

CRREM initiative’s definition on stranding risk and stranded assets in the build environment

What is stranding risk and how is the term related to transition risk?

The term ‘**stranding risk**’ comprises potential write-downs due to direct climate change impacts and devaluations related to the transition to a ‘low-carbon economy’. These risks might amount to trillions of euros and result in a growing liability of company leaders and an increasing fiduciary responsibility of fund managers. In particular regarding long-term investments, stranding risks require increased board attention.

Stranding is therefore closely related and part of the broader term ‘**transition risk**’. Transition risk for the real estate sector can result from rising costs due to the pricing-in of carbon emissions and other factors such as high energy costs, stringent building codes, shifts in market expectations (public attention, decreasing demand for assets with high energy consumption and poor GHG performance, etc.).¹ In addition, other risks, such as competition, reputational and legal risks, may also arise for firms.

Figure 1: Examples of transition risk and impacts on real estate

| Transition Risk | Impact on Real Estate |
|---|---|
| <p>Declining market attractiveness</p> <p>Declining attractiveness of submarkets due to increased vulnerability and exposure to higher costs</p> | <ul style="list-style-type: none"> • Lower demand (investors and tenants) • Lower competitive advantage by increasing energy costs for properties with high energy-intensities • Reduced asset values may lead to a depressed market environment • Decreasing market values |
| <p>Increasing regulation</p> <p>Legislation focused on climate change – e.g., disclosure of climate risks, stricter building standards, CO₂ pricing, carbon credits, etc.</p> | <ul style="list-style-type: none"> • Tax increases, e.g. CO₂ tax • Decrease in subsidies for certain technologies • Additional costs from reporting requirements • Additional investment costs to bring the real estate portfolio in line with national laws • Enforced rules that properties can only be rented if they meet a certain energy standard |
| <p>Risks to reputation and market positioning</p> <p>Stakeholder demand for real estate companies where climate risks are included in the investment calculation</p> | <ul style="list-style-type: none"> • Loss of reputation if action is too late or if no action is taken • Reputational risks for companies, that do not sufficiently consider ESG topics in their strategy |

Source: CRREM 2021.

¹ UNEP FI 2020

How do buildings become stranded?

Stranded assets in the build environment are properties that will be increasingly exposed to the risk of early economic obsolescence due to climate change because they will not meet (potential) future regulatory efficiency standards or market expectations. These buildings will become less marketable and may require costly refurbishment measures.

Some more information on the topic

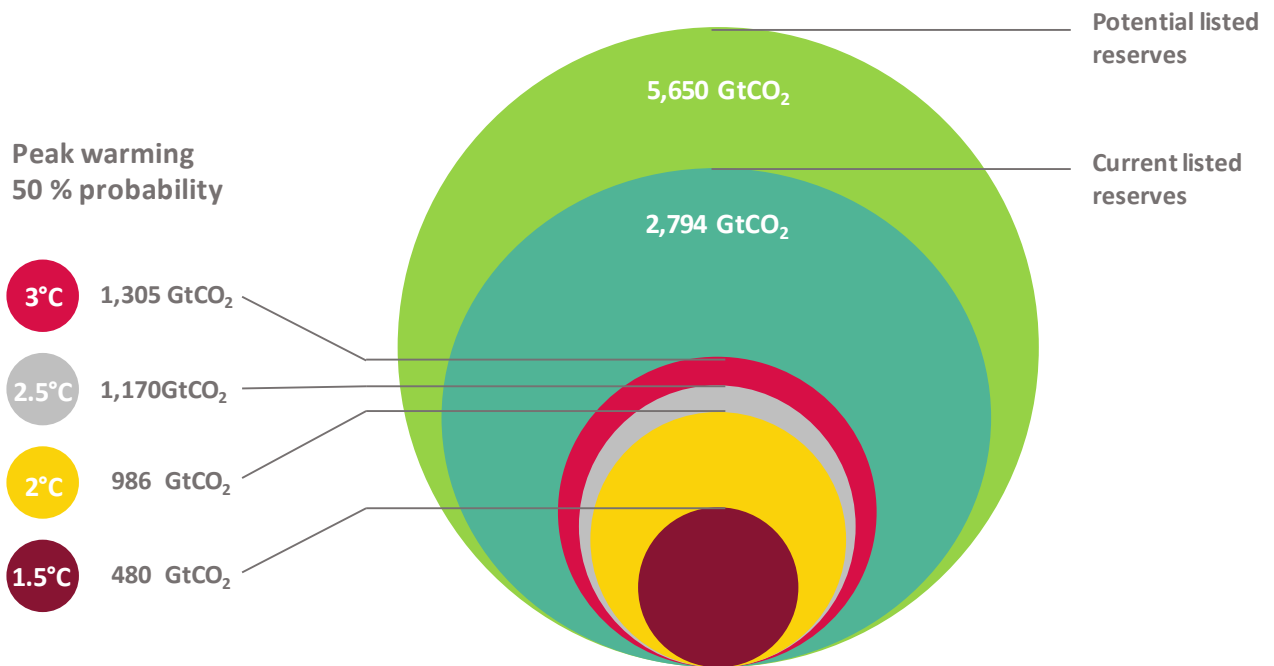
Generally, **climate change is more and more regarded as a material financial issue driving risks**. This perception goes far beyond the mere physical impact of extreme weather events or sea-level rise, it includes consumer shift, changes in taxation, legally binding retrofits etc. As a result, company leaders can no longer categorise climate change and mitigation measures only as an ethical or environmental issue (of goodwill).² The term **'low-carbon economy'** is already in place and well known, but still the lion's share of today's global economic processes, structures and assets remain dependant on fossil fuels. Inevitably, the transition to a low-carbon economy, which has started just to become a material trend, will result in a **devaluation of infrastructure, knowledge and assets whose value is to some degree based on burning fossil fuels and emitting greenhouse gases**. This fundamental transition is generally referred to as **'decarbonisation'** and affects physical assets as well as financial assets and portfolios (see Annex 5).³ The market capitalisation of many fossil fuel-related companies has seen a dramatic decline in the past few years but it is still unclear whether future risks are already adequately priced into current asset values⁴. The standard term for those negative effects of climate change on the value of assets is 'stranding'. While, for example, the *International Energy Agency (IEA, 2013)* defines 'stranded assets' as investments which will no more earn any economic return prior to the end of their economic life, the *CRREM* project follows the wider definition of *Caldecott et al. (2013)*: **'Stranded assets are assets that have suffered from unanticipated or premature write-downs, devaluations, or conversion to liabilities'**.

² Barker et al., 2018.

³ Thomä/Chenet, 2018.

⁴ Thomä/Chenet, 2018.

Figure 2: Comparison of listed coal, oil and gas reserves to 50% probability pro-rata 2°C-conform carbon budget



Source: Carbon Tracker & Grantham Research Institute on Climate Change and the Environment at LSE, 2013; own presentation.

The term **‘stranding risk’** was originally applied in the context of companies from the coal or oil industry, expressing that some aspects that are currently considered in the company value unexpectedly have to be reappraised, ultimately resulting in write-downs:

1. This revaluation can be caused **by reduced turnovers if demand and prices for those resources decline** contrary to expectations or if producers have to bear a special (e.g. carbon) tax⁵ in order to compensate for negative external effects caused by the product. For example, there is a shift of consumer demand towards electric cars.
2. Another key factor that can lead to revaluations and therefore ‘stranded assets’, e.g. in the context of the fossil fuel industry, are power plants or oil fields that might face premature retirement. According to research from *Carbon Tracker* and the *Grantham Research Institute on Climate Change and the Environment*, ‘between 60-80% of coal, oil and gas reserves of publicly listed companies are **‘unburnable’** if the *Paris climate targets* (see Section **Fehler! Verweisquelle konnte nicht gefunden werden.**) shall be reached and global warming shall not exceed 2°C’ (see Figure).
3. **Increased prices for CO₂ emissions certificates** can reduce the relative competitiveness of carbon-intensive technologies, which is currently accelerating the switch from coal to gas regarding power generation and questioning the rationale for keeping old coal and lignite power plants running beyond 2021⁶.+
4. Another trigger of economic obsolescence is the clear shift in investors’ portfolio allocation strategies, which afford greater prominence to sustainability and climate sensitivity. Thus, the **global trend towards a high awareness of sustainability issues creates additional challenges** for companies with a heavy dependence on fossil fuels compared to their peers. This process of **divestment** already started to accelerate: For example, in May 2018, the world’s largest insurance company *Allianz* announced it

⁵ Caldecott, 2018a; Caldecott, 2018b.

⁶ Euractiv, 2018b.

would no longer insure coal-fired power plants and coal mines. Until 2040, *Allianz* further intends a stepwise retreat of insuring companies compromising the achievement of the 2°C.⁷ In other words, *Allianz* will only insure companies that can prove to be ‘2°C ready’. Besides private companies like *Allianz* or *Standard Chartered*⁸, **sovereign wealth funds** have also increasingly structured their investments towards ethical principles. For example, the Norwegian sovereign wealth fund in 2014 divested from more than 50 companies doing business in coal mining and coal-fired power generation.

The term ‘stranding risk’ can be applied to any kind of economic, societal or technological transition that poses risk to certain assets’ value. Most commonly, the term ‘stranding risk’ is used in the context of climate change and GHG emissions. Consequently, it is very common to use ‘stranding risk’ and ‘**carbon risk**’ synonymously and this report sticks to this common practice.

Whether and to what extent certain assets will get stranded in the future will depend on (1) the rate of technological innovations and their diffusion, (2) societal developments effecting the demand for low- and high-carbon products and services, (3) the speed and characteristics of climate change and finally (4) political decisions on the regulation of energy efficiency, carbon emissions and instruments like emission trading systems or other methods of carbon pricing. *MSCI* emphasizes that it is not only companies with high GHG emissions that are facing stranding risks, but also corporates in ‘carbon-dependent industries’ like manufacturers of heavy electrical equipment whose revenues depend to a high degree on companies with carbon intensive operations or products.⁹

The growing awareness and knowledge about these transitional climate risks as well as write-downs of certain assets or whole sectors will inevitably lead to a **growing liability of company leaders and an increasing fiduciary responsibility of fund managers** to adequately address and manage those risks. An investment strategy that is, for example, based on a biased selection of energy and fuel-mix projections might thwart the obligations to act in the best interest of beneficiaries.¹⁰ By contrast, personal liability of fund managers will be restricted if actions are based on informed evidence based and rational decisions reflecting all aspects of climate change impacts and transferring them to sound cost-benefit-analysis underpinning the respective strategic decisions. Against the background of climate risks becoming more and more common-place among key market stakeholders, an inactive and passive approach towards the risks of climate change can hardly be regarded as informed and rational. Such liability risks are among the key reasons for the **growing importance of an objective disclosure of climate risks**. Moreover, in a recent study on the disclosure of climate-related financial risks, two-thirds of respondents expected a first mover advantage from an early adoption of disclosing in line with the recommendations of the *Task Force on Climate-related Financial Disclosures (TCFD)*¹¹.

⁷ NZZ, 2018.

⁸ Standard Chartered. 2018.

⁹ MSCI, 2018.

¹⁰ Barker et al., 2018, p. 99.

¹¹ South Pole, 2017.