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5 U.N.-Convened Net-Zero Asset Owner Alliance

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7 Target Setting Protocol Version 3

8 Public Consultation

9 October 2022

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DRAFT

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## 35 Sovereign Debt

36

37 Sovereigns (governments) have a large role to play in climate change mitigation and adaptation efforts.  
38 Sovereign debt is one way in which asset owners are linked with sovereigns. Sovereign debt is a  
39 significant asset class for many asset owners as such sovereign debt should therefore be included in the  
40 decarbonization considerations of an investment portfolio. However, investing in sovereign debt is  
41 different from investing in corporations or projects through debt or equity. From a balance sheet  
42 perspective, sovereign debt is essential for many asset owners to match their liabilities and there are  
43 often a regulatory requirement to invest in sovereign debt. This makes the decarbonization of a sovereign  
44 debt portfolio more challenging than a corporate bond or equity portfolio. It also highlights the important  
45 role of governments when it comes to asset owners succeeding in decarbonizing their portfolio. The  
46 relationship of portfolio decarbonization with sovereigns is, at least, twofold; i) a sovereign portfolio relies  
47 on countries not only to deliver expected emission reductions but also ii) provide the right regulatory  
48 framework to allow for and support the use of suitable (lower carbon) alternatives to meet risk and other  
49 legal requirements.

50

51 Acknowledging the differences between sovereigns and corporates, the Alliance has nevertheless tried to  
52 apply a comparable logic to the accounting methodology (based on PCAF), using three scopes and  
53 proposing both absolute and intensity metrics. Due to the differences mentioned above, the carbon<sup>1</sup>  
54 footprint of sovereign debt cannot be combined with the carbon footprint of corporates and will  
55 therefore be reported separately.

56

### **Guiding design philosophy:**

The Alliance is supportive of a just and inclusive transition to low carbon economies. The Alliance also acknowledges that in general, emerging markets will be more impacted by climate change whilst also having less contributed to cumulative greenhouse gasses already emitted, less resources available to mitigate and/or adapt for climate change. This is also reflected in the Paris Agreement through the 'common but differentiated responsibilities' principle.

As such, the Alliance aims to design its sovereign metrics to not have an unintended bias that may result in investments being channeled away from emerging markets. To support this, a more holistic view covering both production and consumption emissions is needed: production emissions is generally higher for emerging markets and consumption emissions is generally higher for developed markets.

At this time though, data for consumption metrics is not always readily available. To continue to make progress towards a net zero world, this draft protocol uses production emissions in line with PCAF and may be updated to also include consumption emissions as these become more readily available.

57

58 The Alliance started working on a target setting approach for sovereign counterparties in 2021, which will  
59 be consulted on and reported on in line with the dates mentioned in the remainder of this section over  
60 the coming years.

61

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<sup>1</sup> Carbon refers to carbon dioxide and all other relevant GHG gases transferred to Co2e.

62 In line with other asset classes, a target setting approach requires carbon footprint measurement (i.e.  
 63 accounting), accepted assessment methodologies<sup>2</sup> and target setting methodologies. The Alliance has  
 64 joined forces with partners in two projects to develop the respective standards: PCAF (Partnership for  
 65 Carbon Accounting Financials) on carbon footprint accounting, and ASCOR (Assessing Sovereign Climate-  
 66 related Opportunities and Risks) for assessment methodology. The target setting approach is still being  
 67 developed at this stage. The following outlines the *accounting* methodology for final inclusion in TSP V3  
 68 (assessment and target setting approaches will follow thereafter).

70 **Sovereign debt carbon footprint measurement**

72 *Asset Class Definition*

73 This asset class includes sovereign bonds of all maturities issued in domestic or foreign currencies.  
 74 Sovereign debt is typically issued by the central government or treasury department.<sup>3</sup> Sub-sovereigns,  
 75 supranationals, and municipals are explicitly not part of this outline and will be considered in a  
 76 separate workstream.

78 *Scope Definition*

79 The accounting methodology below is based on the current draft version of PCAF’s Global GHG  
 80 Accounting and Reporting Standard. Please note that this standard is still being reviewed and hence the  
 81 methodology is subject to change. We will update the methodology as necessary to reflect potential  
 82 changes.

84 The GHG Protocol’s definition of Scope 1, 2, and 3 emissions that was i  
 86 nitially developed for classification of corporate emissions is used analogously for sovereigns (see below  
 87 table). In the absence of a breakdown of Scope 2 and 3 emissions these may be reported as one combined  
 88 number. However, Scope 1 emissions always need to be reported stand-alone.

Scope 1	Scope 2	Scope 3
Domestic GHG emissions from sources located within the country territory  <small>This aligns with the UNFCCC definition of domestic territorial emissions, including emissions from exported goods and services</small>	GHG emissions occurring as a consequence of the domestic use of grid-supplied electricity, heat, steam and/or cooling which is imported from another territory	Emissions attributable to non-energy imports as a result of activities taking place within the country's territory

<sup>2</sup> In this case assessment methodologies mean the ability to assess the issuer – a sovereign – in relation to a science-based pathway.

<sup>3</sup> Under PCAF, for DFIs or MDB Sovereign Loans may also be included in this definition.

90  
91 Under this approach, a sovereign is seen primarily as a national territory, and its direct Scope 1 GHG  
92 emissions are attributable to emissions generated within its boundaries (**production emissions** as defined  
93 by UNFCCC).

94  
95 Scope 2 are emissions attributable to the purchase, in this case import, of electricity, steam, heat and  
96 cooling from outside the country territory.

97  
98 Finally, Scope 3 emissions are related to all other (non-energy) imports from goods or services from outside  
99 the country territory as a result of activities taken place in the country territory.<sup>4</sup>

100

Although '**Production Emissions**' is currently the key metric to account for sovereign GHG emissions, it is also recommended that financial institutions track the GHG emissions of countries more holistically and report Consumption Emissions – even if they are currently not included in the UNFCCC Paris Agreement. In addition, in order to reflect different ways of treatment of LULUCF (accounting of land use, land-use change, and forestry) by countries and investors, asset owners **should** report production emissions including and excluding LULUCF.

**Consumption Emissions** reflect the demand side of sovereign emissions and account for consumption patterns and trade effects. This metric provides a broader view of a sovereign's GHG emissions and tackles the issue of carbon leakage that arises due to production shifts from countries where goods and services are actually consumed later and/or elsewhere. It is also an important metric in the context of broader sovereign responsibility for emissions caused, and may unintentionally benefit certain markets and disadvantage others. As sovereigns focus on production emissions GHG reduction targets, their consumption emissions might follow a different trend. Consumption emissions can be calculated as the sum of Scope 1, 2 and 3 emissions minus exported emissions.

101

102 *Attribution of emissions*

103 Attribution of emissions for Sovereign Debt is calculated in accordance with PCAF requirements:

104

105 *Attributed Emissions*  
106 = 
$$\frac{\text{Exposure to Sovereign Bond (USD)}}{\text{PPP adjusted GDP (international USD)}} * \text{Sovereign Production Emissions (tCO}_2\text{e)}$$
  
107

108

109 *Rationale for attribution*

110 The financial institution's share of emissions shall be proportional to the size of its exposure to the  
111 borrower's total value. Applying this logic to countries is challenging because there is no appropriate  
112 measurement of a sovereign's financing sources (c.f. enterprise value for corporations). Outstanding  
113 debt is not a good indication of a country's total value, as sovereigns rarely finance themselves  
114 primarily through debt but through tax revenues. Hence, PCAF has decided, for comparison reasons,  
115 to require an alternative approach to allow emissions attribution to be linked to the real economy

---

<sup>4</sup> Note, to the best knowledge of the Alliance Scope 2 and 3 data is frequently only available for OECD countries.

116 impact taking Purchase Power Parity (PPP)-adjusted GDP (i.e., the value of a country's output as a  
117 proxy for the 'value of the country') adjusted by the PPP factor).

118  
119 There is not a 1:1 relationship between a financial institution's investment and a sovereign's GDP.  
120 However, empirical evidence suggests that there is limited interdependence between sovereign debt  
121 and emissions, whereas a country's output production is linked more closely to the generated  
122 emissions. Furthermore, financial institutions' funds would typically spur economic growth and  
123 therefore GDP, implying impact on production processes and therefore emissions.

124  
125 *Emissions Intensities*

126 In the course of the work of PCAF's sovereign debt working group, the following intensity metrics for  
127 normalization and comparison of sovereign production and consumption GHG emissions intensity,  
128 respectively, have been defined as follows:

- 129
- 130 • For sovereign production: Production Emissions / PPP adjusted GDP
  - 131 • For consumption emission intensity: Consumption Emissions / Capita

132  
133 For consumption emissions, PCAF recommends using normalization per capita. Consumption emissions  
134 reflect the demand side of the economy, and normalization per capita appears natural. In line with the  
135 arguments stated above, PCAF recommends using the consumption emissions intensity as an additional  
136 metric to obtain a holistic view of a country's GHG emissions.

137  
138 For all of the metrics, PCAF recommends that financial institutions review at least 5 years of historical data  
139 for a better understanding of sovereigns' overall emissions trends and underlying patterns (e.g., production  
140 versus consumption) if available.

141  
142 *Proposed Requirements*

143 Alliance members **shall** report sovereign bonds' absolute, attributed Scope 1, and **should** report available  
144 absolute, attributed Scope 2 and 3 in line with the proposed scope definitions above.

145

**Consultation Questions**

The Alliance is supporting the PCAF GHG emission reporting framework for sovereigns as outlined above.

**Q1:** Do you agree with this approach?  
If not, please comment.

146

147

## 148 Sovereign Debt Assessment

149  
150 The Alliance is partnering with the ASCOR project to develop a set of indicators and metrics to assess a  
151 sovereign's climate risk. The approach currently proposes to assess a sovereign's climate risk according to:

- 152 • The Sovereign's Emission Pathways
- 153 • The Sovereign's Policies for Mitigation and Adaptation to Climate Change
- 154 • The Sovereign's Financing needs for mitigation and adaptation

155  
156 The framework is accounting for "fair share" by evaluating a nation's 2030 emission targets against country  
157 specific fair share emission budgets based on review of scientific literature. The allocations are based on  
158 the three main climate equity principles: responsibility, capability, and equality. For responsibility,  
159 cumulative historical emissions per capita starting in the year 1970 is taken.<sup>5</sup> For capability, GDP per capita  
160 will be used. For equality, national population levels will be considered.

161  
162 Once the initial development stage is complete, ASCOR will pilot the indicators and metrics by applying  
163 them to a universe of 20 representative countries, covering both developed and emerging markets (e.g.,  
164 USA, Germany, China, Saudi Arabia).

- 165  
166 Next steps:
- 167 • Complete development stage of indicators and metrics by Q4 2022.
  - 168 • Pilot indicators and metrics on 20 countries and engage with key stakeholders and issuers to ensure  
169 the framework's usability. Results of assessment expected by Q1 2023.
  - 170 • Once launched, the ASCOR tool will publish its analysis as well as the underlying data and indicators,  
171 which will enable investors to make regular assessments of all sovereign issuers.

172  
173 The ASCOR assessment approach would then be available for Alliance members to utilise in assessment of  
174 a Sovereign's alignment with 1.5°C no/low overshoot pathways.

## 176 Proposed Requirements

177 None envisioned for TSPV3, but proposed approach and its developments envisioned for TSPV4 subject to  
178 all standing governance processes.

179

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<sup>5</sup>Data availability prior to 1970 is deemed unreliable.

## Consultation Questions

The Alliance is jointly working with partners in the ASCOR project to assess climate alignment of sovereigns (see the ASCOR progress report [here](#)). Based on the ASCOR assessment framework the Alliance will develop its approach towards targets on sovereign sub-portfolios.

**Q2:** Do you agree with this approach?

If not, please comment and share alternative methodologies.

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183 **Sovereign Debt Target Setting**

184  
185 The final stage of development for Sovereign Debt is the target setting approach. The Alliance envisions  
186 collaborating with a range of partners (e.g., SBTi) in developing this approach to advance harmonization  
187 and convergence across the ecosystem.

188  
189 **Proposed Requirements**

190 None envisioned for TSPV3, but proposed approach and its developments envisioned for TSPV4/5.

191

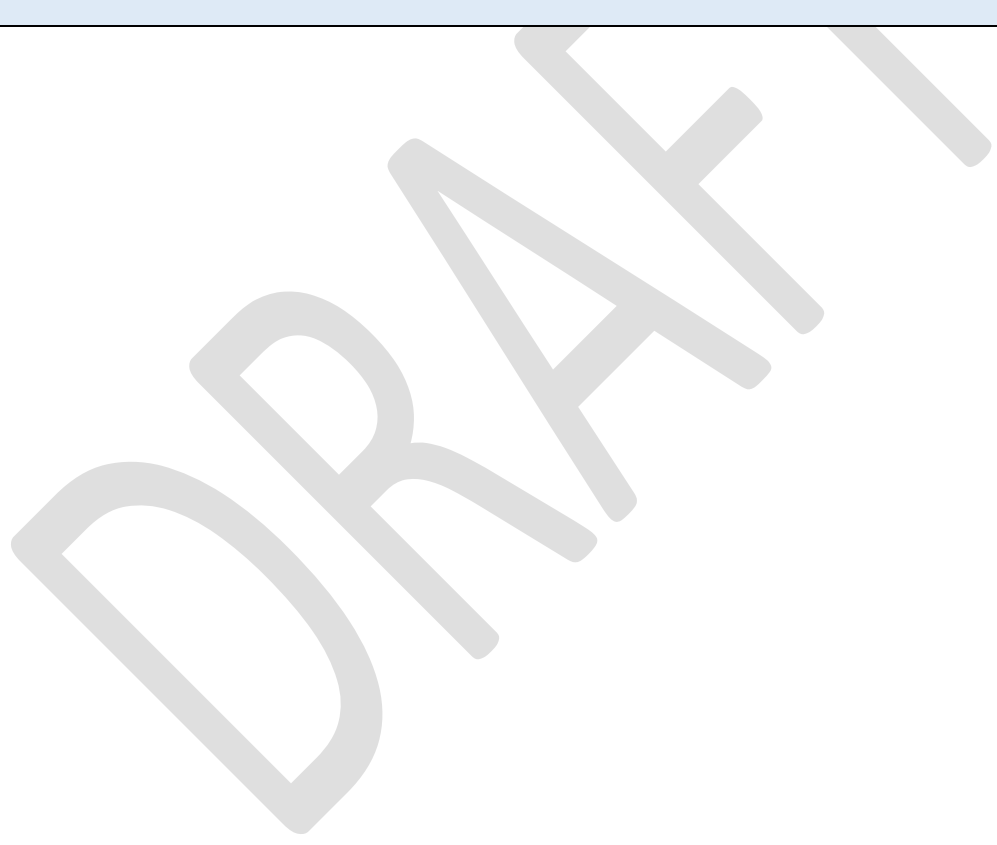
**Consultation Questions**

**Q3:** Do you have any further recommendations or resources to share as it relates to Sovereign Debt Target Setting?

192

193

194



195

## 196 Carbon Removal<sup>6</sup>

197

198 When can carbon<sup>7</sup> removals be used? - Principle 1

- 199 • For short-term net-zero target setting and progress against the target, the Alliance **does not allow**  
200 for offsetting and considers only abatement efforts up until the point where sector-specific  
201 science-based pathways indicate that residual emissions for the given sector should be reached.
- 202 • Once reached, or at any given point in time when an asset owner would like to pursue 'carbon  
203 negative' accounting (not reflected in the achievement of their target setting), the amount of  
204 emissions offset via long-term, permanent carbon removals **shall** not exceed the residual emissions  
205 indicated in credible no/low overshoot pathways for the sector. In such pursuits, reporting from  
206 Alliance members **shall** be on a sectoral basis.

207

208 What types of removals should be pursued? – Principle 2

- 209 • Long-term or permanent carbon removals are the only admissible category of removal. This  
210 approach holds for Alliance members and the accounting an Alliance member will accept of  
211 investee companies.

212

213 The approach reflects and is in line with the 'Oxford Principles [for Net Zero Aligned Carbon Offsetting](#)' and  
214 is detailed in the Alliance's '[The Net in Net-Zero](#)' position paper:

- 215 1. Prioritise deep and rapid decarbonization transition across all sectors, particularly the carbon-  
216 intensive industries.
- 217 2. Track progress against net-zero goals and ensure accountability such that the employment of CDR  
218 does not deter or detract from decarbonization efforts and/or ambition on a wider scale
- 219 3. Support efforts to enhance regulated schemes and accelerate meaningful action to reduce  
220 emissions at source, as well as support the scaling of voluntary carbon markets, ensuring that they  
221 are underpinned by assets, or projects that effectively avoid, reduce or remove carbon.
- 222 4. Prioritise nature-based solutions, and direct, permanent removals.

223

224

## 225 Proposed Requirements

226 Considering the above principles, Alliance members:

- 227 • **Shall** prioritise abatement in their target setting pursuits, and therefore shall not consider carbon  
228 removals for target achievement at any time before 2030 (the term of this Protocol).
- 229 • **Shall** consider only long-term, or permanent carbon removals.

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<sup>6</sup> As with intention of Protocol, this section pertains to portfolios, not AO's own Scope 1 and 2 emissions.

<sup>7</sup> Carbon refers to carbon dioxide and all other relevant GHG gases transferred to Co2e.

- 230
- 231
- 232
- 233
- If pursuing 'carbon negative' objectives, *should* separately account for removals on a sector-specific basis, and account only for carbon removals which do not exceed the foreseen emissions budget for the sector in no/low overshoot pathways.

### Consultation Questions

Q4.1: Do you agree with the proposed approach?

Q4.2: Do you have any further input, recommendations or resources?

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## 237 Private Assets

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239 The Alliance has developed overarching principles for target setting in private assets and engaging with  
240 asset managers on asset classes. Four of the principles are generic methodology requirements, the other  
241 four relate to a possible timeline. These Alliance principles for private assets, regardless of asset class,  
242 are:

243

### 244 Methodology Principles:

- 245 1. Methodology **shall** be guided by science and in line with 1.5°C degree no/low overshoot scenarios.
- 246 2. Methodology **should** in a first step be defined by the underlying asset class of an investment (e.g., Real  
247 Estate, Infrastructure). In a second step, for each asset class a matching methodology for each, the  
248 investment vehicle (e.g., direct vs. fund) and the investment type (e.g., debt vs. equity) should be  
249 defined.
- 250 3. Methodology **should** not fundamentally differentiate between listed / not listed financing instrument.<sup>8</sup>
- 251 4. Methodology **should** acknowledge that there are fewer levers of influence with existing book, where  
252 only engagement may be possible, while there are more levers of influence for new investments,  
253 where a phase-in of strict requirements may be possible.

254

### 255 Timeline Principles:

- 256 5. Direct investments **shall** be covered by a target earlier than fund investments, equity investments **shall**  
257 be covered by a target earlier than debt investment, majority investments **shall** be covered by a  
258 target earlier than minority investments. This sequence is put forward based on the asset owner's  
259 position and ability to exercise influence.
- 260 6. Between and within asset classes/sectors, high emitting asset classes / sectors **shall** be covered by a  
261 target first.<sup>9</sup>
- 262 7. GPs **shall** be engaged to report Scope 1 and 2 GHG emissions (Scope 3 where possible) by FY23 in 2024  
263 so that Alliance members start reporting by 2025 on all asset classes.
- 264 8. Alliance members **should** phase in targets as soon as possible, where reliable data and sufficient  
265 investment options exist.

266

267 Based on these 8 principles the Alliance will work in the next years for each asset class on a detailed  
268 timeline reflecting both, our ambition to cover all asset classes as soon as possible and, on the other  
269 hand, the current state of data availability and data accuracy in private markets.

270

271

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<sup>8</sup> The Alliance believes methodologies for all asset classes should converge, however we note there are differences between the maturity level of listed and non-listed companies.

<sup>9</sup> For significantly small GPs: If materiality does not apply due to limited asset class, sectors or asset exposure, any action on mitigating climate change is appreciated by AOA.

## 272 Target Setting Private Equity (GP/LP structures)

273 In general, the Alliance supports the Private Equity methodology developed by SBTi and by IIGCC (in draft)  
274 which have large overlap in their respective approaches. In an effort to drive convergence across the  
275 ecosystem the Alliance aims to adopt a convergence of these approaches. However, the Alliance may  
276 wish to adopt these approaches while adding on additional criteria. In doing so, the Alliance seeks  
277 guidance through this public consultation on two questions regarding these frameworks:

- 278 1) Minimum Equity shareholder quota for mandatory target setting: Both frameworks foresee a  
279 25% quota for mandatory target setting by GPs or direct PE owners.
  - 280 a. According to Principle 3 above the Alliance recognizes a material difference to the  
281 requirements for listed equity where a minimum shareholder quota of 0% is applied  
282 under all existing frameworks.
- 283 2) Timeline: Both frameworks expect investee companies to set net-zero aligned targets latest by  
284 2030 for material emission sectors, and by 2040 for other sectors.
  - 285 a. Again, the Alliance recognizes an inconsistency on requirements between listed and non-  
286 listed companies (Principle 3) where targets are required by 2023 (CA100+ benchmark)  
287 and full coverage of publicly listed equity portfolios under SBTi framework.

288 The members of the Alliance are predominantly invested in private equity via GP/LP structures ('funds')  
289 and with small shares in these funds (below 5% fund ownership). To strengthen the Alliance message  
290 towards GPs a "Call to Action" will be published later in 2022. Additionally, all Alliance members **shall**  
291 start a systematic bilateral engagement with their fund managers,

292 Fund managers should start delivering:

- 293 • GHG transparency, hereby meaning the reporting of Scope 1, 2 and 3 emission data, by 2023 and
- 294 • Net-zero target setting latest by end of 2025.

295 Further ambitions will be outlined based on the success of the engagement activities and the quality and  
296 quantity of data received.

297 The Alliance welcomes efforts of its members to transition faster in their implementation of the principles  
298 above.

299

## 300 Proposed Requirements

301 All Alliance members

302 **Shall** start a systematic engagement with their fund managers on

- 303 • GHG transparency, hereby meaning the reporting of Scope 1, 2 and 3 emission data, and
- 304 • Net-zero target setting latest by end of 2025

305 **Shall** report on progress by 2025.

## Consultation Questions

The work on private assets of the Alliance will be guided by the eight generic principles displayed.

**Q5.1:** Do you agree with Principle 1? If not, please comment.

**Q5.2:** Do you agree with Principle 2? If not, please comment.

**Q5.3:** Do you agree with Principle 3? If not, please comment.

**Q5.4:** Do you agree with Principle 4? If not, please comment.

**Q5.5:** Do you agree with Principle 5? If not, please comment.

**Q5.6:** Do you agree with Principle 6? If not, please comment.

**Q5.7:** Do you agree with Principle 7? If not, please comment.

**Q5.8:** Do you agree with Principle 8? If not, please comment.

**Q6:** Do you agree on the approach to endorse the PE approaches by SBTi and IIGCC (draft)? If not, please comment.

**Q7:** Do you have comments towards the equity ownership quota in the SBTi /IIGCC approach?

**Q8:** Do you have comments on the timeline in the SBTi/IIGCC approach?

**Q9:** Given concerns around data availability and accuracy in private markets, how would we credibly measure an investee company's performance against its targets e.g., do you have suggestions on how the underlying emissions data could be reviewed/assured? Should providing 3rd party assurance be a criteria?

306

307

308 Direct Commercial Real Estate Mortgages Loans (CREL/CML) (new)

309

310 Our approach to CREL is described in the following table.

	Term	Description
a	Direct Commercial Real Estate Mortgage Definition	Loans issued by a lender for commercial property/properties with mortgage securitization. <sup>10</sup>
b	Properties	Commercial single buildings fully owned by the borrower or portfolios of commercial assets where all buildings within the portfolio are fully owned by the borrower. In the case of mixed use (commercial and residential) the building should be included if the floor area is majority (over 50%) commercial.
c	Scope of Emissions (accounting in line with PCAF)	<p>Mortgage carbon<sup>11</sup> emissions are based on a “look through” approach. This means that the carbon of the underlying asset is taken as base for the calculation of the mortgage loan. The following applies to the scope of the emissions:</p> <ul style="list-style-type: none"> <li>• Operational emissions only</li> <li>• Building emissions measured by whole-building approach (i.e. energy-related emissions from both base building/common spaces and tenant spaces shall be included in target-setting)</li> <li>• The lender only accounts for the portion of the annual emissions of the building that are financed through the mortgage loan. This portion is determined by the LTV-ratio (Loan-to-Value), this is the outstanding loan amount divided by the value of building.</li> </ul>
d	Carbon accounting and Metrics (in line with PCAF)	<p>Calculation of financed GHG emissions for mortgages:</p> <p>Relative approach: Financed emissions Intensity with metric kg CO2e/m<sup>2</sup>/y</p> $\frac{\sum_{Mortgages} \left( \left( \frac{Building\ Emissions}{(kg\ CO_2e/y)} \right) \times \left( \frac{Outstanding\ Loan\ (currency)}{Value\ of\ property\ at\ origination\ (currency)} \right) \right)}{\sum_{Mortgages} \left( \left( \frac{Floor\ Area}{(m^2/sf^2)} \right) \times \left( \frac{Outstanding\ Loan\ (currency)}{Value\ of\ property\ at\ origination\ (currency)} \right) \right)}$

<sup>10</sup> We expect that syndicated loans are phased in as a second step.

<sup>11</sup> Carbon refers to carbon dioxide and all other relevant GHG gases transferred to Co2e.

		<p>Under the relative approach, the financed emissions per m<sup>2</sup> or sf<sup>2</sup> of the entire debt portfolio correspond to the sum of the LTV-weighted building emissions of each corresponding individual financing in relation to the sum of the LTV-weighted buildings floor area of each corresponding individual loans.</p> <p>Absolute approach: Financed emissions with metric kg CO<sub>2</sub>e/y</p> $\sum_{Mortgages} \left( \left( \frac{Building\ Emissions}{(kg\ CO_2e/y)} \right) \times \left( \frac{Outstanding\ Loan\ (currency)}{Value\ of\ property\ at\ origination\ (currency)} \right) \right)$ <p>Under the absolute approach, the financed emissions of the entire debt portfolio correspond to the sum of the LTV-weighted building emissions of each corresponding individual loans.</p> <p><u>Both approaches:</u></p> <p>In some cases a loan might be structured into different risk stakes (senior tranche and one or more subordinated tranches). In this case the outstanding loan in the formula above does only contain the loan share of the lender. So the LTV ratio applied for the calculation of the financed emissions might differ tot the internal risk-oriented LTV view. This ensures that only the emissions of your loan tranche will be included.</p> <p>In some cases, such as subsequent loan increases, the market value of the property changes and should be adjusted in the formula. In these cases, the relevant market value differs from the one at the time of loan origination, thus the market value at the time of the last increase should be taken.</p>
e	Data availability	<p>Real estate mortgage emissions are Scope 3 Category 15 emissions for an asset owner. Note, due to the lack of operational control, lenders can face a challenge of collecting necessary data.</p> <p>The availability of accurate data is, as for all asset classes, a central component in the ability to set and achieve emissions reduction targets for a real estate portfolio. Significant differences exist between regions in terms of reported data availability for the carbon emissions and/or energy consumption, particularly when the building is occupied by third party tenants. As mentioned in section 3.1, a whole-building approach is required in the target-setting. Where reported asset-level data is not available, two different options exist for members in their target-setting;</p> <p><b>Option 1:</b> Members aggregate data and set a targets only for those assets in the portfolio where reported and reliable data can be</p>



		<p>retrieved. If this option is used, members <b>shall</b> disclose the share of the total portfolio that is covered by the target. In addition, members <b>shall</b> establish a time-bound plan to retrieve reported and reliable data for those assets not covered by the target. Once reported and reliable data is retrieved for additional assets, members can choose to restate the existing target or set an additional target for those specific assets.</p> <p><b>Option 2:</b> Members aggregate data and set targets for the whole portfolio and use estimations for those assets where reported and reliable data cannot be retrieved. Where estimations are used, members <b>shall</b> disclose the proportion of assets in the portfolio where estimated data is used and <b>should</b> give a general description of the methodology used. In addition, members <b>shall</b> establish a time-bound plan to retrieve reported and reliable data for those assets where estimations are used. Once reported and reliable data is retrieved for these assets members can choose to restate the existing target or set an additional target for those specific assets.</p>
f	Targets	<p>Phasing-in Approach of target-setting:</p> <ul style="list-style-type: none"> <li>• Reporting <ul style="list-style-type: none"> <li>○ Alliance members <b>shall</b> report the share of the portfolio that is covered by the disclosure target and the estimation methods used (if applicable).</li> <li>○ By 2024 AOA Reporting Cycle: Emissions accounting and reporting required wherever data is available.</li> <li>○ By 2026 AOA Reporting Cycle: Data is expected to provide comprehensive coverage across the asset class.</li> </ul> </li> <li>• Target Setting <ul style="list-style-type: none"> <li>○ By 2023 AOA Reporting Cycle: Begin phase in target setting on new loans (optional)</li> <li>○ By 2027 AOA Reporting Cycle: Mandatory target setting shall be applied on all new loans</li> </ul> </li> </ul>
g	Pathway/Benchmark	<p>The target ambition and the required decarbonisation rate <b>shall</b> be based on science-based 1.5C pathways with no or low overshoot. Members are not required to use a pre-defined pathway but <b>should</b> strive to use pathways specifically designed for the real estate sector. The CRREM Global Pathways are <b>recommended</b>.</p>

		<p>The Global Pathways<sup>[1]</sup> developed by CRREM provide national decarbonisation pathways aligned with reaching net-zero emissions by 2050 with no or low overshoot. The pathways are presented on an annual basis up to 2050 for each respective country and different type of building. This level of granularity enables members to set their targets either based on a global decarbonisation pathway or construct a customised decarbonisation pathway that reflects the geographic and building type specific distribution of their portfolio. Decarbonisation targets will differ depending on the type of building and their geographic location.</p> <p><sup>[1]</sup> <a href="http://www.crrem.org/pathways/">www.crrem.org/pathways/</a></p> <p>For existing buildings with property age &lt; 2020 lenders <b>shall</b> use the mid-term point of loan duration as base value year. For newly built properties lenders <b>shall</b> be more ambitious and use time at maturity.</p>
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311

312 **Proposed Requirements**

- 313 Alliance members **should** consider setting optional CREL/CML targets for new loans in 2023.
- 314 Alliance members **shall** progressively increase carbon emissions accounting and report the share of the portfolio that is covered by the disclosure as well as report the estimation methods used as applicable.
- 315
- 316 Alliance members **shall** phase in targets for new loans covering all new loans by 2027.
- 317

**Consultation Questions**

**Q9:** Do you have comments to the approach on carbon accounting displayed for CREL/CML (following PCAF methodology)?

**Q10:** Do you have comments on the approach on target setting for CREL/CML?

318

# 319 Real estate (Updates to existing Protocol Chapter)

## 320 Target Setting Protocol summary

Term	Summary
Asset Types	<ul style="list-style-type: none"><li>• Fully owned buildings (i.e. buildings that are held to 100 percent ownership by the member)</li><li>• Buildings that are partly owned through a joint-venture, joint operation, or are in a joint ownership</li></ul>
Sectors	<ul style="list-style-type: none"><li>• Commercial and residential buildings<sup>12</sup></li></ul>
Scope of carbon <sup>13</sup> emissions	<ul style="list-style-type: none"><li>• Operational emissions (embodied emissions optional)</li><li>• Whole-building approach (i.e. energy-related emissions from both base building/common spaces and tenant spaces shall be included in target-setting)</li></ul>
Targets	<ul style="list-style-type: none"><li>• Intensity-based target (CO<sub>2</sub>e/sqm/y), or</li><li>• Absolute emission target (CO<sub>2</sub>e/y)</li></ul>
Pathway/Benchmark	<ul style="list-style-type: none"><li>• CRREM 1.5C Global Pathways</li><li>• Other pathways allowed if they meet the overall Alliance criteria</li></ul>

## 321 1. Guidance to net-zero buildings

322 The global approach to net-zero needs to be translated and addressed at the individual building level in  
323 order to provide concrete guidance to owners as to what the long-term target constitutes and to enable  
324 effective measures to be taken to reach that target.

325  
326 What constitutes a net-zero building is still evolving. Existing definitions<sup>14</sup> can, in general, be divided into  
327 those focusing primarily on energy (zero or net-zero energy building) and those focusing primarily on  
328 carbon emissions (zero or net-zero emission building) – either operational emissions or both operational  
329 and embodied emissions (whole life carbon).

---

<sup>12</sup> Residential buildings; refers to private dwellings such as apartments and houses. Commercial buildings: includes properties related to trade, finance, retail, public administration, health, food and lodging, education, logistics and other commercial services.

<sup>13</sup> Carbon refers to carbon dioxide and all other relevant GHG gases transferred to Co<sub>2</sub>e.

<sup>14</sup> Examples would include definitions from European Commission, International Energy Agency (IEA), World Green Building Council, Organisation for Economic Cooperation and Development (OECD) and Global Alliance for Buildings and Construction.

330  
331 With regard to the definition of a net-zero (or zero) operational carbon emission building, most existing  
332 definitions are aligned around two key components; 1) the building needs to be very energy efficient, and  
333 2) the remaining energy that is required comes from onsite and/or offsite renewable sources. With regard  
334 to the latter, the International Energy Agency (IEA) also recognises the concept of a zero-carbon-ready  
335 building which, in addition to being highly energy efficient, uses an energy supply that will be fully  
336 decarbonised by 2050 at the latest. What constitutes a very energy efficient building is, in general, not  
337 further specified and will depend on the type of building and its geographic location (please also refer to  
338 section 3.6).

339  
340 It is not the intention of the Alliance to produce yet another definition of what constitutes a net-zero  
341 building but rather leverage the existing definitions from credible and well-recognised sources in order to  
342 support its members in their efforts to decarbonise their real estate portfolios. Consequently, the Alliance  
343 believes that members should use the following components as to guide their efforts to transition their  
344 real estate portfolios to net-zero;

- 345  
346 For operational carbon:
- 347 • the building shall be highly energy efficient<sup>15</sup> (taking into account the building type and geographic
  - 348 location)
  - 349 • all remaining energy required shall come from onsite and/or offsite renewable sources, or shall be
  - 350 connected to an energy supply that will be fully decarbonised by 2050, at the latest

- 351 For embodied carbon:
- 352 • the building shall be resource efficient and upfront carbon as well as in-use embodied carbon shall
  - 353 be minimised to the extent possible. The residual embodied carbon shall be removed where
  - 354 needed in a final step.

355

## 356 2. Carbon accounting of Real Estate assets

357 Proper accounting of carbon emissions is the foundation for robust disclosure and target-setting practices.  
358 As a general rule, members shall align their carbon accounting of financed emissions with the requirements  
359 and recommendations outlined in the Global GHG Accounting & Reporting Standard developed by PCAF.  
360 With regard to directly held real estate the delineation of organisational boundaries and the choice of  
361 consolidation approach (equity share, operational control or financial control) have significant influence on  
362 how the accounting and reporting of carbon emissions across scope 1, 2 and 3 should be conducted.

363  
364 To align with PCAF, members are recommended to use the operational control approach when accounting  
365 carbon emissions in their directly held real estate portfolios (fully or jointly owned). Applying the  
366 operational control approach on asset classes such as listed equities or corporate fixed income would result

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<sup>15</sup> Members should take into account national targets, recommendations or guidance as to what constitutes a highly energy efficient building. In the EU, national thresholds for Nearly Zero-Energy Buildings (NZEB) should be used.

367 in the investor (or bank) accounting for the company’s emissions as financed emissions, i.e. scope 3  
 368 category 15 emissions, as they do not have operational control. However, within directly held real estate  
 369 the application of the operational control will, depending on the role of the investor, distribute emissions  
 370 across all emission scopes.

371  
 372 The GHG Protocol defines operational control as having “...full authority to introduce and implement its  
 373 operating policies at the operation”. In the context of building-related emissions this could be seen from  
 374 both an “efficiency-based control” perspective or a “consumption-based control” perspective. An  
 375 efficiency-based control would argue that the landlord has control over all building-related emissions as it  
 376 often has a far-reaching mandate to introduce efficiency measures across the whole building, also including  
 377 tenant spaces. These measures can relate to e.g. HVAC replacement, improving the building envelope,  
 378 installing a new boiler etc. A “consumption-based control” perspective rather looks at the actual  
 379 consumption, split either by source/contract or by floor space.

380  
 381 Members shall, regardless of how they interpret the definition of operational control, account for 100  
 382 percent of the building’s emissions – for which they have operational control – under Scope 1 and/or Scope  
 383 2 emissions and the part for which they not have operational control as Scope 3 category 13 (downstream  
 384 leased assets).

385  
 386 It should be stated that the accounting recommendation outlined above has in practice no implications on  
 387 the target-setting requirements as these shall be based on a whole-building approach, meaning that carbon  
 388 emissions from both landlord-controlled and tenant-controlled spaces are included in the target scope (see  
 389 section 3.1).

390  
 391 Table X outlines four different illustrative examples how to account for building-related emissions for  
 392 different investment types.

393  
 394 *Table [X]; Carbon accounting of building-related emissions from an investor perspective*

<p>The examples below are based on the following assumptions:</p> <p><b>Building type:</b> Office  <b>Common space:</b> Yes  <b>Tenant space:</b> Yes  <b>Market value:</b> EUR 20 million  <b>CO<sub>2</sub>e emissions, district heating (DH):</b> 500kg per year  <b>CO<sub>2</sub>e emissions, electricity (elec.):</b> 500kg per year  <b>Consolidation approach:</b> Operational control, source-based split (<i>in this example it is assumed that the owner/controlling partner has control of heating across both common and tenant spaces and electricity in common spaces</i>)</p>		
Investment type	Consolidation	Attribution
<p><b>Directly held (equity)</b>            1 investor owns 100%            Equity only financing</p>	<p><b>Investor/owner has control over:</b>            100% of DH CO<sub>2</sub>e emissions            10% of elec. CO<sub>2</sub>e emissions</p>	<p><b>Investor/owner:</b>            500kg DH CO<sub>2</sub>e emissions as scope 2            50kg elec. CO<sub>2</sub>e emissions as scope 1/2            450kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 13)</p>

<p><b>Directly held (leveraged)</b> 1 investor owns 100% 50% loan-to-value ratio</p>	<p><b>Investor/owner has control over:</b> 100% of DH CO<sub>2</sub>e emissions 10% of elec. CO<sub>2</sub>e emissions</p> <p><b>Bank has control over:</b> 0% of DH CO<sub>2</sub>e emissions 0% of elec. CO<sub>2</sub>e emissions</p>	<p><b>Investor/owner:</b> 500kg DH CO<sub>2</sub>e emissions as scope 2 50kg elec. CO<sub>2</sub>e emissions as scope 1/2 450kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 13)</p> <p><b>Bank:</b> 250kg DH CO<sub>2</sub>e emissions as scope 3 (cat 15) 250kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 15)</p>
<p><b>Joint venture (equity)</b> 4 investors with 25% each Equity only financing</p>	<p><b>Controlling Partner has control over:</b> 100% of DH CO<sub>2</sub>e emissions 10% of elec. CO<sub>2</sub>e emissions</p> <p><b>Non-controlling Partners have control over:</b> 0% of DH CO<sub>2</sub>e emissions 0% of elec. CO<sub>2</sub>e emissions</p>	<p><b>Controlling Partner:</b> 500kg DH CO<sub>2</sub>e emissions as scope 2 50kg elec. CO<sub>2</sub>e emissions as scope 1/2 450kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 13)</p> <p><b>Non-controlling Partners:</b> 125kg DH CO<sub>2</sub>e emissions as scope 3 (cat 15) 125kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 15)</p>
<p><b>Joint venture (leveraged)</b> 4 investors with 25% each Equity only financing</p>	<p><b>Controlling Partner has control over:</b> 100% of DH CO<sub>2</sub>e emissions 10% of elec. CO<sub>2</sub>e emissions</p> <p><b>Non-controlling Partners have control over:</b> 0% of DH CO<sub>2</sub>e emissions 0% of elec. CO<sub>2</sub>e emissions</p> <p><b>Bank has control over:</b> 0% of DH CO<sub>2</sub>e emissions 0% of elec. CO<sub>2</sub>e emissions</p>	<p><b>Controlling Partner:</b> 500kg DH CO<sub>2</sub>e emissions as scope 2 50kg elec. CO<sub>2</sub>e emissions as scope 1/2 450kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 13)</p> <p><b>Non-controlling Partners:</b> 125kg DH CO<sub>2</sub>e emissions as scope 3 (cat 15) 125kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 15)</p> <p><b>Bank:</b> 250kg DH CO<sub>2</sub>e emissions as scope 3 (cat 15) 250kg elec. CO<sub>2</sub>e emissions as scope 3 (cat 15)</p>

395  
396

### 3. Target-setting

#### 3.1. General requirements

397

398

399 Targets **shall** be set on residential and commercial real estate assets fully owned by the member and real  
400 estate assets partly owned by the member through a joint venture. With regard to the scope of emissions  
401 covered by the target, members **shall** apply a *whole-building approach* in their target-setting (i.e. targets  
402 shall include energy-related emissions from both base building/common spaces and tenant spaces).

403

404 With regard to the use of either a *location-based* or a *market-based* method<sup>16</sup> for scope 2 emissions,  
405 members **should** use the location-based method. Regardless of the method applied, members **shall** use  
406 one method consistently across the portfolio and disclose which method is used.

<sup>16</sup> *Location-based method*: Scope 2 emissions are based on the average emissions intensity of the grids on which the energy consumption occurs (national or regional boundaries). *Market-based method*: Scope 2 emissions are based on emissions associated with the generators from which a company has purposefully chosen.

407

### 3.2. Pathway selection and required decarbonisation

408 The target ambition and the required decarbonisation rate **shall** be based on science-based 1.5C pathways  
409 with no or low overshoot. Members are not required to use a pre-defined pathway but **should** strive to use  
410 pathways specifically designed for the real estate sector. The CRREM Global Pathways are **recommended**.

411

412 The Global Pathways<sup>17</sup> developed by CRREM provide national decarbonisation pathways aligned with  
413 reaching net-zero emissions by 2050 with no or low overshoot. The pathways are presented on an annual  
414 basis up to 2050 for each respective country and different type of building. This level of granularity enables  
415 members to set their targets either based on a global decarbonisation pathway or construct a customised  
416 decarbonisation pathway that reflects the geographic and building type specific distribution of their  
417 portfolio. Decarbonisation targets will differ depending on the type of building and their geographic  
418 location.

419

### 3.3. Target option 1 – Carbon intensity

Metric	Benchmark	Method
kgCO2e/sqm/y, or tCO2e/sqm/y	CRREM 1.5C pathways	Sectoral Decarbonisation Approach (SDA)

420 This is an intensity-based target where members **shall** use kilogram (or tonnes) of carbon emissions per  
421 square meter and year as the target metric. Targets are set on portfolio level using asset level data to  
422 aggregate. CRREM 1.5C pathways **should** be used as benchmark and, to the extent possible, the benchmark  
423 **should** be constructed by applying the CRREM pathways in such way that it creates an appropriate  
424 reflection of the portfolio assets’ geographic and building type specific distribution (see section 3.2). Other  
425 pathways **may** be used and if so, the pathway **must** meet the overall AOA criteria in being a science-based  
426 1.5C pathway with no or low overshoot. Members **shall** disclose which benchmark is being used. The  
427 Sectoral Decarbonisation Approach (SDA) is the **recommended** method to be used to calculate and set the  
428 target as it, among other things, allows for different starting points.

429 In order to calculate the target metric the floor area needs to be determined. There are numerous floor  
430 area schemes available and which scheme that is most commonly used differ between countries and  
431 regions. The International Property Measurement Standard (IPMS) aims to establish a globally consistent  
432 methodology for property measurement and is also the standard referred to by CRREM. Members are  
433 **recommended** to use the IPMS standard when determining the floor area, but **may** use other standards.  
434 Members **should** use one standard consistently across all assets in scope of the target setting. Members  
435 **shall** disclose which floor area measurement standard that is used.

436

<sup>17</sup> [www.crrem.org/pathways/](http://www.crrem.org/pathways/)

### 3.4. Target option 2 – Absolute emissions

Metric	Benchmark	Method
kgCO <sub>2</sub> e/y, or tCO <sub>2</sub> e/y	1.5C pathway with no or low overshoot	Absolute reduction

438 Targets under this option **shall** be set using an absolute reduction method with kilograms (or tonnes) of  
 439 carbon emissions as the target metric. Targets are set on portfolio level using asset level data to aggregate.  
 440 With regard to benchmark, members **shall** use a pathway that meets the overall AOA criteria in being a  
 441 science-based 1.5C pathway with no or low overshoot. The CRREM Pathways can be used by applying the  
 442 percentage reduction in the carbon intensity between the target year and the base year. If CRREM  
 443 Pathways are used, the benchmark **should** be constructed by applying the CRREM pathways in such way  
 444 that it creates an appropriate reflection of the portfolio assets' geographic and building type specific  
 445 distribution (see section 3.2). Members **shall** disclose which benchmark is being used.

### 446 3.5. Data availability and estimations

447 The availability of accurate data is, as for all asset classes, a central component in the ability to set and  
 448 achieve emissions reduction targets for a real estate portfolio. Significant differences exist between regions  
 449 in terms of reported data availability for the carbon emissions and/or energy consumption, particularly  
 450 when the building is occupied by third party tenants. As mentioned in section 3.1, a whole-building  
 451 approach is required in the target-setting. Where reported asset-level data is not available, two different  
 452 options exist for members in their target-setting;

453  
 454 **Option 1:** Members aggregate data and set targets only for those assets in the portfolio where reported  
 455 and reliable data can be retrieved. If this option is used, members **shall** disclose the share of the total  
 456 portfolio that is covered by the target. In addition, members **shall** establish a time-bound plan to retrieve  
 457 reported and reliable data for those assets not covered by the target. Once reported and reliable data is  
 458 retrieved for additional assets, members can choose to restate the existing target or set an additional target  
 459 for those specific assets.

460  
 461 **Option 2:** Members aggregate data and set targets for the whole portfolio and use estimations for those  
 462 assets where reported and reliable data cannot be retrieved. Where estimations are used, members **shall**  
 463 disclose the proportion of assets in the portfolio where estimated data is used and **should** give a general  
 464 description of the methodology used. In addition, members **shall** establish a time-bound plan to retrieve  
 465 reported and reliable data for those assets where estimations are used. Once reported and reliable data is  
 466 retrieved for these assets members can choose to restate the existing target or set an additional target for  
 467 those specific assets.

### 468 3.6. Energy efficiency targets

469 Reducing energy consumption and improving energy efficiency is a central component and lever in reducing  
 470 the emissions from a building. Although a certain level of decarbonisation can be achieved without an



471 explicit focus on reducing energy demand – for example through grid decarbonisation, use of Renewable  
472 Energy Certificates (RECs) and on-site renewable energy installations – improving the building’s energy  
473 efficiency must be a priority in all decarbonisation strategies.

474 Improving energy efficiency in the built environment is also an important contributor in reaching net-zero  
475 globally. According to IEA, the energy intensity in the buildings sector needs to drop five times more quickly  
476 over the next ten years than it did in the past five to be in line with the Net Zero Emissions by 2050 Scenario.  
477 This means that the energy intensity (kWh/sqm) must be 45% lower in 2030 compared to 2020<sup>18</sup>. The  
478 importance of reducing energy consumption is also evident in the EU-Taxonomy where primary energy  
479 constitutes the criteria for substantial contribution to climate change mitigation in real estate activities.

480 Improving energy efficiency will be an important component for all members in their efforts to transition  
481 their real estate portfolios to net-zero emissions. There is currently no requirement for members to set  
482 explicit energy efficiency targets. However, members are encouraged to set a target, or articulate an  
483 ambition, with regard to improving the assets’ energy efficiency, in addition to their emission reduction  
484 targets.

485 How such targets should be set depends on several factors, but EPC-ratings and the EU-Taxonomy criteria  
486 can serve as general guidance. In addition, the SDG target 7.3, which requires a 2.6 percent annual  
487 improvement in the global rate of improvement in energy efficiency between 2010 and 2030<sup>19</sup> can,  
488 although not specific to the real estate sector, serve as an inspiration and overall guidance.

### 489 **3.7. Embodied carbon**

490 Together with operational carbon, embodied carbon completes the whole life cycle emissions of a building.  
491 Embodied carbon can be divided into three phases; upfront carbon, in-use carbon and end-of-life carbon.  
492 Upfront carbon is released during the manufacturing of the building (extraction of material, transportation  
493 of material, construction), in-use carbon is released through the maintenance of the building (repairs,  
494 refurbishments) and end-of-life carbon refers to the carbon released when the building is demolished.  
495 Embodied carbon accounts for a significant share of the whole-life-cycle emissions for most buildings,  
496 especially in regions with highly decarbonised energy sources. It is likely that embodied carbon becomes  
497 even more significant as efforts to reduce operational carbon are implemented.

498 As a general principle, the Alliance believes that embodied carbon, when material, should be included in  
499 credible target-setting methodologies. However, despite improvements in recent years, harmonised  
500 standards, guidance and the availability of consistent and reliable data in this area is still very limited.  
501 Inclusion of embodied carbon within the protocol scope now could lead to inconsistent reporting  
502 approaches due to a lack of consensus and the use of a large amount of estimated data. The Alliance is

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<sup>18</sup> <https://www.iea.org/reports/tracking-buildings-2021>

<sup>19</sup> Based on developments through 2021, the required rate of improvement is now estimated to be 3.2% per year through 2030, although the original target remains the same ([https://trackingsdg7.esmap.org/data/files/download-documents/sdg7-report2022-ch4-energy\\_efficiency.pdf](https://trackingsdg7.esmap.org/data/files/download-documents/sdg7-report2022-ch4-energy_efficiency.pdf))

503 working with different organisations in the built environment ecosystem to further understand how  
504 embodied emissions can be included in target setting requirements in a credible and realistic manner.

505 Despite the current constraints and limitations, members are encouraged to start including embodied  
506 carbon in their target-setting approaches. Initial steps on this journey could leverage guidance from for  
507 example World Business Council for Sustainable Development (WBCSD) and the World Green Building  
508 Council (WGBC). As part of their “Advancing Net Zero” project, the WGBC has issued a report<sup>20</sup> outlining  
509 concrete recommendations and actions for different stakeholders, including investors, in the built  
510 environment value chain. The vision states that all new buildings and renovations will have at least 40  
511 percent less embodied carbon by 2030 and be net-zero embodied carbon by 2050. In their report “Net  
512 Zero Buildings: where do we stand?”<sup>21</sup>, WBCSD provides examples and guidance on how to start measure  
513 and report carbon emissions across the full lifecycle of buildings. Furthermore, the WBCSD report  
514 “Decarbonising Construction”<sup>22</sup>, provides concrete guidance for investors and developers how to reduce  
515 embodied carbon. All recommended measures are grouped into five broad areas; create a carbon policy,  
516 set targets, prioritise circularity, optimise design and low-carbon procurement.

517 Combining both operational and embodied carbon would be the ultimate goal for a true net-zero building  
518 across its whole existence. As data availability, methodologies and standards continue to be developed and  
519 improved, this framework and its related target-setting methodologies will be updated and refined to  
520 further incorporate a whole life cycle approach.

## 521 4. Future work

522 The Alliance will continue to develop and refine this framework as new guidance, standards, methodologies  
523 and data become available. In addition, the Alliance expects to further expand the scope in future versions  
524 of this framework by adding additional sub-asset classes such as real estate funds.

525 Key levers for advancing emissions reductions in the real estate asset class can be found in the Annex.

526

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<sup>20</sup> [https://www.worldgbc.org/sites/default/files/WorldGBC\\_Bringing\\_Embodied\\_Carbon\\_Upfront.pdf](https://www.worldgbc.org/sites/default/files/WorldGBC_Bringing_Embodied_Carbon_Upfront.pdf)

<sup>21</sup> <https://www.wbcd.org/Programs/Cities-and-Mobility/Sustainable-Cities/Transforming-the-Built-Environment/Decarbonization/Resources/Net-zero-buildings-Where-do-we-stand>

<sup>22</sup> <https://www.wbcd.org/Programs/Cities-and-Mobility/Sustainable-Cities/Transforming-the-Built-Environment/Decarbonization/Resources/Decarbonizing-construction-Guidance-for-investors-and-developers-to-reduce-embodied-carbon>

## Consultation Questions

**Q11** (section 1): Do you agree with the outlined guidance to net-zero buildings?

**Q12** (section 2): Do you agree with the proposed carbon accounting of real estate assets?

**Q13** (section 3): Do you agree with the target criteria and requirements outlined?

527

528

DRAFT