

Dutch Green Building Counsel
Zuid Hollandlaan 7
2596 AL Den Haag
Attn: Martin Mooij, Eefje Stutvoet

Wörgl, 21st December 2022

Concerning: CRREM Answers to the Dutch GBC consultation feedback

Dear Martin, dear Eefje,

thank you for taking the time to review the updated pathways and provide valuable feedback and critical thoughts! We would especially also thank you for all the collaboration and data exchange over the course of the last year which helped a lot! With reference to the document "DGBC Consultation CRREM", including the list of comments contained therein, which were submitted to me on 10th of November 2022, we revert/reply 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 ("20221110_CRREM_Consultation DGBC.pdf") in order to facilitate the comprehensibility of our reply.*
- For reasons of clarity, the questions are answered in the order in which they were submitted.*

Statement DGBC:

Energy assessment methodology

CRREM changed the methodology with respect to the incorporation of onsite renewables (figure 23, hard to read, an example would help). Earlier it was the net energy consumption (supply from the grid minus exported energy), now it is about the energy demand, so on-site renewables are excluded.

We think the news approach will be more complicated and will have a negative impact on CO2 reduction, for some reasons.

- Renewable energy systems on buildings (mostly PV) are awarded in energy certificate. The EU EPBD will introduce MEPS (minim energy performance standards). Some countries already have or have of announced these MEPS (in the Netherlands C-label for offices by 2023 and A++/ +++ for every public and commercial building by 2050). On-site renewables are included in the energy performance methodologies and certificates/ labels.
- DGBC includes on-site renewable in the WEii (EUI) methodology, connected to the Dutch Paris Proof ambition. We are promoting the EUI, but because of the upcoming EU EPBD-4 legislation certificates will remain. Therefore, we introduced the EnergyCompass, to steer on both the certificate and EUI. Without on-site renewables the relation between CRREM and certificate will decrease further and therefore much harder and costly for investors to comply with both.
- In the Netherlands investors ask for permission from the tenants to get the energy data from the metering companies for reporting purposes. Most likely in the future because of

the EPBD-4, this exchange of data will be mandatory. With this data investors can report the net energy consumption as was in CRREM and is in WEii. The electricity generation of the PV system is not and will not become public data and will be hard to obtain by an investor.

- The incentive to implement renewable energy system on buildings will reduce because of the new methodology. Of course, energy efficiency is still the starting point and deep renovations will be required to comply with CRREM, MEPS and Paris Proof, but at a certain point PV will be more cost effective and (embodied) energy effective. Next to this: on site renewables including storage in batteries close to the energy demand, will reduce the grid capacity. This is one of the big issues nowadays in the electrification and energy transition. For our Paris Proof targets, we excluded the potential for renewables/ PV on buildings from the national renewable energy potential. This explains (next to some other differences, see below) why the CRREM figures are a bit higher now than our Paris Proof figures.

CRREM initiative:

We think the points raised are mainly due to a misunderstanding of the revised approach. This is partly due to the graph / illustration which we will change accordingly. Thanks for this comment.

We decided to switch the pathways and convert them to a benchmark for energy consumption, because it is easier for investors to understand. Furthermore, it ensures that consumption is reduced ("efficiency first") instead of possibly covering a too high demand with on-site renewables (that could otherwise have been used elsewhere).

Within the tool we will from now on display the assets energy consumptions against the energy consumption-based pathways. Also, a graph/figure for the net-energy demand will be available. If the consumption is covered by renewables produced on-site this will add due to the $EF=0$ no additional GHG emission and is clearly an incentive for further installation of renewables on site. Further to that point if a surplus of the on-site generated energy can be sold to the grid this will further have a positive (reducing) impact on the assets GHG emission. So, it is necessary to differentiate between the GHG and the EUI perspective. Please note that the changes regarding the CRREM energy consumption-based EUIs and the carbon-intensities are indeed aligned (and not conflicting) with the EPBD recast in 2021/2022 (EU EPBD-4). The new template for EPCs includes the requirement to clearly showcase renewable energy production on-site and how much it represents compared to the building's overall energy consumption; as well as how much it improves the overall building's GHG emissions. The CRREM tool calculates already the energy consumption of the building separately and shows in a transparent way how much of that energy was provided by renewable energy production on site. Therefore, a differentiation between overall consumption and consumptions share procured from the grid is guaranteed. Finally, the revision of the EPBD improves the recognition of renewable energy sources in the calculation of the overall performance of the building – supported by the CRREM approach already. If only the balance is shown (net-energy-demand) this will not enable market participants to comply with the revised regulation (since the amount the on-site renewables contributed can in this figure not be revealed. In the proposal for the revision of the EPBD it is stated, that the new EPCs should also state how much of the building's needs are covered by the on-site generated renewable energy. So additional data is not needed. Also, the EPCs should take into account how much the CO₂ performance of a building is improved by this. This is in line with the CRREM approach (see below). In this context it makes much sense to take into account produced energy on-site, which also reflects the formerly used methodology by CRREM.

Another reason for changing the methodology is to promote efficiency first strategies. With the old methodology a bad performing asset in terms of energy efficiency could score very good in the CRREM asset performance, if enough renewable energy was provided on-site. But an efficient building, that covers more than its own consumption could and should also contribute to an overall cleaner grid. If this building wasn't efficient, it couldn't do so.

On the other hand, the updated CRREM pathways take into account the on-site produced energy for the CO₂-performance of an asset. We think, that this gives enough incentives to the industry to scale up renewable procurement in buildings. In case that a higher renewable energy production would be possible on-site of an asset, incentives should be given by the market.

Statement DGBC:

m²

A harmonization of the m² worldwide will be hard to achieve, next to the breakdown in asset classes. Sectors take different indicators. In the Netherlands 'gross m²' or BVO is used and 'usable area' (GO or Ag). We choose for to the last, because this indicator is in energy performance calculations and available from the national register of buildings, the BAG. The 'gross internal area' is in between of these two options and not known in the Netherlands.

CRREM initiative:

For global alignment especially for investors with a global scope this alignment is important and the understanding of the m² needs to be the same. For the application of CRREM (with the global IPMS standard) some national m²-figures need to be adjusted accordingly with conversion factors. Needed for any cross-border / globally aligned benchmarking. We take the national situation in the Netherlands into account when calculating benchmarks.

Statement DGBC:

Asset classes

We rather related asset classes to the energy consumption and function, instead of the location (high street, shopping center), but we understand this originates from GRESB and we have worked on a workaround for retail, that we shared with you.

CRREM initiative:

Correct for the alignment with GRESB we decided to align on the asset types. Thank you for providing this workaround.

Statement DGBC:

A.2.3 District heat

We are not sure how district heating will be calculated in the CRREM tool, which emission factor will be taken. We recognize the approach and we think it is useful to mention our methodology and experiences. We have received many comments by investors that by looking at the meter, district heating or collective system have become unattractive and they even reconsidered contract with the utilities. To give an example;

a heat pump inside the building reduces the energy demand for heat by a factor 4 (COP), compared to the same heat pump on block level for a number of buildings. In dense areas (waste heat, bio-energy or geothermal systems can be a good solution and we do not want to reject them indirectly because of the methodology.

In the second version of the WEii protocol, we added a weighting factor for district heating (and cooling), a constant factor related to the average efficiency of heat pumps, to be sure the buildings with an individual heat pump and district heating across the country will have a level playing field and have the same energy demand. Otherwise, a building is an (not yet) renewable district heating system will get stranded earlier than the same buying in a already 100% renewable heating system, because of external factors (heating company). The rationale is that over the years, the efficiency factor for district heating will reduce to zero, like the emission factor for the electricity grid.

For reporting purposes, the actual emission factor of a particular district heating system can be used in our tool (as the emission factor for electricity in a particular reporting year).

CRREM initiative:

Thank you for sharing this with us. We fully agree. We observed the same problems with the District Heating systems also in other markets. Indeed, we don't want to trigger a change of the heating system here (which would then also trigger more embodied carbon within the building sector). But the emissions generated from the district heating do occur (the same with the grid emissions if not produced renewable on-site). Emissions from the grid also lead to higher emissions from the use of electricity in a not good performing grid if benchmarked on a location-based level (even though also in countries with a still relatively bad performing grid, such as the German one, with the installment of a heat pump already lower total emissions are achievable → see also: IEA Global Heat Pump Report). From our perspective the pressure by the asset owners needs to be on local District Heating providers!

In the CRREM-tool - which will be updated accordingly to the new pathways - we will include (as before) the update average EF on a country level. Especially for district-heating we advise users to apply the specific regional EF provided by their utility company. The investors are also encouraged to ask these providers as to how their decarbonization plan looks like. Aligned with net-zero targets they should also be fully decarbonized at latest by 2050. These projections should be entered in the individual settings sheet of the CRREM-tool to account for the most accurate regional input data (as the default figures used integrated in the backend only account for the country average). We see the need of our industry to make a clear call to the energy sector related to district heating to ensure 1,5-degree aligned decarbonization – which is in many cases not yet the case.

Statement DGBC:

Methodology

The CRREM and Paris Proof pathways are very close now and almost overlapping. Differences can be explained because of the integration of on-site renewable and the m². So the input data and the output are aligned, but it would be good to have a complete understanding of the methodology and calculations; the way the worldwide budget is broken down to real estate, the Netherlands, an asset type etc.

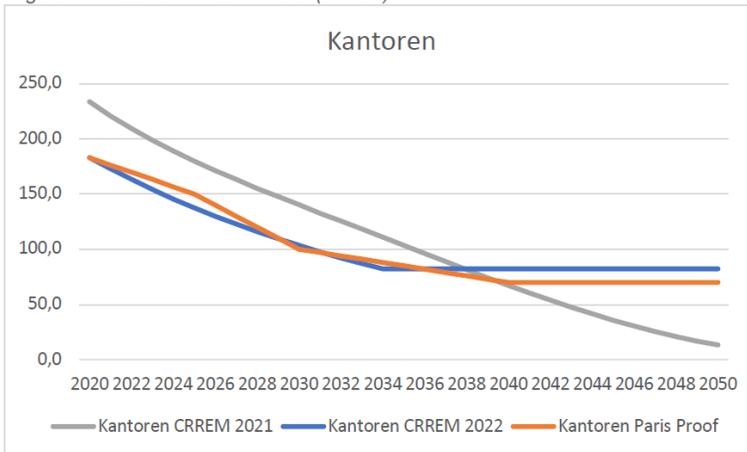
CRREM initiative:

We think this is a great achievement!

For target setting we used the available renewable energy for the building sector stated by the IEA in the IEA Net Zero by 2050 Scenario. We then attributed this budget to the countries taking into account the HDD/CDD. For the pathways leading to the energy targets, we used for the Netherlands the projections of the EF for both, the Grid and the Commercial/Residential Building sector, of the Fit For 55 program by the EU and the reference scenario (change rates after 2030 on the projections of FF55). For some data points we will add further references to the methodology document to make that even more transparent. Thanks a lot for this comment!

Figure: CRREM and Paris Proof (offices)

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Statement DGBC:

Pathways

Homes

In the Netherlands the kWh/m² do not differ very much for single and multi-family homes. CRREM chooses to set the ambition for MFH higher.

CRREM initiative:

For multi-family we set the starting intensity at 108 kWh/m² and for single-family at 123 kWh/m². For residential average, CRREM is at 120 kWh/m². Hence, all starting values are within a reasonable range. On a global scale, we see, that Multi-family homes perform better than single family homes. The difference is marginal and we are happy to align with the Dutch GBC further on this, once more granular data is available.

CRREM proposes to include a joint statement with the DGBC (and logo) within the CRREM downscaling methodology.

Proposal text – stating that CRREM and DGBC are aligned:

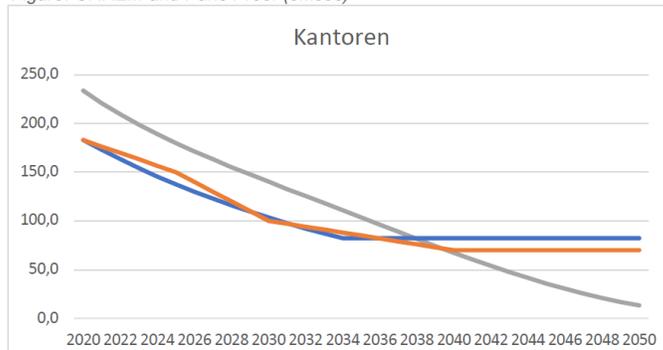
Official CRREM Data Partner for the Netherlands: The DGBC

CRREM and the DGBC have aligned on the underlying values regarding the downscaling pathways for all property-types for the Netherlands. This includes alignment on: the emission factors, emission factor development, energy-mix, energy-mix development, building stock and stock growth rate and the property-type specific energy intensities in the baseline year (2020).

This alignment on input data and its application leads to an alignment of the output – making it for national and global investors and asset managers even easier to ensure robust net-zero target setting. The DGBC can confirm that the CRREM and Dutch Paris Proof pathways are very close now and almost overlapping. Only slight differences remaining can be explained because of the mix of on-site renewable and slight differences in the square meters. CRREM also includes further differences regarding the property types and differentiation of retail and residential mutli- vs. single-family.

CRREM and the DGBC look forward to the continuing collaboration! We would like to thank the DGBC for the great collaboration!

Figure: CRREM and Paris Proof (offices)



Dear Martin, dear Eefje – we are really thankful for all your support and hope to continue our fruitful collaboration in 2023!

Best rgds



Prof. Dr. Sven Bienert, MRICS, REV