

# Gold and climate change: Decarbonising investment portfolios

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Climate change is both a physical reality and a rapidly growing systemic and existential risk that all aspects of society are currently learning to address. It is now widely understood that greenhouse gas (GHG) emissions must therefore decrease very rapidly – ultimately, to ‘Net Zero’ – if we are to avoid potentially catastrophic consequences. The process of decarbonising the economy is such an urgent priority that it is currently reshaping nearly all policy, business, and investment decisions.

And how investors evaluate and respond to the risks and opportunities inherent in this transition will inevitably influence how they build and manage their portfolios, particularly over the medium and long term.

To further explore the implications of the transition to Net Zero carbon for gold as a portfolio asset, we collaborated with specialist climate risk consultancy Urgentem. Specifically, we sought to quantify the impact of introducing gold as a strategic investment to a global multi-asset portfolio from a climate transition perspective, while mindful of its risk and return performance too.

## Portfolio performance

**Holding gold in a diversified portfolio can help reduce its carbon footprint without sacrificing returns**

The multi-asset portfolios, with data covering 5 years of weekly returns, were back-tested using different % allocations of assets to explore how the incorporation of gold at increasing weights might impact the portfolio’s risk-return profile and its overall carbon footprint. (Historic carbon data for assets beyond 5 years is limited.)

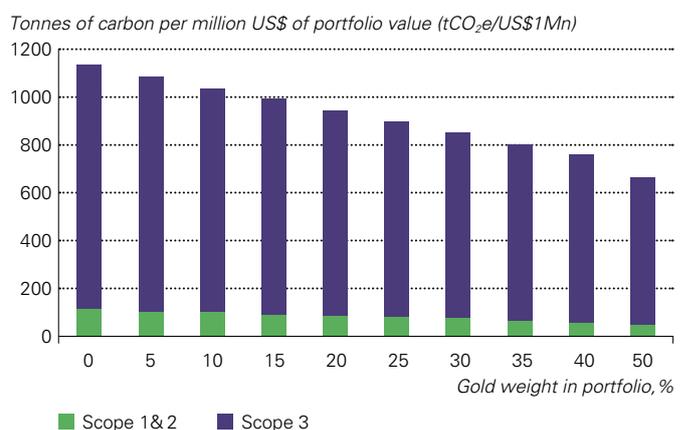
The increased allocations to gold had a notable impact on the carbon footprint and emissions intensity of the market value of the overall portfolio. For a portfolio of 70% equities and 30% bonds, introducing a 10% allocation to gold (and reducing the other asset holdings by equal amounts) lowered the emissions intensity of portfolio value by 7%, and a 20% holding in gold lowered it by 17%.

## Key findings

- Including gold as a portfolio asset can have a positive impact on portfolio performance from a climate transition perspective
- The benefits of holding gold in a globally diversified portfolio (of equities and corporate bonds) include:
  - Reducing the portfolio’s overall carbon footprint
  - Increasing portfolio alignment to climate targets and decarbonisation (Net Zero) pathways
  - Increasing the allocation to gold lowers the implied temperature increase of a portfolio
  - Reducing the vulnerability of the portfolio to climate transition risks and shocks, such as the introduction of a carbon tax
- The positive portfolio climate impacts were achieved without adversely affecting the risk-return profile of the portfolio. In fact, there were strong indications that an allocation to gold would improve the performance and risk profile of the portfolio, in addition to its climate transition benefits.

There were also strong indications that an allocation to gold, in addition to its climate transition benefits would also improve the risk-return profile of the portfolio.

## Gold Allocations and Portfolio Carbon Intensity by Market Cap



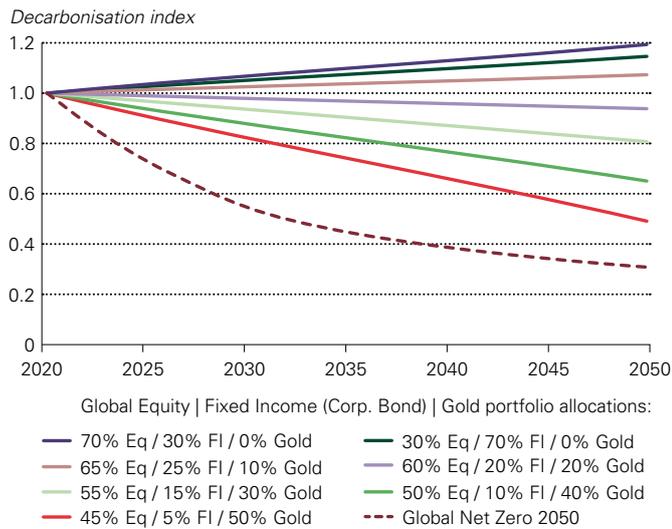
Source: Urgentem

## Decarbonisation pathways

### Holding gold can increase portfolio alignment with decarbonisation (Net Zero) pathways

We then sought to measure the projected emissions trajectories of differently constituted portfolios against global scenario pathways and climate targets – specifically, Current Policies ('business as usual') and Net Zero 2050 scenarios. While no portfolio we examined was wholly aligned to a Net Zero carbon target, allocations to gold clearly had a positive impact on future alignment (as indicated in the chart below).

#### Portfolio decarbonisation trajectories versus Net Zero Scenario

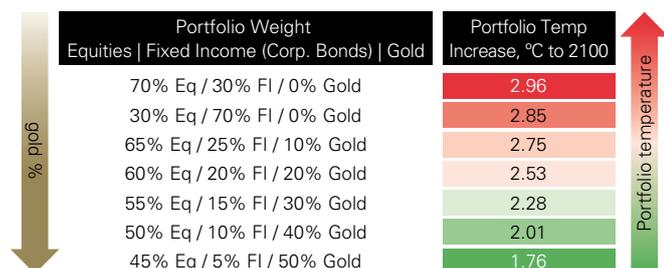


Source: Urgentem

## Portfolio temperatures

### Increasing the allocation to gold can lower the 'warming potential' of a portfolio

Many investors have been seeking to quantify the climate implications of investment holdings by using what is often referred to as the 'temperature rating' or 'warming potential' of a portfolio. This offers a high-level indication of what portfolio holdings imply for the global temperature projected to 2100. Our analysis of the impact of asset allocation on such temperature metrics again suggests gold might play a positive role in mitigating portfolio climate impacts. We calculated that a 50% allocation to gold causes the estimated temperature increase implied by portfolio holdings to fall 40%, by over 1°C, compared to an equity-heavy portfolio without gold; a 10% gold allocation results in a temperature fall of 0.21°C (a 7% drop).



Source: Urgentem

## Portfolio resilience and carbon costs

### Gold can reduce the vulnerability of a portfolio to climate transition risks, such as rising carbon taxes

One of the primary levers and policy responses to climate change, to accelerate the transition to a zero carbon economy, is generally perceived to be the imposition of a carbon price; putting an explicit price on GHG emissions which is then paid for by the emitter. A carbon price also offers investors a means by which they can analyse the potential impact of climate-focused policies and any associated business cost implications on their portfolios.

Our carbon pricing analysis suggests that adding gold or increasing the allocation in the portfolio minimises the annual value-at-risk. This is more substantial under the Net Zero 2050 scenario than the Current Policies scenario. This indicates that, should the policy environment move towards more aggressive positions, a gold allocation can lessen the inherent transition risk.

## Building blocks

This analysis builds on several strands of the World Gold Council's previous work on gold and climate change which:

- Quantified gold's carbon footprint in granular detail (that is, its Scope 1,2 and 3 emissions)
- Outlined a potentially accessible and cost-effective decarbonisation pathway for gold
- Assessed the potential impacts of climate-related risks on asset return expectations.

These 'building blocks', along with Urgentem's global climate database and analytical tools, allowed us to integrate gold into a portfolio and analyse its carbon footprint and climate target (Net Zero) alignment on a consistent basis, compatible with how other portfolio constituents were evaluated.

## Qualifications and assumptions

While the limited (five-year) time frame of the initial back-testing, and gold's relative outperformance during this period, may have skewed the return expectations for gold, longer-term testing found that the performance profile impacts of gold allocations on the portfolio were similarly favourable, albeit to a lesser extent.

Also, in practice, holding physical gold (or a gold-backed investment product) will be associated with only minimal direct emissions. However, this analysis adopted the assumption that an investor will inherit a substantial proportion of the 'embedded' carbon footprint associated with the mining and production of gold. This enabled a forward-looking analysis of how gold's carbon profile and future decarbonisation potential might affect a portfolio's alignment with climate targets and, specifically, a Net Zero scenario.

## Conclusions

This analysis lends credence to the suggestion that gold might contribute to portfolio resilience in the context of climate transition risks. Using a range of measures, we note that an allocation to gold can have a demonstrable impact on reducing the emissions profile of a portfolio and facilitate closer alignment of portfolios with Net Zero carbon scenarios.

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For informational purposes only. Sources – all charts and data and primary analysis: Urgentem.