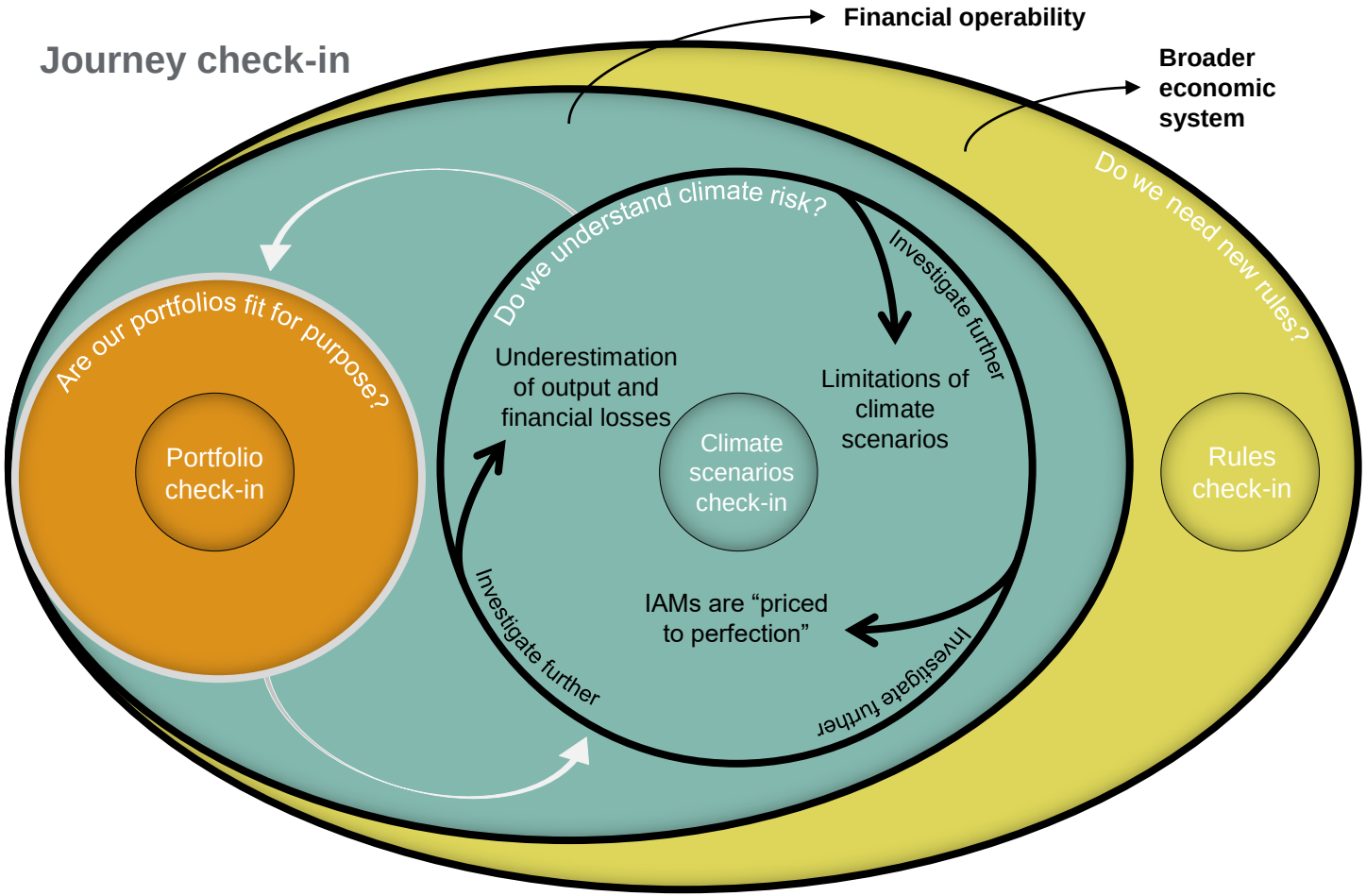
Net-zero journey metaphor and first draft of scenarios matrix

IFT Macro working group

Thinking Ahead Institute
An innovation network founded by WTW

Journey check-in



- Our system is governed by rules
- We covered what we mean by rules in WG1
- Our portfolios are built to maximise risk-adjusted returns in line with the *current rules* of the system
- In the face of the climate crisis, we strive to develop climate models that can potentially generate useful and actionable *climate scenarios*
- Further investigation (WG2) has revealed fundamental *limitations in the underlying assumptions* of those scenarios and corresponding models. It's time to address:

1. Are our portfolios fit for purpose, given the assessment of the climate models?
2. Do the profound uncertainties at the climate level require us to reshape our portfolio?
3. Is the current approach sufficient, or do we need to rethink the architecture of our own system and its governing rules?

The metaphor

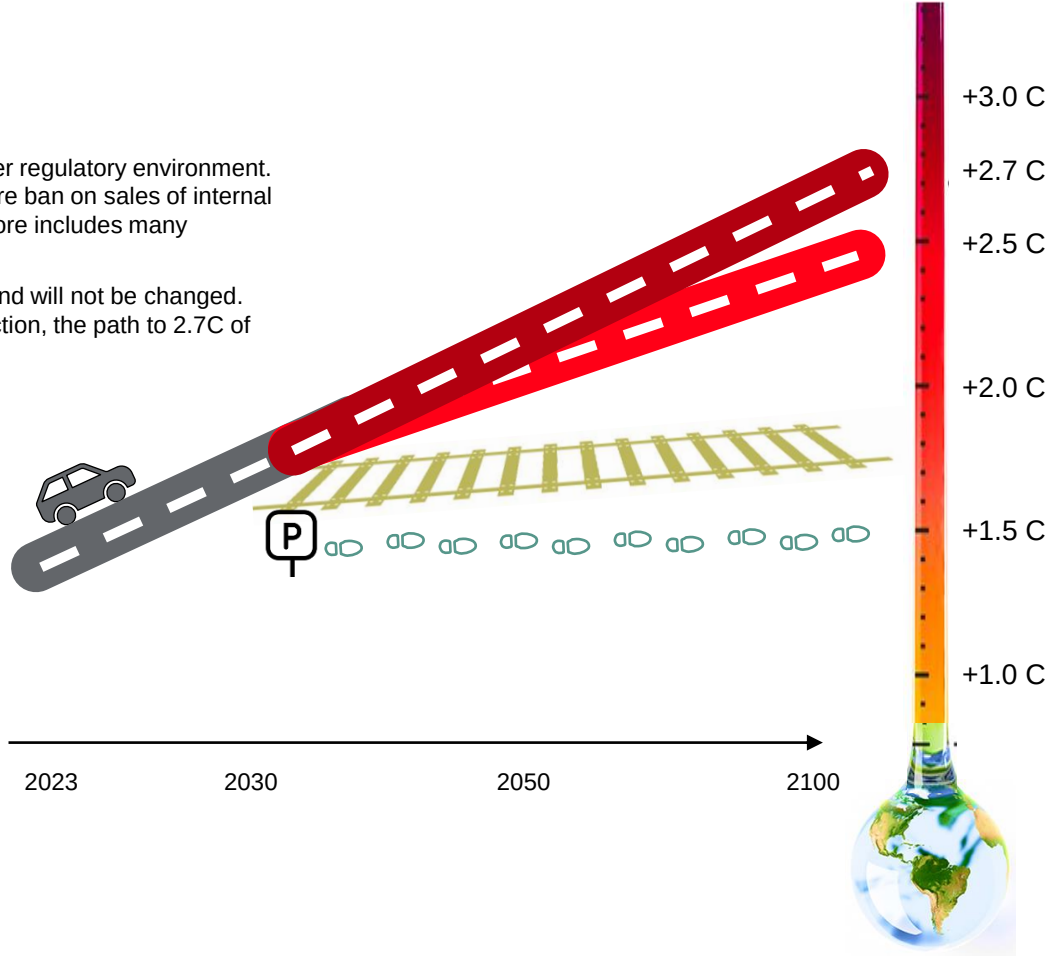
We are on road to 2.7C – this is business-as-usual within a stricter regulatory environment. It includes the enactment of announced policies, such as the future ban on sales of internal combustion engines, national net-zero laws and the like. It therefore includes many elements of transition

In the metaphor, a stretch of road ahead has already been built and will not be changed. [How long do you believe this stretch to be?] Beyond the built section, the path to 2.7C of warming has been mapped, but changes are possible

One such change is the strengthening of national decarbonisation commitments and putting these into law. The road would divert to a 2.4C outcome. [Beliefs about government action]

A more drastic change would be to abandon road building, and scrap all cars. The state would provide electrified public transport.

Or, to aim for a yet lower temperature, people agree to live locally, and walk.



The inconvenient recent research

In *Safe and just Earth system boundaries* (Rockstrom et al, 31 May 2023) suggest the warming limit for justice is +1C. The implication is that any amount of warming from our current level will exacerbate injustice

Investor action planning framework

Revisiting scenarios to help inform investor actions

- Two key (and related) questions that were raised in WG2 were:
  - Are the scenarios on which the majority of net zero pledges based feasible in practice, and if they are realised will they actually keep global average temperature increases well below 2C (WB2C)?
  - If the answer to the above is no, what should investors be doing in response while still acting in a financially rational way?
- A way of approaching the above is to think about the problem through two dimensions
  - X-axis: what should be the "allowable" carbon budget to support a transition to a WB2C world?
    - This will reflect the investor's level of aversion to climate risk (or, the probability of success of remaining WB2C), as well as their views on the degree to which allowance needs to be made for the challenges to climate scenarios highlighted in WG2
  - Y-axis: what degree of change is possible/likely to be supported by system participants?
    - This will in part reflect the views of the broader market on the same issues above and in part the degree to which the system itself can/will be changed
- An interpretation of the above is that:
  - The position on the x-axis reflects the degree of transition that an investor believes "needs to happen" in order to achieve a WB2C outcome and limit the magnitude of physical climate risks
  - The position on the y-axis reflects the type of transition that is likely to happen (eg fast vs slow, orderly vs disorderly, current vs transformed "rules of the game") which in turn will determine the magnitude of transition risks and the types of scenarios an investor should use in order to "follow the money"
  - The intersection between the x and y axis positions will then inform the likely degree of overshoot of the "allowable" WB2C carbon budget and therefore the physical climate risks that an investor should be planning for

Investor action planning framework

Revisiting scenarios to help inform investor actions (cont'd)

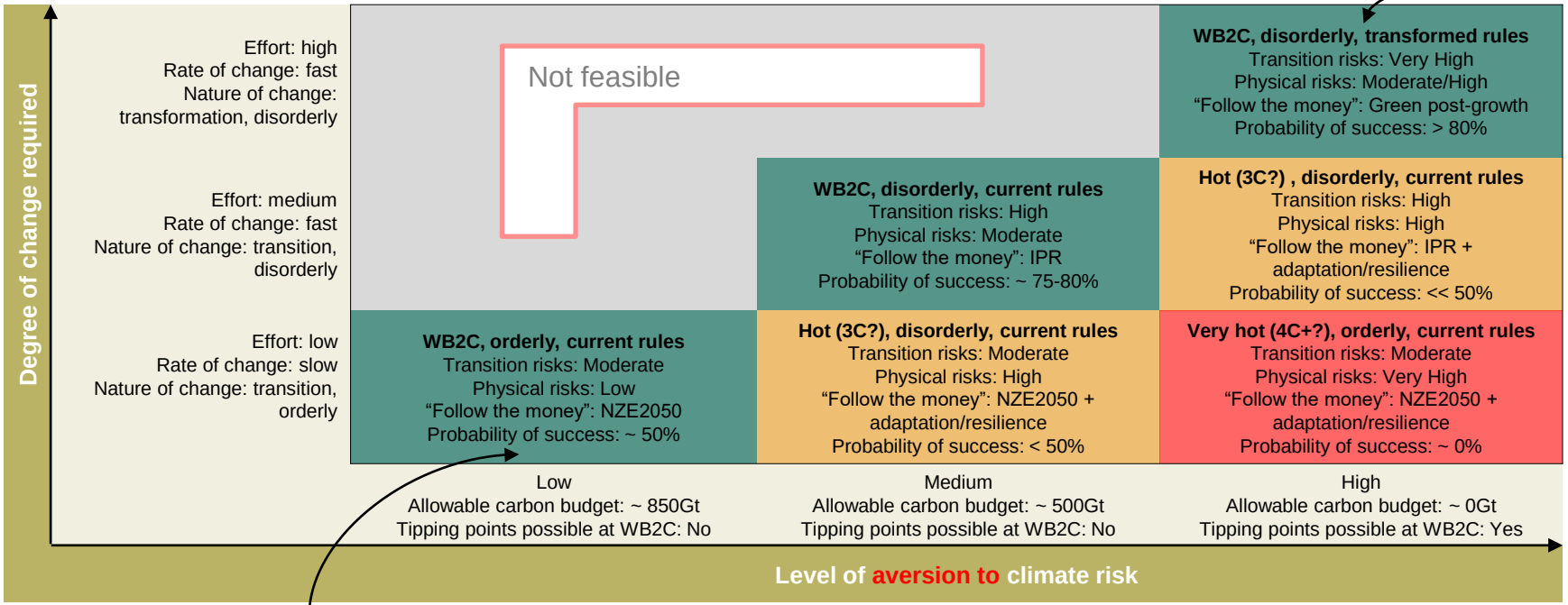
- The above can then be used to define scenarios that investors could use to determine the actions that are both in line with existing net zero pledges as well as fiduciary duty/acting in a financially rational way
- On the following slide we apply this framework and show a matrix that sets out potential positions that an investor could take on both the x and y-axes
- At each intersection point the category of scenario that would be appropriate for investor action planning is then defined as a combination of:
  - Expected temperature outcome – WB2C, hot, very hot
  - Nature of transition – orderly vs disorderly
  - Degree of system change – current rules vs transformed rules
- Further information is then provided about the characteristics of each category of scenario:
  - Magnitude of transition risks due to degree, speed and nature of change that occurs
  - Magnitude of physical risks due to overshoot of allowable WB2C carbon budget
  - Representative scenario for determining capital allocation activities ("follow the money") based on the above*
  - Probability of success – defined as keeping global temperature increases to WB2C
- One important implication of the scenario framework is that, in contrast to frameworks typically used in practice, there are a number of categories of scenarios that exhibit both high transition and physical risk

* at this stage we have deliberately avoided being too specific on which scenarios/pathways an investor should focus on at each intersection point in the matrix. This is in large part because even within a particular category of scenarios (e.g. WB2C, orderly, current rules) there are a number of potential pathways which can give rise to quite different "winners and losers". As an example, the analysis set out in This is the way…or is it? shows different versions of a WB2C, orderly, current rules scenario

Investor action planning framework

Scenario definitions

Question: does a scenario that will realistically keep temperatures at WB2C inevitably require transformation (ie new rules) rather than just transition?



Question: does adopting this scenario create too much exposure to climate risks/should allowable carbon budget be much smaller than is typically assumed?

Question: do current net zero frameworks place too little emphasis on adaptation/resilience?

Note: carbon budgets based on IPCC, but reduced by 150Gt representing 3.5 years of elapsed time and around 40Gt of emissions pa

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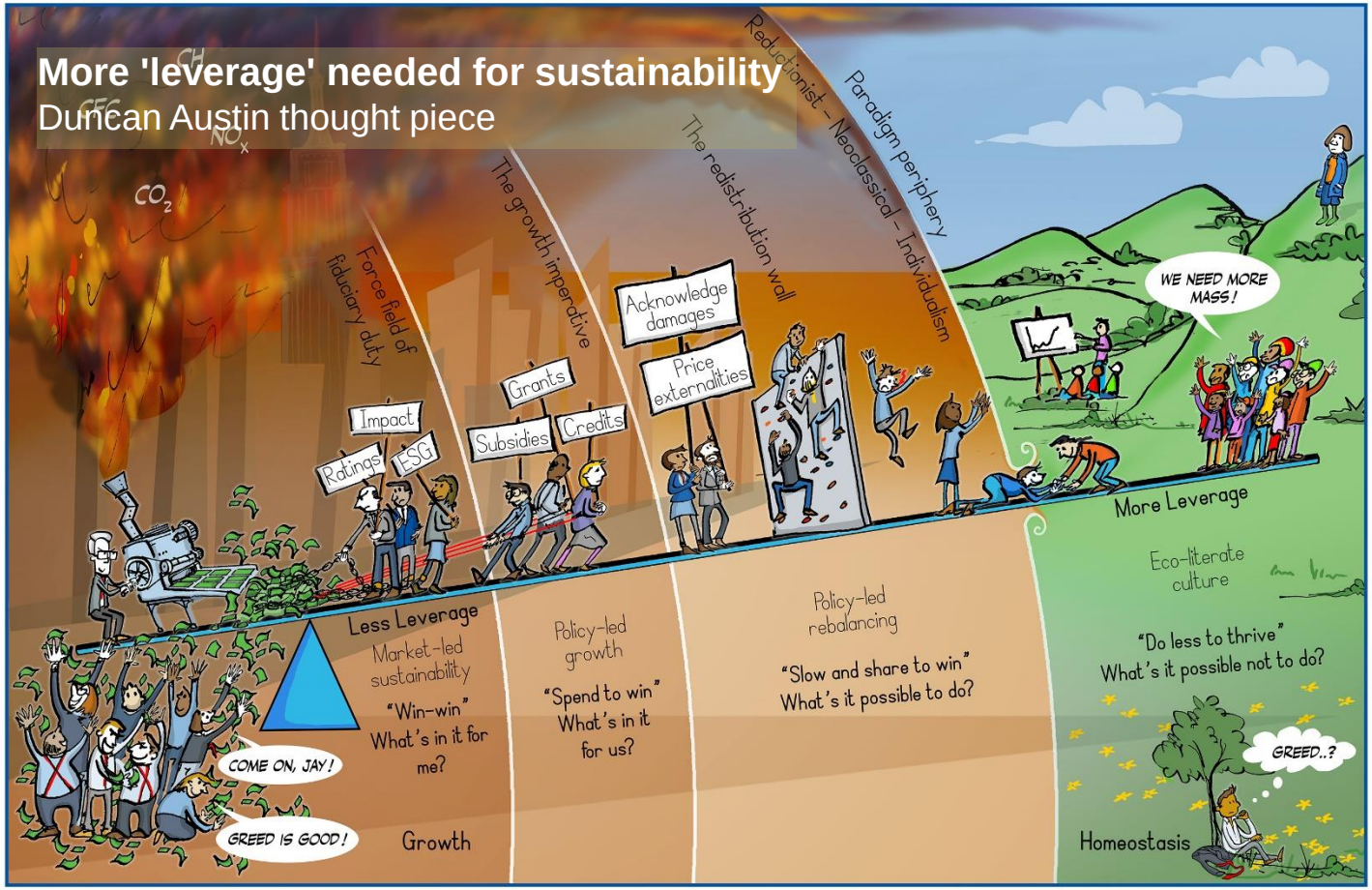
More 'leverage' needed for sustainability

Duncan Austin thought piece



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After Meadows

Dana Meadows famously identified 12 'leverage points' for changing human systems, from tweaking parameters to rewriting major rules. More effective interventions typically required greater effort. Number 12 on her list – with greatest potential leverage but most difficult – was to transcend the prevailing system to see it for what it was and reject it for something new.

The image is an adaptation of Meadows' idea for the current ecological crisis – which continues to be shaped predominantly by the attitudes of wealthier nations. It might be thought of as four 'leverage attitudes' for sustainability, depicting an uphill struggle against various forms of resistance to reach more effective stances.

More 'leverage' needed for sustainability... (cont)

Duncan Austin narrative for the ‘infotoon’

The embracing paradigm is the reductionist worldview that is the peculiar legacy of the scientific revolution. While a fruitful perspective for working out how atoms and cells work, when applied to social systems it has somehow resulted in externality-denying capitalism and expertise-debasing democracy. The shared premise of capitalism and democracy, informed by reductionism, is that you can ‘add back up’ expressions of self-interest – whether spending or voting – to arrive at the best possible outcome for society. But unless all expressions of self-interest fully reflect latest ecological understanding, the aggregation may fall well short of a sustainable outcome.

Most difficult of all is that global ecological challenges are fundamentally 'stop doing' problems, ie stop emitting GHGs, stop destroying the Amazon etc.

The hope has been that 'stop doing' problems could be solved by the 'more doing' strategy of technological substitution – renewables, greener products etc. The private sector is felt to have advantages in innovation and so market-led sustainability has been a major form of response.

However, the evident fact of much historical technological substitution (cars replaced carts, computers replaced typewriters, etc) is no guarantee that technological substitution can always happen fast enough to solve every problem. Instead, the main learning from 25 years of CSR, SRI, ESG, etc, is that substitution is not happening anything like fast enough to prevent climate change. While technologies like wind and solar have grown strongly, their growth has not resulted in a reduction of fossil fuel use.

So, we continue to face innately ‘stop doing’ problems for which the first-choice ‘more doing’ mindset is not working well enough. Not only does that challenge the modern impulse to be ‘productive’ and do more, but the capacity to do less is very unevenly distributed. Some can, some cannot.

The broader point is that sustainability may now depend upon people and institutions asking the question one - or two or three - along from the question they are currently asking themselves.

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Contact Details
Tim Hodgson | tim.hodgson@wtwco.com

Andrea Caloisi | andrea.caloisi@wtwco.com

Isabella Martin | Isabella.martin@wtwco.com