

**Participants:**

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**Minutes:**

1. **Introductions**
2. **Review of the process**
3. **Background:**
  - **Consensus is no sustained objection** – want to have something that we can all live with.
  - All comments and issues must be tracked. It will go to the regulator for final approval.
  - This is the first round of technical review – there will likely be some revisions – hopefully nothing too substantial.
  - Once we are happy for this it will move forward for a broader consultation. The next step for this protocol will be to streamline it and have a technical/market consultation. If things arise along the way, we will work on those things. The final steps are to go back to the regulator and post for public review.
4. Context of what we are doing here – review of the Alberta Offset System
  - Review of protocol development
  - Rules of offset system – including criteria
  - Review of Specified Gas Regulations and compliance options
  - Government wants to develop a set of standards following a quasi life cycle assessment and based on the ISO 14064-2 system in which all sinks, sources and reservoirs (SSRs) are identified.
  - The system is designed on principles.
    - i. We need to ensure environmental integrity;
    - ii. we need to be reasonable (not every molecule);
    - iii. we want to adapt precedence sent elsewhere (if there is an approach used elsewhere (i.e WRI/CDM – grid intensity factor (GIF) calculations based on build and marginal capacity of a system) – if it makes sense;
    - iv. Life Cycle Approach – it’s cumbersome but worthwhile – we are trying to streamline it.
  - Hope is that early in the new year we will have a Grid Intensity Factor that is necessary for this and other protocols.
5. Keith Driver – Walk through of the protocol – approach, logic and calculations

- Scope and Description – where it is applicable, where it fits
- Process Flow Diagrams – show which sources and sinks are applicable based on ISO 14064-2. Not all sources and sinks are relevant to all projects
- **Baseline condition** is what is happening in the absence of the project. Divided into five box system.
- **Definitions:**
  - i. **Controlled** – onsite – project operator controlled
  - ii. **Related** – upstream – the more they use the more is used but not directly responsible
  - iii. **Affected** – Unexpected market consequences.
  - iv. **Materiality** – defined as greater than 5%
- Equations – for all the sources and sinks included
- Project doesn't necessarily have to be Ecologo certified but it must meet that standard.
- Flexibility mechanism – if a project is a dedicated end user and that source has it's own generation (i.e. replacing diesel vs. A grid average)
- **Question: what is meant by downstream in 1.1.2? KD – this will be clarified. Want to ensure we are comparing apples to apples.**
- GH – suggest that meter goes between the storage and the loads
- KA – if the power is going to the grid it is between the storage and the grid; but if it is going to the load it is between the generation and the load.
- KD – we are talking about grid and off grid
- **KHK – grid connected definition to be added. We will circulate – Further clarification on meaning of on-grid and off-grid needed**
- GH – if there is any definition needed, GH will offer help.
- **Question about the below ground and above ground carbon reservoirs.**
- KD – if there is any land clearing component due to a large installation, we need to account for this. Probably not as material as some of the elements in there. Is this reasonable for large scale solar. It is a burden for small scale developer?
- **Are we accounting for the carbon that would have been stored over the life of the tree?**
- KD - We are assuming that it is a mature and sustained plot and not accounting for future growth.
- KHK - We have based this aspect on the Afforestation protocol (approved). The assumption here is that it is a mature stand and that it is storing as much carbon as it can. **Need to include a criteria that would trigger these types of calculations.** I.e. if there is area of biomass cleared greater than 1 ha, than you must account for carbon. If the area is less, than 1 ha, than you do not need to account.
- The group viewed this as practical.

- KD – this is a dynamic baseline meaning that the amount of offsets is taken relative to the fluctuation of energy use over time. Accepted.
- KD – table 2.3. If it SSRs are included we quantify it and don't need to justify. If they are excluded, a reason for exclusion is provided.
- **KD - Review of Equations – Carbon sequestration component will be moved to an appendix**
- KD – Review of Table 2.4 – Equations are translated into the calculators.
- **KD – Need to change the reference from EC GIF to AB GIF**
- **Forumula for B2 will be moved to appendix**
- QA/QC Review – in the end you need to satisfy the criteria outlined in the verification document.
- **KHK – what is the over all feeling at this point? Is it too onerous? Is it too prescriptive? Is it practical in its usage?**
- Jared – Who is responsible for the metering? Is it the owner? Operator? Who takes responsibility and sends information? Is it the same for small and large scale operation?
- KD – If you have access to that data you will be required to provide that data – ownership isn't relevant. If projects are internal, you need to provide a proper measurement plan. As long as there is commercial grade data available on electricity production – that is what is imporant.
- **In applicability – project must meet criteria for commercial grade production**
- We need to think about applicability of the system. If we are talking small scale residential systems, it doesn't make sense to put a \$600 meter on a house that will offset 2 tonnes.
- In a small scale application, everything goes to zero except electricity production. Is there another way?
- KD – ideally we want to outline what the threshold is between small scale and commercial? We want to be able to make claims for voluntary emissions reductions as well as enable commercial applications.
- KHK – would like to align with micro-generation policy so that it makes sense. We will get into a big debate on the 'threshold' during broader public consultations.
- Concern over the cost of the meter downstream of the inverter. This creates a cost issue on the small scale side. If we can say under 150 KW we can use any type of meter, it is doable.
- Can also develop some simple performance factors rather than metering?
- **You can allow a concession for a particular approach (smaller projects won't dictate commercial metering). Need to define performance factors for small systems from micro-generation doc.**

Once it gets above a certain threshold, it will have a material impact.

- GH – will work with Keith re: understanding of smaller systems
  - **Have you considered Solar Thermal Air Heating – liquid and air?**
  - Going back to figures 1.1 and 1.2 – you either generate heat or electricity or both. Add B2 – Heat Generation and change the B2 to B3 and B3 to B4. Difficult to measure heat output from thermal systems. **Is it reasonable to assume that thermal systems have a meter on the number of joules?**
  - GH – For a liquid system, a meter can be used but typically not. For an air system, very difficult and not likely – but not excluded.
  - KD – is it appropriate to say that this protocol is usable on hydronic or domestic hot water for protocol.
  - This is a choice to add in thermal – it might not be viable.
  - GH – important to work out a protocol for liquid based SDHW. With large systems (i.e. municipal swimming pools) it's important.
  - GH – important to consider that solar PV is connected to the electricity grid and the output is quantified much easier than solar thermal.
  - If we put the meters inline with the cold water input, we can easily say that we are displacing the gas for heating HW.
  - But don't account for the standby losses from hot water tanks.
  - Can probably put in some rough performance factors for that.
  - KHK – again the small projects need their own performance criteria due to the size of their impact. Will need a similar threshold.
  - Is it worthwhile to separate Solar Thermal entirely from PV?
  - KD – desire to keep them together but with clear delineations. Want to ensure that they can be combined. If they are not linking well, than we will separate them out later.
6. KD – has what he needs and will follow up with GH on other matters.
7. BN – is it possible to clarify above an below ground carbon in definitions ?