INVESTOR BRIEFING

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Whitehaven Coal (ASX: WHC) & New Hope Corporation (ASX: NHC)

Shareholder proposals: Capital protection

Despite the steep declines in coal demand required to limit global warming in line with the Paris Agreement, Whitehaven Coal (WHC) and New Hope Corporation (NHC) plan to spend a combined $5 billion on new and expanded mines. Far from justifying these investments, the current high coal prices are expected to accelerate the transition to renewable energy and destroy long-term coal demand.

The International Energy Agency (IEA) has confirmed reaching net-zero carbon emissions by 2050 means "no new coal mines or mine extensions are required." Policy and market shifts to align with this goal are occurring almost daily, yet neither WHC nor NHC has analysed its plans against the IEA net-zero scenario. As shown in this briefing, such analysis would demonstrate unacceptable financial risk to shareholders.

Instead of wasting shareholder capital on new projects that would be stranded by the energy transition already underway, WHC and NHC must responsibly manage down their existing assets to protect and preserve shareholder value, align with global climate goals, and support workers in the net-zero transition.

Investors are therefore urged to vote for these resolutions at the upcoming WHC and NHC AGMs.

Resolution: Capital protection

Shareholders request the company disclose, in subsequent annual reporting, information that demonstrates how the company's capital expenditure and operations pertaining to coal assets will be managed in a manner consistent with a scenario in which global energy emissions reach net zero by 2050.

This information should include:

- Details of how the company's capital expenditure will facilitate the efficient managing down of coal operations and assets with a net zero emissions by 2050 global energy scenario;
- Production guidance for the lifetime of coal assets;
- Plans and capital expenditure requirements for decommissioning and rehabilitating coal asset sites at the end of their lifetimes;
- Plans and provisions for supporting staff to transition to future employment following coal asset closures; and
- Details of how remaining returns from the company's coal assets will be redeployed or returned to investors.

Executive summary

WHC and NHC's markets will rapidly decline and ultimately disappear in a net-zero by 2050 scenario

- The IEA's landmark Net Zero Emissions by 2050 scenario (NZE2050) models:
    - Unabated coal demand falling by over 98% by 2050
    - Coal power phased out in developed economies by 2030 and globally by 2040
    - "No new coal mines or mine extensions are required"
    - "Demand for coking coal falls at a *slightly* slower rate than for steam coal, but existing sources of production are sufficient to cover demand through to 2050"
- 79% of WHC's and 83% of NHC's FY22 revenue is derived from sales to countries committed to achieving net-zero emissions by 2050

Emerging markets will not step in to fill the demand gap as current markets move rapidly away from coal power to meet their net-zero commitments

- The global pipeline of proposed coal-fired power plants has collapsed by 77% since the Paris Agreement was signed in 2015
- Japan and South Korea have committed to end financing for overseas coal power projects, while China announced it would stop building coal power plants abroad
    - These countries accounted for 95% of public finance for overseas coal projects since 2013
- Globally, renewable energy generation is now cheaper than 77% of operating coal generation
- By 2026 new renewable energy will be cheaper than 98% of existing coal power plants
- Analysts predict today's high coal prices will accelerate the transition to renewables in current and emerging markets

WHC and NHC plan to spend a combined $5 billion on new and expanded coal mines that are incompatible with reaching net-zero emissions by 2050

- WHC plans to almost double coal production to 2030 and spend a combined $4 billion on new and expanded mines
- NHC plans to spend $1 billion on its New Acland Stage 3 expansion, which would increase the company's equity-adjusted ROM production capacity by 140%

To justify their expansion plans, NHC and WHC regularly refer to scenarios consistent with the failure of the Paris Agreement. They are betting shareholder capital against global climate goals, with significant value destruction and unmanaged social and environmental impacts at stake.

Any investor that supports the goals of the Paris Agreement and net-zero emissions by 2050 must therefore vote in favour of these resolutions, and vote against WHC and NHC directors over their failure to manage climate change transition risks.

> *"[We] have engaged constructively with the [NHC] board indicating our preference for existing mines over expansion, responsible site remediation and the return of all surplus cash-flows and franking credits to shareholders, rather than pursuing capital destructive growth projects and acquisitions."* Neil Margolis, Merlon Capital Partners

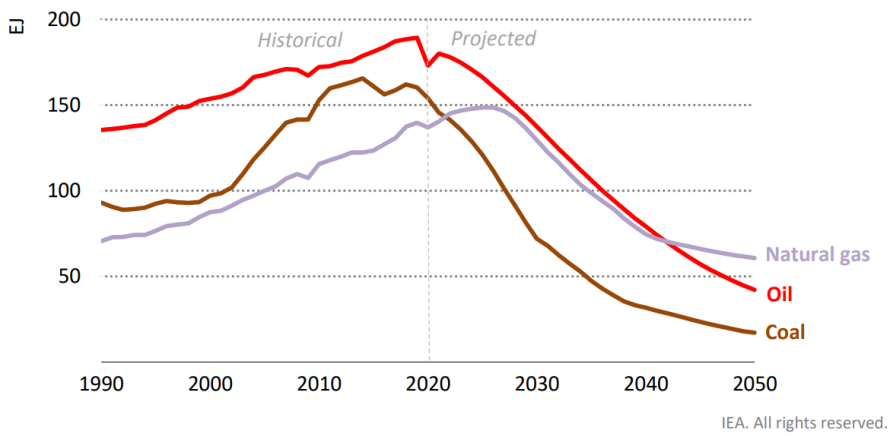
Markets will disappear under net-zero by 2050 scenario

To "help deliver the goals of the Paris Agreement", and recognising the unacceptable financial risks global warming poses, investors managing more than US$61.3 trillion in assets have committed to the goal of net-zero greenhouse gas emissions by 2050 or sooner. Globally, more than 70 countries representing approximately 76% of global emissions – including the vast majority of WHC and NHC's current markets – have already set a net-zero emissions target.

The rapid energy transition required to achieve net-zero emissions by 2050 presents existential risks for pure play coal companies like WHC and NHC.

First published in May 2021, the IEA's NZE2050 – modelled to provide just a 50% chance of limiting global warming to 1.5°C – underscores these risks, projecting steeply declining coal demand over the next three decades.

Coal, Oil and Natural Gas Production in NZE2050



Source: IEA NZE2050, May 2021 (p 101)

In this scenario, WHC and NHC's current markets are set to significantly decline over the coming decade, and almost completely disappear by 2040.

NZE2050 sets out key milestones (p 20) required to achieve net-zero emissions by 2050, including:

- 2021 – No new unabated coal plants and no new coal mines or mine extensions approved for development

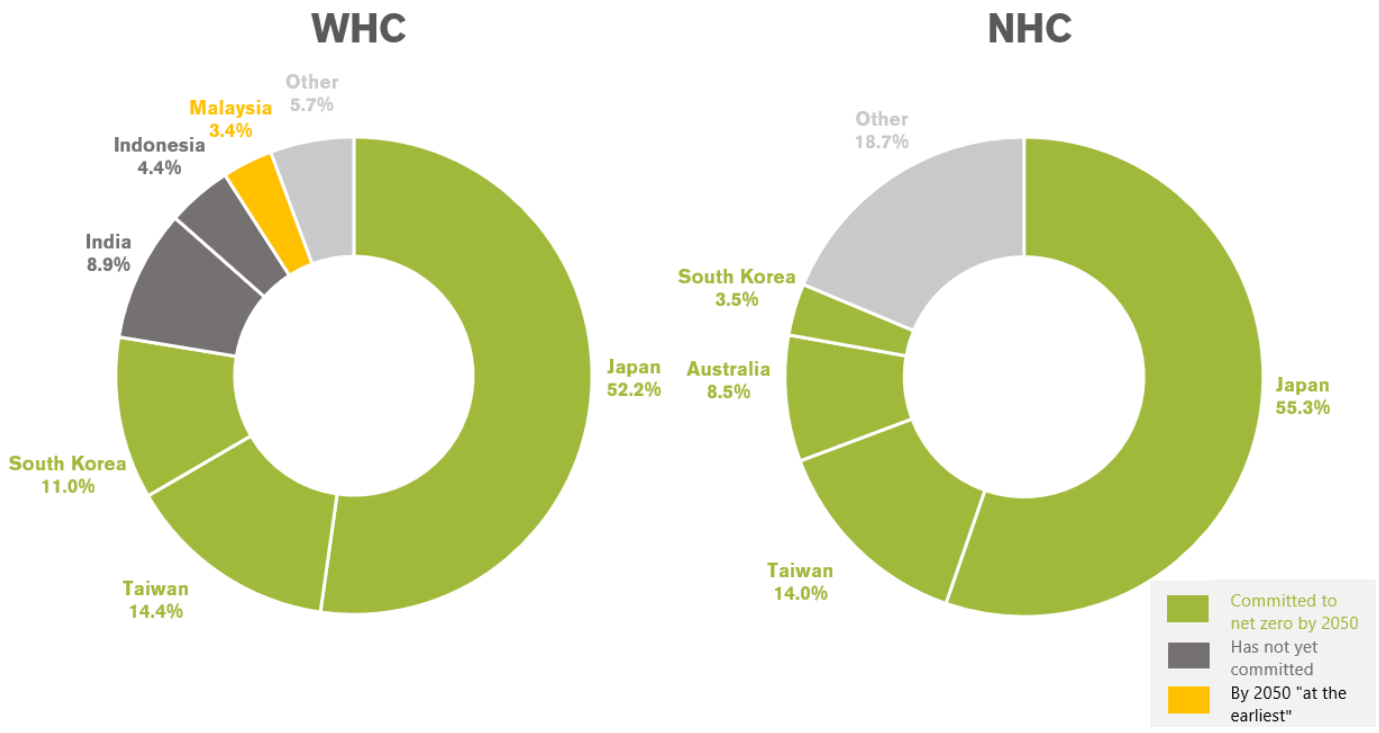
- 2030 – Phase out of unabated coal power in advanced economies
- 2035 – Overall net-zero emissions electricity in advanced economies
- 2040 – Phase out of unabated coal power plants globally, net-zero emissions electricity globally

Even including NZE2050's highly optimistic assumptions for coal power abated by carbon capture, utilisation and storage (CCUS) – a technology that to date has been a spectacular economic and technical failure – coal power generation globally falls by 93% to 2050.

This transition risk is not confined to thermal coal. In NZE2050, "Demand for coking coal falls at a *slightly* slower rate than for steam coal, but existing sources of production are sufficient to cover demand through to 2050" (p 103). **Any capex to expand or extend thermal or coking coal production would therefore be incompatible with NZE2050, yet that is exactly what WHC and NHC are planning.**

National net-zero commitments indicate current major markets for WHC and NHC in Asia are set to rapidly shrink. In total, 79% of WHC's (p 61) and 83% of NHC's (p 51) FY22 revenue came from sales to countries committed to achieving net-zero emissions by 2050. Japan and Korea, both with legislated net-zero by 2050 targets, alone represented 63% of WHC's and 59% of NHC's FY22 revenue. Taiwan – representing 14% of both WHC's NHC's FY22 revenue – has also laid out plans to reach net-zero emissions by 2050.

FY22 revenue and net-zero by 2050 commitments



Sources: WHC (p 64) & NHC (p 51) FY22 Annual Reports.

These long-term commitments are already shifting nearer-term policies. Japan's latest energy policy aims for coal power's share of the energy mix to fall from 32% in FY19 to 19% by FY30. This is projected to result in a 46% decline in Japan's coal consumption by 2030 (p 2). South Korea's commitment to reduce emissions by 40% from 2018 to 2030 will see coal's share of energy generation in the country almost halve by 2030 (p 3). In Taiwan, coal's share of overall electricity generation is expected to decline from 45% to 30% by 2025 (p 3).

In 2021 Japan and South Korea also committed to end financing for overseas coal power projects, while China announced it would stop building coal power plants abroad. Combined, these three countries have provided 93% of public finance for overseas coal projects since 2015. Their commitments will further shrink the global coal power pipeline, which has collapsed by 77% since the Paris Agreement in 2015.

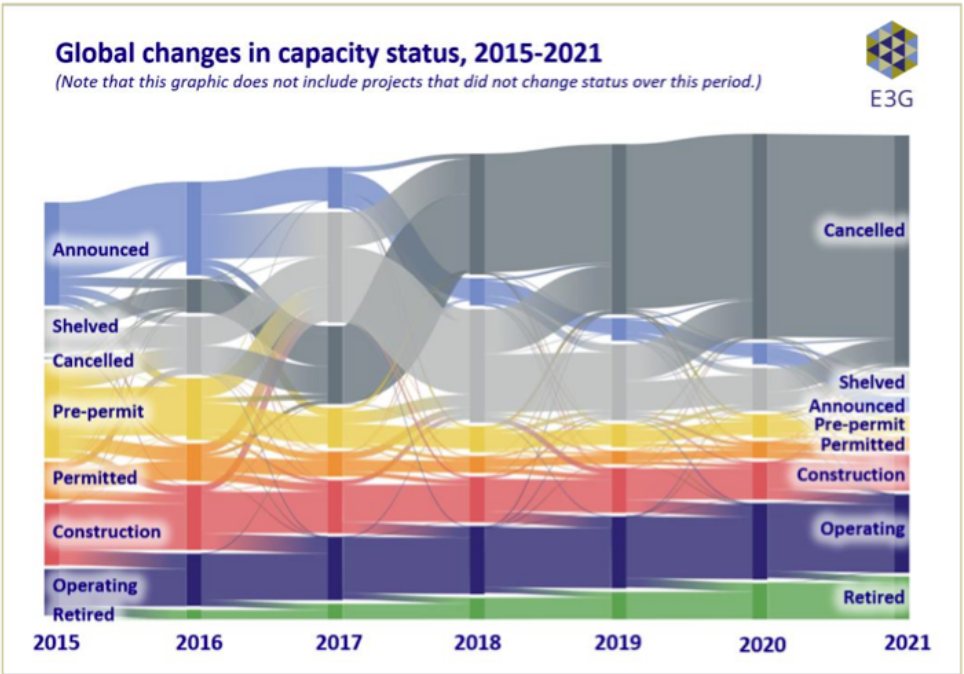


Figure 5: Sankey diagram showing global changes in capacity status, 2015-2021. Note that graphic does not include projects that did not change status over this period.

Source: E3G, No New Coal by 2021 (p 16)

Unrealistic growth predictions

Emerging markets will not replace falling demand. Both WHC (p 17) and NHC (p 11-12) predict future coal demand will be underpinned by coal-fired power generation across Asia. However, developments in these markets demonstrate this expectation is unrealistic.

In South Asia, the coal power pipeline contracted by 87% between 2015 and mid-2021. Sri Lanka's updated June 2021 nationally determined contribution (NDC) formally committed the country (p iv) to no

new coal power capacity. Pakistan's Prime Minister announced in December 2020 that the country "will not have any more power based on coal", while the Pakistani government recently announced that the planned 300MW Gwadar imported coal plant will be scrapped in favour of solar PV. Meanwhile, Bangladesh's pipeline has collapsed, with 10 planned coal power plants scrapped in 2021 alone.

In South-East Asia the coal pipeline decreased by 63% between 2015 and 2021. All planned coal power plants in Malaysia and Myanmar have now been cancelled, with Malaysia announcing in June 2021 its commitment to no new coal power plants. In August 2022, the new Marcos government in the Philippines reaffirmed its ban on new coal power. In Vietnam, 33GW of planned coal-fired power was cancelled between 2015 and mid-2021 and at COP26 last year, Vietnam's Prime Minister announced it too was targeting net-zero emissions by 2050.

The continuation of these trends consistent with a net-zero by 2050 scenario would see markets for WHC and NHC's coal disappear.

A key factor driving the cancellation of coal power plants is the rapidly falling price of renewable energy. According to Carbon Tracker, renewable energy is now cheaper than 77% of operating coal when comparing the levelised cost of energy (LCOE) with the long run marginal cost (LRMC) of existing coal; by 2026 new-build renewable energy will be cheaper than 98% of existing coal-fired power plants. In Asia, new-build renewable energy is currently cheaper (p 14) than existing coal in the major economies of China, India and South Korea. This threshold is expected to be reached (p 30) this year in Japan and by 2024 in ASEAN countries (including Thailand and Vietnam).

Meanwhile, the likes of BlackRock, Moody's and JP Morgan have all warned that today's high coal prices will only accelerate the transition to renewable energy generation, destroying long-term thermal coal demand.

> *If high coal prices were to prolong, the trend would increase renewable energy's cost competitiveness and accelerate the long-term secular decline in coal demand because of the sector's very high carbon transition risk."* - Moody's (April 2022)

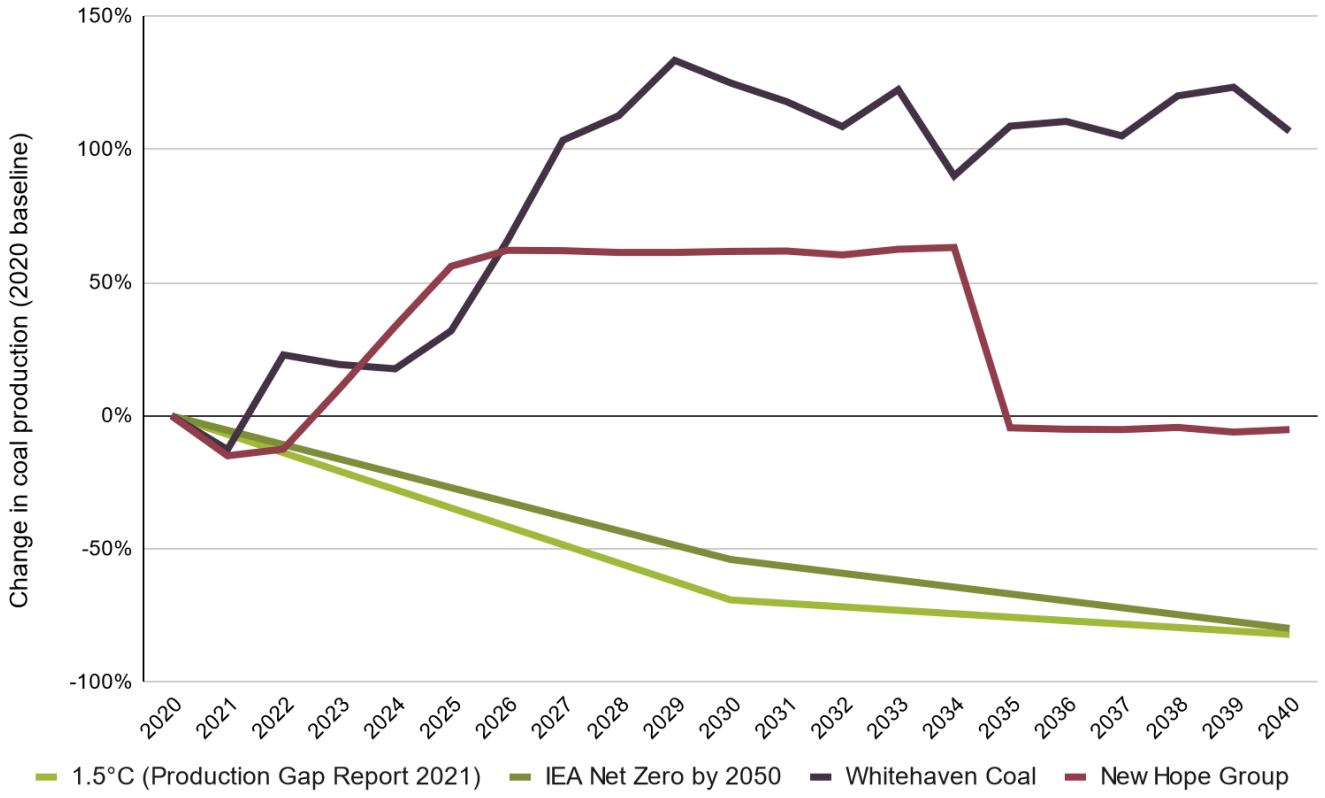
Increasing stranded asset risk

The transition to net-zero emissions by 2050 threatens to leave investment in new coal developments, and even some existing projects, stranded. Under NZE2050 (p 21), "there is no need for investment in new fossil fuel supply" and "no new coal mines or mine extensions are required". Recent modelling (p 35) by the Reserve Bank of Australia (RBA) highlights that under all scenarios except for the current policies (baseline) scenario, "Australian coal-related investments are at risk of becoming 'stranded assets' as lower export volumes and prices weigh on firm profitability". The RBA report also notes that

under its "Net Zero and Below 2ºC" scenarios "there is potential for 'stranding' even if there is no investment into new mines" (p 35). Under the RBA's analysis, even existing coal mines are at risk of becoming stranded under net-zero scenarios.

Despite the clear risk of asset stranding, WHC and NHC are planning to expand coal production. Assuming WHC proceeds with its Narrabri Stage 3, Winchester South and Vickery coal mines, we estimate the company's equity-adjusted marketable coal production would more than double by 2030 compared to 2020 levels, as shown in the figure below.

Historical and projected marketable coal production (equity weighted) compared to global 1.5ºC, and net-zero by 2050 scenarios (2020-2040)



Sources: Whitehaven and New Hope project planning documentation and reported production data; Production Gap 2021; IEA NZE 2050. Where available, we use production schedules presented in official project planning documentation. Where these are not reported, we split remaining reserves over the expected remaining mine life. Figures include both thermal and metallurgical coal. Calendar years.

To achieve this, WHC claims it will incur a combined $2.1 billion in investment costs. However, the undiscounted capex cost of these projects – Vickery (p 14, ~$890 million), Winchester South (p 16, $2577 million), and Narrabri Stage 3 (p 9, $536 million) – actually totals to approximately $4 billion.

Based on WHC production profiles for existing and proposed new mines (p 13, p 18, p 32), the company plans to produce over 520 million tonnes of thermal coal in the period 2022-2050.[1] In NZE2050, unabated coal power generation is phased out in the OECD (representing 65% of WHC revenue) by 2030, and the rest of the world by 2040. **This implies 340 Mt of WHC's planned thermal coal production would be without a market under NZE2050. At the company's assumed long-term coal price of ~$85/tonne** (p 14 - 2020 real terms)**, this amounts to $29 billion in foregone revenue.** Additionally, the New South Wales Government recently granted approvals for future mining operations on two leases held by WHC in the Gorman North area, meaning the company could try to increase production even more.

NHC expanded through acquisition of a 40% stake in the Bengalla thermal coal mine for $865 million in FY16, and a further 40% for $860 million in FY19. Bengalla has approval to produce up to 15 Mtpa ROM coal out to 2039. In mid-2022, NHC also acquired a 15% stake in Malabar Resources for $94.4 million, giving it a commensurate stake in the under-construction Maxwell coal mine. The company stated at the time of purchase it intends to "invest its surplus cash into coal assets that are low on the cost curve with long life approvals", suggesting further expansion could be on the cards in the future.

Meanwhile, **NHC's proposed $1 billion New Acland Stage 3 expansion would expand that mine's production capacity to 7.5 Mtpa ROM and extend its production life by 12 years**. NHC is also continuing to spend on exploration activities across other coal developments that will not be financially viable under a net-zero by 2050 scenario. NHC has assessed (p 108) 202 Mt of marketable reserves for its Elimatta and Taroom coal tenements. **Under NZE2050 there would be no market for this coal, making those assets worthless.**

By contrast, diversified miners have seen the writing on the wall and are exiting the coal sector. In June, BHP announced it would close its remaining thermal coal mine, Mt Arthur, in 2030 after it was unable to find a buyer for the project, even with the possibility of extending the mine's life to 2045.

Both NHC and WHC aim to 'diversify' their asset base with more metallurgical coal, but according to NZE2050 metallurgical coal faces similar stranded asset risk to thermal. Along with NHC's recent acquisition of the Maxwell metallurgical coal mine, WHC's Winchester South project is also nominally a metallurgical coal mine, for which the company claims it is confident it will be able to attract debt finance. However, **the unacceptable transition risks facing metallurgical coal assets are already being recognised in diversified miners' capital allocation plans**.

For example, South 32 refused to sanction the "large, high-quality and fully permitted metallurgical coal development project" Eagle Downs after its feasibility study revealed expected returns would not support the investment. Similarly, South 32 also recently withdrew plans to expand its Dendrobium metallurgical

[1] Where production profiles are not available, equity-weighted reserves of marketable coal have been averaged over the remaining life of the mine.

coal mine, stating "Expected returns… are not sufficient to support an investment relative to alternatives." In September 2022 the company pledged to not "develop or invest in greenfield metallurgical coal projects".

Unlike the diversified miners exiting coal production and choosing not to sanction new projects, NHC and WHC have demonstrated no interest in shifting to future-facing commodities. The most prudent allocation of capital is therefore to return it to shareholders.

Failure to assess net-zero by 2050 transition risks

Both WHC and NHC fail to disclose an assessment of the risks facing their existing assets – let alone planned new projects – against the IEA's NZE2050, despite that landmark scenario having been widely used in corporate scenario analysis disclosures since it was published more than a year ago.

NHC claims (p 9) both its Bengalla and New Acland mines have sufficiently low production costs relative to other thermal coal mines globally to remain resilient under Wood Mackenzie's AET-1.5, a net-zero by 2050 (1.5°C) scenario. The company shows that under this scenario, by 2030, projects producing seaborne thermal coal at a cost below roughly US$90/tonne (2022 real terms) would remain competitive. However, NHC hasn't been resilient at these prices in the past - during FY10-FY16, the company ran a cumulative free cash flow loss of $890 million despite Newcastle coal prices averaging over US$100/tonne (2022 real terms)[2].

WHC does not test its assets against any 1.5°C scenarios, limiting its analysis to the IEA Stated Policies Scenario (2.7°C) and Sustainable Development Scenario (SDS; 1.65°C, net-zero by 2070). The company claims (p 38) all its operating assets would have "positive valuations and economic lives" under SDS, but leaves out any assessment whatsoever of the three new or expanded mines that the company is looking to develop. WHC's scenario analysis leaves investors none the wiser as to the financial risks facing the company under a 1.5°C pathway, despite the company claiming to support the Paris Agreement.

Useful scenario analysis must quantify the impacts – including on cash flows, useful asset lives, rehabilitation liabilities, and asset valuations – in a way that allows for useful comparison against alternative scenarios. Such analysis of a net-zero by 2050 scenario is essential given the proliferation of policy and financial market commitments to this goal, and would reveal the immense and unacceptable transition risk facing WHC and NHC's current coal expansion plans.

WHC and NHC's leadership appear unwilling to properly engage with investors' climate risk concerns, let alone adequately address them. In its 2021 Investment Stewardship Report, Vanguard noted of NHC:

[2] Adjusted using Australian CPI

> *"… given the materiality of climate risks to New Hope's business, it was concerning that its reporting had significant gaps, fell short of addressing some important elements, and was not updated and released in a timely manner. We stated that we expected substantial improvements to disclosure practices."*

When recently asked about modelling under the NZE2050 or another 1.5°C aligned scenario, WHC CEO Paul Flynn deflected by attacking the IEA's importance and credibility, claiming the IEA "has moved away from its core objectives and I see it more as an advocacy body for renewable energy". WHC has not expressed this concern when referencing many of the outdated IEA scenarios that provide a more favourable outlook for coal, despite their alignment with the failure of the Paris Agreement.

WHC and NHC's refusal to assess and mitigate the unacceptable financial risks posed by the transition to a net-zero emissions economy demonstrates an abject failure of corporate governance. This failure must be met with votes in favour of the 'Capital protection' resolutions, as well as votes against director reelections and executive remuneration at the upcoming AGMs.

Capital protection

WHC and NHC are currently enjoying a period of high prices and earnings. However, far from justifying investment in costly new projects that cannot sustain their intended decades-long lifetimes, the current high coal prices are expected to destroy long-term coal demand by accelerating the transition to renewable energy. Capital must therefore be preserved and returned to shareholders, rather than wasted on projects that would become stranded as the world moves to meet its climate commitments.

Previous periods of low demand and prices – in 2020 and throughout FY13-16 – provide insight into the risk facing WHC and NHC due to the structural decline of the global coal market.

After averaging >US$100/t through FY18-19, the thermal coal price fell to US$66/t in December 2019 and US$52/t in May 2020. Largely due to that price volatility, WHC's after-tax profit dropped 94% year-on-year in FY20, while NHC's profit dropped 175% in the same period.

In its FY21 results, despite relatively high thermal coal prices, WHC announced a $640 million impairment (p 2) on its Narrabri and Werris Creek coal mines, due to revisions of coal production and uncertainties in coal markets. In 2020, NHC impaired (p 65) $220 million worth of coal exploration and evaluation assets due to changing "market conditions for coal exploration assets". In 2015, when thermal coal prices averaged around US$60/t, WHC wrote down $355 million of exploration assets due to the "changed coal market environment" (p 132).

While the coal price is currently high, many commentators recognise the sector is in terminal decline, with high prices and instability only likely to further destroy long-term demand. Under NZE2050, steam coal import prices are modelled (p 51) to fall to US$57/t in Japan by 2030, and lower still thereafter. By contrast, Whitehaven's economic assessment for the Vickery Extension Project, which would produce the vast majority of its resources in the 2030s and 2040s, assumes long term thermal coal prices of US$85/t and an operating life to at least 2045 (pp 12, 23).

Investor support required

In the face of accelerating commitments towards achieving net-zero emissions by 2050, these resolutions seek to avoid the financial shocks of stranded assets, wasted capital and unpredictable revenues. They are also intended to ensure WHC and NHC meet their environmental rehabilitation obligations and responsibilities to staff.

The disclosures requested would avoid sudden and unplanned job losses as a result of market shocks as the global energy system decarbonises, affording employees the opportunity to be retrained, financially supported and assisted in finding future employment.

Investors are urged to vote in favour of these resolutions, and those that support the goals of the Paris Agreement and net-zero emissions by 2050 are expected to offer their full support.