Getting Emissions Down, Down-Under

What can investors in ASX-listed companies do about carbon emissions?

Ben Atkinson | January 2022

Emissions – Where? What? How?

The real-world challenge of dealing with carbon emissions is far more complex than a simple coal-for-solar swap, with various degrees of carbon-emitting processes long embedded across many industries.

This note focuses on a few key questions from the perspective of investors in ASX-listed companies. Where are the material exposures to emissions? What are investors' options to manage their portfolio exposure to emissions? How can investors actually gain positive exposure to emission reductions?

Where are Australian investors materially exposed to emissions?

Energy accounts for 61% of Australia's CO2 equivalent emissions, including electricity production at 32%, stationary energy (manufacturing, mining, residential and commercial sectors) at 19%, and fugitive emissions (emissions from oil, gas and coal processes) at 10%.

The remaining portion is accounted for by transport (17%), agriculture (14%), industrial processes (6%), and waste (3%).

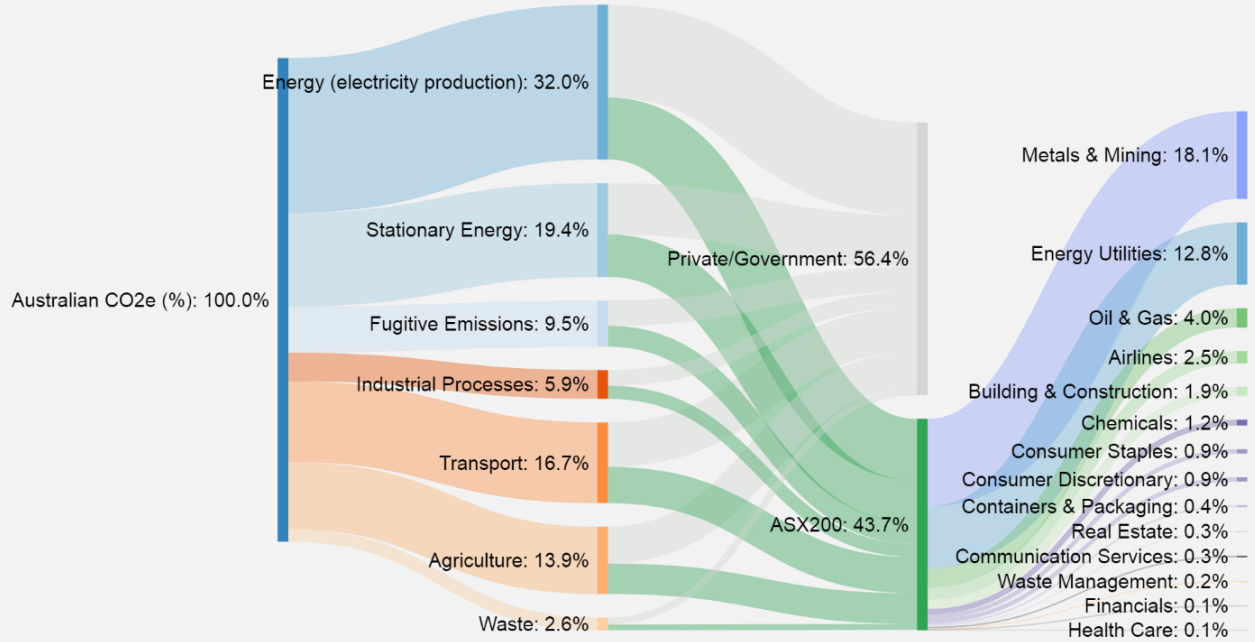
Companies in the ASX200, Australia's primary benchmark representing the bulk of Australian share market capitalisation, produce emissions that equate to 44% of the national total, most of which is emitted domestically.

A few industries account for most of the emissions from ASX-listed companies:

- Metals & Mining (18%)
- Energy Utilities (13%)
- Oil, Gas & Chemicals (5%)

While these industries may represent a high proportion of emissions within the ASX benchmark, the bulk of national emissions still reside in private companies, foreign owned businesses, and government entities.

Figure 1: Breakdown of Australian carbon emissions by source, listed status, and industry (2020)



Source: CSIRO, Bloomberg, FactSet, Optar Capital | 100% net equates to ~500mt CO2 equivalent

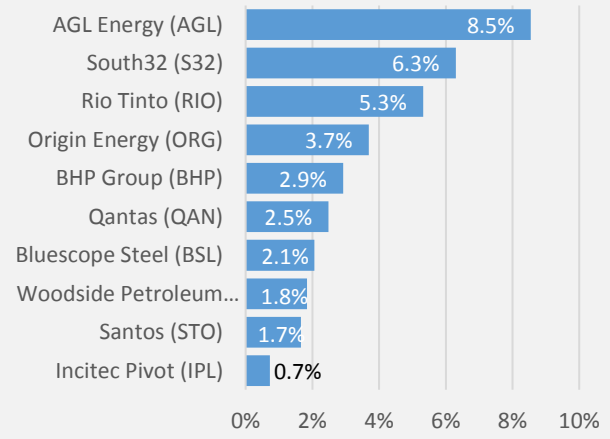
What are an investor's options to manage exposure to emissions?

1. Exclusion rules, negative screening, and divestment
This is the blunt approach of simply not holding companies deemed to be excessive emitters. Generally, such negative screening occurs on an industry basis, for example no coal-based energy companies.

The argument goes that as widespread divestment occurs, the market lowers the demand for the emitting company's equity and thereby increases the company's cost of capital. Similarly, lenders' refusal to extend debt forces the company to rely on the now high-cost equity capital. This does, to an extent, help prevent *increases* in emissions by making prospective expansionary investments and capital raisings uneconomic. But it has little impact on *reducing* emissions from existing processes and may simply increase the yield to potential acquirers. If such companies migrate to unlisted hands, and if the pressure to lower emissions is less effective on non-public owners, divestment may not achieve the intended effect.

While divestment is less effective in reducing actual emissions, investors can still reduce their *risk exposure* to high emitting companies through screening and selective investment. The 3 most emitting industries combined produce emissions equivalent to 35% of the national level. Likewise, the top 10 highest emitting ASX companies together represent around a third of Australia's emissions.

Figure 2: Top 10 ASX-listed emitters (% of Aus CO2 equiv)



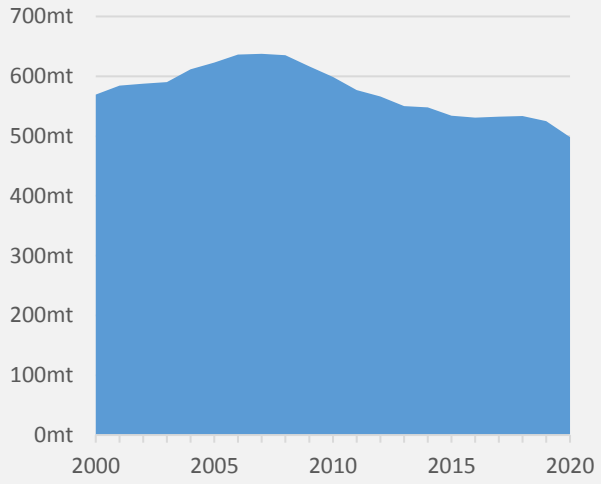
Source: Bloomberg, CSIRO | note: Data relates to the 2020 year, except for QAN (2019 used for a pre-covid run-rate). While many have Int'l operations, the bulk of activity is in Aus.

Naturally, the exclusion of such companies will create a portfolio profile that is less carbon intensive than the benchmark. While some companies may simply have no transition options available, maintaining an investment can at least influence sustainability initiatives for those companies that are proactive in the de-carbonisation of their business activity. Hence option 2, engagement, may go further in actually reducing emissions.

2. Engage with and support companies taking action
Engaging with and supporting portfolio companies to de-carbonise appears to be the most practical approach to the challenge of managing a portfolio in line with both sustainability and return objectives.

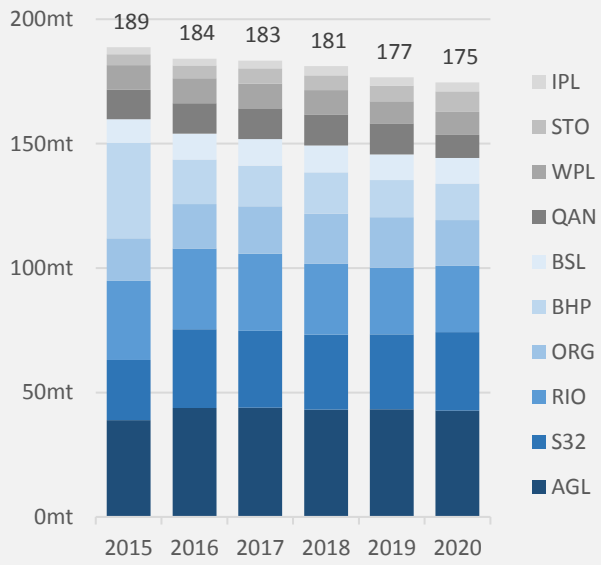
Evidence of emissions reduction can already be seen at both a national level and at an ASX-listed level:

Figure 3: Australian GHG emissions (mt CO2 equivalent)



Source: industry.gov.au

Figure 4: Top 10 ASX-listed emitters (mt CO2e)



Source: Bloomberg, company Sustainability Reports | Emissions relate to company's global scope 1 & 2 emissions.

Some companies are making meaningful progress towards reducing their emissions. Take RIO and BHP for example, who are respectively the 3rd and 5th highest emitting companies on the ASX. Together, over the last 5 years they have reduced annual emissions by 22mt (adjusted for the S32 spin-off). As the bulk of these companies' activity is Australian-based, this is a meaningful decrease relative to the *national* reduction of 36mt over the same time period.

Over this 5 year period, RIO and BHP were able to simultaneously reduce emissions while delivering higher earnings, satisfying the dual objectives of lowering portfolio carbon risk and generating acceptable returns.

This is not to say that they are green companies, as they remain *significant* emitters. But we highlight the practical, positive impact that can come from shareholder engagement and support for company efforts to de-carbonise.

It would appear that the market continues to reward those companies with sustainability initiatives in place, high disclosure, and an improving emissions profile. The efforts to de-carbonise existing productive assets will help extend profit generation into the future, but will come with considerable capital expenditure requirements. Hence the third option for investors – gaining positive exposure via companies who can help address such asset transformation.

3. Invest in green-tech and energy transition companies

To reduce, replace or offset the largest sources of emissions risk in a portfolio, investors could actively invest in new technologies, such as wind and solar power, or electric vehicles. Unfortunately, such investment options are limited on the ASX in size.

There are no pure-play green-tech companies in the ASX200, limiting the ability to invest a significant portion of an Aussie portfolio in a meaningful way.

There are a number of small green-tech companies outside of the ASX200, which do provide investors with some capacity to invest directly in emission reduction initiatives. However, most are in the early stage of speculative tech development, so pose additional risks versus more established large-cap companies. Trying to minimise such risks by allocating via a satellite model won't make a material difference though, as 80-90% of the portfolio will still be invested in the core benchmark, and green technology may take decades to develop and implement.

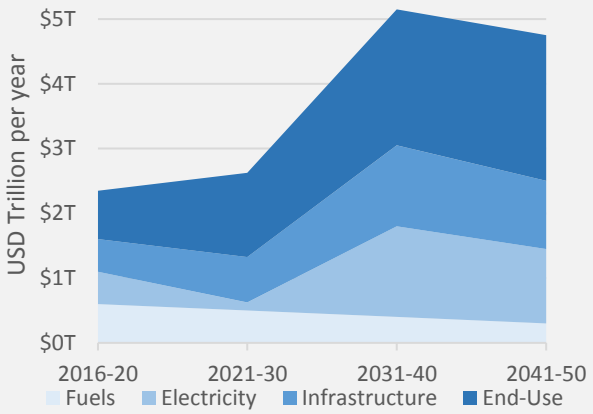
Given that traditional portfolio construction factors must also be considered, such as diversification, volatility, returns and yield, it is therefore difficult to allocate high proportions of a portfolio to green investments without risking the other fund objectives.

There are however other interesting ways to gain positive exposure to the sustainability-driven structural changes taking place, created by the immense capex investment opportunity in the coming decades.

<u>The Global Energy Transition – Sizing the Opportunity</u>

To transition to net-zero by 2050 globally, the International Energy Agency (IEA) estimates that *annual* investment will have to exceed US$5 trillion by the end of the decade.

Figure 5: IEA investment required per year (USD trillion)



Source: IEA Net Zero by 2050 Roadmap | End-use includes: hydrogen, efficiency, electrification, carbon capture/ usage/storage, + portions of renewables and fossil fuels.

By 2030, the annual investment required is more than double existing global capex in the energy and energy infrastructure markets, almost 5% of global GDP, and an order of magnitude larger than global oil & gas capex.

Renewables require much higher capex intensity per unit of energy produced; by some estimates, every $1 of divestment in hydrocarbons will require $25 invested in new energy.

There are a number of ASX-listed companies producing minerals that are necessary for the energy transition, such as lithium, though by nature these are capital-intensive commodity businesses, with complex supply & demand characteristics and are threatened by technology development in alternative materials. By contrast, ASX-listed contractors are more capital-light and technology/commodity/industry-neutral, yet are equally notable beneficiaries of this large investment cycle.

How can investors gain upside exposure to emission reductions?

As an alternative to seeking out companies that are developing technologies to *replace* traditionally emitting assets (with such investments hard to find in the ASX200), investors can instead invest in companies that assist with the *reduction and elimination* of emissions from existing assets. One such company is Worley Limited.

Worley (WOR)

Worley is an engineering contractor that services clients in the energy, chemicals and resources (ECR) sectors. Historically, these sectors have produced high emissions, but the products derived are necessary for modern society to function. If these products cannot be economically replaced, it falls upon the producing entities to reduce, capture and/or offset the emissions.

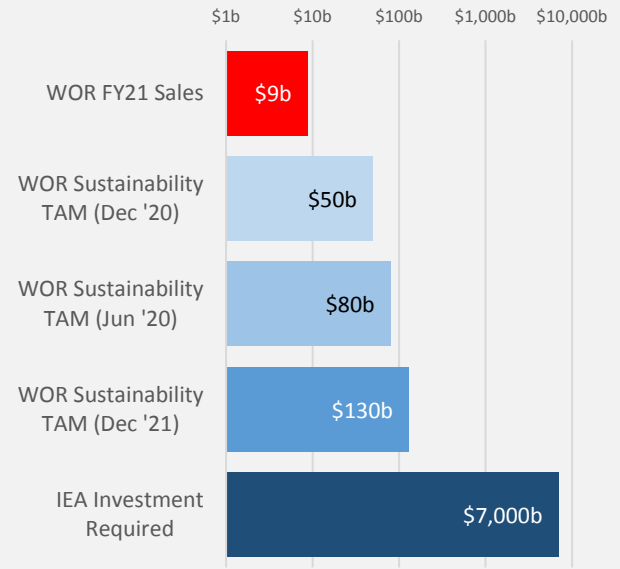
In recent years, Worley has pivoted strategy to focus on the global energy transition, where it assists ECR clients to improve the environmental sustainability of major assets. The type of projects Worley oversees include offshore wind, carbon capture, renewable fuels, and circular economy/recycling.

As of the end of 2021, Worley's prospective sustainability work as a proportion of total pipeline exceeded 50%, and is expected to rise to over 75% by 2025. Further, Worley has itself committed to net-zero scope 1 & 2 emissions by 2030 in its own operations, as well as issued Australia's first sustainability-linked bond.

Per *Fig 5*, global energy investment will grow substantially larger in the coming decades. As Worley's revenue is driven by both the capex and opex of major ECR projects, the immense ramp up of project investment and the resulting expanded asset base creates a sizable tailwind.

Worley has called out specific niches in which it is favourably placed from an experience, reputation and customer relationship perspective. These include asset adaptation, green hydrogen, carbon capture, water, recycling, offshore wind, energy transition materials, and decommissioning & restoration. The size and pace of these sustainability total addressable markets (TAM) are also expanding:

Figure 6: WOR Sales vs 2025 Sustainability TAM, and IEA Investment (A$b) – Log scale

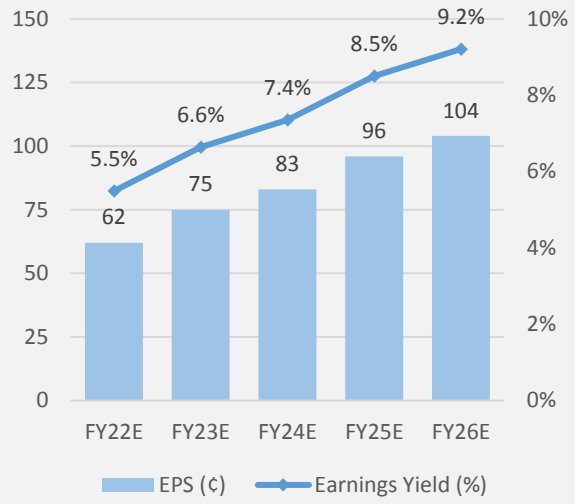


Source: WOR financials, OC estimates (TAM), IEA

Note the logarithmic scale. WOR's TAM estimate has more than doubled over the last 12 months and is 14x larger than FY21 Group Sales. Yet this expanded TAM is still less than 2% of the IEA investment requirement estimate. Long-dated estimates should be used with caution, but both the trend and magnitude indicate a significantly expanded opportunity set in coming decades.

Worley ultimately helps producers of essential products maintain both their social licence and profitability. We view WOR as a beneficiary of the structural shift in global sustainability spend, with the potential to assist companies in reducing their emissions while generating higher profits for WOR shareholders. This positions the company as an interesting investment prospect, while also practically reducing emissions from otherwise pollutive industries.

Figure 7: WOR EPS and Earnings Yield (consensus estimates)



Source: FactSet

There are a number of options available to reduce both the *risk* of emissions in portfolios and a significant portion of *actual* emissions. Ultimately, investors can pursue a combination of approaches in managing their exposure to carbon emissions, as well as gain positive exposure to the energy transition.

Whether through divestment, green investment, shareholder activism, or supporting companies that are helping drive the energy transition, investors can fulfil the dual objectives of emissions reduction and returns generation. This is a worthwhile endeavour.