AODP

Climate Risk Management

Best Practice Methodology
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Introduction

The world is warming at a rate unprecedented in human history. Global air temperatures, humidity and rainfall patterns show a distinct ‘fingerprint’ that cannot be explained without the rise in emissions of carbon dioxide (CO$_2$) and other greenhouse gases (GHGs) caused by human activity.$^1$

Globally, the average temperature has risen by about 0.75°C over the last 100 years – during this time, the amount of CO$_2$ in the atmosphere has increased by about 30%. The rate of warming is increasing and over the 50 years from 1956 to 2005 the world warmed at about 0.13°C every decade on average.

Dozens of the most prominent scientific academies and associations have re-affirmed the majority scientific view that says the world is warming rapidly, that human activity is highly likely the main cause, and that prompt action is needed to avoid dangerous climate change.

There is not a single credible scientific institution that disputes the science of climate change. These include the leading academies in 13 of the world’s most powerful developed and developing countries, including the US, Japan, the UK, Germany, Canada, China, Russia and India, who issued a joint declaration on climate change in 2009 stating that “The need for urgent action to address climate change is now indisputable.”$^2$

After decades of research by many different academic institutions around the world, scientists have become more and more confident that the world is warming rapidly and that most of this warming since the Industrial Revolution is due to human activity.

The scientific community has rigorously examined the other candidates for the cause of the warming in recent decades – forces that have changed the climate in the past, such as changes in the Sun’s output or volcanic eruptions – and found them wanting.$^3$

The impact of climate change on business

There is growing international consensus regarding the need to regulate and price GHG emissions and there is a risk of significant costs arising from emissions-intensive operations.

The International Energy Agency (IEA) has estimated that to stabilise the concentration of GHG emissions in the atmosphere at 450 parts per million (ppm) the price of carbon emissions in industrialised countries will reach US$50 per tonne in 2020 rising to US$110 by 2030 (and US$65 per tonne in other major economies).$^4$

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2. Climate change and the transformation of energy technologies for a low carbon future (G8+5 Academies’ joint statement) (www.nationalacademies.org/includes/G8+5energy-climate09.pdf, accessed 04/06/10)
This level of concentration is consistent with limiting the increase in global temperatures to 2°C – a goal recognised under the Copenhagen Accord. So far, 138 countries representing over 85% of global emissions are likely to or have engaged with the Copenhagen Accord.\(^5\)

**The impact of climate change on asset owners**

Asset owners have many risks to consider. Fears about systemic risks such as banking stability are rife following the sub-prime collapse and resultant global financial crisis, but climate change is perhaps the largest single threat to an asset owner’s long-term performance. Of all the environmental, social and governance (ESG) issues, climate change has the highest material threat to all aspects of an asset owner’s portfolio.

High risk sectors include fossil fuels, stationary energy, steel, aluminium, cement, construction, transportation and the financing of these sectors. This could be over 40% of an asset owner’s portfolio, with a large proportion of this exposure in capital intensive assets that have life spans of up to 40 years.

The physical and policy impacts of climate change already affect specific asset classes and jurisdictions but also have the ability in the future to create sudden, widespread repricing of global markets and panic regulation in future which may drive down values across *all* asset classes and jurisdictions.

In February 2011, leading global investment consultant Mercer released a seminal report on the magnitude of risk climate change has on investments. Indeed, in this report climate policy uncertainty was identified as “…a significant source of portfolio risk for institutional investors to manage over the next 20 years”.

The report – “*Climate Change Scenarios: Implications for Strategic Asset Allocation*”\(^6\) – focuses on the impact that climate change risks have on investments and is the result of collaboration between Mercer and institutional investors representing approximately $2 trillion of assets under management.

The report's key finding is that climate change increases investment risk - a message The Climate Institute has been strongly advocating in the Australian business and investment communities for some time now, particularly within the Australian superannuation industry.

The Mercer report:

- Advocates immediate investment in low carbon assets to hedge climate risk.
- Advocates massive realignment in portfolios to ‘climate sensitive assets’
- Says traditional portfolio models are incapable of managing climate risk
- Policy uncertainty adds 10% to portfolio risk

The implications for superannuation funds are significant with a 40% allocation to climate sensitive assets currently representing approximately $500bn of current and future retiree’s money in Australia alone. The report also highlighted that a continued

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\(^5\) US Climate Action Network (http://www.usclimatenetwork.org/policy/copenhagen-accord-commitments#Note1)

\(^6\) [http://www.mercer.com/climatechange](http://www.mercer.com/climatechange)
delay in climate change policy action could cost institutional investors around the world “trillions of dollars” over the coming decades.

Asset owners must recognise that climate change is an investment risk with a unique profile. It is a long-term risk that also has high certainty and high impact. Furthermore, the inherent short termism in capital markets driven by, amongst other factors, traditional discounted cash flow (DCF) valuation techniques, does not enable an accurate assessment of such risk.

Climate change represents a unique challenge for asset owners to account for such risks in their existing portfolios and to take advantage of the rapidly emerging new markets.

As a result of this situation, large asset owners in particular such as superannuation funds, pension funds, sovereign funds and insurance companies are faced with three key challenges:

1. Integration of climate change risks and opportunities into investment strategies;
2. Restructuring the processes within the investment chain to better account for high certainty, high impact, long-term risks; and
3. Implementing systems to check that the processes in place are sufficient to manage climate change risks and opportunities on an ongoing basis.

This represents a significant business transformation and change management challenge to asset owners. Any significant business change or transformation requires specific governance and the Climate Change Best Practice Methodology (the Methodology) has been produced to help manage the change.

The Methodology is a step-by-step guide designed to assist asset owners in designing and implementing a programme that will raise the standard of climate change management in their organisation to the highest global industry benchmarks.

The key objective is improved management of climate change-related risks leading to better long-term risk-adjusted returns for members.
Overview of the Methodology

The Methodology provides guidance to asset owners on how to create processes to combine fundamental quantitative analysis with carbon risk research, thereby optimising the risk/return profile of their portfolio.

The Methodology is designed to assist asset owners in building capability that will increase members’ long-term returns by:

1. Measuring climate change risks and opportunities within investments across all asset classes;
2. Implementing new business processes and capability for the ongoing monitoring and management of climate change risks and opportunities; and
3. Protecting the fund from a sudden climate change event which may cause a global repricing of assets.

The diagram below shows the Methodology process flow.

The Methodology guides the user through the implementation of climate change best practice policies and procedures within a project management framework to ensure efficient management of the business transformation.

There are an almost infinite number of investment styles and strategies. The objective of the Methodology is to be clear on what risks and opportunities require careful management whilst providing a range of options and flexibility as to how those risks and opportunities can be managed.
Who is the Methodology for?

The Methodology is designed for asset owners that are both starting from a low base and also for those that are more advanced in their management of climate change risks and opportunities.

The Methodology is for use at all levels of the organisation but will most likely be used by either an ESG or climate change executive and the Chief Information Officer, or equivalent. A project officer should also use the Methodology to manage the related documentation and build a repository of information related to climate change.

The Methodology should be used to document and build a record of progress in a way that can be reported to the relevant committees and Board.

Investment managers and asset consultants may be asked by asset owners to develop certain capabilities and become involved in using the Methodology. However, use of the Methodology should not be totally outsourced as it is critical that the structural changes be owned and managed by the asset owner themselves. Additionally, the portfolio-level processes and investment adjustments need to be understood and made by asset owners.

Certain aspects of the Methodology inevitably lie outside the asset owner’s internal operations, but the co-ordination of effort to build overall climate change responsibility must be undertaken at the asset owner level. Only the asset owner can manage the overall change and see the aggregated risks and opportunities across all investment managers and the different asset classes.

Also, consideration of critical long-term risks cannot be outsourced without assurance that they are being managed further down the investment chain. Hence, a key part of implementation is to work closely with third parties and to create appropriate auditing systems to ensure that new processes are adhered to.

How to use the Methodology

The Methodology has been designed to allow asset owners to integrate climate change management into every aspect of their activities – both in terms of operations and within their investments. It is prescriptive enough to allow the user to follow closely for those starting from a low base but can also be used as a “pick-and-mix” approach by selecting the priority of each element and ordering them in their implementation plan to fit with their own unique requirements and style.

The Methodology incorporates standard design templates, methods and accelerators covering every business function area within a typical fund to help manage all implementation activities.

\[7\] Please note that investment managers, asset consultants and other partner organisations will require a separate free licence to read and use the Methodology and should contact The Climate Institute to enable this.
Using the Methodology, an asset owner’s nominated executive or project manager can create a comprehensive plan for the overall project, a staffing plan and other sub-processes such as system testing, communication and data migration. Milestones are set for every work-stream so that progress can be carefully tracked by the project management team and reported to the Board.

The Methodology can be used in a variety of ways either as an end-to-end process or as an adjunct to an existing strategic planning framework.

Detailed templates and checklists are provided for each phase, which the asset owner can use as a basis for its blueprint and implementation planning. The templates and checklists provided serve as examples and asset owners utilising them should modify or amend them as necessary to suit their individual purposes.

The Methodology focuses on how to affect the risk-return profile of an asset owner’s investment portfolio. There are some elements of the Methodology that should be clearly mandatory for an asset owner to implement if they wish to consider themselves best practice, for example formulating a fund-wide policy on the treatment of climate change risks and opportunities. However, there are often many ways to achieve the same objective and so we have not been overly prescriptive as to how an asset owner should achieve those objectives that may be affected by factors such as culture, investment style and opinion.

The Methodology contains detailed reasoning behind each phase of implementation and why best practice is represented in this way. Where relevant examples exist of how leading asset owners have implemented in each area or where key evidence is available to support the reasoning, references and links to specific items are provided in the climate change evidence dossier (Appendix 1).
Following is a summary of the four phases of the Methodology.

**Phase 1 – Climate change assessment**

The first step towards best practice is making an assessment of the asset owner’s existing climate change capabilities and risk exposures. This initial phase is flexible in that some asset owners may begin with an assessment of their climate change capability while others may just launch straight into the project initiative (Phase 2).

**Phase 2 – Design of the fund’s climate change blueprint**

The project is initiated and the new policies, processes and systems are defined. In this stage, any portfolio changes identified as important to re-adjusting the climate risk profile of the portfolio are identified.

**Phase 3 – Implementation of new business processes**

The investment decisions that will manage any unintended, acquired climate risk in the portfolio will be executed. Additionally, the new business processes are implemented, staff training and education takes place, new information systems are configured and the new processes for managing climate risk and opportunity are executed.

**Phase 4 – Project completion and ongoing management**

It may take time to fully adjust the portfolio to account for climate risks and opportunities, but this phase is where the new processes and standards are fully implemented in the fund and its partner organisations. The new policies, processes and systems are closely monitored to ensure they are fully integrated into the normal running of the portfolio.

The remainder of this document guides you through each phase of the Methodology.
Phase 1 – Climate change assessment

Asset owners should begin their project with an assessment of their current capability. Asset owners can use this section of the Methodology to conduct their own assessments or they can use the services of a qualified third party trained in the use of the Methodology to conduct this assessment on their behalf.

Checklist: Climate change assessment

<table>
<thead>
<tr>
<th>Task</th>
<th>Assessment notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain approval for assessment</td>
<td></td>
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<tr>
<td>Assessment preparation</td>
<td></td>
</tr>
<tr>
<td>Confidentiality agreements signed if assessment is conducted by a third party</td>
<td></td>
</tr>
<tr>
<td>Required documentation list sent by assessors (if external)</td>
<td></td>
</tr>
</tbody>
</table>

**Areas of assessment:**

- Governance
- Policy
  - Investment policy (including rebalancing policy)
  - Risk management policy
  - Sustainability policy
  - Climate change policy
- Asset allocation
  - Strategic asset allocation
- Asset consultants
  - Asset consulting agreements
  - Asset class reviews
- Investment managers
  - Investment management agreements
- Investment reporting
- Information systems development
- Active ownership
  - Fund engagement and voting strategy
- Collaborative initiatives and investments
- Member engagement
- Training and education
- Internal carbon footprint management

The assessment should be conducted with reference to the best practice areas outlined in section two of the Methodology. For each step in the process, the assessor should document the current level of practice so that the gap between current and best practice is recorded.
Phase 2 – Design of the fund’s climate change blueprint

In this phase, following the climate change assessment, initial planning is undertaken. Within the blueprint, detailed business policies and processes are defined and steps on how they are to be implemented are prescribed. These are then incorporated into a business blueprint document. Typically, when a broad area is broken down into more detail, a better view of the costs and implications of that area can be made.

The blueprint design phase is split according to the distinct areas of a fund’s operations, including:

1. Fund governance and change management
2. Policy development
3. Integrating climate change into investment policy
4. Asset allocation
5. Asset consultants: mandates and processes
6. Investment managers: mandates and processes
7. Reporting of climate change data
8. Identification of climate change risks
9. Fund-level climate change management
10. Information systems development
11. Active ownership
12. Collaboration on climate change initiatives
13. Communication with members
14. Staff training and education
15. Internal (fund) climate change management

2.1 Fund governance and change management

Best practice:

- Develop a formal plan to build climate change capability
- Be proactive in overcoming barriers to investment in low carbon assets

Good fund governance is critical to implementing climate change best practice. Whilst we are not concerned here with all matters pertaining to governance there are a few important governance elements that are key to success. The main ones concern change and project management.

Most asset owners will have some experience of managing change and many of those will have done so through a discrete project and change management framework. Climate change is a whole-of-fund issue that affects every part of an
asset owner’s business and portfolio. As such it is key that the Board ensure that objectives, strategies and plans are identified and properly resourced through a formal project management framework. Additionally, there may be some personnel and cultural issues that require accompanying change management processes to ensure smooth implementation.

The key step at the beginning of the change process is the production of the project outline document. Tasks to be completed include project approval and the agreement of a project governance structure that should report via management to the Board. In addition, the project outline should describe the project’s structure, roles, responsibilities and guiding principles that will allow detailed design of the fund’s climate change capability.

The project itself may require processes of its own including regular meetings, resource and task planning, risk management, issue management, quality and audit processes depending on the size of the fund.\(^8\)

The main objectives to be achieved from the project need to be identified – this may be as simple as producing a high-level objectives statement. The aim is to capture objectives as currently understood by the fund even though these objectives may change. The following issues should be addressed:

- If there are preconceptions about the objectives, these should be documented at this stage. Objectives may include being seen by fund members to be accounting for climate change, to become a leader or to avoid becoming a laggard in the climate change arena.
- To what degree are the fund’s assets actively managed? Best practice is more readily applied to assets that are actively managed, however, even in passively

\(^8\) Refer to the climate change evidence dossier, item d for further information.
managed portfolios (with the exception of full index replication) many elements of climate change best practice may be implemented.

- If an asset owner already has existing capability on climate change risk and opportunity management, it should be inventoried at this stage, including business processes, industry standards, existing contracts, systems functionality and user interfaces and reports.

Issues around implementation should be documented including any cultural or change issues at both management and Board level, as well as any entrenched attitudes or human resource issues.

Approval processes will vary from fund to fund but clearly there are significant implications for policy and processes, and so some kind of Board involvement is likely even if assessments themselves can be approved at a more local level such as the investment committee.

For the initiative to be successful, acknowledgment by the Board that a tight governance process will oversee the project is critical. We therefore recommend the initiative obtains sponsorship and support at the Board level. ⁹

An example of a possible Board resolution around climate change is shown in Appendix 2.

Roles and responsibilities

The roles and responsibilities during the project depend on a host of factors pertaining to the individual fund’s structure, culture, style and Board composition, however, there are three key roles that we recommend be undertaken as part of the project, as described below.

**Project sponsor** – The structure and culture of Boards vary in each organisation, with some Chief Executive Officers (CEO) playing more active roles whereas others have a more collegiate style. In either case, the project sponsor needs to be sufficiently influential to raise and manage issues through the implementation process as well as articulate the fund’s view on climate change and emission control measures. This should normally be the CEO or Chair of the Board but in some funds may be a particular trustee representative. This person is responsible for driving the initiative through the various governance processes. Note that this cannot be the Chief Investment Officer (CIO) even though the CIO may be perceived in some funds as the main benefactor of an improved climate change capability – the sponsor needs a “whole of organisation” view of the benefits of the programme and the authority to resolve the human, cultural and process issues that may arise.

**Project manager** – In some cases, this will be the CIO as most of the process areas covered by the Methodology sit under the CIO’s domain but in large funds, an external project manager may need to be appointed. The project manager cannot be the same person as the project sponsor.

**Project officer** – The project officer will collate all material pertaining to the initiative and be responsible for providing tracking information, disseminating progress reports

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⁹ Refer to the climate change evidence dossier, item b and c for further information.
and co-ordinating the necessary stakeholders. This person may be an existing investment analyst who is assigned the project role in addition to, or to temporarily replace some of their existing responsibilities. Depending on the size of the fund this may be the CIO, sustainability manager, ESG manager, governance manager or a delegated analyst.

Initial task and resource planning

Even at this early stage, some relevant team members can be identified and mobilised and high-level estimates for resources and a preliminary budget may be established. Once approved, a schedule of the data and resources that are committed to the overall project plan can be created. Given that the details of the fund design have not yet been completed, the plan will be high-level with many gaps to be completed during the blueprint phase.

It is possible that some of the resource time in the project can be absorbed with normal duties (i.e. within the scope of a fund executive’s normal role). While this can work, there are some project risks associated with this approach. It is dangerous to assume that a quality project outcome can be achieved while expecting the usual levels of operational excellence. To offset this risk, additional support for staff in their usual roles may be required or project planning may need to account for peak operational periods such as financial reporting periods.

It should be noted that at this stage common mistakes are: anticipating too much detailed planning before real requirements or the blueprint is determined and overloading the CIO with project responsibility and work on top of the operational responsibility.

Following the initial implementation plan, resource requirements should be added to the plan to understand the full costs and time associated with the project. It is only then that each area of best practice implementation can be prioritised and ordered.

Checklist: Fund governance and change management

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of climate change project governance frameworks</td>
<td></td>
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</tr>
<tr>
<td>Identify any existing climate change project governance frameworks</td>
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</tr>
<tr>
<td>If there is an existing framework, determine if it works or if amendments (such as outlined in subsequent steps) are applicable</td>
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<tr>
<td>Board acknowledgment of climate change governance</td>
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<tr>
<td>Generate Board resolution for climate change governance</td>
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<tr>
<td>Present resolution to the Board</td>
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<tr>
<td>Gain Board approval</td>
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<td></td>
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<tr>
<td>Create outline containing the initial charter for the project</td>
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<tr>
<td>Gain project approval</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allocation of roles and responsibilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Define project roles and responsibilities (hire where necessary). Key roles include:</td>
<td></td>
<td></td>
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<tr>
<td>- Project sponsor</td>
<td></td>
<td></td>
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<tr>
<td>- Project manager</td>
<td></td>
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<tr>
<td>- Project officer</td>
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</tbody>
</table>
Initial scoping

Determine high-level objectives for the project

Define existing capability to manage climate change risks and opportunities. For funds with existing capability, an inventory should be conducted. Capability areas include:
- Knowledge
- Skills of internal staff
- Access to research
- Capability of investment managers
- Capability of asset consultants

Initial task and resource planning

Add preliminary resources, timeline and budget to outline document

2.2 Policy development

Best practice:
- Formal, fund-wide climate change policy

Formation of a climate change policy

There is sufficient evidence to demonstrate funds’ growing acceptance of the need for a specific climate change policy.\(^\text{10}\) Best practice is evidenced by the adoption of a firm-wide climate change policy to provide guidance to fund trustees on the specific issues that climate change raises for the fund in sufficient depth and detail to add value to the funds activities.\(^\text{11}\) Funds may elect various forms of policy in relation to climate change including the following options:
- A stand-alone climate change policy.
- Climate change policy included as part of the fund’s broader ESG policy.
- An investment policy that integrates climate change risks and opportunities.

We believe the most effective policy mechanisms for fund’s with respect to climate change are a firm-wide policy (e.g. as stand-alone policy or integrated into ESG policy) as well as having climate change-related issues integrated in the fund’s investment policy. This combination ensures that both the fund’s investments and its operations are subject to climate change risk management as well as creating a governance framework for dealing with climate change.

There is a sample climate change policy shown in Appendix 3 that can be used as a starting point for creating either a stand-alone policy or for integrating climate change considerations into a broader ESG policy.

\(^\text{10}\) Refer to the climate change evidence dossier, items e for further information.
\(^\text{11}\) Refer to the climate change evidence dossier, items f for further information.
In addition, the following steps provide guidance to funds on how to form a firm-wide policy on climate change. The resultant policy may then be adopted as a stand-alone policy or as part of the fund’s ESG policy.

1. **Review of existing policies.** Review of existing fund policies to assess the extent to which climate change risks are currently being monitored and managed.

2. **The Board’s acceptance of policy requirement.** The project sponsor should table a Board motion acknowledging the need for a policy on climate change and indicating that the Board fully accepts the broad science of climate change and its potential impact on members’ long-term returns.

**Checklist: Board motion for climate change policy formation**

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrangement of Board motion to create a fund climate change policy</td>
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<td></td>
</tr>
<tr>
<td>Acceptance of the science of climate change</td>
<td></td>
<td></td>
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<tr>
<td>Acceptance of the risk of climate change to members’ long-term returns</td>
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<td></td>
</tr>
<tr>
<td>Determine level of Trustee accountability regarding climate change issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine the role of fund executives and their relationship with Trustees in relation to the management of climate change</td>
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</tbody>
</table>

3. **Statement of the Board’s position of governance and climate change.** The Board should confirm its position regarding governance in this area and that the management of climate change risks is consistent with its duties. The Board should record how the fund’s culture might influence the transition process or outcome and make any changes to governance accordingly. The fund’s culture cannot be easily or quickly changed, however, a full understanding will assist in making decisions regarding its processes. This in turn will have considerable impact on the effect of policies designed to capture climate risk and opportunities. Three key aspects to consider in this area are:
   - The fund’s view of trustee accountability;
   - The relationship of the Board with the fund executives; and
   - The nature of the fund (i.e. a not-for-profit fund or a master trust).

4. **Develop the fund’s climate change policy.** While there are several options for developing the fund’s climate change policy, the main features that should be included in the policy are:
   - An acknowledgement of the existence of climate change risks and opportunities within the fund’s investments that may affect members’ long-term returns.
   - A commitment to manage the risks associated with climate change issues, as well as to seize the opportunities that are available across all asset classes.
   - A framework for carbon performance improvement and monitoring.
   - The range of collaborative initiatives that the fund participates in, e.g. Carbon Disclosure Project (CDP), United Nations Principles for Responsible Investment (UNPRI), the AODP, etc.
- A governance framework for climate change within the fund and to nominate a key executive accordingly.
- A commitment to communicate regularly with members and stakeholders as to how climate change risks and opportunities are managed.

**Key aspects of funds’ climate change policy**

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine type of climate change policy (i.e. standalone, part of ESG, integrated or both)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Define the purpose and objective of the climate change policy</td>
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<td></td>
</tr>
<tr>
<td>Acknowledgement of the existence of climate change and that it may affect members’ long-term returns</td>
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<tr>
<td>Provision of framework to assess the carbon performance of the fund for continuous improvement and monitoring</td>
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<tr>
<td>Creation of a governance framework within the fund and assign a key executive responsible for all climate change issues</td>
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<tr>
<td>Regular communication and updates to be provided to members and stakeholders to educate on how the risks and opportunities are managed by the fund</td>
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</tbody>
</table>

**2.3 Integrating climate change into investment policy**

*Best practice:*

- Fund-wide climate change policy integrated into, or referenced in, investment policy

It is not only important for funds to form specific policies around climate change and sustainability, but also to ensure that its existing policies and frameworks have climate change considerations incorporated within them. This includes (but is not limited to) the investment policy which governs the management of the fund’s investments including investment objectives, asset allocation, use of investment managers and asset consultants, performance measurement and reporting.

Investment policies typically include, amongst other stipulations, the necessary requirements which administer the employment of external consultants and investment managers. To ensure that the advice provided by these third parties reflects climate change considerations, it is essential that the investment policy states the requirement for climate change capability and processes in hiring external consultants and investment managers.
2.4 Asset allocation

**Best practice:**
- Climate change considerations incorporated when devising strategic asset allocation
- Climate change considerations incorporated when devising rebalancing policy

It is acknowledged that asset allocations are usually derived based on historical returns, the correlations of those historical returns and how their configuration preserves the best fit to the efficient frontier (Markowitz and modern portfolio theory). However, never before have asset owners faced a long-term, high impact risk with high probability, and it is this risk profile, represented by climate change, that requires management. There are important considerations for setting the fund’s strategic asset allocation as a result.

Traditional portfolio theory also does not typically work well in managing systemic risks which, when manifested, result in a selling market and significant deleveraging. In these conditions, the choices to switch capital are limited without incurring large scale losses as all players in the market see the same conditions. This is important to recognise because as each year passes, the chance of there being a smooth transition to a low carbon economy that keeps to the 2 degree scenario diminishes and so the risk increases of there being rapid tightening of regulation and thus a high carbon price.

The integration of climate change risk into a fund’s investment strategy begins at the asset allocation level. This is one of the key initial decisions which addresses how a fund intends to manage climate change risks (i.e. the level and method by which the portfolio’s investment capital should be allocated to both manage climate change risks and maximise opportunities).

There are several options available for asset owners, including identifying climate change as a separate asset class in their strategic asset allocation. The options available include:

- Allocate funds as a hedge against climate change risk for all asset classes.
- Set a target investment level for climate change-related assets that is based on the capital requirement curve for the likely emissions target set by policy under the IEA 450ppm scenario that supports current global policy.
- Incorporate climate change risk analysis within regular investment decisions.

*Allocate funds as a hedge against climate change risk across all asset classes*

Whilst most funds currently have hedging policies in relation to foreign exchange and interest rate movements, energy consumption, etc., insufficient focus has been directed towards the hedging policy on future carbon liabilities. Some publicly listed funds have formal policies whereby they are required to hedge foreign exchange income for a certain number of years, raising the issue of whether this should be implemented for future carbon liabilities. This is not merely a possible hedging strategy against carbon prices, but also a hedge against any sudden risk repricing following rapid developments in policy or a catastrophic physical event.
Best practice is to calculate the potential carbon liabilities arising from the fund’s investments and the hedging investment required to provide the desired level of protection from potential liabilities. There is not yet a one-size-fits-all hedging ratio as there are many variables in each fund’s portfolio composition, risk appetite, etc., but there are some funds around the world, particularly in Europe (e.g. Norway’s Government Pension Fund – Global) that have set themselves a 5-6% allocation to low carbon assets as a hedging strategy.

There are many ways in which this can be implemented. Some funds may choose to hold low carbon investments in their directly held portfolios or in areas such as infrastructure where there are no specific indices driving investment or limiting portfolio tracking errors. Others may choose to underweight exposure to emissions intensive assets in particular asset classes, such as fixed income.

Set a target investment level for climate change-related assets

The difficulty that funds have in assessing climate change investments is not only because of their long-term nature but also because of the lack of precision in assessing future returns in some areas. Although long-term performance is not yet available for all low carbon investment opportunities, there is likely still sufficient justification through correlation analysis to invest in such assets as part of a hedging strategy against exposure to emissions intensive holdings.

This approach may include selecting investment managers who have a specific capability around climate change or sustainable investment. There are already investment managers, particularly within equities, who are specialising in this area and selection of them is an ideal way to integrate climate change into the portfolio.

The benefit of categorising climate change assets as a separate asset class is that it allows for performance benchmarking in new areas such as carbon intensity. In addition, by separating climate change risks out of the broader portfolio the bulk of the existing investments may remain relatively undisturbed. In turn, benchmarking may be used to monitor ongoing portfolio performance and also as a means of comparing investment manager capability in managing climate change.

In 2008, The Climate Institute estimated that the required investment in low carbon stationary energy to meet an emissions reduction goal of 25% below 1990 levels in Australia alone would be $5.2bn per annum between 2009 and 2020. As the stationary energy sector represents approximately 50% of Australia’s total emissions, it could be argued that across all sectors, approximately $10.4bn is required per annum to meet the 25% emissions reduction goal. 12 13 14 The McKinsey abatement cost curve suggests this figure could be lower as there are significant abatement opportunities with negative abatement costs (i.e. positive returns). 15

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14 Based on Australia’s GHG emissions in 2006 sourced from the National Greenhouse Gas Inventory 2006 website (http://www.climatechange.gov.au/inventory)

15 Refer to the climate change evidence dossier, item j for further information.
One option for funds is to invest a proportional amount of capital in line with government emissions targets on the premise that, however emissions trading legislation develops, the net result will be legislation designed to meet the re-investment target laid out by the capital requirement curve implied by the Copenhagen Accord or a subsequent equivalent and legally binding agreement. For example in the USA this represents between $50-100bn per annum. That is, if a $10bn fund represents 0.05% of the USA’s capital markets, then that fund might proportionally invest between $25-50m per annum in climate change assets to match the opportunity or a pre-determined fraction of that amount depending on its view of the risk if a hedging position is to be obtained.

Climate change assets have some unique properties. From a defensive perspective, assets in the form of clean energy infrastructure can be used to help form a “defensive” portion of a portfolio. However, some funds allocate private equity assets into the clean energy space along with cleantech assets which are traditionally seen as “growth” assets. It is therefore important for funds to delineate climate change assets within their aggregated portfolio holdings so that clean energy infrastructure across the portfolio is separated, for example, from cleantech companies operating in the venture capital/private equity arena.

Careful consideration also needs to be given to the treatment of the emerging markets asset class. Whilst these economies typically provide a more aggressive risk/return profile these economies are also most likely to suffer the physical impacts of climate change.\(^{16}\)

*Incorporate climate change risk analysis within regular investment decisions*

This involves relying on conventional investment analysis overlaid with climate change research. This approach would typically be the most vulnerable (of the three alternatives provided) to any sudden market repricing events due to rapid policy tightening. This approach is of course recommended regardless but in an asset allocation context, if the result was a net high climate risk, some form of hedging would be required to protect the portfolio.

**Checklist: Asset allocation**

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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</thead>
<tbody>
<tr>
<td>Determine strategic asset allocation</td>
<td>Australian equities</td>
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<td></td>
<td>International equities</td>
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<td></td>
<td>Property</td>
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<td></td>
<td>Infrastructure</td>
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<tr>
<td></td>
<td>Private equity/private capital</td>
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<tr>
<td></td>
<td>Hedge funds</td>
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<td></td>
<td>Fixed income</td>
<td></td>
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<tr>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Determine asset allocation strategy regarding climate change issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine allocation of climate change investments across asset classes</td>
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</tbody>
</table>

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\(^{16}\) Reference the impact of climate change on Northern China’s water supply.
2.5 Asset consultants: mandates and processes

Best practice:

- Assess climate change-related capabilities/performance when appointing an asset consultant
- Asset consulting agreement incorporates climate change issues
- Asset consultant’s incentives are aligned with member interests

As part of the review of the asset allocation strategy, funds will need to ensure that the strategy is communicated to external asset consultants as the requirements for climate change management should be incorporated into their mandates, recommended asset allocation strategies, short listing of investment managers and day-to-day advice.17

Funds should review their existing mandates with asset consultants (possibly as part of the climate change assessment phase) and identify the areas that need to be amended to reflect their new strategies. Such changes may include, but are not limited to, the following:

- Specify requirement of climate change research integration within consultant models and investment processes;
- Include references to any climate change and/or sustainability policies that the fund may have to ensure they are accounted for by the asset consultant; and
- Include considerations for climate change management capability in the short listing and review processes of investment managers and their styles.

Another important component is fee structures. This should be evaluated to ensure that appropriate incentives are in place to encourage the execution of the fund’s strategy in managing climate change risks and seizing opportunities. Other than being good practice, this may eventually be required as the G20 Financial Stability Board looks to implement regulations to align incentives with the relevant time horizon of risk. This is also clearly aligning the incentives for asset consultants with the interests of the asset owners’ stakeholders or members. Funds will need to evaluate which method of aligning the asset consultants’ incentives are most appropriate for adoption. Incentive alignments could include:

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17 Refer to the climate change evidence dossier, item k
PHASE 2 – DESIGN OF THE FUND’S CLIMATE CHANGE BLUEPRINT

- Spreading bonus criteria over longer time periods.
- Creating bonus clawbacks for periods of poor performance.
- Highlighting climate risk in the incentives as a key long-term risk to be managed and incentivising accordingly.

Regular engagement with asset consultants is crucial to ensure a smooth transition to improved climate change capability and asset owners will need to ensure that their asset consultants are well-informed and updated on climate-related issues.

Checklist: Asset consultant mandates and processes

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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<tbody>
<tr>
<td>Conduct review of existing mandates</td>
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<tr>
<td>Highlight which mandates need re-negotiation and update to factor in climate change risks and opportunities</td>
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<tr>
<td>Request climate change capability statement from asset consultants</td>
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<tr>
<td>Integrate climate change research as part of the asset allocation strategy</td>
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<tr>
<td>Include references in the asset consulting agreement to the sustainability and/or climate change policies of the asset owner</td>
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<tr>
<td>Amend fee structure such that it reflects longer-term bonus and incentives and encourages execution of climate change strategies</td>
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<tr>
<td>Short-listing process and selection criteria of investment managers to include climate change capability</td>
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<tr>
<td>Asset consulting reports to incorporate regular updates on climate change issues</td>
<td></td>
<td></td>
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<tr>
<td>Define capability gap with asset consultants</td>
<td></td>
<td></td>
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<tr>
<td>Communicate climate change asset allocation strategy with asset consultants</td>
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<tr>
<td>Discuss programme to audit asset consultant processes</td>
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</tbody>
</table>

2.6 Investment managers: mandates and processes

Best practice:
- *Investment management agreements incorporate climate change issues*
- *Investment managers’ incentives are aligned with member interests*
- *Assess climate change-related capabilities/performance when appointing an investment manager*

Climate change management can only be incorporated into the investment analyses if the funds’ external investment managers are aligned with the strategy.
The first, and most important, step is to evaluate all current investment management agreements (IMAs) to assess if appropriate fee structures are in place to reward management of long-term risks and opportunities such as those presented by climate change. This alignment of interests will help to minimise long-term systemic risk from building up as it did during the sub-prime crisis and, as mentioned previously, may be regulated in time due to the G20 Financial Stability Board. Similar to incentivising asset consultants, the options for greater incentive alignment could involve any, or a combination, of the following:

- Spreading performance bonus criteria over a longer time period.
- Creating bonus clawbacks for poor long-term performance.
- Highlighting climate risk in the incentives as a key long-term risk to be managed and incentivising investment managers accordingly.
- Providing a longer term share options scheme if relevant to that funds structure.

Incumbent investment managers need to be assessed to see if they are capable of incorporating climate change issues as any unmanaged risks may lead to loss of asset value, even in the short-term.

A fund must make a key decision regarding incumbent investment managers – whether to impose new standards or to allow them the freedom to manage investments and then manage the residual climate change risk via another policy instrument such as a hedging investment in low carbon assets. Best practice is for funds to alter their mandates for investment managers to include climate change issues where it has not already been incorporated. This is to help ensure that their investment decisions across all asset types factor in climate change risks and opportunities. This may include requiring the investment manager to:

- Acknowledge and adhere to the fund’s climate change and sustainability policies.
- Use prescribed datasets in the analysis of company risk in relation to climate change. For example, using the climate ratings of a particular research company or certain climate change metrics.
- Prescribing the use of particular information systems or software as a prerequisite to being able to manage climate risk adequately.
- Include rigorous analysis of climate risks and opportunities as part of the investment management process and using a company’s capability in this area as part of its overall rating for the asset.
- Include climate change analyses in regular monitoring reports as assurance that the appropriate analyses are conducted.
- Align reward structures such that the investment management performance in the long-term is directly related to fees.
- Include details of any climate change updates (such as carbon market environment, etc.) in regular reporting.

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18 Refer to the climate change evidence dossier, item w
19 Refer to the climate change evidence dossier, item x
• Where voting authority is delegated, the proxy voting guidelines should be aligned with the fund’s climate change or sustainability policies.

Amendments to existing mandates should also reflect new processes for investment managers to capture any climate change-related opportunities if they are mandated for any other style than passive. Whilst climate change tends to be framed in a risk or cost perspective, it is important for funds to note that early movers are generally able to benefit and capitalise from early opportunities.

By engaging with existing managers and driving them towards climate change best practice, the fund is helping to ensure that the manager builds capability that will, over the long-term, provide a better risk/return profile. This approach may appear to be in conflict with the concept of delegation of investment responsibilities to external investment managers, but is entirely consistent with protecting the long-term interests of the fund’s beneficiaries.

Checklist: Investment manager mandates and processes

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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<tbody>
<tr>
<td>Evaluate mandates and fee structures to check for appropriate incentive alignment</td>
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<tr>
<td>Define new clauses for mandates</td>
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<td></td>
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<tr>
<td>Identify mandates that require re-negotiation</td>
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<tr>
<td>Communicate new Board resolution with investment managers</td>
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<tr>
<td>Re-negotiate mandates where appropriate or where investment manager requests re-negotiation</td>
<td></td>
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</tr>
<tr>
<td>Identify next investment manager selection/ mandate negotiation cycle</td>
<td></td>
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<tr>
<td>Request investment manager statement of climate change capability</td>
<td></td>
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<tr>
<td>Audit the investment manager’s climate change capability:</td>
<td></td>
<td></td>
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<tr>
<td>• Policy</td>
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<tr>
<td>• Integration of climate change risk</td>
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<tr>
<td>• Portfolio level climate risk</td>
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<tr>
<td>• Active ownership/engagement</td>
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<td>• Collaboration</td>
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<tr>
<td>• Collective investment</td>
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<tr>
<td>Issue new clauses to current mandate holders and planned re-negotiations or future mandates</td>
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<td></td>
</tr>
<tr>
<td>Amend mandates to include engagement around climate change issues:</td>
<td></td>
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<tr>
<td>• Policy on engagement</td>
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<tr>
<td>• Engagement auditing</td>
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<tr>
<td>• General voting guidance</td>
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<tr>
<td>• Specific engagement requirements e.g. CDP requests, fossil fuel lobby involvement</td>
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<tr>
<td>Check treatment of proxy voting</td>
<td></td>
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<tr>
<td>If proxy voting is outsourced, are there comprehensive guidelines to assist in the voting on climate change matters?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If proxy voting is delegated to investment managers, is there selective guidance provided on decisions involving climate change issues?</td>
<td></td>
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</tr>
</tbody>
</table>
Define how investment managers should assess risk and communicate:
- Use of carbon metrics in risk assessment, footprint and carbon strategy ratings
- Fossil fuel exposure
- Other high risk sectors exposure
- Balancing of listed low carbon stocks where appropriate

| Issue portfolio-level carbon optimisation metrics |
| Define reporting format on climate change |
| Define aspects of investment manager’s policy that are mandatory (e.g. EAI, UNPRI) |
| Does the mandate allow for capitalisation of climate change opportunities? |
| Define audit processes for all of the above and update mandate review template |

2.7 Reporting of climate change data

**Best practice:**
- Ensure climate change risks are identified and prudently accounted for throughout the investment chain…

**Reporting of GHG emissions inventories**

Funds should conduct inventory audits of the direct and indirect GHG emissions in relation to their investments as well as their own operations. Whilst selected company data is available through the CDP, asset owners should, directly or indirectly, encourage more frequent and accurate reporting. Such information is important in order for funds to be able to establish a baseline to gauge future emission trends and to ensure that various emissions reduction strategies are compared.

The accounting of emissions should ideally be externally verified where possible. Investment managers should be instructed to drive the verification of that data. The data should also be published as part of the reports provided to members in terms of emissions per million dollars of funds under management or a similar key performance indicator (KPI). It is important to recognise that carbon footprint is not an accurate indication of an asset’s performance and there are clearly many other factors to be accounted for in analysing a company. However, in some sectors the exposure to the inevitable rise in future carbon prices may be a very big influence on the rating of that company. In a tightening regulatory framework, carbon footprint may not be everything but it does mean that companies require even greater strengths elsewhere to offset those potential liabilities and an appropriate strategy for achieving those reductions.

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20 Refer to the climate change evidence dossier, item q
There may also be climate change-related data which may be relevant for the custodian to understand for reporting purposes and it is possible that some new processes or information systems will be required by investment managers and custodians to report this data.

**Reporting of climate change-related assets**

While there is no international standard for the classification of climate change assets, they broadly fall into four areas:21

- Energy efficiency
- Clean energy
- Agribusiness
- Water

Asset owners should report on these assets across their portfolio, including the fixed income assets that underpin those areas. Climate change-related assets can be found in a number of asset classes including, but not limited to:

- Infrastructure – adaptation assets (e.g. flood barriers, seawalls) and low carbon stationary energy assets (e.g. solar, wind, geothermal).
- Alternative assets – private equity, venture capital, property, infrastructure, hedge funds and commodities, low carbon and offset assets.
- Fixed income – financial products, loans and debt derivatives relating to climate change (e.g. climate change bonds).
- Listed equity – public companies that hold low carbon assets. This area is easy for some types of asset within these listed entities, but can be more complex in others. For example, if an aluminium smelter had its own wind farm to help power a plant then the wind farm would clearly be a low carbon asset but if a mining company owns a fleet of energy efficient earthmovers then the distinction is not so clear. As a general rule, any asset that lowers emissions in line with either the company’s or the sectors emissions target represents a reasonable definition.

**Collection of data**

As the ability of a fund assessing climate change risks or opportunities relies heavily on the accuracy of the data, funds need to ensure that the data collected for their investments is reliable.

**Listed assets**

For listed assets, data can be collected from a number of sources. The widest available source of emissions data is provided from the companies themselves. Most large companies have disclosed their emissions via the CDP22 but there has been some additional analysis conducted by firms such as Citigroup to close some of the gaps in this data. Increasingly, legislation is ensuring that high emitting assets are

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22 Refer to the Carbon Disclosure Project website (https://www.cdoproject.net)
disclosing their emissions as provided for in Europe and under the National Greenhouse and Energy Reporting Act in Australia.

**Unlisted assets**

Where the fund is a major shareholder in an unlisted asset, direct representation on many issues with company management will be frequent and so in this case guidance on carbon auditing can be provided directly. Where the fund is not a major shareholder, guidance should be provided through the appropriate shareholders' forum to direct the company to develop appropriate auditing processes.

**Research companies**

ESG data and analysis from specialist research companies is increasingly utilised by funds in their own internal assessments to either complement the CDP data or conduct new analysis. Research organisations which compile climate change-related data and/or conduct analyses on listed equities include Innovest, Trucost, Asset4 (owned by Thomson Reuters), Bloomberg, GES Investment Services, CAER, EIRIS and Regnan (for Australian listed equities only).

**Checklist: Reporting of climate change data**

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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<tbody>
<tr>
<td>Establish processes to conduct regular inventory on direct and indirect GHG emissions from:</td>
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<tr>
<td>- Operations</td>
<td></td>
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<tr>
<td>- Investments</td>
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<tr>
<td>Establish an external verification process on the emissions inventory</td>
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<tr>
<td>Identify the low carbon or climate change-related investments</td>
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<tr>
<td>Establish a report for regular updates to the Board and establish the timing of the reporting cycle</td>
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</table>

**2.8 Identification of climate change risks**

**Best practice:**

- *Climate change risks are identified and prudently accounted for throughout the investment chain*

- *Ability to calculate portfolio-wide carbon liabilities under a range of carbon price scenarios*

- *Exposure to fossil fuels are known in terms of balance sheet reserves of investee companies, geographical and jurisdictional distribution, etc.*

In order to understand the outcomes that may result from climate change, the first step for asset owners is to identify and assess those climate change risks that impact upon the fund’s investment universe. All risks should be assessed to see how they may affect current and future investments and operations of the fund. As part of this exercise, asset owners should also determine their risk tolerance thresholds, taking
into account the overall risk posed to the portfolio and its various member investment choices.\textsuperscript{23}

Understanding the risks at the overall fund level is critical to ensuring that the investment managers and asset consultants also understand the risks, and it is therefore the key to driving those service providers to better practice.

However, first the asset level risks and opportunities must be accounted for. The asset owners must drive their investment managers to identify the risks at this level. This could include the investment manager sourcing broker research from specialists in climate change or ESG either directly or via initiatives such as the Enhanced Analytics Initiative (EAI) or ESG Research Australia (ESG RA).

The following types of risk should be considered by asset owners and their investment managers in order to assess the net climate exposure of their investments and to integrate the management of these risks into investment strategy.\textsuperscript{24}

- **Physical risk**

  The risk that investments may face direct consequences from the physical impacts of climate change, such as droughts, floods, storms and rising sea levels. Examples of such industries include agriculture, fisheries, forestry, health care, insurance, real estate and tourism due to their dependence on the physical environment, human health, water and weather. Companies in other industries may also be affected through the physical impacts on their fixed assets in affected areas.\textsuperscript{25}

- **Litigation risk**

  Due to the growing perception that climate change causes damage, there is an increasing likelihood that lawsuits will be filed against those individuals and companies believed to contribute to this. Similar to the lawsuits faced by the tobacco and asbestos industries, there is the growing possibility that companies and sectors responsible for large amounts of GHG emissions will be liable for damages associated with the physical effects of climate change (e.g. flooding, severe weather damage, crop failures, etc.).\textsuperscript{7,26} Litigation would also be a concern at the fund level as climate change risks are now well-understood and there are methodologies developed to manage them. Thus any manifestation of unmanaged climate change risks within a fund’s investments could expose the fund to legal action from beneficiaries.

- **Regulatory risk**

  While the start of emissions trading schemes around the world is unclear in many jurisdictions, asset owners need to consider how this, or any other domestic climate change-related legislation, may impact their Australian investments. Moreover, as there are significant efforts by governments at the international, national and state levels, asset owners need to consider the implications for industry sectors and

\textsuperscript{23} Refer to the climate change evidence dossier, item g and h for further information.

\textsuperscript{24} “Carbon Beta\textsuperscript{TM} of Securities and their Impacts on Equity Portfolios” presentation by Innovest Strategic Value Advisors at the TBLI Conference Europe – Paris 2007, November 2007

\textsuperscript{25} “A Climate for Change; A trustee’s guide to understanding and addressing climate risk” report by the Institutional Investors Group on Climate Change, Mercer Investment Consulting and Carbon Trust, August 2005

\textsuperscript{26} Refer to the climate change evidence dossier, item I for further information
businesses with significant emissions. While specific policy designs will determine the affected sectors and the severity of financial impacts, the following sectors are most likely to face significant regulatory risk due to their historically high level of emissions: electric power generation, manufacturing, oil and gas, and transportation.  

Potential regulatory risk development

- **Competitive risk**

Organisations (including asset owners and investee companies) that take positive and proactive measures to mitigate climate change risk may create a competitive advantage for themselves relative to the rest of their peers. Should a competitor gain an early advantage in this area, it may be a difficult one to claw back. This advantage may take the form of lower costs, greater risk/reward balance, higher profit margins and/or enhanced reputation and member loyalty. In addition, funds themselves face market risk if consumers begin to choose funds with better long-term risk management.

- **Market risk**

Climate change touches all asset classes and this systemic risk profile means that it cannot readily be diversified away. In addition, climate change will bring changing consumer patterns, demand, new services and ways of doing business. These changes will affect the profitability of companies, including those further up the supply chain. A fund which successfully forces climate change considerations within its investment chain will be better protected against this type of risk.

- **Reputational risk**

Climate change is a growing consumer issue and precedents show that this can accelerate rapidly. When this happens, analysis by Lippincott Mercer for the Carbon Trust has demonstrated that the implications, whilst varying depending on the nature
of individual sectors, could potentially be substantial\(^{27}\). Furthermore, as described above, funds that are viewed negatively with respect to climate change management may face a backlash from the public who are concerned about this issue.

Climate change-related risk exposures should be assessed at the sector level and the company or asset level. These risks can then be aggregated to portfolio level.

- **Credit risk**
  
The same risks that impact companies also increases credit risk and so climate change factors must be incorporated into the credit rating systems and assessment that one company or agency performs on another.

**Assessing climate change risks at the asset level**

Asset owners should aim to achieve a position where the funds themselves or their investment managers are able to:

- Identify the assets or investments that contain climate change risks.
- Articulate the attributes of those risks (e.g. impact, likelihood, timing) and any associated risk data (e.g. emissions intensity, climate rating).
-Ascertain if these risks are reflected in the valuations and justify the assumptions.

To do this, asset owners or their investment managers should conduct a thorough analysis on the investment universe to ensure that all climate change risks have been priced in a manner that is acceptable to the fund and, where valuation discrepancies arise, that these “unrewarded” risks are highlighted for some other form of risk management or hedging treatment.

Key risks such as emissions for exposed sectors should become highly visible and should be able to be aggregated at the fund level to enable asset owners to assess the direct and indirect GHG emissions attributable to their investments. Moreover, this will allow funds to establish a benchmark to monitor GHG emission trends in the portfolio.

Scenario analyses and stress testing may also be used and, where relevant, more complex risk-rating systems could be used. Asset owners and/or their investment managers should consider using ESG research from providers like Trucost or Innovest or through the appointment of specialist consultants.

Within each investee company, an assessment of its carbon management strategy should be made relative to its peers. Asset owners should also ensure that within each asset class, the investee companies integrate climate change factors into their business planning through participating in active ownership engagement strategies.

Both industry-and company-specific factors must be evaluated.

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\(^{27}\) “Brand value at risk from climate change” report by Lippincott Mercer on behalf of the Carbon Trust, February 2005
Company-specific climate change risk factors

- Energy intensity, source mix and consumption patterns.
- Product mix: asset owners should evaluate direct, indirect or embedded carbon intensity (i.e. value chain emissions profile).
- Geographic locations of production facilities, relative to specific regulatory and tax liabilities.
- Industry competitive dynamics (i.e. the ability of the company to pass on higher costs to customers).
- Technology trajectory (i.e. the company’s level of progress in adapting or replacing its production technologies for a carbon-constrained environment).
- Company-specific marginal abatement curves (i.e. some companies have the ability to reduce emissions at much lower cost than others).
- Ability to identify, capture and monetize new revenue opportunities from all climate change areas (e.g. clean technologies, adaptation, new product/service opportunities, emissions trading).

Ultimately, the most important conclusions for high emitting companies are drawn from the projected emissions trajectory for that company, the cost of abatement and the position (relative to its peers) that strategy represents. As carbon prices rise, this will be the single most important competitive factor for these companies.

One emissions risk assessment approach is to take both a DCF and lifecycle view of the emissions reduction strategies.

Simple emissions vs. emissions reduction

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28 "Carbon Beta TM and Equity Performance; An Empirical Analysis – Moving from Disclosure to Performance" report from Innovest Strategic Value Advisors, October 2007 (http://www.climateactionproject.com/docs/carbonbetaequityperformance-delivered.pdf)
This emissions reduction model can be used to calculate the value of the emissions reduction strategy.

**Value of emissions reduction strategies**

This information can then be used to calculate the profitability of the emissions reduction strategy in isolation of other elements of the business model. Clearly this is only one component of the overall business model but in some sectors is crucial to valuation.

**Profitability of emissions reduction strategy**

By conducting a net present value assessment, various emissions reduction strategies can be compared. However, even the DCF may not tell an accurate picture for a particular asset as with climate change there are significant substitute product
issues that are not represented here. For example, once emissions become a significant proportion of a company’s total earnings, that company is exposed to market and competitive risks either from substitute product companies or from when they can no longer pass the cost on to its own customers.

Sample template for assessment of an asset’s carbon management strategy

<table>
<thead>
<tr>
<th>Carbon management factor</th>
<th>Assessment notes</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic governance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy intensity, mix and consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product or service mix</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic location of production assets or facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry competitive dynamics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology trajectory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marginal abatement cost</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to identify, capture and monetise revenue from climate change opportunities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Industry-specific climate change risk factors

There are several categories of climate change risks at the industry level:

- Direct risks arising from carbon exposure as a result of regulations and constraints (e.g. caps set on GHG emissions, offsets, taxes, etc.).
- Indirect risks which occur upstream in the supply chain, i.e. exposure to upstream energy costs and potential surge due to increased costs (e.g. consumption of supplies which are emissions-intensive).
- Market related risks due to change in consumer patterns (i.e. applicable to sectors that are emissions-intensive or own emissions-intensive assets such as the finance and insurance industries, and also to those with strong carbon-related opportunities).

Given the legal need for asset diversification, asset owners are required to spread their investments across all sectors and asset classes, making sector exclusion impractical. However, intra-sector analysis is vital to understanding how a company stands up against the sector benchmark.

Some companies already operate in jurisdictions with a carbon liability scheme, such as the European Union Emissions Trading Scheme (EU ETS), while others do not. Whilst there are no sector targets available for GHG reductions and the marginal abatement curves for all sectors have a degree of error, creating systems for relative performance analysis is critical. This relies on the investment managers being able to rank companies against their peers and then consider how that ranking and position affects the overall risk profile for the asset.
Checklist: Asset-level climate change risk assessment

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct climate change risk assessment for all assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct GHG inventory (for both direct and indirect emissions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>attributable to the investments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm if scenario analyses and stress testing is required to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>conduct the climate change risk assessment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct a peer assessment on the asset's carbon management strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(see company-specific climate change risk factors above)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct a carbon strategy analysis on the investments in equities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Include a carbon ratings analysis within the investment process for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>equities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm the format and issue the risk disclosure reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>within the asset reports</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessing climate change risks at the investment manager level

Investment managers need to grow their climate change capability on behalf of the asset owners to ensure that climate change becomes truly integrated within the investment process. However, factors concerning how asset owners interact with their investment managers may arise, such as allowing investment managers freedom to operate, accountability and fundamental investment strategy. Either way, there must be methods developed to assess the risks built into investment managers’ portfolios due to investment choices. These risks can then be assessed and managed at the asset owners’ level. Until the managers themselves are capable of providing the appropriate asset level climate change data, asset owners need to conduct this themselves or outsource this function to a third party such as a specialist research company like Trucost, Innovest, Asset4, etc.

Climate change risks at the portfolio level

Once the climate change risks have been identified at the asset level, the next step is for asset owners to assess the climate change exposure of their portfolios in aggregate. This needs to be completed across all asset classes and investment managers.

It is acknowledged that quantifying climate change risks is a new practice for funds and will be a challenging task. Various approaches can be taken by funds to fully calculate this exposure for its companies and assets and there are several companies offering services in this area.29

The process of assessing risk at the asset, industry, manager and portfolio level is one where the asset level data is aggregated and consolidated to a level where new KPIs can be provided. It is this roll-up process that allows portfolio level climate change management processes to be deployed.

29 Refer to the climate change evidence dossier, item h for information on the Carbon Beta™ model which details a method used to quantify carbon risk exposures on both company and portfolio-wide.
Checklist: Portfolio-level climate change risk assessment

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm that the fund receives a portfolio summary and report for all the assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm whether the portfolio is carbon over- or under-weight. Check if this is consistent with the fund’s strategy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Report exposure to the high risk sectors (e.g. insurance, fossil fuels, aluminium, steel etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct a portfolio-level fossil fuels analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish a format for the climate change risk disclosure report and provide to the Board.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.9 Fund-level climate change management

**Best practice:**
- Monitoring the fund-level climate-related risks and opportunities
- Fund-level climate change risk mitigation

Information gained during the assessment of climate change risks can be used to regularly optimise, diversify and rebalance the fund’s portfolio and also in assessing the risks associated with new asset acquisitions.

By aggregating asset-level climate change data, the asset owner can identify those areas where there are significant levels of climate change risks. The key challenge is to mitigate this risk at the portfolio level.

Risk data aggregation to portfolio level

The approach selected by the fund will be largely determined by the degree to which passive investment strategies (i.e. index-tracking strategies) are utilised.
Some passive investment strategies (such as full index replication) do not allow asset owners to account for specific risks, including climate change, because the portfolio is invested to mimic a standard market index. This means that active management of climate change risks and opportunities through, for example, overweighting (underweighting) exposure to low (high) carbon emitting assets and sectors is generally not possible. Similarly, under some passive management styles there is no scope to ensure diversification of fossil fuel exposures across jurisdictions and by fossil fuel type. However, allowing a modicum of freedom away from the benchmark by, for example, intra-sector underweight and overweight positions, funds are able to adopt a largely passive investment style whilst also incorporating climate change considerations.

The most efficient way for asset owners to mitigate the climate change risks inherent in passively managed asset classes is typically via offsetting investments in climate change mitigation/adaptation assets held within a separate, actively managed, asset class.

Active investment strategies, and the degree of analysis involved in this style, lends itself well to managing climate risk and opportunity as climate-based data can be integrated into the investment decisions at an asset level. The various approaches which may be adopted by the fund, and their investment managers, are outlined in detail below.

Regardless of whether passive or active investment strategies are utilised, regular reporting is required to ensure that significant climate change risk is not built up without the knowledge of the fund via unintended sectoral build up or an imbalance of carbon intensive or carbon inefficient stocks.

Finally, the fund’s defensive/growth mix of assets will need to be considered. This classification needs to be considered to avoid disrupting the long-term strategic defensive/growth mix of the fund, but likewise it provides the opportunity to hedge climate risk in a way that optimises those aspects of rebalancing growth and defensive asset classes. Five possible approaches to rebalancing include:

- Use of put options or short orders on high risk sectors;
- Overweight low carbon assets/sectors;
- Diversify exposure to fossil fuels across jurisdictions and fossil fuel type;
- Dedicate overlay equity investments to manage the risk; and
- Investments in climate change mitigation and/or adaptation assets.

Active management of climate change risks and opportunities

Once the climate change risks and opportunities have been identified, processes and procedures need to be reviewed to ensure the risks are managed on an ongoing basis as well as to provide a framework to capitalise on the investment opportunities arising from climate change.

Funds should aim to integrate climate change issues into all of their business functions and investment strategies, including areas outsourced to third parties, to ensure climate change issues are not lost inside third party processes or running outside of normal fund operations. All parties involved with the fund’s operations (including third parties such as investment managers and asset consultants) should be engaged with to contribute to the review of the fund’s processes and procedures.
As part of ongoing climate change management, funds should assess investee companies' abilities to develop and commercialise strategic carbon opportunities relevant to the sector. These may comprise of anything from direct technical solutions to changes in services and operations management that address climate change and lower emissions. Some options for funds are:

- To integrate the opportunities into its normal research.
- To receive specialist reports from research companies.
- To receive specialist reports from investment managers.
- To receive specialist reports from asset consultants.

In the best interest of the fund's investment decisions, ongoing access to timely and accurate climate change information should be prioritised such that funds are able to regularly update their Boards and employees. This may be achieved by:

- Hiring staff/setting up a team with the necessary expertise to conduct regular research;
- Sourcing or subscribing to regular third party data; and/or
- Using external advisers or consultants.

Best practice dictates that those companies in the top quartile of emissions intensity ranking within high emitting sectors require greatest analysis and holding that stock or asset would require a highly developed carbon management strategy. There may be good reasons why they are an attractive company to invest in however lowering their exposure to a tightening carbon price will require a superior carbon reduction strategy to their peers.

It is not important whether or not the fund’s main investment team is in-house or outsourced to investment managers. In the case of investment managers, an extra level of communication, planning, tracking and auditing is required to ensure these elements are put in place. In the case of an internal team, this capability can be implemented as part of the climate change project.

**Managing exposure to stationary energy**

Approximately 50% of Australia’s emissions stem from stationary energy and almost 30% of global emissions result from electricity production. As such, the impact of climate change policy on this sector is highly significant. A certain degree of diversification between Australia and other countries is recommended as is due consideration of policy differences or economic variables such as currency fluctuations as these may distort the risk.

**Managing exposure to high emissions energy**

Best practice is for funds to conduct portfolio-level emissions analysis of all its fossil-fuel based investments. A portfolio holdings report should be produced containing emissions data and also the type of energy that the asset consumes or is related to.

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30 Refer to the climate change evidence dossier, item p for further information
31 "Australia’s Low Pollution Future" by Commonwealth of Australia, 2008
PHASE 2 – DESIGN OF THE FUND’S CLIMATE CHANGE BLUEPRINT

This will enable the fund to see the diversification of exposure to coal, oil, liquefied natural gas, coal seam gas and natural gas across all asset classes.

A simplified example of the resulting analysis is shown below. The data may also be presented in a format where holdings are compared to the benchmark or in actual levels (i.e. million tonnes CO₂-e).

Asset class emissions (% of total portfolio emissions)

<table>
<thead>
<tr>
<th></th>
<th>Coal</th>
<th>Oil</th>
<th>Natural gas</th>
<th>Liquefied natural gas</th>
<th>Coal seam gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian equities</td>
<td>10</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>International equities</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Alternatives</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Private equity / venture capital</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unlisted infrastructure</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Property</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>25</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

The table above should also be used for exploration assets. Recent reports by Nature\(^\text{32}\) indicated that there are currently sufficient proven fossil fuel reserves to comfortably exceed a 450ppm target, assuming existing technology trends. As such, there is strong argument that exploration assets may be the first to be devalued in the event of rapid regulation of emissions.

Employing either in-house or external research, funds can also conduct sensitivity analysis and create scenarios around the possible risks. This may include some subjective elements (such as how regulation might treat each fossil fuel type) and provides a vehicle for funds to better manage the fossil fuel energy risks in their portfolios.

Managing exposure to clean energy

The same portfolio-level diversification is required for clean energy investment to ensure that there is sufficient spread of new technology risk. These assets can exist in many asset classes and so a portfolio-level assessment is required at initiation and as part of regular risk reviews.

A simplified example of the resulting analysis is shown overleaf.

### Asset class exposure (% of total asset class value)

<table>
<thead>
<tr>
<th>Asset class</th>
<th>Solar</th>
<th>Wind</th>
<th>Geothermal</th>
<th>Tidal</th>
<th>Biomass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian equities</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International equities</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alternatives</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Private equity / venture capital</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1-</td>
<td>1-</td>
</tr>
<tr>
<td>Unlisted infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedge funds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Property</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Managing exposure to different jurisdictions**

Regional considerations are important as there are many variables (e.g. policy, currency) stemming from each local jurisdiction that may change the nature of the risks and opportunities for climate change. These differences must be reflected in every aspect of the funds’ activities relating to climate change and across all asset classes.

Specifically, care must be taken to ensure a reasonable spread between Australian and international risk and opportunity. Furthermore, investments in clean energy infrastructure, while individually representing a return opportunity, also act as a hedge against other high emitting assets in the portfolio. Thus the fund should be aware of the geographical split so that, for example, Australian high emitting equities are not hedged or balanced solely by international clean energy assets.

This geographical split can also be relevant within equities where listed funds hold geographically diverse clean energy assets and so the supplementary geographical data from these assets should be integrated into the aggregated portfolio holdings report.

**Checklist: Integration of climate change issues into fundamental strategy**

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm that the investment strategy for all assets should include climate change considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify the fund’s investment strategy for each asset class (i.e. active or passive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct measures to evaluate the ‘carbon-readiness’ for each investment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determine types of investments that the fund is not willing to invest in (e.g. nuclear energy assets)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Confirm that all options to reduce inherent climate change risks within passive investments have been explored, including:

- Use of put options on high risk sectors
- Over-allocation into low carbon sectors in other mandated areas
- Allocation of overlay equity investments to manage the risk
- Investments in other asset classes to rebalance or hedge the climate change risk

Ensure mechanisms are in place to prevent any build-up of climate change risks within the passive investments

Other considerations

**Integrating climate change considerations into fixed income portfolios**

Similar approaches to those mentioned above may be applied to fixed income investments. Again, the same issue can occur at a sectoral debt level where the debt may quickly become riskier for certain types of fossil fuel-related instruments. For example, given its emissions intensity, coal is likely to face early and severe pressure under tight global regulation. Clearly long-term coal debt contains a significant regulatory tail-end risk and this should be factored into a fund’s climate change risk assessment.

**Developing KPIs**

As climate change requires some specific responses to the challenges it presents, funds need to evaluate their current reporting methods to ensure that there are appropriate KPIs in the new areas highlighted by the Methodology. Funds will need to develop their own KPIs at a detailed level that align with their fundamental investment strategy and style and to ensure that their new capability not only meets best practice but provides them with a competitive advantage.

We recommend KPIs are developed across the portfolio as a measure for the following areas:

- Emissions intensity across portfolio (e.g. tonnes CO$_2$-e emitted per $\text{million revenue or earnings per share}$).
- Emissions projections.
- Value of emissions strategy (e.g. net present value/benefit).
- Carbon footprint across portfolio (i.e. tonnes of CO$_2$-e emitted).
- ‘Carbon readiness’ rating across the portfolio (i.e. the ability to manage or diversify carbon risks). The ability is independent of carbon footprint. For example, a carbon-intensive entity may still be deemed ‘carbon ready’ if the management strategy is sufficient.
- Hedge position against rapid high-risk sector repricing.
- Exposure to other climate change risks such as physical risks or flow-on effects (e.g. compulsory implementation of minimum green building standards).
- Carbon price sensitivity analysis (e.g. change in the internal rate of return for every dollar change in carbon permit price).
- Asset class and industry rankings, where available.
• Miscellaneous considerations such as the position of the company relative to competitors, ability to pass through carbon prices and potential for receiving special concessions.

A template for a summary table which may be used is displayed below. It is worth bearing in mind that the huge climate change market is still in its infancy and so these KPIs will change as the market develops. Thus a regular review of these KPIs should be undertaken and effort made to maintain a culture of continuous change to allow management and Board to adapt as the market changes.

**Template for portfolio-level risk report with KPIs**

<table>
<thead>
<tr>
<th>KPI Measure (tCO$_2$e / $\text{mill Revenue}$)</th>
<th>Carbon Ready Quotient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current</td>
</tr>
<tr>
<td>Listed equities (domestic)</td>
<td></td>
</tr>
<tr>
<td>Listed equities (international)</td>
<td></td>
</tr>
<tr>
<td>Fixed Income</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Private Equity</td>
<td></td>
</tr>
<tr>
<td>Other alternatives</td>
<td></td>
</tr>
</tbody>
</table>

The key objective is to have ready access to a portfolio-wide snapshot of any unintended climate change risk exposures.

*Managing climate change risks for master trusts, wrap platform providers and multi-managers*

In the retail sector, clients are able to choose their products from a wide array of suppliers. While this option provides great flexibility and choice, it also makes it more difficult to evaluate the climate change risks held within client portfolios. Over time, master trusts and wrap providers should enhance the services provided to investors by ensuring that investors have access to tools and reports at portfolio level around climate change management, to complement the other methods and metrics used by investors to optimise risks and returns.

Currently, many individuals use the superannuation framework within wrap platforms for convenience (due to it being a one-stop offering), cost savings and tax purposes. While these superannuation products fall under the Superannuation Industry (Supervision) Act (with regards to its trust structure, licensing and the need for long-term prudence), in practice, the structure necessitates investors to manage some of the portfolio-level risks themselves. As investors often assume the responsibility of managing risks and responsibility for performance lies with the underlying investment managers (who are charged with product level risk management), master trusts and wrap providers need to be prepared to provide clients with the tools and expertise to evaluate climate change risks within their portfolios.
Furthermore, the level of acquired climate change risk may be high compared to industry funds who look to manage the overall portfolio risk, thus it is imperative that master trusts and platform providers give their clients the means to assess and manage climate change risk at the client portfolio level. This will require the same data overlay challenges described throughout the Methodology and guidance for those clients to manage their portfolios in the same way as the large industry funds might do.

Checklist: Portfolio-level climate change management

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation of staff/resources to incorporate climate change issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(identify if any outsourcing is necessary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure fund has sufficient access to updated climate change data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that there are procedures in place which factor in climate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>change issues in the portfolio rebalancing process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirm that there are procedures in place which factor in climate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>change issues when considering new acquisitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure the relevant climate change risk data has been used in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>investment acquisitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct intra-sector analysis on funds’ investments and compare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>investments relative to peers in the same sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish KPIs to evaluate ongoing performance and document</td>
<td></td>
<td></td>
</tr>
<tr>
<td>current levels as baseline</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.10 Information systems development

**Best practice:**

- Information systems that give a portfolio-wide view of the fund’s climate-related risks and opportunities

With new processes and data around climate change throughout the investment chain, comes the development of new information systems. The data model needs to incorporate flows across several different stakeholder boundaries including investment managers, custodians and asset consultants.

The systems, whether in house or not, should be able to conduct comprehensive analysis to gauge climate change exposure on the portfolio as a whole. For example:

- Scenario testing on variables such as the carbon price.
- Physical risk modelling for exposed sectors such as insurance, coastal assets.
- Modelling taking into account rapid changes in policy or technology.
- Lending risk in financially exposed assets.
- Regulatory risk such as revaluation of long-term fossil fuel reserves.

These systems may need to be bespoke until the market can commoditise and provide more turnkey and packaged solutions.
The information systems should be able to handle the information flow such as depicted in the diagram below:

Data from one of the key sources of company level emissions (the Carbon Disclosure Project), is available through the Bloomberg trading platform and many of the other major data suppliers such as Reuters, MSCI, etc. However this data is sometimes incomplete and unverified and so may need to be used in conjunction with other sources.

As the climate change market matures and attracts the inevitable acceleration of investment, significant competitive advantage will be gained from the different approaches to mining, managing and reporting climate change data. The earlier a fund invests in this type of capability the more likely it is that a fund will create a leadership position around climate change.

Checklist: Information systems development

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<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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<tbody>
<tr>
<td>Map current systems configurations</td>
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<td>Map desired systems configuration</td>
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<td>Define new systems development</td>
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<tr>
<td>▪ Integrate investment manager portfolio data with climate change data</td>
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<td>▪ Define any external feeds e.g. Bloomberg</td>
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<td>▪ Build cross portfolio reporting across different investment managers</td>
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<td>▪ Define climate change reporting format</td>
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<td>Define any relevant conversions</td>
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<td>Define any relevant interfaces</td>
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<tr>
<td>Build new systems</td>
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<tr>
<td>Test integration</td>
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<td>Go-live</td>
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</table>

### 2.11 Active ownership

**Best practice:**

- Formal, publicly available engagement policy that specifically addresses climate change issues
- Formal, publicly available proxy voting policy that specifically addresses climate change issues
- Engage with investee companies around climate change issues
- Support and/or lodge climate change-related shareholder resolutions

Trustees or guardians of funds have a fiduciary duty to make investment decisions in the best interests of their members, beneficiaries or stakeholders. While engagement with investee companies is not explicit within legislation, it is clear that asset owners do have an obligation to ‘manage’ their investments if it is in the interests of their members. Some funds believe firmly in the universal ownership principle that states the market as a whole is owned by the asset owners and so funds should act in a way that improves the quality of all assets in the market. This is particularly relevant to the issue of climate change where some companies may compromise long-term growth through short-term decisions.

A simple example concerns the avoided emissions reduction costs of an energy generation asset in one location causing agricultural productivity impacts elsewhere. Where an asset owner has a stake in both companies, then it is in their best interests to ensure that any short-term decisions by these companies do not compromise overall long-term returns.

In line with a general trend towards more active ownership by institutional investors, asset owners are being encouraged to fulfil a more important role in relation to climate change issues. This is particularly important during the transition to a low carbon economy where significant structural change is inevitable and will require greater levels of active ownership.

Asset owners need to influence investee companies to re-align incentive programmes such that these companies’ short-term actions are aligned with the longer term interests of their stakeholders, to make long-term investments to ensure emissions reduction and to invest when it can be proved that long-term regulatory risk (e.g. a carbon price) can be incorporated into the business model profitably.
The key preliminary steps that funds should implement (where applicable) in order to incorporate climate change issues include:

- Amending the fund’s general statement\(^{33}\)\(^{34}\) on active ownership to expand the scope to include climate change issues.
- Reviewing and amending the Trust Deed\(^{35}\) of the fund to ensure there are no legal impediments in applying an active ownership approach on climate change issues for the fund’s investments.
- Specify the level of reporting required from investment managers on climate change issues and ensure that there are standardised reporting and performances from each of their investment managers. This will enable funds to monitor their investments closely and provide opportunities for funds to engage with the investee companies on climate change issues.
- State their process for engaging collaboratively with other asset owners in order to ensure that other investors do not get a free ride on the fund’s active ownership skills and also to ensure a greater weight of influence.

Best practice is for asset owners to have a documented active ownership policy to provide a transparent, shared set of agreed principles and practices for the trustees to follow. Areas which should be covered by the policy include:

- Reward structures
- Allocation of responsibility
- Engagement with companies
- Proxy voting
- Shareholder resolutions
- Selection of investment managers and investment management agreements
- Custody
- Reporting to members

Each of these areas is discussed below including how they should be covered in the policy.

\(^{33}\) The purpose of a fund’s general statement is to outline why an active ownership policy and process is established, the reasons why trustees are concerned with the corporate governance of the companies in which they invest and the objectives of establishing the policy and processes. The statement is important in communicating to current and potential members that the active ownership activities are being undertaken for the benefit of fund’s investments and not to address non-related commercial, industrial, political or ideological agendas.

\(^{34}\) See also, “Questions and Answers For Foundations on Proxy Voting” by Ceres, November 2006

\(^{35}\) Refer to the climate change evidence dossier, item 1


\(^{34}\) “Active Shareownership Guidelines for superannuation fund trustees: Best Practice Paper 17” by the Association of Superannuation Funds of Australia Limited (“ASFA”), May 2003

\(^{35}\) The Trust Deed provides the scope for trustees to invest in the best interests of members and beneficiaries.
**Reward structures**

Investment managers and engagement overlay providers should have an appropriately long-term fee structure in place. It is important that similar longer term reward structures are pushed down the investment chain into investee companies to ensure that company management is acting in the long-term interests of its shareholders. This alignment of interests must be reflected in the way the fund instructs their engagement providers to vote, both in the case of remuneration motions at annual general meetings and in other, more general, discussions.

**Allocation of responsibility**

The policy should describe the extent to which the climate change-related active ownership activities will involve the trustees (and/or the fund's executives) and the degree to which they will be delegated to investment managers or other service providers.

**Engagement with companies**

On average, 29% of superannuation funds' assets are invested in Australian shares and a further 23% in international shares. Therefore, the long-term viability of these publicly listed companies is extremely important in the best interest of members and beneficiaries.

Funds will need to consider the most constructive way to communicate with investee companies regarding performance, governance and climate change issues. This is particularly crucial when an intervention is required, for instance when an investee company breaches or is likely to breach a standard, or when controversial issues arise that may affect the company's image (reputational risk) and/or share price. Generally, a dialogue at a senior level is recommended, potentially as part of a collaboration with other investors.

Engagement issues can fall into three levels:

- **Critical issues** – the engagement advisor notifies the fund about the issue and the fund considers direct intervention.
- **Important issues** – specific guidelines are used by the engagement advisor to engage with an investee company.
- **Other issues** – engagement advisor may use their own discretion as to how to manage the issue.

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36 Data as at 30 June 2008 (sourced from the APRA website). Figures are calculated based on the asset allocation of the default investment strategies of corporate, industry, public sector and retail funds.
A sample engagement strategy might look like this:

Constructive communication with investee companies is an effective strategy but can be resource-intensive. We therefore recommend funds limit this type of engagement around climate change matters to the high-risk sectors (i.e. those with poor performance on management of climate change risks, the potential to breach a standard or to be involved in controversial issues that may affect the company’s image). Engagement with investee companies could include the following areas:

- Encourage focus on adapting to and contributing to the debate on forthcoming policy rather than lobbying against it.
- Insist upon the provision of detailed responses to the CDP as a pre-requisite for inclusion in the fund’s portfolio.
- Encourage development of a comprehensive carbon management strategy. In circumstances where this represents a competitive advantage, it should be independently audited to maintain confidentiality.

Whilst many objectives of active ownership can be achieved via an ongoing dialogue with a company, an escalation process is critical if action or intention is not forthcoming. Climate change is an easy issue for investment managers or engagement overlay providers to reprioritise because communication between them usually relates to short-term financial performance. Thus, the fund must be prepared to implement an escalation process until a satisfactory response is received. This may ultimately result in a shareholder resolution.

Proxy voting

Any proxy voting policies that have been adopted by the fund, particularly with regards to climate change issues, should be reviewed to ensure that it is not based
on short-term interests, at the expense of longer-term considerations. All voting should be done in accordance with the fund’s climate change and/or sustainability policies.

Climate change issues will need to be included within the policy to enable trustees to vote on any related resolutions. Where voting authority has been delegated or outsourced (to either the investment manager or a proxy advisory firm) the fund should provide comprehensive guidance on climate change resolutions. This will provide clear direction to the authority to vote in accordance with the fund’s climate change policy.

Funds may choose to employ consultants or proxy advisory firms to draft such guidelines and provide monitoring to ensure voting is undertaken in accordance with the guidelines. Where there is delegation of proxy voting, regular reporting on voting should be provided by the third party as evidence of compliance with the fund’s proxy voting policy. Trustees need to determine the form, extent or detail, frequency and persons responsible. Details on how the votes were cast as well as the final results should be reported.

For example, the Australian Council of Super Investors (ACSI) Voting Alert Service provides recommendations to members on exercising their voting rights. ACSI looks at the specific circumstances of each company and accounts for factors such as the materiality of the issue, market capitalisation of the company.

Shareholder resolutions

With reference to shareholder resolutions, it should be noted that Australian asset owners are a long way behind global best practice. The 2009 AODP indicated that few funds had participated in the filing of climate change-related shareholder resolutions, although several more were considering such a direct course of action.

During the 2010 AGM season, investors filed 101 climate and energy-related resolutions with 88 US and Canadian companies - nearly 50% higher than in 2009. Of the 42 resolutions that went to a vote, sixteen achieved 30% or greater support. In 2008, one of the most visible ones was ExxonMobil’s climate resolution to adopt quantitative goals for reducing GHG emissions from the company’s products and operations which achieved an astonishing 31% of the shareholder vote.

An asset owner can engage with or raise shareholder resolutions around any area of climate change. However, there are four broad categories that these resolutions have historically fallen under.

- **Disclosure** – CDP response or other regulatory requirement. It is critical to asset owners to be able to measure how investee companies are responding to increasing regulatory, competitive and public pressure to drastically reduce CO₂ emissions from operations and products.

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37 “Questions and Answers For Foundations on Proxy Voting” by Ceres, November 2006
38 Refer to the climate change evidence dossier, item t
39 Investor Network on Climate Risk, 7 July 2010 - Investors Achieve Record Results on Climate Change
• **Regulatory interface** – companies must disclose and be guided on actions being taken to work with regulators and policymakers in designing incentive schemes for companies to reduce GHG emissions such as emissions trading systems.

• **Emissions reduction strategies** – this concerns the assessment process of the impact of climate change on the company and the plans or strategies to reduce emissions and other types of climate risk in the business. This information must be clearly disclosed to shareholders. Shareholders will want companies to adopt recognised, quantitative goals based on available technologies, for reducing total GHG emissions from operations and products.

• **Investment assumptions and decisions** – companies must disclose what assumptions they are using in their capital investment models, particularly in the energy or high emitting sectors where those assets could be subject to rapid increases in carbon price.

Examples of how shareholder resolutions may drive an organisation’s climate change management as well as further information on the increase of climate-related investor resolutions are provided in the climate change evidence dossier (Appendix 1).

Asset owners must be prepared to create and drive shareholder resolutions where investee companies are acting in their own, short-term, vested interest or blatantly abusing their ESG policies or obligations. A simple example of this would be any high emitting company not responding to the annual CDP request for information.

**Selection of investment managers and investment management agreements**

IMAs need to be reviewed and amended to include the management of climate change issues. Likewise, the role of trustees in selecting new investment managers should include investigating their policies and practices on climate change engagement to ensure that there is no policy conflict with the fund.

**Custody**

The active ownership policy should ensure that service level agreements between the fund and the custodian are amended to include climate change considerations. Custodians regularly receive information regarding held investments and the policy should state that any climate change-related notifications be passed to the trustee, investment manager or other service provider in a timely manner to ensure they are addressed.

**Reporting to members**

As both active ownership initiatives and climate change issues are rapidly evolving, we recommend that all related activities and decisions undertaken by the fund are documented both to provide funds with a basis for improvement and also to communicate with members.

Moreover, funds should establish targets for their climate change performance and regularly review and publish details of their progress. The performance of

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41 Refer to the climate change evidence dossier, items u
42 Refer to the climate change evidence dossier, items v
43 Refer to the climate change evidence dossier, item r
investment managers in handling climate change issues should also be regularly assessed. Funds should also communicate details of their engagement activities to members. This is not only sensible and, arguably, their responsibility to do so, but also a great opportunity to connect with their members about an issue that clearly aligns with their long-term returns.

Checklist: Active ownership

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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<tbody>
<tr>
<td>Review policy statements on active ownership and update, if necessary, to include climate change</td>
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<tr>
<td>Determine internal procedure for active ownership</td>
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<tr>
<td>Confirm that the terms within the Trust Deed allows the Board to apply active share ownership principles on climate change issues</td>
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<tr>
<td>Confirm that there are systems and procedures in place to have a shareholder resolution on climate change issues (if required)</td>
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<tr>
<td>If responsibility for the management of climate change issues has been allocated to a third party, ensure that processes are in place to ensure successful outcomes on:</td>
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<tr>
<td>• Detection of issues requiring engagement</td>
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<tr>
<td>• Highlighting and reporting of issue to relevant parties</td>
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<tr>
<td>• Engagement with investee company</td>
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<tr>
<td>• Reporting of progress</td>
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<tr>
<td>Define fund’s engagement position on key issues (e.g. identify and engage with investee companies in high-risk sectors on climate change issues)</td>
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<tr>
<td>Determine and ensure the adequacy of the output or reports required for monitoring purposes in relation to climate change</td>
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<tr>
<td>Ensure mandates for external service providers incorporate climate change</td>
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<tr>
<td>Ensure custodial arrangements include climate change issues</td>
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2.12 Collaboration on climate change initiatives

**Best practice:**

- Adopt a policy on collaborative initiatives
- Engaged in dialogue, lobbying or initiatives pertaining to government policy and/or industry regulations related to climate change issues

Funds should define (through policy) the collaborative initiatives that they are willing to participate in to assist members’ understanding of their position regarding climate change issues. The fund should define the scope of activity and types of issues they are willing to participate in (e.g. dialogue, lobbying or initiatives), and whether they pertain to government policy, industry regulations or standards.
Collaborative engagement initiatives

As asset owners are not only large owners of both listed and private investments but also act on behalf of millions of individuals in the management of long-term savings, collaboration has an extremely powerful potential in improving the workings of the capital markets system, particularly when instilling change (i.e. incorporation of climate change issues).

The 2009 AODP results demonstrated that participating in collaborative initiatives is a growing trend among funds. While there are many initiatives available, the most common initiative was the CDP, followed closely by the Institutional Investors Group on Climate Change (IIGCC), the International Corporate Governance Network (ICGN) and the Investor Group on Climate Change, Australia/New Zealand (IGCC) which is the Australia/New Zealand component of the IIGCC.

Checklist: Collaboration on climate change initiatives

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<tr>
<th>Task</th>
<th>Responsibility</th>
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<tr>
<td>Confirm that the fund has a policy on climate change collaborative initiatives</td>
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<tr>
<td>Check if there are limitations to the extent that the fund is willing to participate in collaborative initiatives (this should be defined clearly in the policy)</td>
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<tr>
<td>Identify all collaborative initiatives that are currently engaged by the fund and any issues that have arisen as a result of this engagement and that should be addressed in the policy</td>
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<tr>
<td>Identify any issues that have previously prevented the fund from engaging in any collaborative climate change initiatives</td>
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Collective investment opportunities

The minimum investment required for many directly-owned climate change investments is typically high, especially in the case of renewable energy infrastructure or adaptation infrastructure where the scale of the project is generally large. At present, such opportunities are usually brought to investment managers and asset owners on an individual basis. However, much of the benefit of such infrastructure investment is through the large economies of scale that cannot be achieved by a single fund and hence collective investment is required. Funds should therefore consider collaborating with other funds in pursuing investments in large-scale renewable energy portfolios. Benefits that arise through such collaborative efforts include:

- Economies of scale (through pooling of resources and investment knowledge);
- Sharing of risks (e.g. first-mover and laggard risks may be diluted);

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44 "Pension Collaboration: Strength in Numbers" article by Rotman International Journal of Pension Management, Volume 1, Issue 1, Fall 2008

45 Refer to the climate change evidence dossier, item l

46 Refer to the climate change evidence dossier, item m
PHASE 2 – DESIGN OF THE FUND’S CLIMATE CHANGE BLUEPRINT

- Increased effectiveness of advocacy efforts (more power in terms of dollar value and representation at the industry level would be perceived as a more legitimate voice with more weight in influencing behaviour); and

- Drive regulation – it often takes significant time for regulations to be developed, particularly around new areas for investments. As such, collective investments may be able to prioritise advantageous regulatory change. For example, large scale investments may be in a more favourable position to drive better land lease terms for prime wind farm locations or push for favourable tax breaks.

In the 2009 AODP, two thirds of participants expressed a willingness to talk to both the government and other funds regarding unique collective investment opportunities around infrastructure to assist in limiting climate risks and maximising opportunity.\(^{47}\) Currently there are structural and cultural barriers which prevent this from happening such as competition between project managers, infrastructure development companies or funds and renewable energy being a relatively new area of investment.\(^{48}\)

Checklist: Collective investment opportunities

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<thead>
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<th>Task</th>
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<tbody>
<tr>
<td>Confirm if the fund is willing to speak to government and/or other asset owners regarding collective investment opportunities and ensure that this is reflected in policy</td>
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<tr>
<td>Define a collective investment strategy (e.g. invest in a single technology or diversification approach via a range of technologies)</td>
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<td>Define the scale of investment</td>
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<td>Define target investments</td>
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<td>Prepare case for project managers</td>
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<td>Issue investment analysis tenders</td>
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<td>Make investment case</td>
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<td>Produce investment analysis</td>
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<td>Approach target fund partners for investment</td>
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<tr>
<td>Approach governments for suitable partnering and/or incentives</td>
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2.13 Communication with members

**Best practice:**
- *Communicate with members about climate change*
- *Disclose to current and prospective members how climate change-related issues are integrated into the investment process*

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\(^{47}\) Refer to the [climate change evidence dossier](#), item n

\(^{48}\) Refer to the [climate change evidence dossier](#), item o
Climate change issues may have material impacts on the potential future income of beneficiaries and funds are currently in the early stages of addressing this. It is therefore crucial now, more than ever, to report on the fund’s progress in tackling this issue and integrating it into investment practices. Consistent with this, the 2009 AODP results indicate that funds are increasing the level of communication on climate change issues to members.\footnote{Refer to the \textit{climate change evidence dossier}, items y}

Some funds are of the belief that investment in climate change solutions represent a moral imperative or one that is aligned with the long-term interest of their members. Whilst this is sticky ground given the Superannuation Industry (Supervision) (SIS) Act sole purpose test, new guidelines on ESG factors imply that funds \textit{are} able to invest a proportion of their assets in this way.

\textit{Using climate change in branding}

There is likely significant branding advantage to be gained. There are several examples of this in the market already.\footnote{Refer to the \textit{climate change evidence dossier}, item z} Additionally, if best practice and regulatory intervention are both trending towards greater member involvement in their superannuation, then it is natural that newly educated members will expect action from their funds to reflect their position on many societal and economic issues, including climate change.

One thing that funds should be aware of is that the increase in environmental awareness has also resulted in the increasing and unscrupulous practice of claiming green credentials where they do not exist, otherwise known as ‘green washing’. Funds should be careful when using climate change branding to ensure that this is not practised as it may cause significant reputational damage and potentially expensive lawsuits.

\textit{Member annual general meetings}

Whilst there is no legal requirement for a fund to hold an annual general meeting, it is a great opportunity for funds to allow members to question the fund’s management about a range of performance issues including management of climate change. This could involve a physical meeting and/or providing a webcast, with both forums offering members the opportunity to provide feedback and ask questions. Each fund should consider its own member base (e.g. age and geographical distribution of members) to select the most appropriate delivery mechanisms.

\textit{Other member engagement processes}

In addition to member forums, funds may choose to include climate change management in their written communications to members, as part of the regular investment performance reporting or in the more marketing-based newsletters.

The fund’s website is also a useful mechanism for communication with members as it can be used as an information platform. Examples of the types of information which funds post on their website with respect to climate change are:

\begin{itemize}
  \item The fund’s climate change policy.
\end{itemize}
• Participation in collaborative initiatives.
• How the fund integrates climate change into investment strategy.

2.14 Staff training and education

**Best practice:**

- The Board, executives and staff receive appropriate levels of climate change-related education and training
- A formal plan to increase capacity and capability for dealing with climate change issues

The key to successful change management projects is continual involvement via staff and trustee education programmes. Management of climate change is similar and requires its own programme to ensure that staff are capable of adapting the business in line with the changes in the nature of climate risks and opportunities. The ability to implement new business processes to account for these changes is key.

Climate change is not only an ongoing issue but also a growing one and funds need to develop a formal plan which increases their human resource capabilities over time. There are various methods which funds may use to help ensure they have the capacity and capability for dealing with climate change issues such as:

- Conducting general fund-wide staff training.
- Ensuring that staff with direct involvement in, or management of, climate change-related business operations obtain specialised training that is relevant to their role (i.e. via conferences or knowledge sharing initiatives).
- Hiring staff with knowledge in this area to ensure that there is expertise at hand.
- Hiring external consultants.

It is important that any education programmes are tailored for each group of staff. For example, executives and trustees require an appreciation of the risks and business change and management issues whereas other staff will require training in areas specifically relating to their own role and responsibilities.

**Checklist: Staff training and education**

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<thead>
<tr>
<th>Task</th>
<th>Responsibility</th>
<th>Due date</th>
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<tr>
<td>Audit of staff climate change capability</td>
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<td>Define training and education requirements</td>
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<td>Evaluate training and education options</td>
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<td>Approve training budget</td>
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<tr>
<td>Select training options and schedule (once-off and ongoing) training</td>
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51 Refer to the climate change evidence dossier, items y and z
2.15 Internal (fund) climate change management

**Best practice:**
- Measure and reduce the fund’s own carbon footprint

One area which funds tend to neglect is the ability to manage their own carbon footprint. Despite often being low emitters, office-based organisations have realised significant financial and non-financial benefits from calculating and managing their own environmental footprint better. Indeed, improvements to the energy efficiency of buildings is one of the low-hanging fruit in the marginal abatement cost curve – indeed, the net “cost” of improving the energy efficiency of buildings is actually negative, i.e. a financial benefit.\(^{52}\)

An additional benefit is the climate change awareness and capability that quickly builds up amongst staff. Evidence shows great enthusiasm for the challenge and that staff at all levels begin to make the real connection between day-to-day activities and climate change management.

Many methodologies for companies to manage emissions are publicly available. There are also consultancy companies available to assist in managing climate change-related matters such as the consulting company Energetics (http://www.energetics.com.au).

**Energy efficiency of buildings**

Research shows that energy efficient buildings often have lower costs and these savings can be passed on by landlords. According to the Green Building Council of Australia, energy use in the operation of commercial and residential buildings currently contributes to approximately 23% of Australia’s greenhouse emissions.\(^{53}\) (Methods of calculation for this can be obtained via the website for the Green Building Council of Australia.\(^{54}\)) A low carbon footprint translates into greater action around climate change and is encouraged by and consistent with the Methodology.

**Carbon reduction programmes and purchase of carbon offsets**

Carbon reduction programmes and carbon offset purchases are further examples of active measures that can be taken by funds to reduce the impact of their emissions. A common feature of carbon reduction programmes is the reduction of air travel by utilising teleconferences where possible and encouraging staff to car-pool or use public transport. In addition, carbon offsets may be purchased through organisations such as Climate Friendly to assist funds in offsetting and managing carbon emissions from their activities. Further information is available on https://climatefriendly.com.

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53 “Building a green future: Reducing the impact of the built environment is the best way to lighten Australia’s expanding carbon footprint” article in Ethical Investor, February / March 2009 edition – Issue 83

54 Refer to the climate change evidence dossier, item z
Conclusion of Phase 2: Blueprint sign-off

The output from Phase 2 is a document that defines the blueprint for the fund’s future climate change capability. This document must be signed off at appropriate levels of the funds so that detailed implementation planning can be completed.
Phase 3 – Implementation of new business processes

Implementation planning and preparation

Once the blueprint is signed off, detailed implementation planning of the new processes, procedures and policies can be undertaken. This planning was undertaken at a high level at the start of the blueprint phase but now the asset owner should have a much clearer and more detailed idea of what tasks need to be completed and the required resources. Asset owners should start with the high level targets and break these down into a sufficient detail for those responsible for carrying out the tasks to provide tracking reports. A sample implementation plan is provided below.

The plan can be used to prioritise where short-term gains can be made, to track progress and to communicate the intended actions. It also allows for a full costing where any additional costs will be incurred to implement the plan.

In the sample plan below, policy tasks have been broken out into their component parts.

Each area of the plan may have many low level tasks which do not require infinitely detailed planning if they are of short duration such as a few days each. The project manager should ensure that the highest priority tasks are completed first and that as a group the task’s costs and timelines are adhered to.

Plans can be held in a formal project management system such as Microsoft Project or more simply in an excel spreadsheet. The key element is using whatever system is in place to monitor progress and report to the Board.

The plans and their relevant budgets will require sign-off by the respective committee or the Board depending upon the costs and internal procedures. To prepare for
implementation, work may be required in setting up the systems and environment in preparation. This may include trial runs in the case of systems changes and, for large funds, changes with information system implications or ‘hard’ changes may require all end users to be trained. The sign-off of the plan signals that the implementation phase can begin.

The blueprint should be used to further develop a detailed implementation plan. Many areas of capability may be straightforward to implement both in terms of time and resource. Other areas may be more complex. The plan need not be onerous in its detail and pragmatic planning dictates that where a significant amount of flexibility exists for a task that little time is spent estimating its length or precise scheduling.

**Implementation of new business processes**

Having designed the new strategic capability and built a blueprint for new business processes to manage climate change, the next step is implementing that design.

The implementation phase simply involves executing the plan, with the designs for carbon risk and opportunity management capability converted into real processes, information systems and practices according to the priorities laid out by the implementation plan.

As each task progresses and is completed, the project officer or responsible staff member will update the implementation plan for the management team and Board to review. This progress should then be communicated to any relevant third parties involved in the task or who will be affected by it.

Tasks that have commercial or competitive sensitivities should be removed from any public versions of the plan. For others, progress should be added to the fund’s website for member information.

It is important to ensure any new reports are reviewed as part of the new operational management cycle including ensuring that any Board level reports have been signed off by the Board as being relevant, accurate and in the desired format.

**Implementation of tasks with a cut-off point**

Some tasks will have specific or ‘hard’ start dates such as the introduction of a new information system functionality or business process. These should be thoroughly tested before going live especially if they involve any external data feeds. For example, an internal investment team rebalancing or optimising a portfolio may need to integrate a feed of CDP data via Bloomberg.

**Implementation risk**

Like any project, a risk management plan is important. This can capture not only hard risk data but also potentially softer or cultural issues such as change resistance from staff, Board or stakeholders. Like any risk plan, mitigation is key and should be anticipated before the project commences.

**Managing information systems risks**

The Methodology is not focused on information systems development, however, the evolution or replacement of incumbent systems is crucial in building climate change capability. As mentioned, any changes with information system implications may
require end users to be trained and trial-runs of the new systems. In addition, funds need to allocate sufficient information technology resources to maintain systems and to ensure that any IT risks are properly managed.

Such oversight might include:

- Sampling data for conversion.
- Testing hardware.
- Confirming new form design.
- Testing new report layouts or reporting processes.
- Configuration of any packages software.
- Ensuring that all staff are fully conversant with any new business processes, procedures or practices.
Phase 4 – Project completion and ongoing management

Climate change best practice is not a one-off implementation exercise. Instead it should be viewed as a starting point for ongoing improvement of climate change risk management. As the physical environment and technologies evolve so too must the methods that are employed to monitor and manage their impact on the fund’s investment portfolio.

Perhaps more than any other issue, this is an area which will shape many aspects of an asset owner’s business in future years and so a determination to continually evolve and update best practice will be key to creating and maintaining a leadership position.

When the initial capability project is completed, an ongoing improvement plan should be adopted as part of normal business activity. This plan should include:

- Receiving regular reports of climate change issues;
- Continual discussion of evolving best practice; and
- Ongoing staff training.

For implementations involving large-scale changes to information systems, ongoing support must be provided and/or on-call facilities made available for any issues either within the fund or through third party providers.

Ensuring quality

The success of the project is verified at the completion of each project phase. Using existing Methodology checklists, these quality checks help to ensure that all tasks for the phase have been completed properly, that all relevant documentation has been kept, and that all tasks required to commence the next phase of the project have been completed.

Regular meetings (we recommend weekly) ensure full communication between the project team and third parties. These meetings are used not only to update stakeholders on project status, but also to identify any issues or risk areas that may threaten the project. By identifying these problems early, they are more easily mitigated and resolved, reducing their impact on the project timeline.

Audit processes

To monitor all aspects of implementation, regular internal and external risk reporting should be instigated and, if necessary, a trustee committee should be established. Such a committee would be responsible for setting the strategy, outlining the risk reporting framework (including its reporting structure, material risks, status of individual controls, progress monitoring and risk indicators) and reviewing the findings regularly.

Trustees are responsible for ensuring that a strong risk management culture is adopted on climate change issues and may use the following risk management policies and procedures to ensure its compliance:

- Define management responsibilities on climate change risks.
- Ensure adequate segregation of duties.
• Incorporate discussion of climate change risk management policies into the induction and training of relevant staff (such as in-house investment staff).
• Employ external consultants to assess the risk management frameworks.

It is particularly important that audit processes are implemented for investment managers. A large part of successful climate change capability depends on the funds’ ability to manage their investment managers and the managers’ development. Thus an investment in audit processes is generally necessary for the strategy to be effective. While terminating IMAs is a powerful tool that funds can utilise, great long-term benefits may be drawn from driving the development of an existing investment manager to better manage the risk/return profile of their particular mandate.

**Fund auditors**

Funds should communicate their new audit processes to their financial auditors, most of which are building up a solid understanding of climate change issues. Indeed, funds should devise an audit strategy for themselves and their third parties in conjunction with their auditors to develop measures to ensure the integrity of the climate change data and any newly implemented processes.
Assisting with the development of the Methodology

The Climate Institute and the Asset Owners Disclosure Project welcome feedback from funds and other stakeholders regarding the Methodology.

We are committed to developing the Methodology to account for new developments, innovation in risk management and as a result of using the Methodology in the field.

Please email your feedback to either of the email addresses below:

info@climateinstitute.org.au
info@aodproject.net
Appendix 1 – Climate change evidence dossier

a. AODP survey results (Q2.4), page 12

Q2.4  Does your fund (or the Trustees) consider integrating climate change risks/opportunities into the investment policy/strategy consistent with fiduciary duties and/or the sole purpose test?

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>38%</td>
</tr>
<tr>
<td>Planning to consider this in the next 12 months</td>
<td>16%</td>
</tr>
<tr>
<td>Yet to be discussed at board</td>
<td>41%</td>
</tr>
<tr>
<td>No</td>
<td>6%</td>
</tr>
</tbody>
</table>

There has been a dramatic swing in the response to this question from last year with a significantly lower proportion of funds seeing consideration of climate change-related issues as consistent with fiduciary duties and/or the sole purpose test. Last year funds were only able to choose “yes” or “no” in response to this question, and 83% of surveyed funds believed that integrating climate change risks/opportunities was consistent with fiduciary duties and/or sole purpose test. This year, we decided to obtain a clearer picture of whether the Board had actively considered this question.

b. Role of trustees on climate change issues

It is highly recommended that the fund trustees are provided with climate change training to ensure that they are equipped with this knowledge while making investment decisions. Trustees need to be aware of how climate change issues impact long-term investments and how these issues can be incorporated into investment strategies.

The AIST provides learning and professional development workshops and seminars for trustees on a wide range of superannuation related subject matters. In 2009, the AIST introduced an ESG course which is intended for trustee directors intending to incorporate ESG issues into their fund’s investment strategy. The course covers topics such as:

- Risks arising due to lack of consideration of ESG issues;
- Mainstreaming of ESG issues;
- Research and initiatives on responsible investment such as the UNPRI; and
- Engaging with companies to ensure management of ESG risks.

Further information on the AIST’s ESG courses (which include climate change issues) is available on the AIST’s website (http://www.aist.asn.au/learning.aspx)
c. AODP results (Q11.3), page 44

Q11.3 In relation to your internal investment management staff do you provide dedicated climate change training for your organisation’s internal non-climate change-specialist investment management staff? (More than one option may be selected)

<table>
<thead>
<tr>
<th>Option</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have an internal climate change specialist</td>
<td>6%</td>
</tr>
<tr>
<td>We provide climate change training for the fund CEO</td>
<td>6%</td>
</tr>
<tr>
<td>We provide climate change training for the fund CIO</td>
<td>6%</td>
</tr>
<tr>
<td>We provide climate change training for other fund investment executives</td>
<td>13%</td>
</tr>
<tr>
<td>We provide climate change training for fund trustees</td>
<td>9%</td>
</tr>
<tr>
<td>We am planning to provide climate change training in the next 12 months</td>
<td>28%</td>
</tr>
<tr>
<td>No we do not provide training and do not plan to do so in the next 12 months</td>
<td>50%</td>
</tr>
</tbody>
</table>

There has been a dramatic decrease in the training deployed to investment management teams regarding climate change with half of the funds surveyed providing no training now or in the next 12 months. Given funds typically have small investment teams this may mean funds feel their staff are now adequately trained. We believe developments in this area will continue and hence ongoing training will be required.

The then Minister for Superannuation and Corporate Law, Hon. Senator Nick Sherry consistently sought to clarify the position of superannuation trustees and their fiduciary responsibility with regard to issues such as climate change.

In July 2008, he said: “…the consideration of ESG factors [is] so critical to the long-term financial success of super assets that in my view it is an important part of the fiduciary responsibilities of all trustees and, as such, should be incorporated into the investment decision making process of those trustees.”

The Minister formally requested that Australian Prudential Regulation Authority (APRA) clarify the fiduciary responsibility of trustees in regard to balancing short- and long-term investment goals and to make it clear that trustees can incorporate ESG issues in the formulation of their investment and other operational strategies.

The Minister added: “I believe that ESG and other extra-financial factors should be incorporated into the investment decision-making process of superannuation trustees.”

d. Best practice for setting up climate change-related initiatives and processes

For any climate change initiative to be successful within an organisation, it requires processes of its own which are overseen closely by management. An example of an organisation that has implemented this is Dell.

Dell’s Sustainability Council meets quarterly to review and approve strategies, monitor progress and address risk on all sustainability issues, including climate change. The Council is led by Dell’s Corporate Sustainability Director and is represented by leaders from Dell’s Product Group, Facilities and Manufacturing operations, Logistics, Services and Worldwide Procurement organizations. The CEO of the company, Michael Dell also sits on the Council and examples of topics reviewed include the company’s carbon neutrality strategy and its multi-year plan to reduce the carbon intensity of its operations.
e. AODP results (Q2.1), page 11

**Q2.1 How are climate change issues integrated into your policy framework?**

<table>
<thead>
<tr>
<th>Policy Type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have both integrated and standalone policies</td>
<td>3%</td>
</tr>
<tr>
<td>Standalone climate change policy</td>
<td>-</td>
</tr>
<tr>
<td>Climate change included in broad investment policy</td>
<td>9%</td>
</tr>
<tr>
<td>Climate change included in overall ESG policy</td>
<td>38%</td>
</tr>
<tr>
<td>Planning to introduce in the next 12 months</td>
<td>19%</td>
</tr>
<tr>
<td>No policy on climate change and/or no plans to introduce in the next 12 months</td>
<td>31%</td>
</tr>
</tbody>
</table>

Whilst 50% of the funds surveyed do not currently have climate change issues integrated in their policy framework this is a significant improvement on last year’s figure (70%). The improvement has largely been driven by funds having these issues incorporated into their overall ESG policy.

f. Best practice example: VicSuper

VicSuper has a standalone climate change policy which broadly outlines the fund’s stand on climate change issues, the scope of which the policy is applicable, how climate change impacts its investments and operations, as well as the measures that are being undertaken to manage them. For more information, please refer to [http://www.vicsuper.com.au/resources/documents/Climate_change_policy_2008.pdf](http://www.vicsuper.com.au/resources/documents/Climate_change_policy_2008.pdf)

g. Identification of climate change risks

An increasing number of asset owners recognise the integration of climate change issues into their investment policies and strategies as part of their fiduciary duty and obligations under the sole purpose test. In light of the global financial crisis, it is more crucial than ever for trustees to understand risk at all points in the investment chain representing systemic risk build-up. Whilst only hindsight can attribute blame for the sub-prime collapse to the complex shifting of risk between financial products, similar systemic risks relating to climate change, the misalignment of incentives and other factors have now been highlighted and as such, no such future protection exists for trustees in this case.

h. RiskMetrics Group’s Carbon Beta

Innovest (now part of the RiskMetrics Group) developed the Carbon Beta ratings methodology which identifies and quantifies carbon risk exposures on both a company and portfolio-wide basis and allows comparison to be made to the relevant investment benchmark. The Carbon Beta risk rating model covers over 2,000 companies and compares global sector peers. It currently represents the most comprehensive method of calculation and allows comparison of investment risks, going beyond the more simplistic carbon footprint measure.

i. Lawsuits associated with climate change

A federal lawsuit was filed against two US government agencies, the Export Import Bank (Ex-Im) and the Overseas Private Investment Corporation (OPIC), by Friends of the Earth, Greenpeace, and the City of Boulder, Colorado, in August 2002. This lawsuit was later joined by the Californian cities of Arcata, Santa Monica and Oakland. The plaintiffs alleged that Ex-Im and OPIC illegally provided more than US$32bn in financing and insurance to fossil fuel projects over 10 years without assessing the impacts of the projects to global warming or the US environment.

In February 2009, a settlement was agreed to under which Ex-Im would begin accounting for CO₂ emissions when evaluating fossil fuel projects and create an organisation-wide carbon policy and whereby OPIC would establish a goal of reducing GHG emissions associated with projects by 20% over the next 10 years. Both agencies also committed to increasing financing for renewable energy.

The settlement was an important event as it held both agencies accountable for their contributions to climate change. Refer to the website for further information: http://www.greenpeace.org/usa/campaigns/global-warming-and-energy/climate-lawsuit

j. McKinsey’s abatement cost curve

Global GHG abatement cost curve beyond business-as-usual – 2030

The graph shows the average cost of avoiding one tonne of CO₂-e via implementation of each opportunity in 2030. All costs are in 2005 real Euros and the costs are calculated excluding any taxes or subsidies using capital costs similar to government bond rates to allow for comparisons across countries, sectors and individual opportunities.

55 The graph shows the average cost of avoiding one tonne of CO₂-e via implementation of each opportunity in 2030. All costs are in 2005 real Euros and the costs are calculated excluding any taxes or subsidies using capital costs similar to government bond rates to allow for comparisons across countries, sectors and individual opportunities.

k. Amendments to mandates for asset consultants

AODP results (Q3.5), page 16. Approximately 41% of the respondents had either altered or intended to alter their mandates for asset consultants to reflect issues such as integration of climate change research, incorporation of climate change opportunities, greater mandate length and longer investment horizons.

Q3.5 Have you already altered or do you have plans in the next 12 months to alter your mandates for asset consultants to reflect any of the following? (More than one option may be selected)

<table>
<thead>
<tr>
<th>Issue</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate change related allocations</td>
<td>3%</td>
</tr>
<tr>
<td>Proven climate change skills capability</td>
<td>3%</td>
</tr>
<tr>
<td>Integration of climate change research</td>
<td>24%</td>
</tr>
<tr>
<td>Longer investment horizons</td>
<td>3%</td>
</tr>
<tr>
<td>Greater mandate length</td>
<td>3%</td>
</tr>
<tr>
<td>Retained bonuses for long term return (Please specify over what time frame in years)</td>
<td>3%</td>
</tr>
<tr>
<td>Other incentive alignments (Please specify)</td>
<td>3%</td>
</tr>
<tr>
<td>Mandatory signatory of initiatives such as UNPRI, EAI (Enhanced Analytics Initiative) or GRI (Global Reporting Initiative)</td>
<td>7%</td>
</tr>
<tr>
<td>Other climate change related issues (Please specify)</td>
<td>14%</td>
</tr>
<tr>
<td>No plans</td>
<td>59%</td>
</tr>
</tbody>
</table>

This follow-up question about the demand for climate change-related asset consulting skills reveals that although a high percentage of surveyed funds currently didn’t have any requirement in their asset consulting agreements (Q3.4, 93%) a large percentage (59%) still had no plans to make the required changes.

l. There are numerous benefits obtained through collaboration. Details are available in the Mercer report, “Pension Collaboration Strength in Numbers” http://www.mercer.com/attachment.dyn?idContent=1318495&filePath=/attachments/English/Pension_Collaboration_Strength_in_Numbers.pdf

m. AODP results (Q10.16), page 41

Q10.16 Please check all the collaborative engagement initiatives and/or industry associations you participate in. (More than one option may be selected)

<table>
<thead>
<tr>
<th>Initiative</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Disclosure Project (CDP)</td>
<td>25%</td>
</tr>
<tr>
<td>United Nation Principles for Responsible Investment (UNPRI)</td>
<td>53%</td>
</tr>
<tr>
<td>Council of Institutional Investors (CII)</td>
<td>-</td>
</tr>
<tr>
<td>Extractive Industries Transparency Initiative (EITI)</td>
<td>-</td>
</tr>
<tr>
<td>Enhanced Analytics Initiative (EAI)</td>
<td>3%</td>
</tr>
<tr>
<td>Institutional Investors Group on Climate Change (IIGCC)</td>
<td>3%</td>
</tr>
<tr>
<td>International Corporate Governance Network (ICGN)</td>
<td>19%</td>
</tr>
<tr>
<td>Investor Group on Climate Change, Australia/New Zealand (IGCC)</td>
<td>31%</td>
</tr>
<tr>
<td>Investor Network on Climate Risk (INCR)</td>
<td>-</td>
</tr>
</tbody>
</table>
There was a substantial increase in the proportion of funds surveyed that are involved with the IGCC (up from 15% to 31%) and a slight increase in signatories of the UNPRI (up from 48% to 53%). There was a dramatic decrease in the proportion of funds who were members of the IIGCC (down from 30% to 3%). This may reflect funds transferring from the IIGCC (UK-based) to the IGCC (Australia/New Zealand), as the resources and capabilities of the local IGCC have grown. Other collaborative initiatives/associations include ACSI.

n. AODP results (Q10.14), page 41

Q10.14 Would you be willing to talk to other funds or government about unique collective investment opportunities around infrastructure to help limit Australia’s climate risk and maximise opportunity?

<table>
<thead>
<tr>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, other funds and government</td>
<td>66%</td>
</tr>
<tr>
<td>Yes, other funds</td>
<td>22%</td>
</tr>
<tr>
<td>Yes, government</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>13%</td>
</tr>
</tbody>
</table>

The willingness of the surveyed funds to talk to funds or government in general about infrastructure investment opportunities has slightly decreased this year, however, the willingness to talk to other funds (solely) has increased from 10% to 22%.

o. AODP results (Q10.15), page 41

Q10.15 What structural or cultural barriers do you think will prevent funds acting collectively to help fund uniquely large scale renewable energy investments or portfolios? (More than one option may be selected)

<table>
<thead>
<tr>
<th>Barrier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition between project managers / infrastructure development companies</td>
<td>19%</td>
</tr>
<tr>
<td>Debt availability issues following global financial crisis</td>
<td>22%</td>
</tr>
<tr>
<td>Never been done before on the scale required</td>
<td>16%</td>
</tr>
<tr>
<td>Competition between funds</td>
<td>31%</td>
</tr>
<tr>
<td>Other (Please specify)</td>
<td>25%</td>
</tr>
<tr>
<td>Not known</td>
<td>38%</td>
</tr>
</tbody>
</table>

Similar to last year almost one-third of surveyed funds cited “competition between funds” as a barrier to collective investment opportunities. Debt availability was also a perceived barrier. Of the “other” barriers listed, the surveyed funds listed lack of resources to conduct research and analysis, the attractiveness of the risk/return profile and liquidity constraints.
p.  AODP results (Q11.2), page 43

Q11.2 Do you plan to increase your capacity and capability for dealing with climate change issues?

<table>
<thead>
<tr>
<th>answer</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, through hiring staff</td>
<td>3%</td>
</tr>
<tr>
<td>Yes, through fund managers</td>
<td>3%</td>
</tr>
<tr>
<td>Yes, through asset consultants</td>
<td>25%</td>
</tr>
<tr>
<td>Yes, through hiring external consultants</td>
<td>3%</td>
</tr>
<tr>
<td>Yes, through developing existing staff</td>
<td>22%</td>
</tr>
<tr>
<td>Yes, through other areas (Please specify)</td>
<td>3%</td>
</tr>
<tr>
<td>No</td>
<td>41%</td>
</tr>
</tbody>
</table>

There has been a marked increase in the proportion of funds who are not planning on increasing their climate change capacity/capability (up from 14% to 40%). Whether this reflects a high level of satisfaction with incumbent capacity/capability or not is unclear but we suggest that, given other responses in the survey, any increased satisfaction may be misplaced.

Interestingly, 25% of funds surveyed intend to increase their climate change capacity/capability through their asset consultants – whereas the responses in section three of the survey (Asset allocation and asset consultants) indicate most funds do not impose any climate change-related requirements on the asset consultants through the asset consulting agreement, in short-listing investment managers or in devising asset allocations. This result is also interesting in light of the AIST/TCI’s survey of asset consultants in 2009 which indicated a very low level of skills and knowledge in this area.

This finding confirms our view that the relationship between asset consultants and trustees is an important area which requires more investigation and action.

q.  The AODP results demonstrate that funds are lagging behind in this practice (Q4.9, page 21). However, some of the respondents were planning to improve the collection of data in the next 12 months.

Q4.9 What were the scope 1 and 2 emissions of your held investments at the end of your last financial period in each asset class? Please specify in million tCO2-e.

<table>
<thead>
<tr>
<th>asset class</th>
<th>scope 1</th>
<th>scope 2</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic equities</td>
<td>___;</td>
<td>___;</td>
<td>9%</td>
</tr>
<tr>
<td>International equities</td>
<td>Scope 1;</td>
<td>Scope 2;</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Scope 1;</td>
<td>Scope 2;</td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td>Scope 1;</td>
<td>Scope 2;</td>
<td></td>
</tr>
<tr>
<td>Hedge funds</td>
<td>Scope 1;</td>
<td>Scope 2;</td>
<td></td>
</tr>
<tr>
<td>Other alternative assets</td>
<td>Scope 1;</td>
<td>Scope 2;</td>
<td></td>
</tr>
</tbody>
</table>

Looking to calculate them in the next 12 months

Not available

Like last year, a small proportion of surveyed funds were able to provide emissions data around the underlying investments. The data provided was predominately Scope 1 emissions in the Australian equities, international equities and private equity assets classes.
r. Best practice for public disclosure

Johnson & Johnson has a comprehensive and transparent communication strategy with the public on climate change issues. In its Sustainability Report, it reports its GHG emission reduction measures and views on climate regulation. Johnson & Johnson is also a CDP signatory and has quantified the business impact of a 25, 50 and 100% increase in energy costs to its business\textsuperscript{57}.

s. AODP results (Q12.1), page 45

\textit{Q12.1} Have you disclosed (to members, authorities, etc) how climate change issues are integrated into your investment processes?

| Yes | 26% |
| No, but planning to in the next 12 months | 6% |
| No, have not disclosed to members | 68% |

The results show a decrease over the past 12 months in the level of disclosure, or planned disclosure, by funds with respect to how climate change issues are incorporated in the investment process.

\[ \text{Q10.9} \quad \text{Have you or your proxy voting provider ever voted on any shareholder resolutions related to climate change?} \]

| Yes (Please specify details) | 9% |
| No, but planning to in the next 12 months | 6% |
| No | 84% |

The responses to this question are broadly in line with those of last year’s survey however there has been a slight increase in the proportion of funds who are planning to vote on shareholder resolutions related to climate change.

u. In the 2007-2008 proxy season, the Nathan Cummings Foundation in the US jointly with numerous large pensions funds, filed a shareholder resolution with Centex, the US’s third largest homebuilder, to encourage the company to outline its strategies for reducing energy usage and the overall carbon footprint of its homes. The resolution received 26% of shareholders’ support which is particularly high considering majority of shares are controlled by the company itself or held by mutual funds that typically vote against such resolutions. As a consequence, Centex has responded by committing to improve energy efficiency of all of its new homes by 30 to 40% beginning in 2009\textsuperscript{37}.

\textsuperscript{57} “Corporate Governance and Climate Change; Consumer and Technology Companies” report by Ceres and the RiskMetrics Group, December 2008
v. The US has demonstrated significant development in the filing of shareholder resolutions on climate change.

![U.S. Shareholder Resolutions on Climate Change 1995 - 2008 (Ceres)](chart)

w. AODP results (Q8.3), page 32

Q8.3 Have you already altered or do you have plans in the next 12 months to alter your mandates for investment managers to reflect any of the following? (More than one option may be selected)

<table>
<thead>
<tr>
<th>Change Description</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory integration of climate change research and data</td>
<td>6%</td>
</tr>
<tr>
<td>Your climate change policy referenced on all your investment managers’ agreements (IMAs) and Product Disclosure Statements (PDSs)</td>
<td>6%</td>
</tr>
<tr>
<td>Greater mandate length</td>
<td>-</td>
</tr>
<tr>
<td>Longer investment horizons</td>
<td>3%</td>
</tr>
<tr>
<td>Retained bonuses / clawbacks / options for long term return (Please specify over what time and what KPIs would you employ)</td>
<td>6%</td>
</tr>
<tr>
<td>Mandatory signatory of initiatives such as UNPRI, EAI or GRI</td>
<td>13%</td>
</tr>
<tr>
<td>Other incentive alignments (Please specify)</td>
<td>6%</td>
</tr>
<tr>
<td>None of the above</td>
<td>69%</td>
</tr>
</tbody>
</table>

The majority of surveyed funds (69%) do not have plans to alter mandates over the next 12 months to better align incentives or incorporate climate change-related issues. This may reflect that these types of alterations have already taken place as last year’s survey showed a significantly greater proportion of funds having plans to alter their mandates in this way.

x. For further information on assessing investment managers’ capability in incorporating climate change issues, refer to the section titled “Questions you can ask your investment manager” article in the report “A climate for change – A Trustee’s guide to understanding and addressing climate risk”.

[http://www.carbontrust.co.uk/Publications/pages/publicationdetail.aspx?id=CTC509&respos=2&q=a+climate+for+change&o=Rank&od=asc&pn=0&ps=10](http://www.carbontrust.co.uk/Publications/pages/publicationdetail.aspx?id=CTC509&respos=2&q=a+climate+for+change&o=Rank&od=asc&pn=0&ps=10)
y. VicSuper

VicSuper is one of the leading funds in the incorporation of climate change issues into its investment process. Its central operating principle is sustainability, resulting in environmental considerations being part of all facets of its decision-making process.

Further information on VicSuper’s environmental commitments and climate change policy are in the links below:

z. Green Building Council of Australia (GBCA)

The GBCA is a national, not-for-profit organisation that aims to develop a sustainable property industry for Australia by encouraging the adoption of green building practices. Further information is available at http://www.gbca.org.au

aa. AODP results (Q11.1), page 43

<table>
<thead>
<tr>
<th>Q11.1 Do you already have internal capacity and capability for dealing with climate change issues? (i.e. within your fund’s operations)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, we have dedicated climate change specialists on staff</td>
<td>-</td>
</tr>
<tr>
<td>Yes, we have ESG staff</td>
<td>25%</td>
</tr>
<tr>
<td>Yes, we hire external consultants</td>
<td>13%</td>
</tr>
<tr>
<td>Yes, we conduct staff training</td>
<td>-</td>
</tr>
<tr>
<td>Yes, through other areas (Please specify details)</td>
<td>9%</td>
</tr>
<tr>
<td>No</td>
<td>53%</td>
</tr>
</tbody>
</table>

Comparing year-on-year responses to this question shows a drop in the level of internal climate change capabilities however there has been a substantial jump in the proportion of funds with ESG staff (up from 17% to 25%).
Appendix 2 – Sample Board climate change resolution

The [INSERT FUND NAME] Board of the ABC Superannuation Fund (the Fund) acknowledges that the impact of climate change represents a significant risk to members’ superannuation. The Board broadly acknowledges the scientific consensus and seeks to play its role in helping stakeholders at all levels of the investment chain understand the issue. The Board decrees that an ongoing programme be adopted to build capability to ensure that the Fund manages the risks and opportunities associated with climate change. The Board acknowledges that this programme will reach almost every aspect of the Fund’s operations from asset allocation to member communication. The first phase of this programme is to build or update the Fund’s capability in a short space of time via a project. This project will be governed by a tight project governance framework and a sub-committee will be formed to plan, implement and report on activity related to this project.
Appendix 3 – Sample climate change policy

Aim and Purpose of Policy
The Board of the [INSERT FUND NAME] (the Fund) acknowledges that the impact of climate change represents a significant risk to members’ superannuation. This policy aims to formalise the Fund’s approach in managing climate change risks.

We acknowledge the scientific consensus and aim to build an ongoing capability around managing the risks and opportunities associated with climate change. We acknowledge that such a programme will encompass almost every aspect of our operations, ranging from asset allocation to active ownership.

These processes will be governed by a secure project governance framework and managed under a specific sub-committee, [INSERT COMMITTEE NAME], formed for this purpose. This sub-committee will serve to form a plan, implement and report on the activities related to this project and held under the responsibility of the Chief Investment Officer.

As the Fund is committed towards keeping members informed regarding this issue, we will seek to provide updates to members and stakeholders regarding our progress on managing climate change issues.

Scope
This policy covers all of the operations and investments of the Fund.

Voluntary participation in collaborative initiatives
In relation to collaborative initiatives involving climate change issues, the Fund is a signatory of the United Nations Principles for Responsible Investment (UNPRI), the Carbon Disclosure Project (CDP) and ongoing participant of the AIST/TCI Asset Owner’s Climate Change Initiative.

Internal fund climate change management
The Fund will measure the emissions resulting from our operations and seek to establish targets on reducing our carbon footprint. Our progress on this matter will be updated annually and reported publicly via our Annual Report.
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