

Stranded by Carbon Risk

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We all know about:

- Climate change
- Real estate's CO2 emissions
- Paris, COP21



Lost in translation

We all know about:

- Climate change
- Real estate's CO2 emissions
- Paris, COP21

But what does it mean?

- To you
- Today



Climate policy implications

COP21 means:

- 40% lower gHg emissions by 2030
- 80% lower gHg emissions by 2050

Enforcement in this *data transparent* era comes in various shapes and forms:

- Tax penalties
- Bans on rent

Climate risk will affect your property values

→ create an additional source of stranded asset risk

BlackRock

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A Fundamental Reshaping of Finance

Climate Risk Is Investment Risk

The Carbon Risk Real Estate Monitor

IIÖ
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IMMOBILIENÖKONOMIE



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<p>World GBC</p> <p>Stephen Richardson EeMAP Consortium Partner</p>	<p>ZIA German Property Federation</p> <p>Philipp Matzke Consultant Energy and Climate Protection, Facilities</p>	<p>Zurich Insurance Group</p> <p>Roger Baumann COO GRE and Head Product Development</p>		

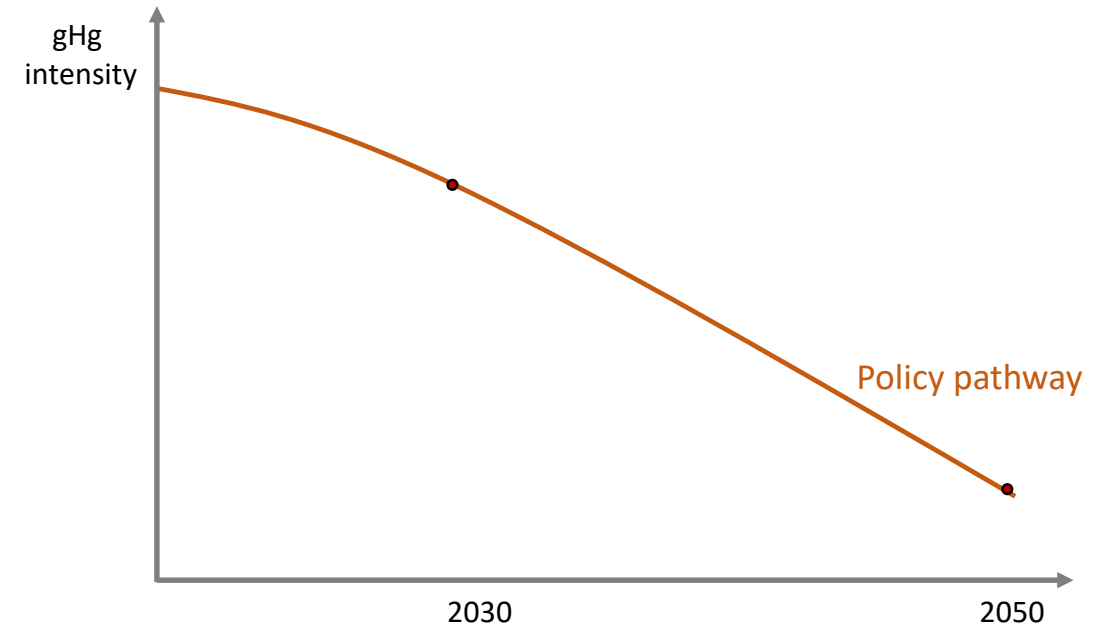
The Carbon Risk Real Estate Monitor

1. We **translate** long-term policies into clear science based targets

Global -> National

National -> Real estate industry

Real estate industry -> Sectors



The Carbon Risk Real Estate Monitor

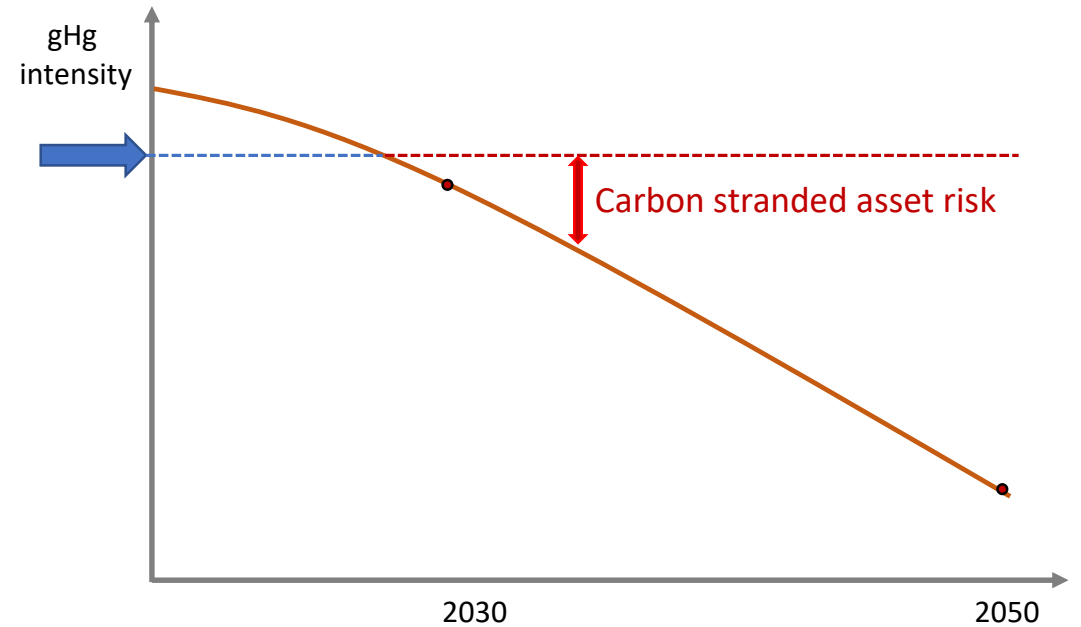
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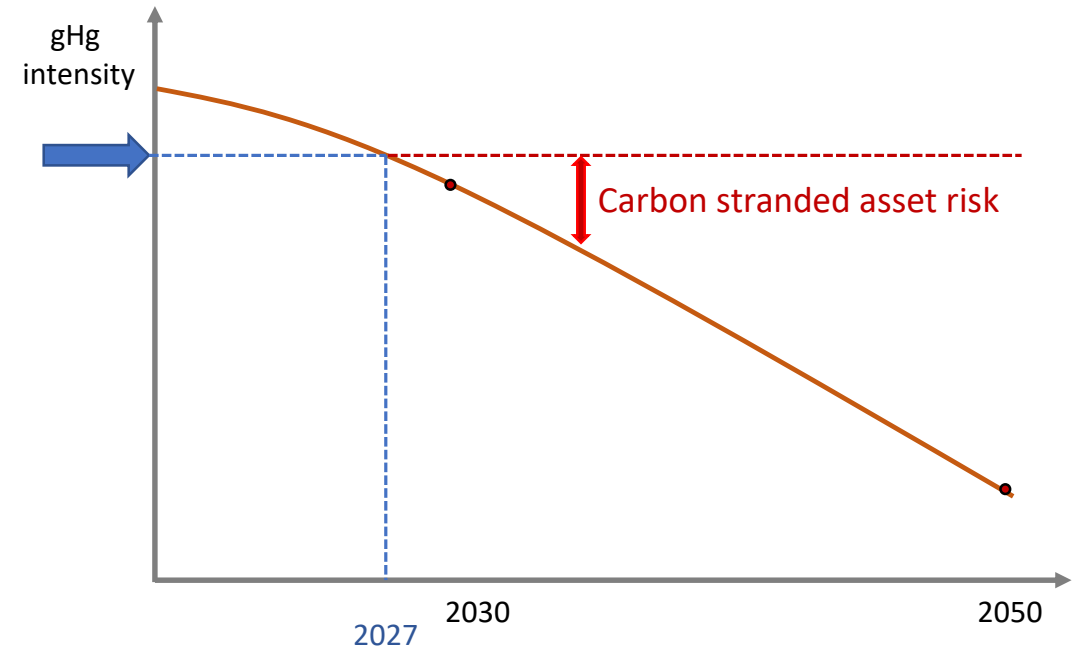
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3. Determine your **time to** carbon stranded asset risk exposure



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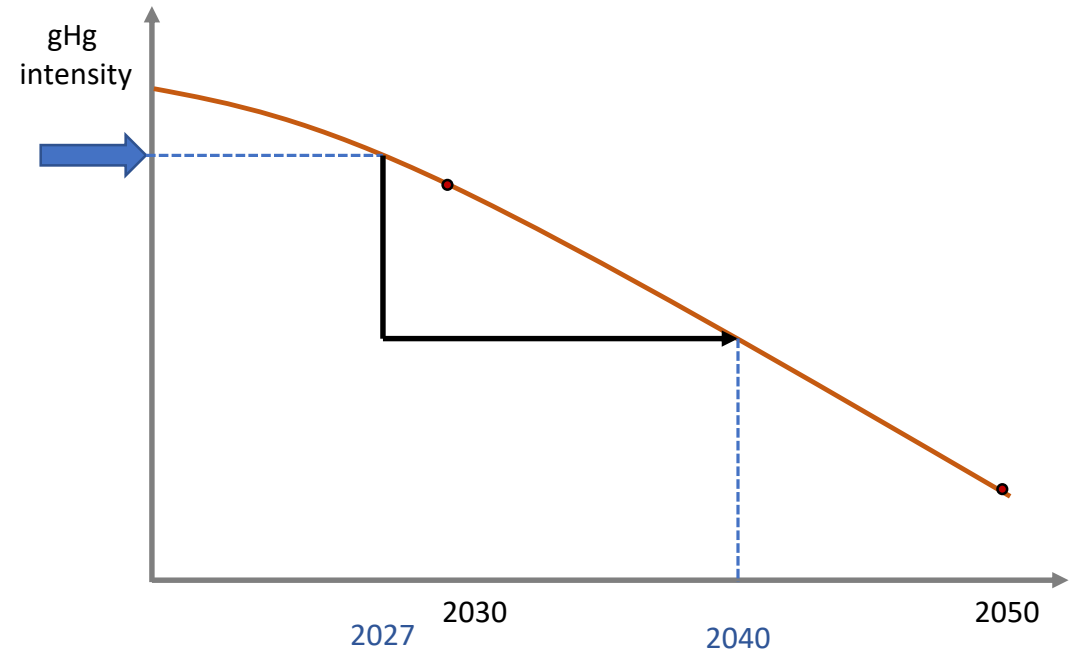
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2. **Position you** into the most relevant policy pathway

3. Determine your **time to** carbon stranded asset risk exposure

4. Help you consider steps to **reduce** your stranded carbon risk exposure



The CRREM tool | getting started

Core Fund 101

← Back to Assessment Portal

✓ **Load data**
Upload from Excel or API

✓ **Add certification data**
Use the GRESB certification tool

3 Review data
Resolve errors and warnings

4 Update assessment
Sync data to portfolio

Search assets

Upload Assets in Excel

Export Data to Excel

29 warnings!

Download CRREM Tool

Download the latest exported Excel file

Please click here to learn how to avoid duplicate assets.

Displaying all 2 asset

BUILDING	ENERGY	GHG	WATER	WASTE	CER
Asset 1 Luanda, Angola	Missing Property Type	⚡	☁	💧	🗑
Unnamed Row 338	Missing Property Type	⚡	☁	💧	🗑
+ Add Asset					

https://videocollege.uvt.nl/Mediasite/Play/d95907b21c4140bbbb168b30fd58189a1d

CRREM Tool Screencast (du... x)

CRREM
CARBON RISK REAL ESTATE MONITOR

decarbonisation targets | emission assessment | stranding risk analysis

Pilot version

DECARBONISATION TARGETS

ASSET LEVEL INPUT

Settings | Unit Converter

STRANDING RISK ANALYSIS

Asset Level Results | Portfolio Level Results

Click the desired functionality. Stranding risk analysis requires input data on asset level.

Decarbonisation targets for different property types and each EU member state can be viewed without entering specific asset data.

Click the CRREM logo on any sheet to return to this summary.

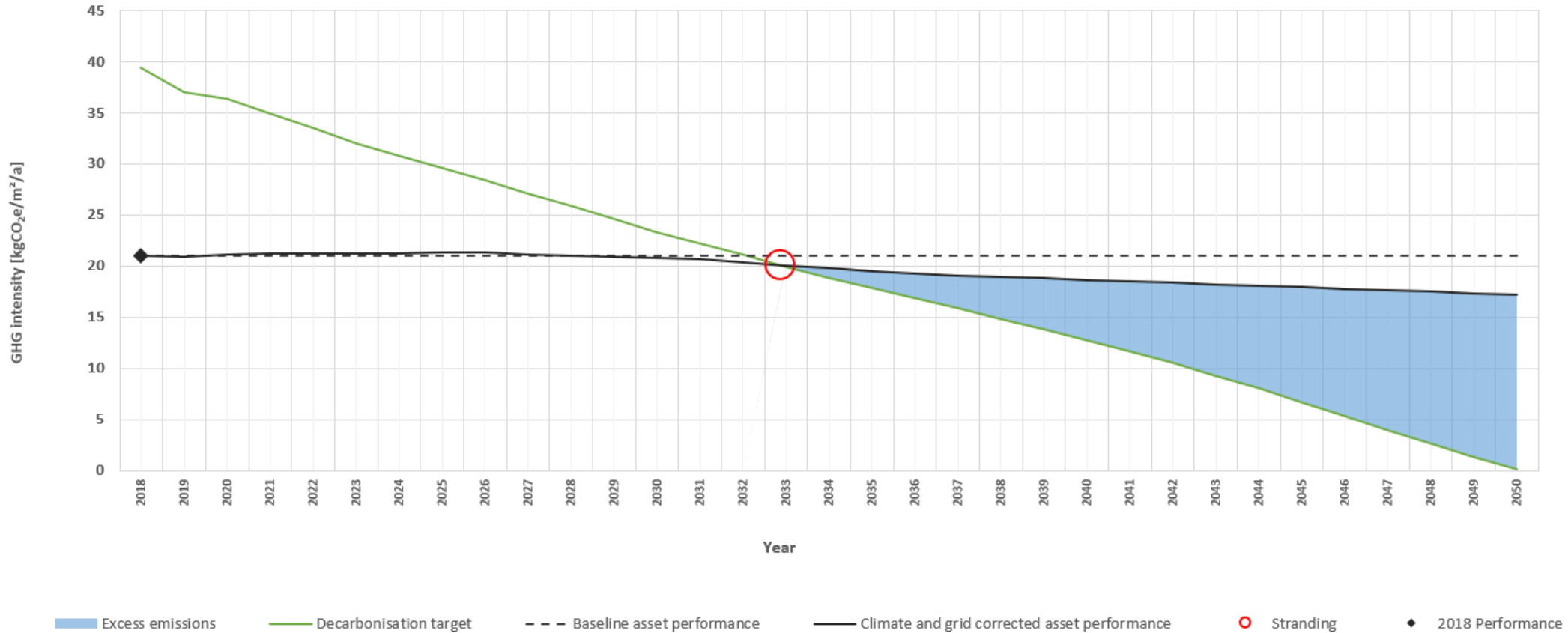
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Start | Targets | Input | Asset | Portfolio | Settings | Unit Converter | Back-end

The CRREM tool | asset stranding diagram

STRANDING DIAGRAM (Asset #1 - Steinbach Tower)

Display excess emissions: Yes



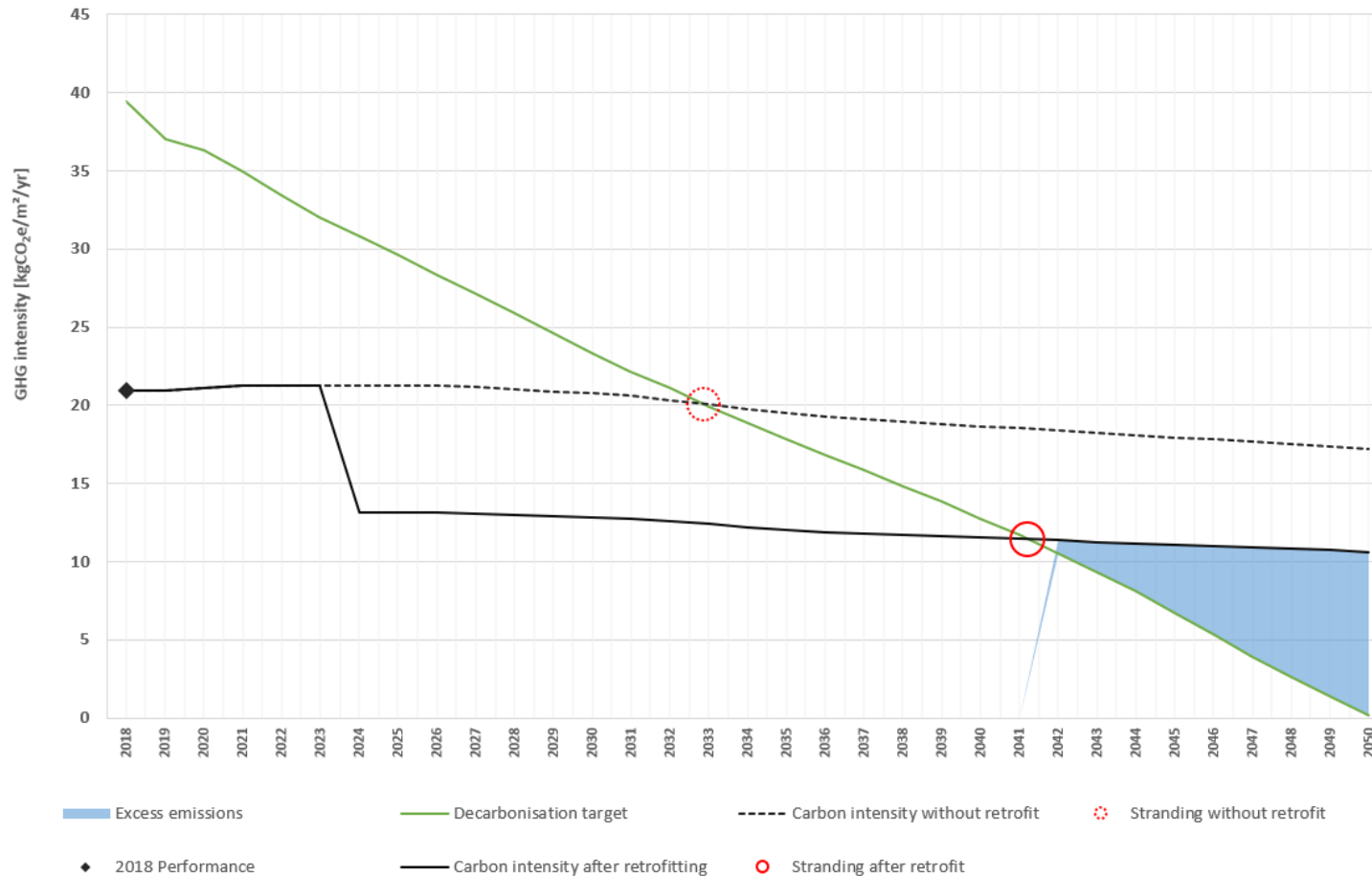
Year of stranding: 2033

Type of use: Office

Country: Austria

The CRREM tool | retrofit simulation

Carbon intensity - Stranding diagram with (solid) and without (dashed) retrofit measures (Asset #1 - Steinbach Tower)



	Without retrofit	After retrofit
Stranding year	2033	2042
Present (negative) value of excess emissions	- 60,233 €	- 21,266 €
Present value of emissions below target	31,488 €	72,013 €
Sum	- 28,746 €	50,747 €
Present value of energy savings (-2050)		964,073 €
Net present investment costs	- 317,006 €	
Sum		647,067 €
Carbon Value at Risk	1.44%	-2.54%

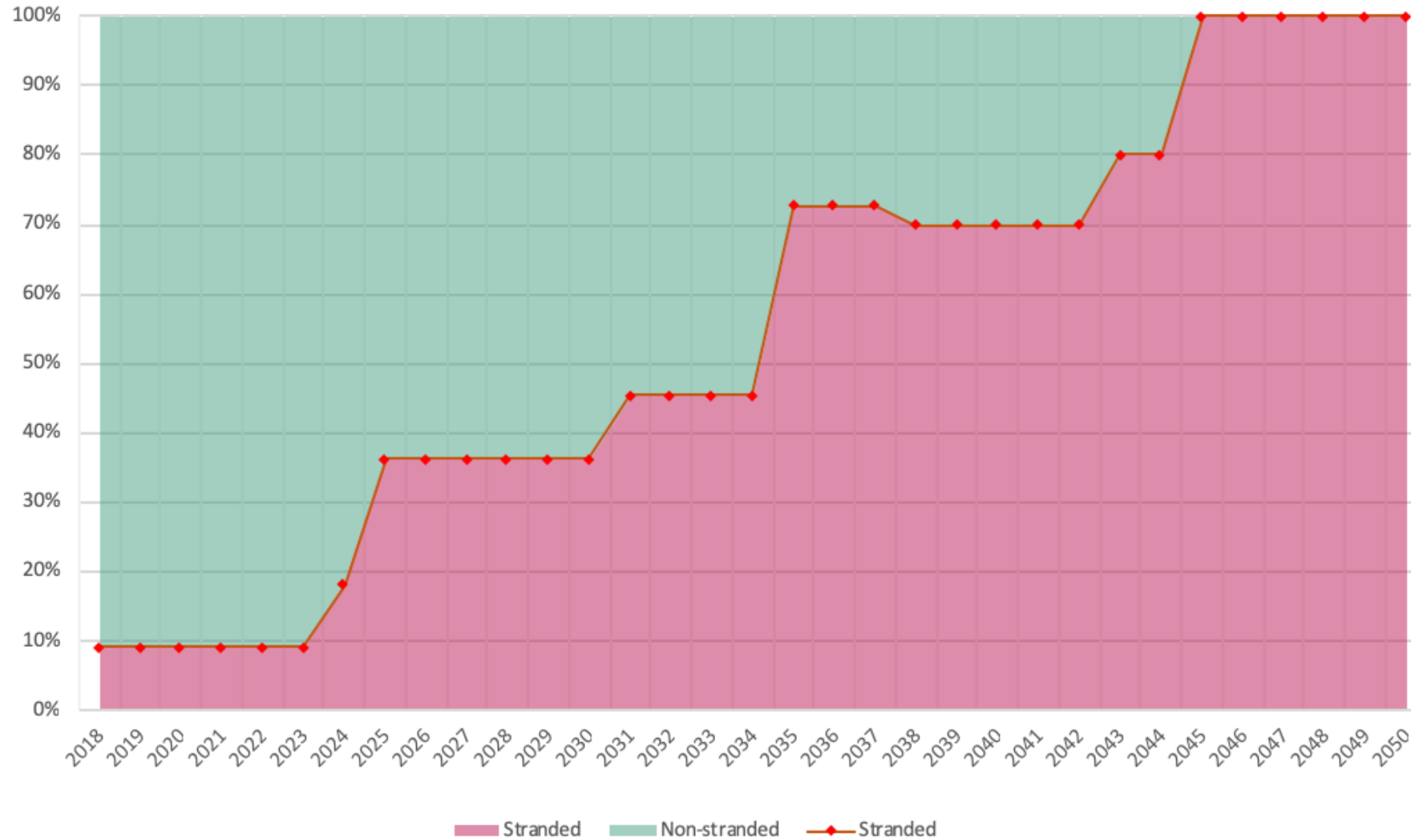
Set discount rate:

Potential value premium assuming a 70% capitalisation of cost savings: **674,851 €**
(33.74% of GAV)

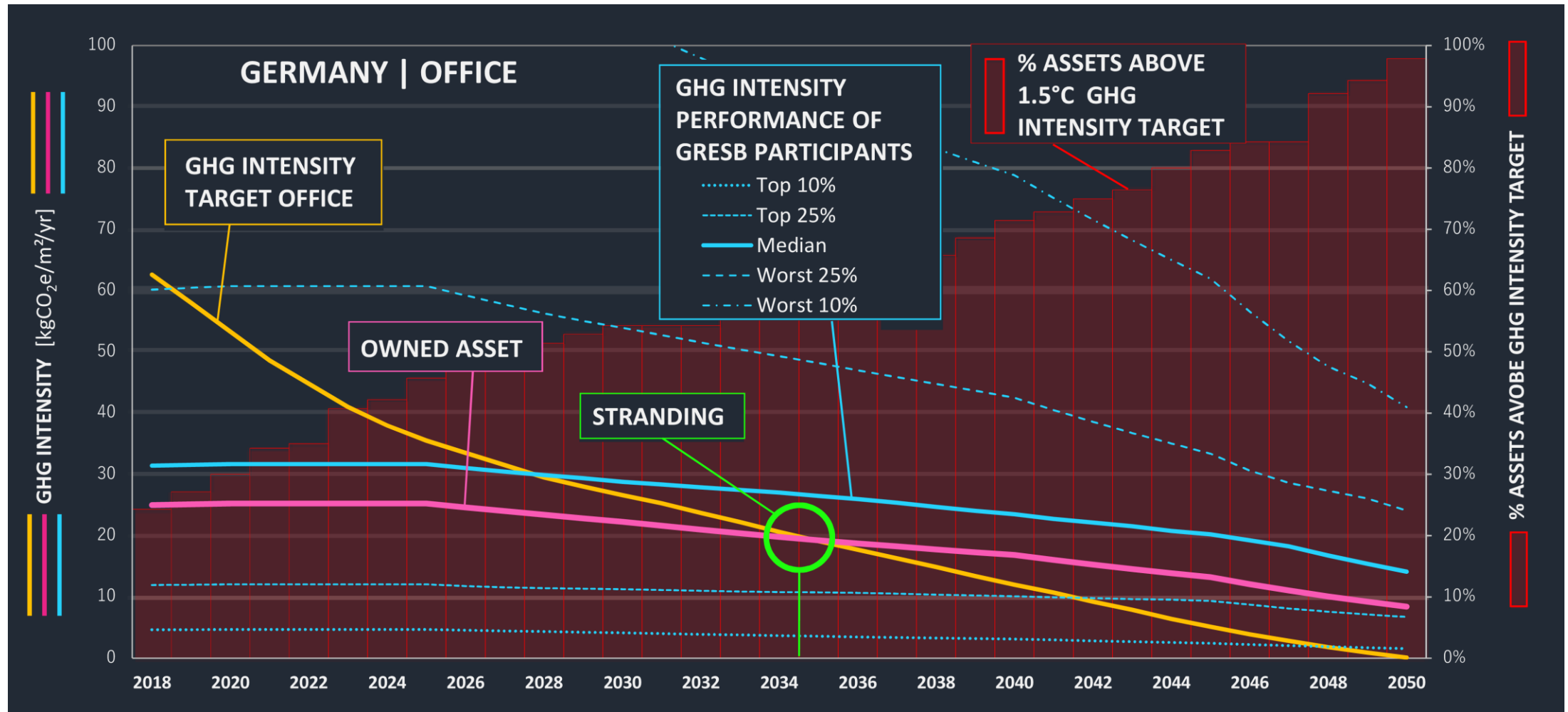


The CRREM tool | portfolio analysis

Share of carbon stranded assets



The CRREM tool | sector analysis



The Carbon Risk Real Estate Monitor

1. Helps you to identify the carbon policy measures, most relevant to you
2. Will quantify your exposure to carbon stranded asset risk
3. Helps you time retrofits, and align these with future policy implications

My Oprah moment

All of you can use the CRREM tool,
for free

One more thing...

Your investors will also be using the CRREM tool for free

