

Sustainable Investment Guidelines

The Secretary
Department of Treasury and Finance
1 Treasury Place
Melbourne Victoria 3002
Australia
Telephone: +61 3 9651 5111
Facsimile: +61 3 9651 2062
dtf.vic.gov.au

Authorised by the Victorian Government
1 Treasury Place, Melbourne, 3002

© State of Victoria 2021



You are free to re-use this work under a [Creative Commons Attribution 4.0 licence](https://creativecommons.org/licenses/by/4.0/), provided you credit the State of Victoria (Department of Treasury and Finance) as author, indicate if changes were made and comply with the other licence terms. The licence does not apply to any branding, including Government logos.

Copyright queries may be directed to IPpolicy@dtf.vic.gov.au

Published July 2021.

If you would like to receive this publication in an accessible format, please email information@dtf.vic.gov.au.

This document is also available in Word and PDF format at dtf.vic.gov.au.

Contents

Executive summary	1
1. Introduction	2
1.1 Sustainable Investment Guidelines purpose	2
1.2 Who should use these guidelines?	3
1.3 How the SIG fits in with legislation and government policies	4
1.4 Further information	6
2. Key concepts	6
2.1 What is sustainable investment?	6
2.2 United Nations Sustainable Development Goals and Victorian Sustainable Investment themes	8
2.3 Sustainability rating tools and certifications	10
2.4 Green Bonds	12
2.5 Sustainable investment maturity self-assessment	14
2.6 Sustainable investment target maturity levels	15
3. Implementing sustainable investment	18
3.1 Business case	20
3.2 Procurement	36
3.3 Delivery	42
References	48
Glossary	50
Appendices	55
Appendix 1 – Legislation and policies supporting Sustainable Investment themes	55
Appendix 2 – Sustainability rating tools	61

List of case studies

Case study 1 – Victorian Health and Human Services Building Authority, Guidance for Sustainability in Capital Works	7
Case study 2 – Energy efficiency in the built environment	24
Case study 3 – Minimum sustainability targets, Development Victoria	30
Case study 4 – Greener Government Buildings	36
Case study 5 – CO2 Performance Ladder, Netherlands	41

List of figures

Figure 1 – Sustainable investment outcomes	6
Figure 2 – The United Nations sustainable development goals	8
Figure 3 – Rating tool decision approach	11
Figure 4 – Sustainable investment outcome influence over the project lifecycle	25

List of tables

Table 1 – SIG responsibilities	3
Table 2 – Sustainable Investment Guidelines in context	5
Table 3 – Victorian Sustainable Investment themes	9
Table 4 – Mapping of rating tools to Victorian Sustainable Investment themes	12
Table 5 – Sustainable investment target maturity levels	15
Table 6 – Sustainability in Investment Lifecycle stages	16
Table 7 – Sustainable investment target maturity levels	17
Table 8 – Maturity in development of the project business case	20
Table 9 – Considering sustainability in the problem definition	22
Table 10 – Benefit considerations	22
Table 11 – Aligning benefits with priorities	23
Table 12 – Sustainable Investment themes and the project solution	26
Table 13 – Example project option	27
Table 14 – Sustainability considerations for the public interest test	33
Table 15 – Maturity during refinement and implementation of procurement strategy	37
Table 16 – Example use of SMART sustainability targets	38
Table 17 – Maturity during project delivery	42
Table 18 – Sustainable design and engineering examples	45
Table 19 – Sustainable construction examples	47

Executive summary

These Sustainable Investment Guidelines (SIG) have been developed by the Office of Projects Victoria to assist project teams to incorporate sustainable investment considerations and requirements as they plan, propose, and deliver projects funded through the Department of Treasury and Finance's (DTF) Investment Lifecycle.

Sustainable investment is a long-term investment approach which is based on optimising environmental, social, and economic outcomes over the asset lifecycle. Considering sustainability from a whole of life perspective results in maximising sustainable investment benefits delivered across the life of the asset, including the construction, operation, and demolition and/or reuse. Incorporating sustainability into investment considerations ensures government expenditure contributes towards positive environmental, social (including health), and economic outcomes as well as cost savings and resource efficiencies today and into the future. By embedding sustainability into investment considerations, we can deliver greater benefits for the Victorian community and help for instance meet Victoria's five-yearly interim greenhouse gas emissions reduction targets and the long-term emissions reduction target of net zero greenhouse gas emissions by 2050 (*Climate Change Act 2017*).

These guidelines provide implementation guidance for good practice sustainable investment, including embedding sustainability into investment decisions by giving consideration to how sustainable investment benefits and trade-offs can be appropriately identified and articulated in line with government policy, in order to deliver infrastructure that maximises whole of life benefits for the Victorian community.

Eight Sustainable Investment themes (SITs) have been established that are applicable to the DTF Investment Lifecycle based on the United Nations Sustainable Development Goals, to reflect government priorities and the constraints of infrastructure delivery. Specific guidance and considerations are provided for each stage of the DTF Investment Lifecycle.

A sustainable investment maturity model is provided to support a fit-for-purpose approach, which defines minimum expectations for Victorian Government investment projects. The maturity model has been developed to assist decision makers and project teams to identify and implement appropriate levels of sustainable investment sophistication throughout the investment lifecycle.

These guidelines should be read alongside legislation and other existing government standards, guidelines, frameworks and strategies, and it is expected that organisations may use these guidelines in the development of their own specific sustainability guidelines and requirements that reflect the needs of their portfolios and project types.

1. Introduction

1.1 Sustainable Investment Guidelines purpose

Victoria is experiencing unprecedented growth in population. To accommodate this growth, the Victorian Government is currently investing in one of the largest infrastructure development pipelines ever seen. This pipeline of works presents a significant strain on the finite supply of natural resources and labour needed to construct major projects; as well as creating a legacy of an increasing number of assets that will need to be maintained and operated to meet this growing demand for services. Population growth and infrastructure development presents sustainability risks and opportunities including resource use, waste management, value for money, cultural heritage and liveability.

These guidelines provide implementation guidance for good practice sustainable investment. Incorporating sustainability into investment considerations ensures government expenditure contributes towards positive environmental, social (including health), and economic outcomes as well as cost savings and resource efficiencies today and into the future. By embedding sustainability into investment considerations, we can deliver greater benefits for the Victorian community and for instance help meet Victoria's five-yearly interim greenhouse gas emissions reduction targets and the long-term emissions reduction target of net zero greenhouse gas emissions by 2050 (*Climate Change Act 2017*).

The Victorian Government has well established policies and processes to support compliance with its obligations under the *Financial Management Act 1994*. These include the Investment Management Standard, Investment Lifecycle and High Value High Risk Guidelines, Asset Management Accountability Framework and Social Procurement Framework. A glossary providing definitions of terms is available at page 50. This Sustainable Investment Guideline (SIG) provides guidance on how to embed sustainability into infrastructure projects across all stages of the DTF Investment Lifecycle.

The purpose of these Guidelines is to:

1. Increase understanding of the values and benefits of sustainable practice throughout the DTF Investment Lifecycle
2. Support practitioners in understanding their obligations under current sustainability policy
3. Support improved sustainable investment practices through all stages of the investment lifecycle
4. Provide methods and examples to integrate sustainability throughout the investment lifecycle
5. Assist the embedment of sustainable practice in government projects involving the built environment, as part of asset development.

The guidelines are presented in two key sections:

1. Key concepts – provides sustainable investment considerations, including sustainable investment target maturity levels.
2. Implementing sustainable investment – details how sustainability can be implemented across the DTF Investment Lifecycle, with self-assessments to assist project sponsors and managers to establish appropriate project teams, solutions and options based on the target sustainable investment maturity level of the project.

1.2 Who should use these guidelines?

The success of achieving good practice sustainable investment outcomes depends on being able to appropriately articulate the benefits and the use of experienced resources to identify and detail sustainable investment opportunities, costs and potential trade-offs. It also requires a culture of strong leadership, outcomes focus, value for money, cost awareness, appropriate governance and accountability.

Table 1 details the different sustainable investment responsibilities of project stakeholders across all stages of the DTF Investment Lifecycle.

Table 1 – SIG responsibilities

User	Responsibility	Actions
Central Agency (DPC/DTF)	Ongoing oversight and advice to the Premier, Treasurer and other Ministers on budget bids or investment decisions	Understand and assess sustainable investment considerations
Accountable Officer, Asset Owner and Senior Responsible Officer (SRO)	Ongoing accountability for the ownership and operation of the asset Responsibility for monitoring and managing sustainability through project development and delivery Establishing the data and information which the scope is based on	Understand the requirements and evaluate the maturity of sustainable investment practices against the project's sustainable investment target maturity level Ensure that adequate budget and capability is embedded within the project to enable to development and delivery of appropriate sustainable solutions Provide information to improve the quality of the scope, bases of design, estimate and schedule

User	Responsibility	Actions
Project team	Managing a project through its development and delivery Managing project governance activities Delivering within the approved budget, time and scope constraints Developing and implementing processes for sustainable investment management at the project's sustainable investment target maturity level	Identify better practice for sustainable investment Manage stakeholder expectations regarding project delivery and options considerations Rating tool selection and use
Business case writer or advisor	Developing a business case for investments	Ensure that business cases are based on sound assessments of sustainable investment, and have developed appropriate trade-offs between the costs and benefits (including scope and quality) over the intended life of the asset

1.3 How the SIG fits in with legislation and government policies

The SIG forms part of the DTF Investment Lifecycle and High Value High Risk Guidelines (Investment Lifecycle Guidelines), which helps to ensure Victorian Government investments provide maximum benefit to Victoria in accordance with the *Financial Management Act 1994*. The SIG is part of the Victorian Government's broader investment and sustainability policy context, including the laws, policies and guidelines listed in Table 2. SIG provides practical advice to assist project teams to incorporate sustainable investment considerations and requirements as they plan, propose, and deliver projects funded through the DTF's Investment Lifecycle.

Table 2 – Sustainable Investment Guidelines in context

Legislation	Policies	Strategies, frameworks and guidelines
<ul style="list-style-type: none"> \ <i>Aboriginal Heritage Act 2006</i> \ <i>Aboriginal Heritage Regulations 2018</i> \ <i>Catchment and Land Protection Act 1994</i> \ <i>Charter for Human Rights and Responsibilities Act 2007</i> \ <i>Circular Economy (Waste Reduction and Recycling) Bill 2021</i> \ <i>Climate Change Act 2017</i> \ <i>Environment Effects Act 1978</i> \ <i>Environment Protection Act 1970</i> \ <i>Environment Protection Act 2017</i> \ <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> \ <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> \ <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> \ <i>Flora and Fauna Guarantee Act 1988</i> \ <i>Heritage Act 2017</i> \ <i>Heritage Rivers Act 1992</i> \ <i>Major Transport Project Facilitation Act 2009</i> \ <i>National Water Reform Act 1994</i> \ <i>Planning and Environment Act 1987</i> \ <i>Project Development and Construction Management Act 1994</i> \ <i>Public Administration Act 2004</i> \ <i>Renewable Energy (Jobs & Investment) Act 2017</i> \ <i>The Renewable Energy (Jobs and Investment) Amendment Bill 2019 (Vic)</i> \ <i>Transport Integration Act 2010</i> \ <i>Water Act 2007 (Cth)</i> \ <i>Water Act 1989</i> \ <i>Wildlife Act 1975</i> 	<ul style="list-style-type: none"> \ Local Jobs First – Major Project Skills Guarantee \ Local Jobs First – Victorian Industry Participation Policy \ National Waste Policy 2018 \ Recycled First Policy \ Recycling Victoria Circular Economy Policy \ State Environmental Protection Policy (Waters) \ Victoria's Climate Change Pledge 	<ul style="list-style-type: none"> \ Asset Management Accountability Framework \ <i>Biodiversity 2037</i> Implementation Framework \ Economic Evaluation for Business Cases Technical guidelines \ Energy Efficiency and Productivity Strategy \ Environmental impact in procurement – goods and services procurement guide \ Guidance for Public Construction Procurement in Victoria \ Infrastructure Victoria 30-year plan \ Integrated Water Management Framework for Victoria \ Investment Lifecycle and High Value High Risk Guidelines \ Moving from Evaluation to Valuation paper \ Office Accommodation Guidelines 2007 \ Project Development and Due Diligence Guidelines \ Public interest test (Partnerships Victoria) \ Recycling Industry Strategic Plan \ Resource management framework \ Risk, Time, Cost and Contingency Guidelines \ Social Procurement Framework \ State of discovery: Mineral resources strategy 2018–2023 \ Sustainable Development Goals (DELWP and United Nations) \ Sustainable Investment Guidelines \ Sustainable Procurement in Government framework \ Value Creation and Capture (VCC) Framework \ Victoria's Climate Change Adaptation Plan 2017–2020 \ Victoria's Climate Change Framework \ Victoria's Renewable Energy Action Plan \ Victorian Digital Asset Strategy \ Victorian Government Risk Management Framework \ Victorian Public Health and Wellbeing Plan 2019–2023 \ Water for Victoria

Appendix 1 – Legislation and policies supporting Sustainable Investment themes includes an overview of selected legislation and policies supporting Victoria’s Sustainable Investment themes.

1.4 Further information

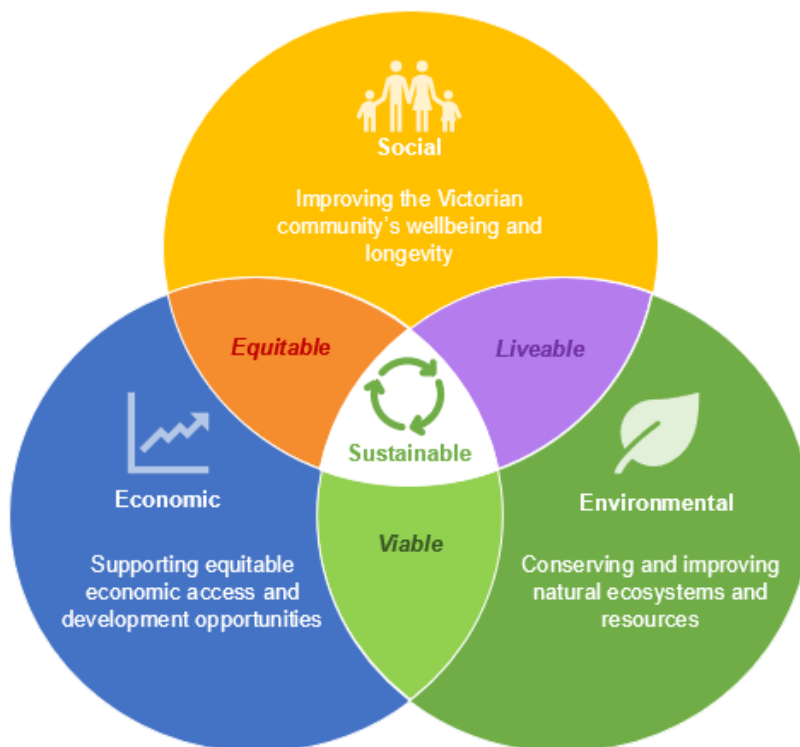
For further information on sustainability in the investment lifecycle, please contact Office of Projects Victoria (OPV) at enquiries@opv.vic.gov.au.

2. Key concepts

2.1 What is sustainable investment?

Sustainable investment considers the optimisation of environmental, social and economic outcomes (as depicted in Figure 1) throughout an asset’s lifecycle. It focuses on the quality of an asset’s design and service provision now and into the future to ensure that the use of resources is optimised, waste is minimised or avoided, and that each dollar invested optimises the achievement of these outcomes over an asset’s life.

Figure 1 – Sustainable investment outcomes



By ensuring that an investment maximises the potential sustainable outcomes, decision makers need to consider the optimisation of the following outcomes now and into the future:

- \\ **Economic** – supporting equitable economic access and development opportunities, minimising use of inputs and creation of waste with consideration for whole of life costs as well as increased economic activity
- \\ **Social** – improving the Victorian community’s wellbeing and longevity, through equitable access to social services and adequate infrastructure (e.g. public space, schools, hospitals), voice and influence (e.g. power to effect change) and social and cultural life (e.g. sense of identity and belonging)
- \\ **Environmental** – conserving and improving natural ecosystems and resources e.g. greening of public areas, flood, fire or storm mitigation, water sensitive urban design, increased resource efficiency and waste minimisation, increased open space, climate change adaptation and decreased emissions.

The following guiding principles should be considered (as endorsed by the Council of Australian Governments):

- \\ decision-making processes should effectively integrate both long and short-term economic, environmental, social, and equity considerations
- \\ where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- \\ the global dimension of environmental impacts of actions and policies should be recognised and considered
- \\ the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised
- \\ the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised
- \\ cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms
- \\ decisions and actions should provide for broad community involvement on issues which affect them.

Case study 1 – Victorian Health and Human Services Building Authority, Guidance for Sustainability in Capital Works

The Victorian Health and Human Services Building Authority launched its **Guidance for Sustainability in Capital Works** in May 2020. The guidelines provide advice and information on how to build sustainable and resilient buildings. They are relevant to all stakeholders involved in the design, construction and refurbishment of healthcare facilities and are applicable to all healthcare capital works delivered by the Victorian Health and Human Services Building Authority. This includes new builds, retrofits, and refurbishments.

All capital projects delivered by public hospitals and health services must meet the business as usual requirements outlined in the guidelines. Public hospitals and health services that fund and deliver projects directly are encouraged to apply a **2.5 per cent sustainability allowance** for items above the business as usual requirements.

The guidelines have been developed specifically for Victorian public healthcare capital works but may be applicable to other public and private healthcare capital works across Australia.

2.2 United Nations Sustainable Development Goals and Victorian Sustainable Investment themes

The United Nations Sustainable Development Goals (UNSDGs) were adopted by all member states of the United Nations in 2015. They were developed to provide an integrated framework, that balances the needs of environmental, social and economic priorities to achieve sustainable development.


Figure 2 – The United Nations sustainable development goals



The UNSDGs have been used to establish the eight Victorian Sustainable Investment themes (SITs) that are relevant to the DTF Investment Lifecycle. The UNSDGs provide a way to understand and prioritise sustainable investment options, and a way to aid decision making and assessments to achieve improved sustainable investment outcomes.

The table below outlines the eight SITs, which are intended to be a guide to support the development of sustainable investment options.

Table 3 – Victorian Sustainable Investment themes

Theme	Objective	Relevant UNSDG
	Cultural heritage To ensure that sites of significant heritage value are protected, promoted and respected during construction and operation. This includes Aboriginal heritage sites as well as other sites of cultural and historical heritage significance.	9 – Industry, innovation, and infrastructure 11 – Sustainable cities and communities
	Liveability To deliver or contribute to community amenity such as access to green space and parks through urban design. To protect (and, where possible improve) the health and wellbeing of the local community, residents, and users in indoor and outdoor spaces.	3 – Good health and wellbeing 4 – Quality education 5 – Gender equality 10 – Reduced inequality 11 – Sustainable cities and communities
	Transport, access, and connectivity To deliver sustainable, accessible, and connected investments, creating benefits for the community and avoiding harm.	9 – Industry, innovation, and Infrastructure 11 – Sustainable cities and communities
	Climate resilience To improve resilience to climate change and extreme weather events. In particular, to improve the ability of the State to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.	7 – Affordable and clean energy 11 – Sustainable cities and communities 13 – Climate Action
	Material use and circular economy To use materials responsibly, including efficiently, avoid waste and hazardous materials and contribute to a more circular economy.	12 – Responsible Production and Consumption
	Energy productivity and carbon emissions To reduce carbon emissions and improve energy efficiency and productivity over the life of the investment, including those associated with construction, materials, and operation.	7 – Affordable and clean energy 13 – Climate action
	Integrated water management To responsibly manage water throughout construction and operation of the asset.	6 – Clean water and sanitation 11 – Sustainable cities and communities
	Environmental protection and enhancement To actively restore and enhance the local environment and avoid air, land and water pollution, and harm to ecosystems.	13 – Climate action 14 – Life below water 15 – Life on land

2.3 Sustainability rating tools and certifications

The use of sustainability ratings tools and certifications can be beneficial and when appropriately applied may help achieve:

- \ reduced whole of life and/or operating costs
- \ reduced material intensity, waste, energy and water consumption
- \ improvements in productivity, amenity, health and wellbeing
- \ reduced exposure to environmental risks.

It is recommended that project teams consider their approach to selecting a sustainability rating tool or certification, as outlined in Section 2.3.1. Rating tools and certifications assist in evaluating, verifying and communicating a project's sustainability performance. While the focus and content of such tools can vary, they are generally administered by an independent third party in accordance with a published set of standards. As a result, such tools can:

- \ provide a clear framework for the realisation of benefits aligned with the material sustainable investment themes and objectives (refer to Section 2.2)
- \ facilitate sustainability performance comparisons across multiple different investments
- \ allow for the articulation of clear performance commitments, and the communication of progress
- \ build the trust of stakeholders through alignment with a known rating scheme
- \ help build capacity in industry and foster collaboration, innovation, and continuous improvement.

2.3.1 Sustainability rating tool or certification selection

The following guiding principles should be considered when selecting a rating tool or certification:

- \ **Look to maximise the realisation of benefits that align with the SITs and objectives.** Rating tools and certifications can provide useful frameworks for achieving this, however different tools and certifications align with different project types and sustainable investment themes.
- \ **Engage early with rating tool and certification scheme administrators.** Early engagement can be critical in laying the foundation for strong sustainability performance as measured by the rating tool or certification being sought. If no rating or certification is being sought, the associated schemes and standards may still provide useful frameworks and processes.

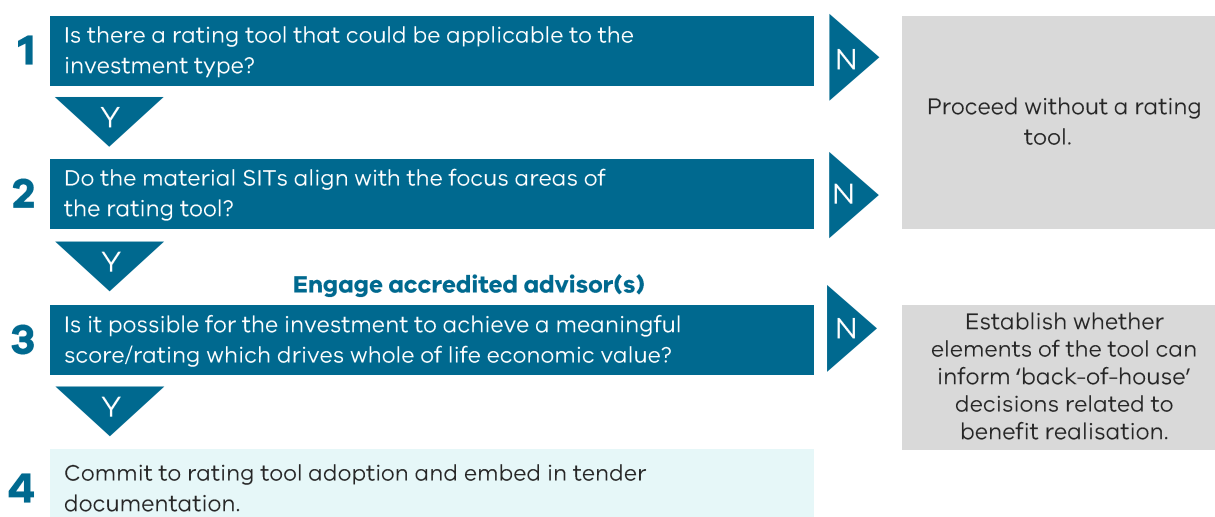
- Rating tools and certifications are not a tick-box exercise. Rating schemes exist to incentivise and provide genuine improvements in sustainability performance. Rating tools provide tested and accepted frameworks to support benefits realisation and guaranteeing assurance. The use of rating tools and certification schemes as tick-box exercises can lead to inadequate project planning, significant project risks and inadequate built outcomes.

In deciding to apply a rating system consider advice from sustainability experts including:

- the potential for the certification process to add rigour to the consideration of sustainability in the design and construction process, and support efficient operational outcomes
- the cost in administering the rating system and achieving certification
- the value of the certification to the organisation and community

Where a suitable rating tool is not available, agencies should consult rating tool and certification scheme administrators to assess whether the rating tool can be adapted. If this is not possible, the agency may elect to develop an in-house alternative. Wherever possible these should be developed in collaboration with rating tool and certification scheme administrators considering lessons from existing rating tools and maintained at a portfolio level, with assessment against the performance rating to be conducted independently of the team and contractor delivering the project. Similarly, the Victorian Government's Office Accommodation Guidelines suggest that it may not be feasible to engage an ESD consultant to pursue 'an official rating for office accommodation projects of less than 2000 square metres. In these situations, a 'best endeavours' approach, which requires best effort to maximise ESD outcomes, should be applied.'

Figure 3 – Rating tool decision approach
























2.3.2 Sustainability rating tool summary

Sustainability assessment tools were originally developed principally for building assessment. Many evaluation tools have since been developed for the construction sector to collect and report information to make decisions at different stages of development or operations.

Table 4 provides mapping of the most common industry rating tools to applicable sustainable investment themes. For further information to assist in the identification of an appropriate rating tool for a project refer to Appendix 2 – Sustainability rating tools. Alternative tools and certifications may be pursued if appropriate.

Table 4 – Mapping of rating tools to Victorian Sustainable Investment themes

Sustainable Investment themes	ISCA	Green Star	NABERS	Climate Active
Cultural heritage				
Liveability				
Transport, access, and connectivity				
Climate resilience				
Material use and circular economy				
Energy productivity and carbon emissions				
Integrated water management				
Environmental protection and enhancement				

2.4 Green Bonds

Green Bonds are bonds that are used to finance projects that offer climate change and/or environmental benefits. Green Bonds:

- ✓ Promote infrastructure investment necessary for a rapid transition to a low carbon and climate-resilient economy by driving down the cost of capital for climate projects in developed and emerging markets and growing aggregation mechanisms for fragmented sectors.
- ✓ Have higher administration costs compared with regular bonds due to certification and reporting requirements.

- \\ Require annual reporting to maintain the Certification of the bond. This includes confirming the allocation of bond proceeds to eligible projects and assets, confirming the characteristics or performance of projects and assets to demonstrate their eligibility, and disclosure of metrics or indicators which reflect the expected or actual impact of eligible projects and assets
- \\ Eligibility criteria is set by the accrediting body. The accrediting body (certifier) scrutinises the investments/assets for which Green Bonds proceeds are to be used and give an independent certification that the use is consistent with their standards as being 'green'.
- \\ Standards have been developed for eligible investments across categories such as renewable energy, water, low carbon buildings, transport, waste and pollution control, information technology and communications and nature-based assets.

2.4.1 Financing strategy

Treasury Corporation of Victoria (TCV)'s decision to issue a Green Bond (<https://www.tcv.vic.gov.au/tcv-bonds/tcv-green-bond>) provides a degree of diversification for the TCV investor base and is considered in conjunction with the State's overall funding needs and investor demand.

2.4.2 Project eligibility and selection

TCV is responsible for selecting projects/expenditure that meet the requirements of the relevant standards e.g. International Capital Markets Association (ICMA) (<https://www.icmagroup.org/green-social-and-sustainability-bonds/>) or Climate Bonds Initiative (CBI) (<https://www.climatebonds.net/climate-bonds-standard-v3>).

In formulating an investment pool, TCV take advices from its Sustainability Bond Coordinator and Assurance Advisor who is responsible for independently verifying the projects against the relevant ICMA or CBI criteria.

TCVs Assurance Advisor requires the following information for each project:

- \\ cashflow profile (e.g. past and future expenditure projections by financial year)
- \\ background information to the project/expenditure such as business cases, implementation plans or other information that supported the Government's expenditure decisions.

The asset/expenditure pool will also be noted and/or endorsed by the Treasurer in consultation with the Department of Treasury and Finance.

2.4.3 Mandatory reporting

TCV coordinates the Victorian Government's reporting on projects/expenditure included in the Green Bonds investment pool. This includes:

1. Quarterly record of expenditure for each project (for internal purposes only)

2. An Annual Report which is released publicly and includes:
 - \ annual record of expenditure to date which is subject to a financial audit, such as accounting screen shots and confirmation of accuracy
 - \ an assurance of the projects/expenditure against the relevant accrediting body criteria
 - \ case studies.
3. Environmental or social impact metrics (aligned with accrediting body guidance on impact reporting) where feasible, such as:
 - \ **Energy efficiency projects:** Annual energy savings (MWh), annual GHG emissions avoided (tonnes CO₂ eq.)
 - \ **Renewable energy projects:** Annual energy produced (MWh), Renewable energy capacity added (MW), Number of households powered
 - \ **Low carbon transport projects:** Annual GHG emissions avoided (tonnes CO₂ eq.)
 - \ **Target results:** Including percentage GHG reduction, energy production, low carbon transport patronage, applicable ratings (e.g. star ratings for rail station buildings)
 - \ **Social projects:** Target populations
 - \ **Affordable housing projects:** Number of residences constructed, residents housed
 - \ **Education projects:** Number of students accommodated by new or upgraded facilities, number of students provided with additional support
 - \ **Healthcare projects:** Number of people with access to or served by new or upgraded health facilities, increase in capacity (beds)

2.5 Sustainable investment maturity self-assessment

The realisation of different sustainable investment opportunities will vary across project types. The principles presented in these guidelines are used to define the minimum recommended requirements for investment projects, with a higher level of sophistication recommended for teams delivering larger projects including those classified as high-value high-risk (HVHR). Three sustainable investment target maturity levels are defined for the aspects of sustainable investment: 'defined', 'managed', and 'optimised'.

Target sustainable investment maturity levels are aligned with the DTF Investment Lifecycle and HVHR Guidelines. These Guidelines require the use of the Project Profile Model (PPM), which is DTF's risk-based matrix, to assess whether a project should be subject to the HVHR Project Assurance Framework.

Table 5 – Sustainable investment target maturity levels

DEFINED	MANAGED	OPTIMISING
Recommended for all projects	Recommended for teams delivering larger (including HVHR) projects	Recommended for priority or flagship projects and projects seeking to demonstrate improved efficiency, innovation, or performance

All investment projects should satisfy the minimum requirements of the 'defined' category. Larger projects such as those classified as HVHR are recommended to meet the requirements of the 'managed' category in addition (or instead of) to the 'defined' requirements and priority or flagship projects are encouraged to fulfil the requirements of the 'optimised' category as well. The recommended sophistication for each level is outlined in Section 2.6 and in the sustainable investment target maturity level section under each stage of the investment lifecycle.

The guidelines provide principles aimed at improving sustainability practices within government, and challenging norms, to support projects implementing more sustainable investment approaches. The guidelines:

- \ reinforce the obligation and principle that projects are to be managed to deliver the best, where value is defined as the lowest lifetime cost for the required performance and benefits including elements relating to Sustainability Investment themes
- \ reiterate the importance of understanding the trade-offs associated with the design and specification of an asset and the ongoing operation of the asset over its lifetime
- \ identify risk and opportunities for sustainable investment
- \ appeal for strong governance and an outcomes focus, with clear roles and responsibilities for sustainability outcomes
- \ encourage the continuous consideration of sustainability throughout the project lifecycle.

2.6 Sustainable investment target maturity levels

Achieving optimal outcomes from sustainable investment involves appropriate and timely consideration of the nature of the issue, options and outcomes.




Table 6 below outlines selected sustainable investment considerations that should be embedded across the Investment Lifecycle.

Table 6 – Sustainability in Investment Lifecycle stages

Business case	Procurement	Delivery
Establishes need, defines benefits, explores interventions, estimates costs and identifies delivery options	Confirms delivery options, finalises delivery plan, engages the market and awards the contract	Implements solution and transitions investment into normal business
<ul style="list-style-type: none"> What are the sustainability aspects of the problem, issue or service need? What sustainability benefits could arise from addressing the problem/opportunity and how do these relate to sustainability priorities? Have sustainable finance mechanisms such as Green or Social Bonds been considered? Can the project be delivered as planned? What are the implications for sustainability? What is the preferred method for delivering the investment and how does this impact sustainability outcomes? Identify whole of life costs and benefits (quantitative and qualitative) associated with sustainable investment decisions across each of the eight SITs and include budget in project cost estimates 	<ul style="list-style-type: none"> What sustainability reporting does the project require? What sustainability measures should a contract be evaluated on? How should operational sustainability requirements determine reporting requirements during project delivery? Should sustainability rating tools be used in contracts? 	<ul style="list-style-type: none"> How should non-financial sustainability benefits be managed? How are sustainability requirements transferred from the contractor to the operator, including the minimum standards and data functional requirements aligned to the Victorian Digital Asset Strategy and Digital Build Policy?

Considering sustainable investment target maturity levels provides a more refined, fit-for-purpose approach for various investment project types, as shown in



Table 7.

Table 7 – Sustainable investment target maturity levels

	DEFINED	MANAGED	OPTIMISED
Sustainable Investment maturity target level	Recommended for all Victorian Government investment projects	Recommended for teams delivering larger (including HVHR) projects	Recommended for priority or flagship projects, or projects seeking to demonstrate improved efficiency or performance
Cost-benefit analysis	Consider sustainability benefits across eight SITs in determining project value for money	Model whole of life costs to justify sustainability benefits and value for money	Conduct real options analysis to justify the project solution based on range of potential outcomes
	Budget is allocated to identify, develop, design and deliver sustainable outcomes		Innovative solutions may include field trials and evolution of design standards to accommodate engineered materials and new approaches.
	Appropriate expertise is engaged early in problem, options and solutions development	Option evaluation considers emissions from construction and operation	Consider whether project objectives should include scope 3 emissions
Policy	Meets climate pledge requirements		Expenditure on sustainability outcomes is linked to quantified benefits or policy requirements
Risks	Sustainability risks are linked to objectives	Risk analysis considers sustainability trends over the expected asset life, including beyond the investment timeframe	
Sustainable procurement	Use weighted evaluation criteria to favour businesses that support sustainable procurement objectives	Contract negotiation team authorised and capable of balancing sustainability objectives against other project objectives	Contract negotiation team authorised and capable of balancing sustainability objectives against other project objectives
Contracts	Include contractual requirements on tenderers to achieve sustainable procurement objectives	Sustainability objectives in contract align with long-term sustainability outcomes during operation	Approach incentivises tenderers to exceed contractual requirements for sustainability outcomes

	DEFINED	MANAGED	OPTIMISED
Rating tools	Sustainability rating tools are selected based on agency requirements	The use of a sustainability rating tool and appropriate targets are based on the specific sustainability outcomes applicable to the project context	
Accountability	Project owners ensure project team has responsibility for sustainability outcomes	Project governance structure identifies responsibility for sustainability outcomes	Personnel that defined sustainability outcomes in the procurement stage are responsible for implementation
Monitoring and reporting	Sustainability outcomes are tracked and reported	Projected operational sustainability performance of the asset is monitored throughout project delivery (including detailed design)	Ongoing oversight of contractor includes sustainability metrics in reporting
Handover	Operational requirements relevant to sustainability are documented with new accountabilities established Handover includes digital as-built assets in required format	Rating tool certification	

3. Implementing sustainable investment

When implementing sustainable investment throughout the DTF Investment Lifecycle, the sustainable investment themes should be considered in the context of government priorities and legislation (such as the requirements of the *Climate Change Act 2017*), project objectives and good project management practice. Users of this SIG are encouraged to:

- \\ Invest adequate planning, expertise, resources and thought into the front end of investment planning (including option development and concept design during the business case development stage) to increase the likelihood of identifying and achieving desirable project outcomes and minimise risks and issues.
- \\ Contact their agency's sustainability team or lead to check for any specific guidance or requirements; and consider how to overcome the challenges in achieving improved sustainable investment outcomes, such as:

- **Perceptions (justified or not):** that higher upfront costs make some sustainable investments uncompetitive compared with more traditional investments even if overall costs are lower across the lifecycle, especially when considering the assets operations phase.
- **Risk aversion:** innovative practices, materials or systems may be seen as too risky.
- **Service change** (rather than a new asset or development) may not conform to expected ways of dealing with a problem and may require a precinct or cross-departmental approach.

- \ Carry out a materiality assessment across the proposed themes and, if required, incorporate additional relevant themes.

The materiality assessment should be undertaken in consultation with project stakeholders, which will assist to evaluate scope, costs and benefits. The following assessment process has been adapted from ISO 20400 *Sustainable Procurement* and is intended to provide an example of the issues which users of these guidelines may consider:

- (a) **Relevance:** Analyse the extent to which the sustainable investment theme is relevant to the project, determined by factors such as:
 - \ connection with core activities
 - \ linkage to legislation, regulations and agency or state policy
 - \ product/material selection, materials intensity and whole of life energy consumption
 - \ activities in supply chains or within the agency's sphere of influence.
- (b) **Significance:** Analyse which relevant sustainability issues are most impacted by the activities and decisions of the project, determined by factors such as:
 - \ severity of adverse sustainability impacts linked to their intensity, frequency of occurrence, and distribution
 - \ potential effect on stakeholders and the environment of acting or failing to act
 - \ societal expectations of responsible behaviour and level of concern of stakeholders regarding the impacts.
- (c) **Other considerations** that can help to prioritise relevant and significant sustainability issues, including:
 - \ potential trade-offs in optimising sustainable investment outcomes and achieving value for money (where sustainability benefits across SITs are included in determining project value for money)
 - \ the estimated effort needed to achieve the required result
 - \ legal and policy compliance performance, international standards, international norms of behaviour, best practices
 - \ contribution to agency policy and objectives.

3.1 Business case

The Investment Lifecycle Guidelines provide direction on best practice for investment project business case development. Before committing to the sustainability aspects for a specific investment, decision makers need to be confident that the proposed investment represents value for money, through consideration of factors such as environmental, social, and economic benefits for the community throughout all stages of the investment lifecycle. Sustainability aspects should be incorporated into both the investment and delivery case of the business case development:

1. **Investment case:** confirms the problem definition and intended benefits (most significant opportunity(ies) for sustainable investment)
2. **Delivery case:** considers whether the project solution is feasible and deliverable

3.1.1 Team capacity and capability

It is crucial to the success of any investment project to ensure that the team has adequate skills and access to the required resources to develop the business case. Resources with sustainability expertise should be embedded within the project team early to assist with framing the problem and given appropriate authority to ensure that applicable environmental, social and economic benefits and requirements are considered; including rating tools, Social Procurement outcomes, and relevant climate change commitments.

3.1.2 Sustainable investment target maturity level

Application of the maturity models should be fit-for-purpose and allow for efficient delivery with the aim of achieving the optimal outcomes within project constraints.

Table 8 – Maturity in development of the project business case

	DEFINED	MANAGED	OPTIMISED
Cost-benefit analysis	Consider sustainability benefits across eight SITs in determining project value for money	Model whole of life costs to justify sustainability benefits and value for money	Conduct real options analysis to justify the project solution based on range of potential outcomes
	Budget is allocated to identify, develop, design and deliver sustainable outcomes	Option evaluation considers emissions from construction and operation	Consider whether project objectives should include scope 3 emissions
	Appropriate expertise is engaged early in problem, options and solutions development		Innovation is scoped and costed with whole of life benefits considered, including impact on capacity and capability

	DEFINED	MANAGED	OPTIMISED
Policy	Expenditure on sustainability outcomes is linked to quantified benefits or policy requirements Meets climate pledge requirements		Project considers and minimises scope 3 emissions
Risks	Sustainability risks are linked to objectives and not rating scheme accreditation	Risk analysis considers sustainability trends over the expected asset life, including beyond the investment timeframe	Risk analysis considers sustainability trends over the expected asset life, including beyond the investment timeframe
	Sustainability objectives are identified based on the context in which the project is delivered		

3.1.3 Understanding the problem

The problem definition should consider opportunities to create positive sustainability benefits as well as considering potential adverse sustainability issues.

The sustainability benefits of a project are often 'locked-in' or 'locked-out' early in the concept design phase. Therefore, the later in the investment lifecycle that the sustainable investment themes are considered, the more challenging it can be to create substantial benefit. As such, these themes should be taken into consideration at the outset.

Taking a sustainable investment approach means broadening the assessment and understanding of the problem in line with the Sustainable Investment themes. For example, the problem may be caused by poor water management or a lack of resilience to extreme weather events caused by climate change. In such cases, these sustainability considerations would be noted as causes within the problem statement. Furthermore, the problem may influence issues such as liveability or energy productivity, in which case these sustainability considerations would be noted as effects within the problem statement.

Table 9 provides a fictional example to show the difference between a business as usual approach and an approach considering sustainability factors.

Table 9 – Considering sustainability in the problem definition

	Business as usual approach	Approach considering sustainability factors
Problem identification	‘Limited road capacity and increasing populations of townships A and B are causing congestion at peak hours on the roads.’	‘Townships A and B share many services and shops and there is no convenient public transport or safe routes for walking and cycling between the two centres. Population in the areas is increasing and there is a lack of master planning for future growth. This is causing traffic congestion at peak hours on the road between townships A and B. In addition, accidents involving cars and cyclists are common and noise and air pollution complaints are frequent amongst residents along the existing road. Residents in both townships are concerned about future congestion’
Outcome	A narrow approach to problem identification and solution development leads directly to one solution – that the road should be widened and its capacity increased	Inclusion of a wider range of sustainability considerations such as cyclist injury/health, noise and air pollution mean that it presents a wider range of possible solutions. Considering this broad range of issues at this early stage increases the likelihood of achieving positive sustainable investment outcomes for the local region

3.1.4 Benefits and the case for change

To avoid risks from a narrow problem statement, once the need for investment to solve the problem has been identified, business case authors should ask the following questions in relation to each benefit:

Table 10 – Benefit considerations

Question	Examples
Are there any interdependencies that could materially impact the nature or extent of the problem, or the underlying service need?	If your problem is about tackling road congestion, an interdependency would need to consider impacts of other modes of transport e.g. a plan for a new train line that could ease traffic by giving drivers an alternative means of commuting.
Are there any external factors that could affect the nature or extent of the problem, or the underlying service need?	External factors could include the impacts of extreme weather events caused by climate change e.g. flooding could cause road closure and exacerbate the problem.
Could the realisation of this benefit create or worsen existing problems or create new problems?	If the chosen solution to a problem like congestion is to increase road capacity, this might ease congestion in the short term but could create additional traffic, increase total vehicle kilometres travelled, result in higher congestion and worsen the existing problem over the medium to long term.

Below is a hypothetical example to illustrate how to outline the benefits and priorities underpinning the need for change (and hence the investment considered). This fictional example takes a holistic view of the benefits that can be expected from the best possible solution to the problem.

Table 11 – Aligning benefits with priorities

Problem statement	<p>From 2012-2020, population growth has increased the number of vehicles using the road from A to B by 35 per cent.</p> <p>This has caused an increase in congestion, delaying journeys by an average of 25 minutes at peak hours.</p> <p>There has also been an increase in air pollution and greenhouse gas emissions of 10 per cent</p>
Sought benefits	<p>Reduced road congestion and air pollution</p> <p>Greater economic productivity</p> <p>Reduced contribution to climate change</p> <p>Healthier communities; reduced health inequalities</p> <p>Environmental protection</p> <p>Lower costs of upgrades in future</p> <p>Infrastructure climate resilience</p>
Disbenefits	<p>Increased emissions from increased traffic</p> <p>Use of virgin construction material</p> <p>Loss of amenity for neighbouring communities</p> <p>Environmental degradation</p>
Agency priorities	<p>Agency's emission reduction pledge</p> <p>Reduce agency environmental footprint</p> <p>Minimise future agency spending</p> <p>Supports agency's climate resilience plan</p>
Government priorities	<p>Contributes to State economic development plan</p> <p>Alignment with <i>Climate Change Act 2017</i></p> <p>Contributes to Victorian Public Health and Wellbeing Plan</p> <p>Supports Biodiversity 2037</p> <p>Supports agency emission reduction pledge, reduces environmental footprint (including future energy spend) and its climate resilience plan</p>
Alignment with SITs	<p>Liveability</p> <p>Climate Resilience</p> <p>Energy productivity and carbon emissions</p> <p>Environmental protection and enhancement; transport access connectivity</p> <p>Material use and circular economy</p>

3.1.5 Developing project options and solutions

Sustainable investment considerations are not just an 'add-on' but an integral part of project options and solution development. Good project options assessments should ensure investment decisions are not made simply on the basis of the lowest possible cost (in short-term monetary terms), or sustainability only in terms of environmental impacts, but consider all aspects of sustainability costs and benefits (across all eight SITs) arising from each of the project options, including the opportunity cost of not incorporating such benefits.

Case study 2 – Energy efficiency in the built environment

A common type of sustainable investment is the construction of energy efficient buildings. This requires capital expenditure up front which can sometimes be more expensive than the construction costs of less efficient buildings. However, the operational cost savings for energy efficient buildings can be significant.

A 2013 report from the World Green Building Council found that '... for the majority of certified green buildings, the cost typically ranges from less than 0 per cent to 4 per cent [more than other buildings]'. This alone suggests that energy efficient buildings can be cheaper to build than less efficient buildings (World Green Building Council, 2013).

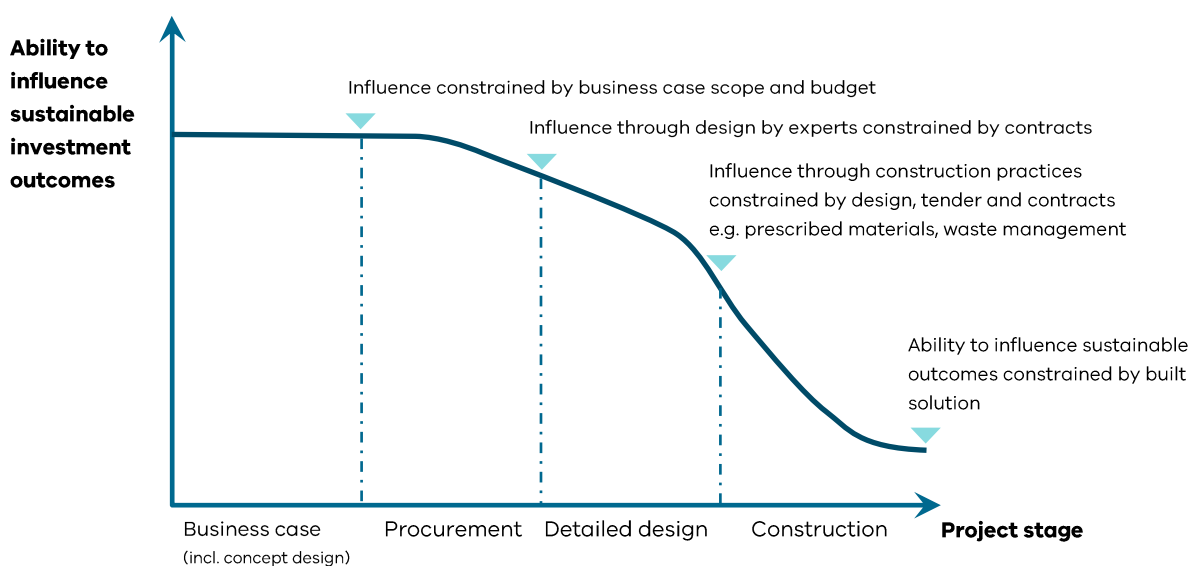
The same report goes on to state that estimates for the reduction in a green building's energy use compared with a conventional code-compliant building range from 25-50 per cent (based on studies from the United States and New Zealand). This represents significant savings over the lifetime of a building.

The Green Building Council of Australia note that energy efficiency can generate up to 76 per cent productivity gains from improved ventilation, access to daylight and operable windows, and well-designed lighting, as well as 20 per cent savings of total construction costs over a building's lifetime. As well as these results, energy efficiency also reduces greenhouse gas emissions, improves comfort, wellbeing, and public health outcomes, and improves energy security. These figures show that perceptions of additional costs for sustainable investments can be inaccurate. Even in cases where there is a small additional cost compared with conventional approaches, the operational savings can be significant.

The development of good options and investment outcomes can be influenced strongly by the early engagement of experts and appropriate allocation of budget necessary to invest in sustainable option advice and development in the business case stage. Importantly, sustainable investment option and solution development should be undertaken from a multi-disciplinary perspective in order to fully and accurately identify problem/issue and develop optimal options considering SITs. As sustainable investment options should be developed considering the SITs, it is important to note that while the engagement of a single 'sustainability' expert would result in environmental sustainability being considered appropriately, this would fall short of the Victorian Government's sustainable investment requirements, which considers sustainability across a broader perspective.

It should be noted that although the project lifecycle is shown as clear linear stages, it is important to understand that a level of procurement may occur at various points in time, for example early engagement of experts to develop appropriate options in the business case stage and engagement of design consultants for concept design and tender documentation may be required to inform construction tenders. The benefits (or lost opportunity) of early engagement of experts and the iterative design is shown in Figure 4.

Figure 4 – Sustainable investment outcome influence over the project lifecycle











The project options should clearly articulate how they address the problem and deliver all or part of the sustainability benefits identified (see the Investment Lifecycle Guidelines for detailed guidance on describing project options). Business case authors are encouraged to:

- \\ articulate how negative sustainability impacts will be avoided in the short, medium or longer term
- \\ identify any sustainability benefits likely to be realised.

The Sustainable Investment themes can help to shape the statement of design intent as show in the below table.

Table 12 – Sustainable Investment themes and the project solution

	Theme	Example of design intent
	Cultural heritage	Involves traditional owners in the design, ensuring that the asset is sensitive to aboriginal cultural heritage
	Liveability	Provides green space accessible to the local community while allowing for a distinctive and memorable architectural outcome with a mix of uses
	Transport, access and connectivity	Creates new cycleways and walking paths which connect to existing routes, avoiding busy road intersections
	Climate resilience	Delivers a climate resilient asset which can withstand extreme temperatures which in turn keep people safe during heat waves while avoiding unaffordable energy costs
	Material use and circular economy	Uses locally available recycled content in 80 per cent of the asset
	Energy productivity and carbon emissions	Delivers an asset which generates its own power to be carbon neutral during operation, while minimising the carbon emissions impact of construction
	Integrated water management	Builds in integrated water management with innovative drainage (i.e. to direct water to street trees to increase shady spaces) and on-site reuse
	Environmental protection and enhancement	Protects existing native species during construction and creates new habitats for wildlife during operation

The project solution should consider the Project Development and Due Diligence (PDDD) guidance, which includes sustainability specific elements such as air quality surveys, heritage, ecological and water assessments and audits, and noise and vibration assessments. Project teams should note that the PDDD may not directly cover all aspects of the Sustainable Investment themes or other development or due diligence applicable to the project.

Proper development of the project concept also includes providing detailed justification for design choices as well as proving that the project solution passes the public interest test and provides an opportunity for some market testing that may help to test and prove the viability of an innovative sustainability response.

In describing the project options, business case authors should note any critical assumptions and constraints. For example:

- Resource availability, particularly in relation to the use of virgin materials where recycled materials are a viable alternative.
- Known or emerging constraints or opportunities affecting the proposed project option. For example, an endangered species may be lost if the investment is delayed.

Business case authors should refer to the Sustainable Investment themes in developing project options.

Table 13 – Example project option

Problem	Unmet healthcare needs in a community
Project options	Construction of a new hospital (project options specify several specific vacant sites).
Example of a related SIT and constraint	Environmental protection and enhancement: presence of a protected native species in one of three potential sites identified for the new hospital.
Considerations	Even though this could be dealt with as part of the planning authorisation process, it should be part of the early decision making to consider the risk and cost of irretrievable damage to the endangered species population. This constraint should be highlighted in the business case.

3.1.6 Assessing project options

When assessing project options, business case authors should consider information, and follow the steps, provided in the DTF Investment Lifecycle Guidance and associated documents including Economic Evaluation for Business Cases Technical guidelines and Investing under uncertainty – Real options analysis.

Sustainable investment options should consider the following:

- lifecycle impact, taking account of the full costs and benefits of an investment over its lifecycle through to decommissioning or modification for reuse. For example, investing in making a building more energy efficient will deliver long-term financial savings and environmental benefits in the form of reduced carbon emissions that may be valued using a shadow price of carbon
- avoided costs, such as health and energy use costs associated with poor thermal comfort
- how qualitative sustainability impacts, such as amenity and wellbeing, can be considered in the overall solution development and investment decision making process
- the timing of the benefits or disbenefits
- the resilience of the asset, and its ability to meet the core service objectives under future scenarios
- the risk of investing in stranded assets
- the ability of the option to support the Government's zero carbon goal
- environmental impacts:

- environmental benefits created, including the avoidance of waste or use of recycled materials;
- underlying environmental degradation trends, such as a waterway facing growing biodiversity loss over time;
- the possibility of an ecological threshold to be crossed causing irretrievable damage;
- damage during construction;

\ social impacts:

- lack of access to green space for local community members
- protection of important cultural heritage sites.

Each option is assessed against the base case, which incorporates existing (and in some cases planned) policy settings as the current policy option, as the reference point for comparing the costs and benefits of a policy (or investment) decision.

In defining and assessing the base case, it may also be helpful to consider temporal sustainability issues such as:

- \ Will the problem more likely create environmental, or other, harm if a response is delivered quickly or delayed?
- \ Will Government sustainability targets be missed if a response is not delivered or is delayed?
- \ Will delaying climate resilience works now result in higher costs in future, or risk investing in stranded assets?
- \ What social or environmental benefits may result during the delivery stage of the project?

Scenario modelling and stress testing the climate change resilience of options is supported by the Victoria's Managed Insurance Agency's (VMIA) climate change risk management service and Victoria's Future Climate Tool. The interactive Future Climate Tool provides access to the most recent climate model simulations of Victoria's future climate and indicators of climate-related hazards (including temperature, rainfall and heatwaves) for both high and medium emissions.

Assessment of project options provides information necessary to develop the Benefits Management Plan.

Real options assessment

Real options are particularly relevant to the Sustainable Investment themes.

Real options allow early investments for future flexibility to be valued based on the probability of the flexibility being needed and projected benefits. This is useful to justify including provisions for infrastructure to be upgraded later. For example, where considerable uncertainty exists around the

impacts of climate change and corresponding future infrastructure adaptation (Sustainable Investment Theme: Energy Productivity and Carbon Emissions).

In applying the example of climate change in a real options assessment, assess the probability of expected effects of climate change (such as increased average temperatures and more frequent and severe extreme weather events) materially impacting the business case assumptions, and adjust the value of the project benefits based on the likelihood of different outcomes.

3.1.7 Sustainability requirements and potential trade-offs

Certain sustainability outcomes, such as building energy performance, are required by government policy or legislation and must be included in investment planning. For example, a key requirement is Victoria's legislated target of a zero-carbon economy by 2050, and hence the viability of longer-term investments should be evaluated for suitability within that target.

Where sustainability benefits and costs are not required by any legislation or policy, they should be justified on dollar terms where possible, as is consistent with a whole of life assessment. This allows for sustainability benefits across different domains to be compared and evaluated on a like-for-like basis to maximise the project benefit cost ratio.

The Investment Lifecycle provides further guidance on the quantification of project benefits and costs, including sustainability-related benefits. 'Economic Evaluation for Business Cases Technical guidelines' proposes valuation techniques for non-market values such as air quality to assist in determining optimal outcomes.

In addition to the impact (benefits) and costs of sustainability initiatives, projects should also consider the feasibility of implementing these initiatives, considering factors such as complexity, risk, timeframe, and logistical requirements. Projects should only consider sustainability initiatives that can be resourced and implemented within the capabilities of the project team or through contracts.

Certain sustainability outcomes cannot be practically evaluated in dollar terms. For these situations, where trade-offs are required but economic evaluation is not possible, multi-criteria analysis should be used to assess the range of potential solutions. This is documented in 'Economic Evaluation for Business Cases Technical guidelines', however it ultimately requires subjective judgement for decision makers; the bases for these judgements should be documented to provide transparency and clarity around decision making.

Case study 3 – Minimum sustainability targets, Development Victoria

Development Victoria requires a number of tasks to be undertaken when new investment projects are developed. These include the preparation of sustainability plans for multiple scenarios; the preparation of information on materials use, reuse and disposal; and alignment with a set of minimum sustainability requirements. These targets include:

- | | |
|---|---|
| \ 30 per cent better than code energy compliance | \ 100 per cent of public place water from non-potable sources |
| \ Provision for EV charging | \ Fossil fuel-free development |
| \ Minimum 40 per cent renewables on site | \ Carbon neutral construction |
| \ 95 per cent construction waste diversion | \ Carbon neutral development |
| \ 35 per cent reduction in water demand | \ Community resilience and climate adaptation plan |
| \ Maximise on site water reuse | \ Future climate scenarios for design |
| \ Reduce urban heat island effects on all developments | \ Integration of WELL building principles |
| \ Support market transformation through projects and partnerships | \ Integration of passive house principles |
| \ Sustainable transport plan | \ 6 star green star communities |
| \ Biodiversity management plan | \ Integration of universal design principles |
-

3.1.7.1 Precautionary principle

While outcomes should always be evaluated based on the best available information, in some circumstances there is too little information to gauge potential damages, especially where it relates to social and environmental factors. In these cases, the precautionary principle requires the project proponent to demonstrate that the proposed activity or decision will not result in significant harm, especially in the case where conclusive evidence is not yet available. This principle should be applied when significant uncertainty exists around the probability or consequence of adverse outcomes.

3.1.7.2 Unacceptable outcomes and disbenefits

Sustainability considerations may be used to prevent consideration of certain options, regardless of their financial merit, when these outcomes result in unacceptable environmental or social outcomes. These options should be described briefly and the rationale given as to why they were not further analysed.

The clearest application of this relates to legal requirements or obligations; options that do not meet legal obligations should not be considered. However, it will also apply when a project will result in damage to a site of significant heritage or environmental value.

3.1.7.3 Economic quantification

Economic, financial and other integrated analyses are used to provide further information to decision makers. A cost-benefit analysis (CBA) is the preferred method of assessing project options and gaining approval for the business case when all aspects can be robustly valued in dollar terms, as it is consistent with a 'whole of lifecycle' assessment.

Other decision-making frameworks can be used to compare project options when quantification of key benefits and cost is impractical. This includes multi-criteria analysis (MCA), which is described in the DTF Investment Lifecycle Guidelines under 'integrated analysis'.

The DTF Investment Lifecycle provides further guidance on the quantification of sustainability, including environmental and social considerations. It also recognises that some environmental and social aspects may be difficult to monetise (i.e. express in dollar terms) to include in the overall appraisal. 'Economic Evaluation for Business Cases Technical guidelines' propose valuation techniques for non-market values e.g. clean air, noting that:

- (d) they require specialised economic expertise, as well as time and resources
- (e) monetisation should only be attempted where it can be done robustly.

Where the project team is not able to determine a monetised value of a sustainability outcome, these considerations should be justified in the business case based on stated government policies and priorities, as their inclusion will reduce the project benefit cost ratio through increased costs without a corresponding increase in benefits. This ensures these sustainability requirements are retained and implemented during the delivery phase.

3.1.7.4 Specific considerations for cost-benefit analysis

The time horizon of the cost-benefit analysis needs to be determined carefully, as sustainability-related impacts may occur outside of the investment period under consideration, which would potentially exclude some impacts from the analysis. For example, in a context of climate change, a coastal asset may in future be exposed to more frequent storm surges weakening it and increasing risk to users. This may not occur for 20 years or more after project completion, a timeframe that could conceivably be outside of the horizon of analysis but within the expected service life of the asset.

This means that the horizon of analysis should carefully consider and justify all key benefits, costs, and stated government policies. In particular, the long-term target of net zero greenhouse gas emissions by 2050 should be considered when this is within the desired life of the investment.

Chapter 5 of 'Economic Evaluation for Business Cases Technical guidelines' deal with 'Externalities', with a specific section for carbon dioxide emissions. Business case authors are encouraged to refer to this section of the guideline.

Externalities

'Externalities are particularly relevant to these guidelines as a lot of adverse social and environmental aspects arising from projects (or human activities) can be categorised as 'externalities', i.e. 'effects borne by third parties who do not directly use the asset or service'.

For example, noise made by a neighbour (mowing the grass early on a Sunday morning) is a localised externality. The most prominently discussed externality is greenhouse gases emissions from human activities, that accumulate in the atmosphere and lead to climate change. We are all to a different degree impacted by this global externality.

3.1.7.5 Specific considerations for Multicriteria Analysis (MCA)

MCA is very flexible and can be perceived as being less rigorous than cost-benefit analysis, as it involves translating value judgments into scores that can be weighted (see section 2.1.4 of 'Economic Evaluation for Business Cases Technical guidelines' for more detail).

MCA is a semi-quantitative method to balance various choice criteria when comparing project options. The key consideration for MCA is to be transparent on the scoring and weighting choices made, as well as underlying assumptions.

It should also be noted that while it may seem attractive to incorporate a lot of criteria into the analysis, doing so may be counter-productive as it can offset the main benefit to some degree. For example, an option that delivers on a large number of non-core benefits but performs poorly on the main objective, may look more advantageous than an option that delivers none of these non-core benefits but delivers the best possible result for the main objective (solving the main problem).

To adequately deal with sustainability issues, the MCA should:

- \ ensure all key environmental, social and economic objectives are included in the analysis
- \ determine as objectively as possible (usually by calling on a group of experts and decision makers) the weights to be applied across all objectives, and transparently disclose them
- \ be clear about the 'deal-breakers', i.e. the thresholds that make an option unacceptable, no matter what the benefits are (for example the loss of an endangered species in the area may attract a 'disqualifying' score).

3.1.7.6 Scope 3 emissions

Under the *Climate Change Act 2017*, five-yearly sector pledges are developed to describe the actions government will take to reduce Victoria's emissions. These require consideration and reporting of scope 1 and scope 2 emissions, which are emitted either as a direct result of the activity (scope 1) or indirectly as a result of energy consumed by the investment (scope 2).

Scope 3 emissions refer to emissions generated in the wider economy as an indirect consequence of the investment or activity or embodied within the materials of construction. Mandatory reporting requirements do not apply to Scope 3 emissions. However, if a full assessment of scope 3 emissions is conducted, business case writers may consider reductions in scope 3 emissions as a benefit, which may offset an increase in scope 1 or 2 emissions. For example, increasing the size of the bus fleet would increase scope 1 emissions via diesel combustion, but decrease scope 3 emissions by reducing overall vehicle traffic.

3.1.7.7 Public Interest Test

Agencies are asked to apply the public interest test to all investments that are the subject of a full business case. This involves detailing the impact of the project on the eight elements of public interest (set out in the example below).

Sustainability aspects of a project are very much aligned with public interest. This test provides an opportunity to articulate how all safeguards have been put in place to protect (or contribute to) public interest.

Table 14 – Sustainability considerations for the public interest test

Public interest test elements	Evidence required	Sustainability considerations (examples only)
Effectiveness	Is the project effective in meeting government objectives?	Demonstrate how the project solution helps to meet agency and government sustainability objectives and sustainability outcomes articulated in the problem statement and option analysis
Accountability and transparency	Do the partnership arrangements ensure that the community can be well informed about the obligations of government	What safeguards and protections will be put in place (e.g. environmental protections) and how will these be monitored and reported on? How will value for money be measured and audited in this investment?
Affected individuals and community	Have those affected been able to contribute effectively at the planning stages, and are their rights protected?	Have traditional owners been involved in discussions about cultural heritage? Has the community been able to contribute to planning related to liveability?

Public interest test elements	Evidence required	Sustainability considerations (examples only)
Equity	Are there adequate arrangements to ensure that disadvantaged groups can effectively use the infrastructure or access the related service?	Have transport, access and connectivity aspects of the proposal given due consideration to the more disadvantaged community groups? Do the assets mitigate the risk of experiencing energy poverty?
Consumer rights	Does the project provide sufficient safeguards for consumers?	Are sustainability aspects safeguarded in the interest of the community?
Public access	Are there safeguards that ensure ongoing public access to essential infrastructure?	Have transport, access and connectivity been considered thoroughly?
Security	Does the project provide assurance that community health and safety will be secured?	Does the project protect the health and wellbeing of users and the community, now and into the future? Does the project have any impact on security of supply (e.g. of energy or water)? Does the asset design assist to mitigate the risk of food security issues?
Privacy	Does the project provide adequate protection of users' rights to privacy?	n/a

The Partnerships Victoria public interests test template explains public interest issues and how to undertake a public interest test.

3.1.7.8 Risk management

The Victorian Government Risk Management Framework (VGRMF) outlines the State's requirements for risk management based on ISO 31000. The Victorian Managed Insurance Authority (VMIA) acts as the Government's risk adviser and can provide sustainability-related risk advice. The risk identification and assessment processes should be supported using the Victorian Government's eight Sustainable Investment themes to identify and quantify sustainability risks applicable to the project during the business case stage, with the risk register monitored and updated as the project progresses.

Sustainability risks should be defined around the achievement of sustainability objectives and individual outcomes, rather than a risk that ratings will not be achieved. This allows for specific targeted risk treatments to be identified.

Climate risk should be determined based on projections issued by the Department of Environment, Land, Water and Planning over the desired or expected life of the asset. The risk assessment should consider direct risk to the asset and the risk to the benefits expected as a result of changing trends caused by climate change.

3.1.7.9 Investing under uncertainty

The following DTF guidance documents can assist project organisations in the consideration and management of the potential effects of uncertainty on infrastructure project development and delivery.

- \\ **Investment Management Standard (IMS)** supports government to identify and select the investments that provide the most benefit to society. The IMS sets out a 'line of enquiry' approach that helps to establish strategic, innovative and feasible solutions. The IMS discusses risk and uncertainty management in public investment, including flexibility to manage infrastructure projects that are significantly affected by uncertainty and the need to make investments that are adaptable over time and better able to meet the community's evolving needs. The IMS requires that each IMS workshop considers how investment may be impacted by uncertainty, and how the preferred response might change if assumptions do not hold or future conditions do not unfold as expected.
- \\ **Investment Lifecycle and High Value High Risk Guidelines (Investment Lifecycle Guidelines)** suggests actions to address uncertainty across the project lifecycle in the technical supplement 'Investing under uncertainty – Real options analysis'.

3.1.7.10 Procurement strategy considerations

As part of the business case, agencies are required to develop a procurement strategy to execute the project. Procurement can play an important role in achieving project objectives. The procurement model should be appropriate for project-specific risks, issues, solutions and ambitions and consider the Social Procurement Framework. The model should consider the projects' sustainable investment target maturity level:

- \\ **Commercial incentives:** For example, private project partners may have a higher cost of capital, which deprioritises long-term sustainability benefits and requires additional contractual incentives to be put in place.
- \\ **Project characteristics:** For example, a decision to use specific recycled materials in the project solution may favour private partners with expertise in their use.
- \\ **Project requirements:** How government and private partners are held accountable for sustainability in construction and operation of the asset.
- \\ **Supplier markets:** For example, if a project relies on the incorporation of innovative technologies, the procurement option should ensure that such technologies can be procured, installed and maintained.

- \\ **Agency capability:** Where the agency has expertise in the sustainability related aspects of the project, this might suggest a procurement model that uses that expertise.
- \\ **Project interfaces:** Where the project has interdependencies with other works or assets that affect whether sustainability objectives are achieved.

Procurement options assessment should consider sustainability-related risks and during the procurement stage, project teams should engage with the providers to ensure that those selected understand such risks.

Case study 4 – Greener Government Buildings

Greener Government Buildings (GGB) is a program that implements energy efficiency and renewable projects across Victorian Government buildings, to reduce operating costs and achieve greenhouse gas abatement. As of June 2020, the program has invested \$200m across 35 projects with the majority of the solutions being procured via a process known as Energy Performance Contracting (EPC).

EPC is a process where a contractor is engaged to design, implement, verify and guarantee the savings from an energy efficiency or renewable energy project. Under the GGB program, the EPC is structured to ensure projects pay for themselves with the savings achieved over a certain period of time (currently five years).

However, EPCs are not suitable for all facilities and are typically only used for large and/or complex buildings, e.g. hospitals, TAFEs, large office buildings, sporting complexes, etc. For smaller sites such as schools, alternative approaches may be preferable. Savings from an EPC can also vary from project to project depending on its assets and can range from 10 per cent to 60 per cent of the site's annual energy and operational expenditure.

The Gordon Institute of TAFE EPC for example, achieved 34 per cent in annual savings and over 900 tonnes of greenhouse gas abatement a year.

3.2 Procurement

3.2.1 Management and governance

The DTF Investment Lifecycle provides guidance on governance and project management. In establishing governance processes for the investment, users should ensure that resources with sustainability expertise have appropriate authority and accountability throughout the decision-making process, with continuity through to the delivery stage to ensure procurement commitments are realised. This will increase the likelihood of achieving the intended sustainability benefits.

3.2.2 Sustainable investment target maturity level

Application of the maturity model in the procurement stage builds on work undertaken in the business case stage. Activities should be fit-for-purpose at each maturity level and allow for efficient delivery with the aim of achieving the optimal outcomes within project constraints.

Table 15 – Maturity during refinement and implementation of procurement strategy

	DEFINED	MANAGED	OPTIMISED
Sustainable procurement	Use weighted evaluation criteria to favour businesses that support sustainable procurement objectives		Contract negotiation team authorised and capable of balancing sustainability objectives against other project objectives
	Procurement team capable of assessing the ability of tenderer to meet sustainability objectives		
Contracts		Sustainability objectives in contract align with long term sustainability outcomes during operation	Approach incentivises tenderers to exceed contractual requirements for sustainability outcomes
		Include contractual requirements on tenderers to achieve sustainable procurement objectives	
Rating tools	Sustainability rating tools are selected based on agency requirements	The use of a sustainability rating tool and appropriate targets are based on the specific sustainability outcomes applicable to the project context	

3.2.3 Performance and benefits reporting

It is a requirement under the Social Procurement Framework (SPF) for departments and agencies to monitor and report against social and sustainability outcomes. The project sustainability metrics that apply to each contractor should be shaped to align with the project team's reporting requirements to simplify monitoring and reporting and support the overall reporting by the department or agency.

Investment success should be determined on whole of life operational considerations to ensure the asset represents value for money, meets evolving community service demand, is resilient to climate change and other environmental changes, and continues to meet changing delivery requirements.

Because many operational sustainability outcomes cannot be directly measured during project delivery, teams should give consideration as to which measurable parameters will provide an indication as to how the project will achieve its desired sustainability outcomes. These should be included (as appropriate) in supplier contracts and monitored by the project team on an ongoing basis through the project lifecycle, to support agency monitoring and reporting.

3.2.4 Tender process

3.2.4.1 Tender development

The procurement team should include a suitably qualified and experienced sustainability professional to ensure the tender is structured to trigger appropriate design responses from tenderers, through the inclusion of specific sustainability specifications or requirements. This may include performance targets placed on the contractor that can be measured using a rating scheme, or quantifiable outcomes that the contractor is required to deliver.

Sustainability objectives should be defined using the SMART principle; Specific, Measurable, Achievable, Relevant, and Time-bound. The Sustainable Investment themes will set the focus of these objectives. A fictional example of a SMART objective is as follows:

Example project: A concrete bridge. It has been determined that the material sustainable investment themes include circular economy and carbon emissions.

Example objective: The project is to achieve a 20 per cent reduction in embodied carbon relative to the tender reference design, to be measured using the ISCA materials calculator V2.0 before the start of construction.

Note that if the decision is taken to adopt a sustainability rating tool for the investment, the scoring system of the rating tool can form a useful basis for SMART targets.

The elements of this example that satisfy the SMART requirements are discussed in the following table:

Table 16 – Example use of SMART sustainability targets

Example outcomes	
Specific	'The project is to achieve a 20 per cent reduction in embodied carbon relative to the tender reference design'
Measurable	'...measured using the ISCA materials calculator V2.0'
Achievable	The tender team will have researched this objective in advance and will have established that it is achievable in this context. For example, for concrete construction, this objective can be achieved through the inclusion of 30 per cent supplementary cementitious material (SCM).
Relevant	This objective relates directly to the identified key sustainable investment themes: circular economy and carbon emissions.
Time-bound	'...before the start of construction.'

3.2.5 Rating tool considerations

Where a sustainability rating tool has been proposed, there may be a need for the project to transition from a 'planning' rating to an 'as built' rating, or equivalent. This should be set out in the contract, with the project team independently monitoring the contractor's compliance with the required tool or standard.

Where a rating is based on the operational performance of the asset (i.e. building efficiency), the contract should require performance based on the 'as built' rating where practical. This ensures responsibility for the asset meeting the rating specification resides with the contractor(s).

3.2.5.1 Social Procurement Framework

The Social Procurement Framework (SPF) requires teams to consider opportunities to advance sustainability objectives, with projects with an expenditure over \$20M required to complete a Social Procurement Plan as part of the procurement planning process. It requires departments and agencies to develop organisation-wide social procurement strategies.

The SPF identifies key steps in the sourcing and contract management phases of the procurement process for individual procurement activities which are important to incorporate social and sustainable procurement objectives.

The SPF include seven objectives related to social outcomes and three related to environmental outcomes.

Social objectives

- \ Supporting safe and fair workplaces
- \ Opportunities for Victorian Aboriginal people
- \ Opportunities for Victorians with disability
- \ Women's equality and safety
- \ Opportunities for disadvantaged Victorians
- \ Sustainable Victorian social enterprise and Aboriginal business sectors
- \ Sustainable Victorian regions

Environmental objectives

- \ Environmentally sustainable outputs
- \ Environmentally sustainable business practices
- \ Implementation of the Climate Change Policy objectives

Environmentally sustainable business practices in construction includes increased use of non-virgin materials, construction methodologies that minimise disturbance to surrounding areas and people, minimisation and treatment/reuse of waste including spoil.

The SPF encourages the use of best practice sourcing tactics depending on the size, expenditure category, level of opportunity, and risk in a project. This may include techniques such as bundling or unbundling a procurement to match the supply market capacity. Further recommendations of how this may be implemented are provided within the SPF.

Reporting against the framework and delivery against the outcomes is required for both individual contracts and at the department or agency level. It is important that sustainability reporting requirements are negotiated or clarified with the contractor and included within the contract.

3.2.5.2 Specific project requirements

Generally, sustainability requirements articulated in government policy or legislation should be identified in tender documentation and reflected in the project contract documentation. This includes minimum standards and data functional requirements aligned to the Victorian Digital Asset Strategy and Digital Build Policy.

Project specific requirements should be set out in the tender documents and contract(s), including:

- \\ Sustainable investment objectives and/or approved solution
- \\ Requirements to satisfy the target sustainable investment maturity level (including innovation and environmental, social and economic impact)
- \\ Rating tool requirements, including whether performance will be based on the 'as built' rating, responsibilities within the rating certification process and that the responsibility for the asset to meet the rating specification resides with the contractor(s)
- \\ Any need for attestation/validation that materials/supply chain/production processes is as expected
- \\ Any areas in which 'non-conforming' bids (that propose supplier lead solutions such as alternative materials and methods that offer and sustainability benefits) may be considered.

3.2.5.3 Tender evaluation and selection

The procurement team should hold the expertise required to determine whether tender responses can realistically achieve the stated performance. This will include knowledge of the rating tool proposed, if one is to be used.

The Social Procurement Framework provides guidance on where sustainability outcomes should be considered as weighted criteria for tender evaluation. These should be set based on agency priorities and specific project requirements.

Case study 5 – CO₂ Performance Ladder, Netherlands

The CO₂ Performance Ladder is a sustainability standard originating in the Netherlands. The standard helps companies reduce their carbon emissions in company processes, projects and supply chain while giving a procurement advantage to those companies achieving higher ratings.

The 'Ladder' stimulates energy efficiency, efficient use of materials and the use of renewable energy. Companies who get themselves certified on the CO₂ Performance Ladder will experience this as an investment with immediate returns in terms of lower energy costs, material savings and innovation gain.

The CO₂ Performance Ladder is used as a Green Public Procurement Instrument by government bodies and private organisations. With the use of the instrument in tenders they can stimulate organisations to reduce CO₂. The level that a company has reached on the CO₂ Performance Ladder is translated into a so called 'award advantage'. The higher the level on the CO₂ Performance Ladder, the higher the advantage for the company in the tender. The commissioning party decides on the size of the discount to be applied.

The CO₂ Performance Ladder is one example of a sustainable investment approach that values the sustainability credentials of tenderers. Although there is no such tool for the whole of Victorian Government, agencies may wish to consider how their own policies and processes could support a similar discounting approach in procurement.

3.2.5.4 Tender negotiation

The DTF Investment Lifecycle Guidelines provide direction on best practice for tender negotiations. From a sustainability perspective, the negotiating team should be sufficiently skilled to balance sustainability objectives against other project objectives and broader project realities, and authorised to compromise on objectives or accept improved solutions where appropriate.

Where tenderers propose alternative designs, materials or methods to those specified in the tender documentation, the onus of demonstrating that the proposed solution will result in equivalent or superior performance should be placed on the tenderer. As a general principle, alternative rating tools should only be considered where the proposed solution means the nominated rating tool is unsuitable, such as if a new material is used that is not suitably represented by the rating tool and the process involved in incorporating the new material in the rating tool is impractical given the project schedule.

3.3 Delivery

3.3.1 Management and governance

As a general principle, accountability for achieving sustainability objectives resides with the project owners. Incorporating sustainability in project decision making requires support at the leadership level to ensure it is effectively considered as a core element of the project. On this basis, it is useful to have a functional champion to coordinate or allocate responsibility of sustainability outcomes throughout the project, including the delivery stage.

The responsibility for achieving sustainability objectives and outcomes should flow down to key decision makers in roles with specific areas of influence across project activities such as procurement, design, and construction. These responsibilities should be explicitly identified in the project governance structure and maximise continuity of personnel and responsibilities from the Procurement stage.

3.3.2 Sustainable investment target maturity level

Application of the maturity model in the delivery stage builds on work undertaken in the business case and procurement stages. Activities should be fit-for-purpose at each maturity level and allow for efficient delivery with the aim of achieving the optimal outcomes within project constraints.

Table 17 – Maturity during project delivery

	DEFINED	MANAGED	OPTIMISED
Accountability	Project owners ensure project team has responsibility for sustainability outcomes	Project governance structure identifies responsibility for sustainability outcomes	Personnel that defined sustainability outcomes in the Procurement stage are responsible for implementation
Design and engineering	Appropriate multi-disciplinary team with SIT solution expertise engaged early		
	Design and construction addresses sustainability problems and solutions identified in the approved business case option		Innovation in design, which may include new standards/benchmarks in non-virgin materials use, waste avoidance and off-site construction.

	DEFINED	MANAGED	OPTIMISED
	Sustainability performance requirements have been accurately incorporated into concept and detailed designs and specifications		
Construction	Change control mitigates risk of trading off sustainability related scope to address unforeseen issues such as latent conditions.		Innovation in construction, which may include new construction techniques, field trials, increased non-virgin materials use, waste avoidance and off-site construction.
	Construction practices incorporate sustainable approaches		
Monitoring and reporting	Sustainability measures and outcomes are tracked and reported	Projected operational sustainability performance of the asset is monitored throughout project delivery (including detailed design)	Ongoing oversight of contractor includes sustainability metrics in reporting, including innovative/above minimum specification outcomes
Handover	Operational requirements relevant to sustainability are documented in the handover with new accountabilities established	Rating tool certification is managed and achieved	

3.3.2.1 Performance monitoring and benefits management

Sustainability benefits that have been quantified and monetised should be tracked and managed as defined in the Benefits Management Plan, which should ideally be linked to reporting requirements placed on the contractor(s). These benefits can be considered as general project benefits.

Sustainability benefits identified in the business case but deemed to be infeasible to monetise should be linked to stated government policies and priorities. These should be articulated in the Benefits Management Plan, to ensure that these are not unintentionally traded-off to manage time, resource or cost pressures.

Where a sustainability rating tool has been adopted, there may be a need for the project to transition from a 'planning' rating to an 'as built' rating, or equivalent. This should be set out in the contract, with the project team independently monitoring the contractor's compliance with the required tool or standard.

Where a rating is based on the operational performance of the asset (i.e. building efficiency), the contract should require performance based on the 'as built' rating where practical. This ensures responsibility for the asset meeting the rating specification resides with the contractor(s).

3.3.2.2 Management plans

Management plans should be informed by due diligence planning and development activities including site investigation and documentation, analysis and research, production of design and development proposals and reports of sufficient quality, breadth and depth to clearly define project scope, risks and critical requirements to facilitate detailed design, effective procurement, delivery and successful operation.

It is important that management plans incorporate sustainability and that concept design, detailed design and emergent issues are managed to ensure that the objectives of the investment are achieved and that sustainability considerations are not unduly traded-off as the project progresses. Application of tools such as the Victorian Government Risk Management Framework, precautionary principle ((c)3.1.7.1), DTF's Risk Time Cost and Contingency (RTCC) Guidelines, change control processes and Environmental Management Plan guidelines (<https://www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines>) should be used to effectively identify and manage sustainable investment opportunities, risks and issues throughout the investment lifecycle.

Some sustainability risks may be difficult to manage as they commonly relate to performance of the asset, which is not measured until the asset is delivered and operation starts. Therefore, where possible sustainability-related risks should be updated and defined based on the sustainability metrics defined for the delivery stage. This results in more timely treatment of risk and minimises impact on the project budget by implementing changes early.

3.3.3 Design and engineering

Government departments and agencies develop design practices and bodies of knowledge specific to their infrastructure types. For example, The Victorian Government Office Accommodation Guidelines provides accommodation benchmarks and principles that must be used in the planning, leasing, fit-out and management of the Victorian Government's office accommodation, to achieve well-designed workspaces that deliver quality, value for money and environmentally sustainable outcomes. Table 18 outlines examples of design and engineering solutions relevant to each SIT. In each case, the detailed design and documentation process should maintain and enhance design intent and objectives (across all SITs) developed in the concept design/business case stage.

Table 18 – Sustainable design and engineering examples

SIT	Sustainable design and engineering
Cultural heritage	<p>Site investigation and community engagement (including Indigenous and heritage groups) inform concept design, option development and detail designs. Checks should be undertaken on completeness of information to ensure that designs do not inadvertently damage or degrade significant areas and objects and that proposed options are culturally appropriate. For example, in the event of planning stormwater discharge into a creek, early engagement should be undertaken to ensure that historical shelter and midden disturbance during excavation and construction works is appropriately planned and managed.</p>
Liveability	<p>Consider sourcing strategies/supply chain to enhance social and economic outcomes arising from construction activity, including the development of capability and capacity. For example, projects can be used to field test alternatives and/or develop scale in specific non-virgin materials and resource generation/use to support commercialisation and growth of new sustainable industries.</p> <p>Incorporation of greenspaces and recreational areas into designs, such as landscaped shared pathways and gardens within hospital and school footprints significantly influences liveability through the following mechanisms:</p> <ul style="list-style-type: none"> \\ the immediate health benefits of usage by the community \\ providing environments to support flora and fauna \\ improvement in heat sinks and reduction of paved water run-off areas within urbanised areas.
Transport, access, and connectivity	<p>Urban planning across communities and geographical areas can support the integrated and holistic development of sustainable solutions, by ensuring accessibility and connectivity across modes of transport. Accessibility should consider social aspects such as individual mobility constraints (wheelchairs, prams, crutches and walkers) and passive transport options such as shared pathways and user-friendly gradients.</p>
Climate resilience	<p>Develop designs that anticipate and can absorb, accommodate, or recover from the effects of a hazardous event arising from climate change and extreme weather events. Design features may include choice of foundation or elevation to address trends in extreme wet weather events, infrastructure that incorporates hazard monitoring and early warning systems, and multi-purpose structures that can better provide emergency protection for communities.</p> <p>Design and as-built documentation that meets minimum standards and data functional requirements aligned to the Victorian Digital Asset Strategy and Digital Build Policy supports efficiency and sustainability in cross-disciplinary design coordination, asset transition to operations and future maintenance and modifications (including those arising from climate change).</p>

SIT	Sustainable design and engineering
Material use and circular economy	<p>Develop designs that consider intensity of material usage, use non-virgin materials efficiently (per the Recycled First policy), avoid hazardous materials and waste (through minimisation and recycling to drive a more circular economy).</p> <p>Projects that sit within the more mature sustainable investment target levels should aim to pursue innovation and support capacity building/commercialisation of sustainable materials, processes and products/waste. For example, traditionally noise barriers have usually been constructed from concrete, timber, steel, vegetation and earthworks, however non-virgin materials such as rubber, plastic and glass can be used as an alternative material in both vertical barriers and as fill within earthen noise barrier mounds and landscaping.</p> <p>Victorian government infrastructure investment can significantly impact demand through design, specification, proven field trials and volume demand reliability to give suppliers confidence to invest into producing/improving products such as non-virgin material. Creating scale in demand for sustainability in materials usage will support longer-term pricing benefits and contractor experience in use of alternative materials and construction techniques. Flagship project innovation can be also used to drive evolution in design and construction standards.</p>
Energy productivity and carbon emissions	<p>Develop designs that incorporate energy generation and use efficiency (for example trigeneration and illuminated signage powered by photovoltaic cells) and material intensity to reduce whole of life carbon emissions and energy consumption.</p>
Integrated water management	<p>Incorporate rainwater capture and use into designs which use non-potable water for appropriate purposes and capture/manage water run-off from the asset (including management of pollutants such as petrochemicals in roadway water run-off).</p>
Environmental protection and enhancement	<p>Design and engineering can protect and enhance the environment in a vast range of ways. For example, the inclusion of native animal pathways to cross major road networks can significantly impact biodiversity and sustainability of indigenous populations. Capture/direction of rainwater towards gardens and parklands can reduce demand for potable water and support the growth of vegetation. Due diligence and design of assets such as roadways and inground infrastructure should consider environmental aspects such as remnant riparian woodlands and ecosystems (such as seasonal wetlands) required to support the survival of migratory species.</p>

3.3.4 Construction

Sustainable construction practices are often considered in terms of environmental impact. The SITs can be used to also promote social and economic sustainability arising from construction, as shown in Table 19.

Table 19 – Sustainable construction examples

SIT	Sustainable Construction
Cultural heritage	Cordon off areas and manage impacts to protect sites of significant heritage value
Liveability	<p>Offsite/modularised construction can assist in maintaining amenity and health of the community by minimising construction related noise, dust, pollution and movements to/from site. Benefits can also include waste reduction, inclement weather impact on schedule, and quality control.</p> <p>Consider sourcing strategies/supply chain to enhance social and economic outcomes arising from construction activity, including the development of capability and capacity.</p>
Transport, access, and connectivity	Plan and provide suitable alternative transport. access and connectivity for the community during construction.
Material use and circular economy	Use non-virgin materials efficiently, avoid hazardous materials and waste (through minimisation and recycling to drive a more circular economy).
Energy productivity and carbon emissions	Use materials and construction methods that result in reduced whole of life carbon emissions and energy consumption.
Integrated water management	Use non-potable water for appropriate site and construction purposes and capture/manage water run-off and resultant potential erosion.
Environmental protection and enhancement	<p>Minimise construction-related noise, dust, pollution, and harm to ecosystems.</p> <p>Spoil management plan should include waste minimisation and treatment/reuse of waste including spoil (including on-site treatment options).</p>

3.3.5 Commissioning and handover

Inadequate and/or incomplete handover of sustainability related data has been identified as a key risk for benefit realisation associated with sustainability initiatives as sustainability features have ongoing operational or maintenance requirements.

The project team must include all relevant information in the handover manual and digital asset information to enable operational, warranty, maintenance and future modification requirements to be managed sustainably and efficiently. Relevant rating tool information and asset performance monitoring and reporting requirements against targets in the benefits management plan must be included in the information transferred to the operator.

Progressive defects management, testing and acceptance processes can be particularly useful where an 'as built' environmental rating is being pursued. Responsibilities within the rating certification process should be articulated before formal handover, and best endeavours undertaken to work towards certification even though responsibility for the asset to meet the rating specification resides with the contractor(s). It is important that parties understand and resolve any sustainability performance issues that may arise if post-construction practices seek to vary the intended use of assets (including those that align with the Asset Management Accountability Framework), for example:

- \\ Converting part of an office floor to accommodate a new computer server room will impact electricity usage associated with both the equipment and the additional cooling required.
- \\ Extending a building to provide a new indoor recreational area may result in the partial removal of a landscaped park and pathways, thereby reducing accessibility and liveability.

References

This reference list includes papers and research used to inform the development of these guidelines. Details of selected Victorian Government investment policies, guidelines and tools are provided in the Glossary; and appendices summarise a range of sustainability rating tools and legislation and policies that support SITs.

National Strategy for Ecologically Sustainable Development Prepared by the Ecologically Sustainable Development Steering Committee, Endorsed by the Council of Australian Governments December, 1992

CIBSE. (2015). The Soft Landing Framework – Australia & New Zealand. Retrieved from <https://www.cibse.org/networks/regions/australia-new-zealand/anz-regional-news/anz-regional-news-archive/the-soft-landing-framework-australia-new-zealand-m>

ClimateWorks Australia. (2020, March). Reshaping Infrastructure for a Net Zero Emissions Future. Retrieved from ClimateWorks Australia: <https://www.cefc.com.au/media/402347/reshaping-infrastructure-to-lower-emissions-march-2020.pdf>

Commissioner for Environmental Sustainability Act. (2003). *Commissioner for Environmental Sustainability Act 2003*. Retrieved from https://www.ces.vic.gov.au/sites/default/files/publication-documents/CES%20Act_1%20December%202017%20V012.pdf

Inter-American Development Bank. (2018). What is Sustainable Infrastructure? Retrieved from Inter-American Development Bank:

https://publications.iadb.org/publications/english/document/What_is_Sustainable_Infrastructure__A_Framework_to_Guide_Sustainability_Across_the_Project_Cycle.pdf

ISCA. (2020). IS RATING SCHEME: RETURN ON INVESTMENT STUDY. Retrieved from https://www.isca.org.au/getmedia/a1ef6f82-6eb6-4905-9d55-7c1ef4d3feda/ISCA_Exec_Summary_F3.pdf.aspx

ISO. (2017). ISO 20400, *Sustainable Procurement Guidance*. Switzerland: ISO.

World Commission on Environment and Development. (1987). *Our Common Future*. Retrieved from <http://www.un-documents.net/our-common-future.pdf>

World Green Building Council. (2013). The Business Case for Green Building. Retrieved from https://www.worldgbc.org/sites/default/files/Business_Case_For_Green_Building_Report_WEB_2013-04-11-2.pdf

WWF. (2019, December). VISIONING FUTURES; Improving infrastructure planning to harness nature's benefits in a warming world. Retrieved from WWF USA: <https://www.worldwildlife.org/publications/visioning-futures-improving-infrastructure-planning-to-harness-nature-s-benefits-in-a-warming-world-lo-res>

Glossary

DTF's 'Overview – Investment Lifecycle and High Value High Risk Guidelines' provides a broad glossary of investment terminology; including terms such as disbenefit, enabling asset, optimism bias and whole of life costs.

Term	Description
Asset Management Accountability Framework (AMAF)	The Asset Management Accountability Framework assists Victorian public sector agencies to manage their asset portfolios and provide better services for Victorians.
Base case	The 'base case' is the first response option defining what will occur if continuing under the current policy settings. The base case is a realistic option that could be used for future service delivery.
Benefit cost ratio (BCR)	Benefit cost ratio is the net benefit expected for each dollar of investment.
Benefit management plan	A benefit management plan specifies the benefits an investment will need to deliver to successfully address an identified problem and the measures to be used as evidence. It defines key dates, who is responsible for delivery and how the benefits will be reported. Benefit delivery Department of Treasury and Finance Victoria (dtf.vic.gov.au)
Building Information Modelling (BIM)	Building Information Modelling is defined by ISO 29481-1:2016 as the use of a shared digital representation of a built or to-be-built asset to facilitate design, construction and operation processes to form a reliable basis for decisions.
Circular economy	A circular economy recognises the finite availability of many natural resources, and within a closed loop system, aims to eliminate waste and pollution and promote the ongoing safe use of natural resources. This can be achieved by using waste in other processes/products and reusing/recycling products at the end of their life to allow continued use.
Climate Bonds Initiative (CBI)	The Climate Bonds Initiative (CBI) promotes large-scale investments that will deliver a global low-carbon economy. CBI scrutinises the investments/assets for which Green Bonds proceeds are to be used, and gives an independent certification that the use is consistent with their standards as being 'green'. Climate Bonds Initiative Mobilizing debt capital markets for climate change solutions
Climate pledge	<i>Victoria's Climate Change Act 2017</i> requires development of five-yearly sector pledges which describe the actions government will take to reduce Victoria's emissions.
Climate risk guidance	Climate risk guidance resources have been published by VMIA. These resources aim to help stakeholders assess climate change risks. Climate Change Risk Management service Victorian Managed Insurance Authority (vmia.vic.gov.au)

Term	Description
Cost-benefit analysis (CBA)	Cost-benefit analysis is a systematic approach to comparing the cost and benefits of project options in monetary terms, this includes seeking to ascribe a monetary value to intangible benefits. Moving-from-evaluation-to-valuation.pdf (infrastructurevictoria.com.au)
Department of Environment, Land, Water and Planning (DELWP)	The Department of Environment, Land, Water and Planning works in partnership with a range of agencies and stakeholders to protect and preserve Victoria's native landscape through a range of biodiversity, wildlife, sustainability, climate change and community programs.
Department of Treasury and Finance (DTF)	The Department of Treasury and Finance provides economic, financial and resource management advice to help the Victorian Government deliver its policies, including through infrastructure investment projects.
Economic Evaluation for Business Cases Technical guidelines	'Economic Evaluation for Business Cases Technical guidelines' is a supplement to optimal outcomes.
Environmental impact in procurement – goods and services procurement guide	'Buying for Victoria' provides guidelines on how to consider environmental factors when making decisions for goods and services procurement: Environmental impact in procurement – goods and services procurement guide Buying for Victoria
Green Bonds	Green Bonds (also known as climate bonds) are bonds that are used to finance new and existing projects that offer climate change and environmental benefits. Green Bonds Department of Treasury and Finance Victoria (dtf.vic.gov.au)
High value high risk (HVHR)	A project will be classified as HVHR if it is a budget-funded project that is: <ul style="list-style-type: none"> considered high risk using an updated PPM considered medium risk using an updated PPM and has a total estimated investment (TEI) of between \$100 million and \$250 million considered low risk using an updated PPM, but has a TEI over \$250 million or identified by Government as warranting the rigour applied to HVHR investments.
International Capital Markets Association (ICMA)	The International Capital Markets Association (ICMA) promotes resilient well-functioning international and globally coherent cross-border debt securities markets, which are essential to fund sustainable economic growth and development.
Investment Lifecycle and High Value High Risk Guidelines (Investment Lifecycle Guidelines)	The Investment Lifecycle and High Value/High Risk Guidelines (Investment Lifecycle Guidelines) provide practical assistance to those proposing investment projects in Victoria. Investment Lifecycle and High Value and High Risk Guidelines Department of Treasury and Finance Victoria (dtf.vic.gov.au)
Investment Management Standard (IMS)	The Investment Management Standard is a process for applying simple, commonsense ideas and practices that help organisations to direct their resources and achieve the best outcomes from their investments.

Term	Description
Multi-criteria Analysis (MCA)	Multi-criteria analysis is a semi-quantitative method used to balance various choice criteria when comparing project options. It involves translating value judgments into scores that can be weighted. Refer to the Investment Lifecycle Guidelines under 'integrated analysis' and section 2.1.4 of 'Economic Evaluation for Business Cases Technical guidelines' for more detail.
National Digital Engineering Policy Principles	National Digital Engineering Policy Principles recognise the benefits that Digital Engineering and Building Information Modelling can bring to the design, delivery, operation and management of land transport infrastructure assets. VDAS has subsequently been developed and should be used for Victorian Government projects.
Office accommodation guidelines	The Victorian Government Office Accommodation Guidelines (the Guidelines) are used by the Victorian Public Service departments and agencies in the planning, leasing, fit-out and management of office accommodation to achieve well-designed workspaces that deliver quality, value for money and environmentally sustainable outcomes. https://www.dtf.vic.gov.au/sites/default/files/2018-02/Office-Accommodation-Guidelines-2007.pdf
Office of Projects Victoria (OPV)	Office of Projects Victoria is an Administrative Office within the Department of Treasury and Finance. OPV leads and influences excellence in project delivery to maximise value for all Victorians.
Precautionary principle	The precautionary principle requires the project proponent to demonstrate that the proposed activity or decision will not result in significant harm, especially in the case where conclusive evidence is not yet available.
Project Development and Due Diligence (PDDD)	The PDDD technical supplement provides a guide for project proponents on how to integrate PDDD activities into Victoria's High Value High Risk Framework and the Gateway Review Process. Due diligence planning and development activities including site investigation and documentation, analysis and research, production of design and development proposals and reports of sufficient quality, breadth and depth to clearly define project scope, risks and critical requirements to facilitate detailed design, effective procurement, delivery and successful operation.
Project Profile Model (PPM)	The Project Profile Model is DTF's risk-based matrix used to inform whether a project should be subject to the High Value High Risk Project Assurance Framework.
Public interest test	Partnerships Victoria has published a template that explains public interest issues (regarding the welfare and wellbeing of the general public) and how to undertake a public interest test. Policy, guidelines and templates Department of Treasury and Finance Victoria (dtf.vic.gov.au)
Rating tools	Sustainability assessment tools and certification that have been developed for the construction sector to collect and report information in order to make decisions at different stages of construction, design, and operation of buildings.

Term	Description
Real options analysis	Real options allow early investments for future flexibility to be valued based on the probability of the flexibility being needed and projected benefits. Technical supplement 'Investing under uncertainty – Real options analysis'.
Risk Time Cost and Contingency guidelines (RTCC)	The Risk Time Cost and Contingency guidelines introduce an integrated approach to risk, time, cost, and contingency identification, quantification, and management applied across a project's benefits, scope and quality.
Scope 3 emissions	Scope 3 emissions (under the <i>Climate Change Act 2017</i> and the Victorian Government's five-yearly sector pledges) refer to emissions generated in the wider economy as an indirect consequence of the investment or activity or embodied within the materials of construction.
Social Procurement Framework (SPF)	The Social Procurement Framework outlines the Victorian Government's social procurement objectives and corresponding social outcomes. Social Procurement Framework – Objectives, outcomes and key focus areas Buying for Victoria
Sustainable investment	Incorporating sustainability into investment considerations ensures government expenditure contributes towards positive environmental, social (including health), and economic outcomes as well as cost savings and resource efficiencies today and into the future.
Sustainable investment target maturity level	The sustainable investment maturity model defines minimum expectations for Victorian Government investment projects. It supports decision makers and project teams in identifying and implementing appropriate levels of sustainable investment sophistication throughout the investment lifecycle.
Sustainable Investment themes (SIT)	Victoria's eight Sustainable Investment themes provide a way to understand and prioritise sustainable investment options, and a way to aid decision making and assessments to achieve improved sustainable investment outcomes. They are based on the United Nations Sustainable Development Goals (UNSDG) relevant to the investment lifecycle.
Sustainable procurement in government	The 'sustainable procurement in government' framework provides support for government departments and agencies to identify opportunities to increase procurement of recycled content and products, including under the Recycling Industry Strategic Plan and Social Procurement Framework. Sustainable procurement in government (sustainability.vic.gov.au)
United Nations Sustainable Development Goals (UNSDG)	The United Nations Sustainable Development Goals (UNSDGs) were developed to provide an integrated framework, in order to balance the needs of social, economic, and environmental priorities to achieve sustainable development.
Value Creation and Capture (VCC) Framework	Victoria's Value Creation and Capture Framework describes a consistent, concerted approach to assessing and increasing the environmental, social and economic benefits of investments, with a focus on getting better value for Victorian taxpayers' money from all future infrastructure projects. www.dpc.vic.gov.au/index.php/news-publications/value-creation-and-capture-framework .

Term	Description
Value for money	Value for money is a balanced benefit measure covering quality levels, performance standards, risk exposure, other policy effects and other considerations such as social and environmental impacts as well as cost. Value for money should be assessed on a 'whole of life' or 'total cost of ownership' basis.
Victorian Climate Change Adaptation Plan	Victoria's Climate Change Adaptation Plan lays out the Government's plan of action to help Victorians meet the challenges and act on the opportunities of climate change. Adapting to climate change impacts
Victorian Digital Asset Strategy (VDAS)	The Victorian Digital Asset Strategy (VDAS) is a step change in the way Victorian government departments and agencies plan, deliver, operate and maintain the assets they manage on behalf of the people of Victoria.
Victorian Government Risk Management Framework (VGRMF)	The Victorian Government Risk Management Framework provides a minimum risk management standard for the Victorian public sector and applies to departments and public bodies covered by the <i>Financial Management Act 1994</i> .
Victorian Managed Insurance Authority (VMIA)	The Victorian Managed Insurance Authority is the Victorian Government's insurer and risk adviser.
Victoria's Future Climate Tool	Victoria's Future Climate Tool provides access to the most recent climate model simulations of Victoria's future climate and indicators of climate-related hazards for both high and medium emissions and enables the user to export climate data for use in spatial tools. Victoria's Future Climate Tool (indraweb.io)
Zero-carbon economy	Victoria's legislated a target of a zero-carbon economy by 2050. This target means that by 2050 Victoria's greenhouse gas emissions will be reduced as far as possible and any remaining emissions will be counteracted through activities like planting trees or capturing more carbon in the ocean and coastal ecosystems.

Refer to Appendix 1 – Legislation and policies supporting Sustainable Investment themes for further information.

Appendices

Appendix 1 – Legislation and policies supporting Sustainable Investment themes

Theme	Legislation and policies	Description
All	Asset Management Accountability Framework	The Asset Management Accountability Framework (AMAF) details mandatory asset management requirements as well as general guidance for agencies responsible for managing assets. The AMAF is particularly important in the context of sustainability as it establishes a process for managing an asset across its whole life cycle, including disposal and potential reuse.
	Value Creation and Capture (VCC) Framework	The VCC Framework requires consideration of environmental, social and economic benefits which could be realised through sustainable investment. It is important to align benefits with current government commitments and agendas.
	Victorian Digital Asset Strategy (VDAS)	The Victorian Digital Asset Strategy enables the use of building information modelling and digital engineering to develop and maintain cost-effective, innovative and value-adding assets for all Victorians for decades to come.
	<i>Environment Effects Act 1978</i>	An Environmental Effects Statement produces predictions of significant environmental effects of the proposal and provides measures to avoid, minimise or manage them. It involves significant stakeholder engagement, including community engagement.
Cultural heritage	<i>Charter for Human Rights and Responsibilities Act 2007</i>	Improved transparency and accountability in government by giving all Victorians the tools to question and challenge law, policies and decisions.
	<i>Planning and Environment Act 1987</i> <i>Heritage Act 2017</i>	Provide protections for culturally significant objects, places and sites, including offshore.
	<i>Aboriginal Heritage Act 2006</i> Aboriginal Heritage Regulations 2018	Require a Cultural Heritage Management Plan to be developed for projects of high impact in area of cultural heritage sensitivity.

Theme	Legislation and policies	Description
Liveability	Social Procurement Framework (SPF)	<p>The Victorian government must consider the use of its buying power to generate social value above and beyond the value of the goods, services, or construction being procured. The SPF sets social procurement objectives around the following areas:</p> <ul style="list-style-type: none"> opportunities for Victorian Aboriginal people opportunities for Victorians with disability women's equality and safety opportunities for disadvantaged Victorians supporting safe and fair workplaces sustainable Victorian social enterprise and Aboriginal business sectors sustainable Victorian regions <p>SPF Sets sustainable procurement objectives in the following areas:</p> <ul style="list-style-type: none"> environmentally sustainable outputs environmentally sustainable business practices implementation of the Climate Change Policy Objectives
	<i>Victorian Public Health and Wellbeing Plan 2019–2023</i>	Sets targets and priority areas for public health and wellbeing, including action on the health impacts of climate change.
Transport, access and connectivity	<i>Transport Integration Act 2010</i>	Section 16 of the Transport Integration Act refers to the Principle of triple bottom line assessment. i.e. the assessment of all the environmental, social and economic costs and benefits taking into account externalities and value for money.
Climate resilience	Victoria's Climate Change Framework	The Framework establishes the transition required across the economy – and some of the challenges to be addressed – to 2050

Theme	Legislation and policies	Description
	<p><i>Climate Change Act 2017</i></p> <p>Victoria's Climate Change Adaptation Plan 2017-2020</p>	<p>The <i>Climate Change Act 2017</i> provides Victoria with a legislative foundation to manage climate change risks, maximise the opportunities that arise from decisive action, and drive the transition to a climate resilient community and economy with net zero emissions by or before 2050.</p> <p>Victoria's Climate Change Adaptation Plan 2017-2020 lays out a blueprint for action that will help Victoria meet the challenges and act on the opportunities of climate change. Over the life of the plan, the Government will:</p> <ul style="list-style-type: none"> More effectively manage risks to the Government's own assets and services from climate change by assessing the Government's current capabilities and practices and addressing whole of government risks and impacts in a more coordinated way. Help the community to understand and manage the risks and impacts of climate change guidance that communities and decision makers rely on to manage their risks. Encourage adaptation action across all policy areas and sectors of the economy. <p>Statutory requirements to deliver Adaptation Action Plans (AAPs) across seven systems, include</p> <ul style="list-style-type: none"> built environment education and training health and human services natural environment primary production transport water <p>AAPs must identify system-specific risks or vulnerabilities, and any possible actions to address those implications.</p> <p>Section 20 of the <i>Climate Change Act 2017</i> requires that government decision making or any policy, program or process developed or implemented by the government takes account of climate change, with reference to policy objectives and guiding principles in the Act.</p>

Theme	Legislation and policies	Description
Material use and circular economy	Circular Economy Policy ('Recycling Victoria')	Sets four goals: Design to last, repair and recycle; Use products to create more value; Recycle more resources; and Reduce harm from waste and pollution.
	National Waste Policy 2018	Manage 20 million tonnes of waste by 2046
	Recycled First Policy	Recycled First outlines requirements for infrastructure projects within the Major Transport Infrastructure Authority to bring a uniform approach to the use of recycled products and drive innovation in sustainable materials. This policy boosts the use of recycled and reused materials (in preference to virgin materials) that meet existing standards for road and rail construction projects
	Recycling Industry Strategic Plan	Sets four goals: Stabilise the recycling sector; increase the quality of recycled materials; Improve the diversity and productivity of the recycling sector; Develop markets for recycled materials
	State of discovery: Mineral resources strategy 2018–2023	Delivers a whole of government approach across the mining lifecycle and sets a path for improving the administration and enforcement of our regulatory framework for managing the environmental, social and economic conditions of the mining industry
Energy productivity and carbon emissions	<i>Climate Change Act 2017</i>	<p><i>Climate Change Act 2017</i> sets net zero emissions by 2050.</p> <p>Statewide: 15-20 per cent below 2005 levels by 2020</p> <p>Government: 30 per cent below 2015 levels for government operations by 2020</p> <p>Section 20 of the <i>Climate Change Act 2017</i> requires that government decision making or any policy, program or process developed or implemented by the government takes account of climate change, with reference to policy objectives and guiding principles in the Act.</p>
	<p><i>Renewable Energy (Jobs and Investment) Act 2017</i></p> <p>The Renewable Energy (Jobs and Investment) Amendment Bill 2019 (Vic)</p>	<p>25 per cent renewables by 2020</p> <p>40 per cent renewables by 2025</p> <p>50 per cent renewables by 2030</p>









Theme	Legislation and policies	Description
	Victoria's Renewable Energy Action Plan	<p>The Renewable Energy Action plan invests \$146 million across three focus areas:</p> <ul style="list-style-type: none"> supporting sector growth empowering communities and consumers modernising our energy system
	Energy Efficiency and Productivity Strategy	<p>The Energy Efficiency and Productivity Strategy has a range of aims and objectives including:</p> <ul style="list-style-type: none"> Strengthen and expand the Victorian Energy Upgrades program. Invest \$6.1 million over three years to help Victorian businesses achieve energy productivity and materials efficiency benefits. Invest \$1.8 million over four years to support poorly performing commercial buildings to implement energy efficiency improvements, saving \$18 million over 10 years, and reducing emissions by 55 kt CO₂-e. Invest \$17 million over four years to support over 3 300 Victorian households who are most in need, saving households \$12.6 million over 15 years, 59 000 tCO₂-e abatement and 9.6 million in health benefits.
Integrated water management	<i>Environment Protection Act 1970</i>	Creates duties to minimise risk of diffuse and point source pollution and minimise risk of pollutant from various types of used water.
	State Environmental Protection Policy (Waters)	
	Integrated Water Management Framework for Victoria	Creates a framework for integrated water management across the State.
	Water for Victoria	Water for Victoria is a plan for a future with less water as Victoria responds to the impact of climate change and a growing population

Theme	Legislation and policies	Description
Environmental Protection and enhancement	<i>Flora and Fauna Guarantee Act 1988</i> <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> <i>Environment Effects Act 1978</i> <i>Environment Protection Act 2017</i> <i>Wildlife Act 1975</i> Biodiversity 2037 Implementation Framework <i>Catchment and Land Protection Act 1994</i>	Conserve Victoria's endangered species. Effective management of wildlife. Control authorisation where wildlife and human activity clashes, including through using an Environmental Effects Statement. Committed to halting the decline of Victoria's native flora and fauna and engaging five million Victorians in environmental protection activities.









Please note that these obligations are current at the time of publication. Users should verify that they abide by any and all relevant legislation, strategy or policy, including those implemented following publication of this guideline.

Appendix 2 – Sustainability rating tools





Infrastructure Sustainability Rating Scheme

Name	Infrastructure Sustainability (IS) Rating Scheme	
Link	https://www.isca.org.au/	
Administrator	Infrastructure Council of Australia	
Overview	<p>The IS Rating Scheme is a comprehensive rating system for evaluating sustainability across the planning, design, construction and operational phases of infrastructure programs, projects, networks and assets.</p> <p>Ratings are based on a numeric score that is determined based on a project's performance against a number of 'credits', which are grouped into sustainability-related themes.</p> <p>The scheme is designed to operate in parallel with project development, from planning through to operation, with multiple points of third-party verification and potential certification.</p>	
Project types	All types of infrastructure, including (but not limited to): rail, road, social, telecoms, waste and water.	
Project lifecycle stages	Planning, design, as built and operations	
Alignment with Sustainable Investment themes		Cultural heritage
		Liveability
		Transport, access, and connectivity
		Climate resilience
		Material use and circular economy
		Energy productivity and carbon emissions
		Integrated water management
		Environmental protection and enhancement


Green Star

Name	Green Star
Link	https://new.gbca.org.au/
Administrator	Green Building Council Australia
Overview	<p>Green Star operates within Australia. It is a comprehensive rating system for evaluating the sustainability of community development plans (Green Star Communities), and across the design, as built and operational phases of a building's lifecycle.</p> <p>Ratings are based on a numeric score that is determined based on a project's performance against to a number of 'credits', which are grouped into sustainability-related categories.</p> <p>The scheme is designed to include multiple points of third-party verification and potential certification.</p>
Project types	Buildings, fit outs and communities
Project lifecycle stages	Design (communities and buildings), as built (buildings) and operations (buildings)
Alignment with Sustainable Investment themes	 Cultural heritage
	 Liveability
	 Transport, access, and connectivity
	 Climate resilience
	 Material use and circular economy
	 Energy productivity and carbon emissions
	 Integrated water management
	 Environmental protection and enhancement

National Australian Built Environment Rating System

Name	National Australian Built Environment Rating System (NABERS)	
Link	https://www.nabers.gov.au/	
Administrator	NSW Department of Planning, Industry and Environment	
Overview	The National Australian Built Environment Rating System (NABERS) can be used to measure a building's energy efficiency, carbon emissions, as well as the water consumed, the waste produced and compare it to similar buildings. 12 months of real, measurable information about a building or tenancy, such as energy and water bills or waste consumption data as the basis of the rating. Ratings are expressed as a star rating and are updated annually by an accredited assessor.	
Project types	Certain building types only: Apartment buildings, offices, shopping centres, data centres, hotels and hospitals.	
Project lifecycle stages	Operations (buildings)	
Alignment with Sustainable Investment themes		Liveability
		Material use and circular economy
		Energy productivity and carbon emissions
		Integrated water management

Climate Active

Name	Climate Active
Link	https://www.climateactive.org.au/
Administrator	Commonwealth of Australia (Department of the Environment and Energy)
Overview	Climate Active (formerly titled the National Carbon Offset Standard) is a government program, supported by prescriptive standards, that provides organisations with a pathway for certifying and communicating carbon neutrality.
Project types	Business operations (organisations), products and services, events, precincts and buildings
Project lifecycle stages	Whole of life
Alignment with Sustainable Investment themes	 Energy productivity and carbon emissions

