

# BANKROLLING

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## CLIMATE DISRUPTION:

The Impacts of the Banking Sector's Financed Emissions



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# Executive Summary

The banking sector accelerates global climate change through its “financed emissions,” the greenhouse gas emissions induced by bank loans, investments, and financial services. A bank’s physical operations typically have a modest climate impact, but banks that finance coal-fired electric utilities or fossil fuel producers bear co-responsibility for the massive quantities of greenhouse gases emitted by these companies. Major banks therefore have financed emissions footprints that are much larger than their operational climate impacts and expose them to both reputational and financial risks.

To date, banks in the U.S. and around the world have neither disclosed nor committed to reduce their financed emissions. Continued inaction on this issue will have serious consequences for both the climate and the banking sector:

- » **Time is running out for banks to finance the transition to a low-carbon economy** – By the end of the decade, locked-in emissions from new infrastructure will make it impossible to limit global greenhouse gas concentrations to safe levels. To accelerate the shift to a low-carbon economy, banks must commit to reduce the carbon footprints of their financing portfolios.
- » **The risks involved with financing carbon-intensive companies are growing** – The financed emissions footprints of banks leave them vulnerable to reputational risks from a public that is increasingly concerned about the climate. Banks also face risks from financial relationships with companies that will struggle to compete in a carbon-constrained economy.
- » **Banks have not measured the climate impacts of their environmental financing commitments** – Major U.S. banks have committed over \$100 billion to green financing initiatives, but have failed to measure whether these commitments have significantly reduced their portfolio-wide climate impacts.

New guidelines from the Greenhouse Gas Protocol provide a comprehensive set of tools for measuring financed emissions. And despite inaction by private sector banks, public sector institutions such as the U.S. Overseas Private Investment Corporation have already set targets to reduce emissions from their financing portfolios. To avert catastrophic and irreversible climate change, the banking sector must follow suit by committing to deep financed emissions reductions.

## Condensed Recommendations for Banks

**Rainforest Action Network urges banks to disclose and reduce their financed emissions by taking the following steps:**

- » Participate in the upcoming guidance development and road-testing process for the GHG Protocol Financial Sector Guidance.
- » Support broadening the GHG Protocol’s disclosure guidelines to measure the full extent of a bank’s exposure to climate risk from its lending, underwriting, and investing activities.
- » Disclose comprehensive financed emissions data and commit to financed emissions reduction targets of at least 3.9% per year.

# Introduction:

## The financial sector's role in the global energy transition

Rising concentrations of atmospheric greenhouse gases have already begun to disrupt the global climate, triggering unprecedented weather anomalies around the world in recent years. A NASA study published earlier this year documented a clear link between climate change and extreme weather events such as Russia's record-setting heat wave in 2010 and the devastating 2011 drought in Texas and Oklahoma.<sup>1</sup> The summer of 2012 brought even more troubling evidence that weather disruptions from climate change had arrived earlier than anticipated. In August 2012, the arctic ice cap shrank to the smallest size on record as climate scientists warned that an ice-free arctic summer could be less than 25 years away.<sup>2</sup> And in the U.S., extreme heat shattered 5,380 high temperature records around the country during the first nine months of 2012.<sup>3</sup>

The impacts of climate change are hitting harder and faster than expected, making the imperative to transition to a low-carbon economy all the more urgent. This transition poses major challenges for the financial sector. According to the International Energy Agency, decarbonizing the global economy will require a massive shift in investment from fossil fuel-based power sources to low-carbon energy infrastructure.<sup>4</sup> For financial markets, this shift would involve financing new investments in clean energy, energy-efficient buildings, and new transport infrastructure while sharply reducing investments in fossil fuel-based energy generation and the oil, gas, and coal industries. Prompt action by the financial sector will be critical, for the Carbon Tracker Initiative reported, the carbon content of the existing fossil fuel reserves of publicly-listed energy companies is already five times greater than the amount that can be safely released into the atmosphere without causing catastrophic and irreversible climate change.<sup>5</sup>

At the other end of the energy supply chain, the future emissions of existing infrastructure such as power plants, factories, cars, and buildings will emit 80% of the world's remaining "carbon budget" through 2035.<sup>6</sup> To stay within this budget, the financial sector must act quickly to shift financing from fossil fuels to renewable energy: By 2017, newly-built and existing power and industrial infrastructure will lock-in enough future emissions to blow through the remaining global carbon budget and exceed the Intergovernmental Panel on Climate Change's 450 parts per million (ppm) atmospheric CO<sub>2</sub> stabilization target, above which severe climate change is likely to take place.<sup>7</sup>

## Financial and reputational risks for banks in a carbon-constrained economy

These carbon constraints pose a unique set of challenges for the banking sector. Investing in and lending to emissions-intensive companies, though profitable in the short-term, will expose banks to future carbon-related credit and investment risks. For example, an electric utility that extends the life of an aging coal plant faces risks from future greenhouse gas regulations. It also faces competitive threats from peer companies that switch to natural gas or renewable generation options that are currently or will soon be cost-competitive with coal. Over the long term, the utility's investors and creditors will bear the financial risks from coal-fired generating assets that may be stranded by a carbon-constrained economy. These risks have already begun to materialize for some electric utilities and have prompted a wave of coal plant closures in the U.S.<sup>8</sup> Banks also face risks from financing other carbon-intensive companies such as oil, gas, and coal producers. The Carbon Tracker Initiative found that the mispricing of the world's "unburnable" proven reserves of coal, oil, and natural gas reserves creates systemic risk for creditors, investors, and the financial markets as a whole.<sup>9</sup> These risks are significant, as unburnable reserves comprise approximately one third of the valuation of oil and gas companies.<sup>10</sup>

The climate impacts of financing of carbon-intensive industries also expose banks to reputational risks. As the unsettling "new normal" of an altered climate sinks into the public consciousness in the U.S. and around the world, pressure on banks to phase out carbon-intensive loans and investments will only grow in intensity. This shift in public opinion is already taking place: A survey commissioned by the Yale Project on Climate Change Communication in September 2012 found that 74% of Americans (up from 69% in March 2012) believe that global warming is affecting the weather in the U.S.<sup>11</sup> For banks perceived to be laggards on climate due to financial ties to fossil fuel producers and other major carbon emitters, the reputational damage from unfavorable news coverage and negative NGO campaigning will be severe.

# Tools for measuring climate risk: Financed emissions and the Greenhouse Gas Protocol

Despite these reputational and financial risks, the world's largest banks have yet to measure the greenhouse gas emissions induced by their investing and financing relationships. We refer to the climate impacts of a bank's loans, investments, and financial services as its "financed emissions." These emissions constitute the carbon footprint of a bank's financing portfolio and represent the bank's exposure to climate-related risks from its financing activities.

Several NGOs and research providers have developed tools for measuring financed emissions. However, these financed emissions calculation tools have yet to be integrated into existing greenhouse gas emissions disclosure frameworks. The most widely used of these frameworks, the Greenhouse Gas (GHG) Protocol, has been developed through a collaboration between the World Resources Institute and the World Business Council for Sustainable Development in partnership with the United Nations Environment Programme Finance Initiative. The GHG Protocol framework divides a company's emissions into three categories: Scope 1 emissions include all direct emissions from sources owned or controlled by the company, while Scopes 2 and 3 include indirect emissions from purchased electricity and heat (Scope 2) and from other sources such as the production of purchased materials, transportation, and the use of the company's products and services (Scope 3).

The GHG Protocol categorizes financed emissions as a component of a bank's Scope 3 emissions. According to recently-issued technical guidance, the Protocol's Scope 3 standard measures a bank's financed emissions from most transactions by attributing emissions from a company to a bank based on the proportion of the company's combined debt and equity financed by the bank through a loan, investment, or other transaction. Specifically, the guidelines call for banks to disclose emissions attributable to the following sources under Scope 3, category 15 (emissions from investments) of the GHG Protocol:

- » Equity investments held by the bank (required)
- » Debt investments held by the bank with known use of proceeds (required)
- » Project finance sponsored by or financed by the bank (required)
- » Debt investments held by the bank without known use of proceeds (optional)
- » Debt and equity issuance and underwriting (optional)
- » Assets managed for third-party clients (optional)
- » Financial advisory services (optional)
- » Other investments and financial services such as pension funds, retirement accounts, insurance contracts, credit guarantees, financial guarantees, export credit insurance, and credit default swaps (optional)<sup>12</sup>

The GHG Protocol's Scope 3 Standard is only one of several tools available for measuring a bank's exposure to climate risks from lending, investing, and other financing activities. But as we discuss in later sections of the paper, the Protocol's Scope 3 framework provides a useful path forward for banks seeking to measure and reduce their financed emissions.

# Estimating the climate costs of the banking sector's financed emissions

The urgent task of transitioning to a low-carbon economy poses a daunting challenge for the private sector: The Intergovernmental Panel on Climate Change (IPCC) concluded that global greenhouse gas emissions must fall to 80% below 1990 levels by 2050 to limit atmospheric CO<sub>2</sub> concentrations to 450 ppm and avert catastrophic climate change. The Carbon Disclosure Project (CDP) calculated that companies across the developed world must reduce their emissions by 3.9% each year to meet this reduction target.<sup>13</sup> However, in the U.S., major companies have been dangerously slow to address their emissions footprints. Emissions disclosure among U.S. companies on the S&P 500 index is improving, but only 35% of the S&P 500 reported to the CDP in 2012 that they had achieved emissions reductions in the previous year on either an absolute or revenue-normalized basis.<sup>14</sup> A slight majority of companies had set an emissions reduction target as of 2012 (52%), but in general, the U.S. corporate sector has failed to measurably reduce its greenhouse gas emissions footprint at a rate sufficient to avert catastrophic climate change.

The operational greenhouse gas emissions of banks are modest compared to those of comparably sized companies in more emissions-intensive sectors. But as financial intermediaries, banks invest in and provide financial services to companies in virtually every sector of the economy. A bank's lending and investing choices also have an enabling impact on the greenhouse gas emissions of its corporate clients. For example, the availability of a bank loan to an electric utility could determine whether an aging coal plant is retired or renovated, while a bank's equity investment in a utility-scale solar array could be a key factor in whether the installation is built or shelved. Just as a bank's financial health depends on the financial performance of companies in its lending and investment portfolio, it is also co-responsible for financed emissions from its portfolio companies. In the context of the electric utilities sector, a report by the BankTrack network of NGOs found that the financial commitments of the world's 93 largest banks to coal mining and coal-fired power generation nearly doubled between 2005 and 2010.<sup>15</sup> Banks bear co-responsibility for the climate emissions from these mines and power plants, which further shrink the world's remaining carbon budget.

In the U.S., several major banks have set greenhouse gas emissions reduction targets for their physical operations and purchased electricity. However, these banks have yet to either report on or set reduction targets for their financed emissions, leaving the majority of their climate footprint unaccounted for. For example, JPMorgan Chase has set an aggressive goal of reducing its operational greenhouse gas emissions by 20% below 2005 levels by 2012, but the bank is also a financier of major coal-intensive utilities such as American Electric Power, the Southern Company, and Duke Energy, which were the three largest carbon emitters in the U.S. electric power sector in 2010.<sup>16</sup>

To illustrate the significance of JPMorgan Chase's financed emissions, consider a pair of bonds the bank underwrote for Duke Energy in December 2011. As part of a \$1 billion underwriting transaction executed by a consortium of banks, JPMorgan Chase issued \$140 million in bonds on Duke's behalf. The proceeds of this bond offering financed only a sliver of Duke's total debt and equity capital in 2011 (0.32%). But Duke emits immense quantities of greenhouse gases from its generating fleet, which pumped out 84.6 million metric tons of CO<sub>2</sub> in 2011. If 0.32% of these emissions were attributed to JPMorgan Chase as financed emissions, the bank would be responsible for 270,000 metric tons of CO<sub>2</sub> emissions from this transaction.<sup>17</sup>

These financed emissions were equal to 23% of JPMorgan Chase's total self-reported operational and indirect greenhouse gas emissions of 1.21 million metric tons during 2011. This transaction was only one of several similar transactions executed by the bank for emissions-intensive utilities that year, making the bank's financed emissions greater than its total reported 2011 greenhouse gas emissions. Gaps in publicly available lending data preclude an estimate of JPMorgan Chase's total financed emissions for 2011, but a 2008 Rainforest Action Network report found that the annual financed emissions of Canadian banks with major financing relationships with fossil fuel companies were approximately 100 times larger than the direct and indirect emissions from their operations.<sup>18</sup> Despite the size and significance of JPMorgan Chase's financed emissions, they are not captured by the bank's current emissions reporting, creating an emissions "blind spot" that leaves bank executives, investors, and stakeholders without an accurate assessment of the bank's carbon footprint.

# The consequences of the financed emissions blind spot

In addition to creating financial risks for banks, financing emissions-intensive clients risks undermining a bank's reputation with investors, NGOs, and other stakeholders. Banks face high levels of public and NGO scrutiny on climate issues, and a bank's carefully cultivated "green" image can be jeopardized by revelations about environmentally damaging lending and financing deals. For example, in 2010, Crédit Agricole, one of the largest French banks spent €5.7 million (\$7.4 million) on a television ad campaign starring the actor Sean Connery which touted the bank's message that "it's time for green banking." In reality, the bank's track record on climate finance was poor, as it had financed South African coal plants, Canadian tar sands projects, and offshore arctic oil drilling projects.<sup>19</sup> The bank also earned a spot on the BankTrack NGO network's top 20 list of "climate killer" banks based on the €5.6 billion (\$7.3 billion) in financing it provided for coal-fired power plants and coal mining between 2005 and 2010.<sup>20</sup> The ads backfired, prompting a special report on the bank's fossil fuel financing by a French investigative news show, *Cash Investigation* and garnering the bank a "Pinocchio Award" for greenwashing from the NGO, Friends of the Earth France.<sup>21</sup>

In the U.S., several major banks have begun to address their climate-related reputational risks through multibillion-dollar initiatives to finance environmentally beneficial projects. Bank of America has committed \$50 billion in loans and investments to environmental finance initiatives over ten years.<sup>22</sup> Goldman Sachs and Wells Fargo have also made similar commitments of \$40 billion and \$30 billion, respectively.<sup>23</sup> While the headline numbers of these commitments are impressive, these banks have not measured the emissions that have actually been reduced or avoided by these initiatives. At the same time, these banks have also maintained their financing relationships with coal-fired utilities and fossil fuel producers.

The current lack of comprehensive, outcome-based performance measurement for bank climate financing creates broader reputational problems for banks. Investors, NGOs, and other stakeholders need data on the climate impacts of both a bank's renewable lending and its broader financing portfolio to make informed judgments about a bank's climate impacts. Without a comprehensive measurement of a bank's financed emissions across its entire lending portfolio, an assessment of a bank's renewable energy commitment would be incomplete and potentially misleading. For example, while Bank of America's \$50 billion commitment to environmental finance is notable, the bank remains a top financier of coal-fired power. If banks do not address this current blind spot on financed emissions, stakeholders will be unable to distinguish banks that take the lead on reducing the climate impacts of their financing portfolios from those that merely add a "green" public relations spin to business-as-usual lending practices that do not yield measurable emissions reductions.

Although major banks have been slow to address financed emissions, the U.S. Government's development finance agency, the Overseas Private Investment Corporation (OPIC) has demonstrated the feasibility of setting reduction greenhouse gas reduction targets. OPIC provides loans, loan guarantees, direct investment, and insurance for private sector projects in developing countries. Since 2007, it has published project-by-project greenhouse gas emissions data for its far-flung global financing portfolio, which includes projects such as an oil refinery in Papua New Guinea and a 300 megawatt natural gas-fired power plant in Colombia.<sup>24</sup> In 2010, OPIC committed to reduce its portfolio-wide financed emissions by 30% below a 2008 baseline over ten years and by 50% below this baseline over 15 years by investing in and lending to projects that increase clean energy generating capacity, promote energy efficiency, and sequester carbon.<sup>25</sup> If OPIC can make bold financed emissions reduction commitments such as these for its complex global financing portfolio, banks in the private sector can too.

# The GHG Protocol's Scope 3 Standard: Implications for banks

Private sector banks that are willing to follow OPIC's lead on financed emissions can choose from several tools for calculating financed emissions. Bank of America and Citigroup have begun to disclose some financed emissions information for their electric utilities portfolio, and the research organizations Trucost, Profundo, Inrate, Ecofys, and Paris-Dauphine have also developed financed emissions calculation methodologies.<sup>26</sup> As mentioned earlier in this paper, in 2012, the GHG Protocol published technical guidance for calculating Scope 3 emissions. A draft of the guidance is available on the GHG Protocol website and the final version will be released in late 2012.<sup>27</sup>

The new GHG Protocol guidance includes high-level guidelines for calculating emissions from loans, investments, and other financial transactions. During the summer of 2012, the GHG Protocol and UNEP Finance Initiative initiated a process to develop more specific guidance for the financial sector. Building on the existing guidance and the framework established in the Scope 3 Standard, the GHG Protocol will be inviting banks and NGO stakeholders to participate in a two-year guidance development process to address technical gaps and road-test emissions reporting that will culminate with the release of finalized GHG Protocol Financial Sector Guidance in late 2014. Because of its compatibility with the commonly used GHG Protocol, the GHG Protocol Financial Sector Guidance is well-placed to become a widely accepted standard for measuring financed emissions.

While some technical details of the GHG Protocol's framework for calculating emissions from financial transactions have yet to be resolved, the GHG Protocol Financial Sector Guidance development process will address these gaps during the next two years. The resulting framework for calculating the financed emissions of banks will improve on existing financed emissions tools in three key respects:

- » **Global acceptance and GHG Protocol compatibility** – The GHG Protocol's Financial Sector Guidance will be fully integrated with the GHG Protocol and is therefore well-positioned to gain widespread acceptance as the global standard for calculating financed emissions for the financial sector after it is finalized.
- » **Proportional exposure to client emissions** – In contrast to some financed emissions methodologies such as the one currently used by Bank of America, the GHG Protocol guidance scales a bank's emissions exposure in proportion to the size of its financial relationship with a client relative to the client's total debt and equity.<sup>28</sup> This provides a clear, proportional measurement of the climate impacts of a bank's financing activity.
- » **Outcome-based performance measurement of renewable energy financing** – Several U.S. banks have highlighted their financial commitments to environmentally beneficial projects. But these banks have yet to measure and report the greenhouse gas emission reduction impacts achieved through these initiatives. The GHG Protocol guidance will provide an objective basis for analyzing the greenhouse gas impacts of both a bank's renewable energy financing commitments and its broader financing portfolio.

## From measurement to reduction: Putting the GHG Protocol's Financial Sector Guidance into practice

The GHG Protocol's Financial Sector Guidance holds significant promise as a tool for measuring and reducing the financed emissions footprint of the banking sector. However, its success at aligning the banking sector with the IPCC's 450 ppm target will require the engagement of both banks and NGOs with the guidance development process to reach a consensus on emissions calculation tools that are both comprehensive and technically sound. And for the guidance to have a major impact on the banking sector's carbon footprint, it will be critical for banks to commit to emissions reduction targets.

Following the completion of the guidance development process, banks that commit to disclosing their financed emissions will need to collect emissions data from companies in their financing portfolio. Many companies in emissions-intensive sectors already disclose this data, and banks can use estimates to fill gaps in company disclosure. France's development bank, Agence Française de Développement and research providers such as Inrate and Profundo have developed modeling and calculation tools for estimating emissions from companies in a range of sectors, and both these calculation tools and company emissions disclosure are likely to improve over time.<sup>29</sup>

Banks will also need to set and meet emissions reduction goals. Based on the Carbon Disclosure Project's calculations, banks should commit to reduce their financed emissions by the equivalent of 3.9% per year on an absolute basis. This reduction trajectory translates into potential reduction targets of approximately 40% below current emissions levels over ten years or approximately 60% below current levels over 15 years. These targets may seem ambitious at first glance, but they are actually the bare minimum necessary to align banks with an emissions trajectory that will avoid exceeding the world's dwindling carbon budget. If banks clearly communicate potential financed emissions reduction targets to companies with which they have financing relationships, they can begin a dialogue that will encourage these companies to take steps to reduce emissions. To recognize bank leadership and hold banks that opt out of financed emissions reduction commitments accountable, the NGO community should advocate for all major banks to commit to reduce their financed emissions and call out banks that choose not to do so.

Finally, while financed emissions reduction targets will be an important mechanism for aligning the banking sector with a low-carbon economy, key challenges will remain. For example, the Carbon Tracker Initiative concluded that equity markets are exposed to risk from overinvestment in the oil, gas, and coal sectors due to the mispricing of fossil fuel reserves.<sup>30</sup> Aligning the investment portfolios of banks and other asset managers with the constraints imposed by a future low-carbon economy will involve complex asset allocation challenges that a financed emissions reduction target, by itself, cannot address. However, research consultancies such as Two Degrees Investing have developed tools to help banks align investment portfolios with the constraints imposed by a limited global carbon budget.<sup>31</sup>

# Recommendations for Banks

Rainforest Action Network recommends that banks address their financed emission by taking the following actions:

- » **Participate in guidance development and road-testing for new GHG Protocol guidance** – Broad-based bank participation in the road-testing phase of the GHG Protocol Financial Sector Guidance development process will build a critical mass of banks that have experience putting the guidance into practice. Bank participation in technical and advisory roles during the process will also improve the accuracy and comprehensiveness of the final guidance document.
  
- » **Support expanding required disclosure guidance** – To fully capture the climate risks faced by banks through their financing activities, the GHG Protocol's current Scope 3 disclosure guidance for the financial sector should be broadened in two key respects:
  - The GHG Protocol classifies general corporate lending and debt underwriting as optional, rather than mandatory disclosure categories under Scope 3. Based on Rainforest Action Network's analysis of bank lending to the electric utilities sector, most bank credit relationships with electric utilities involve either general lending or debt underwriting, as U.S. electric utilities typically finance their operations through general corporate funds rather than through project-specific loans or bonds. Therefore, banks should support expanding the required disclosure categories in the final GHG Protocol Financial Sector Guidance to include these key categories of financed emissions.
  
  - The climate impacts of oil, gas, and coal combustion pose major risks for fossil fuel producers and the banks that finance them. But because these producers sell rather than burn the fuels that they extract, the vast majority of their greenhouse gas emissions fall under Scope 3 of the GHG Protocol. According to the current GHG Protocol guidance for the financial sector, the Scope 3 emissions from a fossil fuel producer would not count as financed emissions for banks that provide financing for the company because the guidance uses only Scope 1 and 2 emissions of financed companies to calculate a bank's financed emissions. To address bank exposure to climate risk from the fossil fuel industry, RAN recommends that banks support broadening the GHG Protocol guidance to include Scope 3 emissions from fossil fuel producers in financed emissions calculations.
  
- » **Commit to disclosure and reduction targets** – For the GHG Protocol guidance to have an impact on the financial sector's greenhouse gas emissions, banks must commit to track and reduce their Scope 3, Category 15 emissions (emissions from investments). Specifically, banks should set reduction targets for these emissions that yield annualized reductions of at least 3.9% on an absolute (not revenue-normalized) basis.

# Conclusion

The GHG Protocol Financial Sector guidance development process presents banks with a window of opportunity to demonstrate climate leadership and address their climate-related risks. The banking sector's participation in the Protocol's guidance development process, including commitments to disclose and set bold financed emissions reduction targets will enable banks to minimize financial risks from relationships with emissions-intensive industries. By taking action to address their financed emissions, banks will also send a critical market signal that the time for a shift away from fossil fuel-based energy has arrived. However, this leadership opportunity for banks will not last much longer. Emissions-intensive companies and the banks that finance them will face escalating public and regulatory pressure over the next decade to adhere to the carbon constraints necessary to avert catastrophic climate change. With growing NGO and public scrutiny of the climate impacts of the financial sector, financed emissions reductions may quickly become a baseline expectation for bank corporate citizenship. Finally, regardless of the stakeholder pressure they may face, it is incumbent on banks to address their financed emissions now and not to wait until it is too late to hold global greenhouse gas emissions below the IPCC's 450 ppm target.



# Appendix: Proposed Methodology and Sample Calculations

## Explanation of proposed methodology

Rainforest Action Network's proposed methodology for calculating financed emissions builds on the GHG Protocol's existing technical guidance for calculating Scope 3, Category 15 emissions from investments.<sup>32</sup> While the guidance addresses emissions from a range of bank activities, this appendix addresses three types of transactions common to bank financing relationships with companies in emissions-intensive sectors: general corporate lending, project finance, and debt underwriting. The GHG Protocol's formulae (with some modifications we explain in endnote 17) for calculating Scope 3 emissions from project-specific lending, general corporate lending, and project finance are as follows:

Annual financed emissions from a bank's general corporate lending =  $\sum$  for all outstanding loans (Annual emissions of investee \* Percent of total debt and equity capital of investee held by the bank)

Annual financed emissions from a bank's project finance =  $\sum$  for all active projects (Annual emissions of project \* Bank's percentage share of the project's financing)

While the guidance does not specifically address how to calculate emissions from debt underwriting, RAN proposes a similar formula that aggregates financed emissions from underwriting transactions executed in a given year:

Annual financed emissions from a bank's debt underwriting =  $\sum$  for all underwriting transactions (Annual emissions of underwriting client \* Percent of client's total debt and equity capital underwritten by the bank)

## Sample Calculation:

To illustrate this methodology and the scale of JPMorgan Chase's financed emissions from its electric utilities portfolio, we selected a pair of bonds underwritten in December 2011 by JPMorgan Securities for a subsidiary of Duke Energy, Duke Energy Carolinas.

JPMorgan Chase underwrote \$140 million of the bond offerings that had a total combined value of \$1 billion.<sup>33</sup> Duke's total capital at the end of FY 2011 was \$43.865 billion and its 2011 CO<sub>2</sub> emissions were 84.6 million metric tons.<sup>34</sup>

According to the above formula for calculating financed emissions from underwriting transactions, JPMorgan Chase's financed emissions from the transaction are as follows:

JPMorgan Chase's financed emissions from the underwriting transaction = Duke's 2011 emissions \* Percent of Duke's total capital in 2011 underwritten by the bank's share of the deal

=84,640,267 metric tons \* 0.3191611% of Duke's total capital

=270,010 metric tons of CO<sub>2</sub> financed by JPMorgan Chase through the transaction

These financed emissions were approximately 20 times larger than JPMorgan Chase's reported 2011 scope 3 emissions from air travel and were equal to approximately 23% of the bank's combined scope 1, 2, and 3 emissions that year.<sup>35</sup>

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