

## Advanced Facilitation Guide

Below you will find some additional tips, tricks and things to keep in mind as you plan and facilitate your *World Climate* session.

### Tips for Handling More Challenging Facilitation Situations:

1. **Tight on Time:** Many elements of the *World Climate* simulation can take longer than anticipated if you do not remain vigilant about time. We strongly recommend pre-planning how long you'd like to spend on each section and assigning a timekeeper to keep you accountable to your schedule. Having a timekeeper is especially important if you're planning to run your simulation in a compressed time frame (generally less than 3 hours).
2. **Rowdy / Overly Enthusiastic Participants:** *World Climate* can be a genuinely fun and exciting experience for participants, especially during the open rounds of negotiations where students advocate for their nation/bloc of nations. This enthusiasm is generally encouraged, except when participants become overly silly, disruptive or disrespectful. In order to ensure a productive and respectful negotiation, we recommend laying some ground rules before you begin the activity. Another approach that can be helpful is to encourage participants take their roles seriously, get fully into character, and behave as they would if they were actual delegates to the UN climate negotiations on an international stage. In addition, to get students back to their blocs after whole group negotiations, you may want to establish an agreed upon signal (e.g., hand raising) to return to their seats since the noise level will likely be high, depending on the size of your group.
3. **Gregarious vs. Shy Participants:** Because the *World Climate* simulation includes public speaking, negotiations and small group conversations that occur under time pressure, participants who are more gregarious, extroverted or confident can sometimes dominate the role play and decision-making process. To help ensure maximum participation, we recommend introducing a community agreement at the beginning of the simulation called "Step Up, Step Back" in which participants who tend to speak up frequently and dominate group discussion are asked to remember to "step back" to allow others to contribute. Likewise, those who are more hesitant to speak are encouraged to "step up" and share their important perspective and insights with the group.
4. **Timid Auxiliary Groups:** If you choose to run *World Climate* with the U.S. Cities and States, Fossil Fuel Lobby, Press Corps and/or Climate Hawk groups, you may find that

members of these groups are hesitant to engage in the negotiations because their decisions are not entered directly into the C-ROADS climate policy model. Feel free to remind them of their interests in the simulation, encourage them actively lobby other groups in creative ways, and give them an opportunity to give a speech during the plenary sessions.

5. **Dealing with Climate Change “Dismissives:”** Because the science of climate change has been politicized, you may have participants who are dismissive of the reality of climate change. Some tips for handling this situation are:
  - a. Be respectful and listen to all perspectives. Encourage all participants to keep an open mind during the simulation, with knowledge that there will be time to discuss people’s learnings, questions & reflections during the debrief.
  - b. Keep the conversation grounded in factual reality, including the reality that the physical basis of climate change is settled science and that more than 97% of actively publishing climate scientists agree that climate change is real, caused by human activities (primarily by the use of fossil fuels), has largely negative consequences for society, and that we can take actions to mitigate it.
  - c. Be clear that the C-ROADS policy model reproduces historical changes in global CO<sub>2</sub> concentrations and temperature since 1850. It also reproduces the rise in global temperature in response to rising CO<sub>2</sub> concentrations that is projected by state-of-the-art, consensus scientific models.
  - d. Remember that *World Climate* empowers participants to learn for themselves in an interactive way (instead of being lectured at) and that the ‘messengers’ in the simulation are the participants themselves. Analysis of learning outcomes from *World Climate* have indicated that it has the potential to reach across political divides.
  - e. Have confidence that our project team is happy to support you and help you answer any difficult questions you may encounter. For any support needs, just email us at [climate\\_change@uml.edu](mailto:climate_change@uml.edu).
  
6. **Dealing with Despair/Despondency:** Over the course of the *World Climate* simulation, participants learn about the causes and consequences of climate change and its impact on society now and into the future. Climate change can be a heavy and disheartening topic if learning about it is not paired with information on solutions and the co-benefits of addressing this challenge. In addition to ensuring that there is time for the solutions video and discussion embedded in the *World Climate* slide deck, we encourage you to bring in a campus-based sustainability professional to discuss ways students can learn more and take action on campus or in their community around climate change whenever possible.

## Simulation Add-Ons & Ways to Go Deeper

1. **Co-facilitate with someone who has complementary expertise** - If possible, consider teaming up with a co-facilitator for your session who brings a different perspective, skillset or knowledge-base to the activity. Educators from many different disciplines find connections between *World Climate* and their own expertise, including biology, chemistry, physics, environmental and climate science, economics, political science, sociology, sustainability, and management. Feel free to invite them to co-facilitate with you and they may find that you have introduced them to a valuable tool for their own instructional work while also helping you. Your campus sustainability office may also have students or staff who are able to bring a valuable voice to the simulation.
2. **Bring an international perspective to your event (via Skype)** - Given the global context of the *World Climate* simulation, it can be powerful to feature the perspective of someone who can speak to what climate change and climate politics look like on the ground in another country. Consider reaching out to students who are enrolled in foreign exchange programs, professors who are doing research overseas, or other friend/family or academic connections you may have in an international context.
3. **Draw media attention to your event** - Have a college newspaper on campus? A local city newspaper? Invite them to attend your event! The simulation is a great opportunity to showcase the innovative and important educational opportunities you are offering your students. Because of the interactive nature of the situation and the timeliness of the issue you are tackling, we've found many local newspapers are happy to cover the event.
4. **Learn more about systems thinking** - If you are interested in learning more about the systems dynamics you see at play in the C-ROADS climate policy model, consider enrolling in the free "Climate Leader" at this website: <https://www.climateinteractive.org/the-climate-leader/>. This course will help you feel like an expert as you unpack the complexities of the climate system.
5. **Take Full Advantage of C-ROADS as a Learning Tool** - The C-ROADS climate policy model is a powerful tool that enables you and your students to experiment with the real-world outcomes of various emissions decisions. Having your students engage with the tool in their groups during and after the simulation may be useful for them to understand what it may take from everyone to reach the global temperature goal. To learn more and take complete advantage of the tool, visit: <https://www.climateinteractive.org/tools/c-roads/>

## Key Insights to Focus On

1. **Carbon Bathtub Analogy** - Point to the bathtub diagram (slide 46). Make the point that if emissions peak near current levels, atmospheric CO<sub>2</sub> concentrations continue to rise because emissions are about double the net removal of CO<sub>2</sub> from the atmosphere. This is just like a bathtub in which the water level rises as long as there is more water coming in the faucet than going down the drain. Just like the water in the tub, atmospheric CO<sub>2</sub> accumulates as long as there is more CO<sub>2</sub> being emitted into the atmosphere (the faucet) than leaving it (like water going down the drain). To reach international climate goals, emissions must peak within the next few years and then decline to near zero by the middle to later part of this century.

2. **Required Speed & Scale**

Required speed: The longer the world waits to reduce emissions, the harder it is to meet goals. You could recreate a test to show that if the “Start Reduction Time” is delayed five years, then the “Percent Reduction” required is increased by several tenths of percent. To limit temperature increase to two degrees, global peaking of emissions within the next 5-10 years is necessary.

Required scale: Because of the dynamics of the carbon ‘bathtub,’ reduction of CO<sub>2</sub> emissions by over 80% is necessary to stabilize CO<sub>2</sub> in the atmosphere. In contrast with the common misconception that the Earth’s atmosphere is vast and open, it is actually quite small and finite. In fact, if the Earth were the size of an apple, the height of the atmosphere would be roughly equivalent to the width of the apple’s skin. We encourage you to demonstrate these insights using an apple and a glass of water. Show students the apple and ask them where you should put your finger to represent the top of the atmosphere if the Earth were the same size as the apple. Ask them to guess a few times before sharing with them that your finger should actually be on the apple’s skin. Then explain that the finite volume of the Earth’s atmosphere can be represented by the finite volume of a glass. The water in the glass represents atmospheric CO<sub>2</sub>. As CO<sub>2</sub> is emitted, or water is poured into a glass, it accumulates. In other words, while CO<sub>2</sub> may be colorless and odorless, it still obeys the law of conservation of mass - like water, it doesn’t just magically disappear when it enters the atmosphere. Therefore, in order to stabilize the level of either CO<sub>2</sub> in the atmosphere or water in a glass, inflows cannot be greater than net outflows (water leaving the cup, or CO<sub>2</sub> leaving the atmosphere). Currently, CO<sub>2</sub> emissions are about double net removals and net removals are expected to decline over time (in C-ROADS, under the ‘Graphs’ tab, select ‘Removals and Land Use’ and then ‘Total Emissions and Removals’ to show the actual levels of emissions and removals under any emissions scenario. In order to stop CO<sub>2</sub> accumulation, the emissions and removals lines must overlap).

For additional information and to better understand these systems thinking concepts, we recommend the following short video:

<https://climate-change-initiative.org/curriculum/using-systems-thinking-understand-climate-change>

3. **Tragedy of the Commons** - Elicit from the group that this game is an example of a classic system archetype or system trap, “the tragedy of the commons,” in which individuals acting independently and rationally according to each individual’s self-interest behave contrary to the best interests of the whole group by depleting some common resource. Garrett Hardin best described this trap in his essay “The Tragedy of the Commons.” You could share [the article by Hardin](#). Point to the solution — *mutual coercion mutually agreed upon* — and thus the need for international cooperation. Perhaps make the connection to other “commons” that require such mutual coercion—traffic lights, fisheries, rangeland, parks, etc.. Note that we traditionally think of a commons as something we draw from, i.e., a source. In the climate challenge, the commons is something we dispose into, i.e., a sink.
  
4. **Social Justice** - The simulation illuminates many of the tensions between the most developed and less developed countries, particularly related to fairness, historical responsibility for greenhouse gas emissions, and future economic development. Climate science and the C-ROADS climate policy simulator make it clear that all regions must act to meet international goals - climate change is now an ‘all in’ challenge. Without social justice and equity, the developing world is unlikely to act. These insights are transferable to vulnerable communities within wealthy countries too - a successful transition to a low-carbon economy must offer meaningful opportunities to all people or risk losing public support.

### Additional Questions or Support Needs:

If you have additional questions or support needs, feel free to contact the Geo-Interactive/World Climate Project Team at [climate\\_change@uml.edu](mailto:climate_change@uml.edu). We’re here to help!