Council Facility/Building
Environmentally Sustainable Design (ESD) Policy Guidelines

Introduction to the use of the template guidelines

This document provides a guide for councils in the process of developing or reviewing their buildings / facilities ESD Policy. It aims to provide the essential requirements for an effective ESD Policy and details the 'common practice' from a range of Victorian council examples.

13 council ESD policies were reviewed to develop the guide and these were used as the basis to develop a generic template document. The template is a standalone document, however is referenced within these guidelines in red italics.

A brief literature review has also been undertaken on what is considered 'best practice' from international research. This work is outlined and referenced in Appendix 1.

The 13 council ESD Policies literature reviewed and a range of other resources can be accessed directly in the link ESD Policy Resources Folder

Councils using the guide are welcome to use as much or as little as required to meet the needs of their councils' requirements.

Executive Summary

Only one policy had an executive summary. This policy document was structured more like a report than a policy document. Typically, a vision, purpose or brief introduction was a more useful way to introduce the policy.

Template suggestions:

An Executive Summary is optional. Typically, policy documents don't have an executive summary as it is a tool to achieve an outcome as opposed to a report discussing outcomes, of which it would then be useful to provide an executive summary. If it is to be included, it may be best represented as an 'Executive Foreword' detail the importance of the policy and executive commitment.

Contents

It is good practice to have a contents page, it makes navigation of the document far easier for the reader. Policies which did not have a contents page were difficult to navigate, the ones that did, allowed the reader to find sections quickly.

Below are the contents of this document and can be used to structure the content of an ESD Policy.

ESD Policy Template suggestions:

Acknowledgement

A couple of policies had an acknowledgement of country, others had a brief 'thank you' to those who contributed to the policy. These may be important considerations for some councils and identify sources of knowledge within council.

ESD Policy Template suggestions:
Detail acknowledgements to country and those that have previously worked on the policy.

Introduction

Nearly half of the policies reviewed included an introduction, while a further document included a preamble that worked in a similar way. Introductions were generally quite short (a few sentences) and gave some background or context to the policy and outlined its purpose. Although a short introduction worked quite well, it is not imperative that it is included, especially if it precedes a purpose or context section.
ESD Policy Template suggestions:

Provide a short introduction to the policy including background and context to the policy with an introduction to the aims of the policy.

Vision

A number of policies that were reviewed had a clear section that incorporated their vision for the policy. Vision statements were quite brief and made references to the community vision in the Council Plan that most councils have. It seemed appropriate to include some key points from the council vision.

Other councils incorporated a brief statement outlining their vision in the purpose section. A couple of policy documents also had quite thorough visions that included references to other council documents such as water management plans, low carbon future strategies etc. however these could be included in supporting documents later in the ESD Policy.

This section should detail the high-level vision as opposed to other detailed policy or strategy documents. The purpose of this section is to demonstrate council's commitment to the vision for environmentally sustainable design more broadly and in the context of the ESD Policy for council buildings.

For example:

"This policy ensures that the construction or refurbishment of all council facilities minimises adverse environmental impacts in areas such as energy, water and waste while enhancing social benefits in line with (*insert council name*)'s community vision 2018-2030."

If a vision is to be included it should be couched in the context of the broader community vision and then provide a more specific detailed vision for the policy. Keeping in mind that more generally a vision should be inspirational and aspirational.

"A **vision statement** looks forward and creates a mental image of the ideal state that the organization wishes to achieve. It is inspirational and aspirational and should challenge employees" (https://www.shrm.org/resourcesandtools)

In this context a vision statement for an ESD Policy should paint a mental picture of the council buildings of the future, are they zero carbon and zero waste? Part of the circular economy? Recycle all water? Improve the health of its occupants?

If this vision has not been clearly articulated as yet then it is recommended that a process take place to develop this vision. To develop a vision for council buildings a workshop with the appropriate people (council and/or community) could be undertaken so that the bigger picture of the ESD Policy can be appreciated and stated.

To provide a glimpse of what future buildings might look like, the below link from National Geographic can assist in creating a vision for future buildings. A key outcome from this exercise is to identify what is missing from current approaches to ESD, for example, increasing the involvement of landscape architects during the building design stage to ensure that green spaces are considered and incorporated within all new facilities.

National Geographic Future Cities

It is worth noting here the importance of engaging councils governance department. Often there are officers in these departments responsible for, or with skills in strategy development. If the policy is to be developed in-house then it is advised that these officers participate or drive the development of the policy.

Several policies viewed were developed or driven by environment officers or teams. While there are many benefits to this, particularly from a technical point of view, the involvement of council officers with strategy development expertise will assist in the development of the broader context of the policy and its implementation.

An example is the Hobson Bay City Council ESD Policy and also its Background Report. The Policy was developed by their Strategy and Advocacy Department and is a comprehensive example of what to include in each section of an ESD policy. In this case the policy was driven by the Strategy and Advocacy Department and the environment team acted as advisors.

ESD Policy Template suggestions:

Briefly detail the Council Plan or other most relevant high-level plan or strategy that sets the broader community vision relating to environmentally sustainable development.

Detail the vision for the ESD Policy in the context of the high-level vision and the clear correlation between the documents.

Mission

Only one policy out of all the documents reviewed contained a mission statement. The mission statement contained very similar content to the vision. The statement could have been incorporated in its vision statement reducing repetitiveness.

More generally a mission's statement contains the following:

"A **mission statement** is a concise explanation of the organisation's reason for existence. It describes the organization's purpose and its overall intention. The mission statement supports the vision and serves to communicate purpose and direction to employees, customers, vendors and other stakeholders." https://www.shrm.org/resourcesandtools

In the context of an ESD policy a mission statement may be best described as the "Purpose" which gives the reason for the existence of the policy, supporting the vision. A mission statement is generally more applicable to an organisation than a policy.

Purpose

It was common to include a purpose that was a very specific statement at the beginning of the policy document. In the many policy documents reviewed, the purpose was only one sentence long. In these instances, the purpose was a clear statement of what the document is intending to do.

This often simply involved stating that the policy is to apply ESD principles to council buildings, or that the policy is council's commitment to constructing buildings sustainably. Some policies that were reviewed expanded slightly on this and incorporated some basic objectives in this section or aligned the purpose with a broader organisational vision.

An example of this is:

"The purpose of this policy is to apply the principles of Environmentally Sustainable Design (ESD) to the design, construction, refurbishment and operation of council owned facilities."

To develop a clear context for an ESD policy document it is recommended that councils separate out these sections of councils' vision, ESD vision and purpose.

ESD Policy Template suggestions:

Briefly in a few sentences describe the purpose of the policy document. This should clearly articulate what the policy is intending to do.

Values

Out of all the policy documents that were reviewed, only one contained a values section. The values section was listed in dot point form. The values aligned with the council vision and informed desirable ways of working and workplace culture within that council. Typically, these values are developed with the input from staff. Included values such as 'open and effective communication', 'caring for diverse communities', 'showing trust, respect and integrity'. Some of these values have been mentioned in other sections of the document. Although a values section has some benefits, it is not particularly necessary or could be included as an appendix.

ESD Policy Template suggestions:

Including values is optional and if so should refer to the existing values held by the organisation. It should be stated that delivery of the ESD Policy will be delivered in a way that upholds the values of the organisation. These values may also be referenced in the Appendix referring to the appropriate council document.

Background

The background is important as it explains the context to why this policy has been developed and describes what led to the development of the policy.

This section should summarise the broad aspects of the problem, eg. the impacts of infrastructure on the environment and lack of minimum requirements in the Victorian building codes. It should also provide a short overview of what ESD refers to and its importance in terms of achieving meaningful emission reductions for local councils.

Across the policy documents that were reviewed, there was a high degree of variance in the amount of detail provided in the policy background. As some documents made a reference to IPCC reports, they discussed the inefficiencies of current building stock and explained the benefits of ESD with reference to the triple bottom line. However, all documents provided reasoning to why ESD and sustainable built infrastructure is needed for local governments in terms of demonstrating environmental leadership and defined its importance for achieving further emission reductions.

ESD Policy Template suggestions:

Detail why the policy needs to be developed. Include a short overview of what is ESD, issues relating to infrastructure, a lack of building standards, previous council documents and approaches to ESD and outcomes in the council. This section should be written in historical terms relating to the council so that readers get a sense of what has happened in the past.

Context:

As opposed to the background providing a broad overview of ESD and its importance to local councils, the policy context provides specific detail of a council's built environment (e.g. number and types of buildings a council controls, the number of new facilities to be built in the future or refurbished). The context should discuss if this document relates to any other regulations and compliance standards that may exist locally or outside of the council's context. A breakdown on the relationship between buildings and their emissions profile could also be included here.

Importantly, this section requires a brief explanation of how this policy document is aligned or is strategically linked to other council policy frameworks, targets or future direction, which was common practice among the policy documents reviewed. A general list with a brief explanation of how this document specifically addresses the goals or strategies found within other council policies was good practice. Alternatively, this could be discussed in other sections such as 'Supporting Documents or Related Council Policies' as per below.

ESD Policy Template suggestions:

Detail specific information relating to councils built environment, such as the number and types of buildings it manages and plans for those to be built, refurbished or renovated in the future and their emissions profile.

This section can include the context in terms of other policy documents and strategies, however if there is a further section relating to 'Supporting Documents or Related Council Policies' then this in terms of context should be discussed then.

Supporting Documents and Related Council Policies

The supporting documents, external policies such as any state and federal government legislation requirements or related council policies should be referenced in the ESD policy where they are directly affected or linked to the ESD policy. Depending on what the goal of ESD policy is the related documents may change.

Relevant Council plans and strategies should also be listed within this section such as a Council Plan, Climate Change Plans, Energy Transition Plans, Sustainability Plans etc and detail where pertinent the relevant references in these plans and strategies that discuss ESD. This demonstrates the clear justification and requirement for the implementation of the ESD policy.

Extracts from these documents and policies could be quoted and referenced in this section or appear in the Appendix.

ESD Policy Template suggestions:

List supporting documents and external policies such as any state and federal government legislation requirements and discuss how they relate to the ESD Policy.

List relevant council plans and strategies and discuss how they relate to the ESD Policy.

Use extracts as required and reference or place in the appendix as appropriate.

Drivers

Of the 13 council policies reviewed 3 included a section on drivers for the policy. These drivers were somewhat inconsistent, with the 3 of them all referring to different things. Two were a set of brief dot points, with one referring to points such as population demands and climate change as drivers, the other referring to environmental integrity, efficiency and cost savings. Another policy referred to benefits from Green Star buildings and more generally including emissions reduction, water savings as well as return on investment due to cost savings of the life cycle of the building.

Other policies did not have a 'drivers' section of their own, however they had references to council strategies that appear to act as drivers for achieving specified outcomes, which could be covered in another section. These were generally in the context section or related policies section. In summary the main or common drivers covered:

- Population demands
- Climate change
- Economics (See Appendix 2)
- Legislation / Policy (See Appendix 3)
- Carbon emission reduction

What is clear, is that this section needs to provide further expansion and some commentary around the statements about drivers. If drivers are to be included as a section, then all the drivers should be highlighted and discussed with those main drivers referenced as the critical drivers of the policy.

Critically, it should provide the evidence and weight for why the ESD policy must be delivered and is not an optional or negotiable requirement for council buildings.

ESD Policy Template suggestions:

List and explain in detail the policy drivers, for example:

- *Climate change science*
- *Water availability, waste and recycling issues, lifecycle and circular economy approaches etc*
- *International, federal and state legislation, policies and targets*

- *Population pressures*
- *Economics – return on investments*
- *Building standards*

Consider including the details of this section in the Appendix and only include summary points here.

Objectives

Of the 12 policies reviewed 10 contained a clear section that listed objectives of the ESD Policy. The majority of these had 4 to 8 dot points while others had 3 or 4 sections, each containing a number of dot points within them. These also varied significantly with some examples referring to different types of buildings, developments or operation (e.g. new build versus refurbishment, office building versus aquatic centre, construction versus operation).

Others focused on different factors, e.g. energy, water or waste and had a number of points within those sections for how each would be addressed.

The clearest objective sections had 6 to 8 points on what the policy set out to achieve, the most commonly occurring and perhaps most important objectives. These included:

- Demonstrating community leadership and/or corporate responsibility
- Establishing or articulating ESD performance standards
- Reducing operating costs of facilities
- Creating a healthy indoor environment that improves comfort and amenity
- Reducing greenhouse gas emissions, increase energy efficiency, increase the use of renewable energy sources and prepare for peak energy demand
- Reducing water use
- Reducing waste
- Reducing impact of construction process and building materials
- Enhance natural ecosystems

Other examples of objectives were quiet broad. For example, some policies had reducing greenhouse gas emissions from energy efficiency, increasing the use of renewable energy and preparing for peak energy demand as separate objectives in their policy. These could be discussed in further detail with more specific objectives related to each. Such as, how much renewable energy? Where was it sourced, council facilities or solar farms? Who owns it, council project or Power Purchasing Agreement? Etc

There were also several other objectives listed on some policy documents that were less common.

These included:

- Meet environmental goals
- Passive solar/ building ventilation

- Ease of maintenance
- Access to transport
- Reducing pollution
- Increase commitment to sustainable buildings
- Support new or changed circumstances where Council customers, partners, and the community require firm commitment to sustainable building standards.
- Ensure consistency of Environmentally Sustainable Design (ESD) across all Council building projects.
- Provide a basis for assessment of operational and capital budgets where investments in ESD provide environmental, economic and social benefits;
- Manage demand and supporting behavioural change programs within the Council and organisations operating Council infrastructure; and
- Provide a basis for establishing new lease and licence arrangements with building occupants to implement ESD
- Influencing redevelopment within the municipality
- To facilitate the integration of sustainable design strategies into all new private building projects and significant renovation projects across the municipality.

Generally, including 'objectives' is a critical part of the policy, it states why certain actions are made further on. Consider numbering for ease of reference and include no more than a couple of sentences for each objective. Numerous, very specific objectives are likely to be actions. The test for this is, if a number of objectives have a common theme, they should be included under this theme as an objective and describing the detailed points as actions.

ESD Policy Template suggestions:

List the key objectives of the policy with a clear statement followed by a brief paragraph explaining what the objective includes and why it is important. These objectives could include:

- *Demonstrating community leadership and/or corporate responsibility*
- *Establishing or articulating ESD performance standards*
- *Reducing operating costs of facilities*
- *Creating a healthy indoor environment that improves comfort and amenity*
- *Reducing greenhouse gas emissions, increase energy efficiency, increase the use of renewable energy sources and prepare for peak energy demand*
- *Reducing water use*
- *Reducing waste*
- *Reducing impact of construction process and building materials*
- *Nature connectivity to buildings*

In this section as relevant list any broad levels of ESD to be achieved as an objective. Making reference to any standards or tools as required.

Scope

The policy scope outlines the limitations and states the boundaries for how the principles of ESD will be integrated into the development process and future infrastructure activity. This includes statements that refer to the groups, individuals and departments responsible for implementation. It also includes timeframes and locations this policy applies to.

It is important for this section to detail and specify what buildings, infrastructure and type of development this policy instrument applies to. It should include statements that broadly clarify that the ESD guidelines developed within this document will apply directly to the "*sustainability of council owned buildings and infrastructure projects*" and exclude the assessment of privately-owned buildings and development.

Common list of council buildings and development projects included:

- Administrative offices & Community buildings
- Libraries
- Commercial districts
- Leisure and aquatic centres
- Depots
- Residential buildings
- Sportsground pavilions
- Child-care centres
- Cultural buildings
- Aged care centres
- Town halls

ESD Policy Template suggestions:

Outline the limitations and state the boundaries for how the ESD Policy will be integrated into the development process and any future infrastructure activity.

List what buildings, infrastructure and type of development this policy instrument applies to and any timeframes. Reference groups, individuals and departments responsible for implementation.

Consider using a table where appropriate to communicate information effectively.

Implementation Process

The implementation of ESD policy can be best explained through a table or flow chart that clearly shows how the policy is meant to be used and integrated. It should explain the process of implementing ESD policy within projects. These include specific phases of implementation

such as scoping, briefing, design, documentation handover, and operation monitoring. It can also include the responsibilities of staff members.
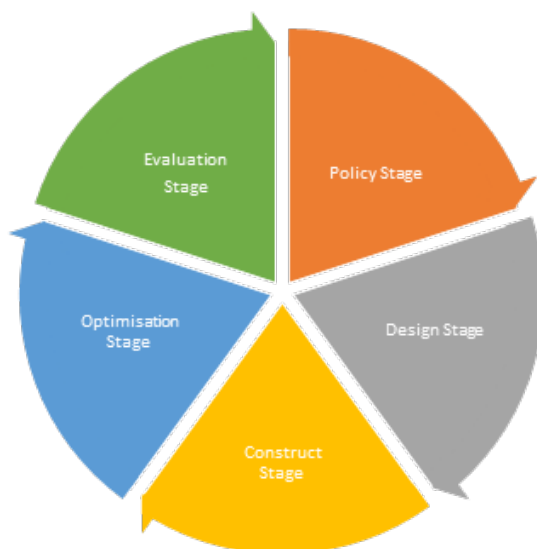
ESD Policy Template suggestions:

Describe the specific phases of implementation of ESD into a project, such as scoping, briefing, design, documentation handover, and operation monitoring. It should also include the responsibilities of staff members. The following table provides a basic example:

Scoping and business case	ESD Briefing	Design and contract development	Documentation handover and Construction	Commissioning and Operations Monitoring
Scoping explores the options available to implement ESD within a building project and restraints e.g. through energy saving and paybacks	The briefing to finalise the ESD options available and constraints of a site to inform the design process. This is where the ESD Matrix is an advantage as it sets a consistent standard across all council buildings simplifying this process	The design phase is to ensure that the ESD policy requirements will be met in the project e.g. a major new construction will have a green star rating of 4	Relevant documents and information are handed over to construction contractors to ensure that ESD objective for the project will be met.	Specifying commissioning requirements. After the project is finished the building is monitored to determine whether the project is meeting operational goals.
Assign responsible parties to tasks	Assign responsible parties to tasks	Assign responsible parties to tasks	Assign responsible parties to tasks	Assign responsible parties to tasks

SECCCA has also developed a further example to demonstrate a commitment to a cycle of continuous improvement through detailed evaluation.

Key ESD Implementation Stages in Building Delivery Process

Key ESD Steps in Building Delivery Process

ESD Policy Stage	Design Stage - each project	Construct Stage	Optimisation Stage	Evaluation Stage
• Council Vision • Buildings Vision • Targets / performance goals • Context • Background • Rating tools and standards • Processes • Responsibilities • Budgets • Evaluation framework • Updates • Finalise policy • Undertake staff breifings and training as required	• Review Policy • Confirm non-negotiables according to ESD Policy • Detail design features relationship to performance goals • Establish construction KPI's and milestones • Review process for evaluation and data collection • Confirm project ESD officer representative • Design, tender and contract	• Builder ESD briefing preworks • Set agreed on-site ESD inspections as required • Complete ESD intiatives as per contract milestones • Monitoring, collection and reporting of data as per Evaluation Framework • Independent Commissioning Agent final inspection and report • Complete building works	• Occupant ESD building operation briefing inc. importance of occupant behavior • Building Management System set up and monitor performance • Optimisation of building with support of occupants as required • Collection and reporting of data as per Evaluation Framework	• 12 months after occupancy evalute performance of building against targets and performance goals outlined in ESD Policy • Undertake occupant satisfaction survey of the lived experience and areas for improvement • Final Evaluation Report with recommendations • Update ESD Policy as approapriate

Appendix 1 Figure 2 also provides a best practice approach to ensure compliance at each stage of the build process.

Rating Tools and Standards

This section provides a general discussion about the types of rating tools, standards and how and why they will be used. How they relate to each building type more specifically can be discussed in the Policy Requirements section.

Typically, building performance and budgets are driven by the rating tools and standards. However, to ensure councils achieve their targets it is recommended that targets and subsequent performance goals for various facilities drives the rating levels and standards used for projects. This highlights the importance of the optimisation phase and performance evaluation of a building after it is built and in use.

For example, are the rating tools and standards achieving the performance expectations required to meet high level targets?

Tools used in the ESD policies varied for different projects depending on the scale of projects. Some common rating tools include Green Star, National Australian Building Energy Rating Scheme, and the Built Environment Sustainability Scorecard (BESS) which support the Sustainable Design Assessment in the Planning Process (SDAPP) framework. These all have

various standards that are required to be achieved as a minimum standard or voluntarily achieved.

Some councils are currently reviewing the standards as they are out of date with industry. Changes such as BESS replacing the Sustainable Tools for Environmental Performance (STEPS) and the Sustainable Design Scorecard (SDS) and changes to Green Star. Each of these have different approaches and benefits. A discussion about these should be included in the Appendix for those reviewing the policy that may not have this background knowledge. For an example, refer City of Port Phillip – Rating Tools, Appendix 4.

A number of councils are now using the ESD Matrix tool to provide a clear articulation of the ESD initiatives to be implemented within a facility with the option of increasing levels of ESD as required and according to budgets. Critically, budget implications should be clearly specified and non-negotiable minimum standards stated.

The rating tools that will be used in the ESD policy should be listed with a discussion of their requirements and value. Note that the majority of these tools are voluntary and it's possible to achieve targets through other tools, methods or 'in-house' developed approaches. This might be useful for unusual projects, terrains or designs that requires innovation.

It was also observed that most of these tools are in various stages of review or expansion. Councils can participate in these processes and advocate for the development of these to suit their needs. This advocacy work could be explicitly discussed in this section.

ESD Policy Template suggestions:

Provide a discussion listing all the relevant rating tools and standards that through the ESD Policy all council builds must use or meet. Articulation of the levels to be achieved in the tools and standards according to the facility types should be included in a separate section under Policy Requirements below.

Requirements

Councils didn't have consistent policy requirements; all were very different and were difficult to compare. Generally, these sections covered budgets, tools and standards for different facility types. Appendix 5 demonstrate a range of examples.

What was clear in nearly all policies was a lack of connection between high level targets and building performance goals, the outcomes and the clear action plans or an ESD brief required to deliver targets.

For example, the performance goals / interim energy target for a building could be a 50% reduction through energy efficiency measures (performance goal), 30% generation of solar power on-site, 20% renewable energy Power Purchasing Agreement offsite by 2022 (time-based target). In the long-term this should clearly relate and be measured back to the council high level organisational target (e.g. net zero emissions by 2027).

The policy should provide some carbon accounting calculation of outcomes required to meet long term targets. The best example of this was from Hobson Bay Shire Policy Statement on Page 13, Table 1

Councils should consider developing clear performance goals, set building design requirements and budgets based on performance goals that directly relate to high level targets. A range of short-term interim targets could also be developed to achieve the final high-level target. Often budgets were not stated or were discussed as a percentage. This can be problematic as it limits the ESD initiatives to a financial figure that may not meet the objectives of the policy. A better approach is to set mandatory nonnegotiable minimum requirements for all builds, according to size and type. The budgets are as a result inclusive and not additional or negotiable.

Therefore, drawing from the previous section, this section should describe the extensive range of ESD policy requirements to suit the size and type of development undertaken for new constructions, demolition, refurbishment or renewal projects. Specific reference should be made to the tools to be used that may set these minimum requirements and how this links back to targets/interim targets and performance goals. It's on this basis that progress can then be clearly evaluated, as per further below.

Key performance Indicators (KPI's) are a point-in-time measure to assist in ensuring that actions are being achieved as outlined in an action plan or design brief (e.g. how many gas appliances were replaced with electric as each year as per policy after evaluating renewal projects).

If there are different requirements for different building projects, the relevant requirement should be discussed or listed for the relevant building project. The links between achieving minimum requirements and ratings and the actions and KPI's to achieve these should be clearly demonstrated to avoid misinterpretation.

Given the detail that will be contained in these tables they could be included in the Appendix and reference or summary made to them in this section. Alternatively, this detail could be a stand-alone document for use by the council and not publicly available.

ESD Policy Template suggestions:

The policy requirements section drawn from the previous Tools and Standards section. Describe the extensive range of ESD requirements to be designed to suit the scale and type of development undertaken for new constructions, demolition, refurbishment or renewal projects.

In addition to the table, provide detailed discussion related to policy requirements including specific shorter and longer term targets, performance goals, actions plan or
ESD brief, KPI's, standards and tools.

This section should clearly articulate how over time targets will be achieved.

Consider displaying detailed information in table form or a number of tables as required to convey the information effectively.

Consider using the basis of the tables as a template for implementation and evaluation of projects.

Basic example table:

Building Project Type	High level target and interim level targets	Minimum Standard / Rating Tool	Action plan and Performance Goal	Key Performance Indicators and timeframes
Major/Medium/Minor New Construction Outline size and cost requirements	Net Zero emissions by 2025 for all new council buildings 50% reduction by 2020 60% energy reduction in all facilities from baseline. Remaining energy requirements generated by onsite solar, GreenPower, PPA or council solar farm CO_2 implications / accounting	Green Star Rating 5 ESD Matrix 'Best Practice' BESS 'Best Practice' NABERS 5 Star	• Establish performance goal eg. 50% energy efficiency from baseline and remaining 50% of energy requirements produced from on site solar • Develop an Action Plan or ESD Brief for each new building project demonstrating how the performance goal for the building supports meeting 2030 energy reduction targets.	• All new facilities to install solar systems equivalent to the size / needs of buildings. • Gas should be phased out on all facilities over the next 10 years. • Evaluation of all building projects every two years to ensure KPI's are in line with targets. • CO_2 implications / accounting
	100% Recycled water use for all toilets	5 Star WELS fittings		...
	Nature Connectivity			
Major/Medium/Minor. Upgrade renewal, renovation or refurbishment. Outline size and cost requirements				
Major/Medium/Minor Demolition				

Roles & Responsibility

This section is designed to outline the responsibilities of specific groups or team members within Council in implementing the ESD policy. It was included in some form within most policies that were reviewed and varied from council to council as to the various positions and tasks. This section could alternatively be included in the implementation section so that the roles for each stage can be assigned to those responsible.

A clear outline of roles and responsibilities is an important inclusion. It sets expectations and accountability by embedding the policy through various levels of council. Of the ESD policies analysed, the strongest sections included;

- An outline of specific actors and their roles, particularly corporate responsibility and council leadership;
- Details of roles from initiation to implementation to ongoing management and;
- Broader policy integration and operational implementation and management.

This section can potentially link to the project plan for a more detailed outline of implementation and link KPI's. Ideally, staff position descriptions should make reference to the roles and responsibilities of the position to deliver the work related to the policy.

ESD Policy Template suggestions:

List the roles and responsibilities of council staff and representatives in delivering the ESD Policy. Consider the following and use a table:

- *Corporate responsibility and council leadership;*
- *An outline of specific actors and their roles;*
- *Details of roles from initiation to implementation to ongoing management and;*
- *Broader policy integration and operational implementation and management.*

Role	Responsibility
Councillors	Imbed ESD policies into all strategic decisions
Director, Environment	Ensure policy strategy is implemented
Project team	Implement ESD policy as per project plan
Facilities management	Takeover management of facilities upon completion and manage as per ESD policy guidelines
Environmental Team	Review and report on performance
ESD Officer	Make recommendations as per reviews Updates to ESD policy

Evaluation, Monitoring & Review

This section sets the approach and timeline to assessing the effectiveness of the ESD policy and should link directly and be based on targets and KPI's. It was included in some form within most policies that were reviewed however linked poorly back to targets and were not clearly defined.

For an effective policy, it is important to have measurable targets and timely reviews to inform progress. Consider developing a comprehensive 'Evaluation Framework' that can be used for each building project. It should detail what is involved in the evaluation, what the policy is trying to achieve (the outputs), how success will be measured, what are the stages (KPI's), what data needs to be collected, by who and when.

The Evaluation Framework should align with council Project Management Frameworks so that critical steps in the evaluation data collection process are completed as required.

It is suggested that a review of the policy every 24 months from implementation and regular monitoring. Of the ESD policies analysed, the strongest sections included;

- Reference to the KPIs section;
- A timeline for monitoring and review and how; and
- A statement of who is responsible for monitoring and review.

For example:

The implementation of this policy and ongoing performance will be monitored by the responsible department's and be measured against KPI's.

When the review will occur:

This project will be reviewed by 1 January 2021

How the review will occur:

- Review of completed projects, collating data from Project Management Software assessing outcomes against the ESD Policy requirements, KPI's and how it contributes to targets – Building department
- Analysis of electricity bills, water bills, waste audits etc. – ESD Officer
- Survey or workshops with staff to discuss outcomes and barriers – Environment Officer
- Development of case studies for distribution and learning – Communications team and Environmental Education Officer

ESD Policy Template suggestions:

Detail how the ESD Policy will be evaluated, monitored and reviewed, including the following:

- *Development of an Evaluation Framework linked to Project Management processes;*
- *Reference to the KPIs section;*
- *A timeline for monitoring and review and how and;*
- *A statement of who is responsible for monitoring and review*

Updates

Updates to the ESD policy should be made clear with new versions being published following a review as per the timeframe set out in the Monitoring and Review section (12-24 months). Updating the policy is important to demonstrate a commitment to ongoing actioning of the policy. Updates can be included based on review of the policy performance, technological changes, legislative changes, changes within Council, etc.

The role of updating the policy should be defined within the Roles and Responsibilities section. A statement with an "Updates" section should clarify what the updates process is.

For Example:

'Any significant updates to this policy will be published in a new version. Where there is a need for minor administrative or legislation/standards changes that do not impact the function of the policy, updates to this document may be made. It is the responsibility of the Environmental Team to update this policy as per the Roles & Responsibilities section.'

An alternate format could be that, the Policy could be developed with short high level information with supporting Guidelines providing the details. The benefit here is that the review of a Policy would typically be 2-4 years, while the guidelines can be 'live' documents, so reviewed annually.

ESD Policy Template suggestions:

Detail the process to be undertaken to update the policy, how often this will occur and by whom.

References

ESD Policy Template suggestions:

Include a reference list at the end of the policy for any reports, academic journals, etc. that the policy refers to.

Abbreviations and Definitions, Glossary (an explanation of the definitions or terms)

ESD Policy Template suggestions:

Include these lists where appropriate to clarify any technical or specific local terms to aid the accessibility of the policy document. Examples of inclusions are:

- *ESD: Environmentally Sustainable Design*
- *Green Star: Green Star building environmental rating system administered by the Green Building Council of Australia*
- *HVAC: Heating, Ventilation and Cooling*

Case studies and State-wide ESD examples

Case studies can be useful in demonstrating the value of ESD and building a narrative around positive projects, however they are not suited to a policy statement. Cases studies published on council's website, in reports or in strategies documents can be helpful tools in demonstrating councils commitment to and delivery of environmental sustainability. These can be attached as part of the Appendix.

ESD Policy Template suggestions:

Attach examples of case studies that have meet the objectives of the policy. These can be included as part of the Appendix.

Appendix

Appendix 1 – Best Practice local government ESD buildings policy

This section details a range of 'best practice' example government policies related to ESD in buildings more broadly or specifically for government buildings. It is by no means an exhaustive list, however it does confirm and support the recommendations made in this document. There are direct links to each piece of work, however if the links fail, SECCCA has copies of each in the Resources Folder related to the ESD Matrix.

1. [Building Energy Codes: Policy Overview and Best Practice](#)

This research was more broadly related to general building energy codes, however the findings can equally apply to local government buildings, as in many cases it can be a microcosm of the broader issues faced in private buildings. Recommended based on a number of case studies:

- Recommended based on a number of case studies:
- *Use model building codes to inform interlinked national and subnational building code efforts*
- *Engage stakeholders throughout the process to secure support for adoption and implementation*
- *Conduct robust analysis to assess costs and benefits, inform code design, and provide a foundation for policy evaluation*
- *Develop a comprehensive and long-term building code strategy, increasing in stringency over time*
- *Build strong compliance infrastructure to ensure effective building code enforcement*
- *Educate building sector stakeholders and code officials on the importance of building energy codes to increase support for compliance and recognize strong performance*
- *Rigorously evaluate energy codes to understand strengths and weaknesses and support improved policy design and implementation over time*
- *Provide ongoing capacity building, training and resources to sector stakeholders to build support for code compliance and ensure effective design and implementation*
- *Capture benefits of interlinked policies through designing a strong policy framework*

Of particular note was reference to barriers that were similar to SECCCA's findings and also the challenges of compliance and enforcement of ESD in buildings.
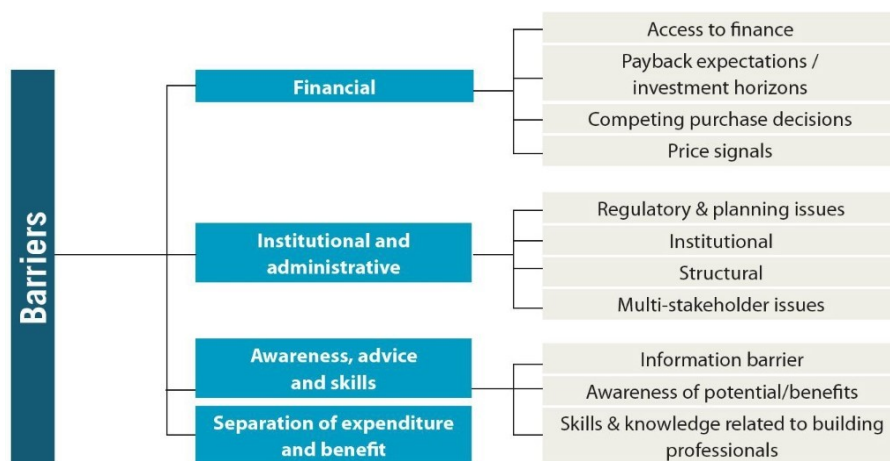

Figure 1. Barriers to energy efficiency in the building sector
Source: BPIE (Buildings Performance Institute Europe) 2011

Before issuing construction permit:
- review plans;
- review test reports of construction materials;
- review calculation assumptions;
- review thermal calculation results.

At the construction stage:
- at least one to two random on-site checks;
- review list of materials substituted in the field;
- review test reports indicating the approval of the changes;
- ensure insulation is well installed.

When the building is occupied:
- meter energy consumption at least during the first two years of occupancy;
- adjust heating, cooling, ventilation and lighting systems;
- implement energy managment system;
- work with end-users on their behaviour.

Before issuing occupancy permit:
- conduct blower-door test;
- fix the leaks;
- check each building system;
- conduct comprehensive commissioning.

Check compliance at the design stage

Check compliance at the construction stage

Check compliance when the building is occupied

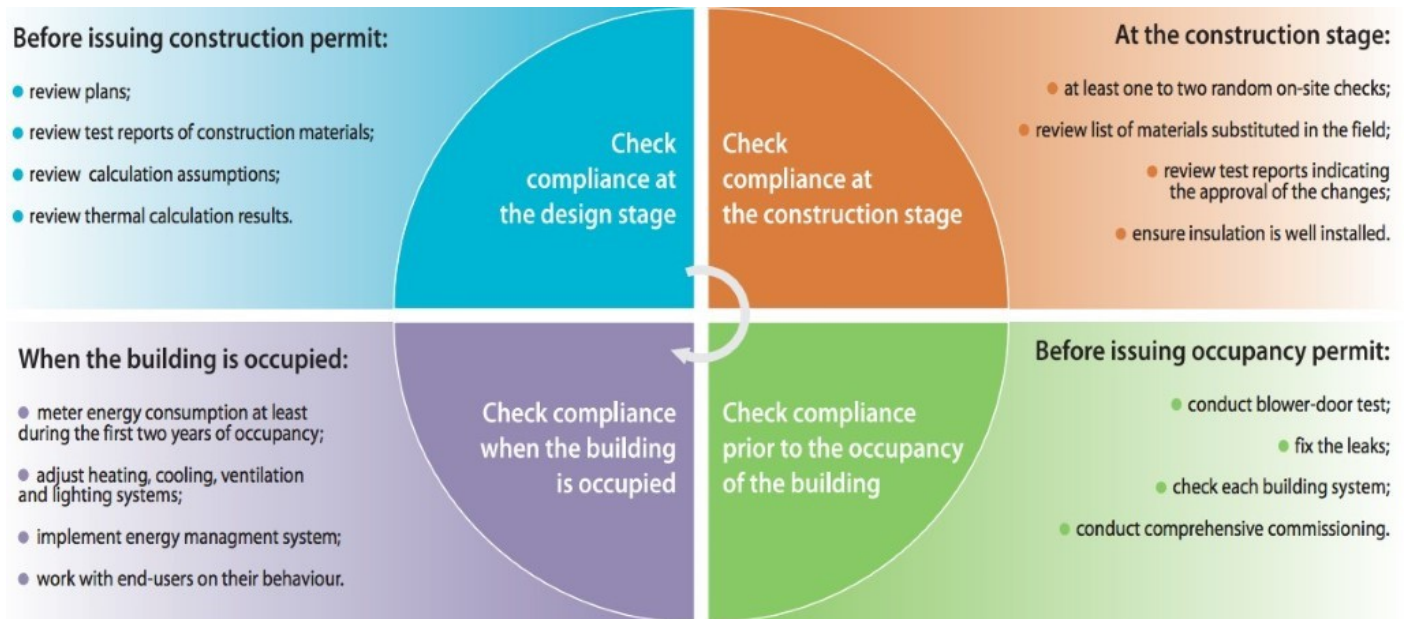Check compliance prior to the occupancy of the building

Figure 2. Building energy code compliance cycle
Source: IEA (International Energy Agency) 2014

2. Best Practice on Green Buildings Policies

Similarly, at a conference this presentation from Inteli research on best practice on green building policies more generally, undertook a similar approach to SECCCA by comparing government policies and case studies. The findings are valuable in demonstrating the importance of local governments demonstrating leadership through pilot projects that incorporate leading ESD initiatives. The following information details the findings and recommendations:

Pioneering governance structures - Creation of specific structures or task forces dedicated to implement and monitor the policy, is also an important factor for the success of the policies analysed, such as the centre manager of the campaign (Seoul natural energy foundation), or a municipal task force (San Francisco)

Inclusion of Municipal pilot projects - In some of the analysed cases there is a focus on public buildings (government-owned buildings) and the role of public authorities as leaders. For example driving the transition to lower carbon and more resource efficient buildings; such as Seoul Energy Dream Centre (Seoul) and Te Hononga, Christchurch City Council's Civic Building, rated with six Green Stars (Christchurch).

Ambitious mandatory codes and energy standards - An important pillar of the analysed policies arise from the need to improve the energy efficiency levels through the settlement of new regulatory-normative building codes and standards, such as a low-energy consumption cap standard (Seoul), and green building standards code (San Francisco).

Innovative fiscal and financing instruments - A top priority of the analysed policies, where specific fund schemes or other financing tools were created with focus on green retrofitting measures or green

market empowerment, such as the Green deal fund scheme (Birmingham), or green start-up fund (Seoul).

Dynamic and embedded networks - *The achievement of successful partnerships/alliances related with community-based engagement is a strong focus of all the case studies analysed, such as executive committee of the policy (Seoul), institutional partnerships (San Francisco and Mexico city), community forums (Christchurch).*

Powerful education and communication resources - *development of a strong build capacity and knowledge transferability between stakeholders and the civil society are important indirect efforts of these policies: strong public campaigns (Seoul, Birmingham and San Francisco), free training and workshops (Abu Dhabi), community and industry education (Christchurch), resulting in a smooth and comprehensive implementation process.*

> *KEY VARIABLES towards GREEN BUILDING POLICIES*

- *Take advantage of specific opportunities from the local or national contexts*
- *The importance of governance structures to implement and monitoring the policies*
- *Include public pilot projects – leading by the example*
- *The relevance of ambitious and mandatory codes and energy standards*
- *The crucial role of create innovative fiscal and economic incentives*
- *The establishment of mechanisms to engage stakeholders and the local community*
- *The role of comprehensive communication and dissemination instruments*

An integrated policy approach which combine regulatory instruments, fiscal and financial incentives, government-led initiatives, collaborative networks and partnerships, as well as capacity building awareness and communication campaigns is most effectively to reduce GHG emissions, improve buildings energy efficiency and boost the green market holding towards a green economy transition.

3. [Hobson Bay ESD Policy Background Report](#)

The Hobson Bay ESD Policy Background Report, together with its Policy Statement is notably an example of local 'best practice'. Both discuss in detail, many of the critical factors as referenced in much of literature on how to increase uptake of ESD in private buildings through council leadership and a detailed analysis of the policy context, targets and standards. The following details, councils approach to excellence:

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 sociocultural, economic and environmental impacts are considered. This includes developing a decision-making framework into Council's procurement policies and procedures to preference sustainability outcomes.

4. Green Building Policy Options for the Public Sector

This research in the Journal of Green Building specifically looks at best practice option for green building policy in the public sector in the United States. It discusses the importance as follows:

Critical to the success of all programs is a source of funding and support to build, promote, and continue the efforts undertaken by those programs. The paper discusses the pros and cons, with the potential program options including the following:

- *Technical support*
- *Training*
- *Guidance documents*
- *Demonstration projects*
- *Incentives/subsidies*
- *Modified institutional practices*

Evaluation addresses program compliance and/or policy effectiveness, either at an individual building level or overall:

- *Third-party Certification*
- *Regular reporting requirement*
- *Performance monitoring and reporting.*
- *Post-occupancy evaluation*

5. Green Buildings: Economics and Policies

Also, from the United States this article looks at the economics of the green buildings:

This article presents an overview of green building economics and policies through a survey of theoretical and empirical evidence concerning green building practices. We define green building policy as policies that affect the entire life of the building, from design and construction to operation and deconstruction. We examine the economics of green buildings in the United States, with particular emphasis on market failures in the building sector such as information problems and externalities. We also discuss how policy instruments are used to address these market failures. We present original data on the types and potential impacts of these policy instruments in the United States, along with a brief review of international green building programs. We conclude by describing challenges for the empirical study of green buildings and priorities for future research and policy in this area.

Appendix 2 – Economic Benefits to council example

This section demonstrates a range of benefits that council can use to help justify the investment made into an ESD policy. However, it is recommended that much more detail is provided, particularly quantifying financial benefits, returns on investments etc. and reference case study examples.

Economic:

- Lower operating costs
- Increased energy independence and lower reliance on grid energy

Social:

- Demonstrated commitment to investing in climate action and positive change
- Healthier environment for occupants and users through incorporation of ESD principles
- Increased resilience

Environmental:

- Reduced emissions

Improved resource efficiency

Appendix 3 – Legislative context example

The inclusion of relevant related legislation is helpful in clarifying whether the ESD is impact by other legislation, regulation, policy, etc. And if it is the case, it would also be helpful to clarify that there is no impact on the ESD policy from other legislation. Examples of other legislation and documents to reference includes;

- State Legislation
  - o Local Government Act 1989
  - o Climate Change Act 2010
  - o Planning and Environment Act 1987
- Federal Legislation
  - o National Construction Code
- Council strategies
- State, national or international strategies

Appendix 4 – City of Port Phillip Rating Tools CoP Rating Tools

Green Star (http://www.gbca.org.au/green-star/) Green Star is a comprehensive, national, environmental rating scheme that evaluates the environmental design and achievements of buildings. It covers a number of categories that assess the environmental impact that is a direct consequence of a project's site selection, design, construction and maintenance.

Music (http://www.toolkit.net.au/music) Model for Urban Stormwater Improvement Conceptualisation. A tool that simulates urban stormwater systems. Water quality and peak flows can be assessed against design constraints or requirements.

National Australian Built Environment Rating Scheme (NABERS) (http://www.nabers.com.au/) The NABERS tool rates the operational impacts of a building on the environment. It can be used during the design phase to predict base building ratings and establish benchmarks and likely outcomes. It is able

to distinguish between the tenancy and base building and therefore, can identify and detail areas for improvement. Official ratings cannot be achieved until the building has been operational for 12 months. NABERS applies to offices, hotels, retail and residential buildings,

Nationwide House Energy Rating Scheme (NatHERS) (http://www.nathers.gov.au/) NatHERS provides a framework that allows various computer software tools to rate the potential energy efficiency of Australian homes. It defines the minimum set of information that must be used by all software tools. The different software tools report on the building fabric of a house and show how a particular design will use energy for heating and cooling, assisting in the design of an energy efficient solution. Using one of the approved softwaretools, i.e. FirstRate, Accurate or BERS allows building permit applicants to proof compliance with BCA.

SDS (www.portphillip.vic.gov.au/sds.htm) Sustainable Design Scorecard. The SDS is a website tool that measures the environmental impacts of a design. It is an Excel document that rates seven categories including energy efficiency, materials, transport, water, indoor environmental quality, waste, and ESD excellence. The SDS can be used to rate a proposed or existing commercial building, retail building, industrial building, or retail or commercial component of a mixed-use building.

STEPS (www.sustainablesteps.com.au) Sustainable Tools for Environmental Performance Strategy. STEPS is a website tool that measures the environmental impacts in the design of a home. It rates five categories including mains (drinking water) use, building material impacts, greenhouse emissions, peak energy use and stormwater quality leaving the property. It also calculates the number of bicycle places required and space needed for waste recycling services relative to the size of the development. STEPS can be applied to the design of a new or existing house, town house, multi-unit development, or residential component of a mixed-use building.

STORM (http://storm.melbournewater.com.au/) Melbourne Water has developed the Stormwater Treatment Objective – Relative Measure (STORM) Calculator as a method of simplifying the analysis of stormwater treatment methods. The STORM Calculator is designed for the general public to easily assess Water Sensitive Urban Design (WSUD) measures on their property. The tool has been developed specifically for small residential, commercial and industrial developments to rate how well different properties treat stormwater and to compare them against a common measurement system.

Appendix 5 Policy Standards, Targets and Budgets Examples

Cardinia Shire Council Budget Table

Facility Type	Basic Built Form up to 500 m2 (eg. toilets, small basic Pavilion)	Intermediate Built Form up to 1500 m2 (eg. Large Pavilions, Childrens Services, Maternal Child Health, Youth Centres)	Complex Built Form above 1500 m2 (eg. Arts Centre, Swimming Pool, Community Centre, Library)
Additional ESD design cost	N/A	2%	3%
Additional ESD construction cost	3%	4%-7%	8% - 10%
Total Additional Cost	3%	6% -9%	11% - 13%

Cardinia Shire Council Facility Type and Standards Table

Facility Type	Standards
Buildings that exceeds 1500m2 of with 40 hours or more of use per week.	Council will achieve a minimum 4 star design and as built certified ratings
Buildings that is over 1000m2 and of high use and profile and will benefit significantly from Green Star features (eg. libraries).	A minimum 4 star design and as built certified rating will also be achieved
For any building that exceeds 3000m2 with over 40 hours or more of use per week	A minimum 5 star design and as built rating will be achieved. This is consistent with the 5 star rating that was achieved for the Council's civic centre in Officer that was constructed in 2014.
Notes	Buildings eligible for Green Star must have ESD consultants appointed to assist with ESD aspects during building design and construction phases. These targets will continue to be reviewed in relation to developments with the Green Star rating tool.

4 star Green Star ratings include deemed to satisfy provisions that make them more attractive and less costly for smaller community facilities. A 4 star Green Star rated building has a much greater level of ESD than the minimum standards required under the building code. |

City of Kingston Facility Type and Standards Table (see policy for more detail)

Facility Type	Standards
Major New > $2 million	• Minimum Green Star 'As Built' 4 star or equivalent • BESS 'excellent' rating • Compliance CoK Integrated Stormwater Management • Energy Monitoring System to council standards • All materials / products to standard (see policy table)
Major New < $2 million	• Minimum Green Star 'As Built' 5 star or equivalent • BESS 'excellent' rating • Compliance CoK Integrated Stormwater Management • All materials / products to standard (see policy table)
Major refurbishment	• Minimum NABERS Rating (if applicable) 4.0 Stars for Energy Water • BESS 'best practice' rating • Compliance CoK Integrated Stormwater Management • All materials / products to standard (see policy table)
Minor refurbishment	• New appliances within one Energy Star of best available • New water fittings and fixtures within one WELS star of best available • Heating and cooling system where designed by a mechanical specialist to include full compliance with minimum energy performance standards (MEPS) and BCA requirements (see policy table) • All materials / products to standard (see policy table)

Bass Coast Shire Building Type, Standard and Target

Project Type	ESD Standard	ESD Target
New Building Construction	Green Star Design & As Built (latest version)	4 star Green Star
Building Redevelopment	Green Star Design & As Built (latest version)	4 star Green Star
Building Revitalisation	Green Star Design & As Built (latest version)	4 star Green Star
Building Upgrade	Green Star Design & As Built (latest version)	4 star Green Star
Building Renewal	Green Star Design & As Built (latest version)	4 star Green Star
Tenant Fitout in Leased Council Buildings	Green Star Interiors (latest version)	4 star Green Star

Maintenance		Products/equipment to be sourced using the sustainable products checklist (RM8 Link ED17/88495)
Demolition		60% of demolition waste (by weight) is either reclaimed for reuse or recycled by a waste contactor.

City of Casey Facility Type, Size and Standards

Facility Type	Size	Standard
New buildings	Greater than 800m²	Equivalent to a 5 Star Green Star *Design and As Built rating*
Extension and upgrade works	Greater than 50% of the build area	Equivalent to a 5 Star Green Star *Design and As Built* or *Interiors* rating.
All new buildings, renewals, upgrades and refurbishment works	All	Meet the *Best Practice* Sustainable Aspiration Level of the South East Council's Climate Change Alliance (*SECCCA) ESD Matrix Tool*

City of Casey Facility Energy Performance Details

All new buildings must meet and maintain:

1. Offices
   o The energy intensity of all new office facilities is equivalent to at least 4.5 Star *NABERS in operation* for whole of building energy consumption.
   o The potable water intensity of all new facilities is equivalent to at least 5 Star *NABERS* in operation for whole of building water consumption.

2. Aquatic Leisure Centres
   o The energy intensity of all new aquatic leisure centres is <10GJ/m2 of pool surface area per annum in operation for whole of building energy consumption.
   o The potable water intensity of all new aquatic leisure centres is <12kL/m2 of pool surface area per annum in operation for whole of building water consumption.

3. All other buildings
   o The energy intensity of all new other facilities is equivalent to at least 5 Star *NatHERS* in operation for whole of building energy consumption.
   o The potable water intensity of all new facilities is equivalent to at least 5 Star *NABERS* in operation for whole of building water consumption.

City of Greater Dandenong Building Type, Budget, Standard and Target

Category	Budget	Minimum ESD Standards
Major Projects	**≥$5M**	Minimum 5 Stars – Green Star: Design and As Built (or equivalent) Minimum 5 Stars – Green Star: Performance (or equivalent) + Aim for Net Zero Emissions For all Major Projects a Business Case that supports the project budget must be presented to Council. It must include a cost benefit analysis which compares the costs and benefits of the project being delivered and the ESD Standards.
Moderate Projects – 1	**<$5M** **≥$1M**	Minimum 4 Stars – Green Star: Design and As Built or equivalent Minimum 4 Stars – Green Star: Performance or equivalent + Aim for Net Zero Emissions For all Moderate Projects a Business Case that supports the project budget must be presented to the Executive Management Team. It must include a cost benefit analysis which compares the costs and benefits of the project being delivered and the ESD Standards.
Moderate Projects – 2	**<$1M** **≥$250K**	Minimum score of 70% (Excellent) – Built Environment Sustainability Scorecard (BESS) or equivalent + Minimum best practice standards in the Sustainable Buildings
		Categories as identified in the SDAPP Factsheets. + Best practice standards under Disposals where applicable
Moderate Projects – 3	**<$250K** **≥$50K**	Minimum score of 50% (Best Practice) – Built Environment Sustainability Scorecard (BESS) or equivalent + Minimum best practice standards in the Sustainable Buildings Categories as identified in the SDAPP Factsheets. + Best practice standards under Disposals where applicable
Minor Projects	**<$50K**	Minimum best practice standards in the relevant Sustainable Building Categories as identified in the SDAPP Factsheets. + Best practice standards under Disposals where applicable

Disposal	Demolition – demonstrate that a minimum of 90% of the waste generated during construction and demolition has been diverted from landfill. Landscape – achieve a minimum 1 point using Green Star Ecological Value Calculator for the site.
ALL	▪ Ongoing maintenance and performance costs will be considered in the design and delivery of all building projects. Conduct life-cycle cost and payback calculation on specific building features with 2 or more product options. ▪ Meeting standards to be part of the City Improvement Program – Project Reporting Process. ▪ In CIPs that do not have the budget to pursue a Green Star certification or where a certification is not possible (e.g. 3-stars), engage a member of Design and Sustainability or a Green Star Accredited Professional to provide guidance on how to meet the relevant standards at all stages of the project. ▪ For all projects ≥ $1MIL that affect buildings services an Independent Commissioning Agent must be engaged.
Existing Buildings	Report on the current Energy and Water Use in each building and facility.

ESD Policy Template suggestions:

Appendix relevant information where suitable, depending on Council's preference. Examples of appendices include, ESD Benefits, legislative context, rating tools etc