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开泰银行 KASIKORNBANK

CLIMATE SCENARIO ANALYSIS EXECUTIVE SUMMARY

Power Utilities

Climate Financial Driver Analysis

July 2020

The business of sustainability

ERM

CONTENTS

EXECUTIVE SUMMARY

Climate Scenario Analysis Objectives

The objectives include:

1. Piloting an analytical process and framework (Climate Financial Driver Analysis 'CFDA'), for assessing climate-related financial risk and opportunity, associated with the Bank's business. Whilst the pilot focuses on Transition climate factors, it could be also applied to Physical climate factors in future.
2. Building capacity within the Bank to develop scenario-based climate analysis in line with the recommendations of the Financial Stability Board's Taskforce on Climate-related Financial Disclosure (TCFD).
3. Identifying climate-related financial risks and opportunities associated with three sub-sectors of the Bank's power sector lending portfolio, as summarized in the table below.
4. Translating the financial findings of the CFDA, in terms of sub-sector level impacts to revenue and costs, to counterparties operating in these sub-sectors. This step takes the form of alternative counterparty financial inputs to the counterparty assessment process, such that the Bank can begin to see the effects of the low-carbon scenario on lending.

KBank Power Utilities Sector Exposures

Sub-sectors	Percentage of Sector Exposures
Biomass	2%
Hydropower	14%
Natural Gas	63%
Other power utilities sub-sectors (e.g. Solar, Wind, which are not included in this analysis)	21%

Data as of Dec 2019

CFDA Methodology

A summary of the CFDA methodology is as follows:

- Evaluate what are the relevant Climate Factors (drivers of climate-related transition risk/opportunity) for KBank's lending sectors and sub-sectors
- Link Climate Factors with Financial Drivers (drivers of revenues and costs for counterparties in the sector segments)
- Analyze data from publically available datasets (e.g. IEA) to measure future changes in Financial Drivers as a 'Scenario Delta' between the baseline (BAU) scenario and '2 degrees Celsius' (2°C) scenario
- Use the trends of Financial Drivers as proxies for revenue/cost trend for lending sectors/sub-sectors to evaluate risk and opportunity in revenue/ cost for sub-sectors
- Once the CFDA is completed, the next step is the counterparty analysis to evaluate the impacts from CFDA analysis on specific counterparties

The CFDA framework seeks to link Climate Factors (drivers of climate-related transition risk/opportunity) with Financial Drivers (drivers of revenues and costs for counterparties in the sector segments) to identify the key drivers of climate-related financial risk/opportunity for each of the sub-sector within the sector. Scenario Indicators are selected from publically available scenario datasets as proxies to measure the risk/opportunity associated with the Financial Drivers.

Aligned to the recommendations of the TCFD, a '2 degrees Celsius' (2°C) scenario and a 'business as usual' (BAU) scenario are utilized in the analysis. The 2°C scenario assumes accelerated policy

effort is made to achieve the aims of the Paris Agreement of limiting global mean temperature rise to within 2°C. The BAU scenario assumes no further policy measures are taken from those already in place in 2018 (the last year of published data); with this scenario pathway approximately aligned with global mean temperature rise of 3.7°C.

The Thailand Nationally Determined Contribution (NDC), under the Paris Agreement, pledges a 20% reduction in greenhouse gas (GHG) emissions, compared to the BAU emissions trajectory, by 2030. However, the specific policy measures that aim to achieve this target are still being developed. An example of Thailand national policy relevant to the power sector is the Power Development Plan 2015 to 2036, which includes specific policies around energy efficiency, and alternative energy.

The business impacts of the current policy and market trajectories should already be factored into risk management, and company strategies. However, the 2°C scenario poses an additional set of risks (and opportunities) to businesses in terms of policies/regulations, market, and technology factors. Climate change scenario analysis seeks to uncover the scale of this additional risk, so that organizations can start to mitigate the risks that the low-carbon energy transition poses.

To measure the climate-related risk/opportunity exposure of a Financial Driver, the difference in value between Scenario Indicators between the two scenarios is calculated, known as the ‘Scenario Delta’. This is then weighted based on factors agreed within the analysis team. Whilst the actual future pathway is uncertain, being dependent on a wide range of policy, technology and market developments, the two scenarios selected for this pilot are intended to provide the widest ‘envelope’ of risk/opportunity, driven by moving from a business as usual trajectory to one aligned to 2 degrees.

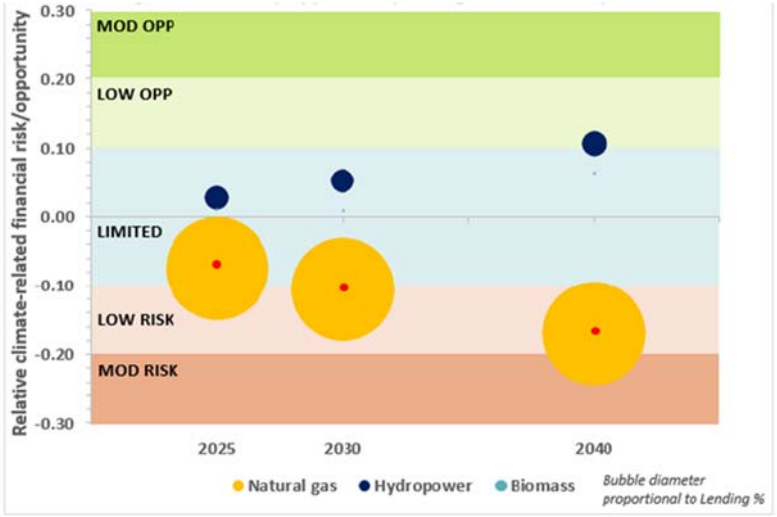
The Scenario Delta is measured at 2025, 2030, and 2040; thus providing a view on the risks/opportunities for the sector and sub-sectors in the short, medium, and long term; aligning with the TCFD’s recommendations and considering the range of tenure of the Bank’s exposures combined with a longer-term outlook.

Overlaying the KBank Portfolio

It is important to view the CFDA findings in the context of the Bank’s current portfolio. This analysis shows that the KBank portfolio is weighted more towards the Natural Gas sub-sector, which shows low risk (limited to low when opportunities are taken into account in the net risk/opportunity score). There are relatively smaller exposures to the two sub-sectors that show opportunity scores, Biomass and Hydropower. The portfolio exposure is shown in the chart below where the bubble size is proportional to the Bank’s current percentage of Power Utilities sector exposure to that sub-sector. Portfolio percentage exposures are held constant throughout the period. The bubble’s vertical positions relate to the Sub-sector Net Risk/Opportunity Scores shown in the right hand columns of the Summary Table above.

This analysis could be used to help the bank to set limits or thresholds for lending to ‘at risk’ sub-sectors, by a future point in time; essentially generating ‘portfolio alignment’ with the 2°C scenario. It is important to do this in advance for sectors such as power utilities since the timeframe of both the loan and life time of power plant ranges from 20 years (wind) to 64 years (hydro), and financial impacts to counterparties could still be relevant in 2040.

Sub-Sector Net Risk/Opportunity and Exposure 2020 to 2040



Leveraging the CFDA

At the sector level, the analysis findings can be used to identify strategic and commercial responses and implementation of appropriate risk management for the at risk and opportunity sub-sectors. Aligned with the development of the risk/opportunity ratings, strategic portfolio management could be implemented, influencing appetite statements, and ultimately starting to incorporate the climate-related risk adjustment in its portfolio management over time, aligning more towards opportunity and the goals of the 2°C scenario. These actions can be driven by analyzing signposts. Signposts are indicators that show whether a country or the world is moving towards a 2 degree world as targeted by the Paris Agreement. When signposts indicate that a 2 degree world is getting closer to reality, then KBank can know when to act on actions that will help to reduce climate-related risks or increase opportunities in the lending portfolio.

At the sub-sector level, identification of material risk/opportunity Financial Drivers can help the Bank to develop a suite of parameters on which to engage with counterparties in the counterparty assessment process. Over time, a database of counterparty risk/opportunity exposure and strategic responses can be developed.

In addition to the ways in which the CFDA analysis findings can be used, discussed above, the sub-sector level findings on financial impacts to revenues and costs can be translated into counterparty financial impacts.

The CFDA findings can be translated into future impacts to counterparty revenues and costs, which the Bank can then use as alternative inputs to the counterparty assessment process to start to understand how the 2°C scenario could affect counterparty financial resilience, and ability to service debt.

Next Steps

Potential next steps include:

1. **Expand CFDA to other sub-sectors**: From the above screening consider further sectors/ sub-sectors on which to apply the CFDA framework;
2. **Communication** of the CFDA process within the Bank, upskilling of potential users of the framework and methodology;
3. **Internal system improvements** to align the Bank's internal credit portfolio data to different sectors/sub-sectors relevant for climate change and broader Environmental and Social analysis purposes;
4. **Alignment** of scenario analysis with KBank's other Sustainable Finance initiatives.

APPENDIX

APPENDIX A CLIMATE FINANCIAL DRIVER ANALYSIS (CFDA) APPROACH AND METHODOLOGY

A.1 CFDA Approach

A.1.1 CFDA Design Phase

Based on available data which need to understand the relative exposures across the Power Utilities Sector lending, three sub-sectors were selected in the analysis.

The split of the Bank's lending to the Power Utilities sector is summarized in the Executive Summary section of this report.

Financial Drivers are, for the purpose of this activity, considered as financial cost (both capital and operation expenditure) and revenue drivers within a sub-sector that could be materially impacted by the transition to a low carbon economy.

The analysis provides insight on the potential future risks and opportunities to cash flows and asset value for the 'generic' counterparty at the sub-sector level. However, accurate quantification of the risks identified in the CFDA at the specific counterparty level, requires discounted cash flows modelling. The CFDA analysis focuses on the timing of potential impact on counterparty costs and revenues; however, the impact on counterparty asset value could occur much sooner once the market recognizes these future impacts on cash flows.

Design of the CFDA included:

- Identification of key Transition Climate Factor and Financial Driver relationships for each of the selected sub-sectors; and
- Identification of appropriate Indicators within scenario datasets, as proxies for relevant Climate Factor/Financial Driver relationships.

Analysis Phase

Identification of the transition-related financial drivers was based on industry research and knowledge, short-term policy signals and IEA scenario datasets (e.g. International Energy Agency), which describe Indicators relevant to each financial driver were selected.

Relevance weightings assigned to each of the climate-related Financial Drivers identified, considering the relevance to cost or revenue of each Driver to the overall financial performance of companies operating in the sub-sector. The Scenario Indicators were also attributed a 'confidence score', which is the relative strength of the selected Indicator to act as a proxy for the Financial Driver it has been selected to measure.

The data then quantified to the percentage change in the selected indicators between the 2°C and business-as-usual (BAU) scenario trajectories.

A.1.2 Key Assumptions and limitations

Limitations associated with the CDFA that users should be aware of include:

A.1.2.1KBank portfolio percentage exposure data

- The portfolio percentage exposure data is based on information available. The portfolio percentage exposure data is used to assess the Bank's exposure to the different sub-sectors in the sector.

A.1.2.2 CFDA scope/ methodology limitations

- CFDA analysis is completed at the Thailand level.
- There is no differentiation within Sub-sectors for different resource or technology types, e.g. open cycle gas turbines vs combined cycle gas turbines.
- Very different counterparties can exist within Sub-sectors (with differing risk profiles), e.g. regulated versus unregulated utilities, however this distinction is not made in the analysis. The analysis seeks to consider the 'generic' counterparty for the Sub-sector.
- No differentiation is made between an old or a new plant (brownfield vs greenfield projects/investment). However, some financial drivers will be more relevant for brownfield projects and vice versa.

A.1.2.3 Counterparty Assessment Process

- The financial data provided is for 2019.
- In applying the CFDA findings to the counterparty financial data, 2°C scenario has been developed to align revenue and cost outlooks. Applying the financial drivers in this way does not take account of any risk mitigating factors, which the counterparties may have in place.

A.2 Methodology

The CFDA framework begins with:

1. Defining the climate scenarios to be used in the analysis; and
2. The segmentation of the macroeconomic/industry sector that has been chosen for assessment, in this case Power Utilities.

A.2.1 Defining climate-related transition scenarios

Scenarios are plausible alternative views, or pathways, about how future climate issues could evolve. Scenarios are not a ' what if' exercise for only one uncertainty. They consider how a variety of factors could play out across sectors, markets and time horizons.

For the Power Utilities CFDA, the analysis was applied two scenarios:

- A 'business as usual' scenario (BAU) – based on IEA Current Policies Scenario – which assumes no new policy or regulatory efforts are made, beyond those already in place, to achieve climate change goals, resulting in a trajectory towards a mean global temperature rise of 3.7°C.
- A 2 degrees Celsius scenario (2°C) – based on the IEA Sustainable Development Scenario – which assumes global efforts to mitigate the effects of climate change are accelerated to contain mean global temperature rise to within 2°C.

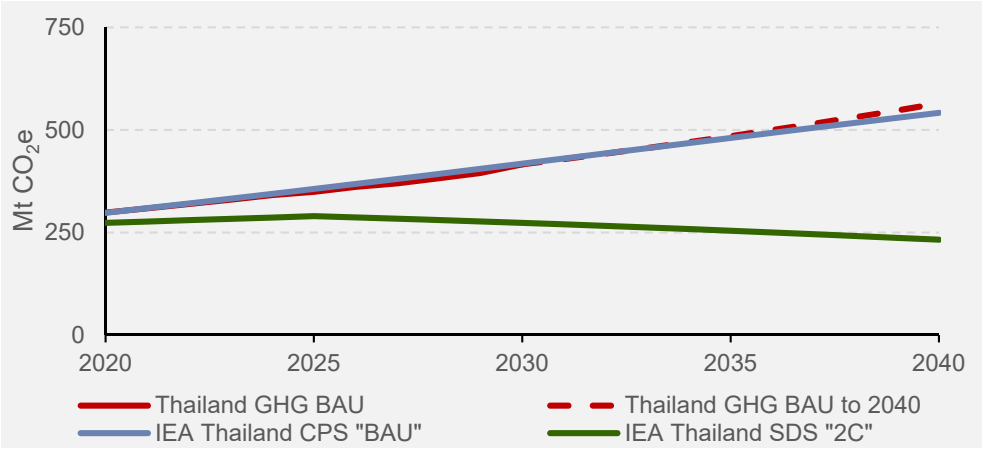
The scenarios are compared against one another on key climate-related financial parameters. The reason to choose these two scenario trajectories is so that the 'envelope' of risk/opportunity can be measured between the current global climate change trajectory, and the scenario aligned to the aims of the Paris Agreement and scientific consensus around climate change (in other words, the 2°C scenario).

Climate change transition scenarios available in the public domain are generally macro-economic models that make certain assumptions about a range of policy/regulator mechanisms and/or technology/market movements that might be deployed/occurred to achieve a 2°C outcome.

As the above two scenarios have been selected, the NDC scenario (scenario where Thailand continues its efforts to reduce emissions by 20% vs. BAU by 2030) and the Power Development Plan 2018 (PDP 2018) have not been used as inputs to the scenario. This is for two main reasons, firstly the path the NDC and PDP take towards decarbonization is not to the level of 2 degrees Celsius scenario (2°C) (based on the IEA Sustainable Development Scenario), and secondly the PDP and NDC are not aligned with each other.

The chart on the right shows the different trajectories for Thailand energy- related GHG emissions for the two scenarios used in this analysis.

Thailand Energy-related Emissions BAU Trajectory & 2°C[4] Scenarios (Mt CO_2e)



The IEA World Energy Outlook (WEO) scenario data does not model Thailand as a separate country; it is included in the ASEAN regional data. Therefore, to develop the scenarios for Thailand, ERM has used the last year of actual data for Thailand (2017/ 2018) and applied the trends from the ASEAN regional data to develop the scenario trajectories. The 2°C scenario aligns with a more ambitious outcome of 35% emissions reduction by 2030 compared to BAU.

Scenarios can be used to:

- Assess Sub-sector/ counterparty exposure to climate-related risks and opportunities at key time horizons;
- Stress test portfolios under certain climate-related conditions, such as the transition to a low-carbon economy;
- Define the range and timing of strategic responses to the scenario analysis outcomes; and
- Ensure a robust strategy for the future, and aid disclosure of this to investors.

A.2.1.1 Scenario delta as a measure of risk or opportunity

If the world is to transition to the 2 degree scenario, this will, depending on the sector, increase the transition risk or opportunity exposure.

To understand the 'envelope' of this risk (or opportunity), the comparison is made between the trend the market is currently following (towards roughly 3.7°C of warming), and the 2 degree trend.

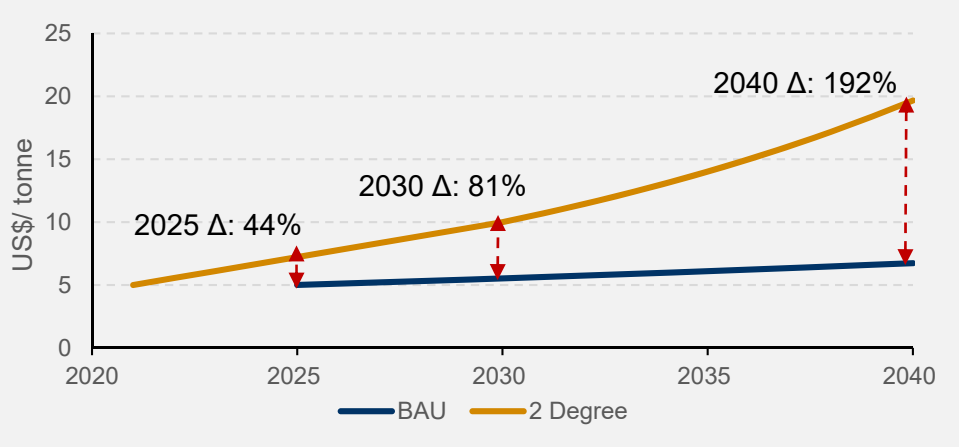
Another reason to compare two scenarios, rather than just the trend within one scenario, is recognizing that macroeconomic factors, such as GDP growth, are consistent between the two scenarios at the specified point in time. Accordingly, in comparing two scenarios with common macro-economic factors these are effectively cancelled out, so that only climate- related differences are assessed.

The difference between the two scenarios is referred to as the 'Scenario Delta', i.e. the percentage difference in the value of the Scenario Indicator of interest between the two scenarios at a given point in time.

The scenario delta methodology for the two scenarios used for the KBank Power Utilities sector is illustrated on the chart below. The chart shows that CO2 prices diverge significantly under the two

scenarios (BAU and 2°C). At 2030, CO2 prices are US$10.00/tonne in the 2°C scenario, and only US$5.50/tonne in the BAU scenario in the same year. For counterparties in the Power Utilities sector exposed to CO2 prices, this represents a potentially significant financial risk to operating costs. In this case, data is estimated based on ERM research and market insight, in many other cases datasets from IEA are used as sources of data.

Scenario delta methodology applied to CO2 prices in the 2°C and BAU scenarios



Source: Carbon pricing based on ERM research and market insight

The Scenario Delta at the selected time periods is then multiplied by the Financial Driver Relevance Weighting and the Scenario Indicator Confidence Score (both explained below) to give the risk or opportunity rating for that financial driver.

$$X = S\Delta * R * C$$

Where:

- X = Climate-Related Risk/Opportunity Score
- SΔ = Scenario Delta
- R = Financial Driver Relevance Score
- C = Scenario Indicator Relevance Score

Please note: In the CFDA methodology, opportunity scores are always positive numbers, with risks are shown as negative numbers.

A.2.2 Sector segmentation

Segmentation is normally a collaborative process that draws on market research and experience of climate-related transition risk and opportunity, and the in house sector expertise and sector exposure data. However, KBank selected the three sub- sectors for the analysis based on in house views, and information on the CFDA process, provided by external consultant.

A.2.3 CFDA structure

A.2.3.1 Climate Factors

Once the segmentation is finalized, Climate Factors relevant to driving climate-related transition risk and opportunity for the Sub-sector are identified. Climate Factors potentially relevant to the Power Utilities sector include, but are not limited to:

- Power supply, demand and price formation;
- Commodities, e.g. natural gas: supply, demand and price formation;
- Price competitiveness of electricity generation technologies, i.e. Levelized Cost of Electricity (LCOE);
- Carbon pricing mechanisms; and
- Regulatory restrictions/incentives to change the power generation mix.

A.2.3.2 Financial Drivers

The Climate Factors identified as relevant to the Sub-sectors are then be 'mapped' to the specific drivers of financial performance for the Sub-sectors, the Financial Drivers. The Financial Drivers considered relate to drivers of revenues and costs (capital expenditure and operational expenditure) for generic counterparties in the Sub-sector. For example, power prices are a driver of revenue for electricity generators, while CO_2 prices are an operational expense. Other examples of Financial Drivers are:

- The utilization of different generation technologies, i.e. demand for certain types of generation, and the capacity factors for those generation technologies;
- Natural gas prices;
- LCOE for different generation technologies;
- Carbon price; and
- Renewable subsidies.

From this list it can be seen how some Financial Drivers relate very closely to the Climate Factors, while others fall within Climate Factors with wider scope. This 'linkage' between Climate Factors and Financial Drivers is important for the applicability of the CFDA framework to multiple sectors, and for the transparency of the analysis.

The Financial Drivers are assigned 'Relevance Weightings'. This is a signal of the relative importance of that financial driver, compared to the other financial drivers identified for the Sub-sector, for impacting financial performance of counterparties in the Sub-sector. The Financial Driver Relevance Weighting is selected from the following scale.

Financial Driver Relevance Weighting Ranges

Relevance	Weighting
High	1.0
Moderate	0.5
Low	0.25

The Relevance Weighting is essentially a calibration of the financial drivers per Sub-sector so that the Scenario Delta, no matter how large or small, is still relative to the expected financial impact to a company from the change in the financial driver trend. This weighting therefore indicates the

relationship of the selected driver to cost/revenue. Relevance Weightings are demonstrated in the table below for the Natural gas-fired generation Sub-sector:

Relevance Weightings Contribution to Sub-Sector Example

Natural Gas-fired generation Sub-sector		
Financial Driver	**Relevance Weighting**	**Financial Driver Contribution**
Revenue - Power prices	0.25	8%
Revenue - Plant utilisation – Generation	0.25	8%
Revenue - Plant utilisation - Capacity factor	0.25	8%
OPEX - Fuel cost	1.00	31%
OPEX - Carbon pricing	0.25	8%
CAPEX & OPEX - Levelised Cost of Electricity	1.00	31%
CAPEX & OPEX – Emission reduction requirements	0.25	8%
CAPEX & OPEX – Investment in CCS	0.25	8%

A.2.3.3 Scenario Indicators

Each Financial Driver is also assigned a Scenario Indicator. Scenario Indicators are data points, selected from the available scenario datasets, to measure the change between the two climate-related scenarios. Scenario Indicators are assigned a Relevance Score. Scenario Indicators that are based on scenario data and clearly correlated or linked to the financial driver they measure are assigned higher relevance scores. Scenario Indicators that have a weaker relationship, or are based on qualitative analysis, are assigned a lower relevance score.

The Scenario Indicator Relevance Score ranges for the Indicators used in the KBank Power Utilities analysis are:

Scenario Indicator Relevance Score Ranges

Relevance	Score
High	1.0
Moderate	0.5
Low	0.25

A.2.3.4 Risk or opportunity ratings

The CFDA analysis output is a Climate-Related Risk/Opportunity Score and 'Rating' for each financial driver. This is a numeric value (weighted percentage) and for summary purposes these numeric scores are then banded in to minimal, low, moderate, or high risk/opportunity ratings (shown in the table below).

This rating is designed to be an indication of the relative financial impact the change in the financial driver between the two scenarios will have on counterparties in that Sub-sector, e.g. the CO_2 price financial driver in the natural gas-fired generation Sub-sector.

The scores are presented as risk or opportunity rating ranges, shown below. This is an indication of the relative exposure to climate-related financial risk or opportunity for the financial drivers. Once the Weighted Financial Driver Scores are summed together for the Sub-sector, it gives an overall rating for the risk or opportunity that Sub-sector could be exposed to in the transition to the 2°C scenario. The thresholds for these ratings have been set by ERM based on previous analysis experience and

market research. However, they can be subject to change should the Bank believe they do not adequately capture the risk or opportunity for the Sub-sectors, depending on, for example, the Bank's lending or risk appetite.

Climate-related Financial Risk/Opportunity Ratings

Climate-related Risk/Opportunity Score	Risk / Opportunity Rating
>30%	High upside opportunity
20-30%	Moderate upside opportunity
10-20%	Low upside opportunity
<10%	Minimal impact
-10-20%	Low downside risk
-20-30%	Moderate downside risk
<-30%	High downside risk

APPENDIX B REFERENCES

Economist Intelligence Unit. (2015*). The Cost of Inaction: Recognising the Value at Risk from Climate Change.* The Economist.

IEA and IRENA. (2017). *Perspectives for the Energy Transition-Investment Needs for a Low-Carbon Energy System.* Paris: OECD.

PRA. (2018). *Transition in thinking: The impact of climate change on the UK banking sector*. London: PRA.

TCFD. (2017). *Recommendations of the TCFD*. TCFD.

APPENDIX C RELEVANCE WEIGHTING METHODOLOGY

Financial Driver Relevance Weighting is the proposed relevance of the financial driver to impacts on counterparties' financial performance in the Sub-sector

Relevance	Financial Driver Weighting Definition & Examples
High (1.0)	The financial driver is considered to have a direct (1:1) relationship in terms of driving impacts to financial performance for the Sub-sector. Sub-sector i) Hydropower Example Plant utilisation has a high relevance weighting (1.0) because the load factor of a hydropower plant will have a high relevance (direct impact) to revenue. If a plant is not utilised, then it will not generate revenue (unless there are other sources of revenue available, which are not considered for this financial driver).
Moderate (0.5)	The financial driver is considered to have a moderate level of relationship in terms of driving impacts to financial performance for the Sub-sector, but this is not considered to be on a 1:1 basis. Sub-sector i) Hydropower Example Power price has a moderate relevance weighting (0.5) because while the power price is considered to be an important driver of revenue for an hydropower generator, a generator will often continue to produce electricity even in times of low market prices, and may have other sources of revenue (for example providing stand-by services for the grid operator) and therefore power price is not considered to be highly relevant (1.0) to revenue.
Low (0.25)	The financial driver is considered to have a low level of relationship in terms of driving impacts to financial performance for the Sub-sector, but it has been included to ensure the analysis is holistic in consideration of a range of possible climate-related financial impacts. Sub-sector i) Hydropower Example Subsidy payments have a low relevance weighting (0.25) because subsidies are less likely to be a key factor in driving revenue for a hydropower plant, and it may be the case that subsidies are not available all the time, or are unavailable to certain plants, meaning the financial driver has a lower relevance to the overall Sub-sector.

Scenario Indicator Relevance Score is based on both confidence in the indicator's correlation with the Financial Driver and empirical strength of the data.

Relevance	Financial Driver Weighting Definition & Examples
High (1.0)	There is a direct relationship between the scenario indicator data and the financial driver. Therefore, the confidence in the measurement is considered high (1.0). sub-sector i) Hydropower Example The power price scenario indicator is selected to measure the power price financial driver. This relationship is direct and the dataset is quantitative, and therefore, the relevance score is high (1.0).
Moderate (0.5)	There is a moderate connection between the scenario indicator data and the financial driver: § The scenario data is representative of the financial driver it has been chosen to measure, but we are less confident that a change in the scenario data will result in a direct change in the financial driver. § Or, the scenario data is drawn from a number of different data providers, and therefore we have less confidence when applying the data to the financial driver. § Or, specific data for the region being assessed does not exist, and therefore we rely on data from another region – or a wider area that includes the specific region under consideration, which may have a lower relevance. sub-sector i) Hydropower Example LCOE scenario indicator data will be drawn from a regional source that is not directly relevant to Thailand (although the same scenario trend will exist), and therefore, the relevance score is moderate (0.5).
Low (0.25)	The scenario indicator data is considered to be a 'proxy' indicator for the financial driver. Therefore, the relationship is weaker, and we have less confidence that a change in the scenario indicator would result in a similar scale of change to the financial driver. Or, the scenario indicator is based on qualitative analysis, not specific scenario data, and therefore the relevance is assigned a low relevance. sub-sector i) Hydropower Example The Subsidy payments scenario indicator has been assigned a low relevance score (0.25) because there is no specific scenario data on which to base this indicator. Therefore, it will be developed based on qualitative research into the power market, which is not necessarily aligned with the scenario outcomes. It is therefore given a low relevance score.

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