CUSHMAN & WAKEFIELD

ENVIRONMENTAL OUTLOOK 2020

Climate change is here, what are you going to do about it?

INTRO

Wake up call for the real estate industry. Climate change is here. The world won't wait. We all expect more.

Climate change is a huge threat to the planet and its impact on our daily life and businesses is becoming a reality.

Scientists state that limiting the earth's global temperature increase to 1.5° Celsius above pre-industrial levels would lessen the risk of "long-lasting irreversible changes." Buildings are responsible for approximately **40%** of energy consumption and **36%** of CO2 emissions in the EU[1], it is therefore critical that the real estate industry plays its part in achieving this goal.

So far, the industry has concentrated its effort, although still much limited, on the construction and management of buildings, which could be quantifiable in the green certified prime office building stock[2].

However, less has been done in the development of strategies to recognize, understand and manage climate change within the investors' group. External awareness about the issue is increasing and the real estate industry may find itself in a similar position to transportation and animal agriculture sectors as a target for legislators, users of its properties and the general public.

1 The Energy Performance of Buildings Directive, European Commission, January 2019
2 Source: Cushman & Wakefield GWC, October 2019

EUROPEAN POLICIES TO MITIGATE CLIMATE CHANGE

Legislators are still pressing the real estate industry: across Europe[3] we identified more than 1,500 national policies and measures (PaMs[4]) on climate change mitigation, 74% linked to the implementation of large EU policies. Energy consumption and energy supply made the majority (44%) of the reported policies, followed by transport (21%). Improving energy efficiency of buildings is among the main goals of these policies.

Overall, there are two important pieces of legislations directly affecting real estate: Energy Performance of Buildings Directive (EPBD) and Energy Efficiency Directive; both focusing heavily on the energy efficiency in buildings.

The EPBD has been recently revised and EU countries have until **10th March 2020** to write the new and revised provisions into national law. The revision covers a broad range of policies and supportive measures that will help national Governments in the EU boost the energy performance of buildings and improve the existing building stock. One of the new objectives is to support Governments to create a path towards a low and zero-emission building stock in the EU by 2050, by implementing national roadmaps to decarbonise buildings.

These will directly affect the real estate industry which in turn needs to speed up the process of improving the quality of buildings and their efficiency, regardless of the vicious circle of blame.

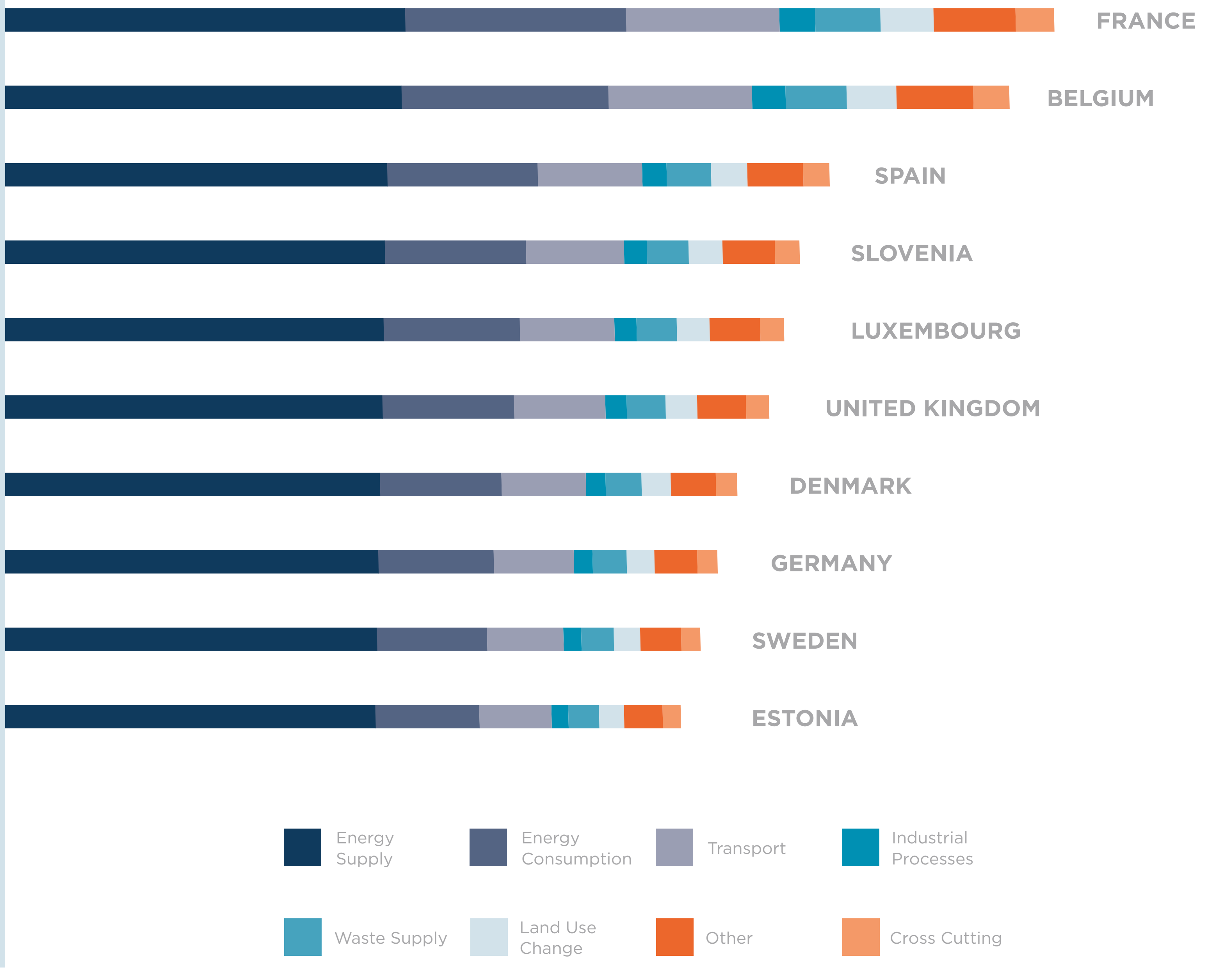
3 European Environment Agency (EEA), data at 2017

4 PaMs is defined as all instruments which aim to implement commitments under the UNFCCC, which may include those that do not have the limitation and reduction of greenhouse gas emissions as a primary objective.

MAJOR EU REGULATIONS ON CLIMATE CHANGE

Paris Agreement UNFCCC	Strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.
2020 climate & energy package	**Key targets for 2020:** 20% cut in greenhouse gas emissions (from 1990 levels) 20% of EU energy from renewables 20% improvement in energy efficiency
2030 climate & energy framework	**Key targets for 2030:** At least 40% cuts in greenhouse gas emissions (from 1990 levels) At least 32% share for renewable energy At least 32.5% improvement in energy efficiency
EPBD (2010/31/EU) (2018/844/EU).	In force since 2010 and revised in 2018. The revised EPBD is an important part of the implementation of the Juncker Commission priorities to build “a resilient Energy Union and a forward-looking climate change policy”.

TOP 10 COUNTRIES – NUMBER OF PAMS ACCORDING TO THE SECTOR



Data Source: EEA Report No 9/2018

As identified from the regulation framework in place, it's all about the energy bill. Thus, occupiers play a vital role in their operation of the building and their ability to reduce the carbon footprint and energy consumption. **Green Lease** agreement goes in this direction. It contains some obligations to achieve sustainability goals beyond the minimum statutory requirements. There's no compulsory standard by country and landlords set their own contracts. It allows:

1. Landlord and occupier to split the costs and benefits associated with increased energy efficiencies and upgrades, providing a way of incentivizing the cost behind upgrades and aligning landlord and tenant objectives regarding environmental factors.
2. An opportunity to reduce operating costs, which benefit the occupiers' bill.

In combination with sustainable design considerations, green leases help to deliver operational cost savings, which are long-term benefits for occupiers.

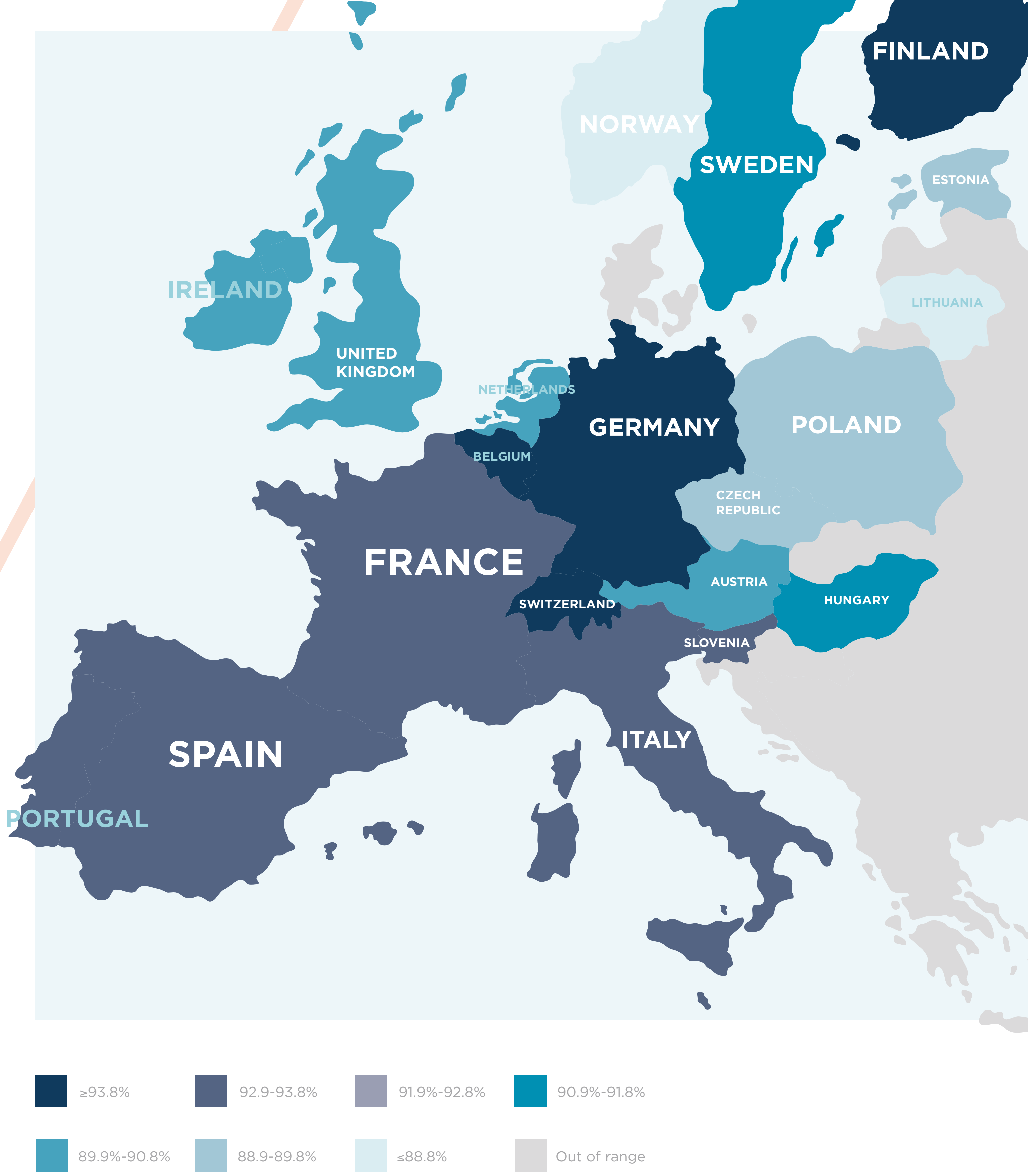
It's not simply a question of costs and money but also social responsibility. According to the European Social Survey[5]:

- **94%** of individuals are aware that the climate is probably/ definitely changing, with
- approximately **92%** agreeing that climate change is partly caused by human activity.

Consumers are aware of the impact they have on the environment and will continue to put pressure on companies to actively address environmental issues: whether this be shoppers switching to more sustainable fashion brands, employees looking for a greater focus on wellbeing or residents increasingly demanding a better quality of life.

All factors will ultimately impact landlords and occupiers across all property sectors.

PERCENTAGE THAT BELIEVE CLIMATE CHANGE AT LEAST PARTLY CAUSED BY HUMAN ACTIVITY



Source: European Social Survey Round 8, 2016 - 2017 – Beliefs in the reality, causes and impacts of climate change

5 European Social Survey (Round 8, 2016 – 2017); results from a Survey across 21 countries

INVESTORS STILL HESITANT ON ACTION TO TAKE

Investors are still waiting for occupiers to confirm a strong demand for 'green' properties, to create a defined market segment.

There is, however increasing evidence that corporate occupiers are willing to pay increased or premium rents for such assets. Investment managers are increasingly aware that, if they are not able to include climate risk[6] in their pricing, this will probably have impacts on their portfolio as it could hurt the long-term profitability of their assets. But market players do not sufficiently understand climate risks enough to price them in today. As with electric cars or organic vegetables: people want it, they know they should have it, but they don't necessarily want to pay for it.

Today investors have a different approach to "green assets" depending on the investment horizon:

- **Short term:** no immediate need to integrate the long terms consequences of global warming. However, a "climate-risk proof" asset would increase the rentability thanks to the greater resilience to climate disaster. A more sustainable asset could also be compatible with a short-term investment strategy (lower operating and management costs).
- **Long term:** more willing to invest in green infrastructures, green energy and low carbon buildings even if they will only become competitive in the next decades. They will anticipate increasing legislation on carbon emission and the creation of a green finance based on green bonds and carbon emission right exchange.

Currently, most investors are moving between these two strategies. They want to be associated with a green and responsible image, but they must drive their current business in a carbon economy.

The optimum strategy for these investors, could comprise mixed portfolios with core assets of low carbon buildings and responsible investment. The initial cost would be higher but also bring 'green value' and long-term benefits. Rising energy costs, increasing natural hazards risk and the danger of a decreased asset value as a result of climate change, will continue to be critical factors when taking investment decisions.

ACTUAL CORE ASSETS

Highly profitable, but likely to decrease value in the long term due to:

- Location in areas highly vulnerable in a context of climate change: sea and river fronts, semi-arid regions.
- Equipped with a complete set of utilities, which increase vulnerability to infrastructure networks
- Include several facilities which result in a significative consumption of resources.
- Unfit for a zero carbon policy

"GREEN" ASSETS

Less profitable now, but with high potential in the long term, due to:

- Location typically less exposed to natural hazards
- Include several sustainable features such as: Local energy production, good isolation, water economy.
- Offer smaller number of facilities, which results in an economy of resources
- Ready for zero carbon policy
- Valued by public opinion

Source : Cushman & Wakefield Research

6 Climate risk in the economic and financial world reflects the exposure of economic agents, as companies or institutions, to climate-change impacts on their business activities. These impacts can directly affect the value of assets, such as sea-level rise, hurricanes, extreme heat, etc. (physical risks); or indirectly affect it as transition risks. The latter are those that result from a shift to a lower-carbon economy and using new, non-fossil-fuel sources of energy. These include regulatory changes, economic shifts, and the changing availability and price of resources., such as potential changes in policy landscape, technology, and other market forces, in response to climate change that affect the real estate and land use. Source: Cushman & Wakefield based on Novethic and ULI (Climate risk and real estate investment decision-making)

7 Green Bonds: a way for issuers to raise money specifically for environmentally friendly projects - such as renewable energy or clean transport - and to be able to boast about it publicly. Fund managers like the notes as a way of meeting growing investor demand for sustainable options.

The market, which opened slowly more than a decade ago, has boomed in recent years, helping spur development of other socially conscious debt products. Green bond proceeds can go toward new or existing projects that are meant to have positive environmental or climate effects: building construction is one of the objects of this capital allocation. Further, buyers of green bonds include real estate traditional buyers such as institutional investors including pension funds, insurance companies and asset managers. The overall green market is also getting a boost from investors seeking "responsible" or "sustainable" places to put their money. That has helped Europe's listed green funds double assets under management since 2013 to more than 32 billion euros in 2017 (source: Novethic). In 2015, France became the first country to require institutional investors to report how they consider environmental factors.

HOW INVESTORS ARE ADDRESSING THE CLIMATE RISK ISSUE

> Increasing transparency makes markets more efficient, and economies more stable and resilient.
>
> Michael R. Bloomberg

An investors' goal is to protect the value of their assets, fighting the obsolescence and vacancy risk that can come from buildings being less marketable to tenants. They are aware that climate risks can lead to a reduction in value in transactions following a major climate event.

Mitigating the effect of climate risk is the first element to be addressed by investors. Having a greater understanding of climate risk could allow investors to develop a larger price differentiation whilst leveraging the use of better data and analysis to price it correctly.

Investors are increasingly investing in making their properties 'green.' In some countries such as The Netherlands, this is a requirement and if not addressed can lead to a loss of financing.

This approach relies on 3 criteria:

1. **Assessing location (by measuring resilience to climate risk)**
2. **Building characteristics - having a low as possible footprint**
3. **Operational management model - how does the operational approach address a desire to move towards a circular economy?**

Tools and technologies are emerging across the real estate sector to help investors on their approach to mitigating climate risk.

The aim is twofold: firstly, to analyze the vulnerability of assets to climate risks and their impact on market value, relying on regulatory elements and prospective studies. Secondly, to provide the programming, planning and costing of necessary restructuring, remediation and mitigation work, alongside with an estimate of the impact of the work on the value of the asset. This will be projected as mid-term and long-term CAPEX in the valuation model in order to define a financial work plan for the asset.

In addition to the practical considerations there is a drive to create more transparency. The FSB Task Force on Climate-Related Financial Disclosures (TCFD) is developing voluntary, consistent climate-related financial risk disclosures for use by companies in providing relevant information to lenders, insurers, investors and other stakeholders. The TCFD is chaired by Michael R. Bloomberg and numbers luminaries from corporate and public life

WHAT YOU NEED TO KNOW IN 2020

> Right here, right now is where we draw the line. The world is waking up - change is coming if you like it or not.
>
> Greta Thunberg, speech at UNGA-Climate Action Summit, 23/09/2019

- **People are leading the green revolution.** They are 'forcing' businesses to make a change. Business leaders have finally begun to think on sustainability, embracing the triple bottom line theory: not only financial but also social (people) and environmental (planet) performance will be included in their business models. Thus, over the next years, investors will further encourage market practices to integrate sustainability requirements into their decisions.

- **Net zero targets will begin to be legislated.** Whilst current discussions aim towards 2050, there are increasing demands from a number of pressure groups to bring this much nearer. A "net zero building" refers to an asset which is calculated to have net zero emissions, this is applied through both construction and operations.

- **It makes economic sense to address the topics highlighted in this paper.** Green investors can attract more capital and cheaper debt, occupiers with a green profile will be more valued by consumers and investors. Ultimately only green companies will survive. Those that are truly working towards a more sustainable world.

- **Regulation is the other driver towards a more sustainable business approach.** As EU countries are approaching the deadline of 10 March 2020 to transform into law the revised EPBD, asset managers and investors will speed up the process of replacing the obsolete stock into with greener assets.

- **Climate change will affect valuation, leasing and investment markets.** An eventual downward repricing of higher-risk assets will be the market's way of redirecting capital to locations and assets less exposed to climate risk.

- **Investors will increase their interest in analyzing climate change and related risk as this will affect the profitability of their portfolios.**
Above all, institutional investors with long term strategies, like Sovereign Wealth Funds (SWF) and state-owned banks. Indeed, they will probably be obliged to increasingly invest in green infrastructures and restricted in the purchase of carbon-producing assets, pressured by public opinion and political regulation.

The Real Estate industry will be increasingly expected to play an important role in creating green value and reducing carbon emissions.

The time for action is now.

Investors take note.

Occupiers take note.

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