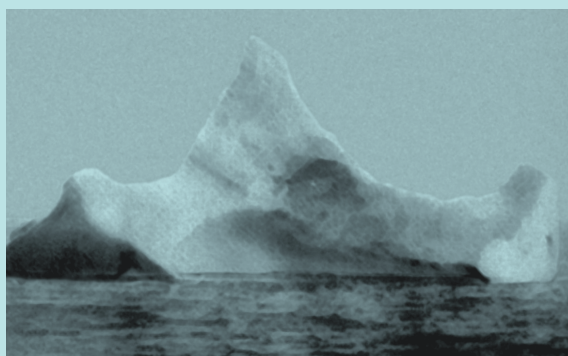



ASSET OWNERS/ DISCLOSURE/ PROJECT





THE SHEER SCALE AND POTENTIAL REACH OF CLIMATE RISK IS SUCH THAT ANY FUND CANNOT CLAIM TO BE LOOKING AFTER THE LONG-TERM INTERESTS OF ITS BENEFICIARIES IF IT IS NOT MANAGING THE COMPONENTS OF CLIMATE RISK. THIS MANAGEMENT BEGINS WITH DISCLOSURE.

/ JULIAN POULTER, EXECUTIVE DIRECTOR / AODP /

FOREWORD

/ JOHN HEWSON, CHAIR / AODP /

The landscape for asset owners around the world, particularly pension funds, is changing faster than at any other time in the industry's history. Since AODP launched its first Global Climate Index in December 2012, civil society organisations have successfully questioned the legitimacy of an industry that is supposed to manage key long risks on behalf of its beneficiaries. Climate change represents the perfect test and the perfect criteria for judging the industry and any particular fund within it. Indeed such is the sheer scale and potential reach of climate risk that any fund cannot claim to be looking after the long-term interests of its beneficiaries if it is not managing the components of climate risk. However, an alarming number of asset owners still pin most of their long-term risk strategies on a financial marketplace that has become infamous for its short-termism and built more for trading than long-term risk management or value creation.

Asset Owners now face a choice. The education of beneficiaries has begun. The marketing and public acknowledgement of those funds who have acknowledged the need to change for the benefit of their members has already started and the AODP Global Climate Index is a cornerstone of this change. Civil society assisted by a hungry media fascinated as to how the world's largest industry will manage its own redevelopment will continue to create new pressures on laggard funds and there will likely be no escape. The coming year will see the industry smoked out of its fiduciary duty bunker to prove to members that it is actively addressing this calamitous systemic risk and that the business as usual scenario currently supported by stock markets is simply not a professional position for a long-term portfolio manager with a high to low-carbon asset ratio of 20-1 or more.

What was once a sleepy industry is already discovering the pressures of a new era, where funds at the top of the index are beginning to actively monitor their unburnable carbon and hedge their portfolio risk against the many uncertainties of climate change and those at the bottom stick to what they have always done and guarantee themselves an increasingly tense and public relationship with the members they claim to represent.

Unlike the sub-prime crisis and previous market upheavals, they will find no protection from the complexity of their industry and their refusal to question their own out-dated investment models and other investment sacred cows will be proved a dereliction of duty. Time is running out for them to begin this change as the leaders are beginning to move ahead at an impressive pace.

Climate change risk management is everyone's business. It needs to be embedded in the risk strategies of every fund. AODP, in conjunction with its partners, will continue to show the 700 million beneficiaries worldwide that there is a choice for their funds to act or not to act and that it is in their best interests to be with a fund that is acting and to engage with funds that are not. The basis of that conversation is the AODP Global Climate Index and its underlying methodology for improving how funds are managing the next great financial crisis.



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/ ABOUT AODP /

The Asset Owners Disclosure Project (AODP) is an independent not-for-profit global organisation whose objective is to protect superannuation and pension fund members' retirement savings from the risks posed by climate change. It does this by working with the pension funds, insurance companies and sovereign wealth funds to improve the level of disclosure and industry best practice.

AODP runs the annual Global Climate Index and the beneficiary based platform The Vital Few to provide a top down and bottom up approach to the issue of driving asset owners to manage climate risk.

The AODP has a board of senior leaders from investment, business, trade union, political, academic and community backgrounds. It grew from a pilot program with The Climate Institute (Australia).

The Global Climate Index provides asset owners (and their stakeholders, members and beneficiaries) with valuable insight into the strategies deployed by some of the largest asset owners in the world in relation to climate change. The initiative encourages funds to engage in climate change-related issues, often for the first time.

The Vital Few is a community of superannuation/ pension fund members who have been inspired to take action to ensure investments made on their behalf provide for their future prosperity – both financially and environmentally. They do this by asking their pension funds to disclose their current investment assets and their portfolio risk management strategies.

The responses to members via The Vital Few have assisted the AODP team of analysts to assess the asset owner's climate change risk management practices for the annual AODP survey.

EXECUTIVE SUMMARY

In a year when understanding of a fund's exposure to unburnable carbon and emissions intensity became a mainstream investment issue, the measurement of progress to managing climate risk takes on an even greater significance. This is particularly important as the stakeholders in these funds, especially pension beneficiaries, have started to create significant public pressure to manage these risks.

The Asset Owners Disclosure Project (AODP) 2013-2014 Global Climate Index is built from data acquired directly from the 1000 largest asset owners which are invited to respond to the survey; from the members of those funds, and by a research team using publicly available information.

The AODP 2013-2014 Global Climate Index includes data from the four types of asset owners; pension and superannuation funds, insurance companies, sovereign wealth funds and foundations, endowments and trusts.

The AODP research team use the collected data to score and rank the funds according to the AODP ratings methodology which uses multiple data sets across five main aspects of an asset owner's climate change performance:

- 1/ Transparency
- 2/ Risk Management
- 3/ Investment Chain Alignment
- 4/ Active Ownership
- 5/ Low-Carbon Investment

TABLE 01 / ASSET OWNERS

	NUMBER RATED	% OF SURVEY	NUMBER IN TOP 100
PENSION FUNDS	359	78.4%	87
INSURANCE COMPANIES	53	11.5	12
SOVEREIGN WEALTH FUNDS	34	7.4	01
FOUNDATIONS/ENDOWMENTS	12	2.6	00
TOTAL	458	100	100

Using all available data, the AODP ratings team then rated 458 of the 1000 largest asset owners invited to respond to the survey. In 2013-2014, the 458 asset owners surveyed comprised:

- / 359 pension or superannuation funds;
- / 53 Insurance Companies;
- / 33 Sovereign Wealth Funds;
- / 12 Endowments, Trusts or Foundations
- / 1 pension fund administered by a labour organisation.

The AODP calculated the 2013-2014 Global Climate Index based on the ratings methodology. There were minimal changes in the rating methodology from 2012-2013. For further information on the methodology, see p17-18.

Table 01 summarises the characteristics of the 458 asset owners surveyed for the 2013-2014 survey. For further information on these asset owners, see p19-20.

KEY FINDINGS

TABLE 02 / THE 2013 PORTFOLIO RETURNS OF THE AAA RATED ASSET OWNERS /

RANK	FUND	COUNTRY	NET PORTFOLIO RETURN / 2013
1	Environment Agency Pension Fund	UK	14.2%
2	Local Government Super	AUSTRALIA	16.13%
3	CalPERS	USA	12.4%
4	PFZW/PGGM	NETHERLANDS	13.4%*
5	VicSuper	AUSTRALIA	12.7%

*2012 reported return - latest available

/ A CRISIS OF TRANSPARENCY STILL EXISTS /

24 asset owners submitted direct disclosures in response to 2013-2014 survey, an increase in the response rate of 41 per cent compared to last year. This total is still only 2 per cent of all asset owners invited to respond to the survey.

However, The Vital Few pilot in Australia, UK and Canada received responses from over 34 per cent of the asset owners contacted by members indicating that this transparency issue may be significantly improved within two more years with a global expansion of member based pressure.

/ A DISCLOSURE PREMIUM FOR ASSET OWNERS /

The 2013-2014 survey found that a disclosure premium exists for asset owners. Generally, asset owners who responded to the survey or to members through The Vital Few were over-represented in the top 27 asset owners which scored an A rating or above.

/ LOW-CARBON NOT LOW PERFORMANCE /

There is no evidence at all that the leaders in the AODP Index are sacrificing members returns even in the short-term and even when they are actively underweight high-carbon and overweight low-carbon investments and thus looking to stabilise their portfolio in preparation for future potential problems as the world economy transitions to a low-carbon model. An analysis of the AAA rated funds shows that none of these funds are near the bottom quartile of returns in their country. See Table 02 for more information.

/ THE POLARISATION OF ASSET OWNER PERFORMANCE IS INCREASING: A HIGH MAJORITY OF ASSETS OWNERS ARE SEVERELY LAGGING /

Table 03 shows the number of asset owners in each rating category and compares the 2013-2014 survey findings to the 2012 survey findings.

Five pension funds, Environment Agency Pension Fund (UK), Local Government Super (Australia), CalPERS (USA), PFZW/PGGM (Netherlands) and VicSuper (Australia) received an AAA rating in the 2013-2014 survey.

The two highest ranking insurance companies, the UK's Aviva and Norway's Storebrand ASA, both received an AA rating this year. This was an improved rating for both companies.

A total of 27 asset owners scored an A rating or above compared to 22 last year. Table 04 lists these 27 asset owners.

At the other end of the scale there is an alarming increase in the number of laggard funds. This year's new X rated category was awarded to 173 funds or 37.6 per cent of the total surveyed group. This rating category was awarded when AODP could discover absolutely nothing at all about how a fund was managing climate change risk. A further 191 or 41.5 per cent of funds scored a D rating. Thus, the proportion of surveyed asset owners which disclose very little or no information has increased from 70 per cent in 2012 to 79 per cent in 2013-2014.

Overall industry performance decreased once more medium sized asset owners were rated.

The 173 laggard funds are listed in Table 05.

TABLE 03 / ASSET OWNERS IN EACH RATING CATEGORY /

RATING	ASSET OWNERS PER CATEGORY 2012	2012 [%]	ASSET OWNERS PER CATEGORY 2013-14	2013-14 [%]
AAA	2	0.6%	5	1.1%
AA	11	3.5%	10	2.2%
A	9	2.9%	12	3.0%
BBB	10	3.2%	6	1.3%
BB	10	3.2%	10	2.2%
B	10	3.2%	10	2.2%
CCC	10	3.2%	16	3.5%
CC	10	3.2%	9	2.0%
C	20	6.3%	16	3.5%
D	222	70.3%	191	41.5%
X	N/A*	0.0%	173	37.6%
TOTAL	316		458	

*this rating category was not used in 2012 and is new for 2013-14 survey - for full list see Table 05

/ PENSION FUNDS ACCELERATED THEIR SUPERIORITY OVER OTHER ASSET OWNERS /

Pension funds had 87 of the top 100 funds, outweighing its representation of surveyed funds. Insurance companies rated in line with their overall representation in the Global Climate Index. However sovereign wealth funds and foundations rated poorly in comparison, with the leading foundation not making the top 100. See Table 01 for further information.

/ LEADING ASSET OWNERS ACKNOWLEDGE THAT THE MARKET HAS NOT ACCURATELY PRICED THE RISK /

Leaders acknowledged that carbon pricing will rise at some point and that there is a lack of risk premium attached to high-carbon investments in the liquid markets of equities and some fixed income instruments. The uncertainty that exists for those high-carbon exposures is driving these leaders to analyse their portfolios for the exposures than can be easiest offset. For example, many funds have publicly stated their fear for coal and high cost tar sand extraction as well as coal fired electricity generation and some have begun to actively tilt their portfolios away from some pure play or smaller companies in these areas. As part of their risk strategies, some leaders have begun to look at an active hedging strategy by both tilting away from these high-carbon exposures but also by further investments in low-carbon assets, even in some cases lowering their risk return hurdles for these investments in the belief that their hedging potential creates real value for their beneficiaries.

AODP GLOBAL
CLIMATE INDEX
2013-14



LEADERS

AAA

AA

A

These funds were rated AAA, AA and A by the AODP analyst team based on information on how these funds are managing climate change.

TABLE 04 / AODP GLOBAL CLIMATE INDEX 2013-14 TOP RATED ASSET OWNERS /

2013-14 RANK	2012 (+/-) COMPARISON	FUND NAME	COUNTRY	FUND TYPE	2013-14 RATING
1	+38	Environment Agency Active Pension Fund	UK	Pension	AAA
2	-1	Local Government Super	Australia	Pension	AAA
3	+12	CalPERS	USA	Pension	AAA
4	NIL	Stichting Pensioenfonds Zorg en Welzijn (PFZW/PGGM)	Netherlands	Pension	AAA
5	+3	VicSuper	Australia	Pension	AAA
6	+4	AustralianSuper	Australia	Pension	AA
7	-5	Government Employees Pension Fund	South Africa	Pension	AA
8	+116	Florida Retirement System Pension Plan	USA	Pension	AA
9	+10	BT Super for Life	Australia	Pension	AA
10	+69	Aviva	UK	Insurance	AA
11	+51	Storebrand ASA	Norway	Insurance	AA
12	+9	CareSuper	Australia	Pension	AA
13	N/A	Norfolk Pension Fund	UK	Pension	AA
14	N/A	American Fdn. of Labor&Congress of Industrial Orgs. (AFL-CIO)USA	USA	Pension	AA
15	+5	CalSTRS	USA	Pension	AA
16	N/A	Societe Generale Caisse de Retraite	France	Pension	A
17	+75	Pensions Trust	UK	Pension	A
18	+69	Sanlam Group	South Africa	Insurance	A
19	+53	AXA Group	France	Insurance	A
20	-15	Cbus Super	Australia	Pension	A
21	-14	APG Groep	Netherlands	Pension	A
22	+140	National Australia Bank	Australia	Pension	A
23	+99	National Australia Bank Group Superannuation Fund	Australia	Pension	A
23	N/A	Plum Superannuation (NAB Group)	Australia	Pension	A
25	+27	AMP	Australia	Pension	A
26	+2	UBS AG	Switzerland	Pension	A
27	-13	New York State Common Retirement Fund	USA	Pension	A

AODP GLOBAL CLIMATE INDEX 2013-14

TABLE 05 / AODP GLOBAL CLIMATE INDEX 2013-14 LOWEST RATED ASSET OWNERS /

Administración Nacional de Seguridad Social	Canadian National Railways	Fonds d'amortissement des régimes de retraite
Aetna Pension Plan	Carmignac Gestion	Ford Motor Company pension plans
Afore Sura	Caterpillar Inc.	Fujitsu
AFP Capital	Central Provident Fund	Fundação AMPLA de Seguridade Social - Brasileiros
AFP Cuprum	Central States Pension Fund	Fundação dos Economiários Federais (FUNCEF)
AFP Habitat	Centrales Nucleares Almaraz-Trillo	Fundação Petrobras de Seguridade Social (Petros)
AFP Provida	Century Link	General Electric pension plans
Ageas	Chrysler Group LLC	GLC Private Ltd
Alaska Retirement Management Board	Chunghwa Post	Government and Public Employees Retirement Plan
Alcoa	CIBC Pension Funds and Pension Plans	Government Pension Investment Fund
ALTE LEIPZIGER	Civil Aviation Authority Pension Scheme	Hartford Financial Services Group
AMR Corporation	Consolidated Edison Retirement Plan	HDI-Gerling
Asgard	Daido Life Insurance Company	Honeywell pension plans
AT&T Inc.	Daimler	Hong Kong Monetary Authority Investment Portfolio
Baden-Württembergische Versorgungsanstalt für Ärzte, Zahnärzte und Tierärzte	Danica Pension	HSBC Holdings (staff pension plans)
Bangkok Insurance	Delta Air Lines	Hydro-Quebec pension plan
BayernInvest Kapitalanlagegesellschaft mbH	DFPS	IBM Corporation pension plans
BHP Billiton Superannuation Fund	Dubai World	ICI Pension Fund
Bill & Melinda Gates Foundation	DuPont Pension and Retirement Plan(s)	Illinois Teachers' Retirement System
Blue Sky Group	Electricity Supply Pension Fund	Investment Corporation of Dubai
Boeing Company pension plans	Eli Lilly and Company	Japan Post Insurance
Bouwnijverheid	Employees Provident Fund	Kaiser Aluminium retirement Plans
BP plc non-UK pension plans	Employees' Retirement System of Georgia	Koch Industries pension plan
BPF Bouw	ExxonMobil	Kommunal Landspensjonskasse (insurance)
BW	Federated Investors	
Canada Post Corporation	Federation of National Public Service Personnel Mutual Aid Associations	
	FedEx Corporation pensions plans	
	Fondo de Reserva de la Seguridad Social	

LAGGARDS

X

These funds were rated X by the AODP analyst team where they could find no evidence at all on how these funds are managing climate change.

Kuwait Investment Authority	Oak Foundation	Russian National Wealth Fund
La Caixa	Ohio Public Employees Retirement System	RWE Pensionsfonds AG
Labor Insurance Fund	Ontario Public Service Pension Plan	SAFE Investment Company
Libyan Investment Authority	Organization for Workers' Retirement Allowance Mutual Aid	SAMA Foreign Holdings
Life Insurance Corporation of India	Panasonic Corporation	Sampension KP Livsforsikring
Lloyds Banking Group Colleague Pensions	Pensioenfonds van de Metalekro (PME)	San Francisco Employees' Retirement System
Lockheed Martin pension plans	Pension Fund Society of the Bank of Montreal	Sears Holdings
Los Angeles Fire and Police Pensions	Pension Plan of Elected Municipal Officers	Service Employees International Union
Malaysian Armed Forces	PensionDanmark	Siemens Pensionsfonds AG
MEAG Munich Ergo Asset Management	Pensions Myndigheten	SIGNAL IDUNA Gruppe
Menora Mivtachim Senior Pension Fund	Pew Charitable Trusts	Social and Economic Stabilization Fund
Migros-Genossenschafts-Bund Pension Plans	Pfizer pension plan(s)	South Carolina Retirement Systems
Mineworkers Provident Fund	PG&E	Sovereign Fund of Brazil
Minnesota Teachers' Retirement Association	Philips Pensioenfonds	Stabilisation Funds of the Russian Federation Reserve Fund
Mitsui Mutual Life Insurance	Phoenix Companies, Inc	Stanford University Endowment Fund
Malaysian Armed Forces	Pictet & Cie	State Oil Fund of the Republic of Azerbaijan
MEAG Munich Ergo Asset Management	Princeton University Endowment Fund	Strategic Investment Fund
National Council for Social Security Fund	Private Schools Employees	Sumitomo Life Insurance Company
National Development Fund of Iran	Public Employees' Retirement Association of Minnesota	Swiss RE
National Grid Pension Schemes (USA)	Public Employees' Retirement System of Mississippi	Swisscanto Holding AG
National Pension Fund Association	Public Employees' Retirement System of Nevada	Tata Steel Group
Natixis Global Asset Management	Public Institution for Social Security	Teachers Retirement System of Georgia
New Jersey Division of Pensions & Benefits	Public Schools Employees	Unipension I/S
New Jersey Public Employees' Retirement System	Quebec Teachers	United Parcel Service Retirement Plans
New Jersey Teachers' Pension and Annuity Fund	Raytheon	Utah Retirement Systems
Nippon Telegraph & Telephone	RBC Wealth Management	Verizon Investment Management Corp.
North Carolina Teachers' and State Employees' Retirement System	Retirement Fund (Incorporated)	Wal-Mart Stores
Northrop Grumman pension plans	Retirement Systems of Alabama	Western Conference of Teamsters Pension Plan
Northwestern Mutual Life Insurance Co.	Revenue Regulation Fund	Weyerhaeuser pension plans
Nova Scotia Pension Agency	Rolls-Royce Group plc pension funds	World Bank Staff Retirement Plan
Novartis International pension plans	Royal Bank of Canada	WWK
		Zenkyoren
		Zilverfonds

INTRODUCTION

/ WHO ARE THE ASSET OWNERS? /

For the purposes of this report, asset owners are defined as pension and superannuation funds, insurance companies, endowments and foundations, and sovereign wealth funds (SWFs).

What these asset owners have in common is that they manage medium to long-term investments made by other people. For example, a typical pension fund can manage other people's investment assets for 20 years or more.

Climate change represents a unique challenge to asset owners. It affects the long-term investment risks and the opportunities faced by asset owners. It demands change management across every function of a fund.

Many asset owners have already acknowledged the need to build capacity and challenge traditional industry practices in order to manage climate change. However there has so far been little information to inform the market on what constitutes best practice let alone to enable consumers to differentiate between funds.

Since the 2010 UNFCCC Cancun Agreement, there has been much discussion about carbon budgets and associated carbon bubbles and potentially stranded assets existing in asset owners' portfolios of assets under management. Research organisations such as the UK-based Carbon Tracker, the Potsdam Institute for Climate Impact Research, the International Energy Agency, the IPCC and Climate Analytics have developed and applied the concept of a carbon budget to climate risk research.

It is against this background that AODP produces its 2013-2014 Global Climate Index; so that stakeholders of all kinds, including the individual beneficiaries themselves, can see which asset owners are improving the management of the carbon exposure in their portfolios and which asset owners are lagging behind in climate change risk management.



/ UNDERSTANDING THE INVESTMENT CHAIN /



/ WHY ARE ASSET OWNERS SO IMPORTANT? /

Asset owners are critical to the investment chain. They control how funds are allocated between the various asset classes.

The diagram above illustrates the typical structure of the investment chain linking individual investors, asset owners, asset managers, corporate entities and governments.

The investment chain starts with individual stakeholders (such as you and me) who establish superannuation accounts and/or take out insurance policies. The superannuation funds and insurance companies (the asset owners) then typically allocate the money to their fund managers to invest on their behalf.

The fund managers invest the funds under agreed terms which are specified by the asset owners. The asset owners' terms are usually based on short-term performance objectives and targets for the asset managers.

The asset managers then invest in companies where the high-carbon exposed assets operate and are created, developed and managed by management teams and executive boards who are also subject to agreements based on short-term performance objectives and targets.

Hence the typical structure of the investment chain produces a systemic disconnect between the long-term interests of individual stakeholders and the short-term focus of the fund managers and the management of investee companies.

As a result of this systemic disconnect, there is a danger that asset owners could overlook the long-term risks and opportunities of climate change.

Asset owners can and do exercise control over the asset allocation process throughout the investment chain. Further, they are the owners of the investee company's shares and the holders of the Government bonds, and can exercise control directly through shareholder resolutions and through lobbying governments for regulatory change to protect their investments.

Therefore, asset owners are in a unique position to take a high level, portfolio-wide view of the risks and opportunities of climate change and drive the necessary structural change to reduce the level of systemic risk in the investment chain.

55% CLIMATE EXPOSED

02% LOW-CARBON



/ A UNIQUE CHALLENGE /

Climate change is a unique challenge for asset owners. The risk attributes of climate change are a high likelihood of occurring combined with very high to severe level of consequences globally depending on geographical location. According to conventional risk management theory, this combination of attributes makes climate change a very high risk to the value of global assets under management with approximately 55 per cent of a portfolio exposed to climate risk and only two per cent in low-carbon investments.

Asset owners and their fund managers have extremely sophisticated tools for managing known levels of risk and uses historical quant models and normal distributions to predict the future

Climate change is different.

Firstly, it is a potential long-term risk. As we have seen, the conventional investment chain has an in-built skew towards short-term performance and returns. This inherent short-term bias does not enable an accurate assessment of long-term risk.

For example, the experience of the global financial crisis which started with the sub-prime housing crisis in the United States of America has raised questions about the ability of global asset owners to effectively manage systemic risks in the investment chain.

Secondly, the timing of the likely impacts and consequences of climate change is uncertain. Traditional investment methodologies such as strategic asset allocation models, discounted cash flow analysis (DCF), Value at Risk (VaR) and others used by asset owners and fund managers cannot deal with the scale and uncertainty of climate risk and a belief by fund managers in their ability to trade out of a carbon crisis is misjudged.

/ THE CARBON BUBBLE PROBLEM /

The 2010 UNFCCC Cancun Agreement is an international commitment by governments to reduce carbon dioxide emissions to avoid a rise in global average temperature of more than 2°C above pre-industrial levels.

The Agreement implicitly imposes a carbon budget for the next 40 years on the global financial market (Carbon Tracker, 2011). This carbon budget must be adhered to if the emissions target in the Cancun Agreement is to be achieved by 2050.

The challenge is that the carbon dioxide emissions potential of the coal, oil and gas reserves listed on the world's stock exchanges today is already greater than that level of emissions which complies with the global carbon budget for the next 40 years. Further, companies are spending extra capital exploring for more resources and developing the resources into reserves for future use, i.e. for future burning (Carbon Tracker 2011). In the parlance of the global financial market, asset owners are running the risk of being 'overweight' in fossil fuel assets in a carbon constrained world if governments regulate to enforce the carbon budget implied by the Cancun Agreement.

There is the very real possibility of the global asset owners being caught in a carbon bubble in a carbon constrained world. Under this scenario many investments in the asset owners' portfolios would become 'stranded'; that is, they would become obsolete or non-performing. These stranded assets would impact returns to assets under management by the asset owners.

Ultimately, reduced portfolio returns for the asset owners translate into a lower level of retirement savings for the individual stakeholder (you and me).

/00/-+RISK-+/00/

/ WHY IS MANAGING CLIMATE CHANGE RISK DIFFICULT FOR ASSET OWNERS? /

Asset owners need to manage and minimise the risk climate change poses to the value of their portfolios. There are four risk management methods for asset owners and their portfolio managers: avoidance, insurance, further diversification and hedging. The scale and breadth of climate change across sectors and asset classes means that the first three are simply not possible and so hedging the portfolio is the only viable method.

As universal investors – investors that are exposed to the entire global economy by virtue of their diversified investments – asset owners cannot avoid climate change.

Asset owners cannot insure against climate change. Although certain elements of physical risk, such as flood risk can be insured against, there is currently no way of insuring a diversified portfolio against all physical risks or against all of the other impacts of climate change such as product obsolescence and widespread asset devaluation.

Nor can they further diversify their portfolios away from climate change. As universal owners, they are exposed to the impacts of climate change in all regions, asset classes and industries.

The only realistic method for asset owners to manage climate risk is to hedge their portfolios – to invest in low-carbon assets so that when carbon is re-priced, either directly or indirectly, the destruction of value in their high-carbon investments is offset by an increase in value in their low-carbon investments.

Despite this, it is estimated that a very small proportion of a typical asset owner's portfolio is invested in low-carbon assets such as renewable energy infrastructure, renewable energy equipment manufacturers and energy efficiency companies.

There are a number of reasons for this low level of investment in low-carbon assets.

Firstly, many heavily rely on their asset consultants to define their capital allocations – which sectors of the economy that will be invested in and with how much of the portfolio.

While these consultants have shown they recognise the risks posed by climate change, they do not yet appear to have translated this to being able to manage the risks posed by climate change or its opportunities. A notable exception being the work by leading global asset consultant Mercer – in particular their Climate Change Scenarios report, which suggested that up to 40 per cent of a portfolio should be invested in climate sensitive assets in order to manage climate change risk (Mercer, 2011).

/00/-+RETURN-+/00/

Secondly, as we have mentioned there is a disconnect between the long-term interests of members, stakeholders and beneficiaries versus the short-term nature of the investment chain.

Thirdly, there are the particular characteristics of the assets that produce emissions. Emissions are nearly all produced by very long-term, capital intensive assets such as power stations, mines, smelters and road and rail infrastructure projects. These assets typically have an economic life span of over 25 years, in some cases; the asset's life span can be as much as 40 years. An exogenous change or shock in the life of one of these assets, such as a rapidly increasing carbon price, can change the value of that asset, significantly impacting the returns for investors, and for their retirement savings.

According to the International Energy Agency, carbon emissions will be priced above \$110/tonne by 2030. Many of the heavy-emitting, capital intensive assets are likely to be stranded well before that level is reached. The trouble is that they will all be stranded at the same time.

Lastly, there is the historical bias in the risk assessment practices of asset owners and their investment managers. Conventional historical quantitative analysis does not involve the forward-looking analysis required for climate change risk assessment.

Lack of clarity with respect to domestic government's carbon policies frameworks and goals makes quantifying future regulatory risk extremely hard for any asset owner. Governments, too, are part of the investment chain.

Such is the scale and pervasiveness of climate risk that it requires asset owners to review almost every aspect of their operations to assess whether their fund is managing the risk optimally. For an asset owner climate risk management best practice, which represents a major exercise in change management and business transformation, is a necessary and central objective.

The AODP has developed a Climate Risk Management: Best Practice Methodology to provide guidance to asset owners on how to combine climate change risk research methodologies with conventional valuation techniques and research to optimise the long-term risk/return profile of their portfolio.

The 2013-2014 AODP survey is based on the best practice climate risk management scenario given in the methodology. The survey aims to provide a snapshot of global asset owners' performance and disclosure of practices as at 31 December 2012.

METHODOLOGY



/ CLIMATE RATINGS SURVEY /

The AODP survey is sent each year to 1,000 of the largest global asset owners. It comprises 48 multiple choice or short answer questions covering five aspects of an asset owner's operations and investments - Transparency, Risk Management, Low-Carbon Investment, Active Ownership, Investment Chain Alignment.

AODP research analysts assess the survey responses according to the criteria in the survey scorecard.

In cases where an asset owner chooses not to participate in the survey and does not submit a response, the AODP analysts source publicly available data on the asset owner and assess this information on the basis of the survey scorecard.

The survey scorecard awards asset owners points for disclosing information in addition to performance points.

In the 2012 survey, full disclosure points were awarded for any publicly available information on an asset owner's climate change risk assessment and management strategies, whether or not the asset owner formally responded to the survey.

The 2013-2014 survey took a different approach to disclosure. Only asset owners who responded to the AODP 2013-2014 survey were awarded full disclosure points. Asset owners that publicly disclosed information on their climate change risk assessment and management strategies through websites, emails, newsletters and social media but chose not to respond to the survey were awarded partial disclosure points.

The differing approach in awarding disclosure points accounts for a substantial amount of the observed variances between an asset owner's 2012 rankings and ratings and those given in the 2013-2014 survey.

The 2013-2014 rating system's categories range from AAA through to X. The new X rating category was established for those asset owners in the surveyed group which did not disclose any information by any means.



/ TRANSPARENCY /

The degree to which the asset owners disclose and share information with individual investors, the market, the regulators and the general public, as well as the AODP.

/ RISK MANAGEMENT /

What, if anything, the asset owners are doing to quantify and manage climate change risks.

/ LOW-CARBON INVESTMENT /

If the asset owners hedge their climate change risk exposures with low-carbon investments.

/ ACTIVE OWNERSHIP /

How active the asset owners are as shareholders, how they engage with investee companies, including the use or support of shareholder resolutions, engagement strategies and proxy voting.

/ INVESTMENT CHAIN ALIGNMENT /

The degree to which the asset owners drive structural change in the investment chain to help manage climate change risks including mandate structure and incentive alignment with individual stakeholders long-term investment horizons.

/ PERFORMANCE /

Points awarded for implementing elements of climate change best practice.

/ RANKING /

The AODP survey also ranks each asset owner on the basis of its score. An asset owner's ranking is published; its survey score is kept confidential.

/ RATING /

Once the asset owners are ranked, a comparative rating is awarded to each asset owner. The AODP rating system is a unique feature of the AODP survey. The larger survey meant that the benchmarks for all categories in the AODP rating system were raised for the 2013-2014 survey.

THE ASSET OWNERS

/ CONTEXT /

The debate in 2013-2014 has focused on global carbon budgets creating carbon bubbles and ultimately stranded assets. Hence, this part of the report is focused on how the asset owners:

- / assessed fossil fuel exposures in their investment portfolios;
- / quantified risk to portfolio value using carbon price scenario modelling;
- / hedged the risk using low-carbon investments
- / acted to minimise their portfolio risk by supporting shareholders resolutions on climate change.

Table 06 summarises how the five AAA rated pension funds assessed, quantified and managed the risk to portfolio value due to climate change.

/ SNAPSHOT OF 2013-14 SURVEY RESPONDENTS /

- / A total of 55 asset owners directly responded to the AODP 2013-2014 survey or responded to members through The Vital Few.
- / 46 global pension funds responded to the survey or to members via The Vital Few, including the Californian pension fund, CalPERS, which has nearly 1.7 million members.
- / 8 insurance companies responded to the survey, or to policy holders via The Vital Few including the French-based trans-national, AXA Group which had US \$1,500 billion funds under management as at 31 December 2012.
- / The American Federation of Labor and Congress of Industrial Organizations (AFL-CIO), the largest federation of trade unions in the United States also formally responded to the survey, in relation to the assets it owns through investing members retirement savings accounts.
- / As Table 06 shows the five leading pension funds have acknowledged that climate change does pose a risk to portfolio value; a risk they have begun to assess with tools such as carbon price scenario modelling and hedge against using low-carbon investments to offset the carbon intensity of their portfolios. The leaders are also actively engaged with investee companies and are committed to improving transparency at investee company level.

CLIMATE CHANGE RISK ASSESSMENT & MANAGEMENT

TABLE 06 / THE CLIMATE CHANGE RISK ASSESSMENT & MANAGEMENT STRATEGIES OF THE AAA RATED FUNDS

STRATEGIES:	ASSESSING THE RISK TO PORTFOLIO VALUE FOSSIL FUEL EXPOSURE	QUANTIFYING PORTFOLIO VALUE AT RISK CARBON PRICE SCENARIO MODELLING	HEDGING THE RISK LOW-CARBON INVESTMENTS	ACTING TO MINIMISE THE RISK ACTIVISM ON CLIMATE CHANGE RISK
Environment Agency Active Pension Fund	<ul style="list-style-type: none"> ✓ Carbon footprint of actively managed equities portfolio has been assessed ✓ Carbon intensity of most material sectors relative to the benchmark (CDP benchmark) is known ✓ Currently assessing its fund's fossil fuel reserves exposure through research study 	<ul style="list-style-type: none"> ✓ Carbon price scenario modelling focus planned for 2014 engagement platform ✓ Quantifies the exact value of its low-carbon investments by integrating climate change risk into all aspects of its investment strategy, and across all asset classes 	<ul style="list-style-type: none"> ✓ Has made specific allocation of low-carbon investments across portfolio 	<ul style="list-style-type: none"> ✓ Investee company's reliance on coal ✓ Investee company's emissions reduction strategy ✓ Investee company's lack of, or poor, disclosure of climate change risks
Local Government Super	<ul style="list-style-type: none"> ✓ Currently assessing fossil fuel exposures in its holdings of domestic and international equities through research study with MSCI ESG 	<ul style="list-style-type: none"> ✗ Does not use carbon price scenario modelling ✓ Portfolio risk quantified using potential carbon emissions cap scenario 	<ul style="list-style-type: none"> ✓ Uses thematic screening to identify low-carbon investments in each asset class 	<ul style="list-style-type: none"> ✓ Investee company's governance arrangements ✓ Investee company's oil tar sands proposals
CalPERS	<ul style="list-style-type: none"> ✗ Has not assessed its investment portfolio's fossil fuel exposure 	<ul style="list-style-type: none"> ✓ Uses the carbon price projections used by Mercer Consulting for its 2011 study, Climate Change Scenarios: Implications for Strategic Asset Allocation 	<ul style="list-style-type: none"> ✓ Has target allocations for low-carbon investments in global equities, private equity and sustainable forests 	<ul style="list-style-type: none"> ✓ Investee companies' disclosure of climate change related risks ✓ Investee company's offshore drilling operations
Stichting Pensioenfond's Zorg en Welzijn (PFZW/PGGM)	<ul style="list-style-type: none"> ✗ Has not assessed its investment portfolio's fossil fuel exposure 	<ul style="list-style-type: none"> ✗ Does not use carbon price scenario modelling 	<ul style="list-style-type: none"> ✓ Has target allocations for low-carbon investments in infrastructure, real estate and private equity 	<ul style="list-style-type: none"> ✓ Investee company's lack of, or poor, disclosure of climate change risks
VicSuper	<ul style="list-style-type: none"> ✗ Has not assessed its investment portfolio's fossil fuel exposure 	<ul style="list-style-type: none"> ✗ Does not use carbon price scenario modelling 	<ul style="list-style-type: none"> ✓ Has target allocations for low-carbon investments in global equities and private equity 	<ul style="list-style-type: none"> ✓ Acts through its agreement with Hermes Equity Ownership Services

/ CONTEXT /

- / Global asset owners all have substantial exposure to fossil fuel reserves and potential resources yet to be fully developed. Australian and South African asset owners have high exposure level through their domestic equity investments. In addition, asset owners invest in sectors with high capital investment needs for long-term assets such as utilities, infrastructure, transport and engineering projects. These sectors have a high dependence on fossil fuels. Asset owners with these fossil fuel exposures are running the risk of being 'overweight' in fossil fuel assets in a carbon constrained world if governments regulate to enforce the carbon budget implied by the Cancun Agreement.
- / The resultant 'carbon bubble' would reduce portfolio returns for the asset owners, which translates to a lower level of retirement savings for the individual stakeholder (you and me).
- / The 2013-2014 survey was aimed at disclosing more quantitative data on the asset owner's exposure to fossil fuels; specifically asset owners were asked what percentage of their portfolios was invested in high climate impact assets and whether they measured and managed their portfolio's exposure to investee company balance sheet fossil fuel reserves.

/ KEY FINDINGS /

- / Table 06 highlights the climate change risk assessment and management strategies of the top ranked pension funds.
- / Three of the top ranked pension funds, Environment Agency Active Pension Fund, Local Government Super, and AustralianSuper have started to work with third parties, such as the UK-based Trucost, and MSCI to quantify their exposure to fossil fuel reserves.
- / None of the insurance companies surveyed disclosed the full extent of the fossil fuel exposures in assets under management.
- / In the 2013-2014 survey, even three out of the five AAA rated asset owners were unable to fully disclose what percentage of their portfolios was invested in high climate impact assets because the many of investment mandates with the fund managers control asset allocation at asset class level but not at individual equity or bond level.
- / None of the surveyed asset owners were able to fully measure and manage their portfolio's exposure to investee company balance sheet fossil fuel reserves.



ASSESSMENT OF FOSSIL FUEL EXPOSURES



/ CONTEXT /

- / A change in the carbon price can change the value of asset owners' portfolios, significantly impacting the returns for investors, and reducing retirement savings.
- / Asset owners need to anticipate and quantify this risk to portfolio values and returns so that investors can know how sensitive their retirement savings are to a change in carbon pricing structures.
- / The returns to a global asset owner's portfolio of long-term assets can be affected by a number of different carbon pricing scenarios. Carbon pricing structure differs between national jurisdictions and will alter over time as the underlying carbon budget allocation changes. Therefore, differing carbon price scenarios are required to value portfolios over the long-term.
- / Carbon pricing scenario modelling is challenging. Carbon prices will depend on government regulation, and a number of asset owners surveyed responded that carbon policy uncertainty had slowed initiatives in pricing scenario modelling of portfolios.

/ KEY FINDINGS /

- / Nine of the surveyed pension funds had started to quantify the risk to portfolio value using carbon price scenario modelling.
- / The top ranking pension fund, Environment Agency Active Pension Fund has started to assess the impact of carbon pricing on their equity portfolios, shifting focus from investee company disclosure of accurate carbon emissions data
- / The AXA group conducted a climate change risk assessment of its equity portfolio using Mercer's "TIP" methodology in 2012, and intends to continue carbon pricing scenario modelling in 2013-2014 with Trucost.
- / Another UK based asset owner, BT Pension Scheme, used carbon pricing to develop a carbon-tilted passive benchmark index.
- / Three of the top ranking Australian pension funds had considered the potential impact of a carbon price on their domestic equity investments or on the Australian economy
- / The Australian pension fund, Local Government Super, has developed a 'climate cap policy shock scenario'. Arguing that; 'the shock of actually introducing a carbon cap [is likely to] have greater investment impact [than] (and must of course proceed) any particular global carbon emissions trading regime'.
- / Two insurance companies, AMP and Allianz, had started to quantify the risk to portfolio value using carbon price scenario modelling.



QUANTIFYING RISK USING CARBON PRICE MODELLING



/ CONTEXT /

- / There is only one portfolio risk management technique available to asset owners to manage climate change risk: to invest in low-carbon investments.
- / Low-carbon investments reduce the exposure of the overall portfolio to the impacts of climate change risk. They include investments in renewable energy, mitigation and adaptation assets, and carbon-optimised managed funds and green bonds.
- / A 7-question section of the 2013-2014 survey was structured around low-carbon investment to get asset owners to provide more quantitative data and narrative reporting on their climate change investments.
- / Survey questions ranged from whether the asset owner made a strategic allocation at the portfolio level and had annual targets for low-carbon investments to specific quantitative data on value of assets held. Asset owners were also asked to disclose the technological range and geographical distribution of their low-carbon assets.

/ KEY FINDINGS /

- / Only the UK based Environment Agency Active Pension Fund disclosed its low-carbon investments as a percentage of portfolio value.
- / 25 out of a total 458 asset owners (or five per cent) can quantify the exact value of their investments in low-carbon assets as at 31 December 2012.
- / 425 or nearly 95 per cent of the surveyed asset owners could not disclose the exact value of their investments in low-carbon assets as at 31 December 2012.
- / Nine out of the 10 top ranking asset owners could disclose the technological range of their low-carbon investment.
- / The known investments are mostly in renewable energy projects or energy efficiency projects. European leaders, such as Environment Agency Active Pension Fund and the Dutch, Stichting Pensioenfondsen Zorg en Welzijn (PFZW which was formerly known as PGGM) are substantial investors in clean technology as is CalPERS, the California-based giant.
- / Investment in low-carbon financial assets, such as green bonds and hedge funds is increasing. Leading examples include the Australian based Local Government Super and VicSuper and the New York State Comptroller.



HEDGING RISK USING LOW-CARBON INVESTMENT



- / Even the top ranking asset owners stated that they had difficulty disclosing the geographical distribution of their low-carbon assets. The one exception was the South African asset owner: Government Employees Pension Fund (GEPF). South Africa's energy sector is dominated by coal, including the conversion of coal to liquids to produce transport fuel. The required domestic focus of GEPF as South Africa's largest investor leaves the asset owner exposed to a high level of fossil fuel reserves (Carbon Tracker and LSE, 2013).
- / The 10 top ranking asset owners could disclose the relative carbon intensity of their domestic and international equity portfolios with respect to domestic and international benchmarks such as MSCI World.

/ CONTEXT /

- / Asset owners have the right to vote at investee companies' annual general meetings with all other shareholders.
- / Asset owners have long used activism to influence the management practices of investee companies, especially in the United States of America and in Europe.
- / In recent years, asset owners have increasingly supported shareholder resolutions aimed at improving investee company management of climate change risk to their assets.
- / Initially, this climate change activism on the part of asset owners focused on improved reporting, greater disclosure and corporate governance arrangements at the investee company level.
- / Single issue activism is becoming more common particularly with leading asset owners, which are starting to engage with investee companies on issues ranging from a reliance on coal; oil tar sands mining proposals and offshore drilling proposals.

/ KEY FINDINGS /

- / 42 asset owners (or nearly 10 per cent of the surveyed group) have supported shareholder resolutions on climate change risk management.
- / In 2013-2014 asset owners reported that the most commonly supported shareholder resolutions included calls for greater disclosure to initiatives such as the carbon disclosure project (CDP) or the Global Reporting Initiative (GRI), and improved governance for climate change risk across the investee company.
- / A number of funds responded that corporate climate change policy is often determined by the relevant national government's climate change policy, and that uncertainty with respect to government policy, made engagement with investee companies very challenging during the survey period.
- / In 2013, the Environment Agency Pension Fund supported a number of climate change resolutions to investee companies including advising energy companies that a reliance on coal is problematic in the face of declining reserves of high quality coal, price increases and coal price volatility along with the high cost of carbon capture and storage at coal plants.
- / The large South African pension fund, GEPPF, noted that, 'it is rare to have shareholder resolutions specifically on environmental issues in South Africa'.



ACTING TO MINIMISE RISK THROUGH PROXY VOTING



GLOSSARY

ACTIVE OWNERSHIP

Any share-holder buys the right to vote at annual general meeting of shareholders. An active shareholder uses this voting right to try to influence a company's operations and management practices.

ASSET CLASS

A term used to describe a group of investment assets with similar characteristics, including risk attributes. The main asset classes are equities; fixed income (bonds) and cash equivalents (money market instruments). The 2013 survey was also interested in property and infrastructure assets.

ASSET OWNER

The pension and superannuation funds, insurance companies, endowments and foundations, and sovereign wealth funds (SWFs) that invest other parties' retirement savings, thereby taking ownership positions with respect to the assets of investee companies.

CARBON BUBBLE

A term used to describe the substantial exposure that asset owners could face to re-valuation of fossil fuel reserves due to changing carbon dioxide emissions policy, especially the introduction of carbon pricing. It is similar in concept to other bubbles in asset prices created and endured by the global finance industry. This carbon bubble must eventually burst and will erode shareholder value, including the value of the portfolios managed by the asset owners.

CARBON BUDGET

The upper limit of global carbon dioxide emissions given a set constraint in average global temperatures rise over the same period. For example, if the average global temperature rise to 2050 is to be set at 2°C above pre-industrial levels, then the global carbon budget is 900 GtCO₂ if we are to have an 80 per cent chance of meeting that 2°C rise; or 1075 GtCO₂ if we are to have an 50 per cent chance of meeting that 2°C rise (Carbon Tracker and LSE, 2013)

CARBON HEDGING

A risk management strategy aimed at offsetting the potential adverse impact on portfolio returns as a result of carbon pricing. Under carbon hedging, the destruction of value in high-carbon investments would be offset by an increase in value of low-carbon investments.

CLIMATE CHANGE RISK

Climate change comprises a three-pronged risk to investments: physical risk, technological risk, and regulatory (law and policy development) risk.

GLOBAL CLIMATE INDEX

An index based on data collected in the AODP survey, and produced after this data has been assessed against the criteria in the survey scorecard by the AODP's team of research analysts.

INVESTMENT CHAIN

A term that describes how the various stakeholders in the financial system are linked through a chain of capital flows.

SOVEREIGN WEALTH FUND

A state-owned investment fund, usually funded by government revenue. There are two types of funds: saving funds and stabilisation funds. Stabilisation funds are created to reduce the volatility of government revenues, to counter the boom-bust cycles' adverse effect on government spending and the national economy. Savings funds are created to build up savings for future generations.

STRANDED ASSET

A financial term that describes an asset which has become obsolete, or is making a loss, but must be recorded on the balance sheet as a loss of profit. The term has particular relevance to pricing long-term economic and environmental sustainability.

SYSTEMIC RISK

A risk that arises due to the character and the structure of the system itself. A systemic risk in the financial system arise

TRANSPARENCY

A term that measures how an asset owner is communicating with their members and how much information they are releasing publicly on their investment strategy and decision process.

ABBREVIATIONS

AODP

Asset Owners Disclosure Project

CDP

The Carbon Disclosure Project

An international, not-for-profit organization providing the only global system for companies and cities to measure, disclose, manage and share vital environmental information. CDP holds the largest collection globally of primary climate change, water and forest-risk information and puts these insights at the heart of strategic business, investment and policy decisions.

ESG

Environmental, Social and Governance

GICCC

Global Investor Coalition on Climate Change

A global coalition for dialogue between and amongst investors and governments on international policy and investment practice related to climate change. Formed the four regional climate change investor groups (IIGCC (Europe), INCR (North America), IGCC (Australia & New Zealand) and AIGCC (Asia)) the coalition conducts shared initiatives on climate policy, and fosters international agreements and international projects of common interest.

GRI

Global Reporting Initiative

GtCO₂

Giga (or a billion) tonnes of carbon dioxide; an unit of measurement for carbon dioxide emissions.

IEA

International Energy Agency

IPCC

Intergovernmental Panel on Climate Change

LSE

London School of Economics and Political Science

PRI

Principles for Responsible Investment

United Nations –supported initiative that is an international network of investors working together to put the six Principles for Responsible Investment into practice. Its goal is to understand the implications of sustainability for investors and support signatories to incorporate these issues into their investment decision making and ownership practices.

SWF

Sovereign Wealth Fund

TCI

The Climate Institute

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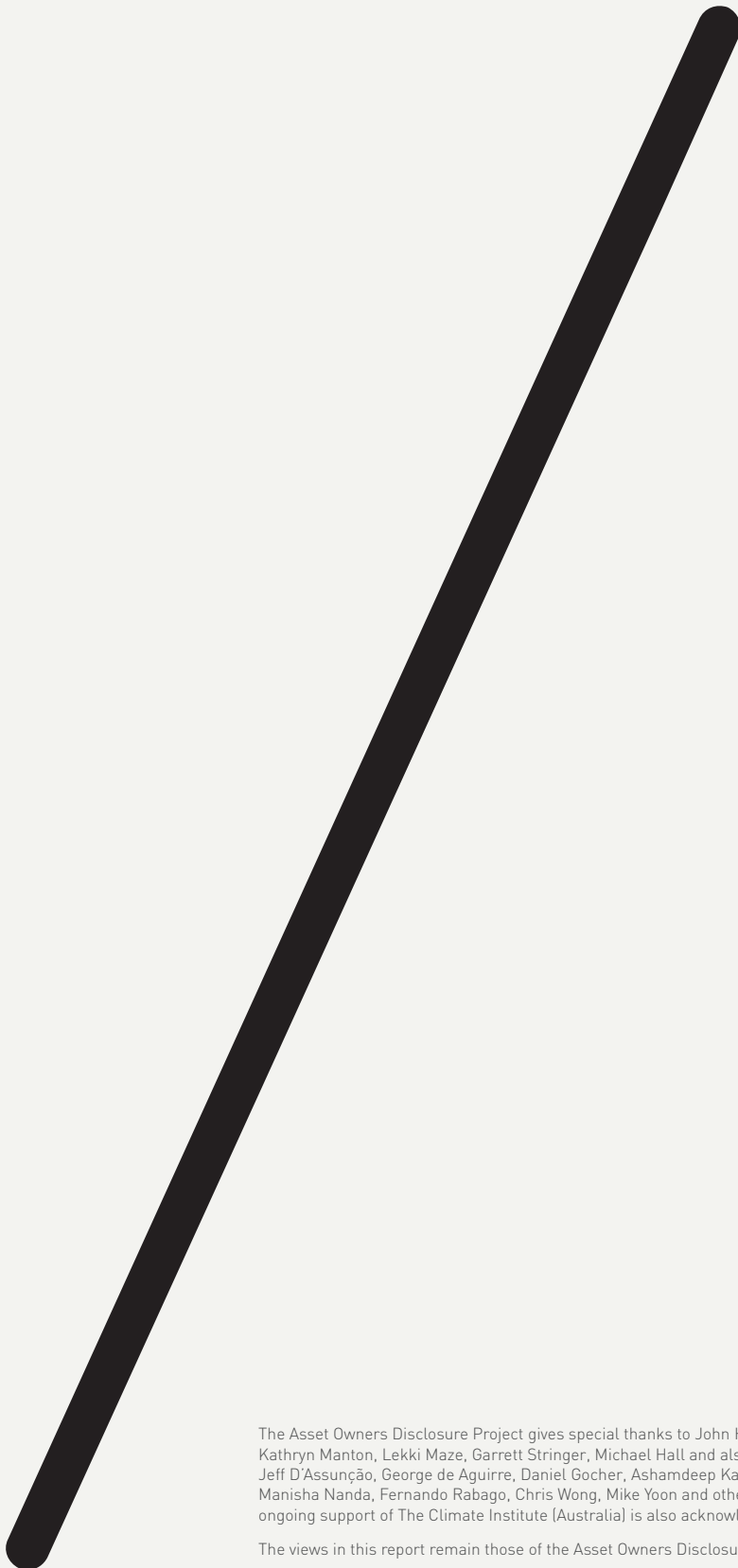
Carbon Tracker

www.carbontracker.org

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The views in this report remain those of the Asset Owners Disclosure Project.

