4] Reference is made to the Department of Environment and Energy calculations of an average household's energy use which generates seven tonnes of greenhouse gas emissions each year. This is outlined at http://www.yourhome.gov.au/energy

The findings above demonstrate only a small portion of the benefits to be gained from incorporating ESD into planning and construction. The principles included within the proposed ESD LPP include energy, water, stormwater, indoor environment quality, transport, urban ecology, waste. Many of these benefits are not easily quantified and therefore difficult to demonstrate directly.

There is great variability in potential environmental gains that Council can expect to achieve given the case-by-case basis on which planning permit applications are undertaken.

- **ESD LPPs are non-prescriptive i.e. they do not mandate for specific environmental gains (e.g. double glazing), but instead are worded to encourage holistic sustainability (thermal comfort)**

- **Given the number of categories in BESS, there are many pathways for developers to show compliance with an ESD LPP**

For example, the IEQ objectives in the ESD LPPs for First Round and Second Round Councils reads as follows:

Indoor Environment Quality (IEQ):

- to achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation, and natural daylight
- to achieve thermal comfort levels with minimised need for mechanical heating, ventilation and cooling
- to reduce indoor air pollutants by encouraging use of materials with low toxic chemicals
- to reduce reliance on mechanical heating, ventilation, cooling and lighting systems
- to minimise noise levels and noise transfer within and between buildings and associated external areas

The vast majority of Victorian development applications in councils with ESD LPPs use BESS to demonstrate compliance. For the ‘typical developments’ described above, the following credits are available in BESS for Indoor Environment Quality:

- IEQ 3.1 Thermal Comfort – Double Glazing: Is double glazing (or better) used to all living areas and bedrooms? (50 per cent)
- IEQ 3.2 Thermal Comfort – External Shading: Is adjustable external shading provided to east, west and north facing windows? (25 per cent)
- IEQ 3.3 Thermal Comfort – Orientation: Are at least 50 per cent of living areas orientated to the north? (25 per cent)

Because IEQ is considered a ‘mandatory pass’ category, developments need to achieve at least 50 per cent to reach the IEQ objectives of the ESD LPPs. Therefore, the above developments will need a combination of the following:

- External Shading (IEQ 3.2) + Orientation (IEQ 3.3) = 25 per cent + 25 per cent = 50 per cent
- Double Glazing (IEQ 3.1) = 50 per cent

➡ **all residential developments (that do not qualify as apartments) that 'pass' IEQ in BESS, would at least have (1) good orientation and shading, or (2) double glazing**

## Industrial sites

Industrial sites make up approximately three per cent of Hobsons Bay's planning permit applications. This is a particularly large amount, especially in comparison to First and Second Round councils.

➡ **the original ESD LPPs were justified on the basis of a report by Pitt and Sherry that demonstrated the life cycle benefits of ESD for residential properties – this study did not extend to industrial sites**

The ESD LPP implemented by the first and second round councils applies to residential and non-residential development. The work to date (in the local government context) which presents the case for incorporating ESD in the planning stage has predominantly focused on the residential sector. Generally, the principles within the ESD LPP apply to commercial and industrial development but there is likely to be other elements of significance that may require more focus (e.g. permeability of sites and discharge of stormwater).

First and second round councils have set triggers to require SDAs for non-residential buildings of 50m$^2$-500m$^2$ up to 1,000m$^2$ and SMPs for those bigger than 1,000m$^2$.

➡ **it is proposed that Council sets its trigger to capture non-residential development greater than 100m$^2$**

Council will need to undertake further work to determine how best to further influence best practice environmental outcomes for industrial development in Hobsons Bay. It is not expected that the ESD LPP will include any additional clauses or requirements specific to industrial land use (at this time) as this would require additional scrutiny by the Minister and delay timeframes significantly. There are currently some updates to BESS being undertaken which will improve the tools applicability to industrial applications and promote better outcomes. Council should focus on expediting an ESD LPP consistent with those that have already been approved.

Hobsons Bay has been proactive on these matters and adopted its Industrial Land Management Strategy and Guidelines in 2008. These include some ESD principles addressing water, energy and sustainable building materials. It will be important for Hobsons Bay to consider the implication of planning changes for its industrial sector during a consultation process as part of further work. This could include a review of the strategy and guidelines.

## Summary of proposed ESD application requirement triggers

Based on analysis of historical planning permit application referrals and resourcing considerations, the following ESD application requirement triggers are proposed.

**Table 6. Proposed ESD application requirement for Hobsons Bay City Council**

| Type of Development | Application requirements |
|---|---|
| **Accommodation/Mixed Use with residential component of:** | |
| ▪ 2 - 9 dwellings; or<br>▪ Development of a building for accommodation other than dwellings with a gross floor area between 50m$^2$ and 1,000m$^2$. | Sustainable Design Assessment (SDA) |
| ▪ Development of 10 or more dwellings.<br>▪ Development of a building for accommodation other than dwellings with a gross floor area of more than 1,000m$^2$. | Sustainability Management Plan (SMP) |
| **Type of Development** | **Application requirements** |
| **Non-residential** | |
| Development of a non-residential building with a gross floor area between 100m² and 1,000m². | Sustainable Design Assessment (SDA) |
| Development of a non-residential building with a gross floor area of more than 1,000m². | Sustainability Management Plan (SMP)<br>Green Travel Plan (GTP) |

Council will review and consider any new tools as they are developed or as existing tools are changed in future.

## Monitoring compliance and enforcement of ESD outcomes

In implementing an ESD LPP Council will need to consider its approach to monitoring compliance of developers. It is important to ensure that the environmental benefits presented in plans are actually being realised in the built form. Currently there is no established or consistent approach amongst the councils that already have a LPP within their planning schemes and in most cases enforcement is not undertaken at all.

In considering its future approach to compliance and enforcement of ESD, Moreland have arranged some site visits with planning applicants who have submitted ESD implementation reports in response to the following permit condition:

> ***Monitoring of the Sustainable Design Assessment***

*Prior to the commencement of occupation or issue of Statement of Compliance, whichever comes first, of any dwelling approved under this permit, a report from the author of the Sustainable Design Assessment (SDA) approved pursuant to this permit, or similarly qualified person or company, must be submitted to the Responsible Authority. The report must be to the satisfaction of the Responsible Authority and must confirm that all measures specified in the SDA have been implemented in accordance with the approved plan.*

Moreland have been putting this permit condition on 'larger' planning applications for a few months and have now received and reviewed a handful of reports. They will be looking to see how accurately everything has been documented. At this stage the site visits aren't intended to enforce but to try and get an honest sense of how many ESD initiatives are actually being implemented.

Yarra City Council treat ESD compliance the same as other elements such as heritage, transport or waste. Once the SDA is completed to a satisfactory standard (with no ambiguous terms), it is endorsed and becomes a legal requirement under the planning permit. Yarra City Council's planning enforcement officers inspect sites during construction and observe ESD elements such as water tanks, third pipe reticulation systems, etc. being installed. In addition to this, the ESD Officer undertakes more detailed inspections or reviews at times and also works with completed developments to develop case studies to inform others. Hobsons Bay City Council's planning enforcement officers time is predominantly required to address community complaints. Planning officers will inspect buildings upon completion of construction and this may present an opportunity to check for inclusion of proposed ESD elements.

A key role of any dedicated ESD resource will need to involve development of a compliance monitoring program. Development of such a program should include collaboration with Council's statutory planning and building services teams, as well as other councils and developers (including sustainability consultants and designers).

## Resourcing assessment of planning permit applications

It is important to weigh up the environmental gains that flow from an ESD Policy against the resourcing requirements. The time taken to perform an ESD referral for a planning permit application typically involves two components:

1. an initial comprehensive review (including an initial consultation meeting when necessary)

2. a follow up review of documentation to see whether ESD comments have been taken into consideration (plans to comply), which should roughly take half the amount of time

Given the historical context in relation to the specialist support required for ESD planning permit applications, it is crucial that the Sustainability team review the resourcing requirements in relation to an increase in SDAs and SMPs associated with an increase in the small to medium developments captured through the new trigger point. The resourcing required will also need to consider the turnaround time for completing an assessment. An

example would be seven days for SDAs and 14 days for more complex SMPs. This would allow Council to request further information from permit applicants within the 28 day statutory time period.

**ESD Officer**

*Table 7* (Appendix B) indicates that a minimum of 0.6 FTE ESD Officer time would be required to assess ESD referrals with the SDAPP trigger to capture residential development of two dwellings and above and non-residential development greater than 100m$^{2.}$ However, this figure does not take into consideration any training or education that would need to be undertaken both for the Statutory Planning team and for other Council officers involved in the completion of ESD referrals.

It is expected that an ESD role would undertake a number of tasks including those outlined below.

- **before an application –** establish internal processes, provide training and develop 'how to' guides for Statutory Planning staff, develop a suite of fact sheets and educational materials to support developers and the community
- **during referral process –** complete referrals, provide ongoing advice and support to Statutory Planning team and applicants
- **after planning approval –** monitor practices within the sector to ensure currency of Council's approach, give consideration to development and implementation of a compliance monitoring program

# Current status of Hobsons Bay's ESD LPP

Council has joined the third round o**f cou**ncils to request authorisation from the Minister for Planning to prepare an amendment. This group includes Hobsons Bay, Wyndham, Brimbank, Whittlesea, Kingston and Bendigo. At the Ordinary Council Meeting on 13 March Council moved to:

1. support the preparation and exhibition of an amendment to introduce a local policy into the Hobsons Bay Planning Scheme that addresses Environmentally Sustainable Development
2. request the Minister for Planning to authorise Council under section 8A of the Planning and Environment Act 1987 to prepare and exhibit the amendment
3. request the Minister for Planning to create a Group Council (GC) amendment combining consideration of this amendment with other councils currently proposing the same amendment
4. exhibit the Amendment in accordance with the Minister for Planning's Authorisation and receive a further report considering submissions following exhibition

Council submitted its request for authorisation to the Minister on 26 March 2018. A response was received from DELWP on 4 April informing that the application requires further review. It is understood that this review entails DELWP assessing how it will choose to respond to and process the applications from all third round councils (e.g. group them together under a GC amendment).

# ESD outcomes from other Victorian Councils

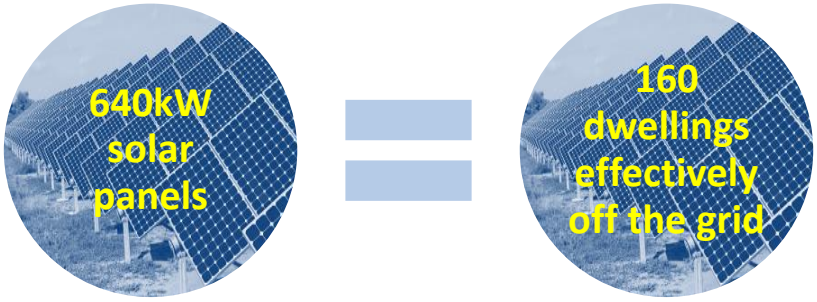
First Round councils have provided the Department of Environment, Land, Water and Planning (DELWP) with data on the outcomes of the ESD LPPs from October 2016 to March 2017 (6 months). The following are some of the excerpts from the ESD Monitoring Report that will be provided to the Minister for Planning.

It should be noted that the second round councils were not asked by DELWP to complete any monitoring. It is understood that there has been no suggestion from DELWP of requirements for further monitoring reports.

## Installation of solar panels

Approximately 644 kilowatts (kW) of solar panels have been committed to be installed as part of the ESD planning process over the six month period (assuming all of the referrals reviewed are approved and constructed). This represents approximately 163 homes being taken off the wider electricity network grid (based on the average solar generation in Melbourne being 4.5 hours per day and the average Australian energy use of 18 kilowatt hours/day per dwelling).[5] This is an excellent environmental achievement which is able to be further enhanced once battery technology is improved and readily affordable, demonstrating that in-fill development has the capacity to reduce its burden on the existing power network, especially during peak demand periods.

[5] 644kW x 4.5 hrs = 2938.5 / 18 kWh/day = 163 homes




**Solar panels achieved through the ESD planning policy and amount of dwelling effectively 'off the grid'.**

### Reduced potable water consumption and urban waterway benefits

The data shows that approximately 3,269 kilolitres (3,268,840 litres) of rainwater tank harvesting capacity will be installed (again assuming all permits are issued) via the ESD process. This has many benefits as seen in *Figure 2.6*

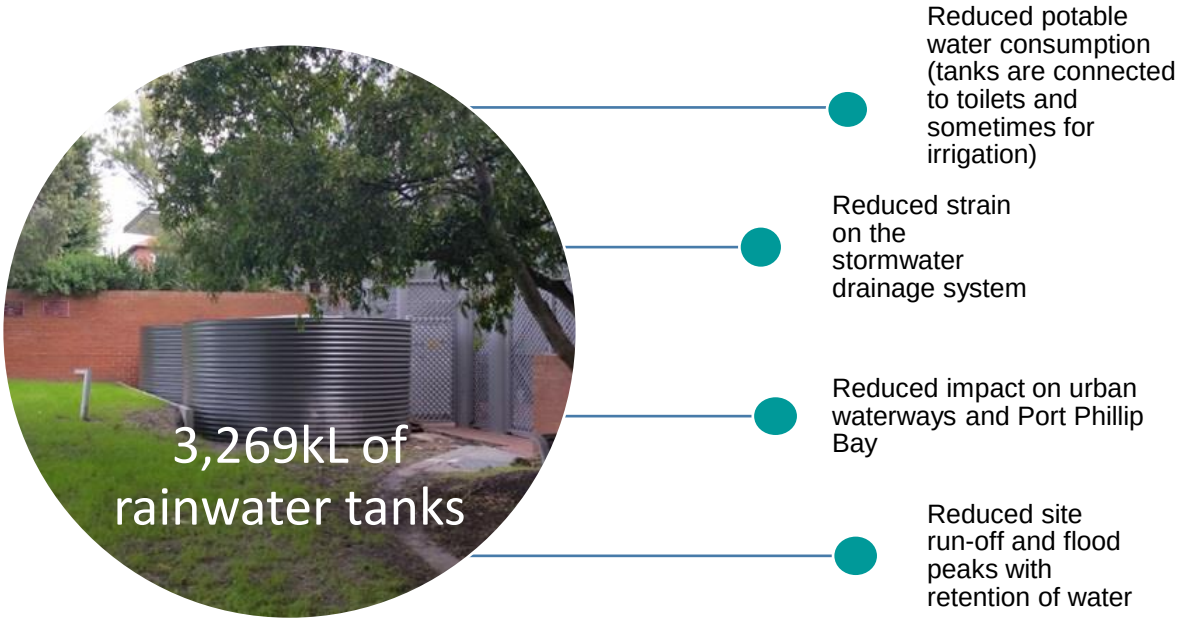



*Figure 2.6* Benefits of rainwater harvesting tanks

### Improved energy efficiency of new dwellings

The data collected demonstrates that dwellings assessed via the ESD planning process commonly exceed the minimum energy efficiency requirements of the National Construction Code (NCC). The NCC requires *Class 2* dwellings to achieve a minimum NatHERS rating of *5.0* stars and an average of *6.0 stars*. ESD encourages improving this energy efficiency by increasing building insulation, enhancing the performance of the glazing, assessing the orientation of windows and installing appropriate external shading devices. The data shows that dwellings are commonly exceeding the 6.0 star average, as seen in *Figure 3*.

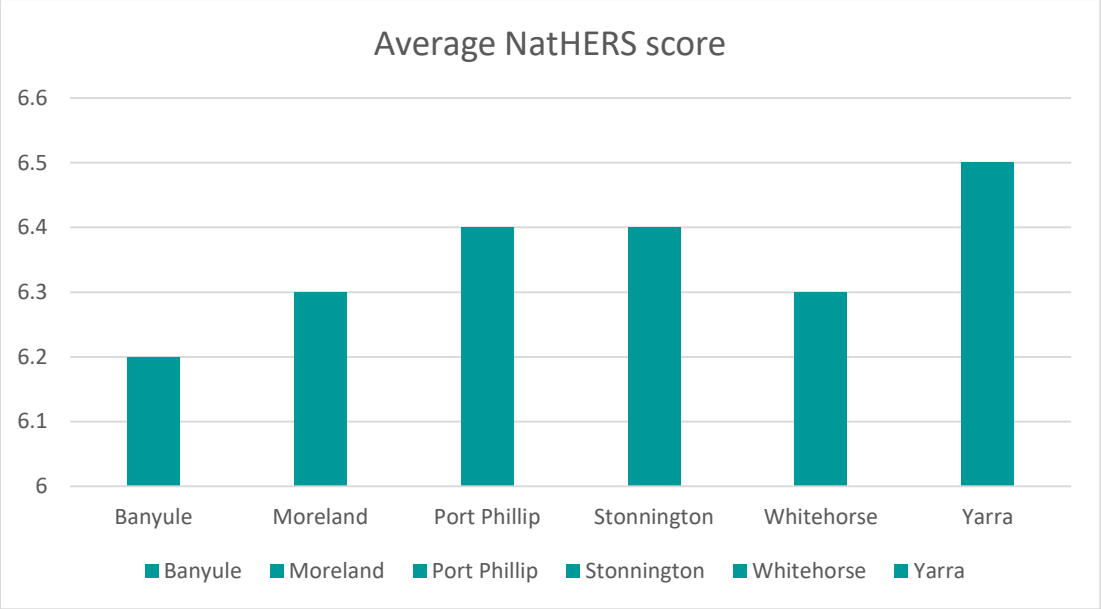



*Figure 3. Average NatHERS scores for dwellings when lodged at council. The 6.0 star level is the minimum required by the NCC.*

This is an excellent outcome as it will result in dwellings being more energy efficient and thermally more comfortable in both summer and winter. These dwellings will be cheaper to operate due to reduced heating and cooling demands. This will result in a decreased burden on the overall electricity network and reduced overall greenhouse gas emissions.

## Costs for developers

Concerns relating to costs have been raised by the development sector, including at the panel hearings for both first and second rounds of councils. The sector raises impacts on housing affordability as a reason for not implementing more effective sustainability outcomes. That is that incorporating sustainability design elements can attract an upfront price premium and this would need to be passed on to purchasers. At these panel hearings there was no evidence presented to support this. Significant evidence has been provided[6] that suggests improved life cycle costs over the life of a dwelling would more than negate higher capital costs, if there are higher capital costs. It should also be noted that housing affordability should not only consider construction costs but also the costs associated with operating a building.

There may also be an opportunity for developers to sell properties that incorporate more ESD elements at a higher price. Reduced living expenses and improved comfort conditions are aspects that would appeal to buyers. Outlining the benefits of ESD to developers through information or fact sheets provides an opportunity for Council to influence compliance. This could in-turn be used to on-sell to interested buyers.

[6] https://www.maddocks.com.au/app/private/EED/Expert_statement_of_Phil_Harrington.pdf

# Conclusions

Based on the findings presented in this report it is recommended that Council:

3. **develop an ESD Policy Statement** that will define Council's ESD commitments and establish ourselves as a leader in the application of sustainability in the built environment

4. **adopt an ESD Local Planning Policy**, in accordance with the proposed policy provided in Appendix C of this report, that formalises the use of SDAPP within planning permit assessments and incorporate it into the Hobsons Bay Planning Scheme as a Local Planning Policy

5. **complete the review of the SDiCF Policy and develop a new policy for Council buildings, infrastructure and the public realm** that is integrated across Council and highlights Council's role as a leading Council for environmentally sustainable development

6. **develop and implement a capacity building program within Council** to raise awareness, increase knowledge and expertise and update processes and systems to ensure improved ESD outcomes in Council operations and projects

7. **develop and implement a capacity building program that is supported by a series of fact sheet and information targeted to developers and the community** to raise awareness, increase knowledge and expertise to ensure improved ESD outcomes for the community

8. **develop an Electric Vehicle policy** that outlines the support required for Hobsons Bay to transition to low emissions vehicles, including guidelines for infrastructure to support the transition for Council and the community

# Appendix A: Case studies

Case studies were conducted on two typical development types in Hobsons Bay to assess the possible environmental benefits that can be gained from meeting a minimum BESS score of 50 per cent compared with the developments being approved as per the original planning application. These benefits were then extrapolated across the municipality to demonstrate the full extent of the value added through the SDAPP process.

Detailed methodology, dwelling profiles, modelling assumptions of BESS and calculations are provided herein.

**Methodology**

The following methodology was applied:

- consider a typical two dwelling permit application / development
- consider a typical three dwelling permit application / development
- Base Case: conduct BESS assessment on these typical development proposals 'as they are'
- Best Practice: conduct BESS assessment to get these developments to 50 per cent in BESS
- quantify the difference in terms of:
    - greenhouse gas emissions
    - potable water consumption
    - other qualitative benefits

It should be noted that these case studies are being presented to demonstrate the value of a few quantifiable elements of what the SDAPP process provides. The process and the BESS tool specifically adds much more value to developments beyond these more tangible elements. This will be discussed further in the section on Results – Development by Development below.

**Calculations**

- environmental savings per development equals Best Practice minus Base Case
- environmental savings across municipality equals (Best Practice minus Base Case) multiplied by the number of developments of this type

**Permit applications**

The assessment is based on actual permit applications for properties in Hobsons Bay.

- typical two dwelling development: Altona North
- typical three dwelling development: South Kingsville

**Typical 2 dwelling development**

Case study 1, Altona North: 2 x attached townhouses

**Typical 3 dwelling development**

Case study 2, South Kingsville: 2 x attached townhouses with an additional single dwelling at rear

South Kingsville: additional single dwelling at rear

## Assumptions

➡ **the modelling assumptions in BESS have been made in such a way that the projected environmental gains are <u>very</u> conservative i.e. Council is likely to achieve better outcomes in reality**

Some notes on the Base Case BESS assessments:

- some incidental credits were achieved in the Base Case assessments that allowed for some of the categories in BESS to be passed e.g. Transport and Urban Ecology, above
- none of the 'mandatory pass' categories (Water, Energy, Stormwater, IEQ) scored enough incidental credits to pass
- the Stormwater Category is unique in that you either meet the requirements of the Urban Stormwater Best Practice Environmental Management Guidelines (BPEMG) and obtain 100 per cent of the available credits, or you do not meet the BPEMG and do not obtain any credits (0 per cent),– the typical developments provided (see below) did not meet the BPEMG hence received 0 per cent
- 6 Star NatHERS Ratings were modelled in the Energy Category with a 94.4MJ/$m^2$ Heating Load and a 23.6MJ/$m^2$ Cooling Load – this was done on advice from Sustainability Victoria for a 'typical household' in the Tullamarine BCA Climate Zone – NatHERS assessments were not conducted by Council

- relatively efficient appliances and fixtures (both from an energy and water perspective) were assumed, even though this is not industry standard – this explains the majority of the credits in Water and Energy
- a rainwater tank was modelled, even though is not a requirement
- gas storage hot water service (relatively efficient) was modelled to reflect an industry trend, but statistically, new developments are more likely to have an electric storage hot water service (less efficient)

A note on the Best Practice BESS assessments:

- Energy Category improvements to get to Best Practice for both Base Cases: 60 per cent solar hot water contribution plus LED lighting
- Water Category improvements to get to Best Practice for both Base Cases: WELS Rating two above 'minimum' for all appliances and fixtures plus rainwater tank to capture entire roof (BCA only requires 50m$^2$)
- to pass the IEQ category, a combination of the following credits needed to be claimed (values in parentheses indicate how much each credit contributes to the category):

1. IEQ 3.1 Thermal Comfort – Double Glazing: Is double glazing (or better) used to all living areas and bedrooms? (50 per cent)
2. IEQ 3.2 Thermal Comfort – External Shading: Is adjustable external shading provided to east, west and north facing windows? (25 per cent)
3. IEQ 3.3 Thermal Comfort – Orientation: Are at least 50 per cent of living areas orientated to the north? (25 per cent)

But, (1) Double Glazing, (2) External Shading and (3) Orientation will have positive impacts on more than just the Indoor Environment Quality. For example, Double Glazing will improve the energy efficiency of the dwellings, as well as the thermal efficiency, which would result in extra credits in the Energy Category. In keeping with the conservative modelling, these types of additional benefits were not taken into consideration i.e. IEQ benefits were only realised in the IEQ Category and did not 'filter down' into Energy.

## Calculations

➡ **Environmental savings per development = Best Practice – Base Case**

| | 2 Dwellings | | | 3 Dwellings | | |
|---|---|---|---|---|---|---|
| | Base Case | Best Practice | Environmental Savings | Base Case | Best Practice | Environmental Savings |
| Annual Water Consumption (kL) | 433 | 363 | = 433 – 363 = 70 | 546 | 449 | = 546 – 449 = 97 |
| Annual GHG emissions (kg $CO_2$) | 8083.8 | 7019.6 | = 8083.8 – 7019.6 = 1064 | 9166.2 | 8063.8 | = 9166.2 – 8063.8 = 1102 |

➡ **Environmental savings across municipality =**
**(Best Practice – Base Case) x no. of developments**

| | Water Consumption (kL) | GHG Emissions (kg $CO_2$) |
|---|---|---|
| 2 Dwelling (192 in 2017) | = 70 x 192<br>= 13440 | = 1064 x 192<br>= 204326 |
| 3 Dwellings (74 in 2017) | = 97 x 74<br>= 7178 | = 1102 x 74<br>= 81578 |
| TOTAL | = 13440 + 7178<br>= 20618 kL<br>= 20.6 ML<br>OR<br>8.2 Olympic size swimming pools | = 204326 + 81578<br>= 285904<br>= 285.9 tonnes<br>OR<br>40.8 average Australian homes taken off the grid |

# Appendix B Resourcing

**Table 7: Amount of officer time required for each planning permit application**

| | No. of applications | ESD Officer: time per application | Time (hours) |
|---|---|---|---|
| **Single new dwelling** | 26 | x | x |
| **2 dwellings** | 192 | 1.5 + 0.75 | 2.25 x 192 = 432 |
| **3 dwellings** | 74 | 2 + 1 | 3 x 74 = 222 |
| **4 dwellings** | 22 | 2.5 + 1.25 | 3.75 x 22 = 83 |
| **5 dwellings** | 9 | 2.5 + 1.25 | 3.75 x 9 = 34 |
| **6 - 10 dwellings** | 7 | 6* + 3 | 9 x 7 = 63 |
| **11 - 20 dwellings** | 3 | 6 + 3 | 9 x 3 = 27 |
| **More than 20 dwellings** | 5 | 6 + 3 | 9 x 5 = 45 |
| **New industrial or commercial buildings** | 42 | 2.5 + 1.25 | 3.75 x 42 = 158 |
| **TOTAL** | **380** | | **1063** |
| **TOTAL (days)** | | | **= 1063 / 7.6 = 139.9** |
| **TOTAL (FTE)** | | | **= 139.9 / 240** = 0.58 ~ 0.6** |

*The time taken to conduct an ESD assessment varies greatly between single dwellings and apartments. This is because there are many more ESD elements to be taken into consideration for apartments, mainly in relation to Indoor Environment Quality and access to natural light. An assumption has been made here that developments larger than 6 will generally be apartments, hence the jump in 'ESD Officer: time per application' from 2.5 hours to 6. Evidently, there will be exceptions to this assumption, but this figure was arrived at after discussion with the Statutory Planning Team and in lieu of detailed data that could provide a more precise analysis.

**48 weeks per year for 1 FT person (52 – 4 weeks of annual leave) | 48 x 5 = 240 days

The majority of First Round councils have a full-time ESD Officer, including councils with comparable populations to Hobsons Bay such as Stonnington and Yarra. Second Round councils Darebin and Manningham, which are larger in population, have a 0.8 full-time equivalent and a full-time ESD Officer respectively. Other examples include the City of Greater Bendigo who have a full-time ESD Officer, but do not have an ESD LPP. Moonee Valley have a 0.4 full-time equivalent ESD Officer, but there's an expectation that their planners assess the ESD requirements of smaller applications. Based on past experience, this is not the preferred option for Council.

**Resources for amendment development**

Second Round councils (the most relevant comparison) estimated that one Strategic Planner will be required three days per week on average for the duration of the amendment process – 0.6 FTE for 1 year. It is envisaged that this load will be shared between Strategic Planning and Sustainability officers as well as guidance provided by the respective Coordinators.

| | |
|---|---|
| **1 day per month for 1 year** | **Coordinator Sustainability** |
| **0.5 day per week for 2 months** | **Coordinator Strategic Planning** |
| **2 days per week for 1 year** | **Senior Sustainability Officer** |
| **Full time for 2 months** | **Strategic Planner** |

**Resourcing requirements summary**

To summarise, in order to meet the expected needs of establishing and implementing an ESD LPP, Council will require:

1 x resources (existing) for amendment development over 1 year

1 x ESD Officer - 1.0 FTE ongoing from gazettal date

Based on relevant pay rates as per 2017-18 the following costs would be incurred:

- 1st year – amendment development $58,025 – $64,534 (+9.5% super)
- Subsequent years – ESD Officer $82,841 - $90,294 (+9.5% super)

Note that these costs exclude increases as a result of annual increases and future EBA negotiations.

# Appendix C Proposed ESD Local Planning Policy

## 22 LOCAL PLANNING POLICIES

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### 22.13 Environmentally Sustainable Development

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This policy applies throughout Hobsons Bay to residential and non-residential development that require a planning permit in accordance with the thresholds in Table 1 of this Policy.

### 22.13-1 Policy basis

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This policy builds on and implement the sustainability objectives and strategies expressed in the Municipal Strategic Statement relating to environmentally sustainable development.

Hobsons Bay City Council promotes the concept of sustainability, the adoption of sustainable energy options, and environmental design practices. Critical to achieving this commitment is for development to meet appropriate environmental design standards.

This policy provides a framework for early consideration of environmental sustainability at the building design stage in order to achieve the following efficiencies and benefits:

- Easier compliance with building requirements through passive design
- Reduction of costs over the life of the building
- Improved affordability over the longer term through reduced running costs
- Improved amenity and liveability
- More environmentally sustainable urban form
- Integrated water management

If environmentally sustainable design is not considered at the time of planning approval, the ability to achieve environmentally sustainable development may be compromised by the time these matters are considered as part of a building approval. In addition, there may be difficulties or extra costs associated with retro-fitting the development to implement environmentally sustainable design principles.

This policy does not prescribe performance outcomes. The policy enables the provision of information and provides decision guidelines which will assist in the assessment of whether development meets environmentally sustainable development objectives.

This policy complements a range of non-statutory measures aimed at encouraging environmentally sustainable development. These measures include educating residents and applicants, assisting applicants to use Environmentally Sustainable Development (ESD) tools, leading by example with Council projects, promotion of exemplary private projects and promotion of the use of materials with favourable life cycle impacts.

## 22.12-2 Objectives

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The overarching objective is that development should achieve best practice in environmentally sustainable development from the design stage through to construction and operation.

In the context of this policy, best practice is defined as a combination of commercially proven techniques, methodologies and systems, appropriate to the scale of development and site specific opportunities and constraints, which are demonstrated and locally available and have already led to optimum ESD outcomes. Best practice in the built environment encompasses the full life of the build.

It is a policy objective to encourage innovative technology, design and processes in all development, which positively influence the sustainability of buildings.

The following objectives should be satisfied where applicable:

### Energy performance

- To improve the efficient use of energy, by ensuring development demonstrates design potential for ESD initiatives at the planning stage
- To reduce total operating greenhouse gas emissions
- To reduce energy peak demand through particular design measures (e.g. appropriate building orientation, shading to glazed surfaces, optimise glazing to exposed surfaces, space allocation for solar panels and external heating and cooling systems)

### Water resources

- To improve water efficient
- To reduce total operating potable water use
- To encourage the collection and reuse of stormwater
- To encourage the appropriate use of alternative water sources (e.g. greywater)

### Indoor environment quality

- To achieve a healthy indoor environment quality for the wellbeing of building occupants, including the provision of fresh air intake, cross ventilation and natural daylight
- To achieve thermal comfort levels with minimised need for mechanical heating, ventilation and cooling
- To reduce indoor air pollutants by encouraging use of materials with low toxic chemicals
- To reduce reliance on mechanical heating, ventilation, cooling and lighting systems
- To minimise noise levels and noise transfer within and between buildings and associated external areas

### Stormwater management

- To reduce the impact of stormwater run-off
- To improve the water quality of stormwater run-off
- To achieve best practice stormwater quality outcomes
- To incorporate the use of water sensitive urban design, including stormwater re-use

### Transport

- To ensure that the built environment is designed to promote the use of walking, cycling and public transport in that order
- To minimise car dependency
- To promote the use of low emissions vehicle technologies and supporting infrastructure

### Waste management

- To ensure waste avoidance, reuse and recycling during the design, construction and operation stages of development
- To ensure durability and long term reusability of building materials
- To ensure sufficient space is allocated for future change in waste management needs, including (where possible) composting and green waste facilities

### Urban ecology

- To protect and enhance biodiversity within the municipality
- To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect
- To encourage the retention of significant trees
- To encourage the planting of indigenous vegetation
- To encourage the provision of space for productive gardens, particularly in larger residential development

## 22.13-3 Policy

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It is policy that applications for the types of development listed in Table 1 be accompanied by information which demonstrates how relevant policy objectives will be achieved.

## 22.13-4 Application requirements

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An application must be accompanied by either a Sustainable Design Assessment (SDA) or a Sustainable Management Plan (SMP) as specified in Table 1, as appropriate.

A SDA will usually not need to be prepared by a suitably qualified professional. It should:

- Provide a simple assessment of the development. It may use relevant tools from the examples listed in the table or an alternative approach to the satisfaction of the responsible authority
- Identify environmentally sustainable development measures proposed in response to policy objectives, having regard to the site's opportunities and constraints

A SMP should:

- Provide a detailed assessment of the development. It may use relevant tools from the examples listed in the table or an alternative assessment approach to the satisfaction of the responsible authority
- Identify achievable environmental performance outcomes having regard to the objectives of this policy (as appropriate)
- Demonstrate that the building has the design potential to achieve the relevant environmental performance outcomes, having regard to the site's opportunities and constraints
- Document the means by which the performance outcomes can be achieved

Various assessment tools have been listed in Table 1 which may be used to assess how the proposed development addresses the objectives of this policy, as appropriate.

**Table 1 – ESD Application Requirements**

| TYPE OF DEVELOPMENT | APPLICATION REQUIREMENTS | EXAMPLE TOOLS |
|---|---|---|
| **Accommodation/Mixed Use with residential component of:** | | |
| ▪ 2-9 dwellings, or<br>▪ Development of a building for accommodation (other than dwelling) with a gross floor area between 50m$^2$ and 1000m$^2$ | Sustainable Design Assessment (SDA) | BESS<br>STORM |
| ▪ 10 or more dwellings, or<br>▪ Development of a building for accommodation (other than dwellings) with a gross floor area of more than 1000m$^2$ | Sustainability Management Plan (SMP) | Green Star<br>BESS<br>MUSIC<br>STORM |
| **Non-residential** | | |
| ▪ Development of a non-residential building with a gross floor area between100m$^2$ and 1000m$^2$, or<br>▪ Alterations and additions of between 100m$^2$ and 1000m$^2$ | Sustainable Design Assessment (SDA) | BESS<br>MUSIC<br>STORM |
| ▪ Development of a non-residential building with a gross floor area of more than 1000m$^2$, or<br>▪ Alterations and additions greater than 1000m$^2$ | Sustainability Management Plan (SMP)<br>Green Travel Plan (GTP) | Green Star<br>BESS<br>MUSIC<br>STORM |

*Note 1: Development (in Table 1) has the same meaning as in Section 3 of the Planning and Environment Act 1987, but does not include subdivision. To remove any doubt, development also includes alterations and additions. In the case of alterations and additions, the requirements of the Policy apply only to the alterations and additions.*

*Note 2: Mixed Use developments are required to provide the information applicable to each use component of the development.*

## 22.13-5 Decision guidelines

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In determining an application, the Responsible Authority will consider as appropriate:

- The extent to which the development meets the objectives and requirements of this policy from the design stage through to construction and operation.
- Whether the proposed environmentally sustainable development performance standards are functional and effective to minimise environmental impact.
- Whether the proposed environmentally sustainable development initiatives are reasonable having regard to the type and scale of the development and any site constraints.
- Whether an appropriate assessment method has been used.
- Whether an ESD plan or framework has previously been approved by the responsible authority (whether under a planning control or otherwise)

## 22.12-6 Reference documents

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*BESS (Built Environment Sustainability Scorecard)* bess.net.au, Council Alliance for a Sustainable Built Environment (CASBE), 2015

*Green Star*, Green Building Council of Australia www.gbca.com.au

*Guide for Best Practice for Waste Management in Multi-Unit Developments,* Sustainability Victoria (2010)

*Nationwide House Energy Rating Scheme (NatHERS)* Department of Climate Change and Energy Efficiency, www.nathers.gov.au

*STORM*, Melbourne Water, www.storm.melbournewater.com.au

*Urban Stormwater Best Practice Guidelines*, CSIRO, 2006

## 22.13-7 Commencement

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The ESD Application requirements in Table 1 do not apply to applications received by the responsible authority before the gazettal date of this clause.

## 22.13-8 Expiry

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This policy will expire if it is superseded (as etermined by the Minister for Planning) by equivalent provisions in the Victoria Planning Provisions or the Building Code of Australia Regulations, whichever happens first.