

UNUSED TOOLS:
**HOW CENTRAL BANKS ARE
FUELING THE CLIMATE CRISIS**

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EXECUTIVE SUMMARY

Central banks could play a critical role in catalyzing the rapid shift of financial flows away from oil, fossil gas, and coal. However, to date, central banks have instead tinkered at the edges.

With a few isolated exceptions – such as decisions by the French and Swiss central banks to partially exclude coal from their asset portfolios – **central bank activity on carbon pollution and the climate crisis has been limited** primarily to measures to increase financial market transparency.

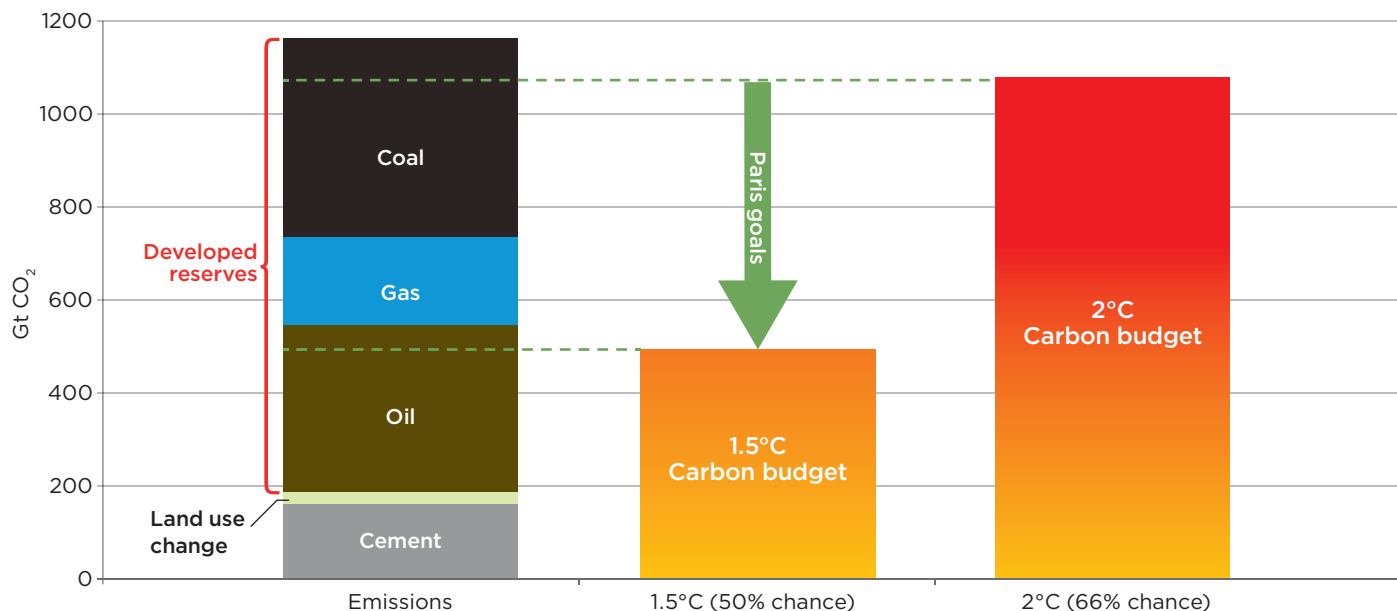
While some central bank executives claim that tackling the climate crisis is beyond their mandates, at the same time **they have positively reinforced fossil fuel financing, and even directly financed fossil fuel production.**

The science is clear. Even the International Energy Agency (IEA) has now acknowledged that to limit warming to 1.5 degrees Celsius (°C) and avoid the worst of the climate crisis, **we must cease all new investment in the expansion of**

oil, gas, and coal supply beyond that already committed now.

Past Oil Change International (OCI) research has shown that **burning only the oil and fossil gas in already-developed fields operating now would exceed a safe emissions budget for 1.5°C**, even if coal use ended overnight. This is shown in figure ES-1:

FIGURE ES-1: CARBON DIOXIDE (CO₂) EMISSIONS FROM DEVELOPED GLOBAL FOSSIL FUEL RESERVES, COMPARED TO CARBON BUDGETS WITHIN RANGE OF THE PARIS GOALS



Sources: Oil Change International analysis based on data from Rystad Energy, IEA, World Energy Council, IPCC and Global Carbon Project.¹ Remaining carbon budgets shown are as of 1 January 2020.



There is growing recognition that **central banks must act to confront the climate crisis**. They have the tools to catalyze and accelerate the end of financing for fossil fuels – through monetary policy,

regulatory action, and excluding fossil fuel assets from their own portfolios.

But, with only limited exceptions, they are not using these tools. This report

identifies 10 criteria for assessing central banks against the Paris Agreement’s objective, and applies them to assess 12 major central banks. Table ES-1 shows the criteria, and Table ES-2 shows the results:

TABLE ES-1: THE CRITERIA

	Topic	Description	Criteria
<i>Asset management</i>		Central banks’ management of funds (that they control) to finance, or restrict finance to, fossil fuels	
1	COVID-19-related asset purchases	Programs for purchasing bonds and other assets launched in 2020 in response to the coronavirus pandemic	Exclude fossil fuels from COVID-19-related asset purchases
2	Other asset management	Pre-COVID-19 “quantitative easing” programs and management of other assets, including foreign exchange reserves	Exclude fossil fuels from all other asset purchases
<i>Rules and support for commercial banks</i>		Central bank actions that limit, or restrict, financing of fossil fuels by commercial banks	
3	Refinancing programs	Programs to boost economic recovery by refinancing commercial bank lending	Make refinancing conditional on fossil fuel exclusions
4	Collateral frameworks and reserves requirements	Rules covering collateral for central banks’ loans to commercial banks, and reserves that commercial banks are required to lodge at the central bank	Discourage fossil fuel finance through reserves requirements and/or collateral frameworks
5	Prudential regulation	Rules covering the capital, and liquidity (i.e., readily-available funds), that commercial banks are required to hold to support their loan portfolios	Address the true risk of fossil fuel production through prudential regulation
6	Credit guidance	Rules applied, or guidance issued, by central banks to commercial banks on lending priorities	Use credit guidance to limit fossil fuel finance
<i>Policy and research</i>		Central bank statements and research and classification activities that could guide policy on fossil fuel finance in future	
7	Disclosure and stress test requirements	Rules about disclosing climate-related risks in loan portfolios, conducting stress tests on financial systems’ ability to weather climate-related crises, and imposing disclosure and stress test requirements on commercial banks	Require disclosures of climate related risks and stress tests
8	Taxonomies and sustainable finance definitions	Classification of economic activities e.g., as sustainable (“green”) or damaging to the climate (“dirty”), to inform financing decisions	Provide robust taxonomies and sustainable finance definitions
9	Research	Research of the scale of risks to the economy and financial system caused by climate change, and of measures to deal with these	Action research that shows the risks posed by fossil fuels
10	Public statements and policy	Statements by senior bank officials on climate policy and the transition away from fossil fuels	Speak out about the need to end fossil fuel finance

TABLE ES-2: HOW THE CENTRAL BANKS MEASURE UP

	Asset management		Rules and support for commercial banks				Policy and research			
Central bank	1. Exclude fossil fuels from COVID-19-related asset purchases	2. Exclude fossil fuels from all other asset purchases	3. Make refinancing conditional on fossil fuel exclusions	4. Discourage fossil fuel finance through reserves requirements and/or collateral frameworks	5. Address the true risk of fossil fuel production through prudential regulation	6. Use credit guidance to limit fossil fuel finance	7. Require disclosures of climate-related risks and stress tests	8. Provide robust taxonomies and sustainable finance definitions	9. Action research that shows the risks posed by fossil fuels	10. Speak out about the need to end fossil fuel finance
Canada		N/A					N/A			
China										
Eurozone						N/A				
France	N/A		N/A			N/A				
Germany	N/A		N/A			N/A				
India	N/A									
Italy	N/A		N/A			N/A				
Japan						N/A				
Russia	N/A									
Switzerland	N/A		N/A			N/A				
U.K.						N/A				
U.S.						N/A				

COLOR CODE FOR RATING CENTRAL BANKS AGAINST CRITERIA

Grossly insufficient	Insufficient	Partially aligned	Close to alignment	Fully aligned	N/A
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Many central banks positively reinforced fossil fuel finance in their responses to the COVID-19 pandemic. Recovery packages mounted by the U.S., U.K., European, and Chinese central banks have all been biased towards fossil fuel finance. Not one of the countries considered in this report has made any effort to tilt central bank responses to the pandemic against fossil fuels.

In summary:

❶ **Canada (Bank of Canada):**

The new Governor of the Bank of Canada, Tiff Macklem, has acknowledged the need to analyze climate risks and to implement disclosure, but the bank has not taken any steps to restrict fossil fuel finance.

❷ **China (People's Bank of China):**

Executives of the People's Bank of China, like Chinese government leaders, have embraced the aims to reach peak

carbon emissions by 2030 and to achieve net-zero emissions by 2060. However, also in line with government policy, the People's Bank of China continues to direct ample financial flows to all fossil fuels, in particular coal.

❸ **European Union (European Central Bank):**

Despite some positive rhetoric, the European Central Bank has continued to support fossil fuel finance.

❹ **France (Banque de France):**

The Banque de France was a prime mover in setting up the Network for Greening the Financial System. It is exiting its coal investments, and has restricted some other fossil fuel investments from its portfolio. But it could go much further.

❺ **Germany (Deutsche Bundesbank):**

Deutsche Bundesbank president Jens

Weidmann remains a proponent of "market neutrality," used by many central banks to justify fossil fuel friendly investment, despite recently championing green investment. The Bundesbank's portfolio management continues to finance fossil fuels.

❻ **India (Reserve Bank of India):**

The Reserve Bank of India pioneered credit guidance to support renewable energy projects. There has been discussion at the bank on other ways of tilting financial flows away from fossil fuels, but the bank has taken no action.

❼ **Italy (Bank of Italy):**

Executives of the Bank of Italy have acknowledged the need to support the transition to a sustainable economy by encouraging green finance. Nevertheless, its assets remain skewed toward fossil fuels.

❶ **Japan (Bank of Japan):**

The governor of the Bank of Japan, Haruhiko Kuroda, has spoken in favor of “realising a green economy” and “deepening debate” on climate-related risk. But the bank’s monetary policy and financial supervision strongly support fossil fuel finance.

❷ **Russia (Central Bank of Russia):**

The Central Bank of Russia, along with the Russian government and other financial supervisory bodies, strongly supports fossil fuel industries as prime movers of the economy.

❸ **Switzerland (Swiss National Bank):**

Swiss National Bank executives have said that its operational activities have been carbon neutral since 2011, but its operational emissions are small compared to the impact of its policies

and investments. It conducted the first environmental impact assessment for banknotes. Ultimately, though, its large asset portfolio remains biased toward fossil fuels.

❹ **United Kingdom (Bank of England):**

The Bank of England made a key contribution to the discussion of central banks’ climate policies through a 2015 speech by its former governor, Mark Carney. But its actions remain tilted toward fossil fuel finance.

❺ **United States (the Federal Reserve):**

In 2020, Federal Reserve executives began to refer to climate risk in speeches. Simultaneously, however, the Federal Reserve worked to maintain and increase fossil fuel finance from the United States, the world’s number one provider of fossil fuel finance.

Since the Paris Agreement was signed, central bank executives have become increasingly outspoken about the need for their institutions to address the climate emergency.

But nothing that central banks have done to date has made any difference to the scale on which finance flowed to fossil fuel production. Central banks have the tools to stem fossil fuel finance, but they have not used them.

To limit warming to 1.5°C and achieve the objective of the Paris Agreement, the world needs a managed decline of fossil fuel production – starting now.



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INTRODUCTION

Central banks could play a critical role in catalyzing the rapid shift of financial flows away from oil, fossil gas, and coal, and toward the zero-carbon solutions required to confront the climate crisis. To date, however, central banks have at best tinkered at the edges, and at worst tipped the scales in favor of fossil fuels.

This report considers measures taken by 12 of the world's most influential central banks that either support or hinder the ongoing transition away from fossil fuels, and assesses how these recent actions and policies compare to what is required to meet the Paris Agreement's objectives.

In signing and ratifying the Paris Agreement, governments agreed to pursue efforts to keep global temperatures from exceeding 1.5°C above pre-industrial levels.² This requires a managed decline in fossil fuel production and use. Limiting warming to 1.5°C requires not only a transition to clean energy before 2050, but also a transition away from fossil fuels. As the International Energy Agency (IEA) has acknowledged, there is no room in a 1.5°C-aligned pathway for further investment in new fossil fuel production beyond that already committed now.³

It is past time for governments, financial institutions, and investors to stop funding fossils.

Central banks have, or could have, crucial tools to catalyze the end of fossil fuel finance. These banks' mandates and functions vary from country to country and have changed over time, but typically they are responsible for:

- monetary policy (the supply of money and credit to the economy);
- the stability of the financial system; and
- supervising commercial banks and other financial institutions.

In each of these roles, central banks could act to manage the decline in fossil fuels. They could:



- exclude fossil fuel assets from their own portfolios;
- regulate to increase the cost of commercial banks lending to fossil fuel producers, including making such lending prohibitively expensive, or even expressly restrict such lending; and
- help to address the financial system's failure to price in climate risks.

These measures would shift financial flows away from oil, gas, and coal and toward zero-carbon solutions. Shifting these financial flows is necessary to facilitate a managed decline of fossil fuel production.

Action by central banks must complement government action. Central bank actions are not a substitute for government policy, regulation, or price mechanisms. Indeed, some of the most effective potential

actions by central banks would require changes in some of their mandates. Others would require a reinterpretation of central banks' roles, analogous to changes made in response to the 2008-09 financial crisis and the coronavirus pandemic that began in 2020.⁴

But there are also many actions that central banks could take now, which they have not yet pursued.

Ultimately, to limit warming this century to less than 1.5°C above pre-industrial levels, governments will not only need to end financing for fossil fuels, but must also implement policies that phase these fuels out in a predictable and people-centered way that aligns with the Paris Agreement. To “build back better,” global finance must break free of the unstable boom-bust cycles of fossil fuel extraction.

WHAT THIS REPORT COVERS

This report outlines the need for a managed decline in fossil fuel production and the role that central banks could play in catalyzing this. It then sets out a 10-point framework for assessing central banks in relation to fossil fuel production and the climate crisis, and applies that framework to these 12 major central banks:

- ❶ Canada (Bank of Canada)
- ❷ China (People's Bank of China)
- ❸ European Union (European Central Bank)
- ❹ France (Banque de France)
- ❺ Germany (Deutsche Bundesbank)
- ❻ India (Reserve Bank of India)
- ❼ Italy (Bank of Italy)
- ❽ Japan (Bank of Japan)
- ❾ Russia (Central Bank of Russia)
- ❿ Switzerland (Swiss National Bank)
- ⓫ United Kingdom (Bank of England)
- ⓬ United States (the Federal Reserve)

Each of these central banks is particularly important to consider. The European Central Bank is critical because it undertakes monetary policy functions for the entire eurozone and is one of the world's largest central banks. The central banks of the G7 countries (France, Germany and Italy within the eurozone, and the U.S., the U.K., Canada, and Japan outside it) are significant due to the size of their economies. The Swiss National Bank is relevant both because of the vast size of its portfolio and because of Switzerland's disproportionate role in the world financial



system. The central banks of three other major fossil fuel producers or consumers are also critical: China (the biggest fossil fuel producer and consumer), India (the second-biggest fossil fuel consumer in the Global South, after China), and Russia (the third-biggest fossil fuel producer, after the U.S. and China).⁵

NOTES ON METHODOLOGY

CENTRAL BANKS' MANDATES VARY AND MAY NEED TO CHANGE

Central banks' mandates vary from country to country. In some jurisdictions, alternative government entities do things that other jurisdictions mandate their central banks to do. Consequently, this report focuses on the results produced by monetary and financial policy, however those are implemented. We have referred to non-central-bank agencies and to governments, where relevant.

Some key issues, such as the extent to which central banks may direct monetary policy in line with climate policy, may require changes in some central banks' mandates. A range of civil society organizations and think tanks have

considered how these mandates could or should be changed.⁶ This report does not address these issues in detail.

WE HAVE NOT RANKED CENTRAL BANKS AGAINST ONE ANOTHER

Neither in the text nor in the assessment do we make any attempt to rank central banks' climate records relative to one another. Instead, this report compares the banks' actions to what is required to achieve the Paris Agreement's objective.

OUR DEFINITION OF FOSSIL FUEL FINANCE

In this report, we define “fossil fuel finance” broadly. It is any and all finance for the oil, gas, and coal sectors, including access, exploration and appraisal, development, extraction, preparation, transport, plant construction and operation, distribution, and decommissioning. It also includes energy efficiency projects in which the energy source(s) involved are primarily fossil fuels.⁷ It also includes finance for fossil fuel intensive sectors, such as aviation, that is not conditional on Paris-aligned emissions reduction targets.⁸

1. CENTRAL BANKS CAN AND SHOULD ACT ON FOSSIL FUEL FINANCING

LIMITING WARMING TO 1.5°C DEMANDS A MANAGED DECLINE IN FOSSIL FUEL PRODUCTION – AND AN END TO FOSSIL FUEL FINANCE

Cumulative carbon dioxide (CO₂) emissions over time will determine roughly how much average global temperatures will rise. To keep warming within any particular limit – all else being equal – there is a maximum amount of CO₂ that may be emitted. This is the world's carbon budget.

The Intergovernmental Panel on Climate Change's (IPCC) 2018 *Special Report on Global Warming of 1.5 Degrees* highlighted the critical importance of limiting warming to 1.5°C, which would significantly reduce climate impacts on communities made vulnerable by geography or structural oppression, and would reduce risks of systemic collapse.⁹ It also showed that cutting carbon pollution this decade – reducing global CO₂ emissions in half by 2030 – is critical if we are to stay within the 1.5°C limit.^{9,10}

In May 2021, the IEA released its first full-fledged scenario aligned with the goal of limiting warming to 1.5°C. In this scenario, the IEA states:¹¹

“Beyond projects already committed as of 2021, there are no new oil and gas fields approved for development in our pathway, and no new coal mines or mine extensions are required.”

Consequently, the IEA finds:

“There is no need for investment in new fossil fuel supply in our net zero pathway.”

These conclusions are particularly striking because the Organisation for Economic Co-operation and Development (OECD) founded the IEA in 1974 in response to the 1973 oil crisis, with an express purpose of ensuring a secure supply of oil and fossil gas for OECD member nations.¹²

Previous OCI research compared global carbon budgets to the CO₂ emissions from

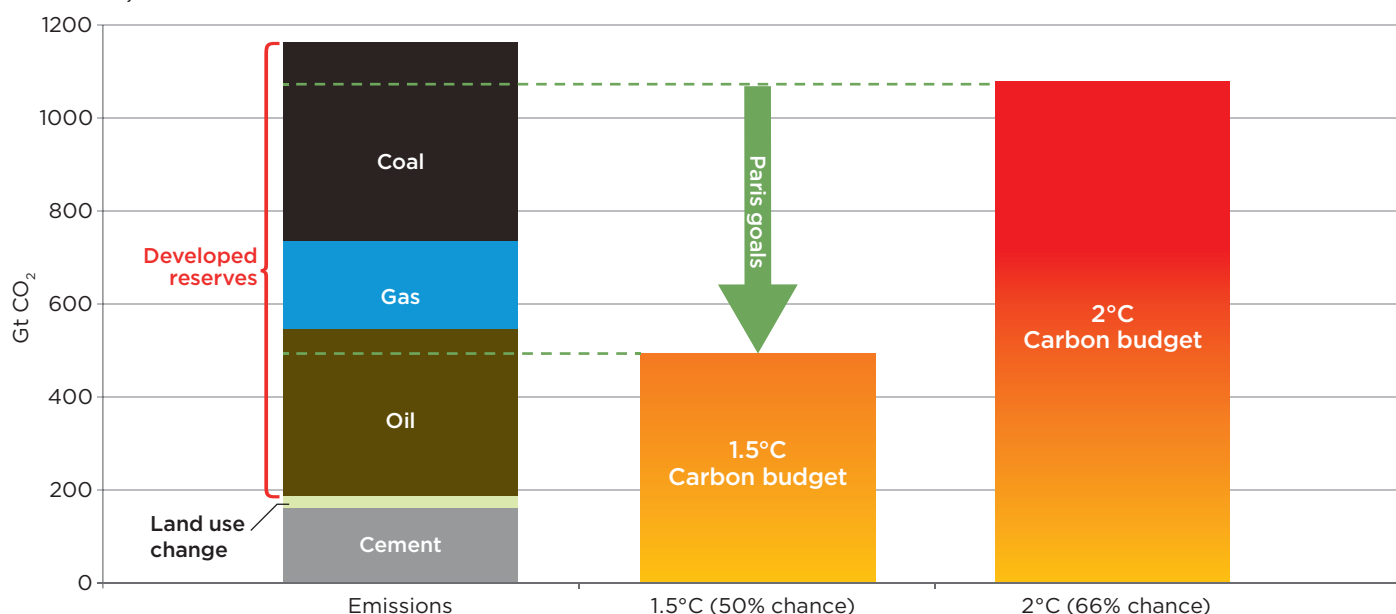
fossil fuels in already-operating fields and mines.¹³ Figure 1 displays a summary of this research, and shows:

- ❶ The oil, gas, and coal in existing fields and mines would push average global temperature rise far beyond 1.5°C, and exceed even a 2°C carbon budget.
- ❷ If global coal use ended overnight, already-developed oil and gas reserves would still push the world beyond 1.5°C.

These developed reserves are in projects that are already operating now. The infrastructure has already been built, the capital has been invested, and workers have been employed. This creates “carbon lock-in,” making it more difficult, both politically and economically, to limit extraction from these projects relative to those not yet built.¹⁵ Other analyses have reached similar findings.¹⁶

The Stockholm Environment Institute and United Nations Environment Program's

FIGURE 1: CARBON DIOXIDE (CO₂) EMISSIONS FROM DEVELOPED GLOBAL FOSSIL FUEL RESERVES, COMPARED TO CARBON BUDGETS WITHIN RANGE OF THE PARIS GOALS



Sources: Oil Change International analysis based on data from Rystad Energy, IEA, World Energy Council, IPCC and Global Carbon Project.¹⁴ Remaining carbon budgets shown are as of 1 January 2020.

a The IPCC has found that CO₂ emissions must fall 45 percent below 2010 levels; that amounts to more than 50 percent below 2019 levels.

2020 *Production Gap Report* finds that governments currently plan to produce 120 percent more fossil fuels by 2030 than would be consistent with a 1.5°C pathway (and about 50 percent more than would be consistent with a 2°C pathway).¹⁷

Continued investment in fossil fuels now creates future society-wide risks. Private and public investors will either face stranded asset risks as decarbonization efforts scale up (including, but not limited to, transition and legal risks), or these investors' overinvestment will result in severe climate impacts from excess CO₂ emissions that will bring about shocks to the entire economy (physical risk).¹⁸ The industry has indeed already begun to show signs of systemic financial risk, manifested as poor stock market performance and massive accumulations of debt, among other metrics.¹⁹

Article 2.1(c) of the Paris Agreement calls for aligning financial flows with a pathway toward low greenhouse gas emissions and

climate-resilient development. This will require cutting off all finance for fossil fuel expansion as soon as possible.^b

However, despite all of this, the volume of finance flowing to fossil fuel production and infrastructure has continued to grow in the five years since the Paris Agreement was signed.

During the period from 2016 to 2020, the world's 60 largest banks (which are generally regulated by central banks) poured USD 3.8 trillion into fossil fuels (including lending, underwriting of debt, and equity issuance).^{c,20} This financing fell by nine percent in 2020, largely due to the COVID-19 pandemic – but in that year, it was still higher than in 2016.²¹ There is a very real risk that it will continue to rise throughout the 2020s.

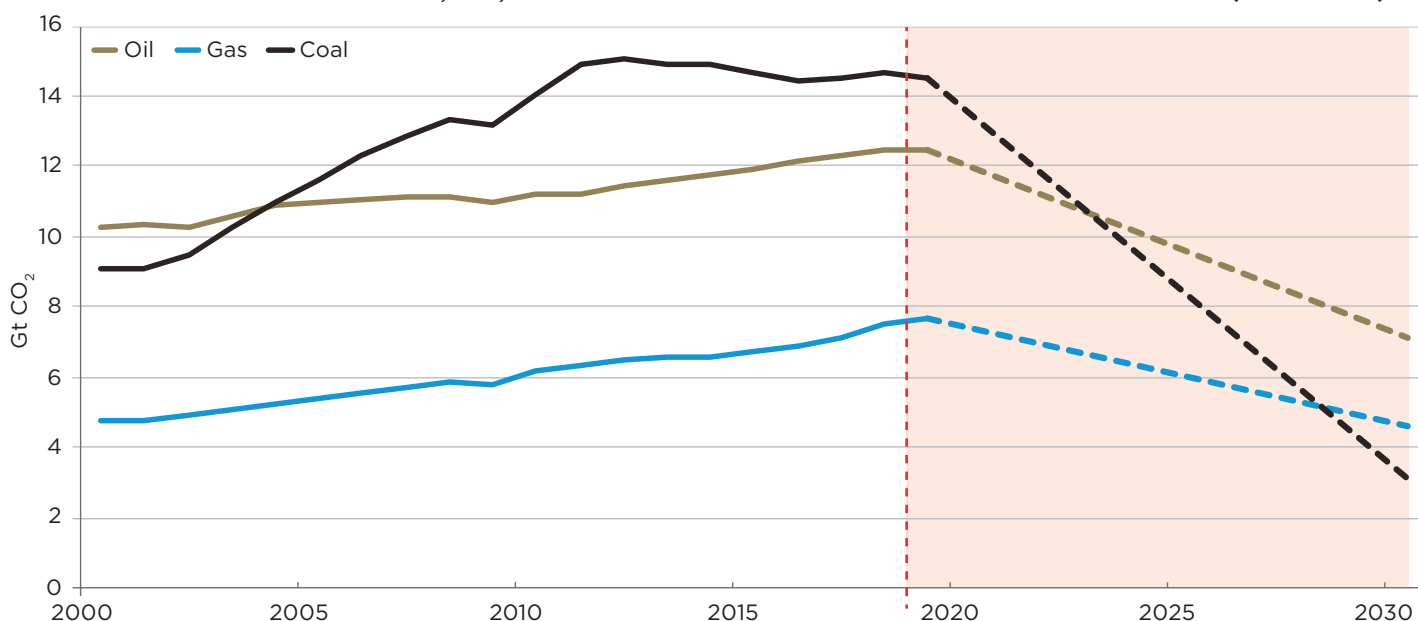
This finance is largely devoted to further expanding fossil fuel industries. Most of the largest oil companies intend to expand their output in this decade, and

none of their strategies align with the Paris Agreement.²² Capital expenditure on developing new oil and gas fields in the 2020s could still exceed USD 2.5 trillion, even after considering the pandemic and related oil price decline.²³

Commercial banks' support for the coal industry has also increased. While direct lending has trended downward after spiking in 2017, underwriting of coal industry shares and bonds has continued to grow, and total financing reached USD 543 billion in 2019, up from USD 491 billion in 2016. Although coal expansion is centered in China, commercial coal finance is led by G7 countries: research from the environmental non-profit Urgewald shows the top three sources of bank-lending to coal companies between October 2018 and October 2020 were Japan (USD 76 billion), the U.S. (USD 68 billion) and the U.K. (USD 22 billion).²⁴

It is too late to phase out one fossil fuel at a time. While an ambitious global coal

FIGURE 2: PROJECTED DECLINE OF OIL, GAS, AND COAL EMISSIONS THIS DECADE TO LIMIT WARMING TO 1.5°C (P1 PATHWAY)



Sources: Carbon Brief analysis of data from IPCC SR15 and Global Carbon Project.²⁶

^b There are very limited scenarios in which continued finance for fossil fuel infrastructure may be necessary, such as in decommissioning existing wells or maintaining existing pipelines to prevent growth in methane leakage.

^c Throughout this report, we have used the short scale numbering convention common in the U.S., U.K., and other English-speaking nations, rather than the long scale numbering convention used in much of continental Europe. That is, one billion refers to 10⁹ (not 10¹²) and one trillion refers to 10¹² (not 10¹⁵).

phase-out is critical, oil and gas production and use – together the largest source of global CO₂ emissions – must also fall significantly within this decade.

This is especially true if we are to avoid large-scale reliance on unproven CO₂ removal technologies, which the IPCC calls “a major risk in the ability to limit warming to 1.5°C.”²⁵ Figure 2 shows the decline in oil, gas, and coal emissions needed by 2030 in the most precautionary illustrative pathway (P1) featured in the IPCC *Special Report on Global Warming of 1.5 Degrees*.^d

CENTRAL BANKS MUST TACKLE CARBON POLLUTION

Central banks have a critical role to play in ending fossil fuel finance, and thus confronting the climate crisis. Broadly speaking, there are two schools of thought about central banks’ role in tackling climate change – by either analysis, central banks have a crucial role to play. This may require further changes to their evolving roles.

The first school of thought is that central banks both can and must expand their role, given the nature of the climate emergency. Limiting warming to below 1.5°C will require a global economic transformation of unprecedented scale and almost unprecedented pace.²⁷ All parts of the economy, including the finance sector, must change, and central banks, as regulators of the financial system, must intervene proactively to facilitate and accelerate this transition. Several civil society organizations have argued that central banks have not only failed to adequately use their existing monetary and regulatory tools to address the climate crisis, but also that central banks’ mandates should be extended where necessary to allow or even compel them to do so.²⁸ Economic historian Adam Tooze similarly argued in *Foreign Policy* that the problem is not, as some claimed, that “favoring green bonds would induce bias,” but that such a bias “might still not be sufficient to address the urgency of the climate crisis”: a decarbonization drive should be financed through the issuance of long-term debts, and central banks should act as buyers of last resort to support that push.²⁹ University of California, Berkeley

economist Barry Eichengreen pointed out that central banks themselves had departed from their traditional functions to address the COVID-19 crisis, and could continue on that path.³⁰ By this analysis, central banks must expand their roles to confront the climate crisis.

The second, arguably more conservative, school of thought argues that central banks must respond to the climate crisis to the extent that it threatens or will threaten financial stability. There are a wide range of climate-related risks that threaten the financial system individually or cumulatively. Central banks have defined and categorized climate-related risks as:

- ❶ *physical risks*, like the impact of climate- and weather-related events on insurers and the value of companies;
- ❷ *liability risks*, such as the effect of compensation claims against companies held responsible for climate change; and
- ❸ *transition risks*, notably including the loss of value by companies whose businesses are left behind by the transition as stranded assets.³¹

To the extent that central banks’ mandates require them to preserve financial stability, they must therefore address these climate-related risks.

This view is becoming widespread among central bank executives, who have begun to acknowledge that their institutions must respond to the climate crisis. An influential voice is that of Mark Carney, then-governor of the Bank of England, who argued in a pivotal speech in the run-up to the Paris conference in 2015 that – because it may be too late to act by the time that climate change directly threatens financial stability – pre-emptive action must be considered.³²

However, within this school of thought, there is a fierce debate among central bankers regarding how much, and what, central banks should do. Isabel Schnabel, a member of the European Central Bank (ECB) executive board, has stated that climate change results in part from “market failure,” and that “market neutrality” cannot therefore be

the appropriate framework for dealing with it.³³ In contrast, Carney spoke against direct interventions, such as changing prudential rules to support the transition to a low-carbon economy, and called for central banks to “help the market itself to adjust efficiently.”³⁴ He urged that central banks should require standardized disclosure of banks’ and companies’ greenhouse gas footprints, and that they should require stress-testing of climate-related risks to individual companies and the financial system as a whole.³⁵ Dr. Jens Weidmann, president of the Deutsche Bundesbank, has particularly underlined that the function of a central bank is to implement monetary policy (by controlling inflation) and safeguard financial stability, and that addressing wider societal issues would detract from these core tasks. Dr. Weidmann has warned that using monetary policy to constrain carbon-intensive investment is a false substitute for governments imposing a price or tax on carbon emissions.³⁶

However, while carbon pricing may contribute to reducing the demand for fossil fuels, it will not be sufficient on its own. As Dr. Weidmann himself noted in June 2021, “Tackling the climate crisis is one of the greatest challenges of our time and requires changes throughout the economy. Its urgency increases with every minute that passes.”³⁷

To achieve the unprecedented global economic transformation necessary to keep warming below 1.5°C, all effective tools must be used – especially if this is to be an orderly, just, people-centered transition. Central banks cannot watch from the sidelines.

In particular, central banks can play a crucial role in choking off fossil fuel finance. A failure to stop the flow of finance to fossil fuels – and, in particular, to prevent new investment in oil, gas, and coal production – poses a growing threat to financial stability, increasing stranded asset risks. Demand- and supply-side measures must work together.³⁸ For an orderly, equitable transition to be at all possible, governments need to act to manage the decline in fossil fuel production at the same time as implementing measures (such as carbon

d The IPCC’s 2018 report included four illustrative 1.5°C pathways. The most precautionary (P1) avoids reliance on bioenergy with carbon capture and storage, a technology created within climate models that is untested at scale and faces significant feasibility constraints. The Carbon Brief analysis shown in Figure 2 indicates that to cut emissions in line with the IPCC’s P1 illustrative pathway, relative to 2019 levels:

❶ CO₂ emissions from oil must fall by 44 percent by 2030;

❷ CO₂ emissions from gas must fall by 39 percent by 2030.

The oil and gas decline would need to be even faster if the extremely rapid coal phase-out assumed (nearly 80 percent by 2030) proves infeasible.

pricing) to reduce the demand for fossil fuels. Central banks must play a part in managing the decline of fossil fuel finance and facilitating this transition. This is not only necessary for financial stability, but also for limiting warming to 1.5°C.

In the face of the climate crisis and the urgent need for a transition of unprecedented scale, central banks must use all the tools available. Where necessary, their role should be expanded. There are many precedents for central banks' roles changing or expanding to confront crises. A change of function in the face of a global emergency is not a departure from the norm: Central banks departed from their narrowly-defined roles in responses to the 2008-09 financial crisis and the coronavirus pandemic.

The reality is that central banks' roles have changed frequently throughout their histories. The Bank of England, the world's dominant central bank in the 18th and 19th centuries, assumed its role initially to finance the state's wars and colonial expansion.³⁹ In the early 20th century a multilateral system of central banks emerged, but this broke down in 1930 with the collapse of the gold standard and the Great Depression. For four decades after that, in most of the dominant economies, governments decided monetary policy; the central banks' chief function was to finance state debt – and, from 1940 to 1945, to finance war.

The Bretton Woods monetary regime established after the war, based on a fixed link between the U.S. dollar and gold, lasted until the 1970s. It was the neoliberal era that followed that gave rise to the ideological aversion to state intervention, and the related notions of central bank independence and monetarist focus on inflation targets. The globalization of financial markets transformed banking regulation. But this stage in the history of central banks and of the whole financial

BOX 1: EXISTING CENTRAL BANK CLIMATE PARTNERSHIPS

The reaction so far by central banks to the climate crisis has been modest in comparison to both these past role changes and the scale and pace of transformation needed to confront the climate crisis. It has centered on the establishment of two international bodies: the Task Force on Climate-related Financial Disclosures (TCFD) and the Network for Greening the Financial System (NGFS).

The Financial Stability Board set up by the G20 nations in 2015 established TCFD, which has issued recommendations to banks and companies on how they should disclose climate-related risks.⁴¹

In 2017, eight central banks set up the NGFS to coordinate approaches to climate risk. In 2019, NGFS issued a "Call for Action," which recommended integrating climate-related risk assessment into both financial stability measures and supervision, internationally-recognized disclosure standards, and a taxonomy (i.e., standard classification for rating purposes) of green and low-carbon economic activities.⁴² More than 90 central banks and supervisory bodies have now joined NGFS.⁴³

While NGFS's work is a welcome contribution to efforts to address climate-related risk in the financial sector, it is clear that – like some other international bodies and national governments – it is in danger of underestimating the scale of the challenge. This is evident in the scenarios it publishes, aimed at providing a starting point for analyzing climate risks.

Previous OCI research found that the NGFS climate scenarios released in 2020 steer climate action toward slower, and therefore riskier, pathways.⁴⁴ Since that analysis, NGFS has released new scenarios, centered on 1.5°C. However, these scenarios still do not align with 1.5°C-compatible trajectories for fossil fuel production. Further, despite some changes in framing, these scenarios still rely on dangerous levels of biomass burning and still rely heavily on the presumed use of carbon dioxide removal (CDR). Carbon capture and storage (often abbreviated as CCS) is at the very center of NGFS's net zero scenarios, even where those are labelled as "limited CDR" scenarios.⁴⁵

system ended with the financial crash of 2008-09. The expansion of money supply, led by the U.S. Federal Reserve ("quantitative easing"), destroyed previous assumptions about the limits on central banks' activity. In 2020, the pandemic rescue packages put forth by economically dominant countries went further along that path.⁴⁰

A failure to act to limit warming to 1.5°C would result in unprecedented social, economic, health, and ecological crises worldwide. Embracing and, where necessary, expanding central banks' powers to support the managed decline of fossil fuels is both necessary and possible.

2. SETTING A BASELINE: 10 CRITERIA FOR ASSESSING CENTRAL BANKS IN RELATION TO FOSSIL FUEL PRODUCTION AND THE CLIMATE CRISIS

This section puts forward 10 baseline criteria for assessing central banks' performance in relation to the climate crisis.

Central banks' power resides ultimately in the relationship between the bank and the state (the authority granted to banks under legal systems), and their financial assets. To assess the ways in which they use, or could use, this power with respect to fossil fuel finance, we have singled out three aspects of their functions:

1. *Asset management*: central banks' management of funds that they control to finance, or restrict finance to, fossil fuels;
2. *Rules and support for commercial banks*: central bank actions that support or restrict financing of fossil fuels by commercial banks; and
3. *Policy and research*: central bank statements and research and classification activities that could guide policy on fossil fuel finance in the future.

In some jurisdictions, some of these functions are undertaken by other state or non-state entities. This complicates the analysis. For example, supervision and regulation of commercial banks in many countries is divided between the central bank and other regulatory agencies, and this division is not the same in all

those countries. National and EU-wide regulatory systems working together is an additional complication in the eurozone. In this report we focus on the three aspects set out above, mentioning non-central bank institutions where they are relevant to these functions.

ASSET MANAGEMENT

OVERVIEW

Central banks' asset management could be a critical tool in accelerating the end of finance for fossil fuels and the transition to clean, renewable energy.

Typically, central bank assets comprise:

- government bonds (i.e., promises by the government to repay loans);
- foreign exchange reserves;
- gold reserves; and
- loans to banks.

Some central banks also hold some corporate bonds and equities.

Central banks' typical liabilities are money in two forms: bank notes in circulation, and commercial banks' reserves, which are held at the central bank. In addition, some issue money in other forms, such as repurchase contracts (often abbreviated as "repos"). Finally, some central banks also hold government deposits as liabilities.

1) EXCLUDE FOSSIL FUELS FROM COVID-19-RELATED ASSET PURCHASES

It is critical to consider the effect **COVID-19-related asset purchases** have had on central banks' fossil fuel investments. This is particularly important because some central banks are now significant direct investors in fossil fuel companies and fossil fuel intensive economic sectors.

Many central banks' COVID-19 pandemic responses included a major round of asset purchases. In particular, asset purchase programs by the U.S. Federal Reserve, the Bank of England, and the ECB disproportionately benefited fossil fuel production and infrastructure.⁴⁶ The Japanese and Swiss central banks did not undertake large-scale asset purchases, but did build upon pre-pandemic monetary policies that were already skewed in favor of fossil fuel financing.⁴⁷ The Chinese central bank, which coordinated its pandemic response closely with the government and with state-owned banks, facilitated a new wave of investment in coal.⁴⁸

For a central bank to be aligned with the Paris Agreement, it would need to have, at a minimum, excluded finance for fossil fuel production or new fossil fuel infrastructure in its pandemic response. Any central bank finance for fossil fuel intensive consumption in response to the pandemic would need to be coupled with stringent conditions.^e

^e It is at least arguable that some sectors, such as aviation, are currently inherently unsustainable, and cannot be made to align with limiting warming to 1.5°C. There are debates about whether any conditions could be sufficient to align finance for these industries with the Paris Agreement. However, this report focuses primarily on supply-side measures.

2) EXCLUDE FOSSIL FUELS FROM ALL OTHER ASSET PURCHASES

Central banks' **other asset management** (that is, their management of assets unrelated to the pandemic) could play a key role in addressing the climate crisis. This includes aspects of both pre-pandemic quantitative easing and the management of central banks' foreign exchange reserve holdings.^f This is another way that central banks could channel finance toward the clean energy transition. To date, however, they have instead often financed fossil fuels.

In response to the 2008-09 banking crisis and the 2010-12 eurozone crisis, many central banks undertook quantitative easing, creating new money on the liability side. This was balanced out on the asset side by increases in the proportion of loans to banks (including in the form of bond purchases), and in some cases corporate bonds and equities.

Because the sums involved in central banks' asset purchases are so large, directing even a small proportion to fossil fuel financing provides substantial support for those industries. For example, research by the New Economics Foundation (NEF) published shortly before the COVID-19 pandemic found that the balance sheets of just six of the world's major central banks amounted to about USD 20 trillion, of which at least USD 627 billion was held in equities and corporate bonds – and it estimated that around two percent of this (USD 12 billion) could be linked to assets related to coal.^g It is not feasible with existing data to calculate a similar figure for oil and fossil gas.^h

For a central bank to be aligned with the Paris Agreement, it would need, at a minimum, to exclude finance for fossil fuel production or new fossil fuel infrastructure from its asset purchases.

One key exception to this criteria would be where a central bank or other government entity acquired a controlling ownership stake in a fossil fuel company in order to bring that company into public ownership as part of a strategy to manage the decline of oil, gas and coal while safeguarding long-term economic security for workers, avoiding taxpayer-funded windfalls

for fossil fuel executives, and restoring communities exploited by fossil fuel corporations. However, not one of the central banks considered has taken such a step.⁵⁰

RULES AND SUPPORT FOR COMMERCIAL BANKS

OVERVIEW

Most central banks do a combination of supervising and regulating their jurisdictions' commercial banks. This means that central banks can use several levers to make fossil fuel financing expensive in their jurisdiction – even prohibitively so. Civil society organizations, especially in Europe, have advocated this kind of regulation.⁵¹

3) MAKE REFINANCING CONDITIONAL ON FOSSIL FUEL EXCLUSIONS

Some central banks' pandemic responses have included **refinancing programs** for banks, creating new avenues for banks to finance fossil fuels.

The ECB's bank refinancing program, in particular, has skewed toward financing fossil fuels.⁵² Recent refinancing schemes by the U.S. Federal Reserve and the Bank of England have also failed to take into account climate risks or transition objectives.

Making refinancing programs conditional on fossil fuel exclusions would disincentivize commercial banks from financing oil, gas, or coal production and infrastructure.

4) DISCOURAGE FOSSIL FUEL FINANCE THROUGH RESERVES REQUIREMENTS AND/OR COLLATERAL FRAMEWORKS

Some of the most powerful potential levers are monetary policy instruments (i.e., methods of controlling the supply, through banks, of money to the economy): **reserves requirements and collateral frameworks**.

Reserves are the cash held by a bank, and the bank's deposits held at the central bank.^{h,53} Reserves requirements are requirements that commercial banks hold a certain percentage of their funds as reserves. They are rarely used in rich

countries – but they could be, and they could be differentiated according to the proportion of fossil fuel assets (or, alternatively, green assets) in a bank's portfolio. Fossil fuels pose a threat to financial stability, and are an inherently and increasingly risky investment. Consequently, it is arguable that the more a bank invests in fossil fuels, the more it should be required to hold in reserve. This would disincentivize fossil fuel finance.

There are partial precedents for this approach. The Lebanese central bank reduces banks' reserve requirements by a sum equivalent to 100 to 150 percent of the loan for eligible "green" loans.⁵⁴ The converse approach could also be used, increasing reserve requirements for fossil fuel finance, or implementing such requirements where they do not already exist.

Collateral frameworks determine what assets central banks will accept as collateral when they lend to commercial banks. Central banks can designate some assets eligible but more risky, thus deeming them less valuable (subjecting them to so-called "haircuts"). However, these risk assessments – conducted internally or with reference to ratings agencies – conventionally take no account of environmental and climate risks.

Researchers argue that central banks could set collateral "haircuts" according to the carbon intensity of assets, or exclude carbon-intensive and ecologically harmful assets from the frameworks altogether.⁵⁵ To the extent that central banks accept fossil fuel assets as collateral, they are exposing themselves to the risks faced by the fossil fuel industry in the context of the climate crisis.

The ECB provides examples both of the potential for collateral frameworks to be used against fossil fuel financing, and central banks' failure to do so. The ECB recently included sustainability-linked bonds in the list of assets it accepts as collateral for lending operations – a decision applauded by civil society organizations and climate change campaigners.⁵⁶ Nevertheless, its collateral framework overall retains a pro-carbon bias, which encourages, rather than discourages, fossil fuel bonds.

^f Central banks outside the rich world have built up foreign exchange reserves in recent decades, mainly to protect their currencies from the exchange-rate risks associated with cross-border capital flows and financial market shocks: they comprise the largest part of the Chinese, Russian, and Indian central banks' reserves. Some rich-country central banks, including Switzerland's and Japan's, also hold most of their assets in foreign currencies.

^g This is because the New Economics Foundation analysis depended primarily on the Global Coal Exit List to identify coal exposure, and no comparable list has been published for oil and gas yet.

^h These are not lent out to companies or individuals, but can be transferred between banks or used to meet cash withdrawals.

ⁱ The Chinese central bank pays a slightly higher interest rate on required reserves if the lending covered obtains a positive green assessment.

5) ADDRESS THE TRUE RISK OF FOSSIL FUEL PRODUCTION THROUGH PRUDENTIAL REGULATION

Prudential regulation is another lever that central banks could use to raise the cost of fossil fuel finance. This regulation governs the amount of capital and liquidity (readily-available funds) that banks are required to hold to support their loan portfolios.

Researchers and advocates have argued that prudential regulation should be used to cut or limit fossil fuel finance. Finance Watch proposes that risk weights of exposure to existing fossil fuel assets be raised to 150 percent, and to 1,250 percent for new fossil fuel exposures; this latter increase would compel fossil fuel companies to fund new activity entirely from equity investment.⁵⁷ The Council on Economic Policy, a sustainability think tank, advocates central banks requiring commercial banks to build up a Carbon Countercyclical Capital Buffer – a requirement for a higher capital base for carbon-intensive loans, to be applied during periods of carbon-intensive credit growth.⁵⁸

We have identified one example, albeit limited, of prudential regulation being used to tilt investment in a more sustainable direction: the Chinese central bank, which scores banks higher in prudential assessment based on the extent of their “green” lending.⁵⁹ However, this needs to be taken in the context of the Chinese central bank’s overall policy, and in particular its extensive role in financing coal expansion.

All the central banks considered in this analysis are members of the Basel Committee on Banking Standards (Basel Committee), which sets standards for prudential regulation and promotes cooperation between central banks in their roles as banking supervisors. The Basel Committee has published research on climate-related risks, but not yet served as a place for coordinated action to stem fossil fuel finance through prudential regulation. There would be significant advantages in central banks working together through the Basel Committee to develop consistent prudential frameworks to address the climate crisis.⁶⁰

BOX 2: GREEN FINANCE

Several of the central banks covered in this report have indicated support for “green finance.” The Chinese central bank has provided prudential regulation that is more favorable for green bonds than for other issues, and European authorities are conducting a study on ways to adapt prudential regulation of “exposures related to environmental and/or social objectives.”⁶³

In this report we have not focused on these actions. Rather, we have focused on the potential for reducing the level of finance for fossil fuel production and infrastructure, which contributes directly to reducing carbon pollution. In contrast, “green finance,” even in the best case that it is used to support a reduction of fossil fuel consumption, e.g., by funding renewable electricity generation, may add to overall energy supply and options, rather than directly replacing fossil fuels in the system. A massive increase in clean energy investment is needed alongside the phase-out of fossil fuels, but will not by itself ensure that that phase-out occurs at a pace that is rapid enough.

In addition, there is no internationally recognized definition of “green bonds” or “green finance.” Where definitions exist in national legislation, they often include metrics covering sectors and environmental objectives that are sufficiently vague to allow projects by fossil fuel producing companies, or involving fossil fuel use, to be included. Voluntary guidelines (such as by the International Capital Markets Association or the Climate Bonds Initiative) are in development.

Some “green finance” may also finance low- or zero-emitting activities that have other significant ecological or human impacts, such as human rights violations. Central banks and other regulatory authorities must urgently develop taxonomies or other definitions of sustainable finance that exclude all investment in fossil fuels and adequately uphold broader sustainability principles. We have rated central banks for their work in this respect.⁶⁴

6) USE CREDIT GUIDANCE TO LIMIT FOSSIL FUEL FINANCE

The most direct lever central banks could use to influence lending is **credit guidance** – the setting of quotas and limits on specific types of lending (e.g., to particular industrial sectors). Central banks could choose to impose limits or quotas restricting commercial banks’ lending for fossil fuel finance.

Economists have argued that credit guidance is an especially suitable way to tackle a long-term, global problem such as the climate crisis.⁶¹ While it has been used only rarely since the 1980s, credit guidance supported many rich countries’ economic recoveries in the post-Second World War period. China, India, Pakistan, Bangladesh, Vietnam, and Indonesia all currently use mandatory prudential instruments, notably including lending limits, to channel credit toward low-carbon sectors.⁶²

We have not found any examples of such measures being used by central banks in rich countries at present.

POLICY AND RESEARCH

OVERVIEW

One area that central banks have focused on heavily in their responses to the climate crisis to date is that of policy development and research. This cannot be a substitute for action through monetary policy and asset purchase reforms, but does play an important role that must be assessed.^j

7) REQUIRE DISCLOSURES OF CLIMATE-RELATED RISKS AND STRESS TESTS

Setting **requirements on disclosures of climate-related risks and climate-related stress tests** is a means by which central banks could influence market dynamics against fossil fuel investment – and it is in this area that the most powerful central banks, through the NGFS, have agreed to take action first.⁶⁵

Underlying this approach is the assumption that a properly-informed market will re-price assets accordingly and downgrade fossil fuel companies. By this analysis:

^j This report focuses on the climate mitigation actions that central banks could and should take to facilitate the global energy transition and cut carbon pollution. Central banks may also play a role in climate adaptation, which will also be necessary to facilitate an equitable and orderly transition.

- ❶ disclosure of climate-related risks would increase the transparency of loan portfolios; and
- ❷ climate-related stress tests would require market participants like fossil fuel companies to consider not only liability risk and transition risk, but also physical risk.⁶⁶

However, the effect of such action on fossil fuel finance is likely only to be long-term and indirect.

For a central bank to be fully aligned with the Paris Agreement, it would need to have set clear, stringent standards for disclosures alongside stress tests and monitoring mechanisms.

8) PROVIDE ROBUST TAXONOMIES AND SUSTAINABLE FINANCE DEFINITIONS

Drawing up **taxonomies** of “green” and “dirty”⁶⁷ assets and **sustainable finance definitions** is crucial to enable motivated investors to shift funds away from fossil fuels to sustainable assets.

These taxonomies must not categorize false solutions as sustainable. By preventing “dirty” assets from being mislabeled as “green,” robust taxonomies can cut through greenwash and stop “dirty” assets from obtaining tax or other advantages targeted at “green” investment. An example is the recent decision by the People’s Bank of China to exclude from its catalogue of

“green” assets those that fund “clean utilization of coal.”⁶⁸

As with climate risk disclosures, the effect of compiling taxonomies on fossil fuel finance is indirect: only if combined with regulatory measures that penalize “dirty” investment will taxonomies tilt markets against fossil fuels at the necessary scale and pace.

To fully align with the Paris Agreement, central banks must implement (and, where necessary, develop) robust, science-based, credible taxonomies that effectively identify “green” and “dirty” investments.⁶⁹

9) ACTION RESEARCH THAT SHOWS THE RISKS POSED BY FOSSIL FUELS

Central banks’ **research** into the systemic risks to economies and the financial system that result from the climate crisis, and macroeconomic modeling of the energy transition, could help to drive policy change. Many central banks have begun to devote resources to this.

Civil society organizations have called on central banks to undertake research on risks to financial institutions, since at present they rely on commercial ratings agencies (such as Standard & Poor’s, Moody’s, or Fitch) whose ratings do not adequately reflect climate-related risks.⁶⁹

It is not enough, however, to carry out this research in the abstract. It must also become the basis of decision-making.

To fully align with the Paris Agreement, central banks must carry out research that is independent of the ratings agencies and aimed at clarifying all aspects of climate-related risks, and make this research the basis for their relevant decision-making processes.

10) SPEAK OUT ABOUT THE NEED TO END FOSSIL FUEL FINANCE

Finally, **public statements** by central bankers are influential. They are not a substitute for other actions, but can promote action by financial institutions, governments, corporations, and their colleagues. Consequently, they can play an important role in catalyzing the transition to clean energy.

However, to fully align with the Paris Agreement, public statements acknowledging the existence of the climate crisis are insufficient. Senior bank officials must recognize the need for a managed decline in fossil fuel production, and an end to finance for fossil fuels.

For their public statements to have real integrity, central bankers also need to engage with what central banks themselves can do. Their statements must address not only central banks’ potential to act within their current mandates, but also engagement with the broader question of how their functions might need to change to confront the climate crisis.

k Historically, such assets have often been called “brown,” but this language does harm to people of color, including Black and Indigenous people. As Reverend Lennox Yearwood Jr. states: “For people of color, it is hurtful and damaging to associate something that is detrimental to society with the word brown. ‘Brown’ has been linked to dirty and ‘white’ to clean, and this has significant racial undertones.” For this reason, OCI does not use that term.

l In context, “clean utilization of coal” means measures to abate air pollutants, but not carbon dioxide emissions, from coal burning.

m There are good arguments that these taxonomies should be drawn up by more publicly accountable government entities, not the central banks themselves.



3. APPLYING THE CRITERIA: HOW THE CENTRAL BANKS MEASURE UP

Table 1 summarizes the criteria (discussed in Section 2, above) that we have used to assess central banks.

We have evaluated the performance of 12 significant central banks against these

criteria. The results are set out in Table 2.

In applying these criteria, we have focused on what is happening in each jurisdiction with regard to the managed decline of fossil fuels. We are therefore rating not

only the central banks' actions, but also the effect of political decisions and the systems of financial regulation within which the central banks work.

TABLE 1: THE CRITERIA

	Topic	Description	Criteria
<i>Asset management</i>		Central banks' management of funds (that they control) to finance, or restrict finance to, fossil fuels	
1	COVID-19-related asset purchases	Programs for purchasing bonds and other assets launched in 2020 in response to the coronavirus pandemic	Exclude fossil fuels from COVID-19-related asset purchases
2	Other asset management	Pre-COVID-19 "quantitative easing" programs and management of other assets, including foreign exchange reserves	Exclude fossil fuels from all other asset purchases
<i>Rules and support for commercial banks</i>		Central bank actions that limit, or restrict, financing of fossil fuels by commercial banks	
3	Refinancing programs	Programs to boost economic recovery by refinancing commercial bank lending	Make refinancing conditional on fossil fuel exclusions
4	Collateral frameworks and reserves requirements	Rules covering collateral for central banks' loans to commercial banks, and reserves that commercial banks are required to lodge at the central bank	Discourage fossil fuel finance through reserves requirements and/or collateral frameworks
5	Prudential regulation	Rules covering the capital, and liquidity (i.e., readily-available funds), that commercial banks are required to hold to support their loan portfolios	Address the true risk of fossil fuel production through prudential regulation
6	Credit guidance	Rules applied, or guidance issued, by central banks to commercial banks on lending priorities	Use credit guidance to limit fossil fuel finance
<i>Policy and research</i>		Central bank statements and research and classification activities that could guide policy on fossil fuel finance in future	
7	Disclosure and stress test requirements	Rules about disclosing climate-related risks in loan portfolios, conducting stress tests on financial systems' ability to weather climate-related crises, and imposing disclosure and stress test requirements on commercial banks	Require disclosures of climate related risks and stress tests
8	Taxonomies and sustainable finance definitions	Classification of economic activities e.g., as sustainable ("green") or damaging to the climate ("dirty"), to inform financing decisions	Provide robust taxonomies and sustainable finance definitions
9	Research	Research of the scale of risks to the economy and financial system caused by climate change, and of measures to deal with these	Action research that shows the risks posed by fossil fuels
10	Public statements and policy	Statements by senior bank officials on climate policy and the transition away from fossil fuels	Speak out about the need to end fossil fuel finance

TABLE 2: HOW THE CENTRAL BANKS MEASURE UP

	Asset management		Rules and support for commercial banks				Policy and research			
Central bank	1. Exclude fossil fuels from COVID-19-related asset purchases ⁿ	2. Exclude fossil fuels from all other asset purchases	3. Make refinancing conditional on fossil fuel exclusions ^o	4. Discourage fossil fuel finance through reserves requirements and/or collateral frameworks	5. Address the true risk of fossil fuel production through prudential regulation	6. Use credit guidance to limit fossil fuel finance ^p	7. Require disclosures of climate-related risks and stress tests	8. Provide robust taxonomies and sustainable finance definitions	9. Action research that shows the risks posed by fossil fuels	10. Speak out about the need to end fossil fuel finance
Canada		N/A					N/A			
China										
Eurozone						N/A				
France	N/A		N/A			N/A				
Germany	N/A		N/A			N/A				
India	N/A									
Italy	N/A		N/A			N/A				
Japan						N/A				
Russia	N/A									
Switzerland	N/A		N/A			N/A				
U.K.						N/A				
U.S.						N/A				

COLOR CODE FOR RATING CENTRAL BANKS AGAINST CRITERIA

Grossly insufficient	Insufficient	Partially aligned	Close to alignment	Fully aligned	N/A
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Not one of the central banks assessed comes close to alignment with the Paris Agreement on any of the criteria.

All the areas of partial alignment are in the area of policy and research. The European Central Bank, the Banque de France, and to a lesser extent the Bank of England, partially align with the Paris Agreement in their research and public statements – but not in their asset purchases or monetary policies.

When it comes to asset management, nearly all the central banks' actions are grossly insufficient. The exceptions are three ratings on the criterion "other asset management" (which excludes post-COVID-19 asset purchases), for the Banque de France and the Swiss National Bank, which have excluded coal from some portfolios – but it is too late to phase out one fossil fuel at a time. We have rated

the Bank of Italy as grossly insufficient on this criterion, because, although it has begun to include environmental, social, and governance (ESG) criteria in its financial investment policy, these criteria do not include any limitations on fossil fuel investments.

Central banks' actions to support or restrict fossil fuel finance by commercial banks are also almost all rated grossly insufficient. The significant exception is the People's Bank of China, which we have rated as insufficient for collateral frameworks and reserves requirements, prudential regulation, and direct credit allocation, all of which have been used to support green credit and to penalize some types of pollution (with the caveat that, at present, these measures coexist with an unprecedented level of lending to coal). Notable exceptions include:

- ① the Reserve Bank of India, which is rated insufficient for refinancing programs that support renewables investment, and insufficient for the inclusion of such loans in its Priority Sector Lending program; and
- ② the Banque de France, which is rated insufficient on the criterion "collateral frameworks and reserves requirements," because it has published a working paper on ways of aligning collateral frameworks with climate targets.

Although, central banks are increasingly acknowledging the need to act and are commissioning research, they continue to prop up fossil fuels through their asset purchases and monetary policies. Their most powerful tools to end fossil fuel finance are sitting unused.

n Central banks marked "N/A" did not launch (or at least have not yet launched) asset purchase programs in response to the COVID-19 pandemic. In the eurozone (France, Germany and Italy), asset purchases were undertaken by the ECB. However, note that the governors of these banks, as ECB board members, could influence ECB policy.

o Central banks with no recent refinancing programs. In the eurozone (France, Germany and Italy), refinancing was undertaken by the ECB. The governors of these banks, as ECB board members, could influence ECB policy.

p Central banks in rich countries do not use direct credit allocation tools. However, civil society organizations and economists argue that they could use these tools for emergency purposes, such as energy transition.

4. ANALYSIS OF EACH OF THE 12 CENTRAL BANKS

OVERVIEW

This section summarizes each central bank's performance in relation to the criteria set out in Section 2. For each central bank, there is an overall summary of that bank's performance, followed by a discussion of each category of criteria (asset management, rules for commercial banks, and policy and research) within the framework of the bank's social, economic, and political context.

CANADA (BANK OF CANADA)

SUMMARY

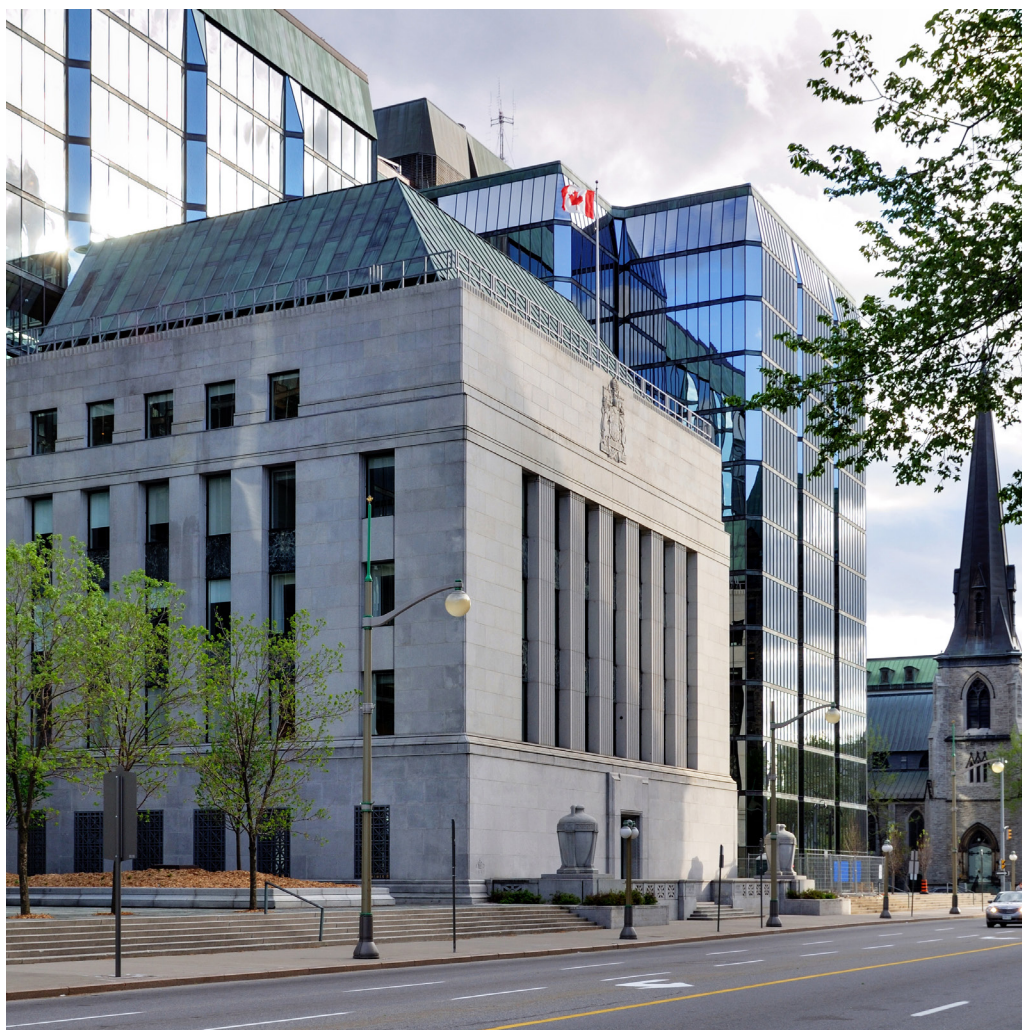
The new governor of the Bank of Canada (BoC), Tiff Macklem, has acknowledged the need to analyze climate risks and implement disclosure⁷⁰ – but the bank has not taken any steps to restrict fossil fuel finance.

ASSET MANAGEMENT

The BoC's COVID-19-related asset purchases and liquidity facilities injected CAD 377 billion into the financial system in 2020. The BoC's balance sheet grew to CAD 550 billion by the end of 2020. Most of the asset purchases were treasury bonds, but a small proportion (CAD 17.9 billion as of March 2021) were corporate and provincial bonds. The BoC published a list of eligible issuers, which was dominated by energy companies, infrastructure, industrial companies, finance, and real estate; press reports at the time indicated that the BoC had adhered to the principle of "market neutrality," implying a weighting toward fossil fuels.⁷¹ Prior to the pandemic, the BoC purchased only treasury bonds and bills, repurchase contracts, and a small amount of government-issued mortgage bonds.⁷²

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

The BoC has used neither monetary policy tools nor prudential regulation to constrain fossil fuel finance. Further, it has not made progress toward requiring disclosures or stress tests by banks.⁹



In 2020 the BoC joined the NGFS. Its 2020 annual report states that it is committed to:

- disclosing its own exposures in line with the TCFD recommendations;
- reducing the greenhouse gas emissions of its own operations; and
- developing a framework for assessing its balance sheet exposure to climate-related risk.⁷³

The BoC has also taken steps toward researching climate-related risks to the financial system. Together with the Office of the Superintendent of Financial Institutions, it published scenario analyses on the transition to a "low carbon economy." It also developed a high-level road map for analyzing climate-related risks.⁷⁴

The Canadian government in May 2021 set up a Sustainable Finance Action Council, which will implement TCFD disclosure principles, but regulators have made no plans to develop sustainable finance definitions.⁷⁵

FINANCIAL FLOWS

Canadian commercial and investment banks rank third, after those in the U.S. and China, for cumulative fossil fuel finance over the past five years. The five largest Canadian banks provided CAD 558.9 billion in fossil fuel finance between 2016 and 2020. All five increased their commitments between 2016 and 2019. Two of those banks have committed to achieving net-zero emissions in their lending by 2050, and one has committed to reaching net-zero emissions across its business by 2050.⁷⁶

9 In Canada, financial supervision and regulation of banks is done by the Office of the Superintendent of Financial Institutions, rather than the Bank of Canada.

SUMMARY

Executives of the People's Bank of China (PBoC), like Chinese government leaders, have embraced the aims to peak carbon emissions by 2030 and reach net-zero by 2060. However, also in line with government policy, the PBoC continues to direct ample financial flows to all fossil fuels, coal in particular.

ASSET MANAGEMENT

The PBoC works more closely with government than its counterparts in G7 countries. It is responsible not only for monetary policy and prudential supervision, but also for refinancing and credit guidance operations allied to government policy. Both actions in support of fossil fuel investment, and those that stimulate the green bond market and renewable energy investments, are coordinated with the government. The PBoC's pandemic response centered on flowing funds through China's state-owned banks: in March 2020 the PBoC increased money supply and aggregate financing by cutting the required reserve ratio and discounted lending programs, such as a medium term lending facility; these measures accompanied a fiscal stimulus package.⁷⁷ The government dropped its commitment to meeting key targets in emissions intensity and energy. A race to grab market share in coal mining and coal-fired power generation ensued, and in 2020 China built the equivalent of one large coal plant per week – creating more than three times as much new coal-fired electricity capacity as the rest of the world combined. China's pandemic response helped to restart the rapid growth of China's coal production (47 percent of the world total) and consumption (52 percent of the world total).⁷⁸

China's foreign exchange reserves – the world's largest, USD 3.388 trillion at the end of 2020⁷⁹ – are probably tilted toward fossil fuels, but there is little information available. In April 2021, Yi Gang, the PBoC governor, announced that green bonds would be added to the reserves, although the governor offered no details.⁸⁰ One portion of the reserves is managed by the Silk Road Fund, of which the PBoC owns 65 percent.⁸¹ The Silk Road Fund owns a 9.9 percent stake in Sibur, the Russian petrochemicals company that processes fossil gas, and a 9.9 percent stake in



Yamal LNG, Russia's leading exporter of liquefied fossil gas; in June 2021, the fund joined one of the largest recent energy infrastructure transactions as part of an investor consortium that paid USD 12.4 billion for a 49-percent stake in Aramco Oil Pipelines of Saudi Arabia.⁸² Research by Greenpeace found that foreign exchange reserves have also been invested in solar or wind power, but there is insufficient information to make a comparison.⁸³

RULES FOR COMMERCIAL BANKS

The PBoC has used prudential regulation to favor green finance. It accepts lower-rated green bonds and green loans as collateral for its medium-term lending facility, which is aimed at guiding credit to agriculture and small businesses, and for its short-term standing lending facility. This incentivizes financial institutions to issue green bonds; researchers at the Banque de France estimated that this support widened the spread between green and non-green bonds by 46 basis points.⁸⁴ The PBoC also weights its scoring system for assessing banks' capital levels in favor of green assets. Further support is given to green credit by the banking regulator, the China Banking Regulatory Commission, which in 2020 issued guidance requiring banks to adopt ESG-related risk management and disclosure. The Climate Policy Initiative has cautioned that none of these measures include penalties for high-emission factors, and that such penalties are "too limited to incentivize green credit."⁸⁵ The result is an expanding green bond market, alongside an unprecedented level of lending to coal.

POLICY AND RESEARCH

These two sides of Chinese financial policy are also evident in the "green" taxonomies produced by the PBoC for green bonds, and by the National Development and Reform Commission for industry. The former has recently been amended to exclude "clean utilization of coal" (albeit not oil or gas) and some other items that include fossil fuel use; the latter has not.⁸⁶ Yi Gang, the PBoC governor, outlined challenges to the financial system related to the 2060 target of net-zero emissions in a recent speech, and stated that the bank intends to introduce mandatory disclosure of climate-related risks.⁸⁷ Research and stress-testing of systemic climate-related risks have yet to begin.⁸⁸

FINANCIAL FLOWS

The 13 largest Chinese banks provided USD 593 billion in fossil fuel finance in the years 2016 to 2020; eight of them increased their commitments between 2016 and 2019, while five decreased them. This group included the world's three biggest funders of coal mining, the world's three biggest funders of coal-fired power, and two of the world's four biggest funders of Arctic oil. None of these banks have made commitments to net-zero emissions. A survey of global coal finance for the period 2012 to 2019 showed China as world leader, providing USD 861 billion in those years; a survey of 120 coal plant developers in for the period 2016 to 2018 found that 70 percent of their finance was underwritten by Chinese banks; analysis of China's own coal plant developers, which include the world's top three, showed that developers' top 15 financiers are Chinese state-owned banks.⁸⁹

SUMMARY

Despite some positive rhetoric, the European Central Bank (ECB) has continued to support fossil fuel finance. The ECB action plan on climate, announced in July 2021, will not put an end to this support.⁹⁰

ASSET MANAGEMENT

The ECB's post-pandemic asset purchase program was tilted toward fossil fuels. The main element, the Pandemic Emergency Purchase Program, added EUR 1.85 trillion to the ECB's assets between March and December of 2020, bringing the ECB's balance sheet to a high of EUR 7 trillion. An analysis of ECB bond holdings in July 2020 by the New Economics Foundation showed that carbon-intensive sectors accounted for 62.7 percent of the bonds purchased, while these sectors contributed only 17.8 percent of employment and 29.1 percent of gross value added in the eurozone. Civil society organizations argued that the pandemic purchase

program helped to push up property and asset prices, increasing wealth inequality. Instead, the ECB could have invested more heavily in the European Investment Bank and sought to apply those funds to green investments.⁹¹

The danger that "market neutral" asset purchases would favor fossil fuels was well understood in advance. Such asset purchases did just that during the quantitative easing that followed the 2008-09 financial crisis. Of the asset purchases made after the financial crisis, more than 90 percent were of government bonds, but more than EUR 300 billion went to corporate bonds, covered bonds, and asset-backed securities. Research conducted in 2017 showed that manufacture, electricity, and fossil gas production accounted for 62.1 percent of the corporate bond portfolio and 58.5 percent of eurozone greenhouse gas emissions – but only 18 percent of gross value added. Oil and gas companies accounted for 8.4 percent of the portfolio, and green bonds for less than one percent.⁹² As part of its climate action plan, announced in July 2021, the ECB

will further adjust the framework for its corporate bond purchases to take account of climate risk, and in 2022 intends to announce a plan to require climate-related disclosures for private-sector assets.

RULES FOR COMMERCIAL BANKS

The ECB has failed to tilt financial flows away from fossil fuels in its role as microprudential supervisor for 114 significant eurozone banks. Research by civil society organizations has shown that the ECB collateral framework "actively underpins financial market failures and reinforces carbon lock-in."⁹³ Carbon-intensive companies' bonds have an outsize place in collateral: those companies issue 59 percent of the corporate bonds accepted as collateral, but contribute less than 24 percent to E.U. employment and 29 percent to gross value added.⁹⁴ The ECB's July 2021 action plan includes a commitment to review climate-risk requirements in its collateral framework and to require disclosures for eligibility. However, the ECB has failed to act on prudential regulation: in 2003 it introduced a support factor to remedy socially undesirable

r Measures applied at the European level are included in this section. They also apply to France, Germany, and Italy, but have not been referred to again in those sections.

s The one-percent figure applies to the Asset Purchase Program, which, before the pandemic, accounted for more than 90 percent of ECB asset purchases. There is no reason to think that the proportion in other programs was significantly different.



outcomes, but a 2018 proposal by the French banking association to use similar measures to support green assets was rejected. Differential prudential treatment of exposures related to environmental objectives remains under discussion.⁹⁵

Eurosystem refinancing operations are also biased toward fossil fuels. At the end of 2020, these stood at EUR 1.8 trillion, including EUR 1.75 trillion allotted in Targeted Long Term Refinancing Operations,⁹⁶ which provided banks with the cheapest credit of any of the ECB's post-2008 instruments, irrespective of environmental impact. Civil society organizations argued that this effectively encouraged banks to ramp up unsustainable lending practices and undermined the E.U.'s aspirations to align with the Paris Agreement.⁹⁷

In Table 2, we have rated the ECB's post-pandemic asset purchases and refinancing schemes as grossly insufficient. On both these criteria, we have rated the French, German, and Italian central banks as not applicable, as they do not independently conduct asset purchases or refinancing operations. Their governors, of course, share responsibility for ECB activity in this respect as members of the ECB board. The Banque de France governor, François Villeroy de Galhau, has called for decarbonization of the ECB's holdings.⁹⁸

POLICY AND RESEARCH

Senior ECB executives, including the president, Christine Lagarde, and executive board member Isabel Schnabel, have advocated stronger action on climate change.⁹⁹

However, beyond research and work on disclosures and stress tests, the bank's Governing Council is split on the way forward, as some members believe "market neutrality" must guide monetary policy. Despite the substantial published evidence that "market neutrality" is biased toward fossil fuels, the ECB in its July action plan announced only a further review of the concept.¹⁰⁰ The ECB and the European supervisory authorities have made progress toward requiring commercial banks to assess and disclose climate-related risks. In 2019, the European Commission required supervisory authorities to put in place monitoring systems that take into account the Paris Agreement.¹ Disclosure of sustainability risks is mandatory, and banks are required to integrate climate and environmental risks into risk management. Banks were required to conduct a self-assessment of these procedures in 2020; a "full supervisory review" will follow in 2022.¹⁰¹ The ECB is a participant in the agreement by Eurosystem central banks, made in February 2021, to disclose their own climate-related risks within two years.¹⁰²

The ECB and other regulators are conducting research on system-level risk; they published a first report in June 2020.¹⁰³ The July 2021 action plan sets out further development of macroeconomic modeling of, and data collection to assess, climate risks.

Taxonomies are the responsibility of the European Commission. A draft taxonomy regulation and related legislation were published in April 2021, and are awaiting approval by member states and the European parliament. The Commission has delayed a decision on whether to include fossil gas as a "green" fuel, and has been criticized by civil society organizations for insufficient stringency on bioenergy investments.¹⁰⁴

FINANCIAL FLOWS

Eurozone banks are major financiers of oil and gas. The 16 largest eurozone banks provided USD 547.1 billion in fossil fuel finance between 2016 and 2020; nine of them increased their commitments between 2016 and 2019, while seven of them decreased commitments. Two of these 16 banks have committed to making important areas of their business net-zero carbon emitters by 2050, and another eight have pledged to make such commitments in future.¹⁰⁵

t The three European supervisory authorities are the European Banking Authority, the European Securities and Markets Authority, and the European Insurance and Occupational Pensions Authority.



FRANCE (BANQUE DE FRANCE)

SUMMARY

The Banque de France (BdF) was a prime mover in setting up the NGFS. It is exiting coal and has restricted some other fossil fuel investments from its portfolio. But it could go much further.

ASSET MANAGEMENT

In 2018 the BdF issued a Responsible Investment Charter that included a commitment to the Paris Agreement's principles, and excluded investment in mining companies and energy producers that derive more than 20 percent of income from thermal coal.¹⁰⁶ No such exclusion applies to oil or fossil gas, and the exclusion applies to the BdF's directly-managed assets, not to its larger monetary policy portfolio. In January 2021, the BdF announced that it already *de facto* excludes from its portfolios companies in which coal accounts for more than 10 percent of turnover; this proportion will be reduced to two percent at the end of 2021 and to zero in 2024.

From 2021, the BdF will exclude from its portfolios companies whose shale oil and gas activity (which requires hydraulic fracturing), oil sands and/or Arctic and deepwater exploration account for more than 10 percent of turnover. From 2024, it will exclude companies for which oil

accounts for more than 10 percent of turnover and gas more than 50 percent.

This reduction of fossil fuel investment is the most far reaching of any central bank covered in this report, but it is still only partial and does not directly prevent the bank from investing in companies that develop new extraction projects in the near term. In 2021, most oil and gas companies, and in particular, French oil major TotalEnergies (previously called Total), will not be affected.¹⁰⁷

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

The BdF has published a working paper outlining ways of aligning eurozone collateral frameworks with climate targets, which could influence ECB policy in the future.¹⁰⁸ In France, the prudential regulatory agency, the ACPR, has not adapted prudential regulation to constrain fossil fuel financing.¹⁰⁹ Disclosure of climate risks has been mandatory since 2015 – although a claim by BdF researchers that this measure reduced financial flows to fossil fuels has been challenged by Reclaim Finance.¹¹⁰ The BdF is a participant in the agreement by Eurosystem central banks, made in February 2021, to disclose their own climate-related risks within two years.¹¹¹

The ACPR has published a pioneering stress test, which modeled physical and

transition risks from climate change over a 30-year horizon. However, its conclusions (that French banks and insurers have “moderate” exposure to climate risks, and that the main action required is further risk assessment) have been fiercely criticized by civil society organizations.¹¹²

FINANCIAL FLOWS

The five largest French banks provided USD 295.7 billion in fossil fuel finance between 2016 and 2020. All five increased their commitments between 2016 and 2019. Four of them pledged to publish long-term targets for decarbonizing their business, but none have done so. French banks rank sixth globally in terms of finance for coal plants, providing USD 36 billion between 2012 and 2019.¹¹³ BNP Paribas, the largest French fossil fuels financier, provided USD 40.8 billion to fossil fuels in 2020, up 41 percent from 2019. It has restrictions on lending to coal mining companies and unconventional oil and gas, but made multi-billion USD loans to oil producers BP, Shell, Total, and Saudi Aramco.¹¹⁴ In 2020, Credit Agricole and Natixis committed not to finance companies specializing in shale oil and gas, but this does not cover diversified international companies, which are the largest investors in shale. Société Générale has made a similarly inadequate commitment to reduce lending exposure to upstream oil and gas by 10 percent by 2025.¹¹⁵





GERMANY (DEUTSCHE BUNDESBANK)

SUMMARY

Deutsche Bundesbank president Jens Weidmann remains a proponent of “market neutrality,” used by many central banks to justify fossil fuel friendly investment, despite recently championing green investment.¹¹⁶ The Bundesbank continues to finance fossil fuels in its portfolio management.

ASSET MANAGEMENT

In 2015, the Bundesbank was one of six central banks to which asset purchases under the ECB’s Corporate Sector Purchase Program were delegated. Research of the Bundesbank’s portfolio showed a heavy emphasis on fossil-intensive car manufacturing, which comprised 35 percent.¹¹⁷

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

The Bundesbank advises central and state governments in Germany on applying sustainability criteria to investments; the central government has ruled out investing in nuclear power, but not in fossil fuel.¹¹⁸ The Bundesbank has recognized the need for companies to provide consistent data on climate-related financial risks, and the need to incorporate these risks into its analytical and forecasting tools.¹¹⁹

In a recent speech, Weidmann argued that central banks:

- ❶ should “practice what they preach” and require reporting of climate risk inherent in collateral posted and bonds purchased;
- ❷ should question the record of rating agencies in accounting for climate risk; but

- ❸ “can not substitute for stringent carbon pricing” by using monetary policy to pursue climate-related aims.¹²⁰

The Bundesbank is a participant in the agreement by all Eurosystem central banks, made in February 2021, to disclose their own climate-related risks within two years.¹²¹ In May 2021, the German government introduced rules for sustainability reporting for banks as part of its sustainable finance strategy; at a European level, Germany is pressing for the exclusion of nuclear power from sustainability definitions.¹²²

FINANCIAL FLOWS

The three largest German banks provided USD 88.1 billion in fossil fuel finance between 2016 and 2020. Two of them increased their commitments between 2016 and 2019. Two of these banks have pledged to set net-zero emissions targets by 2022.¹²³



INDIA (RESERVE BANK OF INDIA)

SUMMARY

The Reserve Bank of India (RBI) pioneered credit guidance to support renewable energy projects. There has been discussion at the bank about other ways of tilting financial flows away from fossil fuels, but no action taken.

ASSET MANAGEMENT

The RBI's asset management differs substantially from that of G7 central banks due to the structure of the country's economy. The RBI's reserves are mainly in foreign exchange; its international reserves stood at USD 461.8 billion at the end of 2020. RBI staff members suggested in an article published last year that asset management could be tilted toward green investments, but this has not been done.¹²⁴ The RBI's pandemic response did not include asset purchases: it was mainly devoted to pumping liquidity into the banking system, cutting interest rates, and restructuring debt in order to forestall bankruptcies, ease access to emergency health services, and mitigate the effects of economic recession.¹²⁵

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

The RBI has tilted lending toward renewable energy projects by including loans for such projects in its Priority Sector Lending program, which makes credit available to vulnerable sectors of society. In 2012, RBI included off-grid solar projects in the program; in 2015, lending criteria were expanded to include solar power, biomass generation, and electrification projects; in 2019, the on-lending rules were changed to increase financial flows via non-bank institutions to renewables projects; and in 2020, the range of solar projects eligible was expanded to include solarization of grid-connected water

pumps for agriculture.¹²⁶ Widespread electrification with renewables may help to reduce demand for coal-fired electricity generation, and therefore indirectly reduce carbon emissions – although RBI actions to support renewables have not been accompanied by overt measures to reduce fossil fuel investment. The RBI used neither monetary policy tools nor prudential regulation to tilt financial flows away from fossil fuels, although an article in its official bulletin suggested ways of doing so.¹²⁷ No disclosure or stress-test requirements have been put in place for banks, although the central bank's 2019-2020 annual report recognizes that establishing a standard disclosure format is urgent. The RBI has not developed a green-finance taxonomy. The RBI's 2019-2020 annual report recognizes the need for a framework to assess and manage climate-related financial risks,¹²⁸ and the RBI joined the NGFS in April 2021 – but RBI Governor Shaktikanta Das has not prioritized climate change.^u

FINANCIAL FLOWS

Indian banks rank fourth globally in financing coal plants, providing USD 155.6 billion between 2012 and 2019. Analysis of India's coal industry showed that Indian banks ICICI, State Bank of India, Axis Bank, Trust Group, and HDFC are its largest financiers. The largest Indian bank, State Bank of India, provided USD 21.5 billion in fossil fuel finance in the years from 2016 to 2020; its commitments decreased slightly between 2016 and 2019. It has made no net-zero emissions commitment.¹²⁹

ITALY (BANK OF ITALY)

SUMMARY

Executives of the Bank of Italy (BoI) have acknowledged the need to support the transition to a sustainable economy by encouraging green finance.¹³⁰ Nevertheless, its assets remain skewed toward fossil fuels.

ASSET MANAGEMENT

Analysis of the ECB's Corporate Sector Purchase Program showed that, of the six central banks that managed asset purchases, the BoI's portfolio had the largest relative exposure to fossil fuels.¹³¹ Beginning in 2019, the BoI began to include ESG criteria in its investment policy for its non-monetary policy portfolio, worth about EUR 144 billion at the end of 2020.¹³² So far, this approach has been applied to the small part of the portfolio invested in equity (EUR 12.7 billion at the end of 2020). BoI researchers stated that the ESG policy excluded investments not compliant with the UN Global Compact (i.e., in tobacco and certain types of weapons), but not in fossil fuels; they claimed that carbon emissions associated with the portfolio were 30 percent lower than previously.¹³³

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

No changes have been made to banking supervision in Italy to tilt banks' portfolios away from fossil fuels. The BoI is a participant in the February 2021 agreement by Eurosystem central banks to disclose their own climate-related risks within two years.¹³⁴ The BoI published a research paper on ways to encourage financial institutions to take into account risks to the financial system as a whole.¹³⁵ While the Italian government has issued a sovereign green bond, and has launched discussions on sustainable finance, the BoI has not taken any additional measures to support it.¹³⁶

FINANCIAL FLOWS

The two largest Italian banks provided USD 45.1 billion in fossil fuel finance in the years 2016 to 2020; they both decreased their commitments to the industry between 2016 and 2019. One of them, Unicredit, has the strongest restriction on fossil fuel lending in Europe, but neither has pledged a net-zero emissions target.¹³⁷

^u In nine major speeches over the last year, Das discussed the pandemic, banking sector digitization, the economy, household credit, education, the economy, and other issues, but not climate change. He mentioned it twice in passing.



JAPAN (BANK OF JAPAN)

SUMMARY

The Bank of Japan (BoJ) governor, Haruhiko Kuroda, has spoken in favor of “realising a green economy” and “deepening debate” on climate-related risk. But the BoJ’s monetary policy and financial supervision strongly support fossil fuel finance.¹³⁸

ASSET MANAGEMENT

In response to the coronavirus pandemic, the BoJ expanded its post-2008 quantitative easing program, which includes significant purchases of equities through exchange traded funds (ETFs), rather than the bond purchases made by most G7 central banks. The BoJ is consequently one of the largest shareholders in Japanese companies. For most of the 2010s, the BoJ purchased ETFs that tracked the Nikkei stock index. An analysis conducted in 2017 showed that, since the Nikkei is skewed toward technology and consumer goods companies, the BoJ’s holdings were probably less carbon-intensive than those of the ECB or BoE, for example.¹³⁹ In March 2021 the BoJ published a review of its quantitative easing program; it announced a ceiling on asset purchases, and said it would shift toward ETFs that track the Topix index, rather than the Nikkei. There is evidence that the Topix index is more carbon-intensive: analysis by the New Economics Foundation found that

it is weighted more heavily to coal than the Nikkei. This suggests that the BoJ’s portfolio may become more carbon-intensive.¹⁴⁰

In July 2021, the BoJ announced that it would offer zero-interest loans to commercial banks that invest in emissions reductions, and would allow banks to exempt twice the amount of any borrowing under this scheme from the 0.1 percent negative interest rate that commercial banks must pay on deposits held with the BoJ.¹⁴¹

The BoJ holds a big foreign exchange portfolio – USD 1.369 trillion at the end of 2020, the second-largest among central banks after China. The composition of the holdings is not made public, but the BoJ has not implemented any policies to tilt these holdings against fossil fuels.¹⁴²

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

In June 2021 the BoJ announced that, by the year’s end, it would launch a facility to refinance investments or loans “to address climate change issues,” but it has yet to announce qualifying criteria, and will allow commercial banks themselves to determine what qualifies as “green.”¹⁴³ There is no indication that the BoJ is considering using monetary policy tools or prudential regulation to constrain fossil fuel finance. Japan’s Ministry of Environment issued green-bond guidelines in 2017 and revised them in 2020, but they

do not contain strict eligibility criteria or guidelines. The BoJ joined the NGFS in 2019, and, in partnership with government and other regulatory bodies, set up a TCFD implementation study group. The BoJ called on financial institutions to disclose climate-related risks and to undertake stress tests in line with TCFD guidance.¹⁴⁴

FINANCIAL FLOWS

The four largest Japanese commercial banks provided USD 358.1 billion in fossil fuel finance in the years 2016 to 2020, and all of them increased their commitments between 2016 and 2019. Researchers have noted that none of them have made any net-zero emissions commitments.¹⁴⁵ We have not identified any Paris-aligned climate pledges from any of the largest Japanese banks.

Japan is strongly committed, both domestically and internationally, to coal-fired power generation, and has the fourth-largest fleet of coal-fired power stations in the world. Although the Fukushima nuclear disaster of 2011 was followed by some structural and regulatory shifts to support renewable energy and sustainable finance, progress has been slow. A study of global coal finance covering the years 2012 to 2019 showed that Japanese banks ranked second only to Chinese banks for total finance to coal plants, and provided USD 312.2 billion in that period. Mizuho and Mitsubishi were among the world’s top six coal-financing institutions.¹⁴⁶

RUSSIA (CENTRAL BANK OF RUSSIA)

SUMMARY

The Central Bank of Russia (CBR), along with the Russian government and other financial supervisory bodies, strongly supports fossil fuel industries as prime movers of the economy.

ASSET MANAGEMENT

The CBR's asset management differs substantially from that of G7 central banks, due to the Russian economy's structure. The CBR manages Russia's international reserves (foreign currency assets and monetary gold), which largely comprise revenues from export sales of oil, gas, and minerals. In response to the coronavirus pandemic, the CBR managed the reserves to protect the ruble exchange rate: in March 2020, as oil prices fell, the CBR switched from purchasing foreign currency assets to selling them, to hedge against a sharp fall in oil prices. Foreign currency purchases resumed in the second half of 2020, and reserve assets stood at USD 595.8 billion at the end of the year. In the domestic economy, the CBR reduced interest rates and increased liquidity, supporting the banking system, and, by extension, the oil and gas industry.¹⁴⁷

RULES FOR BANKS, POLICY, AND RESEARCH

The CBR does not use monetary policy instruments, prudential regulation, or credit guidance to tilt financial flows away from fossil fuels, and no requirements have been put in place for disclosure or stress testing of climate-related risks. An expert council of the CBR has proposed establishing a framework for a green-bond taxonomy, but neither the CBR nor other regulatory authorities have produced a definition of a green asset.¹⁴⁸ In a report published in May 2020, the CBR raised the possibility of stress-testing and scenario analysis to assess climate risk, and of collecting climate data to support the introduction of sustainable development principles for finance; the CBR invited public comment was invited, but took no action.¹⁴⁹ The governor of the CBR, Elvira Nabiullina, recently acknowledged the importance of ESG principles, and



said that the CBR is working on rules for verifying ESG instruments.¹⁵⁰

FINANCIAL FLOWS

The Russian banking sector provides vital support for oil and gas producers; its role has increased since 2014 as sanctions (imposed after the Russian annexation of Crimea) have constrained the flow of funds from western banks. Analysis of Rosneft, Russia's flagship oil company and the world's second-largest oil producer by volume, showed that, having raised tens of billions of dollars from western banks in the 2000s, its main source of

funds from 2014 to 2018 was the domestic market; domestically, Rosneft issued USD 46.6 billion of bonds and USD 17.8 billion in loans. Russia's largest bank, Sberbank, provided USD 12.8 billion in fossil fuel finance from 2016 to 2020; its commitments decreased between 2016 and 2019. Sberbank has made no net-zero emissions commitment.¹⁵¹

SWITZERLAND (SWISS NATIONAL BANK)

SUMMARY

Swiss National Bank (SNB) executives have said that its operational activities have been carbon-neutral since 2011, but its operational emissions are small compared to the impact of the bank's policies and investments. It was the first central bank to conduct an environmental impact assessment for banknotes.¹⁵² Ultimately, though, its large asset portfolio is biased toward fossil fuels.

ASSET MANAGEMENT

The SNB did not undertake special asset purchase programs in response to the coronavirus pandemic, but continued to build its existing portfolio, more than 95 percent of which is held in foreign currencies. Among central banks, the SNB has the largest foreign currency reserves after China and Japan. At the end of 2020, the SNB's total assets were CHF 999 billion, up from CHF 861 billion a year earlier. Most of these are government bonds; about 12 percent of them are other instruments, mainly corporate bonds and some shares. The SNB departs from "market neutrality" in specific cases: it does not invest in systemic banks or Swiss companies, and since 2013 has excluded companies whose products seriously violate ethical principles or fundamental human rights or that "systematically cause severe environmental damage." Since the end of 2020, companies "primarily active in mining coal" were excluded too, due to the "broad consensus" in Switzerland in favor of phasing out coal.¹⁵³

Despite this, the SNB's portfolio is heavily biased toward fossil fuels. Research by Artisans de la Transition on the SNB's carbon footprint, conducted despite the bank's lack of transparency, found that: only 20 percent of its portfolio is invested in companies that plan to align with a 2°C global warming target; SNB holdings correlate to 43 million tonnes (Mt) of carbon dioxide emissions per



year, just short of Switzerland's own total of 47 Mt; and, although its investments in leading oil companies fell between 2017 and 2019, this decline was likely due to value reallocations imposed by index management, rather than policy decisions.^v The SNB disputed these figures, but did not grant transparency. Further research showed that its share portfolio included equity in 27 of the world's 100 most-polluting companies, with a carbon footprint equivalent to all Swiss households. Separate research of the SNB's USD 94 billion of U.S. equity holdings showed that it includes USD 1.847 billion in coal.¹⁵⁴

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

Prudential regulation in Switzerland has not been adapted to disfavor fossil fuels. Financial institutions are required to incorporate climate-related risks into their risk management processes, and mandatory disclosure of such risks is under discussion by FINMA, the country's

financial regulator. No substantial progress has been made on taxonomies of economic activities with respect to environmental standards. In 2019, the SNB and FINMA joined the NGFS, and in 2020 jointly initiated a pilot project to identify transition risks to the two big banks.¹⁵⁵

FINANCIAL FLOWS

The two globally active Swiss banks, Credit Suisse and UBS, defined as "too big to fail" by the SNB, are among the world's largest financiers of fossil fuels. Credit Suisse is the largest financier of coal mining after the Chinese state-owned banks. Credit Suisse and UBS provided USD 118.3 billion in fossil fuel finance from 2016 to 2020; both banks decreased their commitments between 2016 and 2019. Credit Suisse has committed to making its operations, financing, and supply chains net-zero emissions by 2050.¹⁵⁶

v One megatonne (Mt) is equal to one million tonnes.

UNITED KINGDOM (BANK OF ENGLAND)

SUMMARY

The Bank of England (BoE) made a key contribution to the discussion of central banks' climate policies through the 2015 speech by its former governor, Mark Carney. But its actions remain tilted toward fossil fuel finance.

ASSET MANAGEMENT

In 2020, the BoE and the U.K. Treasury launched the Covid Corporate Financing Facility to buy bonds from large corporations affected by the economic downturn. The initiative provided GBP 37 billion at interest rates far lower than in a parallel scheme for small businesses (0.3 to 0.7 percent, compared to 6 to 8 percent). A refinancing scheme for U.K. banks was also bereft of any green weighting. After a civil society campaign for transparency, some details about the recipients were released; analysis by Positive Money showed that 56 percent of the funds went to high-carbon sectors, including GBP 1.335 billion for oil and gas extraction, and GBP 6.05 billion for manufacturing, including large loans to petrochemicals companies BASF and Bayer, car manufacturers, and airlines.¹⁵⁷ This bias toward fossil fuels followed a

pattern established in the BoE's GBP 435 billion asset purchase program after the 2008-09 financial crisis. That program's transparency is limited, but analysis of the Corporate Bond Purchase Scheme in 2016 confirmed this bias: manufacturing and electricity production – sectors that produce 52 percent of the U.K.'s greenhouse gas emissions, but only 11.8 percent of gross value added – made up 49.2 percent of the eligible bonds. Oil and gas comprised 1.8 percent of the portfolio, and green bonds zero. Further research in 2020 showed that the bias remained. In May 2021, after the BoE's mandate was adjusted, it published a paper on options for “greening” its bond purchases; this is under discussion.¹⁵⁸

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

The BoE has used neither monetary policy tools nor prudential regulation to constrain fossil fuel financing. The BoE's most recent refinancing initiative, an amended version of the Term Funding Scheme, took no account of climate risks or transition objectives.¹⁵⁹ Disclosure of climate-related risk is voluntary, but the U.K. government has announced plans to make it mandatory. The BoE has conducted a climate-related stress test on the insurance sector; similar tests on the financial sector

more broadly, and on the largest individual institutions, are expected to follow.¹⁶⁰ The U.K. government is preparing a green-finance taxonomy, with an independent commission due to make proposals on metrics and thresholds later this year.¹⁶¹

FINANCIAL FLOWS

The five largest U.K. banks provided USD 312.4 billion in fossil fuel finance in the years from 2016 to 2020; three of them increased their commitments between 2016 and 2019, while two decreased them. Three of these banks have committed to making all key areas of their business (including financing) net-zero emissions by 2050; one has pledged to make a commitment in future. U.K. banks ranked fifth globally in finance for coal plants from 2012 to 2019 and are also major financiers of oil and gas. HSBC and Standard Chartered banks are among the world's six largest financiers of coal. Standard Chartered has committed to stop financing mining and power companies in 2021, but only for companies that draw 100 percent of their revenues from coal; this threshold will fall to 60 percent by 2025 and to 10 percent by 2030, a timeline described as “far too slow” by Reclaim Finance.¹⁶²





UNITED STATES (THE FEDERAL RESERVE)

SUMMARY

In 2020, Federal Reserve (the Fed) executives began to refer to climate risk in speeches. Simultaneously, however, the Fed worked to maintain and even increase fossil fuel finance from the United States, the world's number-one provider of fossil fuel finance.¹⁶³

ASSET MANAGEMENT

The Fed's asset purchase programs, launched in response to the coronavirus pandemic, were strongly weighted toward "dirty" industries in general, and to fossil fuel producers in particular; these firms benefited from the Fed programs as well as from the multi-billion USD private-sector buying spree that followed. The Fed was inordinately generous to fossil fuel producers through both the Secondary Market Corporate Credit Facility (SMCCF) and the Main Street Lending Program (MSLP). The Fed bought USD 5.1 billion of corporate bonds under the SMCCF, of which fossil fuel producers issued USD 470 million; the program initially covered investment-grade bonds and ETFs, but standards were relaxed to include weaker credits, including "junk"-rated bonds. Civil society organizations analyzed the Fed's holdings in 2020 and found that they consistently overweighed fossil fuels. In July 2020 their weight in its portfolio was twice their weight in overall corporate debt, three times their weight in equity markets and four times their weight in employment terms. Fossil fuels accounted for eight percent of the SMCCF holdings,

compared to three percent of the stock market.¹⁶⁴

The MSLP, nominally aimed at smaller businesses, was launched in April 2020. Politicians allied to the oil industry lobbied the Fed to have the terms changed in ways that benefited oil companies; they were adjusted to include more heavily-indebted companies, those planning to use the loans to roll over existing debt, and those that laid off workers. Nearly 13 percent of MSLP loans went to fossil fuels, compared to 1 percent for renewable energy; at the end of 2020, outstanding loans to oil and gas companies were USD 2.22 billion. The Fed's support for fossil fuels was allied to government support: a tax refund scheme designed to alleviate hardship caused by the pandemic gave USD 8.24 billion to 77 oil and gas companies, even as those companies laid off 60,000 employees.¹⁶⁵ The Fed and the government recovery programs triggered a fossil fuel borrowing boom; in the six months prior to September 2020, 56 oil and gas companies, many of whose bonds the Fed had bought, issued USD 99.3 billion of debt, the highest level of issuance in a decade.¹⁶⁶

RULES FOR COMMERCIAL BANKS, POLICY, AND RESEARCH

The Fed has used neither monetary instruments nor prudential regulation to constrain fossil fuel financing. The Fed's most recent refinancing initiative, the 2020 Paycheck Protection Program Liquidity Facility, took no account of climate risks or transition objectives.¹⁶⁷ No disclosure or stress-test requirements have been

developed, although a Supervision Climate Committee has now been established to consider these matters. The Fed has not published research on climate-related risks. Its Financial Stability report, published in 2020, acknowledged the importance of climate-related risks and said that the bank's staff had "only begun to incorporate" such risks into their analysis. There is no regulatory framework for, or legal definition of, sustainable finance in the U.S.¹⁶⁸ The Fed joined the NGFS in December 2020.¹⁶⁹

FINANCIAL FLOWS

The U.S., which accounts for more than 40 percent of the global bond market and nearly 60 percent of the global stock market, is the biggest source of fossil fuel finance by far. The eight largest U.S. banks provided USD 1.2433 trillion in fossil fuel finance in the years from 2016 to 2020, more than twice as much as China's 13 largest banks, the second-largest group of fossil fuel financiers. Six of these eight U.S. banks increased their commitments between 2016 and 2019; the world's top three financiers of fossil-fuel expansion projects are all U.S.-based. Five of these eight banks have committed to making important areas of their business net-zero carbon emissions by 2050, and another one has pledged to set unspecified emissions targets. U.S.-based JP Morgan Chase, the world's largest lender to fossil fuels, single-handedly provided USD 51.3 billion in fossil fuel financing in 2020. U.S. banks also rank third, after China and Japan, in finance for coal plants, with USD 167 billion of commitments from 2012 to 2019.¹⁷⁰

5. CONCLUSIONS

In the years since the Paris Agreement was signed, executives at some of the most powerful central banks have become increasingly outspoken about the need for their institutions to address the climate emergency. In 2017, with the formation of the TCFD and the NGFS, a discussion began on what actions central banks can take. Work began on evaluating the nature and scale of climate-related risks.

But none of these actions have made any difference to the scale on which finance flowed to fossil-fuel production. Central banks have not yet used the tools available to them to stem fossil fuel finance.

To limit warming to 1.5°C and achieve the objective of the Paris Agreement, the world needs a managed decline of fossil fuel production – starting now.

In the face of the urgent need to cut fossil fuel production, the limited measures taken by some central banks are overshadowed by the inaction on financial flows to fossil fuels. This inaction is one of the factors that have enabled these flows to continue to grow in the years after the Paris Agreement was signed, reaching a total of USD 3.8 trillion between 2016 and 2020. Financial flows to exploration and development projects, which will allow fossil fuel production to grow in future – as well as to other aspects of fossil fuel producers' businesses – have continued to increase.

This expansion of fossil fuel finance was significantly curtailed only by the COVID-19 pandemic and the recession that it caused. However, the measures adopted by governments and central banks to stimulate post-pandemic recovery, like those taken in response to the 2008-09 financial crisis, show every sign of encouraging a renewed expansion of fossil fuel finance.

Central banks' actions so far – including researching climate-related risks on macro and micro scales, the introduction of standards for disclosure and stress-testing, and the development of taxonomies and sustainable finance definitions – have been underpinned by the assumption that markets, properly supervised and regulated, will produce the necessary responses to the climate crisis. The

continued expansion of financial flows to fossil fuels casts significant doubt on this assumption.

One major objection to central banks taking action on climate change is that, to implement monetary policy effectively, they need to respect the principle of "market neutrality." But the large-scale creation of new money in response to the coronavirus pandemic, and the character of the recovery packages in which central banks have participated, is a reminder that central banks not only can, but do depart from this principle in response to emergencies.

Jens Weidmann, president of the Deutsche Bundesbank, has articulated the view of many central bankers: that monetary policy should not be amended in order to address the climate crisis, and that this would be a substitute for the introduction of carbon taxes by governments. Such a view is one-sided. The introduction of carbon taxes is primarily a method of constraining demand for fossil fuels. But supply must also be limited, and one way to do this is to limit the currently untrammelled flow of finance – in some cases, cheap finance at below-market rates – to fossil fuel producers.

This report has shown that asset management by central banks – and in particular, the assets purchased in response to the coronavirus pandemic by the U.S., U.K., European, and Chinese central banks – have actually intensified the flow of finance to fossil fuel producers and fossil-intensive industrial sectors. Research of the financial market in the U.S., the world's largest, suggests that the character of the asset purchase program facilitated unprecedented levels of lending from private-sector banks to fossil fuel companies at a time when monetary and financial policy should be working in the opposite direction.

The report has shown that, in their role as supervisors of commercial banks, central banks have largely failed to use the levers at their disposal to stem the flow of fossil fuel finance. Central banks have ignored proposals to use reserves requirements or prudential regulation to this end. Neither have central banks advocated changes in their mandates where required.

Central banks' most significant progress has been in developing frameworks for disclosures and stress tests, and in initiating research of climate-related risks. Indeed François Villeroy de Galhau, governor of the Banque de France, has said that it is with regard to reporting and data regulation that "battle" will need to be waged this year.¹⁷¹

Progress on these issues, important as it is, is not sufficient. Instead, central banks must grapple with the implications of the IPCC Special Report on Warming of 1.5°C, and of the recent IEA net-zero emissions scenario. Limiting warming to 1.5°C requires a global energy transition of unprecedented scale at an almost unprecedented pace. Central banks must play a part. No tool can be set aside.

We recommend that:

1. Governments amend the mandates of central banks where necessary to give them the power to support the managed decline of fossil fuel production by facilitating an end to fossil fuel finance, in line with the Paris Agreement;
2. Central banks:
 - ➊ adapt their asset management practices to exclude from their portfolios all fossil fuel production and fossil fuel intensive consumption sectors, further investment in which is found to be incompatible with the Paris Agreement;
 - ➋ adapt their regulatory practices with a view to eliminating commercial banks' exposures to all fossil fuel production and fossil fuel intensive consumption sectors, further investment in which is found to be incompatible with the Paris Agreement; and
 - ➌ undertake research of climate-related risks, and require commercial banks to undertake research of climate-related risks and conduct the appropriate stress tests; and
3. Civil society continues to bring greater pressure to bear on governments and central banks to put the managed decline of fossil fuel production at the center of their climate strategies.

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