

BANKING IS THE FOUNDATION OF SUSTAINABLE BUILDING

IT IS IMPERATIVE FOR BANKS TO WORK WITH
DEVELOPERS TO ENSURE A SUSTAINABLE BUILT
ENVIRONMENT

Climate Risk Perspectives

CODE RED INSIGHTS

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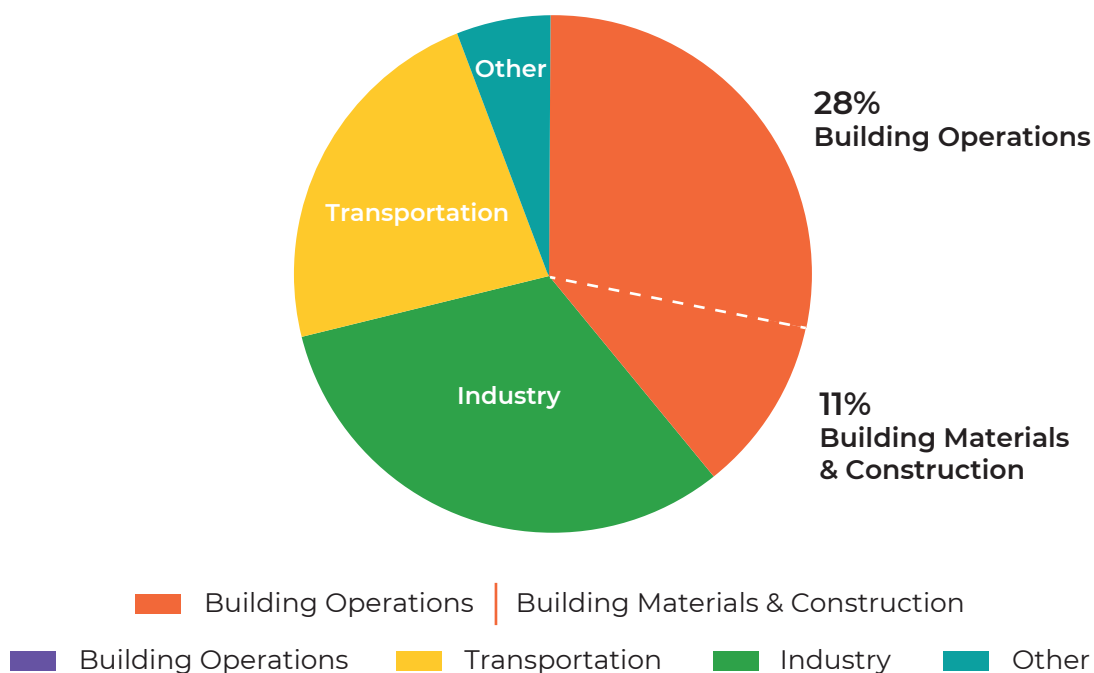
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- As the COP26 conference in Glasgow approaches, governments around the world are seeking solutions to enable them to meet their self-set targets to create a CO₂-neutral world by 2050.
- Spending commitments in Europe & the US are already colossal, but are also less than a third of the estimated requirement. This means that the private sector will have to fill the gap, while being corralled & coerced through subsidy & regulation.
- Banks are critical for this work.

Buildings are prime targets for sustainable regulation. Accounting for 39% of total CO₂ emissions, building construction (11%) and operation (28%), are areas where immediate and drastic action is needed to hold global warming to under 2 degrees, by 2100. Greenhouse gas emission reduction in these areas will involve changes to regulations for new buildings as well as massive investment in the adaptation of existing building stock – ⅔ of which is expected to still be in use by 2050.

Annual Global CO₂ Emissions



Data Sources Global ABC Global Status Report 2018, EIA

Banks will face significant changes to borrower's credit profile in this sector as project costs to meet new regulations increase, and the values of existing buildings (the collateral on many such loans) plummet to incorporate the price of adaptation.

Tracking a sustainable future...

The International Energy Agency (IEA) tracks the progress of various sectors with regards to sustainability goals. The building sector is graded as follows :

Building Envelope - This is defined as the exterior shell of the building that creates a barrier between the conditioned and unconditioned environment. Including both weather and heat protection, this is key to determining the ultimate energy needs. Therefore, is a core concern for policymakers. The IEA grades this area as '**not on track**'.

Heating - This covers how the building is actively heated, from wood-burning fireplaces to solar-powered electrical heaters. The IEA grades this area as '**not on track**'.

Heat Pumps - Heat pumps are specifically targeted, as the adoption of geothermal heating for water and air is seen as key to sustainability in the future. Hence, heat pumps are increasing being in new builds, but are still a costly adaptation to an existing building. The IEA grades this area as '**more effort needed**'.

Cooling - Cooling building interiors is more important than heating them in several parts of the world, and the current locked-in global warming is increasing these extremes. This sector is crucial to progressive designs and adaptation if buildings are to remain usable as we move through the century. The IEA grades the area as '**more effort needed**'.

Lighting - Lighting systems used in buildings have had the most impressive innovation, energy efficiency, adoption, and impact. The IEA grades this area as '**on track**'.

Appliances and Equipment - This is area where replacement and adaptation are likely to be a far bigger issue than innovation and adoption in new builds. The IEA grades this area as '**more work needed**'.

Overall, The IEA has the buildings sector set at '**not on track**'. This clearly implies that policy makers around the world have to act urgently in terms of regulations on new and existing stock, to meet the net neutral, mid-century targets. Banks should consider this a major short-mid-term risk to collateral value and their balance sheets' credit profiles.

Governments are already taking action...

The EU recently announced policies to make the 'Green New Deal' ambition a reality. The overall plan is to cut CO2 emissions by 55% by the year 2030. For the building sector it aims include :

- Part of the 72.2 billion euro spend (over 7 years) is earmarked for building renovation.
- A target of 49% of energy used in buildings to come from renewables by 2030.
- Member states must renovate at least 3% of public building floorspace annually.
- Member states must increase renewable energy in heating and cooling by at least 1.1% per year until 2030.

Some standards exist...

Countries around the world, including the US, have already started to use the International Green Construction Code (IGCC), which details sustainability standards and certifications that are applied to high and low-rise buildings. These standards cover a wide range of topics including:

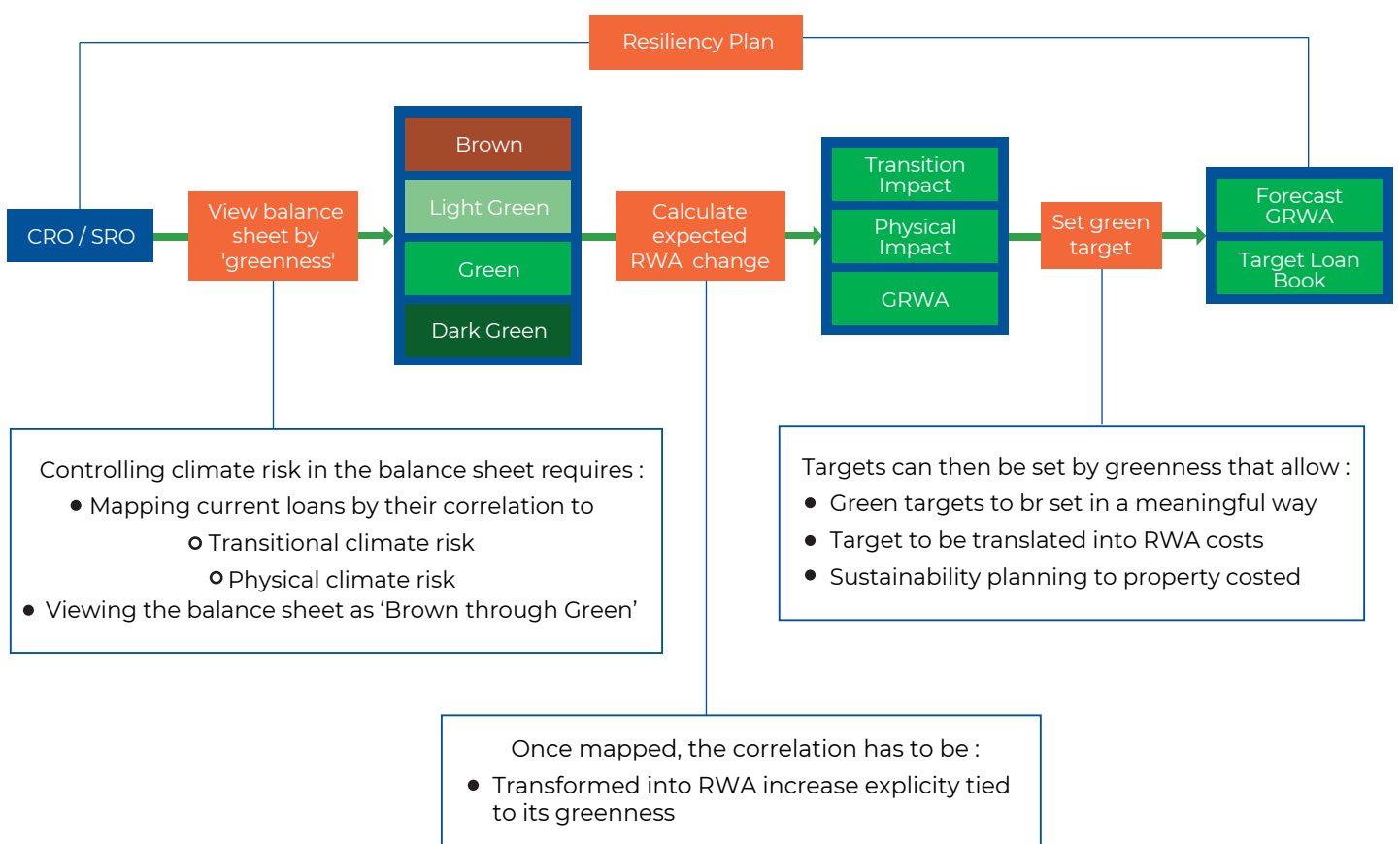
- Sustainable sites
- Energy efficiency
- Water efficiency
- Materials and resource use
- Indoor environmental quality
- Greenhouse gas emissions
- Operations and maintenance

These standards apply equally to new builds, additions, and renovations. Effectively, buildings can be assessed from a bottom-up perspective using this code in the same way that the overall built environment can be assessed from a top-down perspective using the IEA reporting. These twin perspectives would enable banks to form a view of the size and cost of the overall risk, as well as to be able to accurately judge their own exposure to that risk.

Banks must be active during the transition...

The banking system will be at the center of this green transition. The need for private finance, coupled with the need for builders and owners to comply with new and upcoming regulations implied that property values may be quite volatile. This pressure imposed on those building firms and owners will translate into balance sheet credit changes and capital provisions by the bank. At the very least, banks must:

- Be familiar with the changing regulatory landscape in the building sector.
- Understand the impact on their current balance sheet.
- Be prepared to work with and encourage customers to adopt sustainable building practices.
- Price credit facilities and loans accurately to reflect the risk from climate change and policies designed to combat it.
- Create short-, mid-, and long-term strategies to manage the climate change risk along with their customers.



Greencap is designed to translate the real-world risks of physical and transitional climate change into a meaningful financial impact on banks and their balance sheet/profitability. It is intended to be a base for setting sustainability strategies and working directly with customers to achieve an economically viable, greener future.

Visit [Greencap.live](https://www.greencap.live) for information about the solutions here in and the resources available to assist banks in assessing their exposure to climate change risks.



ABOUT GREENCAP

- GREENCAP is a turnkey 'Risk as a Service' (RaaS) solution, designed for banks to include climate change as a category in their risk management frameworks.
- The solution allows banks to replicate climate pathways within their scenarios for economic impact and risk analysis.
- Using GreenCap, banks can modify pathways and scenarios to include the timing effects of delayed sustainability transition measures.
- Loans and credit facilities are measured and monitored against risks arising from both 'physical' and 'transition' impacts.
- GreenCap provides support for risk reporting and governance in the areas of 'Responsible Banking' and climate change.
- With GreenCap, banks can ensure that their climate strategies are financially grounded, and loan pricing is optimized throughout the transition to a green global economy.



ABOUT GREENPOINT FINANCIAL

- GreenPoint Financial is a division of GreenPoint Global, which provides software-enabled services, content, process and technology services, to financial institutions and related industry segments.
- GreenPoint is partnering with Finastra across multiple technology and services platforms.
- Founded in 2006, GreenPoint has grown to over 400 employees with a global footprint. Our production and management teams are in the U.S, India and Israel with access to subject matter experts.
- GreenPoint has a stable client base that ranges from small and medium-sized organizations to Fortune 1000 companies worldwide. We serve our clients through our deep resource pool of subject matter experts and process specialists across several domains.
- As an ISO certified by TÜV SÜD South Asia, GreenPoint rigorously complies with ISO 9001:2015 and ISO 27001:2013 standards.
- GreenPoint is owned by its founders and principals and is debt free.



Marcus Cree

MANAGING DIRECTOR AND
CO-HEAD OF FINANCIAL TECHNOLOGY AND SERVICES

Marcus has spent 25 years in financial risk management, working on both the buy and sell side of the industry. He has also worked on risk management projects in over 50 countries, gaining a unique perspective on the nuances and differences across regulatory regimes around the world.

As Managing Director, Marcus co-heads GreenPoint Financial Technology and Services and has been central in the initial design of GreenPoint products in the loan book risk area, including CECL and sustainability risk. This follows his extensive experience in the Finastra Risk Practice and as US Head of Risk Solutions for FIS. Marcus has also been a prolific conference speaker and writer on risk management, principally market, credit and liquidity risk. More recently, he has written and published papers on sustainability and green finance.

Marcus graduated from Leicester University in the UK, after studying Pure Mathematics, Psychology and Astronomy. Since graduation, Marcus has continually gained risk specific qualifications including the FRM (GARP's Financial Risk Manager) and the SCR(GARP's Sustainability and Climate Risk). Marcus's latest academic initiative is creating and teaching a course on Green Finance and Risk Management at NYU Tandon School of Engineering.



Sanjay Sharma, PhD

FOUNDER AND CHAIRMAN

Sanjay is the Founder and Chairman of GreenPoint Global - a risk advisory, education, and technology services firm headquartered in New York. Founded in 2006, GreenPoint has grown to over 380 employees with a global footprint and production and management teams located here in the U.S, India and Israel.

During 2007-16 Sanjay was the Chief Risk Officer of Global Arbitrage and Trading Group and Managing Director in Fixed Income and Currencies Risk Management at RBC Capital Markets in New York. His career in the financial services industry spans over two decades during which he has held investment banking and risk management positions at Goldman Sachs, Merrill Lynch, Citigroup, Moody's and Natixis. Sanjay is the author of "Risk Transparency" (Risk Books, 2013), Data Privacy and GDPR Handbook (Wiley, 2019) and co-author of "The Fundamental Review of Trading Book (or FRTB)- Impact and Implementation" (RiskBooks, 2018).

Sanjay was the Founding Director of the RBC/Hass Fellowship Program at the University of California at Berkeley and is an Adjunct Professor at EDHEC, Nice in France. Sanjay is also Adjunct Professor at Fordham University where he teaches a similar master's capstone course and at Columbia University. He has served as an advisor and a member of the Board of Directors of UPS Capital (a Division of UPS) and is a frequent speaker at industry conferences and at universities. He served on the Global Board of Directors for Professional Risk International Association (PRMIA).

He holds a PhD in Finance and International Business from New York University and an MBA from the Wharton School of Business and has undergraduate degrees in Physics and Marine Engineering. Sanjay acquired his appreciation for risk firsthand as a merchant marine officer at sea where he served for seven years and received the Chief Engineer's certificate of competency for ocean-going merchant ships. Sanjay lives in Rye, NY with his wife and two teenage sons.