



CRREM: A clear view on your carbon challenges

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During the Spring of 2017, a small group of European researchers teamed up to bundle their expertise and efforts to demystify the carbon puzzle that was haunting the European real estate market. Being responsible for over 30% of Europe's annual carbon emissions, it was clear that in any climate treaty, real estate ambitions to reduce their carbon footprint would be imperative. But thus far, few efforts have been made to translate the opaque long-term policy ambitions into clear and binding pathways for specific stakeholders. In the long-run, we all hoped it would work out well, while in the meanwhile many of us delayed their personal efforts until strict regulations would force us.

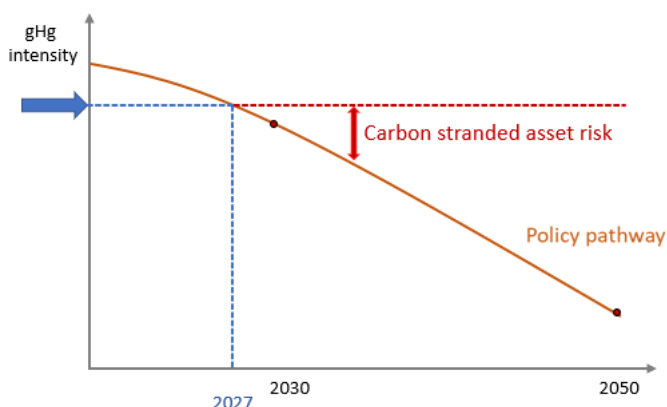
Today, almost four years later, this team of European researchers has succeeded in their plan. Thanks to the generous funding by the European Commission, the Carbon Risk Real Estate Monitor (CRREM) is a fact. CRREM is now freely available for all European real estate professionals with an interest in their own carbon strategy. In this article, I'll offer you a brief overview of what CRREM has to offer. Full details, instructional video's and a free download of the tool itself are all available at www.crrem.eu

The CRREM team

As said, CRREM is a EU-funded research project. Funding was granted in 2017 for the development of a holistic and user-friendly tool, with which European real estate investors would be enabled to assess and simulate the carbon risk exposure of their real estate assets. The CRREM team consists of researchers from TIAS Business School (Tilburg University), Ulster University, Alicante University, GRESB and IIÖ. An elegant blend of academic rigour and practical know-how. During the first 18 months of the project, the underlying CRREM model and corresponding tool were developed, and in February of 2019 the first beta version of the CRREM tool was launched. During this early phase of the project the research team made good use of all the input and feedback of a panel of European investors. In fact, 26 different investors and institution have helped the CRREM tool to test and tweak the configuration of the tool, to ensure that the end product would meet their standards.

The CRREM model

The model that CRREM developed to assess current and future carbon risk exposure is simple and intuitive. As depicted in the chart below, the CRREM model starts with offering the relevant policy pathway. This policy pathway bundles all the future gHg-intensity standards for the real estate industry in your home-market. In other words, the aggregate overall aims of 80% carbon savings by 2050 for Europe as a whole, has been diligently translated into to clear trajectories of relevant milestone for each country and for every real estate submarket therein.

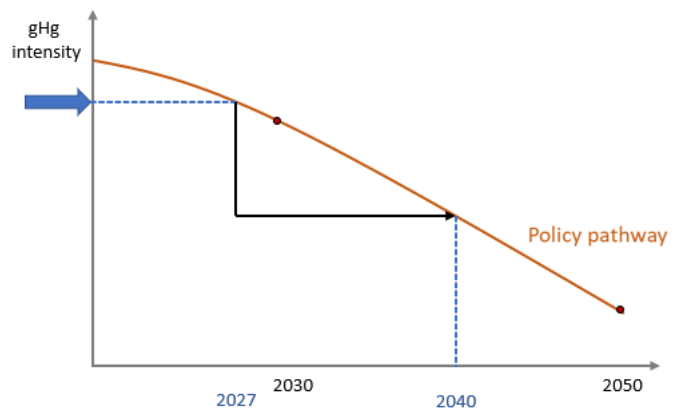


Next, the CRREM model allows you to position the current gHg-intensity of your real estate asset, and thereby helps you to assess the term during which your property aligns with future policy standards. In the example at the left, you'll cross the policy pathway in 2027. In other words, leaving the property as is, you will then face carbon stranded asset risk. This risk increases as the policy pathway becomes more stringent during the course of time. Risk which will eventually erode the value and future valuations of your property as you fail to meet standards. This will slowly turn your asset



obsolete as tenants will lose their interest, and/or governments will start to impose sanctions.

CRREM helps you to quantify your future exposure to this new source of carbon stranded asset risk. Moreover, the CRREM tool also helps you to simulate actions with which you can mitigate or reduce this risk exposure. In the diagram at the right, we include a deep retrofit, that is undertaken in 2027 and which greatly reduces the gHg-intensity of the property. Within the tool, we offer an overview of both the carbon and financial impact of these retrofits, which helps to optimize the timing and intensity of these future actions.



The CRREM tool

The CRREM-tool is now available for everyone who is curious and ambitious when it comes to carbon strategies. The tool is open source freeware. You can install it for free, and we disclose all functions and underlying calculus. For your convenience, the tool is provided with standard settings and automated input, but can be overwritten in almost all aspects with personal info. That way, you can play around with your own carbon analysis.

On the CRREM-website (www.crrem.eu), you'll find video tutorials and means of getting touch in case you need assistance. We hope you enjoy using the tool, and that you appreciate the output and insights it produces.

