

ZENTRALE AUFGABE: CO₂-MESSUNG UND ZIELVORGABEN

IMPULSVORTRAG DIGITAL TALK. QUO VADIS IV — WIE GEHT NACHHALTIGKEITSMESSUNG?
- PROF. DR. SVEN BIENERT



International Real Estate Business School
Universität Regensburg

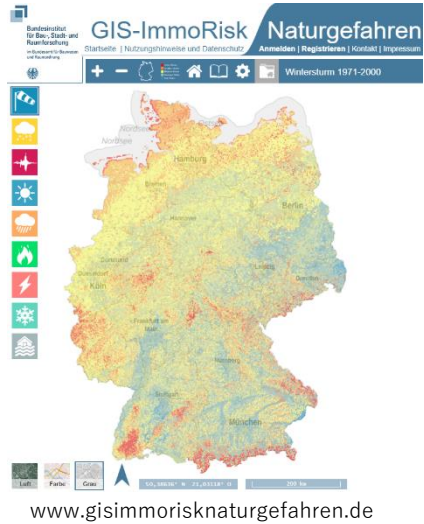


CRREM

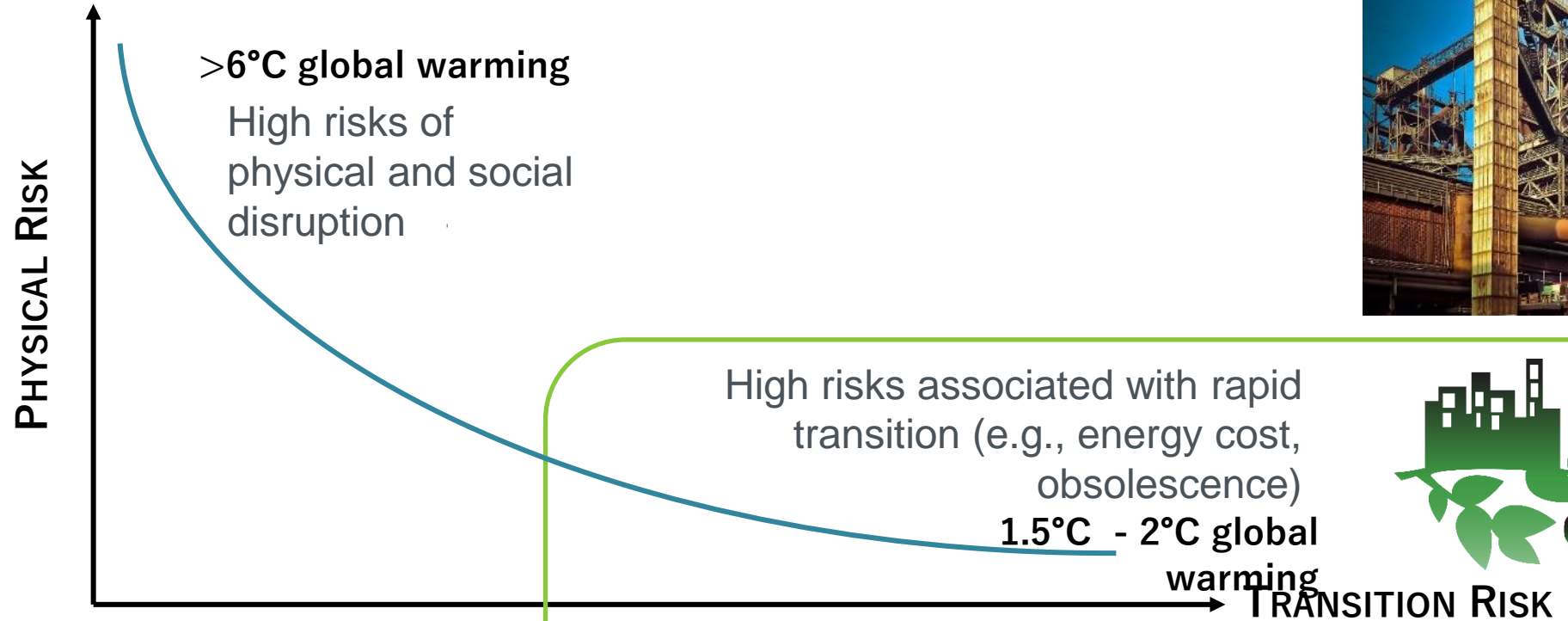
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$$\text{CLIMATE RISK} = \text{PHYSICAL RISK} + \text{TRANSITION RISK}$$

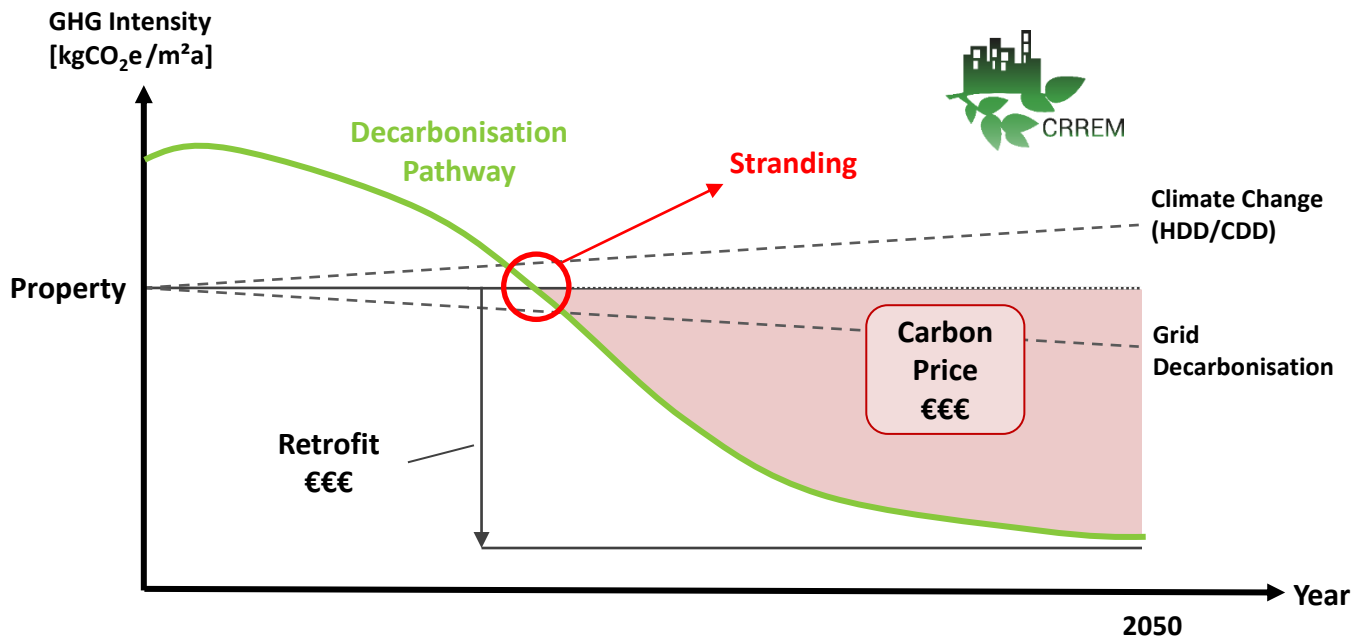


'STRANDED ASSETS' are properties that will be exposed to the risk of early economic obsolescence due to climate change because they will not meet future regulatory efficiency standards or market expectations.' (CRREM, 2019)



CARBON RISK ASSESSMENT & MANAGEMENT BASED ON QUANTITATIVE PERFORMANCE DATA AND TARGET SETTING

ASSET LEVEL STRANDING DIAGRAM



DECARBONISATION PATHWAYS

Aligned with 1.5°C and 2°C global warming, country- and building type specific

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BUILDINGS' CARBON PERFORMANCE

Energy consumption, carbon emission factors, grid decarbonisation, changed heating and cooling demand, normalisation..,

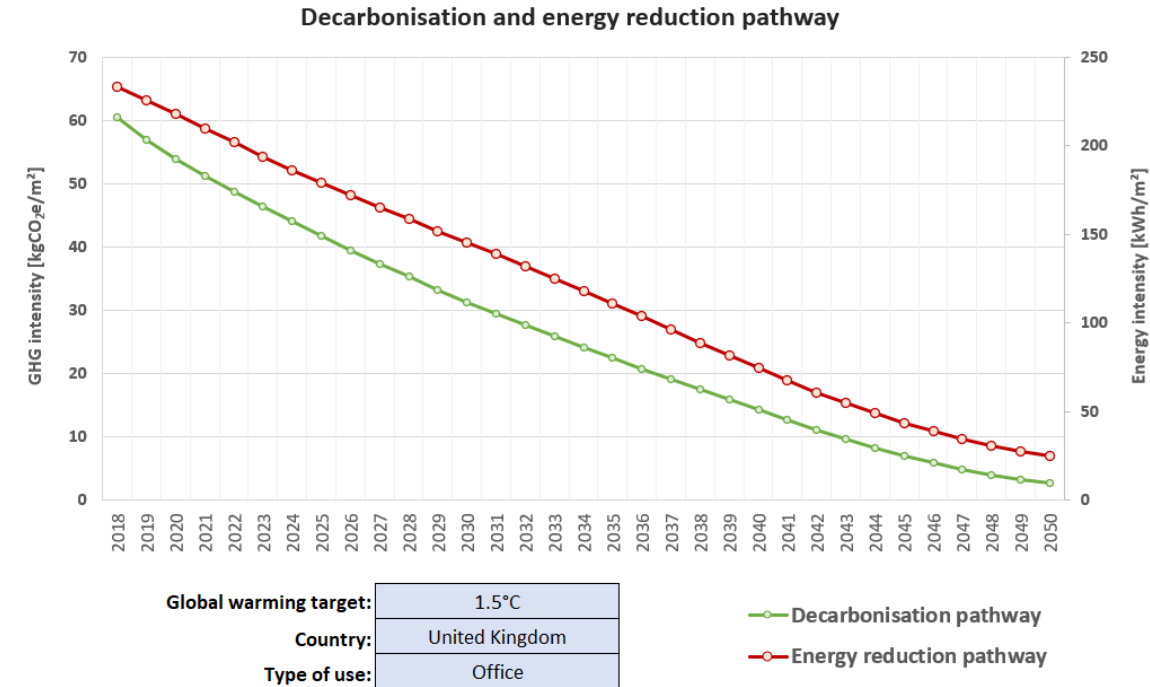
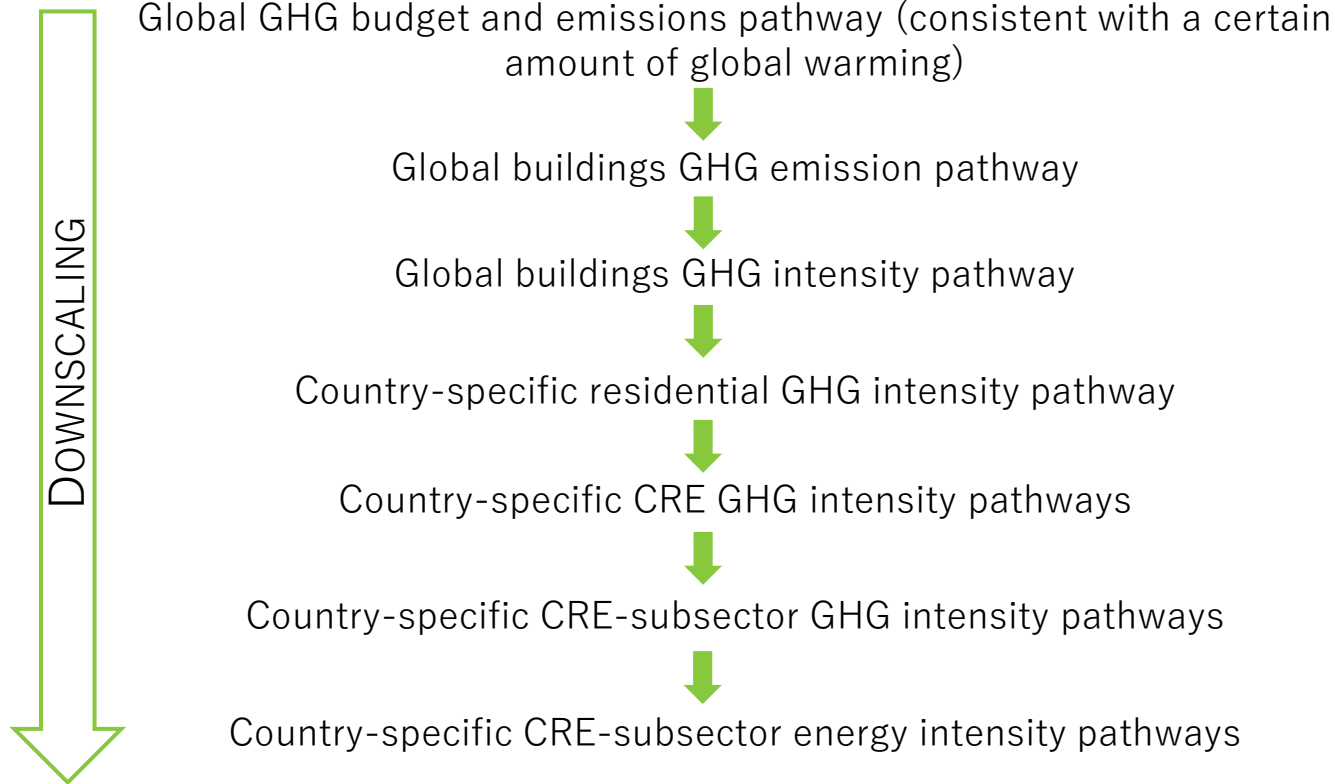
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CARBON RISK ANALYSIS

Year of stranding, excess emissions, carbon costs, energy costs, benchmarking

General information							
Asset ID	Inclusion	Asset Name	Reporting year	Gross Asset Value (GAV)	Reporting period	Entity	
Starting month/year of data							
Pre-filled	Drop-down	Text	Mandatory	Optional (required for calculating certain risk indicators)	Mandatory	Optional (for further prioritization of operation)	
ID	INC	NAME	YEAR	GAV	START MONTH	ENTITY	
1	Include	Sach Tower	2019	2000000	January	10	
2	Include	Eden Palace	2018	6000000	January	12	Fund2
3	Include	ella Kaseel	2019	4750000	January	12	Fund2
4	Include	airan Eiffel	2019	4750000	January	12	Fund2
5	Include	olo Name 2	2019	1000000	February	10	
6	Include	olo Name 3	2019	35000000	January	10	Fund2
7	Include	Star Center	2019	25000000	February	12	Star Fund
8	Include	edrimarket	2018	35000000	January	12	POF
9	Include	erazu Tower	2019	50000000	January	12	
10	Include	Office Tower	2019	30000000	January	12	

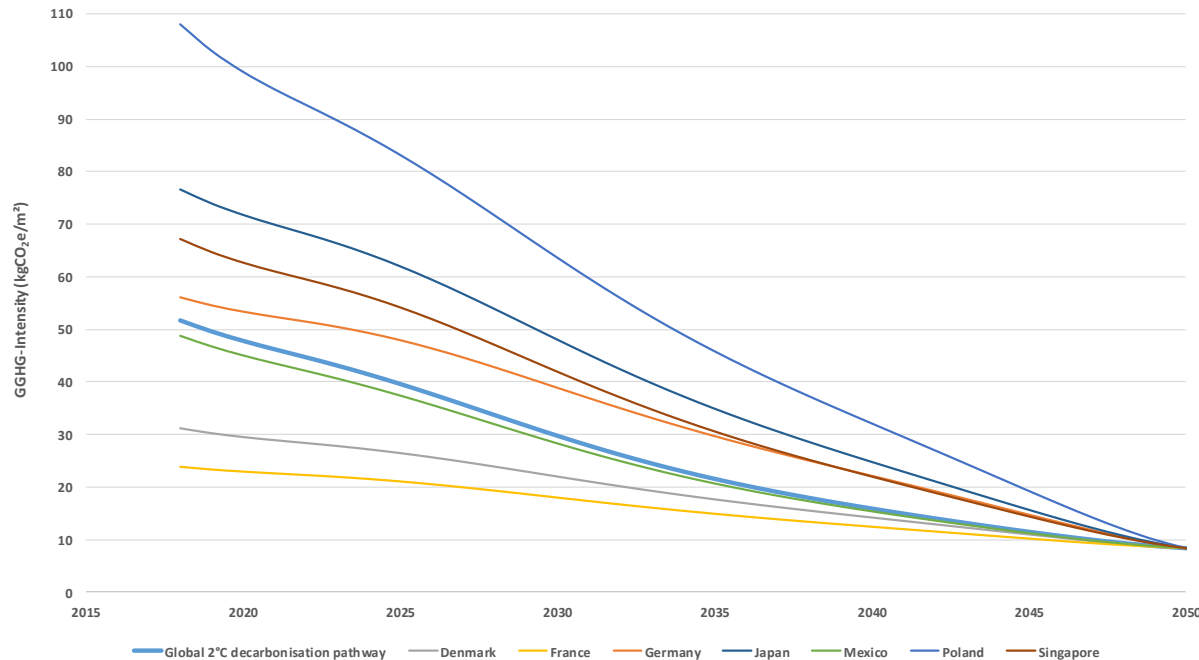
CRREM PATHWAYS: DOWNSCALING FROM GLOBAL EMISSIONS TO CARBON INTENSITY PATHWAYS



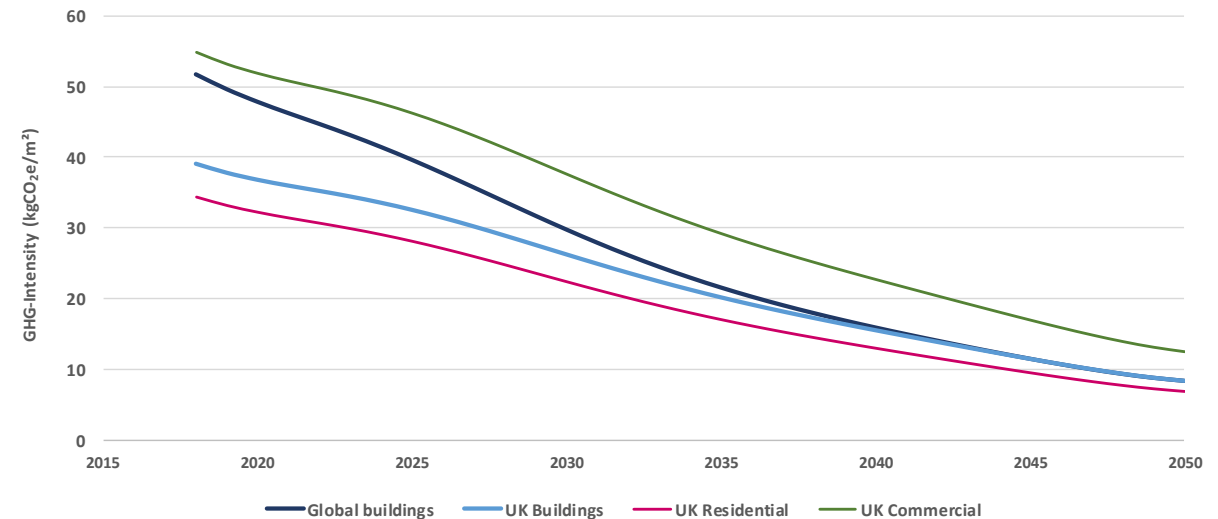
CRREM PATHWAYS: DOWNSCALING FROM GLOBAL EMISSIONS TO CARBON INTENSITY PATHWAYS

CRREM translates long-term policies (COP21) into clear science-based targets

National Pathways: Convergence of the carbon intensity pathway of the building sector in individual countries to the global pathway



Residential and Commercial sector: Decarbonisation pathways of global buildings sector, UK buildings sector and UK residential and commercial sector



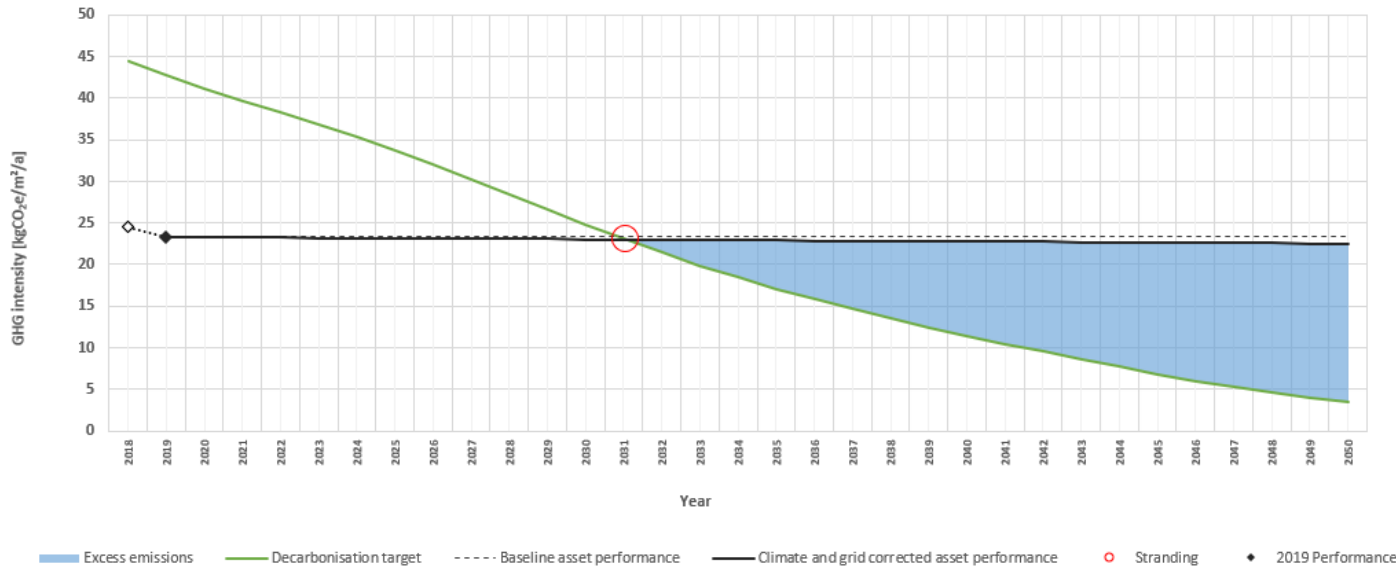
CARBON RISK ASSESSMENT & MANAGEMENT BASED ON QUANTITATIVE PERFORMANCE DATA AND TARGET SETTING

CRREM TOOL STRANDING DIAGRAM

STRANDING DIAGRAM (Asset #12 - Steinbach Tower)

Based on global warming target: 2°C

Display excess emissions:



Year of stranding: 2032
Carbon value at Risk: 3.0%

Type of use: Office

Country: Austria
Change of GHG intensity vs. 2018: -4.9%

DECARBONISATION PATHWAYS

Aligned with 1.5°C and 2°C global warming, country- and building type specific

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BUILDING'S CARBON PERFORMANCE

Energy consumption, carbon emission factors, grid decarbonisation), changed heating and cooling demand, normalisation

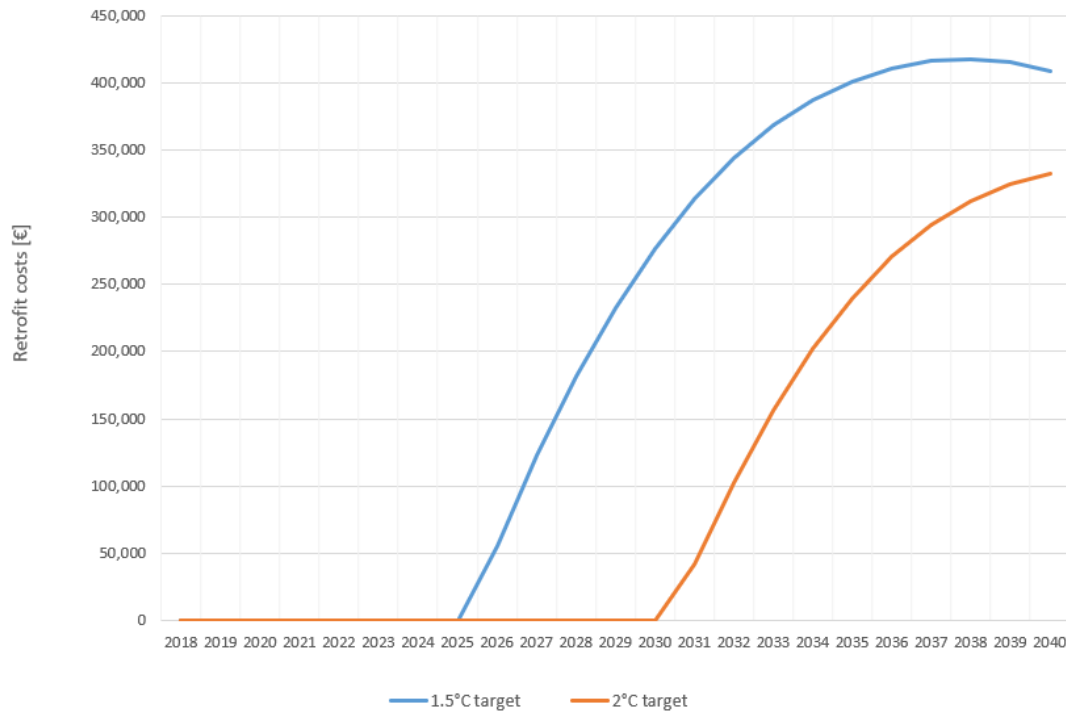
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CARBON RISK ANALYSIS

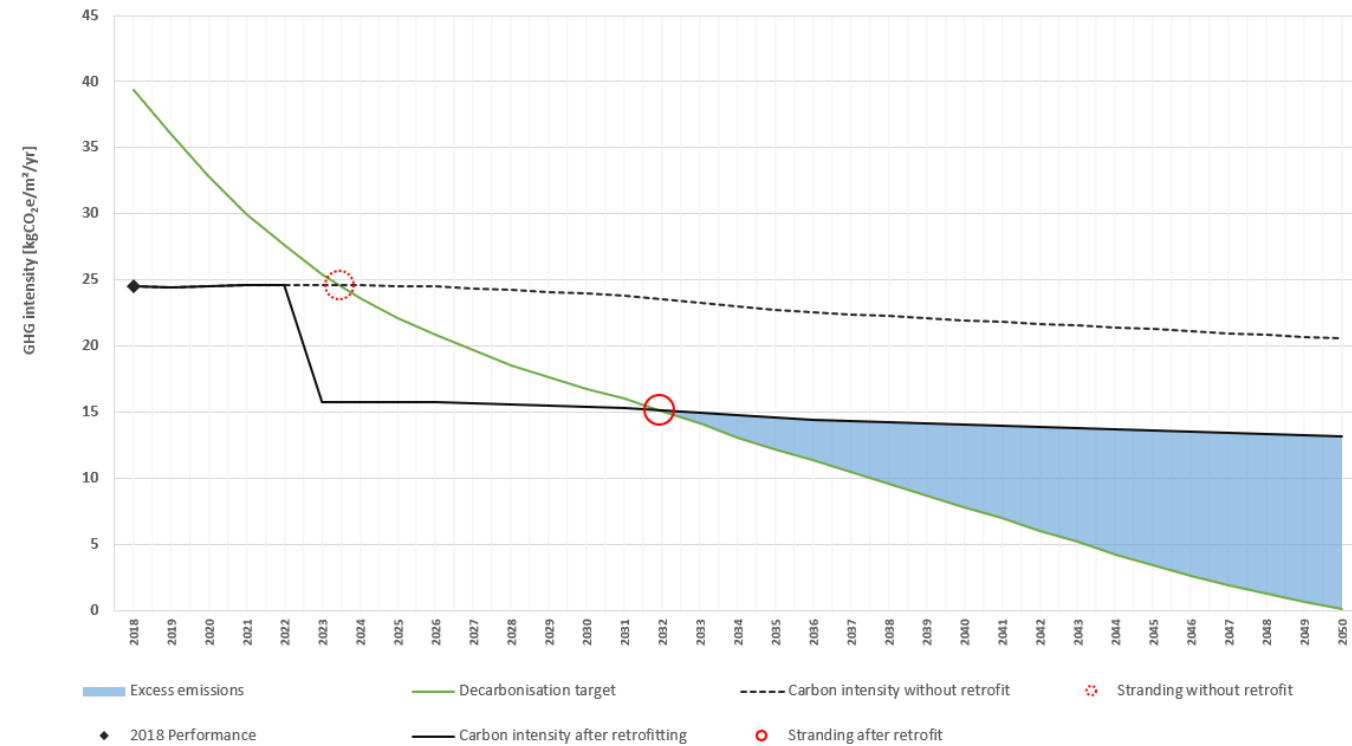
Year of stranding, excess emissions, carbon costs, energy costs, benchmarking

QUANTITATIVE CARBON PERFORMANCE AND RISK INDICATORS

COSTS OF RETROFITTING TO COMPLY WITH CARBON TARGETS



RETROFIT SIMULATION: STRANDING DIAGRAM WITH & WITHOUT RETROFIT



Simulation of investment in energetic retrofit and its effect on carbon risk indicators (based on a marginal abatement costs)

CARBON RISK IN REAL ESTATE PORTFOLIOS

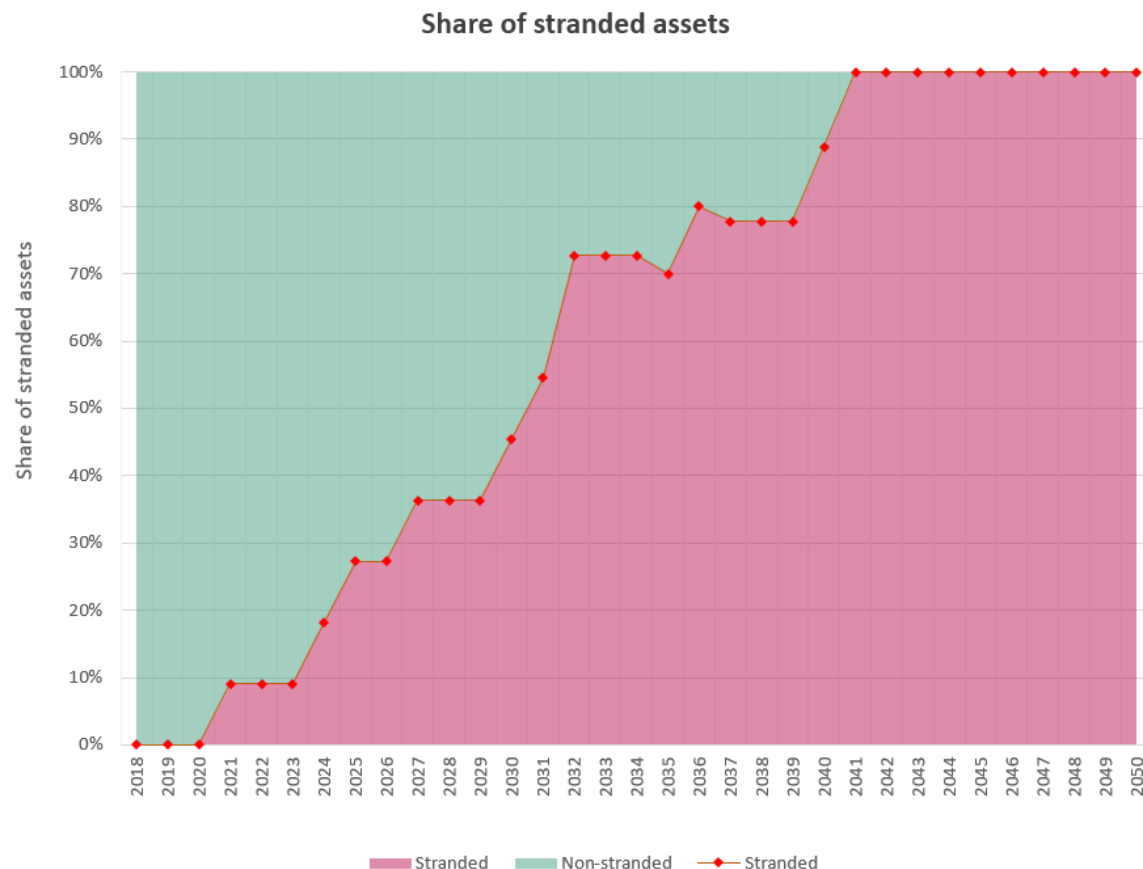
EVOLUTION OF STRANDING WITHIN PORTFOLIO

Diagrams on the right display the evolution of stranding within your portfolio. Upper graph: Relative share of stranded assets. Lower graph: Absolute figures. Choose whether to display data based on the number of buildings, gross floor area (GFA) or gross asset value (GAV). Choose whether to exclude individual assets or exclude them from a certain year on.

Asset ID	Include	Sell in year
1	Yes	Don't sell
2	Yes	Don't sell
3	Yes	Don't sell
4	Yes	Don't sell
5	Yes	Don't sell
6	Yes	Don't sell
7	Yes	2035
8	Yes	Don't sell
9	Yes	Don't sell
10	Yes	2037
11	Yes	Don't sell

Show shares based on:
Number of buildings

Climate target:
2°C



Set filter:

Country: All

Property type: All

Entity/Fund: All

Assessment year: 2018



CRREM | CARBON RISK REAL ESTATE MONITOR

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