

ENDNOTES

1. This paper is a summary of modelling in Denniss et al, 2014 "Climate proofing your investments: Moving funds out of fossil fuels", which deals with issues that arise for "mezzanine level" institutional investors – religious investment groups, universities, foundations and state government authorities – considering the imposition of a carbon emissions intensity–related screen on their investment portfolio. It also deals with shareholder actions aimed at improving company climate change responses.

2. Richard Denniss, Howard Pender and Tom Swann were involved in preparing this material. Aperio Group provided the modelling.

3. Gurria, A, The Climate Challenge – achieving zero emissions, London, October 9, 2013.

4. Yong Kim, J, World Bank President Jim Yong Kim Remarks at Davos Press Conference (Transcript), Davos, January

5. Many have already done so: see the discussion in the Appendices to "Climate Proofing Your Investments".

6. For more detailed discussion of these categories and companies, see Section 2.3 of "Climate Proofing Your Investments"

7. See the description of the methodology in Geddes, P Do the Investment Math: building a carbon free portfolio, 2013, Aperio. Geddes uses Barra simulation software to estimate the ex–post impact on historic simulated risk and return of excluding carbon intensive companies from an investment universe then optimising for minimum tracking error. See the Appendix for more discussion.

8. The back tested simulation used 10 years of data up to October 2013.

9. Investors may have further concerns about also excluding Tier 3 companies. Compared to Tiers 1 and 2, these three companies are more diversified, less dominated by fossil fuels and together make up a larger portion of the ASX 200. A portfolio designed on the basis of such a screen is likely to diverge more from the index than one based on simply screening Tiers 1 and 2. Nonetheless, investors may also consider excluding some or all of these stocks, and some ethical investors are taking this approach. Active investors may be more amenable to such a screen than passive investors who are more concerned about tracking the index, as will investors open to spreading risk outside of the index, for example through impact investing. Those who decide against divestment in the first instance should consider options for engagement and advocacy.

10. Unique risk arises from factors specific to the company, for example, the risk of fire or the risk of being sued for the environmental damage a mine causes to nearby residents.

11. Jensen's formula' sets out the impact of increasing the number of securities in a portfolio on aggregate unique risk and hence the deviation between the return on the hypothetical screened portfolio and the β risk adjusted market return. See Jensen, M 1979 'Tests of Capital Market Theory and Implications of the Evidence' in Handbook of Financial Economics, Bicksler, J ed, ,North Holland

12. A portfolio of highly speculative mining companies will need to contain more companies to diversify away unique risk than a portfolio with broad sectoral composition.

13. Id p.25.

14. More recently, similar results have been found in the "carbon free" context.

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SUMMARY PAPER¹

SCREENING OUT FOSSIL FUEL EXPOSURE FROM THE ASX 200

THE AUSTRALIA INSTITUTE²

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*"The looming choice may be either stranding those assets or stranding the planet."*³

-- OECD Secretary–General Angel Gurría

*"Rethink what fiduciary responsibility means in this changing world. It's simple self interest. Every company, investor and bank that screens new and existing investments for climate risk is simply being pragmatic."*⁴

-- World Bank Group President Jim Yong Kim



INTRODUCTION

Investors considering fossil fuel divestment must make their own judgements about the ethical and financial materiality of company involvement in fossil fuels, and how companies manage associated carbon risks. They must decide which sectors or companies to exclude or underweight in accordance with their own legal and financial situation.⁵

METHOD

Our analysis aims to assist with this process. We categorised ASX 200 companies according to their exposure to fossil fuels and used this to construct portfolios screening out the most fossil fuel-exposed companies. We considered the following categories for companies on the ASX 200. The companies included in each 'Tier', and suggested response for each, are shown in Table 1.

TABLE 1: ASX 200 COMPANY CATEGORISATION⁶

Category	Suggested response	Companies
TIER 1: substantially involved in fossil fuel extraction.	Divestment candidates.	WOODSIDE PETROLEUM, ORIGIN ENERGY, SANTOS, CALTEX, OIL SEARCH, BEACH ENERGY, AURORA OIL & GAS, WHITEHAVEN COAL, KAROON GAS, AWE, SENEX ENERGY, DRILLSEARCH, LINC, AQUILA RESOURCES, HORIZON, BURU ENERGY, COALSPUR.
TIER 2: large 'downstream' fossil fuel exposure.	Divestment candidates.	ENVESTRA, APA GROUP, AGL ENERGY, ENERGY WORLD
TIER 3: large absolute direct fossil fuel exposure but less significant relative exposure.	Divestment or engagement candidates.	BHP BILLITON, RIO TINTO, WESFARMERS
TIER 4: indirect fossil fuel exposure.	Initial engagement candidates (see Section 3);	ASCIANO, ANZ, AURIZON, AUSDRILL, BOART, CARDNO, COMMONWEALTH BANK, DECMIL GROUP, DOWNER EDI, INCITEC PIVOT, LEIGHTON HOLDINGS, LEND LEASE, MACQUARIE GROUP, MINERAL RESOURCES, MONADELPHOUS, NATIONAL AUSTRALIA BANK, NRW HOLDINGS, ORICA LIMITED, QBE INSURANCE, QUBE HOLDINGS, SUNCORP, TOLL HOLDINGS, TRANSFIELD SERVICES, TRANSPACIFIC INDUSTRIES, UGL, WESTPAC, WORLEYPARSONS.

We used these classifications to make 'fossil free' portfolios by screening out Tiers from the ASX 200. First we eliminated Tier 1 and Tier 2 companies from the ASX 200. Using this screen, US analysts Aperio Group constructed an optimised portfolio excluding these stocks and simulated performance based on historic data.⁷

RESULTS

The portfolio tracked the broad share market very closely, achieving very similar month to month returns to the ASX 200. (See Figure 1 and Table 2.)

Growth of \$1: Fossil Free Portfolio vs. S&P/ASX 200



TABLE 2: Results from simulation

Scenario	S&P ASX 200	Screening Tiers 1 & 2
Beta	1	0.99
Tracking Error (%)	0.00	0.88
Annual Return	13.36%pa	13.22%pa

These results suggest that screening out fossil fuel extraction and downstream industries can have negligible impact on risk-adjusted returns. That might seem surprising, given the attention paid to the Australian mining boom and ongoing (but declining) incumbency of fossil fuels in Australia's energy mix. In fact this simply illustrates a well-established result from a substantial body of theoretical and empirical literature. The impact on risk-adjusted returns from screening out companies or sectors is minimal provided the screen is not excessively restrictive.⁹

EXPLANATION AND EVIDENCE

Investors do not require a high level of return to hold securities with high levels of unique risk¹⁰ because they can diversify that risk by holding a portfolio of shares. Across that portfolio unique risks will tend to cancel (though one company may face legal claims, another may strike gold).

The impact of a screen can be assessed from the perspective of this approach. ¹¹Evidently, the number of securities necessary to reduce aggregate unique risk to a negligible level will depend on the levels of unique risk of the particular stocks in the portfolio. ¹² Nevertheless, on the basis of US evidence, most unique risk is eliminated in a portfolio of 15 or more securities.¹³

A voluminous literature confirms this theoretical result. In Australia staff at the asset consulting company Russell surveyed over 40 empirical studies of the impact of ethical, sustainable or socially responsible screens on performance. It concludes that "there is no necessary.