Discussion Guide for Working Groups

This document contains many of the questions that each working group should consider, organized similarly to the notional outline of the final report. The chair of each working group may use this to guide discussion and to help ensure that no important questions are forgotten. Electronic copies of the discussion guide will also provide the framework into which STPI will take and organize notes from all plenary and breakout sessions.

## Analysis and Potential Updates of Phase 1 Benchmark Values

**Data, models, and methodologies used to derive the Phase 1 values**

* What, if any, limitations exist with the:
  + Data?
  + Models?
  + Methodologies?
* Is the methodology used to derive the benchmark values up-to-date, rigorous, and compelling?
* Are the current benchmark quantities (the variable, not its value) well-aligned with the objectives and use cases stated in the Phase 1 Document?

**Fidelity of benchmark values**

* Given the assumptions or uncertainties for this benchmark, how should the fidelity of the benchmark be assessed?
* Are there other uncertainties, error values, or assumptions that should be considered?

**Developing new or modifying existing benchmark values**

* Are the benchmark values reasonable and up-to-date based on current understanding?
* Are there other studies that give different values that should be referenced?
* Are there any new or previously unused data sets, models, or methodologies that could be used to further refine the benchmark?
* For those benchmarks that do not have values, are there suggestions as to how to proceed with developing benchmark values?
* What, if any, changes to the values would this group propose for the benchmark? What considerations are there with respect to these proposed values?

## Operational Utility (To ask members of operations community)

**Operational utility**

* What’s the value of the benchmarking activity and how could it be made more valuable for you?
* This workshop has convened scientists to recommend changes and update research; what do you want us to know about what you do to inform our path forward?
* What benchmarks have already been adopted or used by the operator community?
* How useful is this benchmark to inform operator decision-making and planning?
* What level of precision and confidence is necessary to be useful for a planner or an operator?

**Feedback opportunities**

* Are there ongoing or planned efforts by the operations/user community that could inform the Phase 2 benchmark effort?
* What avenues exist to solicit feedback from operators to refine the benchmarks?

## Gaps

* What gaps exist that inhibit the development of higher quality benchmarks?
  + E.g. data sets, observational capabilities, models, methodologies, policy
* If appropriate, are any of your gaps applicable to other benchmarks? If so, which ones?
* Can we define our method of prioritization?
* Can we apply that method to produce a prioritized list of gaps and rationales for the rankings?

## Next Steps

* Are there any other near-term recommendations for how to proceed with refining the Phase 1 Benchmarks?
* Are there any recommendations for longer-term studies or research that would improve the benchmark values, reduce their uncertainties, or improve their usability?
* How can community stakeholders help close the gaps? What could the Federal Government, academia, operators, private sector, and other members do individually and in partnership to help close gaps?
* What, if any, methodological or process changes could be made to coordinate the development of Phase 2 Benchmarks?
* Which gaps need to be filled before Phase 2 could begin? Approximately when would that happen?

## Post-Workshop

* Have we agreed on the structure for the final report? If not, what changes should be discussed?
* Please list any tasks the group decides to undertake to contribute towards the development of a full draft of the Next Steps Benchmarks document and identify a primary POC and timeline for each task.