Consequential electric sector emissions impact measure subgroup

Meeting number 7

Date: 12 June 2025

Time: 10:00 – 12:00 ET

Location: "Virtual" via Zoom

Attendees

Technical Working Group Members

1. Avi Allison, Microsoft
2. Priya Barua, Clean Energy Buyers Alliance
3. Charles Cannon, RMI
4. Abhilash Desu, Science Based Targets Initiative (SBTi)
5. Stuti Dubey, DRECs Initiative
6. Neil Fisher, The NorthBridge Group
7. Hannah Hunt, Heineken
8. Emma Konet, Tierra Climate
9. Stephen Lamm, Bloom Energy
10. Alain Mahieu, ENGIE
11. Henry Richardson, WattTime
12. Matthew Brander, University of Edinburgh
13. Jessica Cohen, Constellation Energy
14. Simone Accornero, FlexiDAO
15. Wilson Ricks, Princeton University
16. Yenhaw Chen, Taiwan Institute of Economic Research
17. Greg Miller, Singularity Energy
18. Matthew Konieczny, Watershed
19. Mariné Iriart, Gobierno de Córdoba

Guests

None present

GHG Protocol Secretariat

1. Elliott Engelmann
2. Michael Macrae
3. Chelsea Gillis
4. Kyla Aiuto
5. David Rich

Documents referenced

1. Consequential subgroup Part 1 Draft Document

Item	Topic and Summary	Outcomes
1	***Welcome and goals of meeting*** The Secretariat welcomed members and discussed the meeting goals.	N/A
2	***Issue 8: Case Studies and Issue 9: Cross-sector applicability*** The Secretariat briefly reviewed what had been submitted regarding Issues 8 and 9 and shared that for these issues the subgroup would return to discussion in more detail after the Part 1 deliverable was completed.	N/A
3	***Alternative Build and Operating Margin Weight Proposal*** A TWG member presented work conducted on developing an alternative methodology for calculating Build Margin (BM) and Operating Margin (OM) weights for use in consequential emissions calculations, including how the proposed method builds on the 2005 Guidelines for Quantifying GHG Reductions from Grid Connected Electricity Projects.	The Secretariat offered to connect the presenting TWG member with former contributors to the 2005 Guidelines for further discussion on validating the 0.5 default weighting and use of this alternative methodology.
4	***Discussion on Issues from Draft Document*** The Secretariat facilitated discussion on issues related to additionality and the proposed tests for additionality presented in the subgroup's draft document.	Updates to Proposal draft: • More specific language on the Timing Test requirement and the attestation that should be required for proof of additionality. • Add brackets where specific questions are outstanding (for example, on the positive list test). • Gather evidence that supports the appropriate contract length for the positive list test.
5	***Next steps*** The Secretariat concluded with the next steps, including the reminder of final draft deliverable date of June 18th for upload to the TWG SharePoint. Full TWG review on the final draft is requested before the June 25th vote. This is the last scheduled subgroup meeting before the TWG vote on June 25th.	N/A

Summary of discussion and outcomes

1. Welcome and goals of meeting

Summary of discussion

- The Secretariat outlined the goals of the meeting, including a brief review of what has been submitted on Issues 8 and 9, discussing a TWG-submitted proposed alternative for calculating build and operating margins, and discussing a number of open questions from the draft document.

Outcomes (e.g. recommendations, options)

N/A

2. Issue 8: Case Studies and Issue 9: Cross-sector applicability

Summary of discussion

- Issue 8: Case Studies
  - The Secretariat shared a list of six case studies that were submitted that use consequential accounting metrics in energy procurement decisions and encouraged TWG members to review these case studies outside of the meeting time.
- Issue 9: Cross-sector applicability
  - The Secretariat noted that TWG members had identified a number of sectors or markets where the concept of using a marginal impact assessment could make sense. In general, it would require a clear market to exist, and there would need to be significant temporal and/or spatial variation in per-unit emission impacts. This could include steel, cement, aviation, and/or transportation.
- The Secretariat shared that for Issues 8 and 9, we would return to discussion in more detail after the Part 1 deliverable was completed.

Outcomes (e.g. recommendations, options)

- N/A

3. Alternative Build and Operating Margin Weight Proposal

- TWG member presented work conducted on developing an alternative methodology for calculating Build Margin (BM) and Operating Margin (OM) weights for use in consequential emissions calculations.
- This presentation highlighted:
  - **How to calculate emissions impacts on grids**
    - The emissions from all power plants in a region is the sum of their capacities, utilizations and emissions factors.
    - Assumes that we have this information historically for 98% of power plants around the world at various levels of precision
    - Emissions impacts from an intervention on the grid is evaluated by calculating a change in emissions from a region for a period of time. It is the difference between the emissions from a scenario where the intervention occurred and the counterfactual scenario where it did not.
    - For evaluating the impacts of a decision *that has already been made*, this can be calculated using historical data on the capacity utilization rate and emission factors.
    - The main challenge lies in developing a methodology that can estimate a counterfactual scenario, which is fundamentally unobservable.
  - **How the GHG Protocol 2005 Guidelines suggest calculating the baseline emissions rate**
    - To address the lack of an observable counterfactual, the 2005 *GHG Protocol Guidelines for Quantifying GHG Reductions from Grid-Connected Electricity Projects* (referred to here as "Guidelines") introduces the use of a baseline emissions rate. The baseline emissions rate is intended to provide a practical, universal

counterfactual for any intervention-- an emissions rate reflective of the impact that may reasonably be expected for a generic marginal intervention that induces an increase in grid generation by a marginal Megawatt-hour (MWh).
    - The Guidelines provide detail on the use of Build Margin (BM) Emissions Rates and Operating Margin (OM) Emissions Rates for calculating the baseline emissions rate. It suggests calculating a capacity value to determine the correct weighting between BM and OM, and assigns the default weighting value to be 0.5. In 2019, the UNFCCC suggested that for wind & solar projects, this default weighting should be 0.25 for wind and solar projects, and 0.33 for hydropower and biomass projects.
- **How the TWG member proposes alternatively calculating the baseline emissions rate**
    - Changes to emissions from electricity generation can happen in six distinct ways
        1. Emissions impact from increases in new build
        2. Emissions impact from decreases in new build
        3. Emissions impact from increases in retirements
        4. Emissions impact from decreases in retirements
        5. Emissions impact from increased operations
        6. Emissions impact from decreased operations
    - If an intervention is small, the TWG member suggested that only increases in emission impacts to the above six things would occur. Only in larger interventions would there likely be an impact of a decrease in new build. This is an assumption being made.
    - This allows for the expression of consequential impact as the sum of positive definite emissions rates weighted by positive generation fractions—and derive a formula for the baseline emissions rate.
    - Thus, the Granular Baseline Emissions Rate can be calculated for a certain time period in a certain region by using the generation-weighted sum of the stable component emissions rates that sum to the consequential impact of a generic marginal intervention that induces an additional MWh of additional grid generation.
- **How this alternative connects to the 2005 Guidelines**
    - When using this model, if an assumption is made in its parameters that load growth is *not* happening, we can assume that the amount of generation can be attributed to the build component is the same as the amount of generation being attributed to the operating component, which would mean that the weight is 0.5.
    - In reality, the portion that could be attributed to build and operating margin is not consistently going to be 0.5, especially considering that load growth *is* occurring. But it is possible that the 2005 Guidelines had arrived at the 0.5 weighting by using this assumption.
    - This alternative proposal can be used to estimate and weight the components of impact of certain interventions based on historical data, including:
        - Calculating impact on an hourly basis as opposed to annually
        - Including considerations for retirements
        - Including more specific and dynamic calculations of weight
        - Examining sensitivities and smoothing when calculating operating or build impacts
- **Summarizing the benefits and drawbacks of the Alternative Weighting Calculation Proposal**
    - Pros:
        - Includes retirements
        - Is calculable based on available data
        - Weight of intervention is determined by both the intervention type and the grid the intervention is being applied to, in a specific hour
        - Could be useful in validating more simplified/fixed omega approaches
    - Cons:
        - Higher calculation burden
        - Less predictability/usability if omegas are not fixed

Summary of discussion

- The Secretariat and the presenting TWG member noted:
    - One of the differences between this method and the method within the 2005 Guidelines is the inclusion of retirements in affecting the impacts of a given intervention on the system. The 2005 Guidelines may not have described retirements for sake of simplicity or they may have implicitly contained them within build margins. This alternative proposal explicitly calls out retirements as part of what affects the emissions impacts.
    - One of the benefits of doing this calculation hourly is that it allows you to explicitly calculate the impact of that generator on the hour.
      This method could be helpful for validating previously published weightings like the UNFCCC 2019 default numbers.
- A TWG member questioned whether bringing this alternative into the methodology document would be useful for calculating weights differently for different types of interventions based on the intervention size, or if it is intended to be a standardized methodology for the same weighting for every hour and region?
    - The presenting TWG member stated that the forthcoming paper on this discusses that weights need to be calculated differently for interventions of different sizes.
    - A TWG member made an observation that creating a bespoke calculation based off an intervention size rather than the characteristics of the region might be an issue.
- The presenting TWG member acknowledged that right now, this method has not been practically tried. It was suggested that it might be useful to try this for a range of power plants and a range of reasons, in order to see if that would give heuristic indicators for different regions at different times.
- A TWG member suggested being careful about possible false precision as opposed to a clear statement of estimation. The member also cautioned against suggesting there is a causal relationship between certain weighting and what interventions caused that, calling on the need for clarity about the assumptions being made. Just because something happened historically does not necessarily mean it was caused by one specific intervention.
- A TWG member noted the value in enumerating all of the assumptions that contribute to the weighting and appreciation of the work to do so.

Outcomes (e.g. recommendations, options)

- The Secretariat offered to connect the presenting TWG member with former contributors to the 2005 Guidelines for further discussion on validating the 0.5 default weighting and use of this alternative methodology.

4. Discussion Issues from Draft Document

Summary of discussion

Many of the open questions identified by the authors related to definitions of additionality and proposed tests for additionality presented in the subgroup's Draft Document.

- **Regulatory test: Would projects covered under a cap & trade system fail the regulatory test?**
    - A TWG member offered the perspective that, if the view is that emissions are fixed by a cap-and-trade regime, then there would be no opportunity to induce nor avoid emissions. However, cap-and-trade systems in practice are not physically binding to the emissions in that region. In other words, electricity generation does not stop because an emissions cap has been hit. Cap-and-trade programs typically have exceptions and change year to year. Emissions might physically be above the cap in the region, and the cap will be raised if the emissions go higher. Emissions can also be below the cap. This means actions that are taken can contribute to emissions being lower or higher regardless of whether there is a cap-and-trade program or a national goal/target of achieving a certain level of emissions.
    - A TWG member offered that while offsets *can be part of a* cap-and-trade program, they typically are not, and that offsets are usually referring to something happening somewhere else in the world (e.g. avoiding deforestation somewhere else in the world from where you operate). The TWG member emphasized that cap-and-trade systems are about rights to emit,

which you are able to purchase from other entities or through auctions. Cap-and-trade systems are fundamentally different from offset markets.
    - There was interest in continued consideration of the question of whether it appropriate to make an avoided emissions claim in a region that has a cap and trade program.
    - There was discussion about whether the treatment of projects covered under a cap & trade system with no requirement to retire allowances is contradictory to language 'to claim impact for a generation project, a company shall retain and retire any applicable EACs and there shall be no separate attribute or offset claims made for that generation by another entity.'
        - A TWG member interpreted that, under this language, it is stating that if you are claiming EACs, a different entity cannot claim them for an offset. Thus, there would be no issue with the same company claiming the EACs and an offset claim.
- **Timing test: Providing documentation that revenue from a contract was considered at the time the investment decision was made- should or shall?**
    - A TWG member noted that there was not a strong viewpoint in the author group about whether it should be written as a should or shall requirement.
    - A TWG member offered the perspective that the sequencing of when a power purchase agreement (PPA) enters the financial conversation of a project could happen at various stages before the project comes online. Thus, the PPA may not be the only reason the financing of the project is happening.
    - There was some discussion on the use of the word 'considered' is appropriate.
    - A TWG member noted that more specific language on the timing test is needed, including possible language that external verification is needed.
    - On inclusion of language about auditors, a TWG member suggested that in response to any requirement, an auditor could develop their own standards on what documents they should be checking.
    - A TWG member stated that there is a difference between what gets shared in a financial or an emissions disclosure statement versus what you provide if an auditor requests it from you. This standard should provide information on what an auditor should check, but not a requirement that it should or shall be reported publicly.
    - A TWG member stated that guidance is given by regulatory requirements on this matter (i.e., CSRD requires limited assurance audit). To the extent that there is guidance included on verification, it should be clear that companies should defer to the guidance given by regulatory requirements.
- **Positive list test: What is 'sufficient price/revenue' certainty?**
    - A TWG member raised a question on whether/how to think about defining this number now versus waiting for feedback during public consultation.
    - The Secretariat suggested that the current language of a '10-year contract length' is not enough detail. If 10 years is the length that is being put forward, it needs to have robust evidence as to why this number was selected.
    - There was discussion about the balance between being too stringent and too lenient on these tests.
    - It was suggested to put forward an initial list of research that supports certain contract lengths.

Outcomes (e.g. recommendations, options)

- More specific language on the Timing Test requirement and the attestation that should be required for proof of additionality.
- Determined it would be helpful to put in brackets where specific questions are outstanding (for example, on the positive list test).
- Gathering evidence that supports the appropriate contract length for the positive list test.

5. Next steps

Summary of discussion

- The next steps were reviewed, including:
    - This is the last scheduled subgroup meeting before the TWG vote on June 25th.

- TWG members are requested to submit any final feedback on the draft document by end of day, Friday June 13th.
- The final draft is requested by June 18th and will be uploaded to the TWG SharePoint for review by the full TWG before the June 25th vote.

Outcomes (e.g. recommendations, options)

- N/A

Summary of written submissions received prior to meeting

N/A