

Fossil assets: the new subprimes?

How funding the climate crisis can
lead to a financial crisis

June 2021

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Table of content

| | |
|--|------|
| Executive summary | p 3 |
| Part 1. Fossil assets eating away at banks | p 7 |
| Part 2. Green finance: a false solution | p 12 |
| Part 3. Step one: stopping the fossil fuel delusion | p 15 |
| Part 4. Step two: turning the page of fossil fuels | p 19 |
| Conclusion | p 22 |
| Appendix | p 24 |
| Appendix 1: Table of results for large banks in the eurozone | p 25 |
| Appendix 2: Table of results for a few large banks outside the eurozone | p 25 |
| Appendix 3: Detailed methodology | p 26 |
| Notes and references | p 29 |

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Executive summary

Executive summary

Banks' fossil fuel addiction is endangering the climate

According to the Banking On Climate Chaos 2021 report, between 2016 and 2020, the 60 largest banks in the world granted 3,393 billion euros¹ to companies in the fossil fuel sector². **In direct contradiction to their rhetoric and public commitments, European banks have not reduced their funding to fossil fuels.** Some have even continuously increased their support to the industry — the largest emitter of greenhouse gases.

However, upholding the Paris Agreement signed in 2015 requires immediately ending the development of fossil fuels and their gradual phase-out. Global production of coal, oil and fossil gas must decrease by 6% per year by 2030 to give us a chance to limit warming to 1.5°C³: a path at odds with current financial flows.

Fossil assets: a climate and financial risk

Banks' support for companies in the fossil fuel sector is not new. Before and since the Paris Agreement, they accumulated hundreds of billions in financial assets related to the exploration, development, transportation and use of coal, oil and gas. Now, **these "fossil asset" stocks are critical for the stability of the climate and the financial system.**

In faithfully providing the fossil fuel industry with the capital it needs to operate and develop, banks are funding massive amounts of greenhouse gas emissions. This also reduces their capacity to finance sustainable alternatives, as the volume of liquidity and reserves allotted to fossil fuel giants and their projects limits funding for the transition. Hence, banks amass financial assets deemed safe by their current analysis, which are in fact highly exposed to climate risks. Through so-called "green" finance and often incoherent climate strategies, **the financial sector is seeking to negate risks — although these risks increase when they are ignored.**

In fact, fossil assets risk becoming "stranded assets" — sustaining considerable losses in value and liquidity as compliance with the Paris Agreement will significantly reduce the use of fossil fuels. Like all risks, stranded assets are even more dangerous when they are ignored. This was notably the case during the subprime crisis, which led to bank failures, a global recession, a surge in unemployment and inequality.

In this context, **the devaluation of fossil assets held by banks, following the inevitable ecological transition, could produce significant turbulence or even generate a new financial crisis.** The loss in value, whatever the speed, could put banks in a situation of bankruptcy if their equity — the capital to cushion hard blows — and the insurances were insufficient to cover it. **This context mirrors the subprime mortgage crisis**, when the denial of a looming catastrophe led to an avoidable crisis, resulting in many bank failures, including that of Lehman Brothers — the 4th largest investment bank in the United States at the time.

Our study assesses the financial climate-related risks for the biggest banks of the eurozone, underlining the need for an early management of fossil assets, to preserve the environment as well as the stability of the financial system.

The 11 biggest banks in the euro area have amassed more than 530 billion euros in fossil fuel assets, representing 95% of their total equity.

Eurozone banks on the brink of an invisible abyss

Our in-depth study reveals **the 11 biggest banks in the euro area have amassed more than 530 billion euros in fossil fuel assets, representing 95% of their total equity.**

In the absence of adequate financial regulation, fossil fuel asset stocks will continue to grow and financial risks continue to increase.

a transition — aeronautics, automotive, petrochemicals, etc. Therefore, we cannot rule out a snowball effect, triggering a major crisis.

In the hypothesis of a 80% loss in fossil assets' value, **Crédit Agricole⁵ and Société Générale — respectively the 3rd and 4th largest banks studied — could be in the red and the reserves of Deutsche Bank and Commerzbank would nearly be exhausted.** All banks' ability to finance the ecological transition would be strongly affected. In the worst-case scenario, if the value of fossil fuel assets dropped to zero, 5 of them — including 3 of the 5 largest — would not have sufficient equity to cover their losses.

The devaluation of fossil assets is likely to occur over the course of several years. This gives banks a window of opportunity to initiate an in-depth and rapid change in their activities. This requires the banking sector, which considers the shift disadvantageous in the short term, to agree to stop hindering the necessary transformation of our economies, and adapt its business model accordingly.

These conclusions come as banks continue to provide new financial support to fossil fuels. According to the Banking On Climate Chaos 2021 report, the 11 banks stu-

These assets represent **a very large share of equity for all banks under review⁴, ranging from 68% for Santander to 131% for Crédit Agricole.**

These fossil assets represent only the tip of a gigantic iceberg representing all sectors requiring

died devoted 95 billion euros to finance fossil fuels in 2019 alone⁶. Moreover, despite the adoption of some the most advanced sectoral policies on fossil fuels by several of the European banks studied, our research reveals the limits of their voluntary commitments, suggesting that exposure outside of Europe is just as high — if not much higher. **Hence, if this trend is not reversed, in the absence of adequate financial regulation, fossil fuel asset stocks will continue to grow and financial risks continue to increase.**

As was the case with the subprime mortgage crisis of 2008, the colossal risks taken by banks in the pursuit of short-term profits could become the burden of states, citizens, and above all the poorest and most vulnerable, who are already the most affected by climate change.⁷

Strong political intervention at national and European levels is therefore essential and urgent to break this “tragedy of horizon”⁸, and make finance work for the ecological transition.

One solution: regulation

Banks already plagued by fossil assets actively fuel the infection by continually adding new fossil assets to their balance sheets. Indeed, as the energy transition is not yet clearly initiated, the price of these future stranded assets does not reflect the financial risk they pose. The climate and financial risks posed by this addiction to fossil fuels **requires political action to (1) stop the progression of metastases and (2) totally eradicate the disease, and treat the patients.**

The first step is to stop any new investment in the fossil fuel sector — *Part 3*. This requires **ending monetary policies' indirect support to the sector and reviewing national and European regulations, to account for the**

Methodology: uncovering banks' “fossil assets”

Our research covers the 11 biggest banks in the eurozone: BNP Paribas, Crédit Agricole SA, Société Générale, Banque Populaire Caisse d'Épargne (BPCE), Deutsche Bank, Commerzbank, UniCredit, Intesa Sanpaolo, Santander, BBVA and ING.

It identifies banks' financial assets linked to fossil fuels. These “fossil assets” represent all financial tools used for loans and investments linked to the exploration, development, and distribution of coal, oil and gas resources, or the production of electricity

from these sources. These fossil assets are compared to banks' equity, indicating their capacity to absorb losses in the event of a crisis.

Data was extracted from banks' official documents and consolidated balance sheets. When information was not provided by the institutions, we applied allocation keys built using sectorial, economic and financial data, to determine the share of fossil assets in credit and investment assets.

The results were sent to the banks, which could make corrections if they wished to do so. This methodology was defined in collaboration with several experts, including consultants from Carbone4.

A full description of the methodology is available in the appendix.

threats posed by the sector in terms of environmental and financial stability. This includes:

- The exclusion of fossil assets from asset purchases (“quantitative easing”) and the European Central Bank’s (ECB) list of collaterals, followed by the alignment of all of the central bank’s operations with the Paris Agreement.
- A legal framework regulating financial institutions’ support to fossil fuels, monitored and enforced by public authorities.
- Financial rules and regulations that fully account for the risks associated with funding fossil fuels, with increased capital requirements, the creation or adjustment of systemic risk buffers, strengthened bank deposit guarantee rules and frameworks regulating the securitisation of fossil assets.

When these conditions are met, the financial situation of banks must be addressed — *Part 4*. Balance sheets “overloaded” with fossil assets would perpetuate the risk of a crisis. Above all, it would continue to limit finance for the

ecological transition, by blocking significant funds in sectors fated to disappear.

The intervention of the European Central Bank (ECB) — via the creation of a European “fossil bank” — could be necessary to free banks from this burden. A specific bad bank, financed by the ECB’s asset purchases, would buy back a significant portion of fossil assets from banks exiting fossil fuels, and manage their gradual phase-out. If the operation presents real difficulties in terms of implementation, and would undoubtedly require strong political support, it has multiple advantages, such as **initiating the gradual phase-out of fossil fuels in a just transition approach, sharply reducing climate impacts and the risk of crisis, and freeing massive funds for the ecological transition.**

By taking responsibility for past errors, by acting efficiently and in a coordinated way, governments and financial institutions can prevent another financial crisis while tackling climate change. A virtuous cycle, which has regrettably become urgent.





Part 1

Fossil assets eating away at banks

Fossil assets eating away at banks

A massive fossil “stock”

The 11 European banks studied have allocated 532 billion euros in assets to fossil fuels — in credits and market products — while fossil fuels are responsible for the largest share of global CO₂ emissions.⁹ These assets are “stored” in institutions’ balance sheets for different periods of time, which can extend over many years.

In other words, the equivalent of Belgium’s nominal gross domestic product (GDP) in fossil assets — 530 billion euros in 2019¹⁰ — is held by a few European banks. If these funds were invested in solar energy, it could increase global ins-

talled capacity by 618 GW,¹¹ representing more than 20% of global renewable energy capacity in 2020, and more than twice the amount of new capacity installed that same year.¹²

Fossil assets stocks held by banks range from 28 to 80 billion euros. 7 of the 11 banks studied held more than 45 billion euros of fossil assets each. BNP Paribas and Crédit Agricole SA alone account for 151 billion euros in fossil fuel assets, nearly 30% of the assets listed in this study.

Fossil assets: blocking the transition today, stranded assets tomorrow

Any new investment in fossil fuels creates a financial asset whose value is based on an economic model incompatible with a 1.5°C, or even a 2°C warmer world. As a result, all fossil assets will suffer sudden or total losses in value as the transition makes progress, **eventually becoming “stranded assets”**.¹³ This risk has gained prominence in recent years. Former Governor of the Bank of England Mark Carney notably declared in 2015 that meeting the carbon budget set by the IPCC would render the vast majority of oil, gas and coal reserves “stranded”, and warned of the potentially huge exposure of British investors to these climate risks.¹⁴

Faced with this possibility, companies and financial institutions holding massive amounts of fossil fuels assets could tend

to delay the transition, although fossil fuels are no longer competitive. According to the IRENA,¹⁵ 75 to 80% of onshore wind energy and solar energy commissioned in 2020 following auctions or tenders were cheaper than any fossil alternative.

Several financial institutions have stated they will phase out fossil assets naturally. According to Jean Raby, CEO of Natixis Investment Managers: “It is inevitable that fossil fuels attract less and less capital, because they are less and less perceived as a source of future growth, and there are real risks linked to regulations and stranded assets. [...] Our message to the industry is that if you don’t prepare your business for the inevitable transition to a low-carbon economy, you will attract fewer investors.”¹⁶

Investor Engine No. 1 conveys the same message when stating Exxon Mobil faces an “existential business risk” by refusing to establish a credible transition plan.¹⁷ The only problem is this allegedly “natural” shift is far from apparent today. Financial institutions — including Natixis Investment Managers¹⁸ — continue to support companies in activities directly opposing the transition to a low-carbon economy. As Gaël Giraud explains in his book *Illusion financière*,¹⁹ the financial system can be very inconsistent, which explains financial crises. Fossil fuel assets seem to prove this argument further...



Deutsche Bank



COMMERZBANK

INTESA SANPAOLO



Fossils assets owned by the 11 largest Europeans banks

532 000 000 000 €

Representing 95% of equity

An unbreakable addiction

Like a smoker who cannot quit, banks are addicted to fossil fuels. Despite the damage it causes, the addiction persists. The Banking On Climate Chaos 2021 report reveals that the **11 banks studied provided up to 95 billion euros to fossil fuels in 2019.**²⁰ Once again, 3 French banks, BNP Paribas, Crédit Agricole and Société Générale stood out, totaling 49 billion euros in new fossil assets over the year. Similarly, a May 2021 report by Friends of the Earth France and Oxfam France shows that major French banks massively supported fossil fuel companies during the Covid-19 crisis, even if it meant further increasing their exposure and dependence on these risky sectors²¹.

While French banks and UniCredit's sectoral policies are considered the best in the world,²² they continue to invest in fossil fuels and own 323 billion euros in fossil assets. These figures clearly show the inadequacy of the approach of policymakers simply waiting for financial institutions to self-regulate and align their funding with climate goals. Like any dangerous addiction, quitting can be difficult and require more support.

A real risk of financial unrest

Beyond disastrous environmental consequences, addiction to fossil fuels risks seriously damaging banks' financial health. The fossil assets of these 11 euro area banks repre-

sent **95% of their total equity**. This ratio between fossil assets and equity varies **from 68% for Santander to 131% for Crédit Agricole.**²³ Therefore, to absorb a loss in value of their fossil assets, all banks would have to mobilise a high share of their equity.

However, **there is a real risk that fossil assets become stranded assets**, impossible to sell due to low potential for increases in value and/or bad reputation. Increasingly, fossil assets will cumulate the two defects.²⁴ As underlined by Carbon Tracker, the devaluation of fossil assets is a natural consequence of ongoing transition processes, as the remaining carbon budget does not allow for the consumption of current fossil fuel reserves.²⁵ A quick stranding process would even be preferable in terms of the environment. As renewable energy prices drop, many coal-fired power plants are already uncompetitive — this would be the case for nearly all of them by 2030.²⁶ Even fossil gas, long protected, is now affected:²⁷ European gas projects are based on an increase in gas consumption in contradiction with the Union's climate objectives, creating 87 billion euros of potentially stranded assets.²⁸

These changes affect financial institutions directly. The decline in oil prices in 2020 led ExxonMobil's stock value to drop 35%, 40% in the case of Shell and BP, 20% for Total.²⁹ Black Rock, the world's leading asset manager, declared a loss of \$90 billion over a decade due to fossil fuels.³⁰ The gradual slowdown in shale oil and gas development in North America, which was enabled by constant capital injections, has resulted in large losses for major banks like Wells Fargo³¹.

These examples reveal a global vulnerability. The Swiss Re insurance company calculated that a carbon tax of \$100 per tonne would lead to a drop in revenues ranging from 40 to nearly 80% for energy companies, depending on their geographical area, particularly affecting fossil fuel reserves, with credit losses for electricity, oil and gas production of between \$50 and \$300 billion and a possible doubling or tripling of the probability of non-repayment.³²

Assuming an 80% loss in value of fossil assets, at unchanged equity perimeter, Crédit Agricole and Société Générale – respectively the 3rd and 4th largest banks studied – would not have sufficient equity to absorb their losses. Deutsche Bank and Commerzbank's equity would be nearly exhausted. This 80% loss scenario can be compared to the 84% of explored fossil fuel reserves that would not have to be consumed to keep global warming at 1.5°C according to Carbon Tracker, as well as to the sharp drops in value recorded during the subprime crisis.

In the worst-case scenario, **5 banks – Crédit Agricole, Société Générale, Deutsche Bank, Commerzbank and UniCredit – would not have the equity to cover their losses if the value of fossil assets fell to zero.** BNP Paribas finds itself in a similar situation: its fossil assets represent 99% of its equity.

These findings reveal banks' overexposure to fossil fuels as well as the failure of current financial regulation to recognise the financial risks they pose. This is **all the more worrying as this study's focus is limited to the "tip of the iceberg": assets directly linked to the fossil fuel industry's value chain. It does not consider adjoining sectors, where European banks' exposure is greater still.**³³ **Therefore, we cannot exclude a "snowball effect" if sectors such as aeronautics, automotive or petrochemicals were in turn caught in a spiral of loss of financial value, driving the financial system into crisis.**

It is certainly highly unlikely that such a catastrophic sequence would occur in a matter of weeks. The devaluation of fossil fuels should be gradual given their role, which remains central today. However, even if the loss in value of these assets were spread over several years, the risk this report attempts to underline would remain the same: given the current state of banks' equity, business as usual would make it especially difficult for the main banks of the eurozone to cope with a significant value loss of fossil fuel assets. Furthermore, as these banks are aware of the seriousness of this risk in the medium and long term, it is likely they are reasoning backwards today, to gain time by slowing down the ecological transition as much as possible. **This report attempts to underline this danger as well.**

2008: From the subprime crash to an economic and social crisis

During the subprime crisis, banks and financial institutions highly exposed to subprime assets saw **their value drop by more than 80%** in 2007 and 2008 in a matter of months, **as subprimes became stranded assets.** Some institutions were in worse situations still: Bear Stearns recorded a drop in value upwards of 98% in the 12 months preceding its takeover by JP Morgan Chase in March 2008, while Lehman Brothers recorded a drop upwards of 90% between May and September 2008, before its bankruptcy.

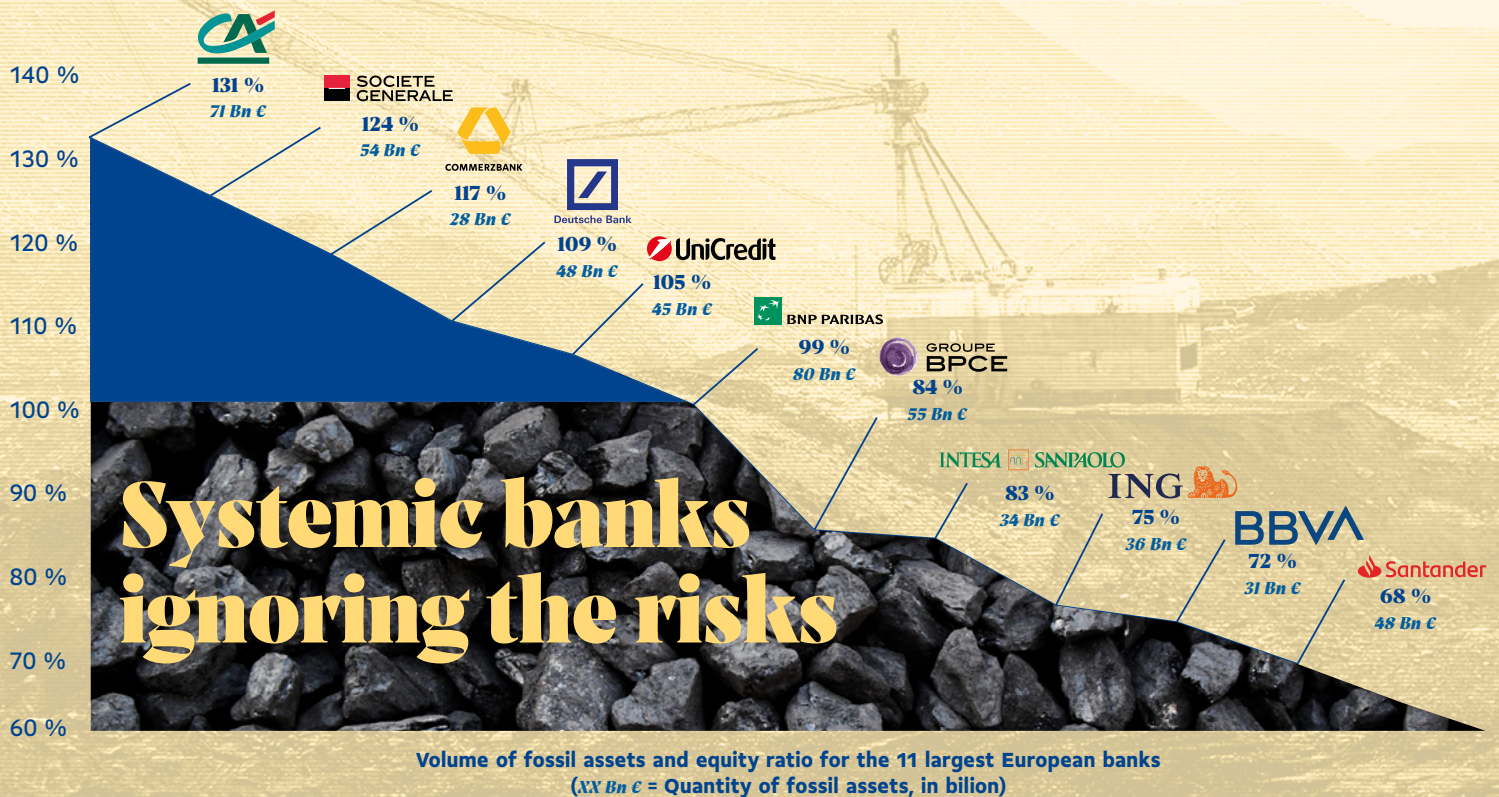
Thus, on top of the real estate market crisis, the financial system jammed, causing bank failures on all continents. States and central banks had to rush in to stop the chain reaction shaking the entire financial system. European states alone spent 747 billion euros from 2008 to 2015 to rescue banks, of which at least 213 billion were lost.³⁴

The subprime mortgage crisis, initially limited to real estate and finance, deeply impacted household consumption and investment, in particular through the tight-

ning of credit conditions due to banks' fragility. This led to a global recession, a drop of 2.2% in global GDP, a collapse in international trade, and difficult situations faced by countries such as Iceland, Ukraine, Argentina or Ireland. The financial crisis led to years of economic and social crisis. It left several million unemployed, including 800,000 in France, with surging long-term unemployment rates impacting the most vulnerable first: lower-income, non-graduates, residents of marginalised areas, and immigrants.³⁵

While banks can use other tools - notably insurances - to limit their losses and avoid bankruptcy in the discussed scenarios, these tell us nothing of their preparedness for these risks and open the door to losses being passed on to other financial institutions. Moreover, the ability of insurance mechanisms to support banks in the event of a sharp decline in the value of fossil assets is uncertain. Indeed, these losses would simultaneously affect the insurers themselves - who also hold fossil fuel assets and directly insure fossil fuel companies and projects - and all the financial actors they insure. The "last resort" insurers of the banks would then be the States - and therefore the taxpayers -, a situation that must absolutely be avoided.

Presented with these findings, some will try to hide behind the development of so-called "green or sustainable finance". However, Alain Grandjean and Julien Lefournier³⁶ in particular have shown that green finance, in its current state, is unfortunately a greenwashing tool first and foremost. This shouldn't surprise us if we understand these new practices as ways to buy time in the face of an inevitable outcome which, as this report shows, would end a significant portion of financial activities in the eurozone.





Part 2

Green finance: a false solution

Green finance: a false solution

The trend of green finance

Since the adoption of the Paris Agreement, **green finance has gained prominence and is much communicated upon**. COP21 kicked off a number of major international events — One Planet Summits and Climate Finance Days — with the stated ambition to make the financial sector work for the climate. These events were followed by many announcements from financial institutions, as well as central banks and governments.

A large number of sustainability labels and socially and environmentally responsible financial products were created. “ESG” funds — Environmental, Social, Governance — are registering strong growth, in number as well as volume. In France, responsible investment outstandings reached €1,860 billion at the end of 2019, a growth of 27% compared to 2018.³⁷ In Europe, 250 funds were renamed ESG in 2020 alone.

At the same time, the green bond market grew from 8.4 billion euros in 2013 to 217 billion euros in 2019, crossing the threshold of \$1 trillion in cumulative issues at the end of 2020.³⁸ New “sustainable” bonds appeared, such as “sustainability-linked bonds” tied to ESG indicators set by the issuer.

Several financial institutions have also taken steps to withdraw — often very partially — from sectors presenting risks for the climate and human rights. The main sector impacted by these commitments is coal.

However, this sustainability trend is often mere branding.

products, encourage savings or attract new customers. In 2019, this was only the case for 1 in 12 ads.³⁹

At the same time, more and more financial institutions are greening their communications: 1 in 8 financial institutions ads from January to July 2020 used sustainable finance to promote certain

However, this sustainability trend is often mere branding. French banks’ strategies places us on a 4°C warming trajectory, far from the 1.5°C target of the Paris Agreement.⁴⁰ More than 5 years after COP21, **the development of green finance is critically insufficient and far too slow to respond to the urgent need to redirect financial flows.**

When green turns to black

Many “green” products are particularly ineffective and misleading, obscuring a vastly different reality. No minimum legal requirements exist for products claiming higher environmental or social impacts. **A sustainable or green label does not guarantee real environmental quality.** Moreover, even the most widely used labels do not guarantee the exclusion of fossil fuels from a fund, or compatibility with the Paris Agreement targets. 94% of “socially responsible investment” (SRI) funds studied by the NGO Reclaim Finance⁴¹ were found to finance companies with harmful environmental and social practices — such as Total, Amazon or Bayer. Fossil fuel companies can make up to 22% of an SRI fund, according to the Axylia consultancy.⁴²

Likewise, and once again due to a nearly non-existent framework, large companies can use green bonds as a greenwashing tool with the complicity of banks. Green bonds are not legally defined: they can follow voluntary principles,⁴³ but nothing prevents them from financing environmentally damaging projects. Furthermore, as these bonds are based solely on “use of proceeds” principles, they can fund companies with disastrous climate records, and are not clearly linked to reductions in greenhouse gas emissions.⁴⁴ Green bonds have enabled funding for heavily polluting activities, such as coal projects in China in 2019. New “sustainability-linked” financial tools are just as poorly regulated and defined, opening the door to clear abuse, as demonstrated by the case of oil and gas company Enbridge.⁴⁵

Despite pledges to transition, green finance's best known and most promoted products continue to attract capital supporting polluting sectors and the fossil fuel industry.

Green finance: a drop in a fossil fuel ocean

Beyond the issues posed by green finance, the financial sector is proving incapable to turn its back on the causes of climate change. On the contrary, international banks have provided massive new funding — credits and issues of shares and bonds — to companies in the coal, oil and gas sectors. A recent report supported by more than 300 civil society organisations⁴⁶ reveals the **11 biggest euro area banks studied provided 495 billion euros in funding for fossil fuels alone since the adoption of the Paris Agreement**. French banks ranked last in this shameful line-up: since COP21, they increased funding for fossil fuels each year, surpassing British banks to become their biggest European supporter in 2020.

These 11 banks have not even ceased supporting the development of the most dangerous industries. Only 5 of them — BNP Paribas, Société Générale, Crédit Agricole, BPCE, UniCredit — committed to end their support for companies involved in new coal power plants and coal mines⁴⁷, and none of them have made these commitments for hydrocarbons, including unconventional hydrocarbons.

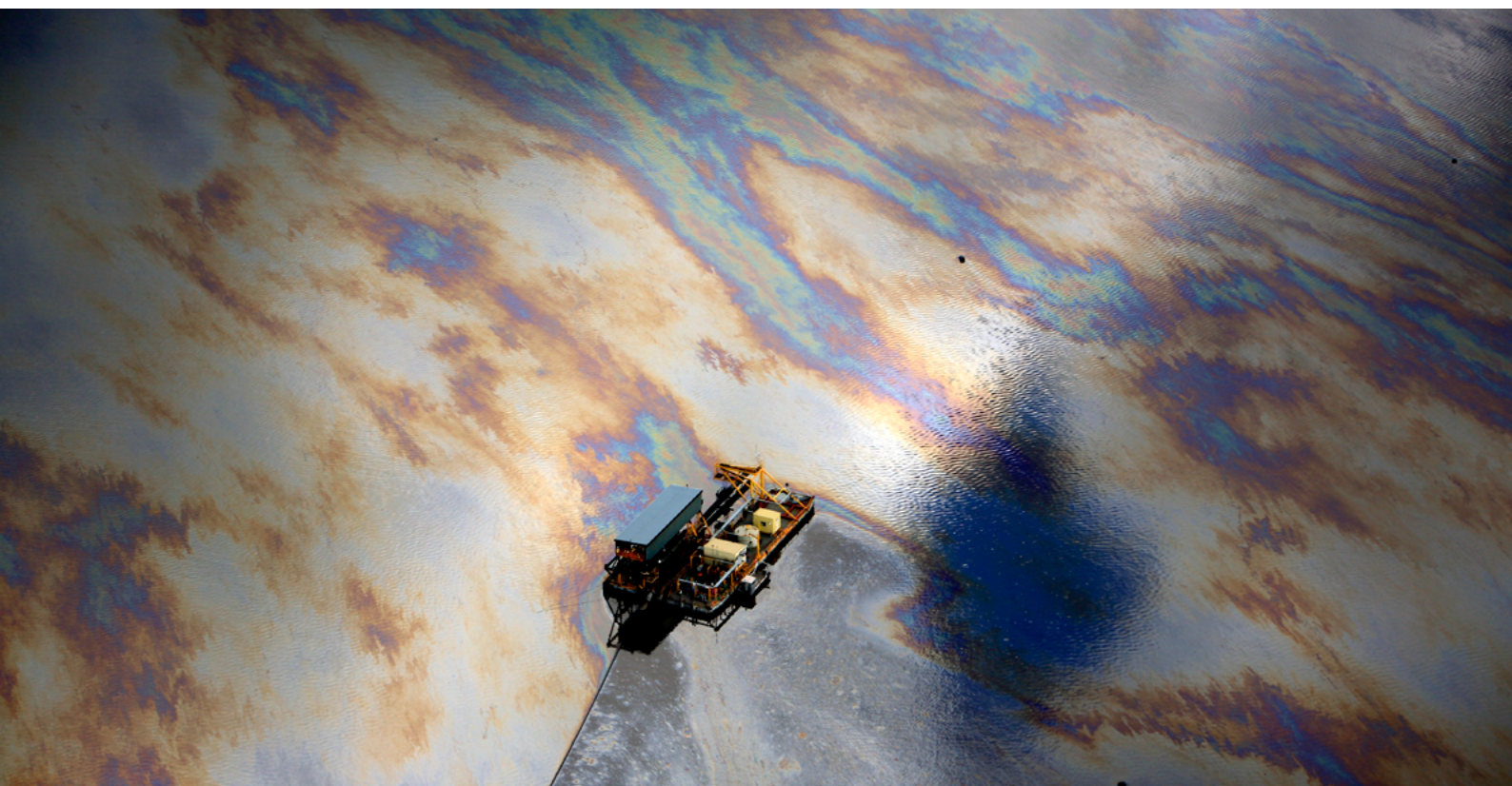
Banks still favour fossil fuels over renewable energies today. In 2018, Oxfam France⁴⁸ showed that for every 10 euros loaned by French banks to the energy sector, 7 euros went to fossil fuels while 2 euros financed renewable energy. Oil and gas majors that benefit from strong support from

banks continue to develop new reserves and, despite the rhetoric, they are far from initiating a transition in line with the Paris Agreement.⁴⁹ Carbon Tracker's analysis shows that, in March 2020, 58%, 66%, 85% and 88% of new investments made by Total, Shell, Equinor and Exxon respectively were incompatible with an International Energy Agency (IEA) scenario aiming for a warming objective beyond 1.5°C.⁵⁰

Banks still favour fossil fuels over renewable energies today.

In this context, companies' and financial institutions' carbon neutrality commitments conceal dangerous flaws⁵¹ and gaps, allowing for the continued development of harmful activities. These announcements are often based on climate scenarios which overestimate the potential of negative emissions to accommodate fossil fuels.⁵² At this stage, climate initiatives implemented by financial institutions — such as the *Net Zero Asset Owner Initiative*⁵³ or the *Paris Aligned Investment Initiative*⁵⁴ — present the same limits.

Thus, despite green finance's assurances, banks already plagued by polluting assets actively fuel the infection by continually adding new fossil assets to their balance sheets. In view of the climate and financial risks posed by this addiction to fossil fuels, **political action is needed to (1) stop the progression of metastases and (2) totally eradicate the disease.**



The background of the entire page is a photograph of an oil pumpjack, a common sight in oil fields. The pumpjack is a mechanical device used for extracting oil from a well. It consists of a long walking beam pivoted in the middle to a vertical support. One end of the beam is connected to a rod that goes down into the well, and the other end is connected to a counterweight. The pumpjack is shown in a low-angle shot, making it appear tall and imposing. The sky is a clear, bright blue. The text is overlaid on the left side of the image.

Part 3

Step one: Stopping the fossil fuel delusion

Step one: Stopping the fossil fuel delusion

Our study adds to numerous reports showing the need to stop the development of fossil fuels to save the planet⁵⁵ and protect the financial system.⁵⁶ Ending all new financial support for the fossil fuel sector must be a priority. To achieve this, relying on banks' goodwill is an inadequate strategy, which has shown its ineffectiveness.

Going forward, the financial system's structural framework must be reformed, by **ending monetary policies' indirect support to the fossil fuel sector and by reviewing national and European regulations, to account for the threat of fossil fuels for the environment and financial stability**. More broadly, it requires gradually aligning financial frameworks with the objectives of the Paris Agreement.

Aligning monetary policy with the Paris Agreement

In 2020, the European Central Bank (ECB) launched a "strategy review". This process should enable an analysis of how it fulfills its mandate, and to better integrate climate issues. This process is due to end in September 2021 and presents an opportunity to align the ECB's operations with European climate objectives. This is critical, as the ECB's overall response to the Covid-19 crisis is expected to exceed 5,000 billion euros — in liquidity, asset purchases and prudential easing measures from 2020 to 2022 — greatly benefiting companies with high carbon intensity.⁵⁷

1. Rethinking "market neutrality"

The ECB's operations follow the principle of "market neutrality".⁵⁸ This aims to minimise its impact on the market to avoid distortions, **but in practice it leads to a pro-carbon bias**, benefiting the most polluting companies, including

What is the ECB?

Since 1998, the ECB's main objective is to limit inflation within the euro area. To achieve this objective of "price stability", it uses several conventional tools, e.g. interest rates, as well as unconventional tools — quantitative easing in particular — to respond

to crises when the effectiveness of conventional tools is limited. In addition, the ECB's secondary objective is to contribute to the achievement of the objectives of the European Union. The ECB also plays an important role in maintaining European financial stability

fossil fuel companies. Yet this principle is not a legal obligation, and it is based on the misleading idea that monetary transactions are intrinsically objective decisions, which should not influence the market.⁵⁹

Several ECB leaders have considered the possibility of reviewing this principle⁶⁰ which undermines the European Union's objective of carbon neutrality. By preserving the current "market neutrality" stance, **the ECB is ignoring its secondary — legally binding⁶¹ — mandate which requires contributing to the achievement of the Union's objectives**. By accepting massive quantities of fossil assets in its operations, it promotes their liquidity — and therefore their increase in value — threatening⁶² its primary mandate of price stability. The Governor of the Dutch Central Bank thus underlined that the fight against climate change, and therefore the objective of limiting warming to 2°C, could be considered a prerequisite⁶³ in the achievement of the price stability mandate.

To respond to the climate emergency and — at the very least— avoid failing its mandate, the ECB must **change its interpretation of market neutrality to align with European climate objectives and the Paris Agreement.**

2. Aligning monetary transactions with climate goals

Several studies have shown that purchases of corporate assets by the ECB are biased in favour of the most carbon-intensive activities. Thus, more than 60%^{64,65} of companies' assets acquired through quantitative easing come from carbon-intensive sectors. The ECB supports 38 companies⁶⁶ in the fossil fuel sector, some of which, like Shell and Total, are involved in expansion projects.⁶⁷ The ECB itself has now recognised the carbon bias of asset purchases.⁶⁸ At the same time, the ECB allows banks to deposit assets as collateral to receive finance without taking into account their environmental impact, thus contributing to the valuation of these assets. 59%⁶⁹ of assets accepted by the bank could come from sectors with high carbon intensity.

The ECB must therefore start by decarbonising its asset purchases and collateral. If a refined approach to adjust monetary policy tools according to greenhouse gases emissions is necessary, the ECB must also exclude fossil fuel companies' assets in the long term to limit the negative effects of its current massive intervention in the context of crisis. As the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) underlines, the financial data necessary to align purchases and collateral with the Paris Agreement may not be accessible immediately, and the use of easily identifiable criteria⁷⁰ — such as any fossil fuel related activity — is a first step that would increase the credibility of the bank's announcements and send a strong signal to financial institutions. The ECB must also avoid accumulating fossil assets, which concentrates risk on its balance sheet without reducing support to the sector — much less reducing associated risks among European financial institutions.

Moreover, with the Covid-19 crisis, the ECB decided to grant reduced — and even negative — rates to banks which granted a certain volume of loans, through its long-term refinancing operations (TLTRO).⁷¹ BNP Paribas, Crédit Agricole, Société Générale and BPCE were thus able to borrow 379 billion euros⁷² in 2020, making profits of several hundred million euros, and continue to benefit from this scheme in 2021.⁷³ While these measures are not currently subject to any environmental or social criteria, they could be used to direct loans towards sustainable activities. On an exploratory basis, the ECB should set up a first "green TLTRO"⁷⁴ for building renovations, an environmental priority of the EU with highly positive ecological and social impacts.

Financial regulations must acknowledge the climate crisis

Beyond monetary policy, financial regulations as a whole must acknowledge the impacts of the financial system on the climate, and how climate change threatens its stability. On this front, the ECB has a role to play, but its intervention will not be sufficient. It must be accompanied by action on the part of all European and national financial regulators. It must also lead to more stringent laws, which are critical to ensure radical change in practices, to respond to the climate emergency.

1. Strict rules regulating financial support to fossil fuels

Banks' voluntary and sectoral commitments are the only existing safeguards limiting the support of financial institutions to harmful industries to date. They have proved incapable of preventing overexposure to climate and financial risks posed by fossil assets.

In France, in October 2018, the government asked financial institutions to adopt plans to phase out coal.⁷⁵ Nearly two years later, the results are far from sufficient: many actors have adopted incomplete sectoral policies,⁷⁶ allowing them to continue financing the sector and even its development, and financial regulators themselves report varying levels of ambition and effort from institutions.⁷⁷ In addition, these commitments have not led to a reduction in fossil fuel funding⁷⁸ and non-compliance is not sanctioned⁷⁹ by regulators as commitments are voluntary. At the end of 2020, the French government made a new appeal to Paris' financial center, asking financial institutions to adopt exit strategies for unconventional oil and gas.⁸⁰ Once again, nothing whatsoever guarantees this simple request will be followed by necessary action.

Therefore, it is crucial to stop relying on banks' ineffective self-regulation, **to regulate financial institutions' activities in fossil fuels.** Binding rules must at least require banks to immediately cease all financial support for new fossil fuel projects⁸¹ and the companies leading them, and to comply with a precise timeline to phase out fossil fuels, aligned with the objective to limit warming to 1.5°C.⁸² Financial institutions' implementation of these measures must be monitored independently by national and European financial regulatory authorities and **accompanied by strong financial sanctions in case of non-compliance.**

2. Capital requirements reflecting the risks linked to fossil fuels

Prudential norms (equity obligations) require banks to hold a set amount of reserves to ensure the stability of the

system. However, as our study reveals, banks' low levels of equity puts them at risk of bankruptcy if their fossil assets were significantly devalued, becoming "stranded assets"⁸³ — simply because banks do not take into account climate risks today.

Given this accumulation of risky assets on banks' balance sheets, **financial institutions should comply with Article 128 of the Capital Requirement Regulation (CRR), stipulating that "particularly risky assets" must be assigned higher risk weights.** In addition, as Finance Watch⁸⁴ suggests, **the calculation of risk posed by fossil fuel assets to determine capital obligations must be significantly increased, in particular for funding supporting new fossil fuel projects.**

Immediate action by the CRR⁸⁵ is sufficient to apply this at the European level, preceding a possible extension at the global level through a revision of Bâle III.

3. A better integration of systemic risks

Systemic risk buffers⁸⁶ enable the management of long-term non-cyclical financial risks by increasing equity requirements. They are set by central banks and national regulators for non-systemic banks, and by the ECB for systemically important banks.

As climate change is now widely recognised as a systemic risk — notably by the NGFS⁸⁷, the ECB⁸⁸ and the ESRB in Europe,⁸⁹ the Federal Reserve and the CFTC in the United States⁹⁰, or the Bank of England⁹¹ — its inclusion in systemic buffers or the creation of a new climate buffer make sense. The relevance of this tool is even greater as climate risks are defined by "radical uncertainty"⁹², complicating all predictions and requiring preventive action. It complements the proposal on capital requirements.

4. Protecting savings from climate risks

Deposit Guarantee Schemes compel banks to reimburse a minimum guaranteed amount to savers in the event of bankruptcy. In the EU, this minimum amount is 100,000 euros but it may vary depending on national requirements.

The amounts provisioned for this guarantee should be adjusted following banks' exposure to fossil fuels. By accumulating fossil assets, banks expose customers and governments to significant risks: they would bear the costs of bankruptcy if climate risks materialised. Deposit guarantees schemes can avoid this, while promoting a virtuous cycle of reducing risks and environmental impacts.

5. Regulating securitisation to avoid the spread of risks

The securitisation of assets strengthens the case for regulator intervention. Today, investors — brokers, traders, banks — buy bundles of securities containing diverse assets. These bundles of assets can include loans linked to fossil fuels, however these are diluted and therefore difficult to identify. In 2007-2008, securitisation contributed to the spread of the subprime crisis.

This obscure system contributes to disseminating risks linked to fossil assets, and complicates their traceability. Liability is divided between many investors. Securitised assets complicate the regulation or assessment of risk exposure. **To monitor fossil assets and associated liability, and avoid the spread of risks, complex securitisations of these assets should be prohibited.**

6. Clearly linking dividends and bonuses to environmental criteria

Given their weight in the governance of banks, **the ecological transition requires the commitment of shareholders and members of executive committees.** While internal bank policies can be put in place to ensure that bonuses or dividends are tied to reaching environmental objectives, these practices remain new and undeveloped. Today, 65% of the top executives of 39 international banks studied by Demog⁹³ are linked to polluting industries and their lobby groups. This figure exceeds 80% for several large banks — like Wells Fargo or JP Morgan Chase.

The European Central Bank has asked banks to limit dividends paid during the Covid-19 crisis, a single event, less threatening than the climate crisis for the stability of the financial system. This directly enabled the increase of banks' equity to face the crisis. **It must therefore ask banks that continue to provide new financial services to the fossil fuel industry to limit dividends — for example to 33% of profits compared to around 50% on average today.** Likewise, governments and European regulations could limit bonuses for executive committees as long as new fossil assets are accumulated by the company.



Part 4

Step two: turning the page of fossil fuels

Step two: turning the page of fossil fuels

Aligning monetary policies with the Paris Agreement and implementing regulations required by the climate crisis are urgent prerequisites to reduce funding for fossil fuels. However this will not remove banks' considerable stocks of fossil assets, in a context where the ecological transition requires increased funding capacities.⁹⁴ To clear these stocks, large-scale, decisive action is necessary to gradually phase out fossil fuels and free up the necessary funding capacities for the transition.

A European “fossil bank” to begin phasing out fossil fuels

Complying with the Paris Agreement implies phasing out fossil fuels, which requires rigorous and precise planning to minimise negative environmental and social impacts.

Given the scale of the task, the ECB could **buy back banks' fossil fuel assets**. This could be done indirectly via a public, European “fossil bank”, subsidiary of the ECB, responsible for managing the phase-out of fossil fuel assets following a

timeline to limit warming to 1.5°C. This new structure would issue securities purchased by the ECB, enabling it to acquire fossil fuel assets held by European banks. The advantage of the central bank's intervention is that it is the only bank in the European banking system which can endure losses greater than its equity without risking bankruptcy. As the Bank for International Settlements recently stressed,⁹⁵ a central bank can operate with negative equity. Today, the ECB's equity is very low: a mere 80 billion euros. This is because its equity does not affect the strength of the euro: in the event of losses, the ECB can replenish its funds through money creation, unlike secondary banks. The ECB's equity is therefore much lower than the loss it would face if it took on the fossil assets of the 11 banks studied – even if the value of these assets were to drop to zero.⁹⁶ The ECB is the only bank in the eurozone capable of absorbing such a loss – over 500 billion euros today.

This solution requires strong political will on the part of European institutions, and could benefit from a review of the ECB's mandate, making its objective of price stability explicitly compatible with the emergence of a sustainable and decarbonised system.

“Bad banks”, a realistic tool to manage stranded assets

While the central bank intervention proposed in this report may sound extraordinary, it would not be unprecedented. At the end of World War II, with the economy in dire straits and banks facing many unpaid loans, the central bank bought back all “bad” debts to cancel them.

Above all, the “bad bank” mechanism, an independent structure created to recover

“rotten” or stranded assets, is not new. Their objective is to part with unsellable, illiquid securities in more favourable contexts. These types of structures were used in several countries following the subprime mortgage crisis, including the United States, Germany, Spain and France.

The proposal to create a bad bank to limit the impacts of states' debts since the start

of the Covid-19 crisis has been discussed within the EU. ECB President Christine Lagarde spoke on the matter in February 2021.

At the international level, the Climate Safe Lending Network and Climate KIC recommend the creation of a “bad bank” to manage the riskiest assets with regards to the climate crisis.⁹⁷

1. Conditional repurchases

To genuinely contribute to the transition and avoid exonerating banks from all responsibility, the purchase of fossil assets must be conditioned to:

1. A complete end of all financial services to fossil fuel projects and companies that develop these projects.
2. Applying a discount – for example 10% – on the value of assets, supported by banks' equity and limiting repurchases to 70% of fossil assets held by banks. These proportions would enable banks to manage and pay for a share of the consequences of their past decisions and to remove obstacles for funding the ecological transition.
3. The adoption of a phase-out plan for fossil fuels, aligned on a trajectory of 1.5°C, for all remaining fossil assets.

Fossil fuel assets would be repurchased through an **exceptional and time-limited intervention**. Its criteria would be defined well in advance, and approved by political and financial institutions. Several rounds of asset repurchases can be considered. If necessary, they should be planned from the outset and offer less advantageous conditions than the first rounds – e.g. a higher discount – to avoid windfall effects.

These conditions can limit the impact of such massive intervention in terms of loss of confidence, an argument often made to reject the idea of debt cancellation.

The mechanism would only benefit voluntary banks, demonstrating a firm commitment to phase out fossil fuels and wishing to benefit from the operation to clear their fossil asset stocks and free up new financing capacity.

2. Asset management for a just transition

The new fossil bank tied to the ECB would manage repurchased fossil assets in a just transition approach. It would operate as a bad bank, enabling the isolation of these assets. Its objective would be to ensure the gradual phase-out of all fossil fuel sites and infrastructure, following a timeline aligned with climate science. Scenarios currently aligned with the 1.5°C target put forward:

- The phase-out of coal by 2030 at the latest in Europe and OECD countries, by 2040 globally;
- The phase-out of other fossil fuels in the following decade at the latest.

At the same time, states and central banks could support the most affected regions, and provide all workers with professional retraining. A complete programme to genuinely phase out activities linked to fossil fuels must be thought out and implemented, including economic and social policies. Many levers can be used. The European Investment Bank (EIB) could for example issue “just transition bonds”, or a “just transition fund” could be created, funded by purchases of securities by the ECB, and states and banks having benefited from the repurchase of fossil assets. This would enable the achievement of European climate objectives and the creation of many new green jobs.⁹⁸

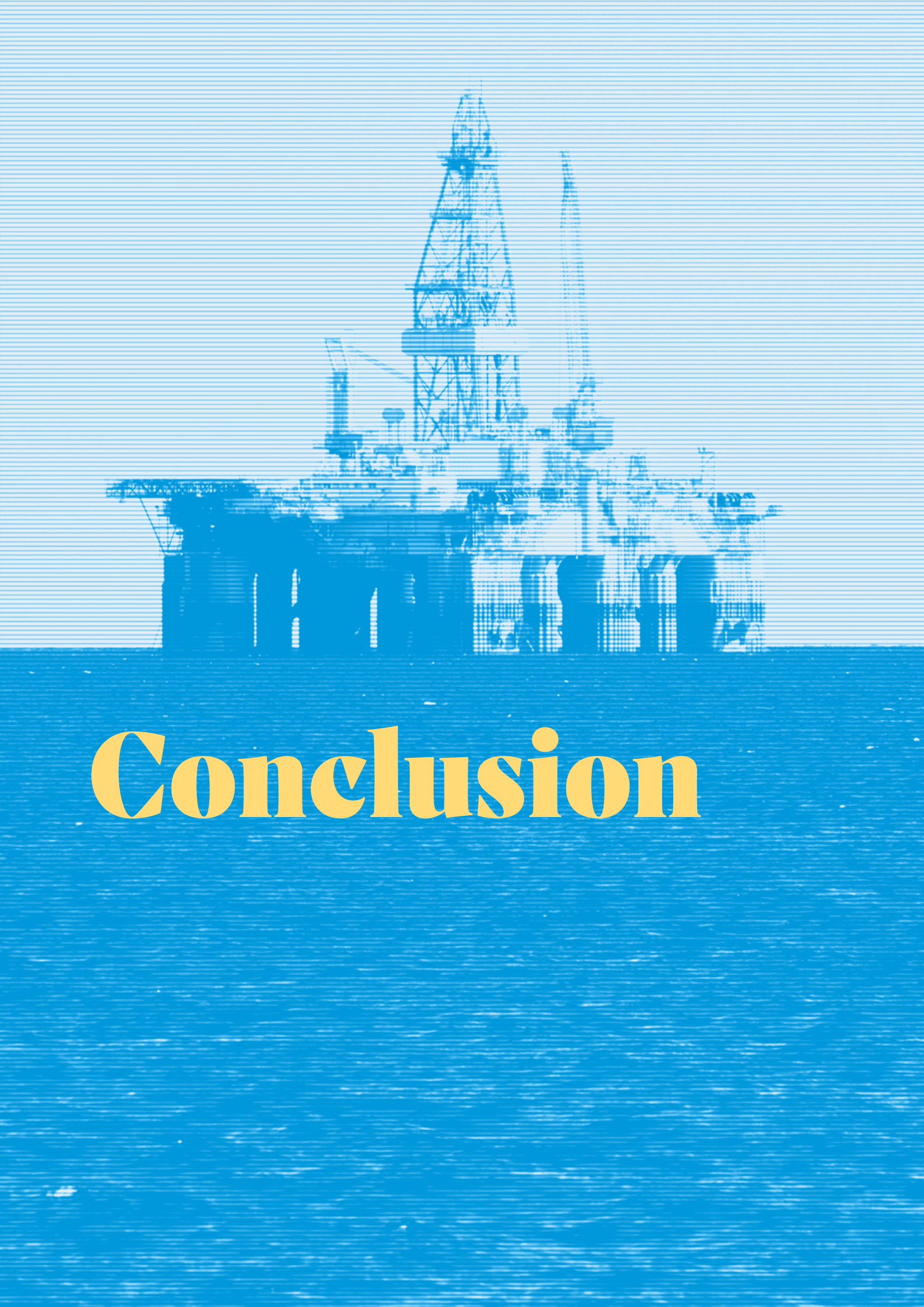
The management of this structure could be carried out by the EIB, or any other organisation capable of attaining these objectives.

Exporting this solution beyond Europe

Clearly, fossil assets are not only concentrated in European banks. The 60 largest banks in the world have steadily increased funding to the fossil fuel sector since 2016, reaching 3,393 billion euros over this period.⁹⁹ The biggest funders of fossil fuels are North American banks. The top three banks of this grim ranking – JP Morgan, Wells Fargo and Citi – account for \$585 billion in funding to the sector from 2016 to 2020.

The solution proposed at European level would therefore benefit from being replicated and implemented in collaboration with other major central banks for at least two reasons: to guarantee a global exit from fossil fuels in line with the objectives of the Paris Agreement and to avoid a monetary and financial imbalance between European and global institutions. Coordination is ideal, however this should not justify inaction on the part of European institutions and governments.

All regions of the world will experience the same challenges to achieve the objectives of the Paris Agreement. It should be noted that, in addition to the same difficulties in financing the ecological transition, several large international banks also face bankruptcy in the event of sudden fluctuations in the markets, in particular Wells Fargo, its fossil assets representing up to 300% of its equity.



Conclusion

Conclusion

To limit climate breakdown, we must sharply reduce and eventually end all extraction and use of fossil fuels. Any delay considerably lowers our chances of limiting global warming to 1.5°C, or a maximum of 2°C — increasing human, social, economic and financial impacts. The timeline to transition towards a low-carbon world is therefore of the utmost importance. **In this context, the “transition risk” associated with the speed of phasing out fossil assets constitutes a real challenge.** Indeed, ending our addiction to fossil fuels will eventually lead financial assets tied to fossil fuels to lose all market value. This report suggests that a conservative estimate of losses caused by these stranded assets would represent €500 billion for the 11 largest banks in the eurozone, representing 95% of their equity on average. These figures will continue to increase if banks further develop their exposure to fossil fuels, as some seem determined to do.

If public authorities and financial regulators do not act, the banking sector may feel it is “urgent to wait” to decarbonise. But the planet and humanity cannot wait. Nor can the financial system, which increases the risk of a subprime-like crisis.

In view of this threat, the first urgent step is to change the rules of the game for financial institutions, to prevent any new investment in coal, oil and gas, and stop the development of new fossil metastases. This requires ending monetary policies’ current support to fossil fuels, and reviewing national and European regulations to force banks to align their operations with the objectives of the Paris Agreement.

To ensure stocks of fossil assets and the transition risk weighing over them do not reduce the ability of our economies’ to initiate the ecological reconstruction, it is crucial to find ways to stop the growth of these assets in banks’ balance sheets. Creating a bad bank to rid banks of these assets is a first idea, and one the banking sector will probably come to support eventually. We must be cautious, however, in determining who will foot the bill and bear the financial cost of the loss of value of fossil assets. Without innovative solutions, it would likely be taxpayers, once again. Our proposal is therefore that banks partly cover losses themselves, with the European Central Bank covering the remaining, largest share.

Our purpose is not to feed the illusion that a single actor, be it the ECB, could solve the challenge posed by the transition risk and stocks of fossil assets alone. We deliberately focused our analysis on this aspect of the issue, which is closely linked to the physical risk climate change poses for our societies and economies, including banks, insurance companies and the real economy. Many additional measures are necessary to tackle this complex systemic problem.¹⁰⁰

Our proposal is therefore modest, but it may enable the emergence of a real democratic debate on ways to tackle ecological challenges in the next decades, without letting taxpayers suffer massive environmental and social harm while footing the bill.



Appendix

Appendix

Appendix 1: Table of results for the biggest banks of the eurozone

| Data 2019 in bn € | BNP Paribas | Crédit Agricole | Société Générale | BPCE | Deutsche Bank | Commerzbank | Intesa Sanpaolo | UniCredit | Santander | BBVA | ING Group | Total |
|------------------------------|-------------|-----------------|------------------|------------|---------------|-------------|-----------------|-------------|------------|------------|------------|------------|
| Total assets | 2165 | 1596 | 1356 | 1338 | 1298 | 464 | 816 | 856 | 1523 | 699 | 892 | 13001 |
| Total investment assets | 835 | 380 | 592 | 369 | 581 | 93 | 281 | 155 | 280 | 158 | 164 | 3890 |
| Total credit assets | 936 | 834 | 507 | 812 | 430 | 294 | 468 | 626 | 995 | 439 | 612 | 6952 |
| Total other assets | 393 | 232 | 258 | 157 | 287 | 77 | 67 | 74 | 247 | 101 | 116 | 2008 |
| Fossil assets (credit) | 41 | 53 | 27 | 38 | 21 | 24 | 21 | 38 | 35 | 24 | 28 | 352 |
| Fossil assets (investment) | 39 | 18 | 27 | 17 | 27 | 4 | 13 | 7 | 13 | 7 | 8 | 180 |
| Total fossil assets | 80 | 71 | 54 | 55 | 48 | 28 | 34 | 45 | 48 | 31 | 36 | 532 |
| Equity | 81 | 54 | 44 | 66 | 44 | 24 | 42 | 43 | 71 | 44 | 48 | 560 |
| Ratio fossil assets / equity | 99% | 131% | 124% | 84% | 109% | 117% | 83% | 105% | 68% | 72% | 75% | 95% |

Appendix 2: Table for banks outside of the eurozone

| Data 2019 in bn \$ | HSBC | Barclays | UBS | Crédit Suisse | Citi-group | JPMC | Bank of America ML | Wells Fargo | ICBC | CCBC | ABC | BoC | MUFG | Total |
|------------------------------|------------|-------------|------------|---------------|------------|------------|--------------------|-------------|------------|-------------|------------|------------|------------|-------------|
| Total assets | 2715 | 1454 | 972 | 792 | 1951 | 2687 | 2434 | 1928 | 4357 | 3681 | 3600 | 3295 | 2854 | 32723 |
| Total investment assets | 894 | 651 | 461 | 292 | 842 | 1105 | 912 | 640 | 581 | 490 | 681 | 488 | 825 | 8860 |
| Total credit assets | 1106 | 433 | 339 | 299 | 687 | 947 | 974 | 977 | 2729 | 2403 | 1933 | 1844 | 1074 | 15745 |
| Total other assets | 715 | 371 | 172 | 201 | 423 | 636 | 548 | 309 | 1047 | 789 | 986 | 963 | 955 | 8115 |
| Fossil assets (credit) | 45 | 26 | 9 | 16 | 90 | 125 | 83 | 450 | 581 | 281 | 206 | 160 | 80 | 2151 |
| Fossil assets (investment) | 41 | 30 | 21 | 14 | 39 | 51 | 42 | 30 | 25 | 128 | 31 | 23 | 38 | 514 |
| Total fossil assets | 86 | 56 | 30 | 30 | 129 | 176 | 125 | 479 | 195 | 409 | 237 | 184 | 118 | 2255 |
| Equity | 124 | 52 | 36 | 37 | 138 | 188 | 167 | 158 | 390 | 323 | 252 | 235 | 131 | 2230 |
| Ratio fossil assets / equity | 70% | 108% | 84% | 80% | 94% | 94% | 75% | 303% | 50% | 126% | 94% | 78% | 90% | 101% |

To better understand these figures, please refer to the section “Specificities of banks outside the eurozone” at the end of the methodology below

Appendix 3: Detailed methodology

The methodology of this report is based on four stages:

1. Scope of the study

The study is based on the financial data of the biggest banks in the euro area for 2019:

In France: BNP Paribas, Crédit Agricole SA, Société Générale, BPCE.

- **In Germany:** Deutsche Bank and Commerzbank.
- **In Italy:** UniCredit and Intesa Sanpaolo.
- **In Spain:** Santander and BBVA.
- **In the Netherlands:** ING.

All the banks were studied at the level of their “Group” perimeter, except for CASA, whose 2019 financial data is better quality than the Crédit Agricole Group.

2. Defining “fossil assets”

“Fossil assets” are defined as all assets necessary to finance fossil fuel activities, including exploration, development, distribution, and transportation, refining, etc. of fossil fuels — oil, gas and coal — and the production of electricity from these sources.

NB: Assets indirectly linked to these energy sources, e.g. from the automotive sector, aeronautics, etc., are not included in the study.

3. Researching banks’ assets

- The study is based on two documents published by banks: **annual financial reports** — the universal registration document — and the **Pillar III** report, or risk report.

The annual financial report includes banks’ balance sheets, indicating the value of various assets. The total amount of

assets has been divided in three categories:

- **Credit assets**, which include loans from banks to individuals, companies and states;
- **Investment assets**, market products and insurance, including assets traded on financial markets;
- **Other assets.**

Once the total amounts of “credit assets” and “investment assets” were identified, the share of fossil assets was determined. The addition of fossil assets in the credit section and in the market and insurance products section indicates the total amount of fossil assets held by banks.

a. Fossil assets in the credit section: credit assets

To identify the share of fossil assets in credit assets, we use the **“CRB-D” table in Pillar III**, which breaks down credit risk exposure by industry/business sector. This table details the net values of on-balance sheet and off-balance sheet exposure — corresponding to book values shown in financial statements, depending on the scope of regulatory consolidation. From this categorisation, industries comprising fossil assets are identified in the table — “Oil & Gas”, “Energy”, etc.

For each sector, distribution keys were applied to the amount of gross credits only. We made the cautious assumption to avoid counting fossil assets in the off-balance sheet. Two options are available to identify the fossil share of each sector:

- When the credit sectors fall within the scope — for example, “Oil & Gas” — the entire amount is included.
- When the credit sectors only include part of the scope, we defined two options:

- **If the fossil part was specified** in the bank’s

Fossil assets: the new subprimes?

annual report — or other public documents — it was included in the study.

- **If nothing was specified**, we applied a standard allocation key to isolate the “fossil” portion.

Each allocation key was built with economic and financial data specific to the sector, publicly accessible through one of these methods:

- Either we calculate **the weight of the sector in the economy**: GDP, profits of leaders of the sector.
- Either we calculate **the weight of the sector in financial indices**: MSCI, Barclays-Bloomberg, etc.
- Either we use **the same allocation key** of another bank specifying the share of fossils in loans in the same sector in their loan portfolio.

Once we calculated the share of fossil credit assets published in Pillar III, this provides a **ratio**, a share of fossil assets, applied to the total amount of gross credit assets reported in the balance sheet.

NB: With respect to the financial sector, the allocation key is calculated using the average share of fossil credit assets — excluding finance — of European banks included in the scope: this represents the proportion of interbank loans used to finance fossil industries.

b. Fossil assets in market and insurance products: investment assets

Fossil assets in market and insurance products represent **the share of “fossil” financial products**, aside from banks’ loans for their activities. As a reminder, total investment assets are reported in the balance sheet, and consist of financial instruments at market value per result, financial assets at market value compared to equity, investments in insurance activities, etc.

Instruments linked to derivatives as well as REPOs were included, as they can contain products linked to fossil assets directly or indirectly.

To calculate the fossil share:

When there was information on the fossil share in investment assets, we reported it.

When information was missing, **we used an estimate of 4.62%**, based on:

- On the one hand, the share of the oil, gas and coal industries in MSCI Europe, **3.56%**, weighted at 75%.

- On the other hand, the share of corporate bonds in the fossil fuel sector in European bonds — excluding bonds issued by banks — 7.8% for fossil industries in 2020, weighted at 25%.¹⁰¹

Although assets labeled “Caisse et Banque Centrale” are debt products that can be exchanged on financial markets, these were not included in investment assets. Indeed, their very low lifespan — a repayment period of less than a year — reduces exposure to an ecological transition, which can be expected over a relatively long period.

c. The case of REPO assets

Repurchase agreements (REPOs) are contracts enabling the lending and borrowing of financial securities — stocks or bonds — in exchange for monetary collateral. While it is entirely possible to find fossil assets in REPOs, a significant part of these contracts relate to government bonds that are not connected with fossil activities. Thus, for the purposes of our study, the total amount of REPO contracts was divided into two equal parts:

- 50% share: we applied the ratio laid out in the above (b) to this amount.
- 50% bond: we considered that 75% of this activity related to government bonds falling outside the scope of the study. We therefore applied the (b) ratio to only 25% of this bond portion.

d. Other assets

The other lines of banks’ balance sheets were grouped under “other assets”. It includes in particular the “Caisses and Central Bank” amounts, “Goodwill”, etc.

We also included the portion of REPO assets that did not contain fossil assets (see paragraph above “The case of REPO assets”).

No fossil asset is retained for these other assets.

4. Fossil assets vs. equity

To identify the share of equity, we used amounts reported to the “Common Equity Tiers 1” (CET1) published by banks, as it represents the safest capital of banks, undistorted by their risk estimates.

In the event of a sharp drop in value in the fossil fuel sector, only CET1 equity can be mobilised quickly enough to serve as a safety net. The remaining equity can include products

Fossil assets: the new subprimes?

linked to fossil fuels, or other assets highly exposed to climate risks.

The ratio of fossil assets to equity is **a very good indicator of the financial health of banks in the event of a crisis** linked to the oil, gas and coal sectors.

The question of insurances and of other prudential safeguards

As mentioned above, this study only considers Common Equity Tier 1 (CET 1), which is immediately available and allows us to estimate the bank's capacity to absorb any losses directly and by itself.

The theoretical exhaustion of CET 1 is not, however, synonymous with bankruptcy. Other resources, in particular other prudential levers, can be mobilized. Above all, the banks are largely insured, and part of the losses should be transferred to their insurers. These elements have not been included in the scope of this study insofar as it specifically aims to identify how banks and financial regulation integrate - or fail to integrate - the specific risks associated with holding fossil fuel assets. The aim is also to make the banks responsible for the holding of their assets, and not to bet on a possible deferral or dilution of the related financial loss. It should be noted that relying on such mechanisms would entail a significant risk of spreading losses, which could ultimately require government intervention and thus make taxpayers bear the final cost. In addition, the ability of insurers to act could be reduced as they would also be directly affected by a significant drop in the value of fossil assets. Indeed, as the Insure Our Future ranking shows, large insurers remain particularly involved in the sector¹⁰².

A collaborative methodology

This methodology was defined with various experts in the financial sector. The Carbone4 Finance firm in particular was kind enough to challenge various elements of this methodology until the final results, to be as precise as possible.

In addition, the 11 European banks were contacted to share any comments or provide alternative data. These comments led to several edits, when justified and sourced.

Specificities for banks outside the eurozone

The study conducted among international banks outside the EU was carried out with less data, and therefore more assumptions.

In particular, when information was missing, assumptions made for euro area banks were used by default.

Aside from the fact that some information was missing, banks outside the euro area were not contacted.

This data is therefore less precise, and based on more assumptions than for banks of the eurozone, in particular for Chinese banks.

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The federation of Friends of the Earth France is a non-profit environmental and human rights network, independent from any religious or political influence. Created in 1970, they helped build the French ecological movement and helped found the world's largest grassroots environmental network, Friends of the Earth International. Friends of the Earth France forms a local network gathering 30 autonomous local and associated groups that act according to their own priorities and support the national and international campaigns with a shared vision for social and environmental justice. Friends of the Earth France promotes solutions at the local, national and international level that will help to create environmentally sustainable and socially just societies.



Reclaim Finance is an NGO affiliated with Friends of the Earth France. It was founded in 2020 and is 100% dedicated to issues linking finance with social and climate justice. In the context of the climate emergency and biodiversity losses, one of Reclaim Finance's priorities is to accelerate the decarbonization of financial flows. Reclaim Finance exposes the climate impacts of some financial actors, denounces the most harmful practices and puts its expertise at the service of public authorities and financial stakeholders who desire to bend existing practices to ecological imperatives.



The Institut Rousseau is an independent think tank, committed to the ecological, social and democratic reconstruction of our societies and the Republic. It brings together intellectuals, researchers, senior civil servants and workers from the private and public sectors. Its objective is to produce innovative, ambitious and operational public policy proposals.