

Emissions white paper

7 May 2019

Executive summary

Standard Chartered serves clients operating in many of the world's fastest-growing and most dynamic markets. Many of these markets are also highly exposed to the impact of climate change and, according to the International Finance Corporation, represent climate investment opportunities of **USD23 trillion** between now and 2030. However, much of this investment is dependent on emissions data which, while reliable and readily available in more developed economies, is often lacking in emerging markets. **To ensure that the flow of capital reaches the places where it is needed most, we must improve the quality and availability of data across these markets.**

As a provider of financial services in emerging markets – with a truly global network – we are uniquely placed to help do this and drive climate change awareness and adaptation. We also recognise the growing expectation from our clients, shareholders, regulators and other stakeholders that banks should lead on the issue of climate change. We established our Environmental and Social Risk Management team in 1997 and since then have worked collaboratively with our clients on how we can improve the impact of our activities on the communities where we work.

Creating energy that meets demand without missing global climate goals, is only one part of the emissions puzzle. Addressing emissions impact broadly across all sectors of the economy – particularly in the markets where we are active – will also be crucial to achieving the aims of the Paris Agreement which seeks to limit average global warming to well below 2°C.

Our decision in September 2018 to stop financing coal power was one of a set of actions we have taken to understand the CO2 emissions our financing supports, as we work with our clients to support the Paris Agreement, while continuing to enable social and economic development across our markets.

Accordingly, we made a **public commitment** to develop a methodology to “measure, manage and ultimately reduce the emissions related to our own activities and those related to the financing of clients”.

Our focus on this area was reinforced by our participation in the **Katowice Commitment** in December 2018, alongside BBVA, BNP Paribas, Société Générale and ING. We are also actively working through NGO collaboration platforms such as the Asia Sustainable Finance Initiative (ASFI) led by WWF, and United Nations Environment Programme (UNEP-FI) to engage banks within our markets across Asia, Africa and the Middle East.

This white paper is intended to inform stakeholders of our work since September, and in particular:

- **Share our experience with banks across our footprint**
- **Encourage other banks to join us in solving the challenges of measuring, managing and ultimately reducing emissions, or relevant proxies, via collaboration platforms**
- **Raise awareness among clients of the importance of climate reporting, including emissions data**
- **Invite those working on these challenges outside the banking sector – including NGOs, academics, consultants and regulators – to provide feedback and collaborate with us**

What we have done so far

Ultimately, our aim is to quantify the emissions supported by our financing in order to reduce them. We have identified two methodologies which could potentially help measure the emissions related to our financing: one at product level using a manual calculation process, and the other at sector level using an automated software solution. Since our September 2018 announcement, we have piloted both these methodologies on relevant parts of our portfolio. This has helped us understand their respective strengths and weaknesses, and how we and others might be able to use them.

What we have learned

Access to data that is reliable, consistent and easy to replicate is critical. At present, there is a lack of such data, especially in many of the markets in which we operate. There is a key requirement for globally authenticated data sources that can be used by all financial institutions. Progress has been made in establishing such data sources, but more work is needed. This will require extensive collaboration across geographies, sectors and industries. In particular:

- **Companies globally must enhance their emissions reporting, and consider wider climate reporting using the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD)**
- **Global business intelligence databases should collate these and other relevant data, and the accuracy and breadth of the data should be continually enhanced. This may take time to develop, so we welcome the emergence of regional platforms, such as the ASFI**

Another aspect that needs to be carefully considered is how, when measuring the emissions impact of financing, we should treat financing provided for the purposes of reducing carbon (e.g. financing of technology for carbon capture), or the transition from carbon-intensive to low-carbon activities (e.g. investment in renewable energy or energy efficiency). Increasing finance to these areas will play an important role in the overall response to climate change, and we believe the resulting reduction in carbon should be captured in any aggregate assessment of our net emissions. The methodologies we have piloted require enhancements to address this point. In the case of the Product-level method, these may involve considering whether a financed asset is replacing a more emission-intensive equivalent. In the case of the Sector-level method, such substitution is already considered, but further work is needed to reflect how an individual lender has specifically incentivised or supported clients' transition and how this is ultimately incorporated into a bank's assessment of its aggregate emissions.

Change depends on a coalition of the willing. **Even with collaboration, financial institutions cannot address this challenge alone: our clients are key to the transition to a low-carbon economy.** Therefore, it is imperative that we – and the banking industry as a whole – continue to increase awareness in order to help our clients identify, assess and mitigate risks related to climate change. We also have a role in providing the financing which allows our clients to seize opportunities from the low-carbon transition.

What we are going to do next

We recognise the need to act now even as we work to further improve relevant assessment methodologies:

- We are investing in people and technology and collaborating with external experts to develop a climate risk framework, which we will embed into our day-to-day risk management processes and governance
- We will feed the insights gained from our pilot work into the climate risk framework, and our corporate planning process. At the same time, we will seek to support clients in assessing and mitigating climate risk, and identify low-carbon opportunities
- We have developed a bank-wide **Sustainable Finance** strategy, seeking to use our footprint and capabilities to help mobilise sustainable finance in the markets where it matters most across Asia, Africa and the Middle East . We have already made substantial financial commitments in a number of areas such as sustainable infrastructure including renewable energy, and we will be providing updates on this in the coming months
- **We are engaging with the ASFI and the UNEP-FI**, both of which will allow us to share our insights more broadly and collaborate meaningfully with key banks in our markets. We encourage all interested banks to engage via these platforms

Over the coming months, we will continue to engage with stakeholders across sectors and markets, to share what we have learned and drive the mindset and infrastructure changes necessary to address the impact on climate change from economic activity. You can find details of events here.

Our 2019 TCFD report, to be released during the fourth quarter of this year, will provide a further update on the initiatives mentioned above. We are determined to strengthen our climate approach, as well as that of the wider industry, in the markets where we operate.

Feedback

To help progress our work, we would welcome comments on this white paper, areas identified for further work and our key insights. Please refer to section 5 for information on how to get in touch with us.

Detailed findings

1. Understanding our emissions profile

Following our commitment in September 2018 to develop a methodology to measure, manage and ultimately reduce our emissions and those of the activities we finance, we have surveyed available methodologies. These are still relatively underdeveloped and we decided to pilot two different methodologies to understand their individual strengths and weaknesses. These pilots have advanced our ability to measure the emissions linked to our financing activities, and are helping us to understand how we may set reduction targets.

A. Product-level methodology

As a member of the Science Based Targets Initiative's Expert Advisory Group (SBTi EAG), we have been able to pilot process-based assessment methods for specific financial products, e.g. financing electricity generation projects.

B. Sector-level methodology

We have been working closely with the 2 Degrees Investing Initiative (2dii) to pilot their sector-level methods for assessing our clients' emissions profiles against the Paris Agreement, using a software solution. We have also benefitted from collaborative dialogue with the Katowice Commitment banks and other banks that are considering the use of 2dii's assessment framework.

Given the diversity of banks' balance sheets, the extent to which any given methodology can be applied is an important consideration. As an operating principle, we believe a meaningful portion of the total portfolio should be covered, with prioritisation of carbon-intensive sectors.

The following sections set out more detail on our pilots of both methodologies, our assessment of their relative advantages and disadvantages, and how we intend to take this work forward. We welcome comments on these sections.

2. Product-level methodology: pilot results

A. Methodology overview

The product-level methodology we adopted is focused on scope 1 (from business activities) and scope 2 (from purchased energy) emissions, as defined by the Greenhouse Gas (GHG) Protocol. In simplistic terms, the methodology calculates our financing as a percentage of the total cost of the asset (for example a project or real-estate purchase) and then attributes that proportion of the total emissions to our financing. Based on this, emission reduction targets could potentially be set by comparing the financed emissions against multiple climate scenarios.

The product-level method uses the data on total emissions as an input to the calculation process, which means that it should be adjusted for any negative emissions, or emission savings, supported by the asset. These emissions savings could, for example, come from the installation of a renewable energy source in place of a diesel generator (reducing scope 1 emissions), or through retiring existing plant and equipment in place of more efficient equivalents (reducing scope 2 emissions).

B. Scope of application

Through our participation in the SBTi EAG, we received draft methods for both project finance (power generation) and residential and commercial real-estate finance, but chose to focus on the project finance portfolio. This includes conventional energy generation projects (fired by coal, oil and gas), and renewable energy generation projects (wind, solar and hydro), which are all part of our existing financing portfolio.

C. Mechanics of application

We reviewed a range of information held within our systems for each project, including the initial technical reports prepared prior to financing, and the monitoring reports provided during the financing phase.

Where plant-specific emissions data was available, we used these numbers together with the Plant Load Factor (the percentage of the day that the plant is operated), and the residual lifetime of the plant, to estimate its lifetime emissions. Where plant-specific emissions information was not available, we used a proxy based on the fuel type used in the plant.

D. Advantages

We found this methodology to be intuitive and easy to interpret. The fuel source used in the project is a major driver of the emissions, so effectively a coal-fired power plant will on average have a higher emissions number compared to that of a gas-fired power plant.

Within our project finance portfolio, with this approach we can establish the relationship between emissions generated and either each unit of energy produced or each dollar of financing. This metric could be used to monitor the emissions intensity of the power generation portfolio within project finance over time. However, we believe this will be more meaningful where we are able to use plant-specific emissions data as input, as opposed to generic fuel-based assumptions, and if the metric could be expanded to cover other lending portfolios across sectors.

E. Challenges

Data availability and scalability were the two main challenges we faced with this approach.

Across our footprint markets, project-specific emissions data is largely available for coal-fired power plants, but significantly less so for oil- or gas-fired power plants. This will become an even bigger challenge for us in the future, given that we have stopped our financing of new coal-fired power plants anywhere in the world, save where there is an existing commitment. Market practices vary, as do local requirements for plant-specific emissions disclosure. Lifting reporting standards to a more consistent level will require a collaborative effort across the energy industry over the next few years, particularly in emerging markets. Likewise, efforts will need to accelerate to generate authenticated global data sources for plant-specific emissions, as well as a standardised data taxonomy.

We also identified an area of further work related to the measurement of the aggregate emissions. Where a financed asset substitutes a more emission-intensive asset, such substitutions should be evaluated in the context of the country-specific energy needs and existing infrastructure. Therefore, treatment of such substitutions in determining the aggregate emissions requires additional guidance to ensure it is done consistently as part of lenders' assessments.

F. Next steps for the product-level methodology

The challenge associated with plant-specific emissions data availability is global, but especially prominent in our footprint markets. As we have set out in section 5 of this white paper, we are committed to working with all stakeholders – including regulators and other banks – in these markets, to help improve the data standards in a collaborative and joined-up manner. We will continue to work through the SBTi EAG as it makes progress on its methodologies in the future.

3. Sector-level methodology: pilot results

A. Methodology overview

With this methodology our portfolio is matched to physical-asset databases, which 2dii sources from external business intelligence data providers. Where there is a match against 2dii's database, production figures are retrieved for each of our clients, at a borrower level. Where this is not possible, matching takes place at the parent level. Current and projected production volume and technology mixes (specific to each sector) over a five-year horizon are sourced from 2dii's database at a counterparty level.

Our portfolio's future profile is then compared to different climate scenarios. The methodology uses multiple scenarios, although we have focused primarily on the International Energy Association's (IEA) Sustainable Development Scenario (SDS).

We are working with 2dii to define a consolidated metric, which we can use to rank-order our counterparties in terms of their alignment to the IEA's SDS over a five-year horizon. This will be a weighted-average metric, which incorporates both the direction and the rate of change required for specific components (e.g. for the automotive sector, it would be for the production volumes of electric, hybrid and internal combustion engine cars) to meet climate scenario targets.

B. Scope of application

The 2dii methodology covers seven climate-relevant sectors: oil and gas (upstream), automotive (light-duty vehicles), shipping operations, power generation, coal mining, cement manufacturing, and steel manufacturing.

Although we have piloted the methodology across all seven sectors in our portfolio, we have conducted more in-depth analysis on the oil and gas and automotive sectors specifically. We chose these sectors for their materiality to emissions as well as ease of data availability. While power generation would have been an intuitive choice, we decided to keep this out of scope from our in-depth analysis as we covered this sector through the product-level methodology.

C. Mechanics of application

For the oil and gas and automotive sectors, we used both the counterparty-level and portfolio-level data from 2dii's analysis to review for data accuracy on a sample set of clients. In other words, we reviewed whether the current and projected numbers from the 2dii analysis were in line with our knowledge of the clients or from public disclosures. This method was used to gauge the reliability of the overall output.

D. Advantages

The key advantage of this methodology is the breadth of the data, which provides easier reference to assess the emissions status and future path of an individual counterparty and sector. **It enables us to make assessments independently and without additional information requests to clients.** Ease of implementation, therefore, stands out as a key strength of this methodology.

Additionally, this methodology gives us more data than the product-level methodology, allowing us to work with our clients on the shared goal of reducing emissions. Many have already made good progress. For example, in the automotive sector, **we have been particularly encouraged by the progress and strategic commitment of some of our Asian clients towards electric vehicles.**

The data generated through this methodology also provides a portfolio-level view, which we can use to inform our strategy setting process, as applicable.

E. Challenges

The main challenge we faced with this approach was mapping the data to our portfolio. While almost 90 per cent of our portfolio could be matched to 2dii's database to a certain degree, a large portion of these matches were at the parent level rather than at the counterparty entity level. This could distort the results and **fail to fully represent the profile of the client, especially if the parent group has a diversified portfolio of businesses** (for example, if we are financing gas extraction for a client that is also producing or extracting oil/coal).

Another key challenge we faced was data validation. While base numbers are reasonably verified to be in line with our clients' status, we found a degree of variance in the projected numbers, often of more than 20 per cent. This will need to be reconciled. Also, given the dynamic nature of the upstream oil and gas sector, any new discoveries of mines and/or inorganic growth in production volumes through mergers and acquisitions could materially impact the projection figures.

For both the automotive and oil and gas sector exposures, the projected numbers underestimated the speed and extent of the transition towards lower emission production mix that our clients are already engaged in (i.e. transition towards more electric/hybrid cars and gas production, respectively). For oil and gas specifically, we expect some clients to expand into renewables, a factor that would not be recognised in the 2dii database under the current categorisation (coal/gas/oil). Therefore, there will be limited recognition of cases where our financing led to a reduction in the overall emissions profile. Linked to this, an area for additional work is how the role of an individual lender in incentivising or supporting a clients' transition is differentiated from a general transition over time, and how this is captured into a bank's assessment of their net emissions.

Further, expanding the coverage to other sectors, and other parts of the supply chain within the same sector, should be an area of focus as this methodology develops. For example, while it currently focuses on upstream oil and gas, clients involved in refining fossil fuels might be facing greater transition risk as the refinery infrastructure is usually designed for a specific fuel type.

While this methodology enables us to track our lending portfolio in each industry separately, **it would be beneficial to convert transition-readiness metrics into consistent emissions output numbers that could be compared across industries.**

F. Next steps for the sector-level methodology

Banks are increasingly faced with new regulations and the need to raise the bar on risk management across a multitude of risk types. Therefore, we are encouraged by the level of automation in global climate-relevant databases, which reduces the need for information from clients and the time taken to process such data.

We will conduct in-depth reviews of the remaining sectors in our portfolio, and use the feedback as part of building out our climate risk framework. This framework will set out our overall approach to managing climate risks, and include a risk identification and assessment toolkit, risk governance, risk reporting, scenario analysis and stress testing, risk appetite, and other relevant elements. We have outlined a plan that targets compliance with the Prudential Regulation Authority's Supervisory Statement 3/19 within two years.

While our climate risk framework will be focused on risk management, we also expect to use it to identify opportunities, both from a climate adaptation perspective, and in supporting a low-carbon transition.

In the meantime, we will make use of the insights gained from our client conversations and established processes such as Enterprise Stress Testing and our strategy planning process, where appropriate.

4. Building on our work through collaboration

A key theme that has come out of our pilot exercises is the need for collaboration across geographies and sectors. This is also echoed by a range of other banks and stakeholders, particularly in emerging markets. As a result, we are working with the ASFI and the UNEP-FI as platforms for sharing learnings, providing industry leadership, and bringing local and international banks together to advance the areas that have been identified within this white paper.

We have already discussed the contents of this white paper with several clients and peer banks and received positive feedback, which is extremely encouraging and will help us take this work forward meaningfully. We have also held initial conversations with a number of large banks that have a strong presence in Asia. These institutions have reacted positively to the idea of a collaborative effort.

We will continue to work on the operational details and mechanics of this collaboration in the coming months and will communicate further details in due course.

5. Feedback

To help us progress our work, we would welcome comments on this white paper, the areas identified for further work and our key insights. **Please send your comments and suggestions on how we could work together to [climate.risk@sc.com](mailto:risk@sc.com).**

Further roundtables will follow over the coming months, the details of which will be published on our website (sc.com/en/sustainability/emissions-whitepaper).

Specifically, we would like to ask:

- **Our clients**, to work with us on solving the data challenges, and practical elements of implementing a strategy to support a low-carbon transition
- **Solution providers**, including academics and NGOs, to provide feedback on the methodology observations in this white paper, and solutions to the challenges discussed
- **Regulators and supervisors**, to collaborate with us in developing the understanding around these risks, and how regulators and banks could work together to develop a robust response
- **Peer banks** and financial institutions, to join us in this work, share learnings and work collaboratively to solve the challenges and develop some industry-wide solutions, shaping the way forward