

# Fifty Shades of Green

*The world needs a new, sustainable financial system to stop runaway climate change*

**Mark Carney**



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**THIS YEAR** the threats from climate change spurred demonstrations across the world and prompted the parliaments in the United Kingdom and many other countries to declare a “climate emergency.” These actions occurred against a backdrop of record temperatures across Europe and North America, the worst wildfires ever in the Amazon basin, severe tropical storms in Asia, and sea levels that are rising faster than previously thought.

The human costs are immeasurable.

The financial losses, however, can be measured, and they are significant. Insured losses in 2018 were \$80 billion, double the inflation-adjusted average for the past 30 years.

But protection gaps in low- and middle-income countries mean that even greater costs are being borne by the uninsured. In 2017, a record \$140 billion in insured losses was eclipsed by an additional uninsured \$200 billion. In some of the countries most exposed to climate change—Bangladesh, Egypt, India, Indonesia, Nigeria, the Philippines, and Vietnam—insurance penetration is less than 1 percent.

The potential economic benefits of closing the insurance gap are striking. Lloyd’s of London estimates that a 1 percent rise in insurance penetration can translate

into a 13 percent reduction in uninsured losses and a 20 percent lower disaster recovery burden on taxpayers. Substantial macroeconomic benefits include increased investment, higher output (potentially up to 2 percent of GDP), and greater climate resilience.

A 2018 Intergovernmental Panel on Climate Change report stresses that we have only 12 years left to stop runaway climate change. That is two average business cycles, 12 IMF annual meetings, 48 meetings of the Bank of England’s Financial Policy Committee. But currently the world is moving in the wrong direction: global energy emissions increased 1.7 percent last year. To limit warming to 1.5°C requires a 45 percent decrease by 2030 and net-zero emissions by 2050.

The changes needed to keep warming below 1.5°C are enormous: massive reallocation of capital is needed, which presents unprecedented risks and opportunities. The International Energy Agency estimates that a low-carbon transition could require \$3.5 trillion in energy sector investment every year for decades—twice the current rate. Under the agency’s scenario, in order for carbon to stabilize by 2050, nearly 95 percent of the electricity supply must be low carbon and 70 percent of new cars electric, and the carbon dioxide intensity of the building sector must fall 80 percent.

For markets to anticipate and smooth the transition to a net-zero world, they need the right information; proper risk management; and coherent, credible public policy frameworks.

Here’s how.

## A new finance

A new, sustainable financial system is under construction. It is funding the initiatives and innovations of the private sector and amplifying the effectiveness of governments’ climate policies—it could even accelerate the transition to a low-carbon economy.

Unfortunately, like virtually everything about the response to climate change, this new sustainable financial system is not developing fast enough for the world to reach net zero.

This is the Tragedy of the Horizon. The catastrophic effects of climate change will be felt well beyond the traditional horizons of most actors—imposing a cost on future generations that the current generation has little direct incentive to fix.

To bring climate risks and resilience into the heart of financial decision making, climate disclosure must be comprehensive, climate risk management must be transformed, and sustainable investing must go mainstream.

## Reporting

Catalyzed by the G20 and established by the private sector, the Task Force on Climate-related Financial Disclosures (TCFD) is a comprehensive, practical, and flexible framework for corporate disclosure of climate-related risks and opportunities.

Since the TCFD set out its recommendations for climate-related disclosure, there has been a jump in both the demand and supply of climate reporting.

The demand for TCFD disclosure is now enormous. Current supporters control balance sheets totaling \$120 trillion and include the world's top banks, asset managers, pension funds, insurers, credit-rating agencies, accounting firms, and shareholder advisory services. As a result, companies are much more highly motivated to disclose and manage climate-related risks. Moreover, climate change claimed its first Standard & Poor's 500 bankruptcy last year, and climate-related shareholder resolutions spiked to 90. Investment managers controlling more than 45 percent of global assets under management now back shareholder actions on carbon disclosure, and companies representing over 90 percent of all shareholder advisory services now support the TCFD.

And disclosure is on the rise: four-fifths of the top 1,100 G20 companies now disclose climate-related financial risks as some TCFD recommendations advise. Three-quarters of those who use this information have seen an improvement in the quality of climate disclosure.

The next step is to make disclosure mandatory, as the United Kingdom and European Union have already signaled.

It's time for every country to get involved because the world won't get to net zero if the financial sector doesn't know how our companies are responding. In order to watch, we must be able to see.

Over the next two years, the current process of disclosure by the users of capital, reaction by the suppliers of capital, and adjustment of these standards

will be critical to ensure that the TCFD standards are as comparable, as efficient, and as decision-relevant as possible.

## Risk management

The providers of capital—banks, insurers, and asset managers and those who supervise them—must all achieve better understanding and management of climate-related financial risks.

Changes in climate policies, new technologies, and growing physical risks will prompt reassessment of the value of virtually every financial asset. Firms that align their business models with the transition to a net-zero world will reap handsome rewards. Those that fail to adapt will cease to exist. The longer meaningful adjustment is delayed, the greater the disruption will be.

## Changes in climate policies, new technologies, and growing physical risks will prompt reassessment of the value of virtually every financial asset.

As the supervisor of the world's fourth-largest insurance industry, the Bank of England knows that general insurers and reinsurers are on the front line of management of the physical risks from climate change. Insurers have responded by developing their modeling and forecasting capabilities, improving exposure management, and adapting coverage and pricing.

The Bank of England's latest survey finds that almost three-quarters of banks are starting to treat the risks from climate change like other financial risks—rather than viewing them simply as a corporate social responsibility. Banks have begun to consider the most immediate physical risks to their business models—from the exposure of mortgage books to flood risk to the impact of extreme weather events on sovereign risk. And they are taking steps to assess exposure to transition risks in anticipation of climate action. This includes exposure to carbon-intensive sectors, consumer loans for diesel vehicles, and mortgages for rental properties, given new energy efficiency requirements.

The Bank of England is overhauling its supervisory approach in anticipation of this major shift, setting out our expectations with respect to the following:

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- **Governance:** Firms will be expected to embed the consideration of climate risks fully into governance frameworks, including at the board level, and assign responsibility for oversight of these risks to specific senior managers.
- **Risk management:** Firms must consider climate change in accordance with their board-approved risk appetite.
- **Regular use of scenario analysis:** This is necessary to test strategic resilience.
- **Appropriate disclosure of climate risks:** Firms must develop and maintain methods to evaluate and disclose these risks.

The Bank of England will be the first regulator to stress-test its financial system under various climate pathways, including the catastrophic business-as-usual scenario and the ideal—but still challenging—transition to net zero by 2050 consistent with the UK-legislated objective.

This stress test will bring cutting-edge risk management techniques into the mainstream, and it will make the heart of the global financial system more responsive to changes to both the climate and to government climate policies.

This test will be the first of its kind to integrate climate scenarios with macroeconomic and financial models. The Bank of England will develop the approach in consultation with industry, such as insurers and other informed stakeholders, including experts from the Network of Central Banks and Supervisors for Greening the Financial System—a 48-member group representing jurisdictions that account for half of global emissions.

### **New horizon**

Financial markets increasingly recognize sustainable investment as a new horizon that opens up enormous opportunities ranging from transforming energy to reinventing protein.

With an estimated \$90 trillion in infrastructure investment expected between 2015 and 2030, smart decisions today can ensure investment that is both financially rewarding and environmentally sustainable.

The green bond market offers investors stable, rated, and liquid investments with long duration. For issuers, green bonds are a way to tap the huge \$100 trillion pool of long-term private capital managed by global institutional fixed-income investors. The shift to capital markets from banks will also free up limited bank balance sheet capacity for early-stage project financing and infrastructure lending.

However, while they are important catalysts, specialist investments like green bonds will not be sufficient to finance the transition to a low-carbon future. They accounted for only 3 percent of global bond issuance in 2018.

For sustainable investment to go truly mainstream, it needs to do more than exclude incorrigibly brown industries and finance new, deep-green technologies. Sustainable investing must catalyze and support all companies that are working to shift from brown to green.

Such “tilt” investment strategies, which overweight high environmental, social, and governance (ESG) stocks, and “momentum” investment strategies, which focus on companies that have improved their ESG ratings, have outperformed global benchmarks for close to a decade.

The mainstreaming of such strategies and the tools to pursue them are essential. At present, one of the biggest hurdles to doing so is the inconsistent measurement of ESG. We need a common taxonomy to help financial markets rigorously identify environmental outperformance and direct investment accordingly. The EU green taxonomy and green bond standard are a good start, but they are binary (dark green or brown only).

Eventually asset owners should be able to report the climate pathway of their portfolios.

Mainstreaming sustainable investment calls for a richer taxonomy—50 shades of green.

### **Avoiding a ‘Minsky moment’**

A financial market in the transition to a 1.5°C world is under construction, revealing the likely future cost of business and payment for emissions, but we need to move much faster.

Now it's time for a giant step to bring the reporting, risk management, and return optimization of sustainable finance into everyday financial decision making.

Ultimately, the speed with which the new sustainable financial system develops will be decided by the ambitions of government climate policies.

If more countries turn their Paris commitments into legislated objectives and concrete actions, the financial system will amplify the impact of their efforts by advancing sustainable investments and shutting down unsustainable activity.

Financial policymakers will not drive the transition to a low-carbon economy, but they do have a clear interest in ensuring that the financial system can adapt to changes hastened by those decisions and avoid a climate “Minsky moment.”

Our role is to develop the frameworks for markets to adjust efficiently. The right frameworks will allow feedback between the market and policymaking, so that climate policy is a bit more like monetary policy—policymakers will learn from markets’ reactions, and markets will

internalize policymakers’ objectives, strategies, and instruments.

But the speed with which this market develops will be heavily influenced by the coherence and credibility of climate policies. Finance will complement—and potentially amplify—but never substitute for climate policy action. The policy frameworks with the greatest impact will be time-consistent (not arbitrarily changed); transparent (with clear targets, pricing, and costing); and committed (through treaties, nationally determined contributions, domestic legislation, and consensus).

When countries build their track records and their credibility grows, the market will allocate capital to deliver the necessary innovation and growth and hasten the adjustment to a low-carbon future. The more prolific the reporting, the more robust the risk assessment, and the more widespread the return optimization, the quicker the transition, breaking the Tragedy of the Horizon. **FD**

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**MARK CARNEY** is governor of the Bank of England.

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