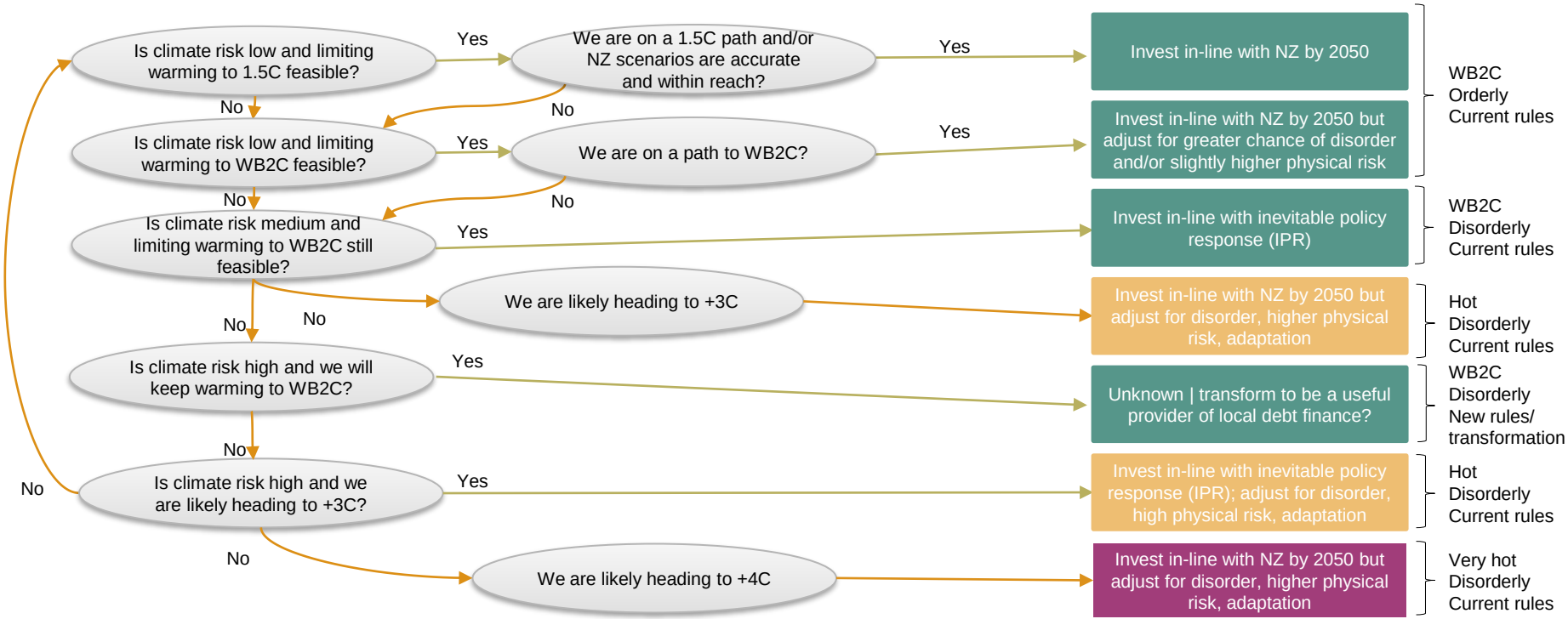
Scenario decision tree

IFT Macro working group

Thinking Ahead Institute
An innovation network founded by WTW

Scenario decision tree

Answer twice – for the market and for you



Is climate risk low and limiting warming to 1.5C feasible?

Yes

- The Paris Agreement has been ratified by 195 (of 198) countries, therefore efforts to keep temperature increase well below 2C are binding and guaranteed
- It is universally accepted that 1.5C is the preferred upper limit
- ‘Net-zero by 2050’ was designed to achieve the 1.5C limit and is the agreed global framework – signed into law by countries, targeted by corporations, and pledged by financial institutions

Click ‘yes’

No

- Climate science has moved on since the Paris Agreement. The situation is more urgent and the changes more difficult
- The currently announced commitments and policies by countries imply a level of warming between 2.4C and 2.7C
- There is a lack of political will to enact known and necessary policies that might disrupt current economic performance

Click ‘no’

We are on a 1.5C path and/or NZ scenarios are accurate and within reach?

Yes

- Net-zero by 2050 scenarios illustrate the changes that need to be implemented, and are feasible
- The scenarios are based on remaining within IPCC-sourced carbon budgets
- Renewable energy is already cheaper than fossil energy, so will grow rapidly from here
- Governments will introduce new policies in order to comply with their own net zero laws
- Carbon removal technologies will improve and scale up dramatically over the next 30 years

Click ‘yes’

No

- Net-zero by 2050 scenarios are ‘priced to perfection’ and unlikely to be achieved in practice
- The IPCC notes that wide error ranges means carbon budgets could be zero
- The NZ scenarios use carbon budgets with only a 50% chance of remaining below 1.5C. This is not appropriate for risk management
- The scenarios imply an unnaturally orderly transition
- The underlying climate science is open to revision
- We could cross climate tipping points at lower-than expected temperatures

Click ‘no’

We are on a path to WB2C?

Yes

- Net-zero by 2050 scenarios provide a useful guide to the changes that need to be implemented
- Renewable energy is already cheaper than fossil energy, so will grow rapidly from here
- Governments will introduce new policies in order to comply with their own net zero laws
- Carbon removal technologies will improve and scale up dramatically over the next 30 years
- WB2C carbon budgets give us more room for action / allow for some mistakes, relative to the smaller 1.5C budgets

Click ‘yes’

No

- We are currently on a business-as-usual path with a likely temperature outcome between 2.7C and 3C
- We would need to see more aggressive actions, policies and falling emissions to conclude we were on a path to WB2C

Click ‘no’

Is climate risk low and limiting warming to WB2C feasible?

Yes

- The Paris Agreement has been ratified by 195 (of 198) countries, therefore efforts to keep temperature increase well below 2C are binding and guaranteed
- The lack of emissions reduction so far this decade makes a 1.5C limit unlikely, but we can remain within the carbon budget associated with 1.7C or 1.8C, say
- ‘Net-zero by 2050’ is the agreed global framework – signed into law by countries, targeted by corporations, and pledged by financial institutions – and this will guide and co-ordinate actions to limit warming to WB2C

Click ‘yes’

No

- Climate science has moved on since the Paris Agreement. The situation is more urgent and the changes more difficult
- The currently announced commitments and policies by countries imply a level of warming between 2.4C and 2.7C
- There is a lack of political will to enact known and necessary policies that might disrupt current economic performance

Click ‘no’

Is climate risk medium and limiting warming to WB2C still feasible?

Yes

- We haven't acted to reduce emissions quickly enough, so the window for acting slowly and in an orderly manner has closed
- The consensus understanding that temperature increases above 2C would be disastrous is rock solid
- Therefore we will see government policies that will force more urgent private actions. We should expect the transition to be disorderly, but we will keep temperature below 2C

Click 'yes'

No

- Economists have called for a carbon price since the 1970s. So far less than 5% of global greenhouse gas emissions are covered by a direct carbon price at or above the range recommended by 2030 [World Bank. 2023. State and Trends of Carbon Pricing 2023. © http://hdl.handle.net/10986/39796 License: CC BY 3.0 IGO.]
- I do not believe governments will act fast enough to secure WB2C

Click 'no – we are heading for +3C'

- I believe the remaining carbon budget is smaller than the consensus believes, so even if we do get government action it will not be enough

Click 'no – climate risk is high'

Is climate risk high and we will keep warming to WB2C?

Yes

- The world is heating, and the adverse effects have generally surprised by occurring sooner, or with bigger impact than expected. Climate risk is high
- This will shortly be recognised by the majority of people and governments. Current actions will be seen as utterly inadequate. We will enter a period of transformational change as every possible avenue to securing a WB2C outcome is pursued

Click ‘yes’

No

- Climate risk is high, but the recognition will either not occur, or will come too late. There will be no transformation and a WB2C outcome will not be possible

Click ‘no – we are heading for +3C’

Is climate risk high and we are likely heading to +3C?

Yes

- The world is heating, and the adverse effects have generally surprised by occurring sooner, or with bigger impact than expected. Climate risk is high
- My role as a fiduciary requires me to preserve capital, as well as seek to grow it. Therefore, from a risk management perspective I should assume there is less carbon budget left (or climate risk is higher) than the current consensus believes
- This means consensus actions could fail the WB2C objective, and +3C of warming becomes likely

Click ‘yes’

No

- Climate risk is high. But consensus actions are geared to achieving WB2C assuming climate risk is low (there is a large remaining carbon budget). More effort than this would be required to stay within +3C
- Consequently, at current (and foreseeable) levels of effort and a zero carbon budget we are heading for +4C

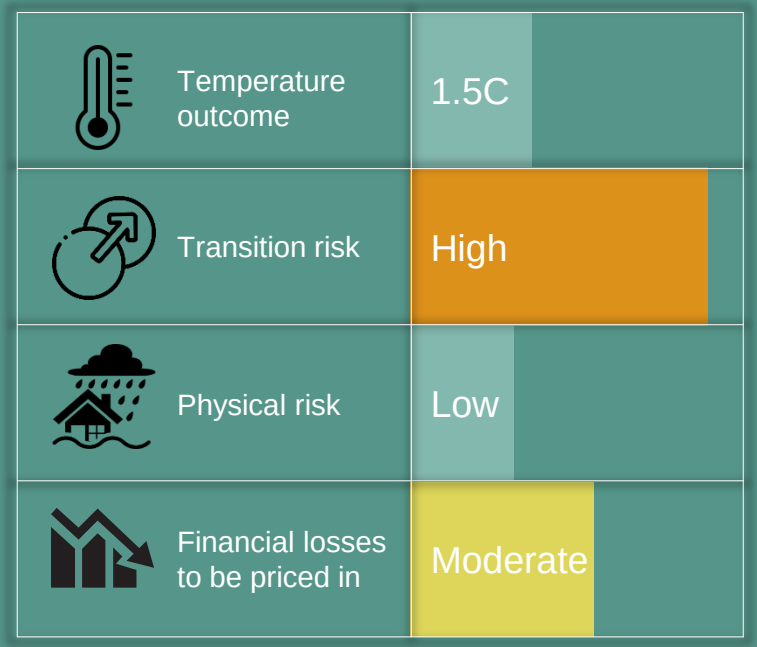
Click ‘no – we are heading for +4C’

Click ‘no’ – let me start again

1.5C
Orderly
Current rules

Investment implications

- Use NZE2050 scenario as a guide
- Eg monitor timing and level of introduced carbon prices to adjust value of heavy emitters
- Large scope to invest in EMs
- Probability of success assumes pace and nature of transition/ transformation will keep cumulative emissions within a carbon budget of ~350Gt (consensus budget less what already spent)



WB2C Orderly Current rules

Investment implications

- Focus on identifying “winners and losers” from the transition – likely to be sectoral and intra-sectoral vs across asset classes
- Use NZE2050 scenario as an initial guide, eg monitor timing and level of introduced carbon prices to adjust value of heavy emitters
- New primary investment in key technologies underlying climate mitigation solutions
- Be aware that different transition scenarios can give quite different answers on winners vs losers
- Adjust for greater chance of disorder and/or slightly higher physical risk
- Large scope to invest in EMs
- Probability of success assumes pace and nature of transition/ transformation will keep cumulative emissions within a carbon budget of ~850Gt

Temperature outcome	< 2C
Transition risk	Moderate-plus
Physical risk	Fairly low
Financial losses to be priced in	Minor

Hot (3C?)
Disorderly
Current rules

Temperature outcome	~ 3C
Transition risk	Moderate
Physical risk	High
Financial losses to be priced in	Significant to v significant

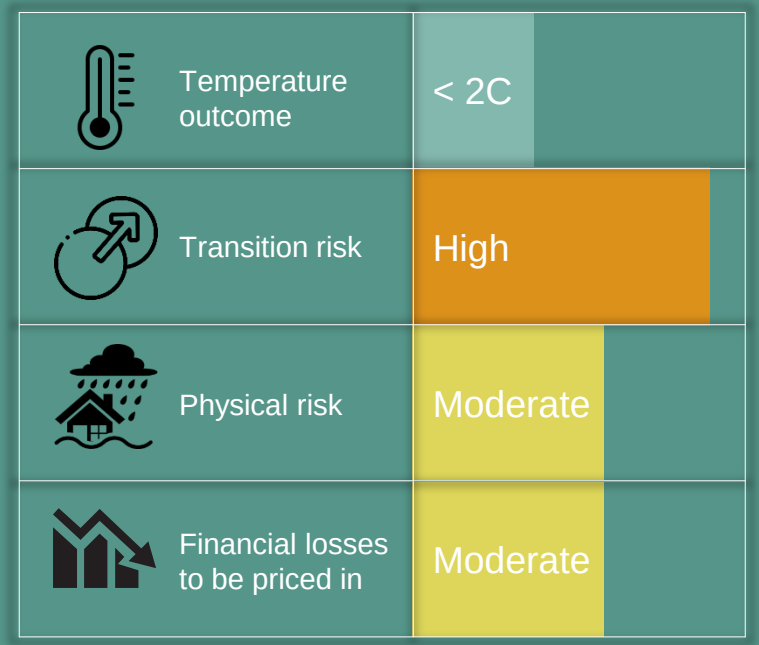
Investment implications

- The majority of financial assets likely to be negatively impacted, trying to identify winners vs losers likely less productive than focussing on resilience
- Use NZE2050 scenario as a starting point; assume carbon budget will be exceeded and/or earth system behaviour more extreme than predicted; adjust for greater spend on adaptation / resilience, harming profits relative to history
- A focus on resilience is likely to favour countries that are (i) further from equator, (ii) already richer, and (iii) well governed. A likely large increase in climate migration will complicate the analysis
- New primary investment in climate solutions still required to avoid even greater physical risk impacts
- Probability of success assumes pace and nature of transition/ transformation will keep cumulative emissions within a carbon budget of ~500Gt

WB2C Disorderly Current rules

Investment implications

- Focus on identifying “winners and losers” from the transition – likely to be sectoral and intra-sectoral vs across asset classes
- Use IPR scenario as a starting point but adjust for greater degree of change (smaller carbon budget) and therefore degree of disorder
- Monitor timing and severity of introduced policies to adjust value of assets
- Fossil fuel exclusions/significant underweight potentially underperform over a 5-10 year horizon, payoff from new climate solutions delayed and volatile as energy demand/supply imbalances resolve themselves
- EMs will have a high demand for capital (high return), but risk will be higher according to the degree of disorder
- Probability of success assumes pace and nature of transition/ transformation will keep cumulative emissions within a carbon budget of ~500Gt



Very hot (4C+)
Orderly
Current rules

Temperature outcome	~ 4C
Transition risk	Moderate
Physical risk	Very high
Financial losses to be priced in	~ Total

Investment implications

- All financial assets are likely to be negatively impacted, attempting to identify winners likely not a useful exercise
- Use NZE2050 scenario as a starting point; assume carbon budget massively exceeded and/or earth system behaviour more extreme than predicted; adjust for greater spend on adaptation / resilience; adjust for massive migration
- New primary investment in climate solutions potentially (likely?) does not deliver a financial return
- Investment in the majority of countries will not be viable as they become increasingly uninhabitable

  (Source: Nomad Century, Gaia Vince. At 4C of warming only land above 45th parallel will be habitable – Patagonia, New Zealand and Antarctica in the south, Canada, Greenland, Iceland, Scotland, Scandinavia and Siberia in the north)
- Probability of success assumes pace and nature of transition/ transformation will keep cumulative emissions within a carbon budget of ~0Gt

Hot (3C?)
Disorderly
Current rules

Temperature outcome	~ 3C
Transition risk	High
Physical risk	High
Financial losses to be priced in	Very significant

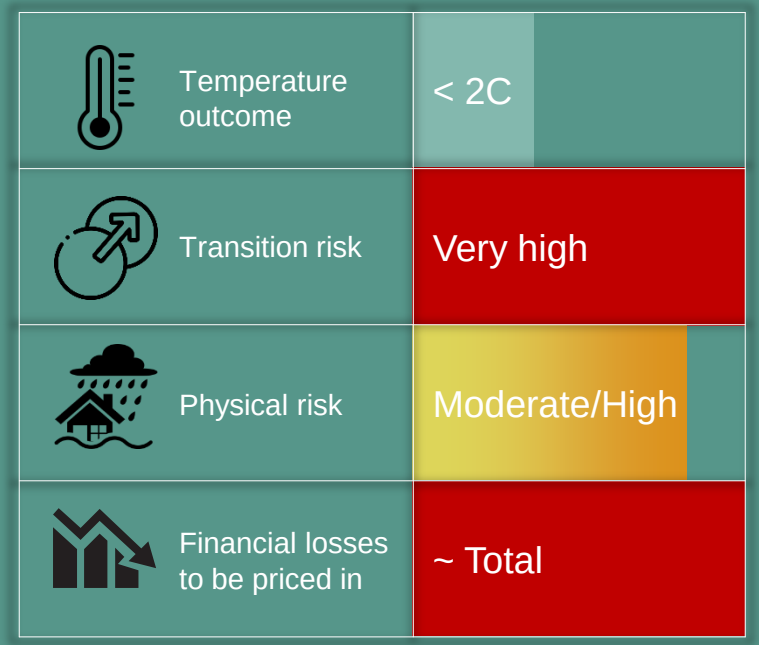
Investment implications

- The majority of assets likely to be negatively impacted; identifying winners vs losers less productive than focussing on resilience
- Use IPR scenario as a start; assume carbon budget will be exceeded and/or earth system behaviour more extreme than predicted; adjust for greater spend on adaptation/resilience, harming profits relative to history
- Also adjust for greater degree of change (smaller carbon budget) and therefore degree of disorder
- Fossil fuel exclusions/significant underweight potentially underperform over a 5-10 year horizon, payoff from new climate solutions delayed and volatile as energy demand/supply imbalances resolve themselves
- Focus on resilience likely to favour countries that are (i) further from equator, (ii) already richer, and (iii) well governed. A likely large increase in climate migration will complicate the analysis
- Probability of success assumes pace and nature of transition/ transformation will keep cumulative emissions within a carbon budget of ~0Gt

WB2C Disorderly Transformed rules

Investment implications

- The post-transformation scenario is best described as ‘green post-growth’
- It is not clear that capitalism or private ownership would have a role in such a scenario; there could be a role for debt finance to local, small, circular economy businesses
- Probability of success is conditional on early-enough introduction of sufficiently transformed rules to (a) stop all GHG emissions and (b) establish regenerative practices



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