Public Consultation Confirmed Approach of CRREM-Decarbonisation Pathways for Real Estate

Carbon Risk Real Estate Monitor (*CRREM*) **would like to thank all market participants who took part in the public consultation phase. Industry experts, investors and scientists provided feedback on the methodology, and gave consolidated statements on the decarbonisation pathways and their usefulness in understanding as well as managing long-term climate-related transition risk in the global real estate sector. The final** *CRREM* **decarbonisation pathways for the global real estate sector are now available on www.crrem.org. Pathways will be regularly updated in the future to ensure that the latest climate and market data are leveraged as an underlying basis.**

Feedback from market participants

During the public consultation, the *CRREM* team has interacted with local players and industry experts globally to ensure credibility and robustness of both the underlying methodology and the data input. Responses were received from industry experts, local investors, asset managers, industry bodies, green building councils, consultants and other market participants. We thank all participants for their valuable input and support for *CRREM*. Interested parties challenged outcomes to ensure market acceptance and credibility. Particularly extensive perspectives and input were obtained for the USA, UK and Japan. All consultation feedback has been exhaustively reviewed and (if needed) implemented, ensuring alignment with industry expectations and scientific standards. Compared to the version released for consultation, the final version accounts for:

- Slight changes regarding starting figures for energy intensity based on additional data sources in some countries,
- the adoption of a more ambitious overall decarbonisation agenda in some markets and therefore more ambitious decarbonisation of energy sources over time (especially electricity),
- the methodology documentation was augmented,
- improved clarity and document structures,
- verification and utilization of additional country-specific sources.

To date, major real estate investors like *AEW, Alstria, Nordea Life & Pension, DWS, LEG*, *CBRE Global Investors, Castellum* and many others have already successfully used and tested the CRREM tool and pathways. Investor interest in and uptake of CRREM outputs have rapidly increased due to the global outreach upon the finalization of the pathways, as well as their integration into *GRESB*. The upcoming release of the *CRREM* reporting templates and the public report "*CRREM* support to corporate reporting in the real estate sector" will further assist stakeholders in quantifying and disclosing climate-related risks in the real estate sector.

Published results

Following the public consultation period, the results have been published on the *CRREM* webpages. Market responses confirmed the methodology used to derive to the decarbonisation pathways, hence resulting in no material changes.

The pathways will help market participants meet the recommendations of the *Task Force on Climate-related Financial Disclosures (TCFD) and other initiatives focussing on climate-related transition risk.* The pathways published on the *CRREM* website identify annual energy- and carbon-intensity trajectories until 2050 across real estate markets and sectors that are consistent with keeping global warming below 2 degrees Celsius. *CRREM* covers the commercial real estate sector – including retail, offices, and logistics – as well as the residential sector, across North America, Asia-Pacific, and 28 countries in Europe.

The final decarbonisation pathways for the global real estate sector will undergo revision periodically to ensure that new data sources are appropriately reflected and that the pathways remain valid and robust over time.

Link to *CRREM*'s decarbonisation pathways:
https://www.crrem.org/pathways/

Link to *CRREM*'s methodology:
https://www.crrem.org/about-crrem-phase-ii/

Link to *CRREM*'s decarbonisation tool and further information:
https://www.crrem.eu/

CRREM participants
The decarbonisation pathways were developed by the Austria-based *Institute for Real Estate Economics (IIÖ)*, with technical support from *GRESB*. They were developed with the oversight of the newly instituted *CRREM Scientific Advisory Committee*, comprised of carefully selected academic experts with backgrounds in real estate and environmental sustainability across European, North American, and Asian markets.

The initiative was funded by *APG*, *PGGM* and *Norges Bank Investment Management (NBIM)* and received further support from Japan's *Government Pension Investment Fund* and *Ivanhoé Cambridge*. It builds upon an initial project focused on the commercial real estate sector in the European Union, which was funded by the European Commission. The *Scientific Advisory Committee* is comprised of the following members: Dr. Georgia Warren-Myers, Senior Lecturer in Property at the *Melbourne School of Design*, Prof. Andy van den Dobbelsteen (PhD MSc), Professor of Climate Design & Sustainability at the *Delft University of Technology* and Dr. Paul Mathew, Staff Scientist and Department Head of Whole Building System at the *Lawrence Berkeley National Laboratory (LBNL)*.

About APG Group NV
APG is the largest pension provider in the Netherlands; its approximately 3,000 employees provide executive consultancy, asset management, pension administration, pension communication and employer services. *APG* performs these services on behalf of (pension) funds and employers in the sectors of education, government, construction, cleaning and window cleaning, housing associations, energy and utility companies, sheltered employment organizations, and medical specialists. *APG* manages approximately EUR 524 billion (as of June 2020) in pension assets for the pension funds in these sectors. *APG* works for approximately 22,000 employers, providing the pension for one in five families in the Netherlands (approximately 4.7 million participants). *APG* has offices in Heerlen, Amsterdam, Brussels, New York and Hong Kong. For more information see www.apg.nl/en.

About PGGM
PGGM is a cooperative Dutch pension fund service provider. Institutional clients are offered asset management, pension fund management, policy advice and management support. On December 31, 2019 *PGGM* had EUR 252 billion in assets under management and was administrating pensions of 4.4 million participants. Around 750,000 workers in the Dutch healthcare are connected to *PGGM&CO*, its members organization. Either alone or together with strategic partners, *PGGM* develops future solutions by linking together pension, care, housing and work. For more information see www.pggm.nl.

About Norges Bank Investment Management
Norges Bank Investment Management manages the Government Pension Fund Global according to a mandate set by the Norwegian Ministry of Finance. The mission is to safeguard and build assets for future generations. Ultimately, the fund's assets are held by the government on behalf of the Norwegian people. The Ministry determines the fund's investment strategy, following discussions in Parliament. The fund is invested 70.8 percent in equities, 26.5 percent in fixed income and 2.7 percent in unlisted real estate. The fund's annualised return since the start of 1998 is 6.1 percent measured in a currency basket. Assets under management are USD 1 trillion. For more information see www.nbim.no.

About GPIF
As a Japanese public pension fund, Government Pension Investment Fund manages the reserve fund for beneficiaries with the mission of securing long-term returns with minimal risk. With approximately US$1.4 trillion currently under management and a globally diversified portfolio, GPIF outsources 100 percent of equity and most of its bond investment to external asset managers.

As a universal owner, GPIF is committed to making the capital market sustainable by integrating ESG factors into investment and expecting sustainable returns with a long-term horizon. For more information see www.gpif.go.jp/en/.

About Ivanhoé Cambridge
Ivanhoé Cambridge develops and invests in high-quality real estate properties, projects and companies that are shaping the urban fabric in dynamic cities around the world. It does so responsibly, with a view to generate long-term performance. Ivanhoé Cambridge is committed to creating living spaces that foster the well-being of people and communities, while reducing its environmental footprint.

Vertically integrated in Canada, Ivanhoé Cambridge invests internationally alongside strategic partners and major real estate funds that are leaders in their markets. Through subsidiaries and partnerships, the Company holds interests in more than 1,000 buildings, primarily in the industrial and logistics, office, residential and retail sectors. Ivanhoé Cambridge held C$64 billion in real estate assets as at December 31, 2019 and is a real estate subsidiary of the Caisse de dépôt et placement du Québec (cdpq.com), one of Canada's leading institutional fund managers. For more information see: www.ivanhoecambridge.com.

About IIÖ Institute for Real Estate Economics
The *IIÖ Institute for Real Estate Economics* has a successful track record in the fields of research, valuation as well as strategy and transaction consulting for private and public customers. Professor Sven Bienert, Founder and Managing Director of *IIÖ*, has been involved in the development of national and international valuation standards. Together with *IIÖ* Head of Research, Jens Hirsch, he has authored many scientific and non-scientific publications on the topic of sustainable real estate and developed a geographic information system to assess natural hazards in Germany. *IIÖ* is leading the *CRREM* project that develops Paris-aligned decarbonisation pathways for the global real estate sector.

About GRESB
Mission-driven and investor-led, *GRESB* is the environmental, social and governance (ESG) benchmark for real assets. It works in collaboration with the industry to provide standardized and validated ESG data to the capital markets. The *GRESB* 2019 real estate benchmark covered more than 1,000 property companies, real estate investment trusts (REITs), funds, and developers. It's coverage for infrastructure includes 500 infrastructure funds and assets. Combined, *GRESB* represents USD 4.5 trillion in real asset value. More than 100 institutional investors, with over USD 22 trillion AUM, use *GRESB* data to monitor their investments, engage with their managers, and make decisions that lead to a more sustainable real asset industry. For more information see: www.gresb.com.

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