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Implications of Stranded Assets

Stranded assets in the context of climate change: The concept of impairments is a familiar one for many users of financial information, with the International Financial Reporting Standards ("IFRS") Foundation spelling out that *"Assets must not be carried in the financial statements at more than the highest amount to be recovered through its use or sale. If the carrying amount exceeds the recoverable amount, the asset is described as impaired"*. While the concept is widely understood, impairments are driven by multiple reasons and frequently remain a key area where significant assumptions and judgement are required. Simplistically, "stranded assets" are assets that are susceptible to losing its value, especially in the context of this loss of value being unanticipated and may lead to asset owners taking impairments. In the past decade, "stranded assets" in the context of climate change was used to kick-start conversations about the financial market implications of not adapting to decarbonisation. This has been a highly debated topic and was not originally universally accepted, especially among companies owning such assets with the most to lose. For the purposes of this article, we will focus on the International Energy Agency ("IEA")'s definition of stranded assets. The IEA defines stranded assets as *"investments which have already been made, though at a point in time prior to the end of their economic life (as assumed at the investment decision point), are seen to no longer earn economic returns as a result of changes in the market and regulatory environment brought about by climate policy"*.

Reasons why assets can become stranded: Aside from the reasons gleaned from the IEA definition, one additional reason is the risk of assets being damaged due to physical effects of climate change. For example, farmland in climate vulnerable locations or properties at-risk of being submerged due to rising sea levels. Broad changes in market and the regulatory environment (as a result of policy and legal changes) means companies may need to contend with lower asset valuations than what is currently accounted for on their balance sheets, with knock-on implications for investors.

Table 3: Key Risk Factors

Category	Definition	Examples
Policy and legal	Policies or regulations that could impact the operational and financial viability of assets	• Carbon taxes across Europe, South Korea, Japan and Singapore; being discussed in Indonesia • Singapore phasing out internal combustion engine vehicles by 2040 • Singapore targeting for 80% of buildings (by floor area) to be green buildings by 2030
Technology	Developments in the commercial availability and cost of alternative and low-carbon technologies	• Global shipping sector exploring ammonia as marine fuel • Carbon capture storage systems • Energy storage and batteries • Expansion of renewable energy drives demand for certain metals and minerals (eg: cobalt, nickel, manganese, aluminium) • Floating solar in Singapore
Market and Economic	Changes in market or economic conditions that would negatively impact assets	• Changes in consumer preferences towards sustainable brands and biodegradables • Technology companies have become the largest corporate buyers of renewable energy in the US • Multinational corporations ("MNCs") demanding green supply chains with knock on impact to companies serving these MNCs • Potential for higher funding costs for the funding of certain assets and businesses as a result of technology, policy and legal risks

Source: "Carbon Asset Risk: Discussion Framework" by the World Resources Institute and UNEP Finance Initiative, adapted by OCBC Credit Research

"BAU" does not meet Paris Agreement target, more would need to happen: The Paris Agreement's goal is for the world to limit the global temperature increase to well below 2 degrees Celsius above preindustrial level, preferably to 1.5 degree Celsius. The "business as usual" scenario implies that this target is unlikely to be reached. Climate scientists at the Breakthrough Institute and CICERO of Norway have projected a 3 degrees Celsius increase under a "business as usual" scenario, taking into account decarbonisation progress in the past decade. While governments of the world have managed to agree on the broad goals set out by the Paris Agreement (no small feat in itself), more measures need to be taken to reach the targets. The 26th UN Climate Change Conference of the Parties ("COP26") in November 2021 would see signatories report and review progress made since 2015 and is expected to establish new initiatives.

Projections for stranded assets depends on which climate scenario we are working towards With the Energy sector being the largest emitter, policies including those that encourage renewable energy, new technologies and innovation, carbon pricing, carbon taxes and restricting fossil fuel subsidies will be required for further decarbonization. The stronger the policy intent to reach a 1.5-degree Celsius increase, the more changes are required for the transition. Any of these policies (or combination) can impact fossil fuel prices and the quantum of stranded assets. As an illustration, fossil fuel prices are subsidised in many Southeast Asian countries to the tune of USD35bn in 2018 per the IEA, whilst simultaneously greenhouse gas emissions (the externality) typically went unpriced. A change in either a pullback in subsidies and/or slapping a carbon tax is likely to spur demand for low carbon solutions. In May 2021, the IEA published a report which boldly claimed that the world is able to reach net zero by 2050, setting out a roadmap on how to achieve this. The IEA's net zero path requires significantly higher investments in renewable energy with large declines in the use of fossil fuels and where there are no new oil and gas fields approved for development (beyond the projects already committed for 2021). Under this scenario, production of the remaining oil and gas would be concentrated to a small number of low-cost producers mainly in the OPEC.

Industries at risk of having more stranded assets: The main emitter of greenhouse gasses is the energy sector, mainly due to the production of electricity and heat, transportation and for manufacturing and construction. The coal sector has been the obvious target, with a number of countries in Europe already coal-free, while Singapore banks announced their exit from new coal plant lending since 1H2019, followed by other banks and insurers. A resource or infrastructure asset that is not financeable or insurable often means that the potential pool of buyers is highly limited, thus affecting actual marketability of these assets. With the fall in oil price in 2020, the oil and gas sector faced a reckoning, with oil majors taking tens of billions of dollars of impairments on their asset values (though starting from a high base). In February 2020, the Financial Times estimated the stranded asset value of oil and gas companies at USD900bn (~SGD1.2 trillion) under the more aggressive 1.5-degree Celsius scenario. Other industries that are linked to fossil fuels, albeit less directly, which are also at-risk include transportation (airlines and shipping through their fleet), infrastructure (pipelines, electricity grids and storage tanks) and equipment companies to the resources sector (mining excavators, offshore drilling). Within Singapore, Sembcorp Industries Ltd and Keppel Corporation Ltd, formidable rig builders and power generation asset owners and operators, have announced transformation plans and are diversifying away from businesses which indirectly relies on high oil prices.

Much also depend on jurisdictions: Whilst major commodities like oil are driven by global prices, stranded assets in other cases are dependent on specific policies that differs by jurisdiction. In our view, intent of policy makers and timing of the transition affects the magnitude of stranded assets. All things equal, a stronger intent to transition with shorter decarbonization timelines increases the magnitude of assets that may become stranded. Policy consistency over a long period of time partly explains why Europe-based companies have leapfrogged others in the transition. In our view, an accelerated shift (such as what is happening in the US) is likelier to lead assets to be stranded as this was outside investment base cases at time of initial investment. As an example, President Joe Biden cancelled the licenses required on the Keystone XL Pipeline ("KXL") on the back of environmental concerns immediately after he took office. KXL was aimed at connecting oil sands in Alberta in Canada to Nebraska in the US and was supported by both the Alberta state and Canadian Federal government. While financiers avoided sinking in the full funding required, the company involved recognized an impairment of CAD2.2bn (~SGD2.2bn) in 1Q2021 due to the suspension of KXL and the reassessment of related projects. On the back of economic reliance on petrochemical industries, fossil fuels for electricity and as a major marine and airline hub, stranded assets are similarly relevant in the context of Singapore.

How does stranded assets affect corporate credit analysis? Asset valuation underpins much of corporate creditworthiness. We would see debt being supported by a thinner equity buffer when asset values shrink. Even where management and auditors deem that the threshold has not been met for accounting impairments, we would not be surprised if financial markets react earlier with regards to the threat of stranded assets. Whilst book values of assets provide a useful reference point for credit analysis, in our view, what matters more for immediate fundraising is the market value of equity. Should asset monetisation become a problem, this means that we can no longer assume that an asset can be sold (or collateralised) to generate liquidity, with value based purely on value in use. From a cash flow perspective, the inability of an asset to generate as much income as expected at time of initial investment means companies' ability to generate returns on such investments may be thrown into question. While Singapore companies under our coverage have not publicly discussed risks of stranded assets that are currently on their balance sheet in 2020 through 1H2021, we note that impairments have been taken at a number of Singapore companies which in our view is interlinked with stranded asset risk.

Financial institutions to monitor risks: Financial Institutions are not directly high emitters although they lend and facilitate investments to sectors at-risk of having stranded assets. In December 2020, the Monetary Authority of Singapore issued Guidelines on Environmental Risk Management customised to the banking, insurance and asset management sectors. In our view, corporate debt borrowers who are unable or unwilling to transition despite policy, market structure and technological changes are likeliest to be at-risk, as these companies have less time in adapting their business models. This risk looms larger for project financing-based lending given that these tend to be backed by one project with limited recourse. The long-term nature of projects (e.g.: combined cycle power plants and thermal plants have a 25- and 30-years useful life respectively) also means that the investment holding period would likely overlap with periods of changes, even if the regulatory environment was benign at time of initial investment. While divestment has been commonly discussed as a way for financial institutions to mitigate the risk of stranded assets, in our view, this only works if one is earlier than others in divestment plans. In practice, should a large number of sellers try to dispose assets simultaneously and find a limited pool of buyers, asset values tend to face a steep fall.

Standardisation of disclosures likely to assist credit risk assessment: Arguably, decreasing exposure to sectors hit by climate change risk (e.g.: coal) and asking questions about other at-risk sectors is no longer just an ESG responsibility, but rather a smart business decision. We expect the disclosure of such risks to be more transparent and measurable going forward. On 9 June 2021, the MAS announced that the MAS and SGX will set out roadmaps for mandatory, legally binding climate-related financial disclosures by financial institutions and listed entities. Details are expected to be rolled out post a public consultation process in 2021. As it stands, SGX listed companies already have to publish sustainability reports on a "comply or explain" basis although based on our observations, information that is disclosed varies between companies. It is envisaged that disclosures would be aligned with recommendations of the Task Force on Climate-Related Financial Disclosures ("TCFD"), which is gaining broad acceptance internationally by both information generators and users such as asset managers.

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