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Decision Time

Should DBS sacrifice strategic potential for a few more coal plants?

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About Asia Research and Engagement (ARE)

Sustainable Investment Consultants

We integrate sustainability and governance considerations into risk processes for investors, banks, and companies. Clients benefit from a network of partners and researchers across Asia that provide analysis of the financial relevance of these issues.

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- **Short-term profits from coal-related activities may prevent DBS from capitalising on longer-term strategic opportunities and raise long-term risks to its reputation and potentially to its loan book.**
- **This briefing provides background information for investors to work with senior DBS management to review its strategic options.**

The new climate policy reveals lack of clarity over strategy on energy

DBS publicly stated its new climate policy on January 26, 2018, the launch date for Singapore's Year of Climate Action. The policy included new restrictions on financing coal-fired power. This is a notable first for a Singapore bank. However, gaps in the policy and subsequent statements from the CEO show the bank is not clear on its longer-term strategy for energy in the region.

The bank looks set to continue to seek short-term profits from a few projects and relationships related to coal. There are two main considerations. First, this could easily lead to DBS missing out on leadership positions in major sustainability-oriented growth markets. Second, these projects will create increasing reputational risks and potentially credit risks.

This report supports dialogue between investors and the DBS board on strategy. It includes background information on DBS coal exposure, the social and economic context for coal in Vietnam and Indonesia, and an analysis of DBS's approach to climate change.

Failing coal economics

The question is when, and not whether, to stop new coal investment

The fundamental challenge for coal is that its economics are under severe long-term pressure. This is due both to technological advances making renewable power cheaper and to domestic and international concerns over air pollution and climate change resulting in tighter regulation of coal and greater incentives for renewables. This has obvious negative implications for coal mining and other

coal infrastructure. The question has become not whether to stop investment in new coal assets, but when. Bloomberg New Energy Finance (BNEF) provides a partial answer with a prediction that generation from coal will peak globally as soon as 2026.[1]

The context for DBS strategy

DBS has low coal exposure and could sacrifice this for sustainability leadership

This report identifies the following:

- There is a vast green finance opportunity in Southeast Asia, but one barrier is continued capital allocation to polluting or environmentally damaging activities — DBS acknowledges this in its own analysis.
- DBS has limited overall exposure to coal activities in mining, power, and infrastructure — they are not critical profit drivers. However, DBS has exposure to three proposed new coal power projects in Vietnam and three projects in Indonesia.
- The climate policy does not include a justification for the new standards. Statements from DBS make ambiguous reference to social concerns to justify continued finance for coal.
- It is not clear what the social benefits could be. Both Vietnam and Indonesia have already made significant progress on electrification and literacy. Both countries are far behind on solar and wind generation compared to economies at similar income levels. Both countries face significant health problems from air pollution and high costs from climate change physical impacts.
- DBS is well positioned to adopt a more strategic approach to climate change and sustainability, including tightening its coal policies further.

Two possible futures

DBS identifies huge green opportunity and a barrier if finance for dirty assets continues

Against this backdrop DBS has a choice: whether to pursue short-term profits from coal projects and relationships that will likely jeopardise its reputation or strategically align itself to sustainability-oriented growth markets. The two scenarios "Coal lock-in" and "Sustainability leadership" sketch futures for DBS that could result from this choice.

1 Bloomberg New Energy Finance, *New Energy Outlook 2017*, [website], 2018, https://about.bnef.com/new-energy-outlook/#toc-download (accessed May 2018)

In assessing these two scenarios it is worth bearing in mind conclusions from the executive summary of DBS's own report, *Green Finance Opportunities in ASEAN*.[2] This identifies average annual demand for green finance in the region of US$200 billion between 2016 and 2030. This is currently met with an allocation of only US$40 billion per year, largely from the public sector. DBS estimates the private sector will have to scale up green finance flows by a factor of ten to meet demand. DBS also provides the following initial condition to meet this demand: "Firstly, capital invested in polluting and environmentally damaging activities will need to decrease."

2 C.F.Lee, and P. Baral, 'Green Finance Opportunities in ASEAN', *United Nations Environment Programme and DBS*, 2017, [online], https://www.dbs.com/iwov-resources/images/sustainability/img/Green_Finance_Opportunities_in_ASEAN.pdf (accessed May 2018)

Figure 1: Scenarios describe results of DBS's coal strategy

Scenario 1 **Coal lock-in** *Lock in to coal and risk missing out on the wave of new energy*	**Scenario 2** **Sustainability leadership** *Use advantage of Singapore base to become a global leader on sustainability*
DBS continues to fund new coal power projects and continues to prioritise relationships with coal-power companies. In this case it will be locked into projects or client relationships with dirty, high-cost, centralised infrastructure. As renewable power costs continue to decline, power from coal plants will become less and less competitive. Increasingly the revenues from such plants will have to rely on the wording of power purchase agreements. In this scenario, as successive governments come into power there is every prospect that coal projects will need to rely on courts to defend the power purchase agreements that underpin their sales and returns. This would leave a legacy for DBS of ongoing battles to defend its reputation. At the same time, this scenario creates a challenging internal competition. Maintaining the relationships with politicians, investment in human capital, and the balance sheet exposure to the coal industry will create internal tensions and hurdles in increasing green financing, making it harder for DBS to develop the capability to take a leadership position in these rapidly growing markets, including the critical growth in renewables. In the long-term, the costs of defending profits from coal projects and relationships look high in social, reputational, and strategic terms.	DBS has an alternative. It could make a strong play at becoming the sustainable bank of choice in the Southeast Asian region. Indeed, with only a slightly stronger policy, DBS could easily develop globally significant credentials on sustainability. This opportunity comes about because the bank's home market of Singapore has far less exposure to controversial raw material production than surrounding countries and is powered by gas, rather than coal. This choice would focus the bank's resources and innovation in growth areas and support a sense of purpose throughout the entire organisation. Instead of reputational battles, this would create a pipeline of positive stories. Instead of internal battles for capital restraining achievements in the energy transformation, DBS would have a clear position and mandate to accelerate new business development in these areas and advocate for related policies alongside sustainability leaders. This would be the surest way to capitalise on the green finance opportunity that DBS estimates is worth US$200 billion plus per year in ASEAN alone. This scenario would require DBS to forgo short-term profits from a few projects, but it would save itself multiple headaches and result in a bank with a much better long-term position. Because Singapore has limited reliance on coal and almost no raw material production, DBS is much better placed to do this than other ASEAN banks.

Source: ARE

Top ten questions for investors

Investors can use the following questions to support deeper dialogue with the DBS board regarding its strategic options. There are two primary considerations. First, can DBS credibly defend continued investment in coal? And second, what is its broader approach on climate?

The list of questions below are aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We provide an analysis of DBS disclosure relating to some of these aspects in *Chapter 5: Developing a Systematic Approach to Climate Change*.

Figure 2: Key strategic questions

Governance
1. Which members of the board have the relevant skills, expertise, and experience in integrating ESG into strategy?
Strategy
2. How does DBS weigh the opportunities to become a Southeast Asia leader in sustainable banking? What benefits could this bring?
3. What would DBS have to do to become the de facto leader in green finance in Southeast Asia and globally?
4. To what extent does continuing to fund new coal-power restrain the drive for DBS to become a sustainability leader?
Risk Management
5. How much exposure does DBS have to coal across each category of relationship (new coal-power, existing coal-power, existing coal-mining, coal-related infrastructure)?
6. How does DBS maintain comfort on political risk relating to increasingly expensive coal assets?
7. How does DBS assess reputational risks relating to coal and other high carbon intensity activities?
Metrics and Targets
8. Will DBS undertake a comprehensive analysis of risk from climate change factors across the portfolio in various scenarios, including a scenario where temperature rise is limited to 2 degrees?
9. What indicators does DBS use to assess the effectiveness of its encouragement of clients to shift to low carbon energy?
Other
10. Given the arguments presented in this report, what social and environmental benefits does DBS see in coal?

Source: ARE, TCFD

2. Coal policy, justification, and analysis

On 26 January 2018, DBS issued a press statement on its sustainability commitments relating to climate change, to coincide with the launch of Singapore's Year of Climate Action in 2018. The statement identified four areas: 1) addressing climate change through managing its environmental footprint; 2) promoting sustainable finance; 3) ensuring responsible finance; and 4) committing to transparent disclosure.

Media coverage of the climate policy questioned continued coal finance

The subsequent media commentary focussed on the third aspect of responsible finance in relation to coal. This led to clarifying statements from company representatives. The bank also discusses its approach in its 2017 annual report. Figure 3 sets out the bank's positions.

The policy references the Association of Banks in Singapore (ABS) Guidelines on Responsible Financing, issued in 2015 (and updated in June 2018). The policy states:

> *"DBS will stop financing new greenfield coal fired power generation projects in OECD/developed markets. In developing countries, DBS will change its focus to more efficient technologies. Going forward, the bank will also cease all project financing of greenfield thermal coal mines."*

The group website also includes a section titled "Our Approach to Coal Sector" that provides further details (using CFPP as an acronym for coal-fired power plants). It sets out the following steps:

- *Discontinuing project financing of new greenfield CFPP in OECD/developed markets.*
- *Directing our financing to more efficient technologies in non-OECD/developing markets.*
- *Ceasing project financing of greenfield thermal coal mines.*
- *Only supporting customers with a diversification strategy on a corporate financing basis.*

Figure 3: DBS coal policy in tabular form

Policy consideration	Coal power	Coal mining	Other coal infrastructure
Developed markets – new plant	Stop	Stop	-
Developing markets – greenfield with old technology/dirty fuels	Stop	Stop	-
Developing markets – greenfield with efficient technology/clean fuels	-	Stop	-
Refinancing existing projects	If customer is diversifying	If customer is diversifying	-
Continuing existing client relationships	If customer is diversifying	If customer is diversifying	-

Source: DBS press statement

Justification

The policy statement provides little explanation of the reason for taking these policy positions. However, the bank has provided comments justifying the policy in its annual report and in comments reported in an article in The Straits Times dated 12 March 2018.[3]

DBS history and brand consistent with sustainability leadership

In the annual report there is a discussion on the coal policy in a Q&A section. DBS highlights its roots as a development bank and its heritage in POSB of "neighbours first, bankers second". The section notes that "climate change is one of the biggest challenges facing mankind" and states that DBS is "committed to taking a leadership role in promoting sustainable development, including the transition to a low carbon economy". It then states that "it would be foolhardy to assume this transition can happen overnight" and goes on to defend continued financing for coal plants in developing economies, but only those using efficient technologies.

DBS justification for new coal relies on scenario with warming above global target

The justification provided on the website and in the annual report includes that there are 65 million people in ASEAN without access to electricity and that according to the International Energy Agency's (IEA) Southeast Asia Energy Outlook 2017, coal will still represent 40% of the region's energy mix in 2040 (but note this is on the basis of an IEA scenario that fails to meet the global goal of restricting temperature increases to well below 2 degrees Celsius – see below).

The comments in The Straits Times article suggest that DBS sees a social justification for continued coal power investment. Piyush Gupta, the chief executive, said:

3 D.Fogarty, 'Singapore banks under scrutiny over coal lending', The Straits Times, 12 March 2018, [website] https://www.straitstimes.com/business/banking/singapore-banks-under-scrutiny-over-coal-lending (accessed May 2018)

> *"It is important to understand that you can't turn this off,"* and *"It's not that straightforward an outcome, for either society or the environment. So you've got to be thoughtful about how we transition."*

A spokesman also stated:

> *"Our position aims to recognise that many of our neighbouring developing countries are dependent on coal as part of their generation mix to deliver economic growth, and the financial system has a responsibility to ensure that the transition to renewables happens in a sustainable manner."*

Analysis

There are two considerations: gaps in the policy allowing further coal financing and ongoing exposure to coal, and the justification for continued financing. Figure 3 sets out the primary policy gaps as:

- New power plants in developing markets
- Coal mining and coal power operators where DBS provides refinancing at the company, rather than the project level — there is no information on how DBS will assess whether their clients are diversifying
- Finance for other enabling infrastructure, directly to projects or through companies, such as engineering companies and freight operators or ports involved in shipping coal

There are two justifications provided for financing new coal power:

1. The timeline for transitioning away from coal
2. There are benefits to coal (i.e. switching away from coal does not present "that straightforward an outcome")

SE Asia power mix has lower coal for scenarios in line with climate targets

On the timeline, DBS refers to the IEA projection that coal will form 40% of generation in 2040. But this is based on the IEA's New Policies Scenario in which global warming significantly exceeds the "well below 2 degrees" target from the Paris Agreement. The Sustainable Development Scenario is compliant with the well below 2 degrees Celsius target. It sees coal at less than 10% of generation in SE Asia by 2040. Assumptions from IEA and other leading forecasters have consistently underestimated renewable additions.

DBS states that ceasing financing of coal in developing countries "is not that straightforward an outcome, for either society or the environment". This implies that there are certain social benefits for coal. However, the only specific benefit mentioned is the electrification rate.

There are clear social benefits from electricity, but these are not dependent on the power source. Consequently, the question is how to weigh the current short-term cost savings of coal over renewables against the long term environmental and economic damage from air and water pollution and climate change. On renewables, Vietnam and Indonesia, where DBS may provide finance, are far behind markets with similar income levels (see *Chapter 4*).

Development banks are dropping coal…

DBS's stance here is at odds with the main development banks, including the World Bank and the newly formed China-headquartered Asian Infrastructure Investment Bank (AIIB). In 2013, the World Bank issued a policy to limit financing of coal power except in rare and narrowly defined circumstances and announced in December 2017 that it would stop financing oil and gas exploration and production by 2019.[4] The AIIB vice president confirmed in June 2017 that it would not finance coal power plants.[5]

…and so are commercial banks

Commercial banks with public commitments to stop funding coal include: BNP Paribas, Deutsche Bank, ING, Natixis, RBS, Société Générale, and South Africa's Nedbank. Informal reports indicate a general slowing in coal power financing by commercial lenders even where there are no formal policies in place. This could result in an ever-shrinking pool of banks with exposure to coal power projects, resulting in higher risks for lending to or underwriting such projects.

What would withdrawal mean?

In reviewing DBS's options, it will be important to understand some of the nuances of the strategy. The next chapter discusses the bank's exposure to coal. Figure 5 includes a number of coal power projects in Vietnam and Indonesia to which the bank has exposure. It is worth noting a few points on these projects.

- While DBS has argued that they will fund "efficient technology" in developing countries, it is not clear what this means. Standard Chartered withdrew from funding Nghi Son 2, which recently reached financial close. Notably Standard Chartered's policy refers to a maximum emission intensity rating of 830 g CO2/kWh. However, the estimated intensity of the new plant was 890 to 900 g CO2/kWh.
- DBS states that it has to meet its commitments. The plants on the list in Figure 5 have not reached financial close and consequently it is not clear what commitments could be in place for these plants.

4 World Bank Group, 'World Bank Group Announcements at One Planet Summit', The World Bank, 12 December 2017, [website], http://www.worldbank.org/en/news/press-release/2017/12/12/world-bank-group-announcements-at-one-planet-summit (accessed May 2018)

5 H.Wright, 'AIIB is right to shun coal for cleaner energy investments', South China Morning Post, 20 June 2017, [website], http://www.scmp.com/comment/insight-opinion/article/2099175/aiib-right-shun-coal-cleaner-energy-investments/ (accessed May 2018)

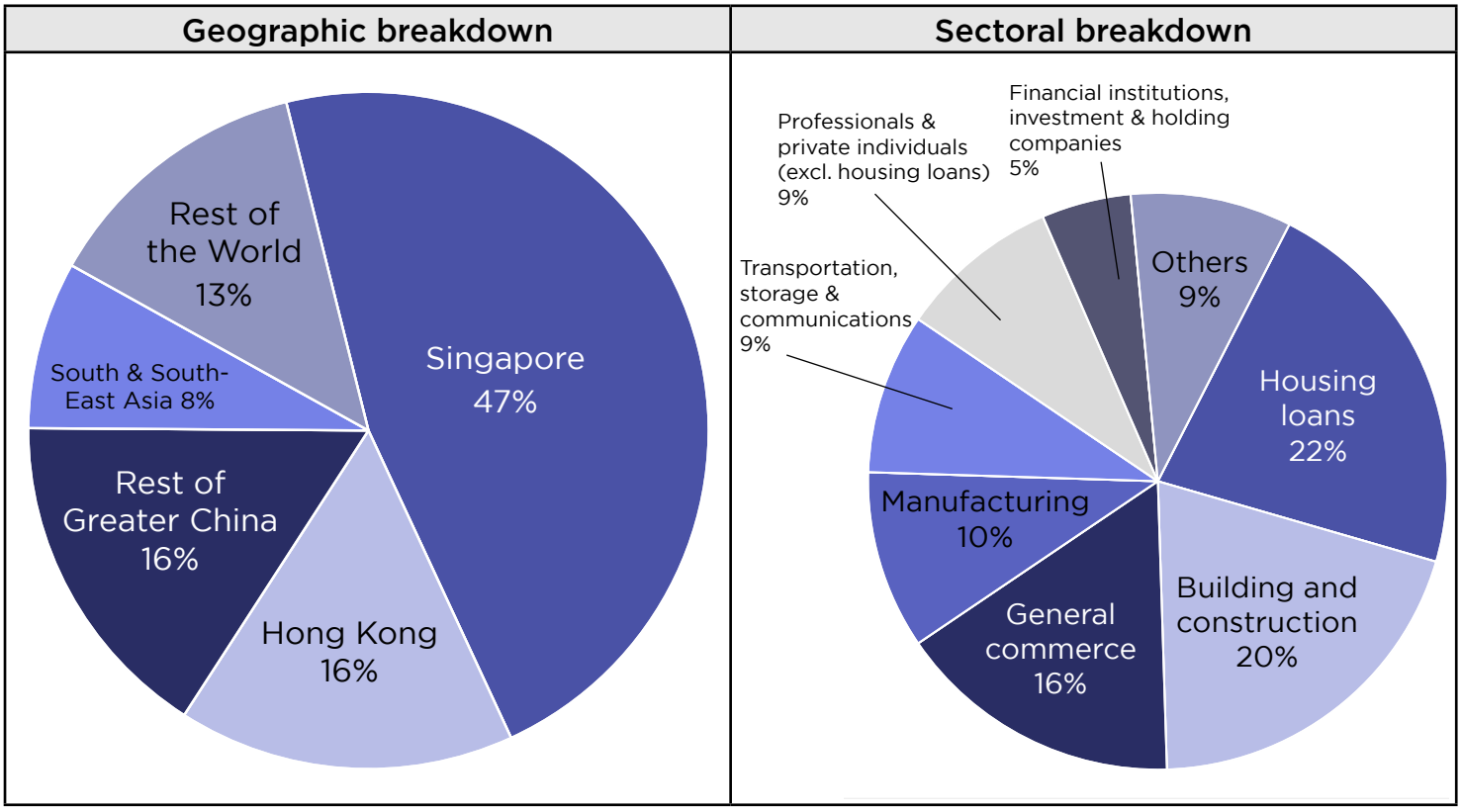
3. Exposure to coal value chain

It is not possible to assess the full exposure of DBS to coal value chains from its reporting. Exposure is likely through projects or company clients spanning new power projects, existing coal-power operators, coal mining, engineering and construction, and other enabling infrastructure projects, particularly transport and logistics, such as ports, freight rail and roads. Nevertheless, geographic and sector breakdowns indicate the bank is not strategically reliant on coal.

As at the end of 2017 total loans were SG$328 billion. Nearly half of the loan book was in Singapore, which does not have any coal. The sector exposure does not explicitly break down power/utilities or mining, and while transport is provided this is grouped with storage and communications. The sector headings suggest that the primary coal exposure is in the Others category and consequently, the overall exposure is less than 9%.

A study from Coalexit and Banktrack looking at financiers for the leading global coal companies found total exposure for DBS spanning 2014 to 2017 of US$1,355 million (See *Figure 6*). This again indicates the limited overall exposure that DBS has to primary coal power assets.

Figure 4: DBS loan exposure by geography and sector end 2017



Source: DBS

New coal-fired power projects

DBS is named in connection with Vietnam/Indonesia coal power projects

Media commentary has focussed on new coal-power projects that are permitted under the policy where they are in developing markets and where the proposed plants will use more efficient technologies. Based on information gathered by Market Forces from data provider IJ Global, there are three projects in Vietnam where DBS will play a role and three in Indonesia.

Figure 5: DBS finance for new coal-power projects

Plant	Capacity (GW)	Country	Province	DBS role	Project cost (US$ billion)	Total debt (US$ billion)	Target date for final decision	Status
Nghi Son 2	1.2	Vietnam	Thanh Hoa	Lender	2.5	2.0	March 2018	Financing secured
Nam Dinh 1	1.2	Vietnam	Nam Định	Lender	2.1	1.6	Mid 2017	Pre-Permit Development
Vung Ang 2	1.2	Vietnam	Hà Tinh	Lender	2.2	1.7	Early 2017	Planning
JAWA-6	2.0	Indonesia	West Java	Advisor	-	-	-	Expansion Project
JAWA-9	1.0	Indonesia	Banten	Advisor	-	-	Q3 2018	EPC Contract
JAWA-10	1.0	Indonesia	Banten	Advisor	-	-	Q3 2018	EPC Contract

Source: Market Forces/IJ Global

New coal for existing clients

The climate policy has no detail on how to confirm clients are moving away from coal

Beyond new plants there are ongoing relationships where DBS financing may contribute to coal mining or coal-fired power indirectly. For example, a power utility or coal mining company may need to refinance a loan or renew a working capital facility. At the same time the company may be investing in new coal infrastructure. DBS would be supporting coal expansion in such cases through providing general finance to the entity. In this way, DBS may be indirectly supporting new coal-power or mining projects that would breach its coal policy if the financing were arranged specifically for the projects.

DBS has stated that it will only continue such relationships where there is a diversification strategy, though no details are provided of how this will be assessed.

Figure 6: Examples of historic relationships

Group	Country	Year	Loans (US$ million)	Underwriting (US$ million)	Total (US$ million)
Aboitiz Power Corporation	Philippines	2016	55		55
Adaro Energy	Indonesia	2014	60		60
Adaro Energy	Indonesia	2015	53		53
Adaro Energy	Indonesia	2016	137		137
China Huaneng Group	China	2015	9		9
China Resources Power	China	2014	69		69
China Resources Power	China	2015	103		103
Jindal Steel & Power (JSPL)	India	2015	32		32
Marubeni Corporation	Japan	2015	9		9
PowerChina	China	2017		83	83
Shandong Weiqiao Pioneering Group	China	2016	173		173
SMC Global Power	Philippines	2014		43	43
SMC Global Power	Philippines	2015	47	36	83
State Power Investment Corporation (SPIC)	China	2016	109		109
Tata Power	India	2015	44		44
Tata Power	India	2016	27	144	171
Vietnam Electricity Corporation (EVN)	Vietnam	2014	122		122
					1,355

Source: Banktrack, Coalexit

Enabling operations and infrastructure

Exposure to coal value chains also includes enabling activities such as engineering or transport infrastructure, including ports, roads, and logistic operations. We have not attempted to segregate DBS exposure to these activities, however, it is likely to be small, given the sector breakdowns provided above.

4. Sustainable development context in Vietnam and Indonesia

The primary argument for continued investment in coal is that: 1) there are significant social benefits from electricity; 2) that developing economies cannot yet afford to switch to renewables; and that 3) these priorities outweigh the longer term environmental costs. This section reviews each of these assumptions for Vietnam and Indonesia, where DBS is involved in planning for new plants.

Electrification and literacy concerns do not support coal in Vietnam/ Indonesia

It finds that both countries have largely addressed the challenges of providing their population with electricity, that other countries with lower incomes have higher rates of renewables, that there are current air quality challenges from coal causing health problems, and that the long-term impacts from climate change are likely to be extremely severe, with very high implied costs to address them. Furthermore, questions about how to tackle food security issues, particularly the vulnerability of rice production in the Mekong River Delta, raise serious security concerns more broadly.

In conclusion, once the environmental factors are included, we cannot identify the social benefits to which DBS refers.

Access to electricity - significant progress already made

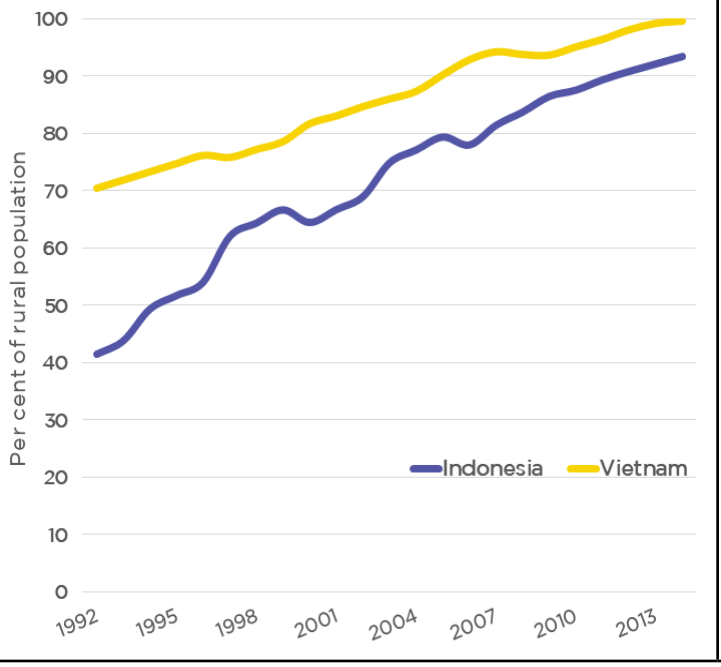
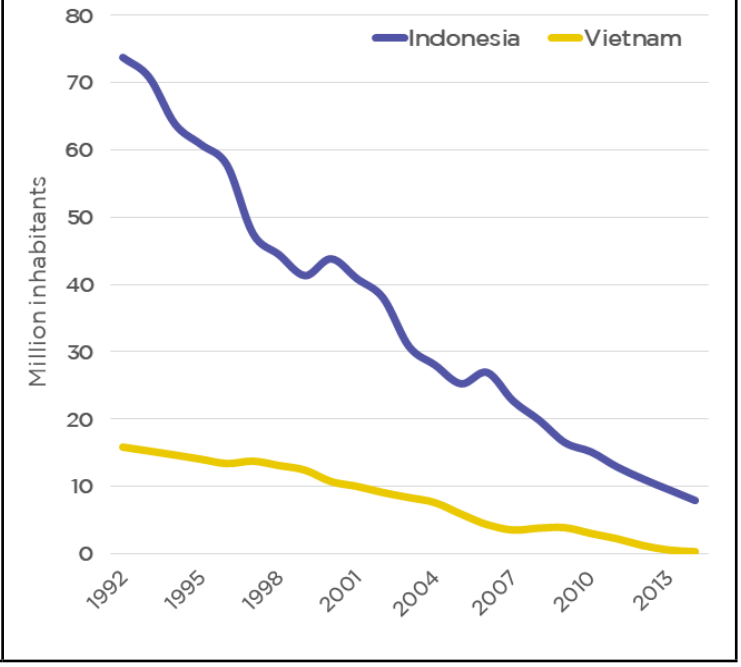
The annual report mentions that 65 million people in ASEAN are without access to electricity. The question is whether the new coal plants planned will address these problems. In fact, the urban electrification challenge is largely solved in both countries. In Indonesia, urban access to electricity reached 100% as far back as 1998, at which point urban access to electricity in Vietnam was already 95%.

India is using solar to address rural electrification

Both countries have also taken considerable steps in addressing rural electrification as the charts show. However, the proposed new coal plants are all located near urban areas and will not address the rural challenges. Distributed energy, such as that from solar, is much more likely to address remaining issues with rural electrification — and this has been the approach taken in India, where solar outcompetes coal.[6]

6 Institute for Energy Economics and Financial Analysis, 'A Cost Tipping Point in India', 1 February 2018, [website], http://ieefa.org/cost-tipping-point-india/ (accessed May 2018)

Figure 7: Rural population and access to electricity

Rural population's access to electricity	Rural population without access to electricity (3-year moving average)
	

Source: World Bank, ARE calculations

Literacy rates - mostly achieved

Literacy largely addressed in Vietnam/Indonesia

We also reviewed literacy rates as part of the social analysis and because education is one of the strongest social benefits of electrification. We found that concerns over literacy rates do not support an argument for cheaper electrification at this time and in these two countries.

In Indonesia, adult literacy rates (>15 years) increased from 44% in 1990 to 94% in 2016, while youth literacy (between 15 and 24 years) increased from 82% to 95% over the same period. In Vietnam, adult literacy rates were already high at 90% in 1999 and increased further to 94% in 2009. Youth literacy increased from 94% to 97% over the same period.

Renewable adoption rates - behind low-income comparables

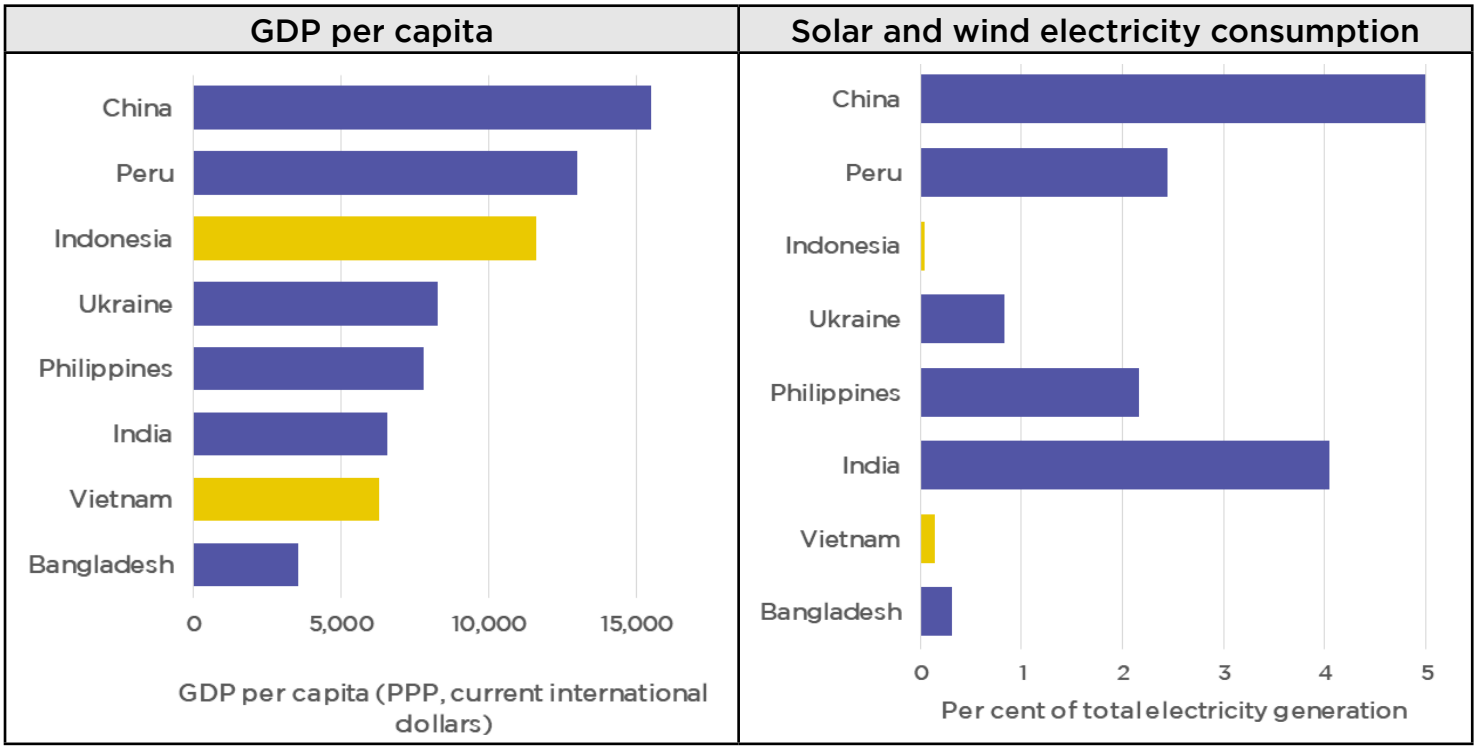
Vietnam's submission to the Paris Climate Agreement states that it will "change the energy structure towards a reduced share of fossil fuel, encouraging the exploitation and use of renewable and low GHG emission energy sources". Indonesia also projects a significant increase in the renewable proportion of the energy mix.

Vietnam/Indonesia lag poor countries on wind/solar

Notably, both countries are starting from a very low base for wind and solar, which are both scalable aspects of renewable power generation. Their generation from these energy sources is also very low in comparison with other countries that have similar or lower incomes.

The presence of other low-income countries with far higher proportions of renewable generation undermines the arguments that Vietnam and Indonesia cannot afford to switch from coal.

Figure 8: Indonesia and Vietnam's proportion of solar and wind electricity compared to countries with similar GDP



Source: BP, World Bank

Air pollution impacts and legal challenges

Air pollution, including from coal, a major concern for SE Asian cities

Urban air quality and negative health effects such as early deaths and premature babies have become a major source of concern for many major Asian countries including Vietnam and Indonesia. Coal plants have played a significant and ongoing role in declining air quality. A Harvard study released in 2017 modelled incremental increase in air pollution from Southeast Asian coal plants in the form of emissions of SO2, NOX, PM2.5 and Ozone and determined the number of excess deaths these caused. The study estimated coal plant-related air pollution caused 19,880 deaths in 2011 and projected that under a business-as-usual scenario for expansion of the coal power fleet, this figure will rise to 69,660 deaths per year

by 2030.[7] The totals were the highest for Indonesia — 7,480 excess deaths rising to 24,400 — and Vietnam — 4,250 excess deaths rising to 19,220. China had the third highest number due to transboundary pollution.

In January 2018, the Yale University-backed Environmental Pollutants Index found that for the air pollution sub-index (based on SOX and NOX) Vietnam's rank had fallen to 161 out of 180 countries. The situation is particularly severe in Ho Chi Minh City and Hanoi.

While transport, notably motorbikes, is a major source of air pollution, local non-governmental organisations also cite the role of coal power. A study from the Green Innovation and Development Centre (GreenID) identified that the worst air pollution in Hanoi did not fall during busy traffic hours, indicating industrial activities play a significant role, including coal plants.

Civil society demand for clean air creates reputational risk for DBS

These concerns are reflected in an article on the GreenID website that also includes comment on DBS's coal policy from the non-governmental organisation CHANGE Vietnam. The latter's program manager, Tuong Nguyen, criticised the DBS policy for differentiating between developed and undeveloped markets: "We see that as a double standard. It's unfair for people in Vietnam because that means we don't deserve clean air like people in developed countries."[8]

There have been similar concerns over coal plant air quality issues in Jakarta. Again, there are multiple causes with traffic and exhaust fumes a major contributing factor. Nevertheless, the coal plants are also problematic, with a Greenpeace study noting that "Greater Jakarta will have more new coal-fired power stations built within 100 kilometres than any other capital city".[9] The health and other economic impacts have led to community complaints and legal challenges to coal power expansion around Jakarta and elsewhere in Indonesia. Examples include the Cirebon 2 project[10] and Indramayu project,[11] both in West Java, and the Celukan Bawang project[12] near Lovina beach in Bali.

7 S.N.Koplitz et al., 'Burden of Disease from Rising Coal-Fired Power Plant Emissions in Southeast Asia', ACS Publications, 12 January 2017, [website], https://pubs.acs.org/doi/abs/10.1021/acs.est.6b03731 (accessed May 2018)

8 M.Tatarski, 'Backed by Banks, Vietnam Embraces Dirty Coal', Green Innovation and Development Centre, 23 March 2018, [website], http://en.greenidvietnam.org.vn/backed-by-banks-vietnam-embraces-dirty-coal.html (accessed May 2018)

9 Greenpeace, 'The Pollution Threat Hanging Over Jakarta', 24 October 2017, [website], http://www.greenpeace.org/seasia/Press-Centre/Press-Releases/The-pollution-threat-hanging-over-Jakarta/#a1 (accessed May 2018)

10 Market Forces, 'Cirebon 2 (1,000MW)', 23 November 2017, [website], https://www.marketforces.org.au/research/indonesia/cirebon-2/ (accessed May 2018)

11 Walhi, 'Bandung Administrative Court Approved People demand; Indramayu Coal Power Plant 2x1000MW Environment Permit Revoked', 8 December 2017, [website], https://walhi.or.id/bandung-administrative-court-approved-people-demand-indramayu-coal-power-plant-2x1000mw-environment-permit-revoked/ (accessed May 2018)

12 A.Barker, 'Bali locals concerned about expanding coal power plants', ABC News, 28 February 2018, [website], http://www.abc.net.au/news/2018-02-28/bali-locals-concerned-about-expanding-coal-power-plants/9491702 (accessed May 2018)

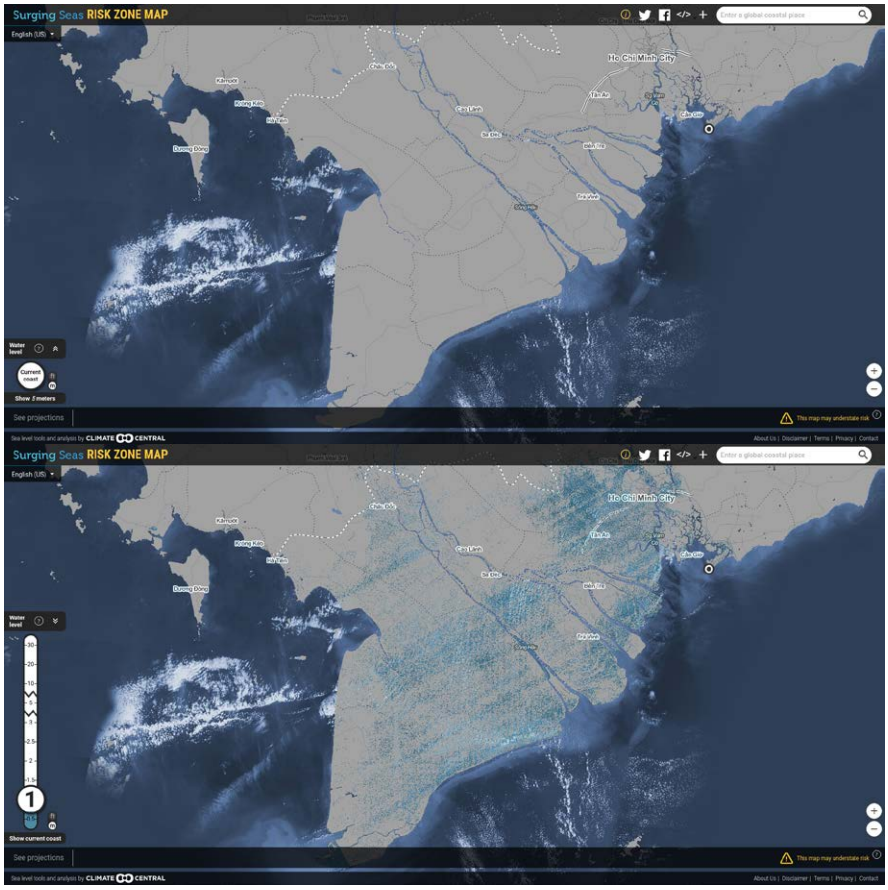
Examples of climate impact

The overall calculation of economic and social benefits needs to consider the costs of coal capacity additions as well as potential benefits. These costs are clearly significant. While a comprehensive analysis is beyond the scope of this report, a quick review of the effects of sea level rise and flooding clearly shows major impacts. The DBS CEO has good reason to state in the Annual Report that "climate change is one of the biggest challenges facing mankind".

Climate change a high risk for rice from Mekong River Delta

The following images show the effects of a one-meter sea level rise on the Mekong River Delta and on an agricultural area near Jakarta. The Mekong River Delta is the most important rice growing area for Vietnam, supplying around half the country's rice since 1997. The blue dots in the second image highlight areas susceptible to flooding due to the rising sea level. Storm surge creates further flood risk, while salinisation undermines soil fertility. These issues present very high risks to rice production in Vietnam, with consequences for food security. There are estimates that sea level rise could affect up to one million people in the Delta by 2050.[13] The long coastline and low-lying land create a significant and costly adaptation challenge, with no clear solutions.

Figure 9: Mekong River Delta - at current sea levels and after a one metre rise



Source: Climate Central

13 Union of Concerned Scientists, 'Mekong River Delta, Vietnam', Climate Hot Map, 2011, [website], http://www.climatehotmap.org/global-warming-locations/mekong-river-delta-vietnam.html (accessed May 2018)

Climate change impacts on food raise long-term social stability questions

DBS may wish to consider the implications of a failure to address the food security and displacement issues on social stability in Vietnam and across the region. Could this indirectly increase risks to economic activity and prosperity in Singapore? If so, should DBS take a more active role in working with authorities, both domestically and internationally, to avert such a future?
Indonesia is an archipelago with 17,000 islands and an 80,000 km coastline. Agriculture is also a significant driver of employment. These features make the country particularly vulnerable to climate change. There are also significant issues relating to the capital, Jakarta, which is already low-lying and subsiding. The blue highlights on the second map shows areas of the city and surrounding area that will be underwater after a one-metre sea level rise. While the city has long been prone to flooding, this image highlights the growing risks, especially when coupled with increased variability of rainfall. As an illustration, the floods in Jakarta in January 2013 took the lives of 47 people, destroyed more than 100,000 homes, and led to an estimated US$3 billion in economic losses.[14]

Figure 10: Jakarta - at current sea levels and after a one metre rise

Source: Climate Central

14 Y.Holten, 'The impacts of global climate change in Indonesia: Jakarta as a case study', I AM PRO WORLD, 11 May 2017, [website], http://iamproworld.com/2017/05/11/the-impacts-of-global-climate-change-in-indonesia-jakarta-as-a-case-study/

5. Renewables beating coal on price

The best power sources are clean, secure, and affordable. Coal is clearly not clean, given its high air and water pollution, in addition to its high greenhouse gas emissions. For countries where there are large deposits of coal, the fuel is secure until supplies run out, but not as secure as wind and solar, leaving aside questions of consistency of output. That leaves affordability as the only criteria on which it can compete. But for how long?

The left-hand chart in *Figure 11* shows various estimates for the levelised cost of energy by Lazard, highlighting that utility scale solar can be cost competitive with coal.

Coal already losing on price to wind/ solar in some areas

The right-hand chart in *Figure 11* shows the dramatic solar cost declines in the US. The situation is similar in India where, according to energy think tank IEEFA, renewable power auctions are coming in at price points 20% lower than coal.[15] The IEA indicates China will reach a similar inflection within a few years.

There are secondary factors for fossil fuels such as consistency of supply. However, the experience in European countries that have significantly increased renewable generation is that concerns over consistency can be managed at ever lower proportions of fossil power. Storage technologies also exhibit a cost decline curve.

These factors create significant pressure on coal, leading Bloomberg New Energy Finance (BNEF) to predict that generation from coal will peak globally as soon as 2026.[16]

Notably, because renewables do not have ongoing fuel costs, a higher proportion of the total cost comes from financing costs than for fossil fuel or nuclear power generation. For banks, this creates major opportunities in providing financing during the renewable transition.

Cheaper renewables reduce economic lifespan for new coal

There is also a corresponding risk for operators and financiers of coal plants that will become increasingly uncompetitive over time. It is not clear whether the shortening of the economic life expectancy is being properly factored into models for new coal projects.

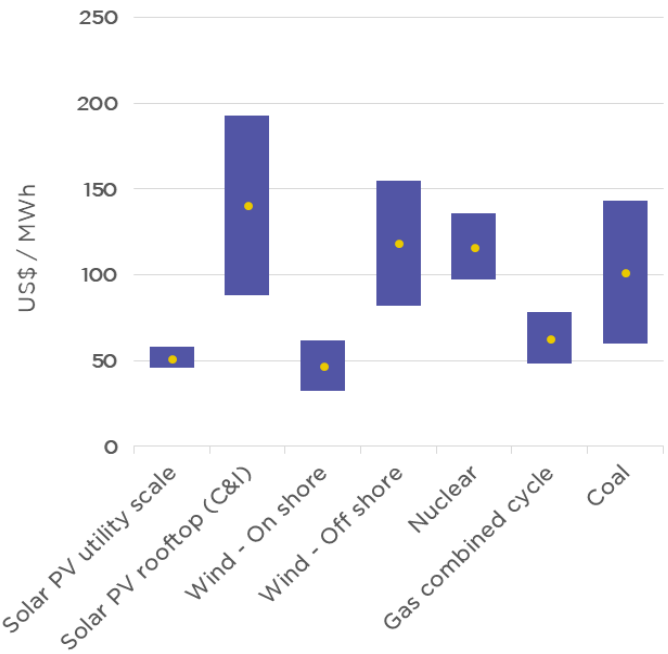
This last point will be increasingly relevant as governments take steps to create incentives and remove market barriers for renewables and could affect bankability of projects. In Vietnam, for instance, the government has just brought in a new feed in tariff of US$0.0935 per kWH for a 20-year term for both grid connected and rooftop solar for projects that achieve operation before June 2019.

15 Institute for Energy Economics and Financial Analysis, A Cost Tipping Point in India

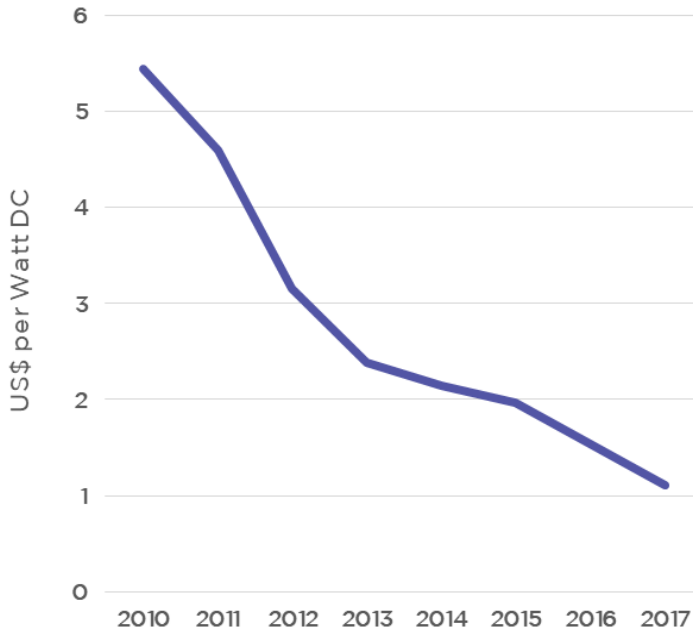
16 Bloomberg New Energy Finance, New Energy Outlook 2017

Figure 11: Cost comparison for generation technologies

LCOE for main energy sources (2016)



Utility scale one-axis tracker PV cost benchmark in United States (2010-2017)



Source: Lazard, US National Renewable Energy Laboratory

6. Developing a systematic approach to climate change

Like many banks, DBS finds itself in a schizophrenic position on climate change. It is not surprising that DBS has not yet articulated a systematic approach to what the CEO calls "one of the biggest challenges facing mankind". Nevertheless, there is a clear disconnect between its own assessment of the green finance opportunity in ASEAN and its approach to coal.

DBS appears to be reactive, not strategic on climate change

Currently, it appears to be formulating its approach in a reactionary way in response to reputational pressure. This has resulted in exclusionary policy for some aspects of coal financing and palm oil as well as the report noted above on the green financing opportunity in ASEAN. This is clearly not optimal — for instance, in limiting coal exposure there is no reference to limitations required to meet national policy objectives in any of the relevant countries nor the global target of well below 2 degrees Celsius.

So how can DBS up its game and act in a proactive and strategic manner on the issue?

The framework provided by the Taskforce on Climate-related Financial Disclosures (TCFD) can help provide an answer. TCFD, which was led by Michael Bloomberg, provided its recommendations to the Chairman of the Bank for International Settlements in a report published in June 2017.[17] The recommendations provide a framework that companies can use to structure thinking about the risks and opportunities that climate change presents, covering governance, strategy, risk management, and metrics and targets. The framework also refers to the use of scenario analysis in setting strategy, including one scenario that meets the well below 2 degrees Celsius target agreed in Paris.

Investors can support DBS as it explores its strategy

Assessing DBS disclosure against this framework yields results as set out in the following tables. It is notable that DBS has provided enhanced disclosures in recent years, which enables us to provide more precise assessment and suggestions. Nevertheless, the following assessment is based only on the high level TCFD recommendations as DBS does not provide sufficient information to undertake a more detailed assessment based on supplementary annexes TCFD provides with further guidance for the financial sector.

17 Task Force on Climate-related Financial Disclosures, 'Final Report: Recommendations of the Task Force on Climate-related Financial Disclosures (June 2017), TCFD, June 2017, [website], https://www.fsb-tcfd.org/publications/final-recommendations-report/

Governance

Background

The question here is to what extent does the board have oversight of climate change related risks and opportunities and how management assesses these.

Status

DBS states that the board has overall responsibility for sustainability and considers Environmental Social and Governance (ESG) issues in the formation of strategy, integrating them into the relevant scorecards used to assess performance. The board delegates execution of the strategy to the CEO. The DBS Sustainability Council reports to the CEO and is chaired by a Chief Sustainability Officer (CSO). The Council is responsible for setting the framework KPIs and targets and advising the CEO.

Regarding climate change, there are no board members with clearly relevant experience on environmental or climate change issues. The training topics in the prior years have not covered these issues. In 2017 they were Commodity Trading and Risk Management; Outlook on China; and Anti-Money Laundering and Terrorism. In 2016 they were a briefing on cyber-security; a talk on technology megatrends; and a training session on risk stress testing. In 2015 they were a briefing on changes to the Companies Act; a talk on disruption and the impact to organisations; and a training session on risk benchmarking. There was also no relevant training in 2014.

DBS provides the elements of the business level balanced scorecard in the AR. The scorecard breaks down into Traditional KPIs (40%), Making Banking Joyful (20%) and Areas of Focus (40%). The category Areas of Focus includes five aspects: Regional Businesses; Geographic Mix; Enablers; Regulators; and Society. The Society aspect refers to a stakeholder mapping (page 29) and the sustainability section of the AR. The stakeholder mapping refers to an "increased focus on sustainability and climate change matters", noting the public is demanding that banks exert greater influence on their customers and employees regarding ESG. The sustainability section has targets relating to climate change where these are aligned with relevant sustainable development goals and distinguishes between responsible financing (restricting finance) and sustainable financing (increasing financial support for green activities).

The members of the Sustainability Council are not provided. The CSO, Mikkel Larsen, is not one of the senior management team, nor is he identified in the annual report or on the website (though he is well known in the sustainability circuit in Singapore and beyond).

Commentary

There is no board level sustainability committee and there are no individuals on the board aside from the CEO named as having responsibility for setting strategy. Consequently, it is not clear where decisions relating to climate change are being made or how they are considered by the board. Furthermore, it is not clear whether the board has relevant experience relating to environmental issues, particularly climate change, to oversee the appropriate integration of these factors into strategy. While the components of the balanced scorecard are provided, the component assigned to the environment and climate change is extremely limited and ill-defined (see below).

Recommendations

- Identify the board members with the relevant skills, expertise, and experience in integrating ESG into strategy.
- Provide training for the board as part of continuous professional development, particularly on climate change.
- Provide a more systematic assessment of climate change-related risks and opportunities.

Strategy

Background

The question here is whether the bank has identified relevant climate change risks and opportunities on different time horizons; linked these to the business and strategic/financial planning; and tested the resilience of the business to various scenarios, including a 2 degrees Celsius scenario. Risks and opportunities can come from transition (changing political and regulatory environment, new technology, changing market standards, and reputational risks) or physical impacts (such as rising sea levels of intense flooding).

Status

DBS identifies reputational risks from financing controversial sectors such as coal and palm oil. There is also some discussion without targets of increasing the proportion of green financing.

Commentary

There are significant gaps. The published sector policies are in response to social concerns and not due to an analysis of the underlying climate change-related risks and opportunities. The primary risk noted is that to the bank's reputation. There is no discussion of the changing credit potential or business performance of corporate clients. There is limited discussion of how the bank will address the significant opportunity set out in its study for green financing in ASEAN. There is no discussion of the potential physical risks of climate change and no reference to a scenario in which the well below 2 degrees Celsius target is achieved.

Recommendations

- Factor market assessments for green finance, such as the DBS assessment of opportunities in ASEAN, into business strategy.
- Provide a strategy for taking advantage of identified opportunities (risk is considered below).
- Consider how to structure products accordingly, such as providing accounts for consumers in Singapore to invest in a national renewable roll-out.
- Consider these factors in other areas of strategy, such as geographic expansion or product development. For instance, with geographic expansion it may be easier to grow corporate relationships in newer green industries than try to displace incumbent relationships in other industries.
- Undertake a comprehensive analysis of risk from climate change factors across the portfolio in various scenarios, including a well below 2 degrees Celsius scenario.

Risk Management

Background

The purpose of this section is to identify, assess, and manage climate related risks. One aspect is the process for determining the relative significance of related risks to the portfolio, such as the potential exposure, impact, and scope of risks. Another is the steps taken to mitigate such risks. Ideally, these will be categorised in line with the bank's traditional risk categories.

Status

DBS's materiality matrix includes Responsible Finance and Climate Change. These are presented as more relevant to stakeholders than the bank. The primary discussion of the risks relates to reputational risks for the bank from investing in controversial sectors.

Commentary

The assessment of the risks as reputational in nature is at odds with the CEO's statement that climate change is "one of the biggest challenges facing mankind". There is little or no discussion of the potential for climate change transition risks, such as regulation or new technologies, to affect client credit risk. Nor is there discussion of the ways in which physical impacts could affect the credit risks — such as from the damage to food security noted in the case of Vietnam or more directly to coastal infrastructure, such as ports or integrated resorts. (ARE's own assessment of Asia Pacific's largest ports found potential adaptation costs between US$31 billion and US$49 billion.)[18]

Recommendations

- Undertake a portfolio review to identify clients with high risk exposure to climate change.
- Set out and implement steps with relevant targets and metrics to address these risks either through adjusting the portfolio or in dialogue with clients.

18 B.McCarron, A.Giunti and S.Tan, 'Climate Costs for Asia Pacific Ports', Asia Research & Engagement, 22 March 2018, [online], https://www.asiareengage.com/reports/2018/1/29/climate-costs-for-asia-pacific-ports

Metrics and targets

Background

The purpose of the metrics and targets disclosure is to enable appropriate management and assess progress of banks in implementing strategies to mitigate risks and capture opportunities represented by climate change.

Status

DBS presents a sustainability strategy for the bank that emphasises four Sustainable Development Goals. These contain several targets expressed on a 2030 timeframe that are relevant to climate change. There are internal targets (such as increasing the bank's own use of renewable energy) and external targets relating to increasing or restricting financing for clients. The relevant targets refer to clients', rather than own footprint.

The two most pertinent targets are:

- *"Promote investment in clean energy technology"*
- *"Influence our customers towards sustainable management and efficient use of natural resources"*

There is commentary on the initiatives for 2017 and the impact achieved in 2017, however, there are no quantitative details or linkages to the client portfolio or the overall scale of DBS activities.

Commentary

The strategy seems framed around perception management — brand alignment to sustainability and avoidance of the most controversial sectors — rather than based on a structural adjustment of the portfolio of activities and strategy to mitigate risks and capture opportunities. This has resulted in a list of somewhat tactical targets relating to financing mixed in with managing of the direct footprint.

Recommendations

- Link targets to business strategy.
- Quantify the relevant targets.
- Base targets on scenario planning, informed by the best available science, including one scenario on the required mitigation pathway to reach a world where global temperature rise is well below 2 degrees Celsius and the potential physical impacts.
- Provide targets for the business exposure relating to green financing more broadly than energy. These could include sub-targets for bank exposure across the range of industries and geographies the bank has exposure to.
- Provide targets for DBS's share of green finance in various geographies — this could start with the bank's assessment of the market size as a baseline.
- Undertake systematic risk analysis to identify where clients have exposure to transition or physical risks and mitigate such risks through reducing exposure or working with clients to adapt, potentially providing enhanced financing solutions.
- Provide targets to work with clients across industry subsectors to encourage sustainable solutions — for instance, DBS is increasing the level of Green Mark certification across its branch network, but does it suggest real estate clients do so?

7. Conclusion

Being Asia's leader on financing sustainable activities is better than financing a few coal projects

This report reviews DBS strategy on climate change, with a focus on the issue of coal power. The report has presented multiple reasons for DBS to stop financing coal power while finding no strategic reason for the bank to continue to finance this activity:

- Coal power is increasingly controversial and DBS involvement in coal power is already attracting criticism in the local media and from NGOs across the region.
- Power mix scenarios that achieve the target to restrain temperature rises to well within 2 degrees Celsius show a limited role for coal in SE Asia.
- Coal power economics are increasingly under pressure from new regulation and falling renewable costs. These factors will shorten the expected economic life of coal plants, likely affecting the viability of new projects today.
- DBS has limited exposure to coal due to the fact that its home market of Singapore does not rely on coal power.
- DBS has a significant potential opportunity in financing green assets and infrastructure across SE Asia. However, DBS has also identified that continued financing of dirty assets in the region could act as a barrier to the growth of green markets.

The board needs to take multiple further steps to create a coherent strategy on climate change

We believe DBS can have a bright future as Asia's leading sustainable bank of choice. But it will have to let go of coal in order to achieve this.

The report is also intended to support the board and investors in reviewing the implications of climate change on strategy more broadly. The intention is to provide a broader context for considering these issues and help the board arrive at a deeper conviction for its strategy.

We have provided recommendations based on the framework provided by the Task Force on Climate-related Financial Disclosures (TCFD). Key points include:

- Governance: Ensure that the board has relevant training and reliable information sources with sufficient breadth and depth on climate change issues
- Strategy: Undertake an assessment of the risks and opportunities climate change will present to the business, including the loan portfolio. Consider scenarios in which global climate targets are met

- Risk management: Highlight areas of the portfolio where climate change presents specific risks and develop plans to mitigate such risks
- Targets and metrics: Provide quantitative targets with a tracking system to allow stakeholders to monitor progress on climate change-related financing – the KPIs presented in the sustainability reporting are not quantitative

We welcome comments on the issues raised in this report.

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