

Property Council of Australia
Green Building Council Australia
Level 1, 11 Barrack Street, Sydney NSW 2000
Attn: Tim Wheeler, Jorge Chapas

Wörgl, 28nd December 2022

Concerning: CRREM Answers to the Property Council of Australia consultation feedback

Dear Tim, dear Jorge,

thank you for taking the time to review the updated pathways and provide valuable feedback and critical thoughts! With reference to the document “Australian CRREM V2 Pathways Response_final.pdf”, including the list of comments contained therein, which were submitted to me on 18th of November 2022, I submit the following observations and explanations (green text in italics).

General preliminary remarks:

- *The statements/comments to the update of the CRREM decarbonisation pathways have been taken from the documents available to us (“Australian CRREM V2 Pathways Response_final.pdf.pdf”) in order to facilitate the comprehensibility of my reply.*
- *For reasons of clarity, the questions are answered in the order in which they were submitted.*

Statement GBCA & Property Council of Australia:

In summary:

- Drop ‘stranded’ from communications and replace it with a more representative term such as “not aligned” or “impaired”.

CRREM initiative:

CRREM never stated that individual properties face a complete or immediate write down in asset values once they are at the “stranding point” in our diagram. Please see our official statement on this attached (taken from our very first report and the report we lately did with UNEP FI). The definition is in line with the one applied in other sectors for comparable situations.

Statement GBCA & Property Council of Australia:

- CRREM should provide more relevant advice to investors, there are many aspects to the carbon/energy impairment risk of property:
 - Does the region have an effective energy benchmarking and disclosure program for each property type (such as NABERS)
 - Does the region support a market for renewable energy supported by certificates that meet GHG Protocol quality requirements
 - Do the systems exist for new buildings to be designed and delivered to achieve target energy performance

- Does the region support building codes with effective energy standards
- Does the region support programs for minimum energy performance (excluding products with poor efficiency)

CRREM initiative:

Thank you for this comment.

- *Regional initiatives are always positive. We have however a global focus.*
- *We do not make any recommendation for carbon credits or market-based energy procurement. This is not our focus (but we generally favor all instrument ensuring fast and effective decarbonization).*
- *We do state what is needed for 1,5 degree alignment. Systems do exist for new buildings to be designed and delivered to achieve target energy performance, please see: <https://www.iea.org/reports/the-future-of-heat-pumps>. However, we are aware that technological advances are still required in order to achieve the 1.5°C target. Technological change also must be taken into account until 2050.*
- *We expect all region having effective building codes promoting energy efficiency.*
- *We expect all regions having some sort of minimum energy standards already (sadly in most cases those are not yet 1,5 degree compliant, see also Climate tracker graphs regarding gaps between national regulation and Paris accord targets).*

Please also refer to the CRREM reports and other additional papers such as the joint paper with UNEP FI. Here we often list best-practices and further relevant indicators and KPIs to assess the risk. Please see: <https://www.unepfi.org/themes/climate-change/managing-transition-risk-in-real-estate-aligning-to-the-paris-climate-accord/>. In the future we will publish more relevant material e.g., on green governance, embodied carbon etc. For a like for like comparison we favor location-based emission factors (see also general survey output and final methodology document). For further regional guidance, it would be great if we can partner up in the upcoming year to provide this information to investors.

Statement GBCA & Property Council of Australia:

If benchmarking is retained, normalisation for significant variables like hours of use must be included to avoid low occupancy buildings looking better on the benchmark than intensively used property

CRREM initiative:

The CRREM tool has numerous methods for normalizations and solutions to deal with data gaps and improving output accuracy. We always stressed the need for normalization in cases such as the one you address. The three main normalization options used are A) vacancy – the data is always extrapolated to full occupancy and users are required to enter the vacancy in the building. Without this figure no output can be displayed. (here also running hours could be included) B) normalization of data coverage – the tool of course also extrapolates the data to the whole building and C) reporting period – stating timeframe of the data. The CRREM pathways refer to the normal/ average operating hours of the specific asset-class in the given country. Of course, the users should ensure to normalize data in advance of the analysis to ensure a like-for-like comparison, which is of course possible with CRREM. We will include further explanation and details on normalisation regarding the operating hours to our reference guide. Thanks for this aspect which is also already part of our GRESB/PCAF/CRREM recommendation on Carbon accounting which will be published soon.

Statement GBCA & Property Council of Australia:

Communication of CRREM outcomes would be enhanced using ranges and tolerances. At the moment the heavy reliance on projections implies a level of accuracy that cannot be justified.

CRREM initiative:

Thank you for this comment. Indeed we also intent to include this in the future but to date we just operate with the 50 % likelihood according to IEA starting points. (Bare in mind that the entire industry is using market value figures (just one), knowing that in fact we are talking about a distribution also in those cases:

Statement GBCA & Property Council of Australia:

If the carbon benchmark is to be retained, report both location and market based in accordance with GHG Protocol to encourage investment in renewables and decarbonisation of energy supply

CRREM initiative:

We changed this statement accordingly in the methodology document. In the CRREM tool users can of course select the market-based approach (like before). However, we recommend the location-based approach to clearly showcase an assets transition risk and ensure a like-for-like comparison (since the benchmark is location-based).

Statement GBCA & Property Council of Australia:

If the carbon benchmark is retained, be clear about inclusions in both the CO₂ and CO_{2e} benchmarks

CRREM initiative:

Thank you for flagging this. This will be made clear in the tool as well as our reference guide (which will be updated with the new data once the revised pathways are published).

Statement GBCA & Property Council of Australia:

There is a proposition that as the energy supply decarbonizes the risk of buildings becoming impaired due to a high energy intensity decline. The use of the energy intensity trajectory is unclear and more explanation is needed for users to understand the future flatline benchmark

CRREM initiative:

We think that the explanation in the methodology document on the energy target is quite clear. We added a bit more wording here but would like to understand better what is missing from your point of view.

Statement GBCA & Property Council of Australia:

Ongoing governance over CRREM development and use is required to ensure it provides useful information. Changes to building and energy systems such as the electrification of transport, changing use of buildings, inclusion of energy storage, varying intensity of use will have an impact on building level energy and emissions

CRREM initiative:

With future updates, we will definitely take into account the points raised by you. We have already 10% of our advisory committees' members coming from GBCs. We would like to engage more with such competent stakeholders.

- *Electrification of transport: EV charging should not be monitored by CRREM, as these energy/emissions are allocated to the transportation sector.*
- *Inclusion of energy storage: Storages do not change the energy consumption/ emissions of an asset. In case future regulations/global guidelines support energy storage on a building level, we will consider changes.*
- *Varying intensity of use: Each update takes into account the new baseline figures (country- and property-type specific averages). If the EUI increases or decreases, CRREM will of course adjust the baseline numbers. Normalizations of a building have to be done by the user itself. We will make sure that this is further explained in the reference guide.*

Statement GBCA & Property Council of Australia:

CRREM should support development of energy/emissions benchmarks that distinguish between landlord controlled and tenant-controlled energy/emissions so that those with most control are enabled to act on energy and emissions performance

CRREM initiative:

We think that the landlord/owner of the building is "in the driver seat" to decrease emissions and mitigate transition risk. The owner is also the stakeholder that will face the potential downsides of transition risk (reducing his property values). Nevertheless, we see the need to clearly differentiate between reporting requirements and resulting Scope attribution and whole-building-transition-risk assessment. According to typical local circumstances the benchmark could of course be broken down into tenant/landlord aspects.

Statement GBCA & Property Council of Australia:

CRREM is invited to collaborate with the PCA and GBCA on effective communication of future CRREM information before it is released to stakeholders so that misleading or confusing information can be eliminated

CRREM initiative:

Happy to set up a working group/ webinar in the upcoming year! We would especially thank Jorge Chapa and his colleagues for all the collaboration and support regarding ensuring the correct data input for Australia.

Statement GBCA & Property Council of Australia: Response to CRREM v2 pathways

Our members find that the objectives of CRREM are not being fulfilled and the purpose of CRREM should be revisited through effective consultation accompanied with appropriate governance and technical rigour.

While illustrating how a property's carbon or energy intensity performance compares with a 1.5 degC budget may motivate underperforming buildings to improve, it can equally guide leading properties to normalise back to the curve, resulting in a failure to accelerate decarbonisation.

CRREM initiative:

See above regarding our view on individual properties. CRREM did already accelerate decarbonization in the global real estate market dramatically since it makes investors think about 1,5-degree alignment and potentially cost-benefit analysis of individual properties. Since investors take a portfolio view it makes indeed sense to have e.g. some properties that are “hard to upgrade” below the curve and some that are outperforming energy and carbon benchmarks in order to have a balanced portfolio.

Statement GBCA & Property Council of Australia:

The CRREM tool is not successful in identifying or assessing the risk of economic obsolescence of single properties. Stranding risk, as described elsewhere, will be a function not only of the carbon/energy intensity of a building but of many other socioeconomic factors specific to a region. CRREM could provide a useful role in conducting regional analysis and communicating the status of structural and voluntary practices such as Building Codes, performance benchmark disclosure, renewable energy markets etc.

CRREM initiative:

See above.

Statement GBCA & Property Council of Australia:

CRREM information has already been misused in the communication of GRESB results in 2022 that have included terms such as “average stranding year” for portfolios. This is an example of dangerous misinformation that may unnecessarily destroy value.

CRREM initiative:

To our knowledge this wording (which is up to GRESB) has already been revised. Still, we believe that flagging potential risk aspects is relevant and beneficial to investors. The assumptions and interpretation of results is indeed crucial for understanding the risk and decide whether or not countermeasures are needed.

Statement GBCA & Property Council of Australia:

Currently, the CRREM tool and CRREM curves, existing and proposed, are not fit for purpose and should not be used until remedied for fear of misleading investors
Inherent in the CRREM method is the concept of stranding risk. Where “Stranded assets are properties that will be increasingly exposed to the risk of early economic obsolescence due to climate change because they will not meet future regulatory efficiency standards or market expectations. These buildings will become less marketable and may require costly refurbishment measures”

CRREM initiative:

*CRREM is a Carbon Risk Monitor. Of course, other socioeconomic factors are contributing to the economic success of the assets/ as investors portfolio. These risks are not displayed in CRREM (and we never made claims to do so).
Please see our statement regarding the definition of stranded assets above and attached. What potentially “destroys” value is not the term “stranding”, but comparably high carbon- or energy intensities (in relation to a peer group and/or a benchmark).*

Statement GBCA & Property Council of Australia:

CRREM does not gather enough information to assess stranding and we strongly suggest that an alternate term be used in communication materials. The term “stranded asset” has a well-established definition in the financial industry. It refers to assets that have suffered from unanticipated or premature write-downs, devaluation or conversion to liabilities. It would be hard to imagine that the world leading sustainable building portfolios of our members could fit that definition within a handful of years.

CRREM would benefit from providing factual information, observations such as, “This building has a carbon intensity that appears to exceed a 1.5 degC carbon trajectory” or “This building has carbon intensity lower than a 1.5 degC carbon trajectory”.

Property owners are then able to explain the performance characteristics of the building and any actions that are planned that would alter carbon/energy intensity. Currently, owners are left to describe the failings of the CRREM information to investors, severely eroding the credibility and usefulness of the program.

We recommend substituting the term “stranded” with “not aligned”, “impaired” or other terms that would convey an accurate meaning of the situation.

CRREM initiative:

See above. We are happy – besides all documentation provided – to do jointly more webinars and workshops with industry stakeholders since globally we see a strong need to further support the industry in understanding the challenges and solutions related to decarbonization.

Statement GBCA & Property Council of Australia:

CRREM should separately consult on how observations are communicated to stakeholders to ensure accuracy and that Owners are able to inform investors of the features of buildings, portfolios and the

energy systems they are part of. This communication would be enhanced if, rather than suggesting that there is an “exactness” to the normalisations and 1.5degC curve use tolerances and ranges to communicate the degree of diversion, possibly using whisker charts or similar to demonstrate relevant distributions over time.

CRREM initiative:

The CRREM pathways are aligned with IEA NZE and IPCC data. The IEA NZE also does not work with tolerances. Working with tolerances would lead to exceeding the global overall emissions as everyone would work on the highest level of possible allowance. The IEA NZE already works only with the budget allocated to a 50% possibility of reaching 1.5°.

Statement GBCA & Property Council of Australia:

The following comments relate to the document: From Global Emission Budgets to Decarbonization Pathways at a Property Level:

The reasoning behind the need to reassess carbon and energy trajectories is understood.

Response:

The process of downscaling is not transparent and the calculations could not be readily replicated.

CRREM initiative:

The process is described in detail in the methodology document. Please especially see section (4) SDA. The calculations have been checked and recalculated by The SBTi and our GSC accordingly

to our methodology and their Sectoral Decarbonization Approach. Please specify in case you still have problems calculating the pathways. We are happy to provide further insights if needed.

Statement GBCA & Property Council of Australia:

It isn't clear where CRREM has sourced information for each property type and if this information is truly representative of the property and market. In the consultation paper, CRREM advise the source for emissions factors for Australia are the Australian Government Dept of Environment & Energy Emissions Factors, Table 5 and Table 46 for regional factors (August 2021 report) National Greenhouse Accounts Factors – August 2021. These are a good source for historical and reasonably contemporary emission factors but provides no information about future carbon intensity of Australian electricity supply.

CRREM initiative:

For the grid decarbonisation we used: AEMO (2020): 2022 Integrated System Plan (ISP), AEMO (2020): 2022 Integrated System Plan (ISP), <https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2022-integrated-system-plan-isp>.

This was directly provided us by the Australian GBC. For all further property-types not covered by the national source the datasets regarding property types relies on data set of 30.000 assets (using calibration factors for e.g., Leisure & recreation related to CRE overall). For office and retail the national source provided by the Australian GBC was directly applied as well.

Statement GBCA & Property Council of Australia:

We understand from subsequent correspondence that future emission factors are aligned with the Australian Energy Market Operators Integrated System Plan and agree that this is the best available information. CRREM have also developed curves for sub regions in Australia, but no information is provided that identifies the sub regions.

CRREM initiative:

Thanks for pointing this out. We will make sure to give accordingly additional guidance on this in the methodology document and reference guide

CRREM faces an inherent contradiction where it attempts to measure the characteristics of a building but then assesses it via the emissions factor of the electricity grid.

CRREM initiative:

We do not agree with this point. We assume this is (again) related to location and market-based emissions factors. See our methodology document and survey outcome for more details. We believe that sourcing green energy might help on a company / investor level, but it is not “greening” the location-based characteristics where the property operates – so still could trigger transition risk going forward.

Statement GBCA & Property Council of Australia:

CRREM attempts to normalise carbon and energy by area and climate zone but fails to take into account occupancy hours. This shortfall would have an intensely occupied building (say 24/7) determined as “stranded” much earlier than a 9am-5pm, 5 days/week building.

CRREM initiative:

Normalization of assets has to be done by users on their own. We will make sure this is also stated clearly in the reference guide. We support (and have supported) your point of view.

Statement GBCA & Property Council of Australia:

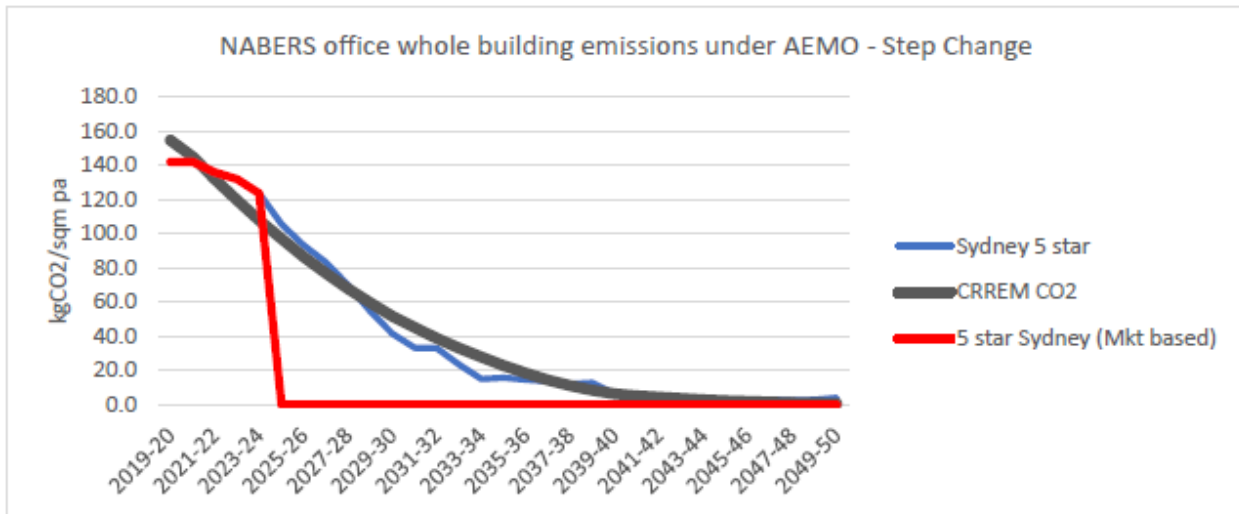
The adjustments for climate zone are based on Heating Degree Days and are likely to overcompensate for buildings traditionally heated using fossil fuels as they electrify. The program would benefit from greater technical rigour in this area.

CRREM initiative:

Please see Section D.3 in the methodology document: “Heating degree days have a greater impact than cooling degree days on the overall kWh target for 2050. This is according to the energy use in 2050 projected by the IEA for heating and cooling spaces. Space heating is projected to account for 17% of the overall energy use (‘whole building approach’) whereas space cooling just accounts for 11%.”

Statement GBCA & Property Council of Australia:

CRREM communications would be improved by ensuring that both location based and market based carbon inventories are included. By including market based reporting CRREM would encourage more rapid decarbonisation through both energy efficiency measures and voluntary purchase of renewable electricity. A sample is provided:



In this case the area between the blue and red curves shows the additional carbon savings made in a market economy that successfully values efficiency, trades renewable energy and values low carbon buildings. The blue curve is the location-based carbon intensity while the red line represents the market based accounting method including voluntary purchase of renewable electricity.

There have already been examples where CRREM outcomes have been miscommunicated through the omission of market-based inventories. CRREM needs to ensure that licensees are aware of this requirement.

CRREM initiative:

We are fascinated to see that our data alignment resulted in just about the same outcome as Sydney 5 star. We do not mind market-based assessments but again would like to draw your attention to our statements in this respect above. The wording in the methodology document has been slightly adjusted to make this more clear.

Statement GBCA & Property Council of Australia:

As CRREM realises the inherent contradictions in measuring property characteristics via a carbon metric it introduces the energy curve as an alternate measure. We understand that the energy curves are reverse calculated from emissions, take into account the SDG objective of 2.9% energy efficiency improvement per annum and then plateau at a low energy intensity relating to a global budget for renewable energy as determined by the IEA.

This curve is beyond current technical limits for most buildings and is difficult to reconcile for portfolios that have already been on a path to optimise performance and achieve savings of more than 50% over the past 10+ years. (as shown in the NABERS Annual Report).

The methodology to determine the energy curve all the way out to 2050 requires heroic assumptions about the capacity of renewable energy systems, how economies will allocate this energy efficiently and how economies will change over this period.

Starting the process of energy allocation based on the ratio of built environment emissions to whole of economy emissions is likely to lead to flawed analysis. As primary fossil fuel energy inefficiency is driven out of economies the proportions of energy taken up by different sectors of the economy will change significantly with buildings consuming a greater percentage of national energy accounts than is currently the case.

Meeting the proposed CRREM energy curve would require a severe curtailment of services in buildings leading to uncomfortable, unhealthy buildings with a correspondingly high social cost. CRREM must re-evaluate future energy intensity scenarios and develop alternative measures through broad consultation.

CRREM would limit the potential for errors in the energy curve by curtailing the time horizon to no longer than 10 – 15 years. This timeframe avoids spurious future stranding assertions and is better aligned with CAPEX planning horizons.

CRREM could also change the context of the energy curve by using benchmarks in a similar way to the EU Green Taxonomy, suggesting that buildings that perform in lower segments of the benchmark at risk of high operational energy costs with consequent lower appeal to tenants.

In the Australian context, the NABERS benchmarking program enables markets to explore and incentivise best practice in energy efficiency in buildings. CRREM could create a similar metric on a global scale if it could be determined this information would be useful to investors.

CRREM initiative:

Please see Section D.3 in the methodology document. The energy available on a global scale for the building sector in 2050 is projected by the IEA with a total of approx. 15,800 TWh. This total available energy is then allocated to on a population projection basis for 2050 to the countries.

*The point in time when the energy target should be reached is influenced by projections for the development of the emission factor. In fact, the energy target tells you: The average building needs to reach XXX kWh/m²*a to achieve the CO₂ targets taking into account the projected EF in the building sector and the grid (weighted EF; relying on current policies). In case policy changes are set in place and favor a faster grid/exit of fossil fuel combustion on site adjustments to the EUI pathway have to be made. It would be highly appreciated if in case of policy changes or newer, more precise projections being available you get in contact with us. We are happy to discuss the projections with you! Please also see our statement regarding the technical feasibility above. Regarding the EU Taxonomy: the top 15 % might even be a harder to achieve target (which will of course change over time as the top 15 % of today will – as efficiencies change – not be the same ambition level in 5 years time).*

Statement GBCA & Property Council of Australia:

CRREM treatment of onsite solar when calculating CO2 may need to be revised. The diagram on page 36 suggests electricity emissions are calculated:
(Electricity from the grid – electricity generated onsite + electricity exported) * EF
This method would understate emissions when there is onsite generation with some export, so it is suggested to replace it with:
Electricity from the grid * EF

CRREM initiative:

Thank you for flagging this. We will revise the illustration 23 (page 36).

Conclusion:

The CRREM methodology requires significant work before it is fit for purpose. The concept of providing benchmarked energy and carbon performance information to investors is a valuable one and the Australian property sector is prepared to work with the appropriate technical working committees and governance bodies to rectify the critical faults in the current system.

CRREM initiative:

We look forward to further collaboration! CRREM has been a mega success story, embraced by investors with more than 1 trillion assets under management.

CRREM's proposals of improvement

- *Working groups/ Roundtable: For CRREM the Australian GBC and Dr. Georgia Warren-Myers from the Melbourne School of Design has already provided the initiative with valuable underlying data for the calculation of the pathways. CRREM would like to take this opportunity to engage with all the GBCs in order for them to provide valuable contribution to the scientific and technical integrity of the outputs and provide critical review of new updates.*
- *Joint webinars / education: We would welcome this going forward.*
- *Methodology document: Further explanations and clarifications in the methodology document will be added, such as the already existing definition of stranding risk (this has also been made clearer on our homepage).*

dear both - we again thank you for your feed-back and look forward to a data and content-driven partnership. CRREM has accomplished to evolve as a huge success story which led to the backing of largest asset owner and investors globally, as well as many well-known industry initiatives and organizations like UNEP FI, NZAOA, IIGCC, The SBTi, EPRA, INREV and many more. We would be honored if we could likewise strengthen our partnership with the WGBC going forward.

Best rgds



Prof. Dr. Sven Bienert, MRICS, REV