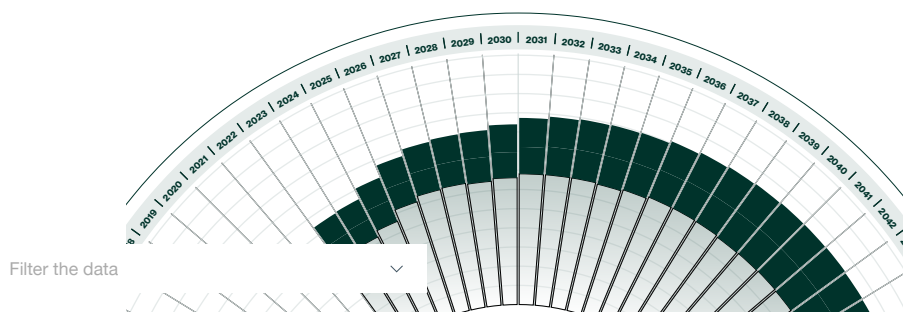
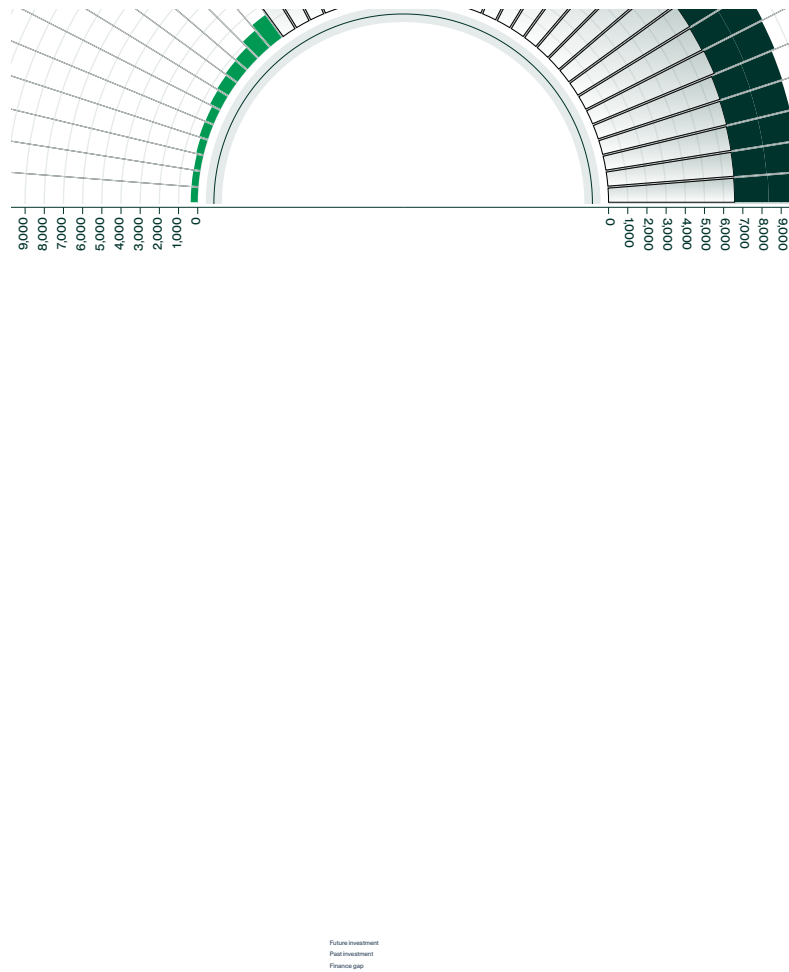


A&amp;O SHEARMAN

ARTICLE

# Climate investment is rising fast – but the financing gap to deliver Net Zero is rising faster



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Our second annual study into the scale of the financing needed to decarbonize the global economy reveals the challenge is bigger than previously thought.

**SUMMARY**

- ▶ Our research shows we are USD6 trillion a year short of what needs to be deployed between now and 2030 to meet Paris climate goals.

- ▶ The sectors with the greatest climate finance needs are energy (USD2.8tn per year between now and 2030); transport (USD1.7tn); agriculture, forestry and other land use (AFOLU) and fisheries (USD1.1tn); and buildings (USD1.1tn). Industry requires the least climate investment of any sector in our study (USD560 billion).
- ▶ Our study provides a guide for policymakers across the world on where to direct their incentive dollars. Against the backdrop of political change in the U.S. and Europe, well-designed policy measures and regulatory frameworks are key to unlocking more investment in Net Zero.

The volume of investment dedicated to reducing emissions is rising faster than at any point in history. Yet the world is falling further behind in the race to deliver Net Zero by 2050.

This is the headline finding from the second annual [Climate Policy Initiative](#)/A&O Shearman study 'How big is the Net Zero financing gap?', which analyzes the differential between the spending committed to climate-positive solutions and the capital needed to decarbonize the global economy across sectors and regions.

We now have access to better quality data than was available when we released our [inaugural study in 2023](#). This, coupled with an improved methodology for calculating climate finance needs estimates from different data sources means our research is more accurate and valuable for investors and policymakers alike.

But as the clarity of our analysis has improved, so has our appreciation of the size of the mountain we need to climb – and the impact of obstacles thrown in our path.

The war in Ukraine and conflict in the Middle East have sparked a rise in low carbon investment in regions focused on energy security while creating uncertainty for leaders of countries that are net energy exporters. Volatile interest rates have added a further challenge to address.

What is undeniable is that spending on clean energy infrastructure is accelerating to the point where the International Energy Agency (IEA) [is expecting demand for fossil fuels to peak in 2030](#).

Investors are increasingly prioritising low carbon projects, and legislative authorities must now redouble their efforts to ensure investment is deployed where it will have the biggest impact on the climate and on development. Climate investment brings significant benefits for emerging markets and developing economies (EMDEs), [from lower and more predictable energy costs to improved sanitation and enhanced food security](#).

Our research presents a clear case to politicians and policymakers that the pace of change needs to increase dramatically if their 2050 objectives are to be achieved. Our research shows that while investment is rising, the challenge is bigger than we thought, and the time available to tackle it is reducing. As COP29 convenes in Azerbaijan, leaders must recognize the responsibility they hold.

## What does our study show?

Our 2024 research reveals that:

- Global climate finance flows hit USD1.46 trillion in 2022. Our previous study noted estimates suggesting that climate investment might top USD1tn in 2022, so to exceed it by such a significant margin despite the ongoing impact of COVID-19, rising inflation, high interest rates and international conflicts is a positive development.

- In particular, mitigation finance flows – which account for 90% of total climate finance – increased to USD 1.3tn in 2022, demonstrating a compound annual growth rate of 20% since 2018. The remaining 10% of total global climate finance flows in 2022 were dedicated to adaptation or cross-cutting objectives.
- Despite these encouraging signs, climate finance flows are still way below the levels needed to achieve the goals of the Paris Agreement. Our research shows that USD7.2tn of climate finance is required annually in an average scenario until 2030 to deliver Net Zero. To put this figure into context, global defence spending hit USD2.4tn in 2023, while combined sales of tobacco and alcohol products worldwide are expected to increase to USD2.1tn by 2029.
- At current rates this represents an annual financing gap of almost USD6tn in an average scenario until 2030, up from the USD5tn we identified last year. However, because our study includes estimates from multiple scenarios based on different assumptions, there is a high degree of variability in our figures. Our needs estimates therefore run from USD6.1tn per year by 2030 at the bottom of the range to USD8.6tn by 2030 at the top, and our annual financing gap over the same period therefore sits between USD5tn and USD7.3tn.
- A further increase in climate investments will be needed beyond 2030. Climate finance flows must increase to an average of USD8.4tn annually between 2031 and 2050, equivalent to a USD7.1tn average financing gap compared to current flows. Here, our low/high estimates vary from USD6.8tn a year to USD10.2tn a year, an annual financing gap of between USD5.5tn and USD8.9tn.
- In addition, these numbers do not include the investment required in adaptation measures, which in emerging markets and developing economies (EMDEs) amount to USD210 billion per year until 2030, and USD240bn per year from 2031-2050 in an average scenario.
- Climate finance investment must therefore be significantly and immediately scaled. We now estimate the cumulative investment required in an average scenario to deliver Net Zero by 2050 to be USD226tn, up from our USD200tn projection last year. But the investment needed to decarbonize the global economy is five times less than the economic losses that will flow from failing to do so.<sup>1</sup>

## How does the financing the gap differ across sectors?

### Energy

- The energy sector has the highest climate mitigation potential<sup>2</sup>. It also attracts more climate finance than any other sector at USD540bn in 2021/22, reflecting the maturity of low-carbon technologies, policy support, and the falling costs of renewable power.
- However, much more is still required. Climate finance flows in 2021/2022 were less than 20% of the USD2.8tn average annual investment needed between now and 2030. (USD2.7tn from 2031-2050) to achieve the Paris goals. This amounts to a financing gap of USD2.2tn per year.
- Needs within the energy sector are dominated by renewable energy (USD1.3tn per year), power grids (electricity transmission and distribution; USD700bn per year), and low emission fuels (including biofuels, green hydrogen and e-fuels; USD240bn per year).

### Agriculture, forestry and other land use (AFOLU); Fisheries

- AFOLU and fisheries attract the lowest volumes of climate finance annually at just USD6bn in 2021/22, despite the sector offering the second highest mitigation potential after energy<sup>3</sup>.
- Here, investment needs are USD1.1tn per year until 2030 and USD1.2tn per year from 2031-2050. an investment gap of more than USD1.1tn per year.
- Less than 1% of the annual average needs for the AFOLU and fisheries sectors were financed in 2021/22.
- 38% of AFOLU and fisheries' needs comprise capacity-building and policy development, followed by crop and livestock systems (29%), and biodiversity, land and marine ecosystems (16%).

### Transport

- Transport, which attracted climate investment of USD350bn per year in 2021/22, requires an average of USD1.7tn per year between now and 2030, and USD2.5tn from 2031-2050 (a financing gap of USD1.4tn per year to 2030 to USD2.1tn per year from

2031-2050). This is the second-highest figure of any sector.

- Needs in the transport sector are concentrated on the electrification of vehicles, which requires USD1.1tn until 2030 and USD2.5tn from 2031-2050. Investment in EV charging infrastructure and energy efficiency measures are also important. These require USD220bn and USD160bn annually until 2050, respectively.

## Buildings

- The buildings sector requires average investment of USD1.1tn per year until 2030 and USD1.4tn from 2031-2050. Climate investment in the sector reached USD250bn in 2021/22, a USD820bn financing gap.

## Industry

- Industry requires the least climate investment of any sector in our study at an average of USD560bn per year until 2030 and USD625bn from 2031-2050.
- Climate finance flows to industry totaled USD25bn in 2021/22, representing just 4% of annual needs and a financing gap of between USD540bn per year until 2030 and USD600bn per year from 2031-2050.
- The primary investment need for industry is energy efficiency, which represents 76% of the sector's total needs (USD460bn annually until 2050).

## A call to arms for policymakers, yet political uncertainty prevails

As our study shows, climate investment is growing at an unprecedented rate and we can expect it to accelerate further. Thanks to higher quality data and better modelling, we now also know that the spending levels needed to deliver Net Zero are larger than we previously imagined.

If the 20% CAGR in climate mitigation finance flows continues, we will be approaching today's annual climate finance target of USD7.2tn in around nine years' time. But for every year climate investment fails to hit the USD7.2tn threshold, the target grows.

The good news is that things have improved since our first study. Next year when our numbers reflect 2023 activity, we will be able to see the impact of the Inflation Reduction Act which research from Princeton shows [has doubled U.S. emissions reductions from 2% to 4% per year](#) - on global investment flows. And technological developments, for example in relation to battery storage or industrial decarbonization, could change the picture once again.

Our study provides a guide for policymakers across the world on where to direct their incentive dollars. Well-designed policy measures and regulatory frameworks are key to unlocking more investment in Net Zero.

We have [examined the lessons that can be drawn from regulatory developments in a variety of contexts](#), including financial markets, emissions trading schemes and infrastructure rollouts, while valuable research has also been conducted into [which policy mixes are the most effective in different scenarios](#).

But businesses and investors are finding it harder to make confident decisions due to the volatility of politics across the West. In particular, Donald Trump's election victory could create some headwinds.

Exactly how the new administration in Washington – and the new European Commission in Brussels – will approach decarbonization will become clearer in the months to come.

By making this data publicly available we hope to focus minds on the scale of the challenges and opportunities that lie ahead, while informing debate about how to accelerate decarbonization and improve climate resilience.

## How are our numbers compiled?

The climate finance flows in our research focus predominately on mitigation efforts and are based on CPI's [2024 Global Landscape of Climate Finance](#), which itself is founded on data from organizations including the International Energy Agency (IEA), the Organization for Economic Cooperation and Development (OECD), Bloomberg New Energy Finance (BNEF), and the Climate Bonds Initiative, among others. As this data is backward-looking, our study tracks climate finance flows through to the end of 2022.

The figures for climate finance needs are generated from [CPI's refreshed assessment model](#). Compared to our 2023 study, these numbers combine aggregate needs estimates from new and updated sources and consider inputs from a wider range of reports.

## Footnotes

1. CPI, 2024. The Cost of Inaction. Available at: <https://www.climatepolicyinitiative.org/the-cost-of-inaction/#:~:text=Broadly%2C%20costs%20of%20inaction%20fall%20into%20two%20categories%3A,negative%20climate%20impacts%20on%20people%20and%20for%20their%20environments>

2. UNEP, Emissions Gap Report 2024: No more hot air... please!, 2024, available at: <https://www.unep.org/resources/emissions-gap-report-2024>

3. UNEP, Emissions Gap Report 2024: No more hot air... please!, 2024, available at: <https://www.unep.org/resources/emissions-gap-report-2024>



Finance

## How big is the Net Zero financing gap 2023?



# | Read our previous analysis

Here you will find the previous 2023 data, report and analysis into the financing needs to achieve Net Zero by 2050.

## Related people

This report was developed by lawyers across our global network with leadership roles in infrastructure, environment, climate & regulatory, international trade, international arbitration, public law, financial services, energy and Consulting.

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