

The impact of carbon pricing

Gertjan Medendorp
Senior Investment Strategist

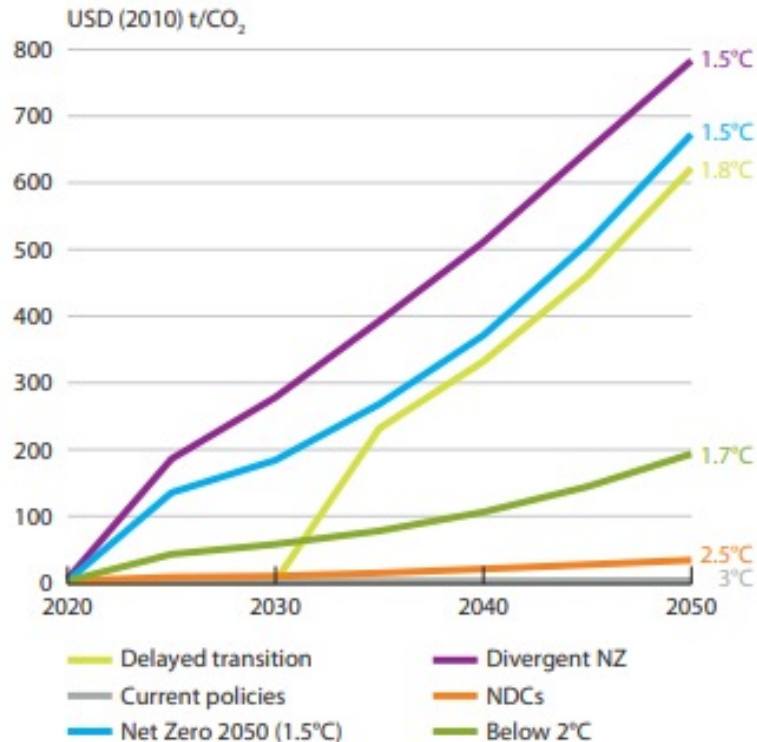
December 2021

An aerial photograph of a rural landscape featuring a river, green fields, and trees. A large, vibrant red parachute with a white and yellow center is suspended in the air, its lines extending downwards. The parachute is positioned in the upper right quadrant of the image.

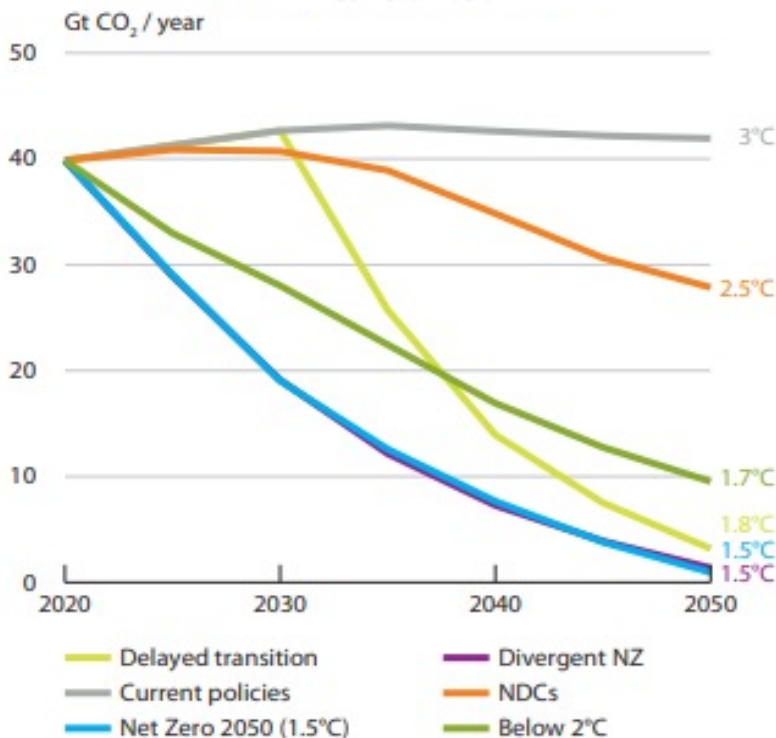
*Beyond
borders™*

Staying within carbon budget to limit global warming

Policy-makers can induce an energy transition by increasing the implicit cost of emissions



Source: IIASA NGFS Climate Scenarios Database, REMIND model. Carbon prices are weighted global averages.



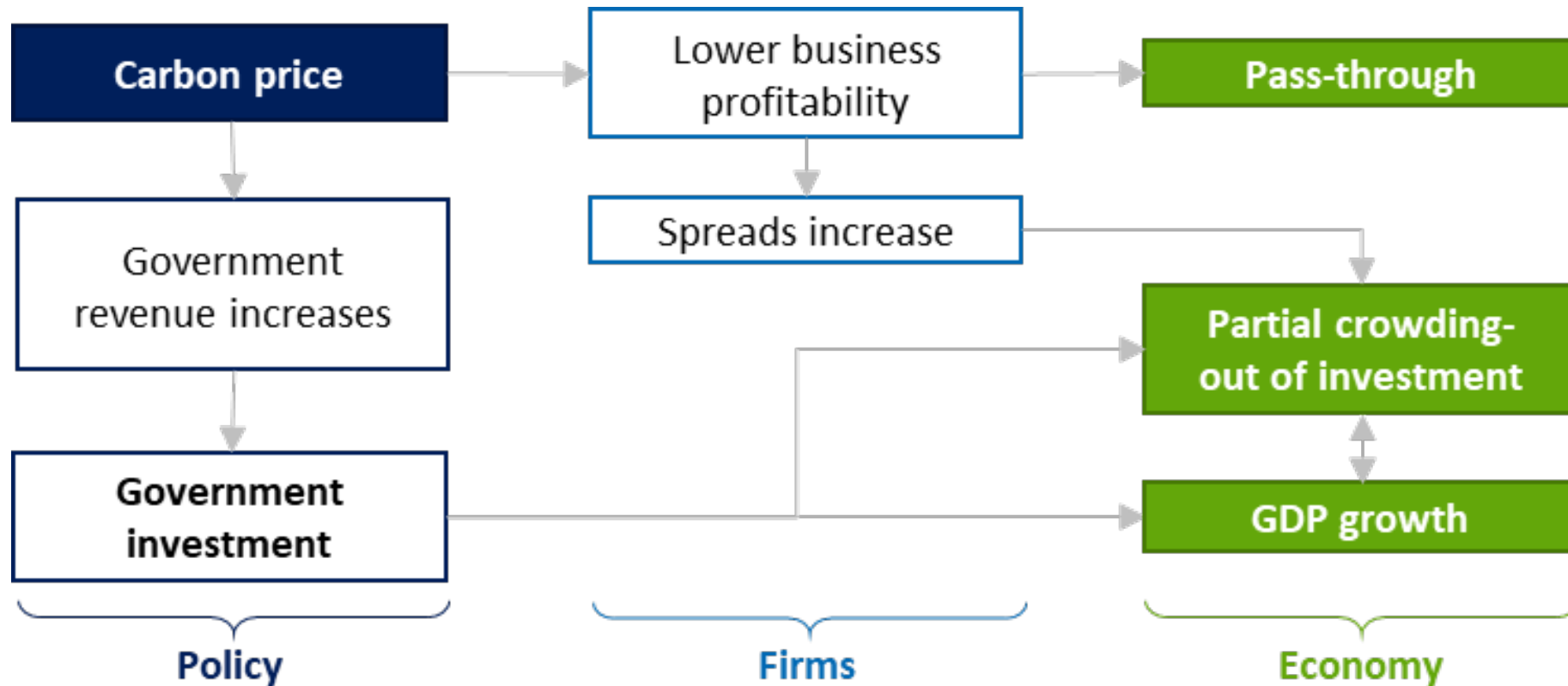
Source: IIASA NGFS Climate Scenarios Database, REMIND model. End of century warming outcomes shown.

Carbon price projections

- Model
- Ambition
- Policy timing
- Policy coordination
- Technology assumptions

The carbon price is a measure of overall climate policy intensity

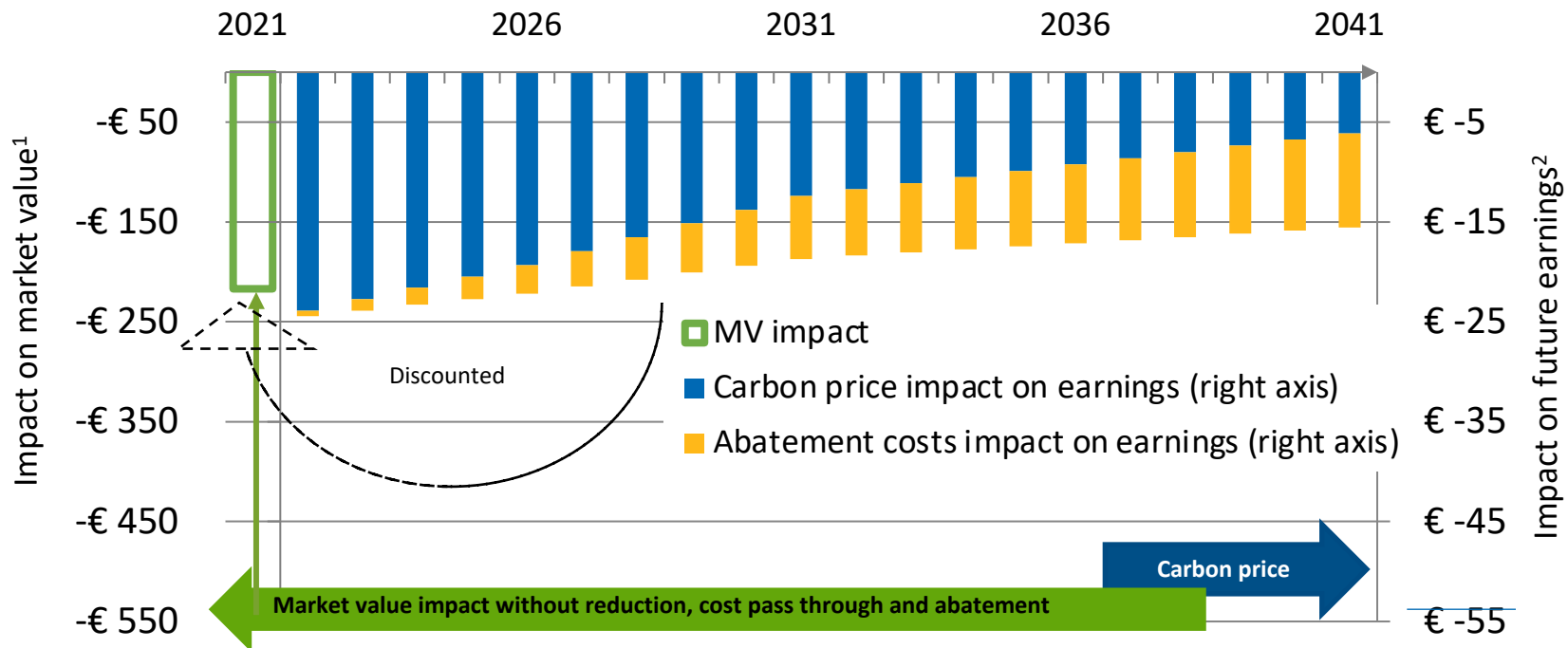
The carbon price mechanism is a proxy for government policy intensity and changes in technology and consumer preferences



Carbon pricing influences business profitability

Several considerations that could mitigate the impact

Potential impact on earnings and market value per tonne of CO2 emissions in 2021



Key considerations

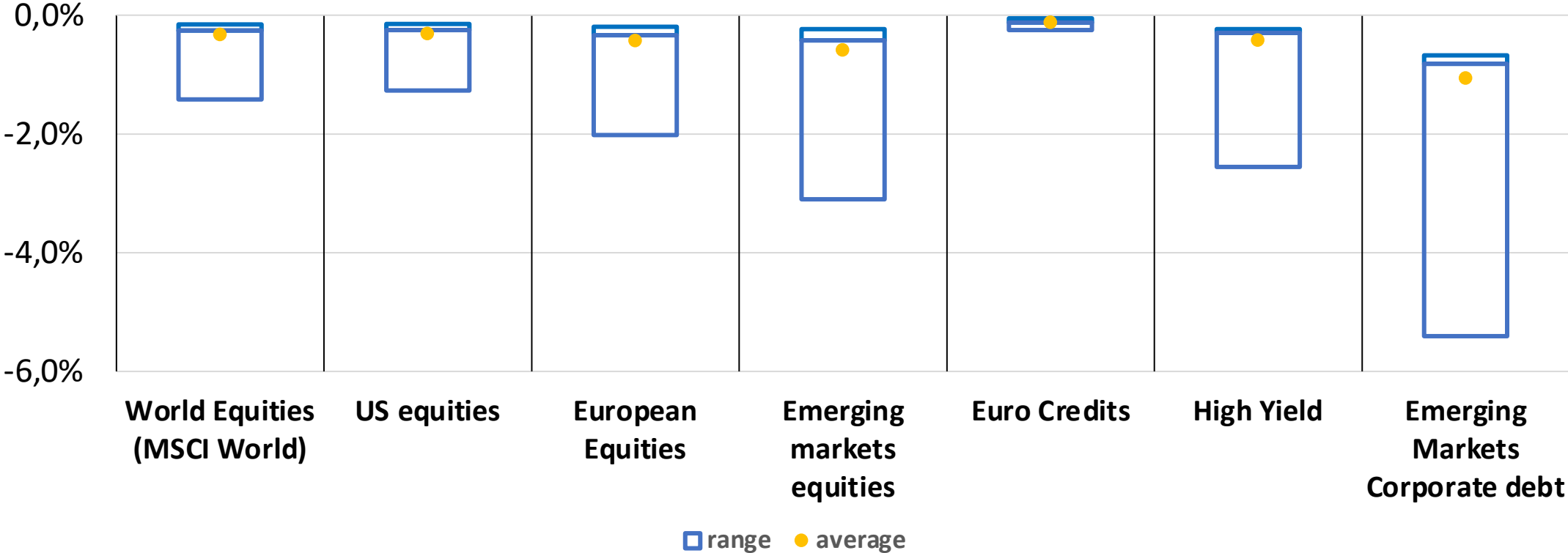
- Carbon price
- Decarbonization pathway
- Cost pass through
- Technological progress (Abatement costs)
- *Discount rate*

Source: Aegon Asset Management. For illustrative purposes only
 1 per tonne of current CO2 emissions
 2 per tonne of current CO2 emissions corrected for assumed carbon reduction, cost pass through and abatement

Impact on asset classes differs over time and across industries and regions

Next to potentially influencing macro-economic factors, carbon pricing will probably result in changing costs and demand

Projected reduction in annual return over a 20-year time horizon versus climate agnostic scenario

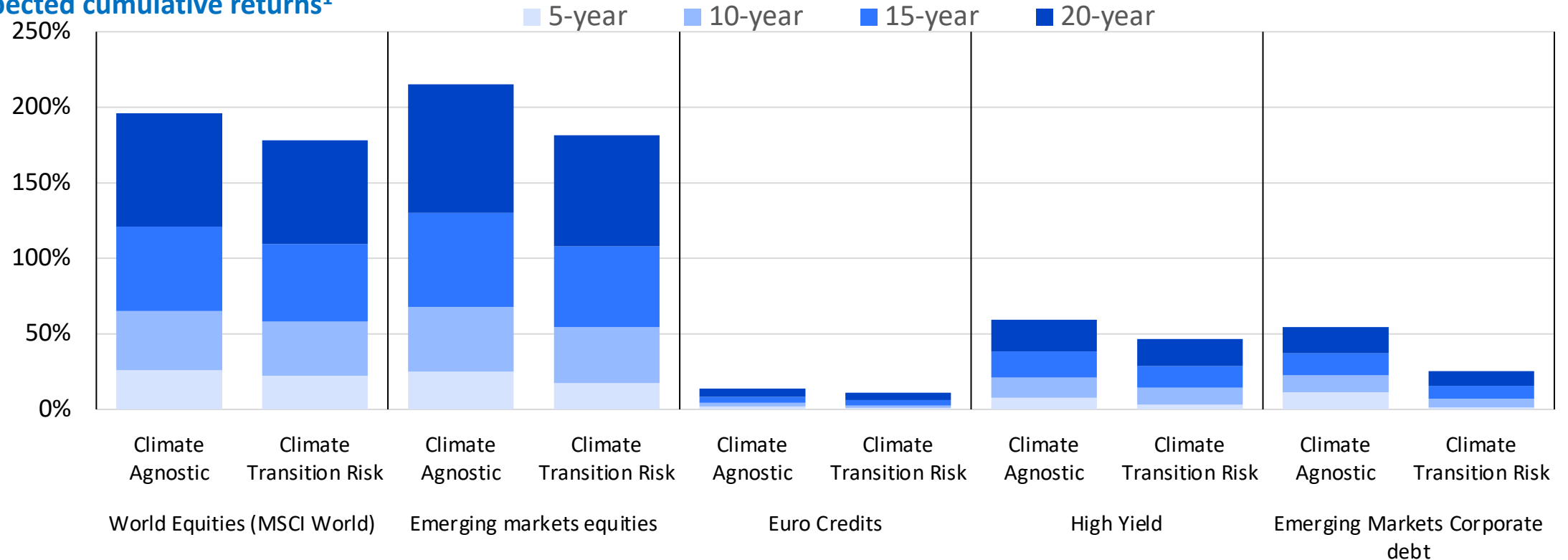


Source: Aegon Asset Management. For illustrative purposes only

Putting things into perspective

Climate policy intensity needs to be high and persistent over time to offset the additional expected returns of specific asset classes over the long term. In the shorter term, unpredictable and unanticipated policy implementation could potentially influence risk/return trade-off.

Expected cumulative returns¹



1. In the climate transition risk scenario we quantify the projected impact of a carbon price increasing from EUR 50 in 2022 to EUR 250 in 2030 and EUR 750 in 2050. We assume that long-term interest rates are 0.3% to 0.5% higher than the reference scenario on a 30-year horizon (based on the NGFS 2°C scenario)
Source: Aegon Asset Management. For illustrative purposes only

Wrap-up and Q&A

Impact of carbon pricing

Key takeaways

- Overall climate policy intensity measure
- Inducing the transition
- Distinct impact channels
- Big differences across sectors and regions
- Put things into perspective



ESG Megatrends: Implications for Strategic Asset Allocation

Simon Lambert & Gertjan Medendorp

Available at: <https://www.aegonam.com/en/aegon-insights/>

Thank you!



Please get in touch with me for additional information

Gertjan Medendorp,
Senior Investment Strategist

+31 (0)50 317 5312
medendorp.g@aegonam.com

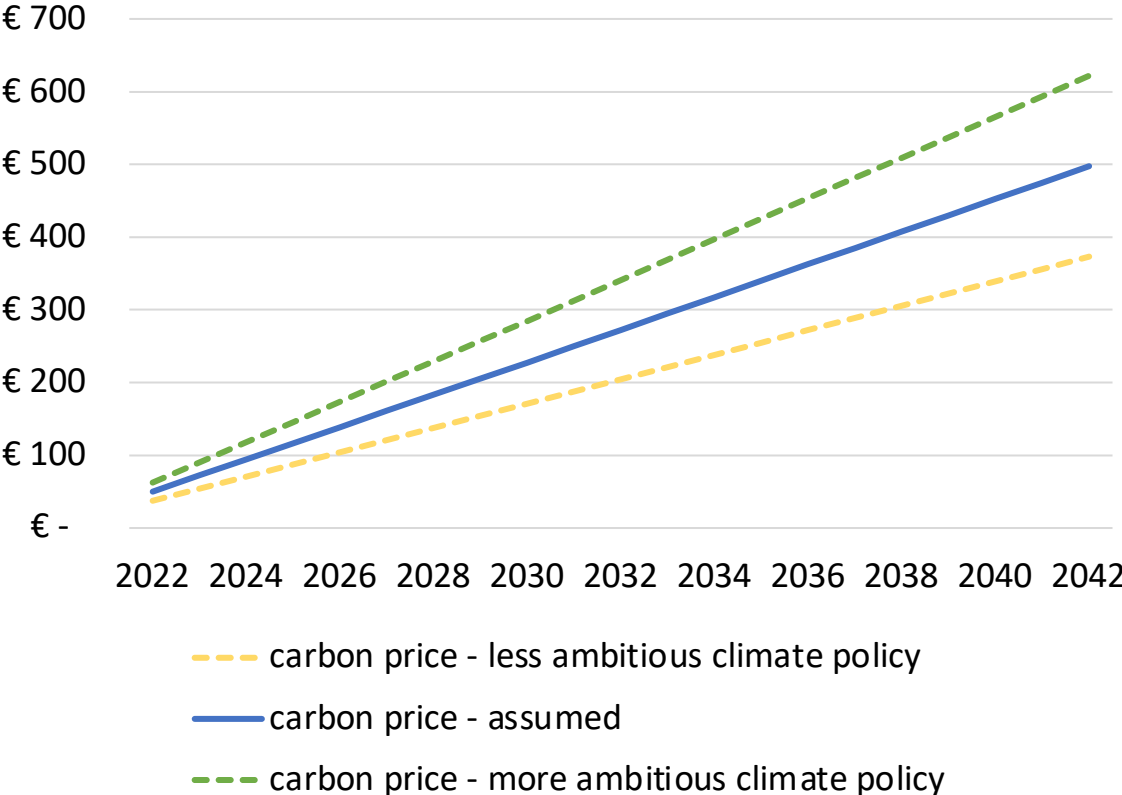


Appendix – Sensitivity analysis

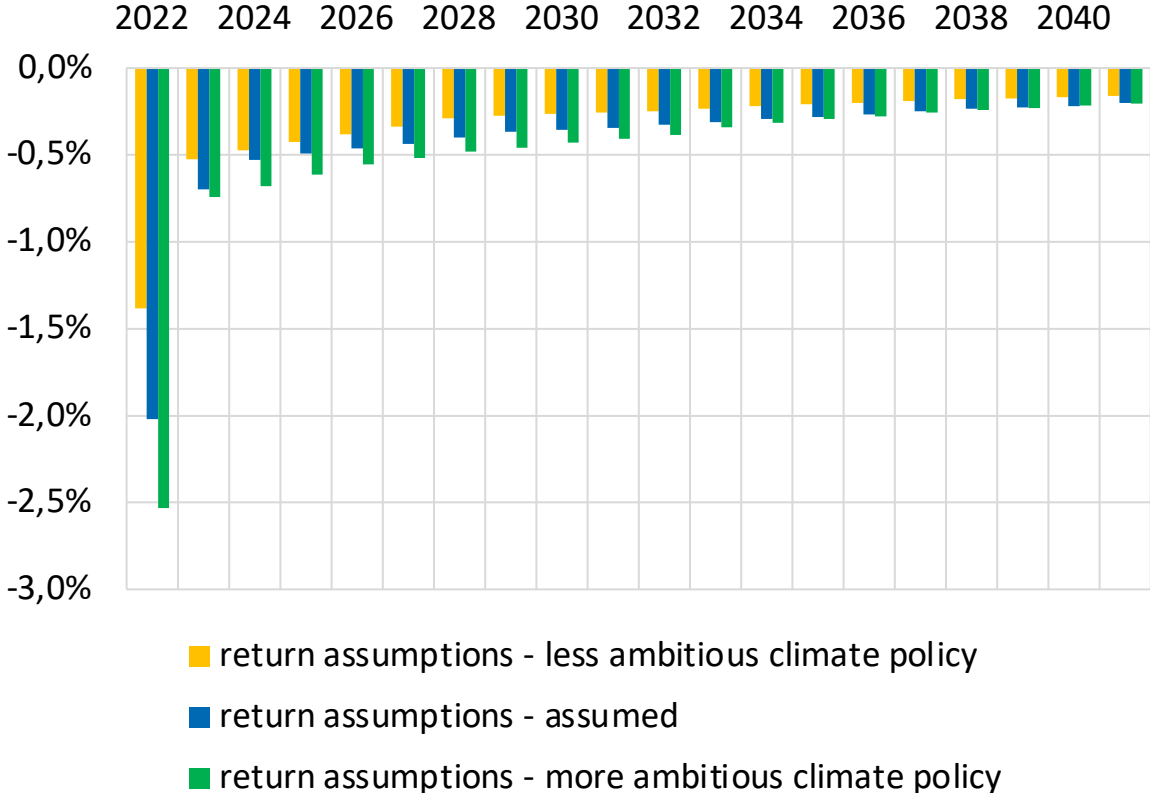
Changing assumptions

Outcomes are sensitive to assumptions, but main observations seem to hold

Carbon price (per tonne of CO₂)



European Equities: Expected reduction in return versus a climate agnostic scenario

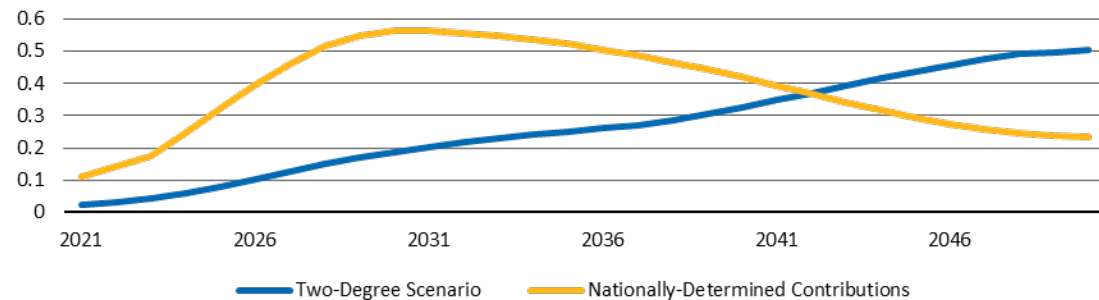


Source: Aegon Asset Management. For illustrative purposes only

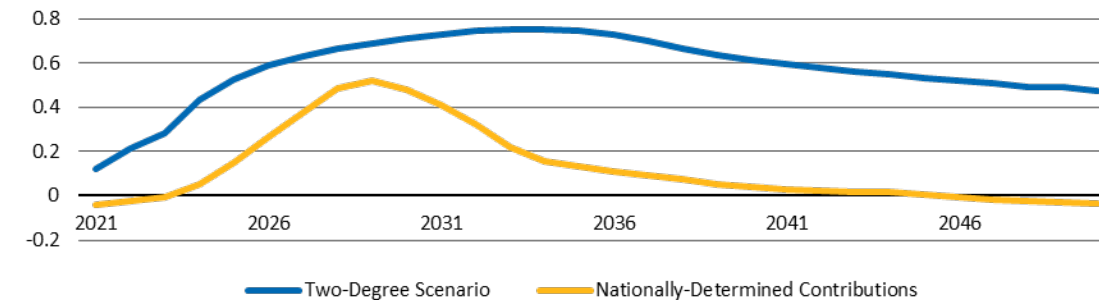
Great uncertainty in impact on macro economic factors across scenario's

Timing and impact?

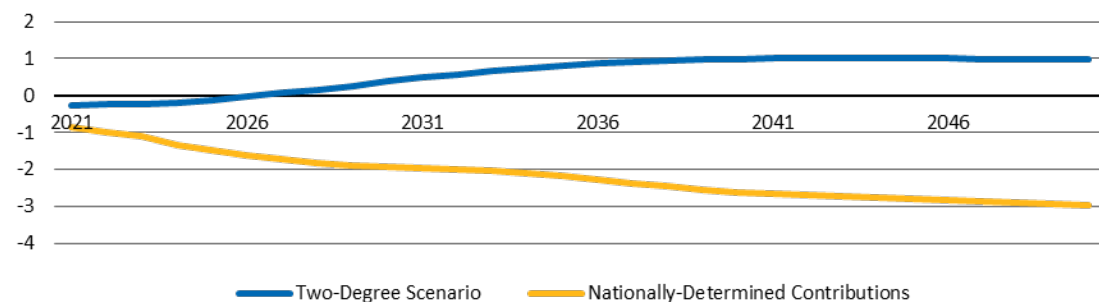
Long-term interest rate, absolute difference from baseline



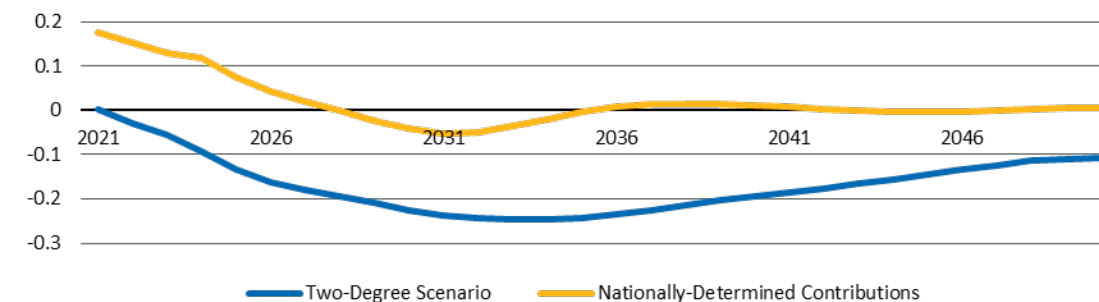
Inflation rate, absolute difference from baseline



GDP, % point difference from baseline



Unemployment, absolute difference from baseline



Source: NGFS 'Below 2°C' Scenario, 2021, predictions using NiGEM. Graph shows absolute (or relative) difference relative to a baseline scenario.

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