



February 12, 2016

Justine Leigh-Bell  
Senior Manager  
Climate Bonds Standards Program  
Via email: justine@climatebonds.net

**Re: AMWA Comments on the Climate Bonds Initiative draft *Water Climate Bonds Standard***

Dear Ms. Leigh-Bell,

The Association of Metropolitan Agencies (AMWA) is an organization representing the largest publicly owned drinking water utilities in the U.S., and together the membership serves drinking water to over 130 million people from Alaska to Puerto Rico. Member representatives to AMWA are the top managers and CEOs of these large water systems. AMWA appreciates the opportunity to provide comment on the *Climate Bonds Initiative Water Climate Bonds Standard*.

Access to capital is important for the viability and sustainability of utilities, and many of our members are following the evolution of the green bond market and/or beginning to explore the possibility of issuing so-called “green bonds” or, what appears to be a subset of green bonds, “water climate bonds.” AMWA appreciates that the green bond and climate bond market can, on the one hand, be beneficial to the water sector, by calling more attention to the sector as one that is good for investment. On the other hand, many questions come to mind, such as the time and cost to issuers that certifying a bond under the standard would incur. In addition, questions about who the investors are, and whether they would support this standard, particularly for U.S.-based water utility projects that by nature under the Green Bond Principles could already obtain a “green” label.

Many AMWA members are also planning for climate impacts to water supplies by considering adaptive strategies to potential future climate and extreme events scenarios. Members are also considering their carbon footprint, implementing strategies for increased energy efficiency and working to mitigate greenhouse gas emissions.

Our comments are written with an eye toward whether water utilities – specifically publicly owned water utilities in the United States, could actually deploy these standards. The proposed standard is broad – encompassing many potential projects, many which would be developed by agencies that are not water utilities. For this reason, the Climate Bonds Initiative may want to consider developing a standard recognizing the uniqueness of projects undertaken by water, wastewater or stormwater utilities.

One issue which is in contrast to how the water (utility) sector in the U.S. (and also internationally)

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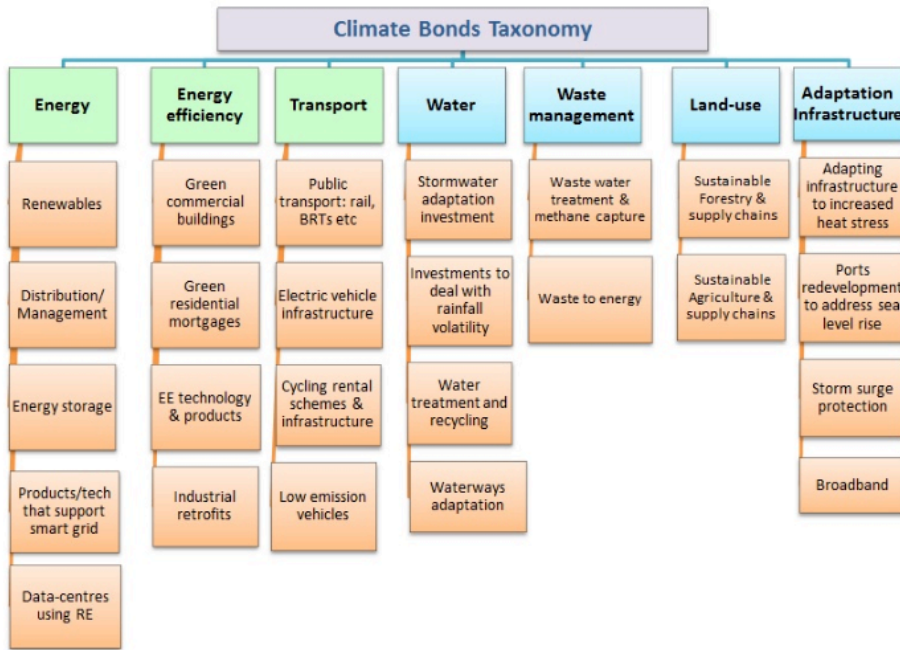
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has evolved is an understanding that water, wastewater and stormwater utilities and its infrastructure are all part of an integrated urban water management process, i.e., the water sector. The Climate Bond Taxonomy suggests that wastewater utilities are not part of the water climate standard, nor is infrastructure adaptation. In addition, it's unclear how this taxonomy supports establishing the (water) climate bonds standard. Please elaborate in the next version of the water climate bonds standard, or in the Climate Bonds Standard document.

See the full version of the Taxonomy [here](#). For further information contact [certification@climatebonds.net](mailto:certification@climatebonds.net)



**CONTEXT**

Attachment A of this letter provides comments, observations and questions about the draft and the information presented within it in light of any anticipated implementation of the standard by U.S.-based municipal water utilities. In addition, recommendations for readability and clarity. AMWA looks forward to further discussions with the Climate Bond Initiative to ensure that the future standard is transparent, understandable and implementable.

If you have any questions about our comments, please contact Erica Brown ([brown@amwa.net](mailto:brown@amwa.net)), AMWA’s Director of Sustainability and Climate Programs, or me ([vandehei@amwa.net](mailto:vandehei@amwa.net)) at 202-331-2820.

Sincerely,

Diane VanDe Hei  
CEO

Attachment

## Attachment A

### Specific Comments:

1. It would be helpful if the proposed Water Climate Bonds standard included a narrative explaining how the “standard” is really an annex/sector specific component to the Climate Bonds Standard (v.2.0) (see [http://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2\\_0%20-%20Dec2015%20%281%29.pdf](http://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2_0%20-%20Dec2015%20%281%29.pdf))
2. *P.5 - Box1*: Definitions mention green, climate and blue, but not water. Should the bond standard be called blue climate bonds? If there’s currently no “water bonds” or even “municipal water bonds” term, should this be noted in the Water Climate Bonds notation? Is Water Climate Bonds a new term coined by this effort? If so, it should be stated thusly.
3. *P.5 – Box1*: Are water climate bonds a subset of the green bonds market? This should be clarified.
4. *P.5 – Box1*: A climate bond is defined as one for a project to “avoid GHG emissions or to facilitate adaptation and resilience to climate change.” Later (p. 7) the term “climate mitigation” is used. We suggest defining climate bonds as ones aimed at adaptation, resilience, and mitigation efforts undertaken to reduce climate change impacts [or something similar].
5. *P.6, 7<sup>th</sup> paragraph*. Suggest editing sentence to read, “forest [and wetlands] that filter water.”
6. *P.7 – Figures 3 and 4*. It would seem that the market conditions supporting these pie charts would change over time. We recommend that the document include a citation with the year that these figures are for, because it is likely that in a few years the types and purposes of green bond offerings will change.
7. *P.7 – Last paragraph*. Please clarify to whom or to what the “climate benefits” are intended for in the last sentence and throughout the document. The discussing associated with climate adaptation or benefits are inconsistent, unclear and confusing (For example:
8. *P. 7 – paragraph 2 in Figure 4, and P.19 – table 2 – column 3 – reference to “ecosystem benefits”*). Is the adaptation or benefit for the environment? Is it for the issuers project or investment? Is it for the community the project is serving? Each of these requires different evaluations and approaches. In drinking water utility planning, for example, climate adaptation means taking action to prepare for changing, uncertain conditions to ensure customers have sufficient, high quality drinking water continuously in the future.
9. *P.8 – On this page, a new term is now added: “Water-related green bonds”*. This is confusing as the document is specifically supposed to be about water climate bonds.
10. *P.8 – The document references appendices, but the document itself has annexes and not appendices.*
11. *P.9 – The first paragraph under the Climate Bonds Scientific Framework, as worded seems like a substantial overreach and should be reworded. While “climate science” is based on a rigorous, scientifically grounded analysis, the statement about the Framework implies that the Framework itself is a rigorous scientifically grounded analysis on*

emission mitigation pathways, technology options and impacts that anchor the Climate Bonds Taxonomy and certification criteria. If such analyses are contained elsewhere, they should be cited but it seems that while the Framework may provide an anchor for the taxonomy, there's no evidence in the draft of the Climate Bonds Standard to suggest that this analysis (and a scientific peer review of the analysis) has been done.

12. *P.9* – More information about who certifies climate bonds, and how this would be done would be helpful. This could be done by reference to other documents/webpages by the Climate Bonds Initiative if appropriate.
13. *P.11* – Last *paragraph*, Add a space between may and be.
14. *P.11* – *First paragraph, first sentence*: This sentence begins by saying water management systems have long life spans, but ends talking about “these long life cycles”. A long life span is not the same as a long life cycle; the standard should stick with the term life span when talking about infrastructure. This is particularly important since water systems can have long life cycles associated with changes in precipitation and temperature, which need to be understood and incorporated into the design of the infrastructure. Whether a green bond issuer has identified those cycles should help inform and be transmitted to the bond holders. This point is developed in the standard in subsequent paragraphs, but perhaps not fully understood by the editors of the document.
15. *P. 11 and 12*: The report needs to revise and update the examples used on pages 11 and 12. Using the Hoover Dam as an example of “bad planning” fails to recognize that at the time the project was conceived, the designers were using the records they had to work with. It is only recently that we now know – looking at the historic records and paleo-records that they were operating during a period that was much wetter than what the region “normally” experiences. This is not an example of climate change causing a problem to the system.
16. *P.12* – *Box 2*- Climate mitigation and adaptation is mentioned here but not resilience. The terms need to be harmonized and defined at the beginning of the document and be consistent throughout.
17. *P.13* – Recommend using the word “emerging” or “evolving” rather than “emergent”.
18. *P.15* – There is no reference to Table 1 in the text. Moreover, the table is supposed to be about the interconnection between mitigation and adaptation; however, it is unclear how the information is to be used.
19. *P.15* – Please clarify the two paragraphs at the bottom of the page. The point(s) or argument(s) being raised are unclear.
20. *P.15* – Definitions are important; for example please define what is meant by “conventional” desalination.
21. *P.18* – Figure 6 – For water utilities, water demand reduction, wastewater storage/treatment, and water supply/treatment projects are considered adaptation options. Please move these to the combined adaptation/mitigation part of the diagram.
22. *P19. Table 2*. What is the basis for the 20-year project operational lifetime for adaptation/mitigation projects? (The World Climate Organization uses 30 years as a definition for a climate period.)
23. *P19. Table 2*. Table 2 suggests it is an adaptation theme project if focused on local/regional ecosystem benefits. Is the draft standard suggesting that bonds that relate solely to infrastructure that have no direct ecosystem benefits (e.g. raising pumps and

- critical equipment above new flood stages) and therefore would not qualify as a climate bond? This comment ties to earlier questions about resilience (see #4 and #16)
24. *P.23 – Table 4 and text.* Please better explain the logic and intent of Table 4 and associated text, with additional detail and examples. For example, why would a desalinization project be consistent with a climate mitigation theme but not require an adaptation theme (if, for example, desalination is being developed as part of a water utility’s portfolio to adapt/become more resilient to climate change?) The same question is also true for water recycling.
  25. *P.26 and Annex C Part 3– Vulnerability assessment.* This section is quite confusing. What is being assessed and what does the term “vulnerability assessment” actually mean? This may be a matter of semantics and differences in terminology, but typically in U.S. parlance, a vulnerability assessment identifies and assesses the potential impact of stressors (e.g. heat) or threats (e.g. earthquake) on a project (how vulnerable is your water supply to drought or risk of say dam failure). A risk assessment or environmental impact analysis or assessment is used to assess the impact of the project on ecological or other resources or communities (what type of impacts would there be, if the dam broke and how does the project reduce or adapt to those risks?). The wording at the top of this page confuses the issues by asking about potential vulnerabilities, but then in parentheses (risks). The document should specify the subject of the vulnerability assessment (the project, or the affected eco and other stakeholders or systems).
  26. *P.26 – Vulnerability assessment and Annex C Part 3–* The document should specify the subject of the vulnerability assessment (the project, or the affected ecosystem and other stakeholders or systems), for water utilities, it would seem that the focus of the assessment should be on the impacts of climate change to the asset. (See next comment.)
  27. *P.26 – Vulnerability assessment/Annex C:* Please use explicit and clear language in presenting and discussing the adaptation and VA intentions (see comment #8 above). Examples of pages that were difficult to follow include: pages 7, 9, 18, 19, and section 26. What is the adaptation for and who is benefiting from the adaptation? The environment, the managed water system and customers served, the asset itself? Is the standard suggesting that projects should “maintain” the current environment? If so, how can projects maintain conditions that will change naturally and from climate change? And if we recognize it will change, how do we know what it looks like in changing world?
  28. *P. 29 – Notching* factors. Advanced hydrological modeling or other best practices may or may not be worthy of notching, as what constitutes “advanced modeling” is subjective. Would a better approach be to notch projects developed based on a clear and robust QA/QC plan both for sampling and for modeling, and where the model outputs meet well defined data quality objectives? Or alternatively, where a sensitivity analysis has been performed to assess how model outcomes vary depending on input and modelling assumptions.
  29. *Annex A and Annex B:* These flow chats are very difficult to follow, bordering on undecipherable.

## Annex C Checklist

30. *P. 37-39 Vulnerability assessment*– The VA questions follow a traditional top down, train of models approach (GCM – downscaling/bias correction – translation using a hydrologic model – applying output to water system model, and analyzing output to determine likelihood of risks). The framework assumes the approach sufficiently predicts future local hydrologic conditions and impacts, and can be used to assign probabilities for risk analysis. Several studies have shown the limitations to top down modeling (see recent works by Martyn Clark, Ethan Gutman, and Pablo Mendoza), particularly the cascading uncertainty compounded in each step of the process. Additionally, climate projections are not predictions of future local conditions and should not be used for probabilistic (risk) evaluations. Another way to approach the VA is to question how warming, sea level rise, and changes in precipitation variability are being evaluated and addressed.
31. Is it expected that for certification, a project/bond issuer would submit a report that addresses the criteria in Annex C?
32. It would be helpful if the standard described in more detail what sort of evidence would be expected for the criteria marked with “E”.
33. It would seem that “robustness” of the plan is subjective; is the point to ensure that the plan has considered several climate conditions – past (observed) and future?
34. The checklists also don’t indicate what happens if a particular item is not relevant (i.e. s the score normalized)?

#### **Annex D**

35. It would be helpful to have the referenced principles, criteria and index referenced with a web link.