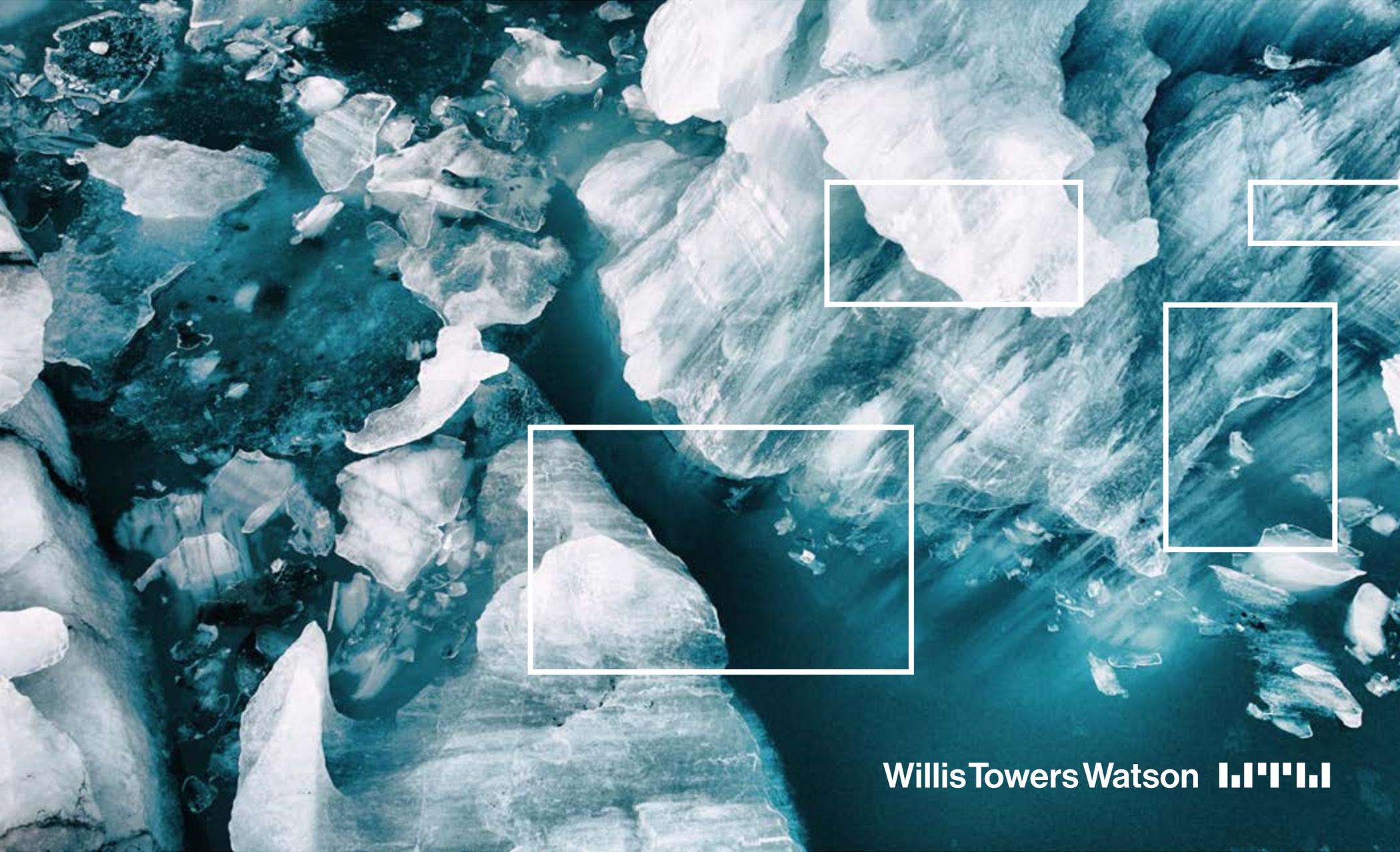


Climate Dashboard



Willis Towers Watson 

Introduction

The global challenge of achieving an orderly transition to a low-carbon, climate-resilient economy is a key source of risk and opportunity for investors and the prominent sustainable investment issue.

This dashboard seeks to help investors monitor:

- What climate pathway we are on currently; and
- How private and public sector action might shift that pathway.

We do this through a traffic light system defined opposite. Currently many of the indicators are flashing red. This implies:

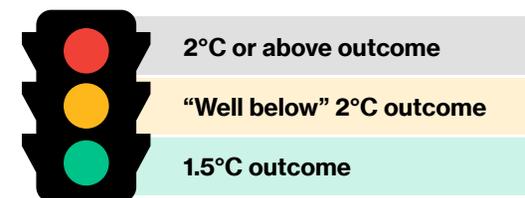
- *If we remain on the current pathway:* material physical risks and asset losses will occur over the long term and will likely be priced into assets over a shorter horizon.
- *If we see material private and/or public sector mitigation actions:* significant transition risks and opportunities will arise.

In either case, investor action is required.

The dashboard is navigable, with more detail underlying the headline indicators shown on the dashboard itself. The scorecard will be updated quarterly.

Key to traffic lights

Indicator is consistent with a



Global temperature rise by 2100 over preindustrial levels.

Color coded indicator banners

- High level temperature and carbon budget trajectories
- Carbon mitigation actions being undertaken by global business
- Investor action
- Government action

Interactive Dashboard

Click on a box for more detail

1. Temperature change under stated policies

 **+2.6°C**

The projected warming (over pre-industrial levels) given the emission simplified by current climate policies and targets.

[Learn more →](#)

2. Well below 2°C carbon budget

 **16%**

The amount of the remaining carbon budget we have used up in the past 3 years, if we are to achieve a well below 2°C outcome.

[Learn more →](#)

3. Decarbonizing power

 **26%**

The current share of global electricity generation from renewables. To achieve a well below 2°C outcome, this needs to reach 38% by 2025 according to the IEA.

[Learn more →](#)

4. Decarbonizing industry

 **>90%**

The decline in the cost of hydrogen produced using renewable energy, which is required to make its use in European steel production economic, given current European carbon prices.

[Learn more →](#)

5. Decarbonizing transport

 **2.7%**

The share of new car sales represented by electric vehicles in 2020. This needs to more than double over the next 5 years to be consistent with a well below 2°C outcome.

[Learn more →](#)

6. Decarbonizing buildings

 **-6%**

The decline in emissions from buildings over 2020, partly driven by the pandemic. To stay on track for a well below 2°C outcome this needs to keep falling at a 3% p.a. pace.

[Learn more →](#)

7. Technology to capture carbon

 **10x**

The approximate increase in carbon capture capacity needed to be consistent with a well below 2°C outcome.

[Learn more →](#)

8. Investor action

 **\$615B**

Total global climate finance flows in 2019. These were significantly short of the c.\$1,600 billion minimum annual flows needed to secure a 1.5°C outcome.

[Learn more →](#)

9. Government policy

 **20%**

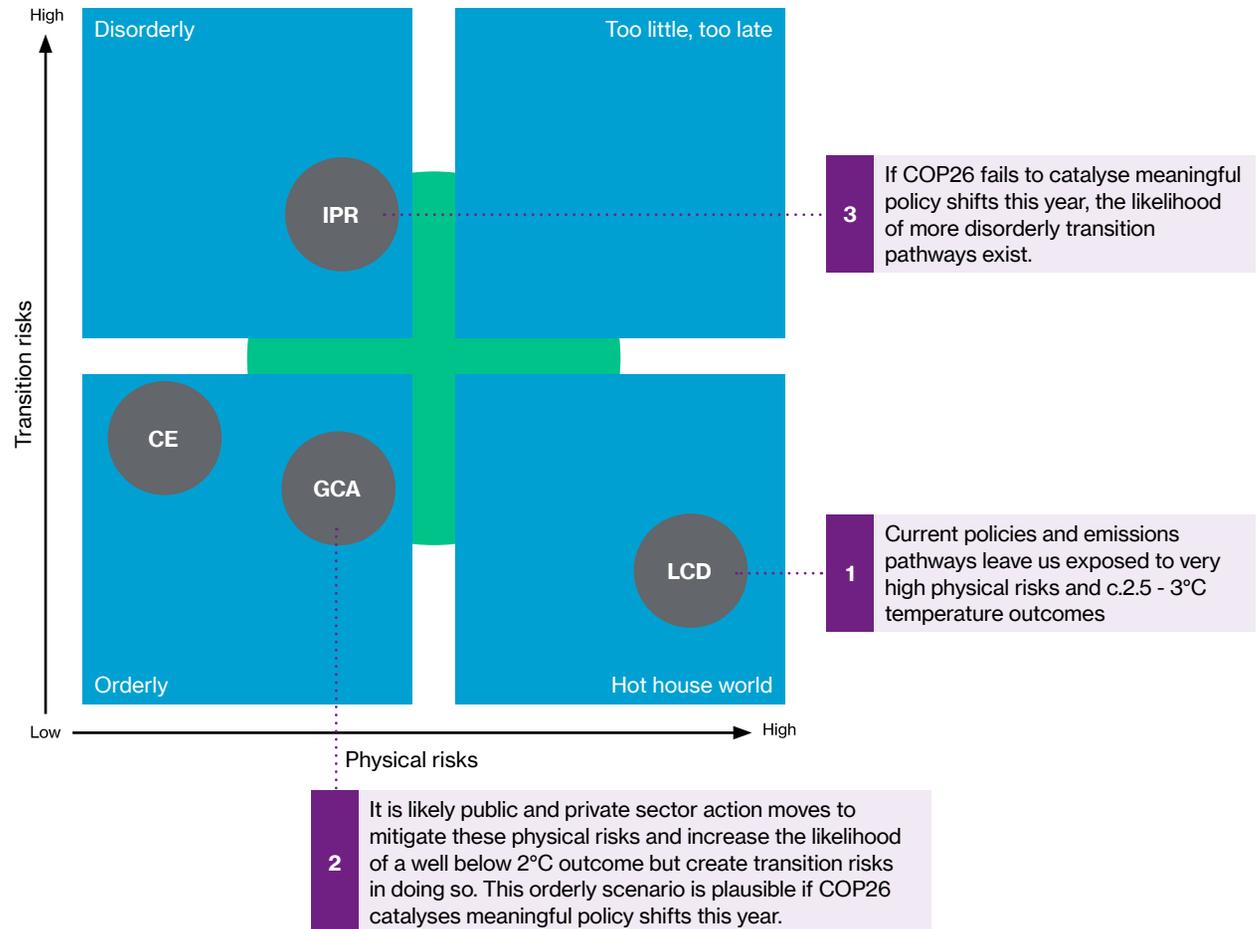
The share of global emissions from countries and US/Australian states with net zero commitments in law or proposed legislation.

[Learn more →](#)

Addendum

This dashboard has focused on monitoring temperature outcomes and associated shifts. We also have specific climate scenarios consistent with those temperature outcomes, which are combinations of assumptions around emissions pathways, climate system dynamics, public and private sector action and associated asset return implications. These are described below - more detail is available on request.

| Scenario | Description |
|-----------------------------------|--|
| Lowest common denominator | A "business as usual" outcome where current policies continue with no further attention to incentivize further emissions reduction. Emissions as well as social, socioeconomic and technological trends do not shift markedly from historical patterns. |
| Inevitable policy response | Delays in taking meaningful policy action result in a rapid policy shift in the mid/late 2020s. Policies are implemented in a somewhat but not completely coordinated manner resulting in a more disorderly, but still just, transition to a low carbon economy. |
| Global coordinated action | Policy makers agree on and immediately implement policies to reduce emissions in a globally coordinated manner. Companies and consumers take the majority of actions available to capture opportunities to reduce emissions. |
| Climate emergency | A more ambitious version of the Global Coordinated Action scenario where more aggressive policy is pursued and more extensive technology shifts are achieved, in particular the deployment of NETs at scale. |



Source: Network for Greening the Financial System, Willis Towers Watson

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Composition

The performance data is an equal weighted composite of total cumulative funded status change of Towers Watson Investment Service's (TWIS) U.S. full plan delegated investment services (DIS) clients for the period presented and limitations below. The composite includes six clients at the outset and fifty-three at the end, with a total of sixty-three over the period. The composite indexes all U.S. DIS clients where TWIS manage the entirety of their assets including U.S. DIS clients where there are constraints on TWIS investment decision making such as the level of liability hedging. It excludes client portfolios where TWIS mandate covers a smaller portion of the portfolio e.g., a single asset-class or return seeking assets only.

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Purpose

The composite cumulative funded status change can be used to give an indication of how investment using a more diversified and risk managed approach, as taken in our U.S. DIS client portfolios, compares to the estimated funded status progress of the average U.S. corporate pension plan based on information published for a number of companies via SEC Form 10-K and aggregated by Willis Towers Watson.

Limitations

Our clients have differing objectives, investment beliefs, valuation methodology and constraints which they place upon us. All of these will feed into the exact portfolio we construct, and therefore the performance that is achieved. However, we believe that such client limitation have not restricted our investment strategy. Additional governance and operational benefits of investing through our DIS service are not captured in this composite. We have not adjusted for differences in cash flows, such as contributions or settlements between our U.S. DIS clients and the average pension plan.

Average pension plan

Based on average asset, PBO benefit payments, contributions, expense, discount rate, and asset allocation information for all U.S. DB pension plans sponsored by U.S. Fortune 1000 companies that provide sufficient data in their SEC Form 10-K (c.300 plans). We have estimated the change in assets for the average plan using average benefit payments and contributions as well as widely used indices in the respective asset classes. We have estimated the change in liabilities for the average plan using average benefit payments, service cost, and interest cost as well as changes in bond yields. Actual benefits payments, contributions, service cost, and interest cost are used for estimates prior to the most recent calibration date; expected figures are used for estimates after the most recent calibration date. We have assumed the modified duration of the average US DB pension plan to be 16 years for the entire sample period.

From December 31, 2011 to December 31, 2019, our estimates for returns and discount rate changes exhibited significant correlation with the actual averages calculated when new annual reports are published. On an annual basis (when 10-K information is published and aggregated), we adjust prior periods for the residual error and recalculate model inputs. The last recalibration was as of December 31, 2019.

Time period

The starting point of December 31, 2011 was driven by the sample size of TWIS-U.S. full plan DIS clients. A year prior, TWIS had two U.S. full plan DIS clients, which we considered to be an unreliable sample size that could easily be skewed by non-investment factors.

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