

Climate Change Research Needs to Support Decision-Making for Public Water Supply and Wastewater Management Agencies

Structure, Process and Outputs of the Breakout Groups

Bob Raucher, John Cromwell, Joel Smith
Stratus Consulting

1. Breakout Group Structure

The *facilitators* will keep the groups motivated and on task in executing the planned exercises and managing the discourse to ensure all parties have the opportunity to offer their views. In addition, a Chair and Co-Chair have been selected for each of the five breakout groups. The chair and co-chair will be responsible for tracking and reporting the dialogue. The *chair* will serve as the group's spokesperson when reporting back to the plenary and will take notes and ask clarifying questions for that purpose. The *co-chair* will record the flipchart notes and ask points of clarification as needed to assure accurate capture of each participant's offerings. Notes and flipcharts will be obtained by the facilitators afterwards in order to support the write up.

2. Agenda, Process and Outputs for Tuesday Morning Breakout Session

a. Agenda for Tuesday Morning, August 31:

- ▶ Prior to the breakout sessions, participants will reconvene in plenary after the mid-morning break at 10:30 AM pm. Bob Raucher of Stratus will present a brief "charge to the groups," outlining the process to be followed and the desired outputs. The five groups will then disperse to their assigned rooms.
- ▶ In this initial morning session, the groups will identify and briefly describe the *most important climate-sensitive operational and/or infrastructure decisions facing water and wastewater agencies now, or during the next 10-20 years*, within each breakout group's topic area (e.g., water quality).

b. Process for Identification of the "Most Important Climate-Sensitive Decisions Facing Water and Wastewater Agencies."

The process for the initial breakout group exercise is the same as applied in the January 2009 EPA OW/ORD Workshop in Washington, DC – borrowed from the Aspen Institute. With such a high level of expertise among the participants, everyone will have several ideas at the front of

their minds that they see as priority needs for consideration and discussion. It is very effective to get these ideas in play right from the start to assure all participants that their most important ideas about which they feel strongly are already on the table and won't be missed. In addition, the topic is the lead-off question forwarded to participants to contemplate ahead of time. The process proceeds as follows:

- ▶ All participants are handed a sheet of paper and asked to spend the first ten minutes listing and prioritizing their top suggestions for “*the most important climate-sensitive operational and/or infrastructure decisions facing water and wastewater agencies during the next 10-20 years*” within each breakout group’s topic area (e.g., water quality).
 - Note that the term “participants” here refers to utility members and other water/wastewater managers.
 - Federal agency personnel will typically be “observers” in this process, and will be provided opportunities to ask clarifying questions, make relevant points, and describe where existing federal research efforts may already be addressing a research need identified by a utility participant.
- ▶ The facilitator then invites the participants to select their #1 priority item and speak about it for 1 minute. The item is recorded on the flip chart. The next participant follows in like manner and the process continues around the table.
- ▶ If a participant’s #1 item has already been mentioned, they have the option of seconding it, and moving on to their #2 item. Or, they may choose to use their turn to amend the previous speaker’s articulation of the idea.
- ▶ The process continues until all the ideas from all the lists have been aired. It rarely takes more than three times around because of duplication – which is quite reinforcing and builds an early sense of points of consensus. Accordingly, at the outset, facilitators will urge participants not to worry about duplication but to undertake the task as though they alone were charged with listing and prioritizing the most important climate-sensitive decisions. The idea is to sample expert opinion; not to invent on the spot.

c. Outputs for Tuesday Morning Session August 31st

- ▶ The desired list is a wall full of flipchart pages in each breakout room which – to the satisfaction of all – no important climate-sensitive decisions are missing.

3. Agenda, Process and Outputs for Tuesday Afternoon Breakout Session

a. Agenda for Tuesday Afternoon, August 31:

- ▶ In the afternoon session from 1 PM to 4 PM, facilitators will work the breakout groups through a process of 1) briefly reviewing and categorizing the “important climate-sensitive utility decisions” listed in the morning session, 2) developing a list of the associated research needs that would be most appropriate for supporting more informed and better decision making for the key climate-sensitive decisions, and 3) prioritizing the research needs to arrive at a “top ten” list of research needs to support important, climate-sensitive utility decisions.

b. Process for Identifying, Categorizing, and Prioritizing the “Research Needs to Support Utilities in Making Important Climate-Sensitive Decisions”

- ▶ Facilitators will begin the afternoon session by *briefly* (i.e., limited to the first 30 minutes of the afternoon session) reviewing the list produced in the morning session and urging participants to engage in categorizing their list of the most important climate-sensitive operational and/or infrastructure decisions facing water and wastewater agencies in the coming years. In the course of this process, facilitators will ask the group to review and assess the resulting categories and their constituents for completeness and clarity. It is likely that several items will require additional discussion and modification.
- ▶ The afternoon session will then begin to focus on the ***research needs and tools*** that will best support more informed and better decision making by utilities, for the key utility decision areas defined previously. “Research needs” are broadly defined here as outputs that could plausibly be produced by research efforts to improve decision making.
- ▶ The elicitation process to identify and prioritize research needs will be the same as used in the morning session to elicit key decisions. Specifically:
 - All participants are handed a sheet of paper and asked to spend the first ten minutes listing and prioritizing their top suggestions for “the most important research needs” for supporting the key climate-sensitive operational and/or infrastructure decisions facing water and wastewater agencies, within each breakout group’s topic area (e.g., water quality).
 - The facilitator then invites the participants to select their #1 priority item and speak about it for 1 minute. The item is recorded on the flip chart. The

next participant follows in like manner and the process continues around the table.

- If a participant's #1 item has already been mentioned, they have the option of seconding it, and moving on to their #2 item. Or, they may choose to use their turn to amend the previous speaker's articulation of the idea.
 - The process continues until all the ideas from all the lists have been aired. It rarely takes more than three times around because of duplication – which is quite reinforcing and builds an early sense of points of consensus. Accordingly, at the outset, facilitators will urge participants not to worry about duplication but to undertake the task as though they alone were charged with listing and prioritizing the most important climate-sensitive decisions. The idea is to sample expert opinion; not to invent on the spot.
 - It is possible that some research needs could overlap and apply to two or more categories, but the objective is to relate research needs to categories of decisions. If there is overlap, the facilitators, chairs and co-chairs must clarify and capture that aspect
- ▶ Following the categorization and clarification step, voting to rank the research needs will be done. The facilitators will issue each participant a fixed number of colored dots (e.g., 7) with which to vote their preferences as to the “top ten” list of the most important categories of climate-sensitive decisions. Specific voting rules will be clarified at the session (e.g., the total number of votes, whether a voter can place multiple dots as votes for a single project, and if so, the maximum number of dots a person can vote for a specific project).
 - ▶ Following the voting process, facilitators will lead a discussion to see if the list is truly satisfying: noting close runner-ups, allowing minority opinions to be heard, and examining the list to see if any re-categorizations (recalling the previous discussion of categories) might be entertained as a means of making the list more fully satisfying. In the end, a “top ten” list will emerge. Runner ups will be noted in the report-out session and in the project report.
 - ▶ The last item of business on Wednesday afternoon will be to develop flip chart materials that the group Chair can use to report in plenary on the top ten list of research needs, and the associated important utility decisions they support.
 - ▶ At 4 pm, the groups will each report back to the plenary (with the Chairs serving as spokespersons), describing the top ten categories of research needs and the associated climate-sensitive decisions they would support.

c. Outputs for Tuesday Afternoon Breakout Session on August 31st

- ▶ The desired output is a “top ten” list of categories of the “most important research needs” as associated with supporting the most important climate-sensitive utility decisions in each topic area. Additional comments will be collected and considered from the other breakout groups during the report-out session by the chairs.

4. Agenda, Process and Outputs for Wednesday Morning Breakout Sessions

a. Agenda for Wednesday Morning, September 1:

- ▶ Following a brief reconvening of the plenary (wherein Day 1 will be summarized and the charge for Day 2 will be reiterated), the breakout groups reconvene and work through lunch.
- ▶ The focus of Day 2 will be to flesh out the “top ten” lists identified on the previous day within each of the five breakout groups. The intent is to produce broad outlines of specific research projects (or groups of related research projects) for each of the top ten areas that would be helpful to water and wastewater agencies in meeting their most important decision making challenges resulting from climate change.
- ▶ After lunch, attendees will reconvene in plenary, and the chairs will report back on the findings of their respective breakout groups.

b. Process for Developing Broad Outlines of Research Projects or Groups of Related Projects for Each of the Top Ten Categories of Most Important Climate-Sensitive Decisions Facing Water and Wastewater Agencies.

While each group will have its own topic area, there will be a common set of over-arching questions to guide the development of broad outlines of research projects or groups of related projects. These questions are those that bear on role of information in decision-making; and, how the decision making process itself handles information and uncertainty. In evaluating alternate means of meeting the identified research needs, facilitators may ask participants to consider and discuss the following questions which have been forwarded to them ahead of time.

- ▶ What is it critical to know about the impacts of climate change on the future operating environment of utilities in order to support the most important decisions?

- ▶ Where does the understanding of climate change impacts on the future operating environment most need improvement in order to improve decision making?
- ▶ What is it critical to know about the range of adaptation/mitigation options, and about their efficacy, in order to support good decisions? (Including hard and soft – i.e., institutional – options)
- ▶ What is most needed to improve the understanding of the available range and efficacy of adaptation/mitigation options?
- ▶ What decision analysis methods and institutional capacity building efforts are needed to enhance the ability to cope with the inevitable uncertainties – with or without better information?
- ▶ Given the top ten research projects or related clusters of research projects that could be conceived and conducted in the near-term to meet or address these needs, what should these specific research projects or areas of research be like:
 - specific research objectives;
 - the important, climate-sensitive water supply and wastewater management decisions that the research would support
 - specific research approaches or techniques to be studied or tried;
 - functionality, complexity, and accessibility of specific tools (or other research work products) that might be useful.

c. Outputs for Wednesday Morning September 1st

- ▶ The desired output is a set of broad outlines of specific research projects or clusters of related projects that address the top ten areas of research need identified in each of the five breakout groups. The chairs will summarize these results in the report-out session.