

Facilitator's Guide



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Welcome

Congratulations on taking on the important work of engaging participants in working towards a stable climate through the World Climate Simulation. World Climate is a climate negotiation role-playing exercise that explores the science and geopolitics of international agreements on climate change, and is grounded by a computer simulation of the dynamics of the climate system, C-ROADS, that has influenced the actual global negotiations. World Climate has been played by tens of thousands of people, from middle-school students to UN officials in countries worldwide. By facilitating World Climate for a group, you have an opportunity to help participants gain insights into the causes of climate change and to see the possibility of success in addressing the climate challenge.

This facilitator guide provides detailed suggestions about how to lead a World Climate event and deliver the key insights of the experience to participants. As you read through this guide, recognize that you can alter this exercise to fit many purposes and schedules, or use it exactly as prescribed below.

You also have other resources available, including: training videos, videos of expert facilitators leading the exercise, a detailed reference guide, and additional materials to help you best tailor your event. These resources and more can be found on the resources for World Climate facilitator’s page:

www.climateinteractive.org/programs/world-climate/facilitator-resources/

If you run a World Climate Simulation, please let us know by registering it: www.climateinteractive.org/programs/world-climate/register-event/. This allows us to conduct research, compile metrics, receive funding, and build a network of global facilitators.

Table of Contents

A World Climate Simulation in Brief	2
Preparation and Setup.....	3
Agenda & Sequence of Play	8
Appendix.....	24

A World Climate Simulation in Brief

Provide an introduction and some context to your participants, and then dive into your roles as the UN Secretary General or the UN Framework Convention on Climate Change (UNFCCC) Executive Secretary and delegates representing nations from around the world tasked with limiting global warming to no more than two degrees Celsius above pre-industrial global temperature. Guide the delegates through the basics of climate science, the C-ROADS Simulation, and emissions lines for each group.

Explain to the participants what their tasks are as delegates: they'll need to propose greenhouse gas emissions reductions, land use changes, and climate finance pledges. Hear proposal speeches from each group, and then run the scenario in the C-ROADS simulator. Let the groups negotiate and propose new actions, and run the simulator again with each new pledge added. Allow groups to have a few more rounds of negotiations to achieve the objective of staying well below 2 degrees Celsius of warming above preindustrial levels.

When a scenario is created in C-ROADS where CO₂ emissions are roughly flat, point to the rising temperature in the atmosphere and accentuate how counterintuitive this is. Introduce the bathtub view of carbon dioxide in the atmosphere (see Appendix for more details) and explain that the temperature only decreases if the emissions are less than removals.

After the negotiations, invite everyone to step out of their roles and debrief. If the group didn't keep temperature rise below 2 degrees, take the time to show what it would take. Then cover the following topics: 1) their feelings, 2) the real world of UN negotiations, 3) insights about the Carbon Bathtub, speed and scale of action, the tragedy of the commons, and social justice, 4) hope, and 5) their possible role in this challenge.

Purposes

As you facilitate World Climate, keep three purposes in mind:

1. **Insights and Understanding.** Offer an opportunity for participants to gain insights into the carbon and climate system, as well as the social and international geopolitical dynamics of the climate challenge. Specific insights are listed later in this guide.
2. **Learning and Leadership.** Provide a non-dogmatic experience for participants to think and explore, for themselves, about their possible role in addressing

climate change and experiment in a role-playing environment how to advocate for positive action.

3. **Diffusion.** Give participants an opportunity to take what they have learned and translate it into real-world action, including leading World Climate with another audience.

Preparation and Setup

Facilitation Roles

The World Climate Simulation can be facilitated by one person, but the ideal facilitation team includes two people – one person more focused on running the C-ROADS simulator and explaining its dynamics and the second person more focused on group dynamics and learning.

It can be helpful to co-facilitate with someone who has knowledge and skills that complement your own. For example, a scientist or science educator may want to co-facilitate with someone who is more familiar with policy, economics, or business. Enlisting co-facilitators also gives them an opportunity to learn how to facilitate. If you are the primary (or sole) facilitator, you will be playing the role of the UN Secretary-General and operating C-ROADS.

For online simulations, a ‘host’ role is also important for ensuring the virtual meeting software is running smoothly. The host’s responsibilities include things like assigning and managing participants in breakout rooms, managing participants’ questions and controls (mute/unmute, hand raising, etc.), ensuring the presenter’s audio and video are working properly, and sending out important links (such as any game materials) in the chat. You can choose to include an additional co-facilitator to play the host, or take on the host responsibilities alongside your facilitator role.

We encourage you to have a change of clothes accessible to quickly “switch” from a regular facilitator to your role. No matter your role, it’s best to look presentable and be ready for improvisations. Test your backdrop, lighting, and audio beforehand. If you plan to use a virtual background, blank walls behind your seat often work well. Make sure to have lots of light in the room you are in to illuminate your face and avoid shadows. The game works best when facilitators and participants actively play their roles, so lead by example and have fun with it!

Facilitation Preparation

Explore the World Climate Training Plan to find guidance videos on World Climate, suggested materials for review, and additional readings for your learning as you

prepare to facilitate a World Climate Simulation:

www.climateinteractive.org/tools/world-climate-trainings/

Reserve your room/online platform, establish the number of co-facilitators (if any), create an agenda and time allotment for each section, practice your speeches and facilitation strategy, and familiarize yourself with the slides and other materials you'll be using (see Appendix for a more detailed Event Planning Checklist).

For further background into the systems thinking concepts behind World Climate, take our free online course "[The Climate Leader](http://theclimateleader.org)" (theclimateleader.org)

Familiarize yourself with [the C-ROADS simulator](#), which enables the pledges that groups propose to be tested in order to determine their impact on atmospheric CO₂ concentration, global temperature, ocean acidification, sea level rise, and more (see Appendix for instructions on how to access and setup C-ROADS, as well as some of its useful features).

Dividing Participants

Participants are divided into groups and given briefing statements describing their respective group. Groups can be divided up and given their briefing statements in advance or during the event.

There are two primary ways to divide up participants to play World Climate:

Six Regions – This version allows for larger groups (more than 18 people) and enables greater participation from all individuals. Participants are divided into negotiating teams representing China, United States, European Union, India, Other Developed Nations, and Other Developing Nations (see Appendix for detailed country breakdown).

Three Regions – This version is good for small groups (6-18 people) or for exercises with less time. Participants are divided into Developed Nations, Developing A Nations, and Developing B Nations (see Appendix for detailed country breakdown).

Once you have divided your participants, provide them each with these materials ([found here](#)):

- Briefing Statement (specific to their group)
- Proposal Form

For online events, we have [created a worksheet](#) with easy access to all materials and links. We recommend copying and pasting the contents of this sheet to your own version so that you can edit and share with your participants. We have also included virtual backgrounds for facilitators and participants to use to liven up the online

experience!

Guidelines for Respectful Roleplay

A key feature of the World Climate Simulation is having participants “get into character” and adopt the perspectives and priorities of the real-world groups they are representing. To ensure that the World Climate Simulation is a respectful, positive experience for all participants, we encourage sharing the following guidelines. We have adapted them from the [American Model UN guidance](#):

- **Clothing and head coverings:** Participants should not wear the traditional or religious clothing or head coverings of any nation or organization, unless the participant themselves is of that culture or religion and it is a component of their personal practice.
- **Accents:** Participants should not pretend to have the accent or speech characteristics of any nation or group of people they are roleplaying in the game. Such portrayal is inappropriate, could be considered offensive by other participants or observers, and detracts from the goals of the game.

Suggestions: Participants could use a virtual background (available in the [Teams & Materials Google sheet](#)) to represent their group, or create a physical backdrop with poster board or other accessories to illustrate some of their countries’ priorities, cultures, or messages. This could include aspects such as countries’ flags and notable landmarks.

Room Setup

For an in-person event, the room should be set up with:

- A projector and computer that has access to C-ROADS and the slides accompanying this game. The projected image should be large enough and positioned so that all participants can see it clearly.
- Chairs and tables for the groups. Each table should have a table tent nametag with the group’s name along with the handouts. For the wealthier countries and regions, set up their tables with a tablecloth, flowers, pens, notepads, and snacks. These details are to symbolize the relative wealth of the team who will sit here—the Developed Nations (or the US, EU, and other developed countries groups). For the moderately wealthy countries, set up chairs but no tables. Then, have the Other Developing negotiating group sit on the floor, perhaps with one chair for the group’s wealthy leader. If you are including additional groups, you might offer candy or fake money to the fossil fuel lobby and sign-

making supplies to the climate activists (see Appendix for additional group variations). While they are optional, props make the roles feel more authentic and make the game more engaging.

- Somewhere out of sight, such as outside the room or in the back, store your formal clothes or accessories for acting as the UN Secretary-General during the roleplay period, e.g., a suit jacket, tie, or scarf.

For an online event:

- Choose an online platform you have access to that has the “breakout room” feature – our team has found that Zoom Meetings work well for this.
- Familiarize yourself with the controls and features of your virtual meeting software. Make sure to learn where any important controls are beforehand – chat boxes, muting/unmuting participants, virtual background controls, etc.
- If you have a co-facilitator, we suggest you both practice your virtual meeting software controls together.
- If you are using Zoom and your audience is unfamiliar with this software, [add supplemental slides](#) to your slide deck to orient them to the webinar mechanics at the beginning of the event.
- Be aware of the audio and video of both facilitator/hosts and the participants. If you want participants muted at the beginning of the presentation, be mindful of this going into your event, and set up your virtual meeting preferences beforehand.

Other items to bring

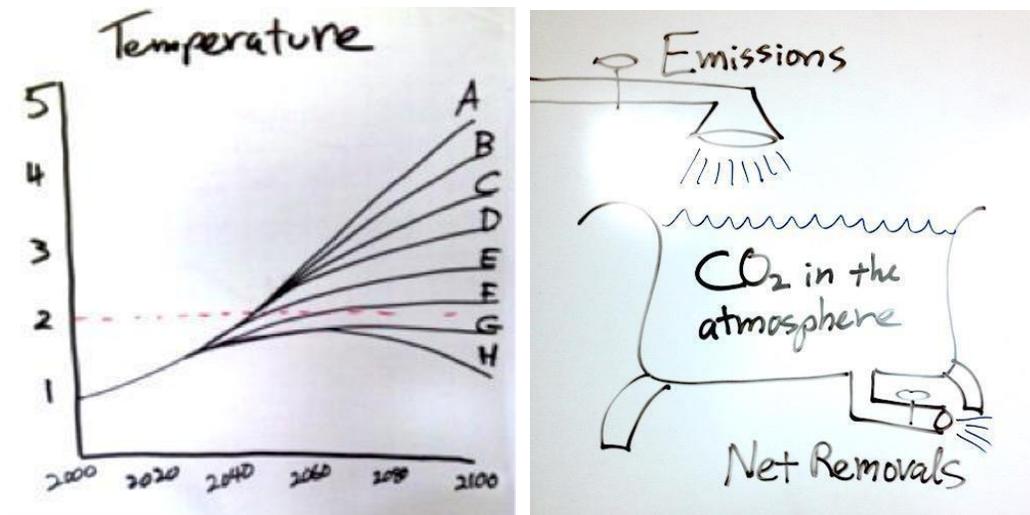
- Formal clothes for roles
- Pale blue sheet or tarp
- UN flag or flags of countries
- Flowers, water pitcher, glasses, note pads, pencils, fruits or snacks of some type, and table cloth
- Paper or blackboards with pre-drawn diagrams
- A large clock or timer that is visible to all for keeping speeches on time.

To draw on paper or blackboards, post on a wall, or project:

- Pledge input table.** Draw large enough that everyone can see from their seats.

Proposal Summary

	Emissions Peak Year	Reductions Begin Year	Annual Reduction Rate (%/year)	Prevent Deforestation (0-100%)	Promote Afforestation (0-100%)	Contribution to or Request From Global Climate Fund (\$ billion/yr)
United States						
European Union						
Other Developed						
China						
India						
Other Developing						
<i>Example</i>	<i>2075</i>	<i>2085</i>	<i>1.0%/year</i>	<i>80%</i>	<i>10%</i>	<i>\$10 B/yr</i>



- B. **Temperature futures graph.** Graph of historical data to date for global temperature and several possible trajectories that might result from the collective proposals. Use this to poll the audience about what effect their proposals will have before running the computer simulation to see the results.

- C. **Bathtub drawing** to illustrate relationship between emissions, removals and the atmospheric CO₂ concentration (see Appendix for more details). Note several features of the bathtub drawing: The amount of water flowing into the tub should far exceed the flow out of the tub. And the inclusion of the word “Net” in “Net Removals” is important.

Capturing Media

Where appropriate, we recommend inviting media, bloggers, or videographers to an event and/or releasing a press release about the event. You can also produce your own media by taking pictures, video, and writing about your experience (or have participants help out). For many, role-playing exercises like World Climate are a new approach to learning that offers an opportunity to connect people to a global issue that can seem abstract. Please share any media from your event with us by emailing multimedia@climateinteractive.org.

Agenda & Sequence of Play

We typically recommend three hours for the entire session. For class settings with limited time, you can choose to stretch the exercise over several days. A 30-60 minute abbreviated version with limited role-playing and no negotiating is also possible (even in an online webinar setting), though it is a less impactful learning experience.

We have also adapted the game into a less interactive presentation format that you could adopt when you have a much larger group (e.g., for 400 people) or a much shorter amount of time (e.g., [in 17 minutes for a TEDx talk](#)).

Here is what a typical agenda might look like:

1. Introduction	5 - 15 min
2. Group Assignments	10 - 15 min
3. UN Summit Opening Presentation	10 - 20 min
4. Round 1 Team Meetings	10 - 20 min
5. Round 1 Plenary Presentations	15 - 30 min
6. Round 2 Team Meetings & Negotiations	15 - 30 min
7. Round 2 Plenary Presentations	10 - 20 min
8. Additional Rounds of Play	10 - 20 min
9. Debriefing Discussion	30 - 60 min
Total	2 - 4 hours

Summary of Steps

1. **Introduction** – Facilitator delivers informal introductory presentation before officially opening the mock UN summit (in step 3), providing background information on climate change, an introduction to the game play and goals, and a quick look at the C-ROADS simulation model.
2. **Group Assignments** – Participants are divided into roughly evenly sized groups and given a briefing sheet that describes who they represent and what their group’s assignment is (this can also be done in advance). Participants take time to read their briefing sheet. Group members can talk within their groups to exchange views and develop a common understanding of their group. During this time the facilitator or co-facilitators can go around and check in with the groups individually.
3. **UN Summit Opening Presentation (roleplay game begins)** – Facilitator takes on the role of the UN Secretary-General and begins the roleplay game by delivering a passionate speech about why the summit has been convened — reinforcing the stakes of climate change, the role each group has in addressing it, and the goal for the summit, which is to limit global temperature rise to well below 2°C and aim for 1.5°C.
4. **Round 1 Team Meetings** – Participants consider the actions their group should propose versus oppose. Group members then discuss with each other to align on their team strategies and proposed actions so they can fill out their proposal form.
5. **Round 1 Plenary Presentations** – Each group makes a short presentation to the plenary, laying out their proposed actions. Each proposal is then entered into C-ROADS, and the impact of the proposal is briefly discussed by the whole group. After every group has put forward their proposal, Round 1 ends with a short discussion about the results from the round.
6. **Round 2 Team Meetings and Negotiations** – Teams have time to discuss additional strategies for further action, and this time the floor is also opened for negotiations. Groups are encouraged to reach out to other groups, seek to understand their positions, and affect their proposals.
7. **Round 2 Plenary Presentations** – Following negotiations, each group gets another chance to put forward an updated proposal to be added to C-ROADS.
8. **Additional Rounds of Play** – Teams continue to make plenary presentations and enter the actions into C-ROADS together. The game is played until participants either reach the goal or run out of time.
9. **Debriefing Discussion** – After the mock summit concludes, the facilitator asks everyone to step out of their roles and reflect on the experience, focusing on

feelings, hope, and call to action.

Detailed Game Facilitation

1. Introduction

Dress more casually than you will dress later, when you are playing the role of a UN official. Begin by welcoming the participants as themselves, not in the roles they will soon play. Briefly introduce the background and motivation for the event, the urgency of addressing climate change (sometimes this is included later with the Secretary-General's Opening speech), the use of the C-ROADS simulator, and the event agenda. There are presentation slides available on the Climate Interactive website to support this introduction, however select what suits your audience and needs. Limit this segment so participants can interact with the model and each other as soon as possible, instead of sitting and listening.

Encourage the participants to play their roles fully to the best of their understanding when the negotiations begin. Tell the group that the simulation will contain elements that are both realistic and unrealistic. Although the game is very highly simplified compared to an actual UN negotiation, there will be binding deadlines, the behavior of the global biogeochemical system will be determined by our best scientific understanding, and there are differences between the regions of the world. The C-ROADS simulator has been used to brief top decision-makers and negotiators at the actual climate negotiations for many years. As such, tell the group they can use this "virtual world" to experiment with international agreements and deals that would be impossible to explore in real negotiations.

If running the event online, the host should begin organizing the team breakout rooms as the facilitator is giving the introduction (see below for different approaches to group assignments).

2. Group Assignments

After you have made your introductory speech, announce the group assignments if you haven't already. Group assignments can be made in advance, if you know all the participants ahead of time. Here are three approaches to group assignments:

- Let participants randomly sort themselves into the available seats as they enter the room, or by creating random breakout rooms if running the event online.
- Pre-assign the group members if you have some information about the participants prior to the event that you want to use for assigning them to their roles.
- Let participants choose their groups themselves e.g., "Choose the group with which you would most identify with"; and afterwards, you redistribute them to

the groups unlike their preferred choice. Adjust as necessary to ensure groups are roughly evenly sized.

Once all the participants are in their groups, turn their attention to the briefing sheets which describe their group's goals. If running the event online, open the breakout rooms at this point. Give participants some time to read their materials. For an online event, also encourage participants to upload their virtual background and change their participant name to include their team name during this time. Group members can talk within their groups to exchange views and develop a common understanding of their group. The facilitator can go around and check in with the groups individually. (See Appendix for more tips on managing online breakout rooms).

While participants finish reading over their briefing statements, step away into another room, or turn off your camera, and put on your official dress as Secretary-General—e.g., tie/scarf and suit jacket.

Sample Script: "Take a few minutes to introduce yourselves and read the briefing sheet about your group. Briefly discuss with your team members to develop a common view of your group's identity and goals. Keep in mind the guidelines for respectful roleplay. When the summit starts, you will not be yourselves – you will be leaders and important representatives from different countries and stakeholder groups. Please play your roles."

3. UN Summit Opening Presentation

As you reconvene the group, change your demeanor to reflect a serious, results-oriented, and no-nonsense attitude. Stand at the front of the room. Do not smile. Quickly stop any side talk by asking the delegates to focus on the task at hand. This helps all participants to dive quickly into their roles.

As briefly as possible, introduce yourself as Secretary General or UNFCCC Executive Secretary, and set the context. Assert that climate change is an immense challenge and that the nations of the world must create a plan to address it. If necessary, include a short lecture on climate science to make the case. We have provided briefing slides to aid you in facilitating. Express your disappointment that despite regular meetings since 1992, there is still so much work to be done.

"Distinguished delegates, it is with great honor that I welcome you to the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). As you know, I am the Secretary General of the United Nations [or Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC)].

I want to start by congratulating you for ensuring we now have a Paris Agreement which guides us towards achieving our global goal of keeping the global temperature increase at well below 2 degrees Celsius".

Set the tone by making the gravity of the situation and the goal of the negotiation clear. For example, you could say:

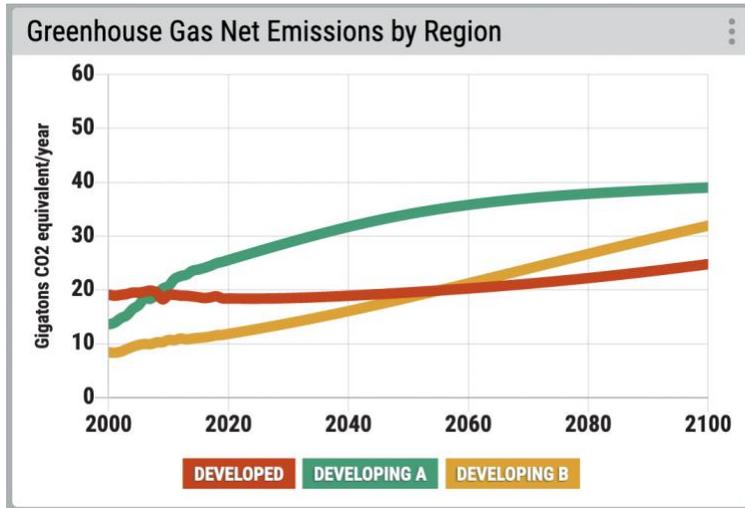
*“As I look around the room today, I see delegates who are younger than I am and who, within your lifetime and, certainly, within the lifetime of your children, will be faced with the consequences of our decisions here today. **I ask you for nothing less today than to feel the full weight of your decisions on your future and the future of generations to come.** What is the planet that you will leave to the future?”*

Your task is straightforward: in order to avoid dangerous climate change, you must achieve emissions reductions that will stabilize temperature increases below 2°C above pre-industrial levels and allocate at least \$100 billion per year for climate financing for those who need it most.”

During your speech, if someone makes a joke, asks a clarifying question, or falls out of character, sternly rebuke them by saying, *“Please refrain from any side talk that does not contribute to achieving the goal of a breakthrough agreement.”* Do not smile. In response to any requests or expressions of concern, say, *“The Secretary-General recognizes that the delegate from the Developed Nations wishes she had more information about costs,”* and quickly move on. You are not here to accommodate. You are here to move towards an agreement given your rules.

C-ROADS Overview

Orient participants to the C-ROADS Simulator. Introduce each group and what part of the world they represent.



“Most greenhouse gas emissions to date have come from Developed Nations <point>, most of the future emissions will most likely come from Developing A Nations <point>, and the effects of climate change will be felt most strongly in the Developing B Nations <point>.”

Navigate through the inputs and outputs of the model, including greenhouse gas emissions (expressed as CO₂ equivalents) by bloc, resulting CO₂ concentrations, and temperature outcomes. Show them how, under a baseline scenario, with no additional climate policy, global surface temperature rises far above the +2°C goal. See Appendix for more details about the C-ROADS simulator.

Game Mechanics

Each bloc must make decisions to address three tasks. Guide participants by explaining these tasks:

1. *Each delegation will set its own greenhouse gas emissions targets. You will set:*
 - a. Emissions Peak Year. In what year (present-2100) will emissions in your bloc stop growing (if any)?
 - b. Reductions Begin Year. In what year will your emissions begin to decline, if any? Input can be any year present-2100, but will only take effect after the Emissions Peak Year has occurred.
 - c. Annual Reduction Rate. If emissions will decline, at what rate (% per year)? If a reduction year is chosen, a reduction rate must also be established.

2. *Forestry policy decisions:*

- a. Prevent Deforestation. On a scale of 0 – 100%, how much effort would your bloc like to take in preventing deforestation? 0% continues to follow the baseline deforestation path, while 100% steadily eliminates deforestation until it reaches zero in 2050.
- b. Promote Afforestation. On a scale of 0 – 100%, how much effort would your bloc like to take in promoting afforestation? 0% continues to follow the baseline afforestation path (where no new area is set aside for afforestation), while 100% allocates all available land for afforestation.

3. *Climate finance needs:*

- a. How much will your bloc contribute to or request from a global climate fund?
- b. Is receipt or contribution contingent on certain actions?
- c. What terms would you like to set?

If time is short, you can eliminate the task around climate finance. Decisions about the fund are not directly entered into C-ROADS, but often lead to heated discussions and agreements that are used as conditions for emissions decisions.

4. Round 1 Team Meetings

Pass out or send the link in chat to the proposal form for documenting each group's NDCs (Nationally Determined Contribution), if teams do not have them already, and give the parties a clear deadline (e.g. 20 minutes) to finalize their proposal.

“For the next 20 minutes, review your briefing sheets and decide as a group what your country/regional pledge will be. Fill out the proposal form and designate a representative from your group to give a 2-minute presentation to the plenary.”

You and your co-facilitators should go around and check in on each group and coach them on their goals and strategies. When time is up, close the team meetings by calling everyone back. *See Appendix for more tips on managing online breakout rooms.*

5. Round 1 Plenary Presentations

Once all participants are back in the plenary, call on the first group's representative to give a 2-minute presentation about their proposal. The order of teams you call on does not matter significantly, but calling on the wealthier nations or blocs first will help highlight the power disparity. Pull out a timer that all can see to show that they will be cut off if they run over time (just like in the UN). Allow for only minimal additional rhetoric about the difficulty of their situation. Do allow for explanations of what it would take for them to reduce more.

Listen closely to their speech, demonstrating the sort of focus you want others to employ. Amidst all the rhetoric, note the specific actions that are being proposed. You may need to clarify or correct their proposal. At the end of the speech, call for brief applause and thank the delegate. You can choose to collect all proposals and fill out the proposal summary table (below), or enter pledges one at a time into C-ROADS.

Proposal Summary

	Emissions Peak Year	Reductions Begin Year	Annual Reduction Rate (%/year)	Prevent Deforestation (0-100%)	Promote Afforestation (0-100%)	Contribution to or Request From Global Climate Fund (\$ billion/yr)
United States						
European Union						
Other Developed						
China						
India						
Other Developing						
<i>Example</i>	<i>2075</i>	<i>2085</i>	<i>1.0%/year</i>	<i>80%</i>	<i>10%</i>	<i>\$10 B/yr</i>

When entering proposals into C-ROADS:

1. **Restate the proposal** – *“The United States delegation pledges to peak their greenhouse gas emissions in 2030 and reduce their emissions 3% annually beginning in 2040.”*
2. **Before inputting the proposal, ask participants to mentally simulate the impact** – *“How much of a difference do you think this will make? Would temperature increase drop to 3 degrees? 2? Think of a number in your head.”*
Encourage participants to call out their predictions or enter them into the chat. This is the time when you are helping people surface their assumptions about how the system works.
3. **Input the actions into C-ROADS and explain the impact** – *“China’s pledge has reduced temperature change by 0.3 degrees Celsius.”* Direct the participants’ eyes to the corresponding line on the graphs you’re showing. *“See the light blue line drop down, and China’s greenhouse gas emissions reach net zero by the end of the century.”*

For the sake of time, you don’t need to go through every proposal with such detail. Once all pledges have been entered, summarize the overall plan and its temperature impacts, where the plan that has been proposed gets us, and take a little time for reflection on the results. Encourage participants to talk about the insights and implications of their actions so far in order to support their strategy and actions in the

next round.

“The good news is that if all countries deliver on their pledges, the 2100 temperature would be ___ degrees. That is a much better world. And yet you can see a gap remains to stay within the limit of 2 degrees.”

Next, open the Impacts > Sea Level Rise graph in C-ROADS to show the trend for sea level rise in your current scenario. Say, “Even with the progress you’ve made, *many of your citizens would be flooded by sea level rise.*” Take a blue tarp or sheet (if you have one) and dramatically drape it over participants. Take it off quickly. Note – this action is optional but can be quite powerful.



Help participants relate to the scenario by demonstrating possible impacts of temperature rise such as sea level rise, increasing disease transmission, or drought in your community. For example, if you live in a coastal country, you can create some slides showing the local coastline with increasing sea level.

One of the best opportunities for teaching the dynamics of the carbon and climate system may occur when the groups level emissions, or if their emissions reductions come too late and are insufficient to meet the 2 degree goal. This would be when total CO₂ emissions cap, and stay roughly level for the rest of the century. This is a good moment to teach the “Bathtub” analogy, or why CO₂ continues to accumulate in the atmosphere even when emissions stabilize. For extensive tips and scripts about how to teach this insight, see the Appendix.

6. Round 2 Team Meetings & Negotiations

Open the second round, giving teams time to consider stronger targets or reconsider already proposed actions in light of the results so far. With the floor now open for negotiations, encourage groups to reach out to other groups to discover their positions and lobby them to change their strategies if necessary.

“Now that you’ve submitted your first round of pledges, we have a second period of team discussions. This time, I encourage negotiations between groups. You may go to other groups to learn about their strategies and lobby them to change their strategy as necessary. Take a few minutes to align within your groups about how to approach this negotiations round. We suggest keeping a couple representatives at your table and sending the rest to talk to other groups. You have 15 minutes for Team Meetings & Negotiations, starting now.”

Ideally, the teams will dispatch negotiators to work out a deal with other teams. This happens either in small group conversations or by someone speaking to the entire group (e.g., “We need to all work together. What if we?”) If the latter happens, give the person space and time to facilitate a conversation, but intervene if it drags on too long with little progress.

Sometimes the team playing “Developing B Nations” (in the three-region version) or “Other Developing Nations” (in the six-region version), sitting on the floor, will struggle to get clear about what they can do, given their minimal power. One possibility is to ask them, “*Do you seem to have any power here?*” Once confirming “No”, you could say, “*In the real UN negotiations, delegates from nations such as some in Africa or small island nations will make the case that wealthier nations need to help them for moral and ethical reasons, but also because it is in their own interest.*” A powerful illustration of this last point is evident from the simulator model: ask participants from these delegations to look carefully at projected emissions if no policy actions are taken and ask if they think wealthier nations can successfully meet climate goals if they do not also reduce emissions. As future emissions are dominated by the developing world, it quickly becomes evident that their decisions are critical to global success.

If running the event online, see the Appendix for more tips on managing online breakout rooms and navigating negotiations using an online platform.

Available Variation: You may decide to make access to the C-ROADS simulator available to participants after Round 1, so people can use the simulator in their discussions to come up with proposals. It is better to restrict access to the model in the first round as the learning experience is enhanced when leaving the results of the actions a surprise.

7. Round 2 Plenary Presentations and Additional Rounds of Play

Enter the final rounds of plenary presentations where groups once again propose actions that are tested in C-ROADS. Continue allowing the teams to take turns with proposals until the group feels that their summit goal has been met or time is up. If time allows, enter into another round of negotiations or simply call on representative during the plenary round to call out stronger targets. You can encourage groups to favor global considerations over national ones to encourage them away from thinking only in terms of their national interests and see whether this changes anything.

8. Closing the Summit

Decide at some point that the groups are not going to make any more progress negotiating, or that you’ve run out of time for the summit portion of the session.

If the participants were successful in reaching their goals, congratulate and lead them in a huge applause for their accomplishment, acknowledging the possibility of this future.

“Delegates. Our proposals today successfully limit warming to 1.7°C. We will get there by <Summarize the elements of the plan>. According to the C-ROADS simulator, this future is technically possible. Now we must figure out how to make it a reality. We have taken a huge step forward today by working together to create a vision for a future that avoids the worst of climate change. Yes, the journey will be tough, but now we are equipped with a plan. We can and we must do it!”

If your group’s scenario does not reach below 2 degrees, state the progress they made and that “we still have crucial work to do.” Recap the major inputs and outputs of the group’s scenario. You could emphasize the consequences and refer to our presentation slides for supporting information. For example, if they reach 3.2°C, show the impacts at 3-4°C, then step back to allow the participants to quickly propose ideas for better results outside of their roles.

9. Debrief

Once the roleplaying period ends, it is important that you take participants through a discussion to reflect on the experience and draw out insights from it before they leave the event. Even if it is short, the debrief will help ensure participants take the most away from the experience.

Ideally, there is time for the group to take a break at this point. Ask your participants to step out of their roles by rearranging their chairs or removing their virtual backgrounds if running an online event. Change your clothing and demeanor to be more informal, thoughtful, and responsive. Welcome them back and explain that it is time now to reflect on the experience.

Begin Debrief and Moment of Silence

“Hands up if you thought that was an intense experience. <wait for hands> I just asked you to play a role you’ve never played, one that is perhaps quite different from your actual role in the world.”

Invite your participants to take one minute of silence to reflect on future possibilities. You could say:

“When we talk about future scenarios for our climate, we spend most of the time focused on how bad the worst-case future looks or how difficult change will be. Instead, I’d like for us to spend just one minute silently considering the possibility that we could create this better future.”

Start a timer, stop talking, and don't speak for a full 60 seconds. This is a very important moment and initiates a period of increasing hope and possibility. Participants may be invisibly prepping themselves to find resolve, a vision of a better future, and commitment to do something about it. Treat the moment with respect.

If you want, you can follow up with a second prompt:

“Think of something you would love about being part of this sort of future.”

Ask participants to turn to the person next to them and share their answer. Perhaps ask if a few want to share what they said with the whole group. If running the event online, ask people to share their answers in the chat box or breakout participants into smaller groups of 3 or 4 for a few minutes if you have too large a group where speaking up may be difficult.

Explore Feelings

Ask your participants to explore how they're feeling. If in-person, ask them to stand and go to a part of the room that best describes their feelings at this point. Designate different parts of the room for anger, sadness, hope, and mixed feelings. If online, ask them to write into the chat box. After participants sort themselves accordingly ask for comments on why they chose the place they are in.

One reason that we ask people to talk about their feelings is that people often have strong experiences and develop strong emotions in the game. Maybe they didn't know climate change demands so much change or maybe the gameplay got particularly intense. Because this is a group activity, it helps for people to name these emotions in the group and process some of them before they leave the room.

Provide Model Insights

Recap the primary dynamic insights from simulating the pledges with C-ROADS. If you have time, ask participants *“What do you think were the most important insights from this experience? About the climate system, the international issues, politics, sustainability, economics?”* Have them write their answers on paper and then have several share with the group. Look for and summarize as many of the following as possible:

Carbon Bathtub. Point to your sketch or show the PowerPoint slide of the bathtub drawing. Make the point that capping emissions near current levels fails to stabilize CO₂ in the atmosphere because the system behaves just like a bathtub (see Appendix). “If we cap emissions above net removals, concentrations must rise.” To reach 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. In other words, this is an urgent problem that requires action on a massive scale.

Required Speed and Scale. 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 “Reductions Begin Year” is delayed five years, then the “Annual Reduction Rate” 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. Because of the dynamics of the carbon bathtub, reduction of CO₂ emissions by over 80% is necessary to stabilize CO₂ in the atmosphere. These insights are also easily demonstrated using a glass to represent our finite atmosphere and water to represent atmospheric CO₂. As CO₂ is emitted, or water is poured into a glass, it accumulates. Thus, in order to stabilize the level of either CO₂ in the atmosphere or water in a glass, net inflows must be zero (see Appendix).

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 can behave contrary to the best interests of the whole group by depleting some common resource. However, you can point to the Nobel-winning work of Elinor Ostrom that highlights many examples where communities successfully manage common resources to shared benefit. 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.

Equity and Justice. The game 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. Ask participants to discuss the injustices they experienced during the simulation (e.g., the lack of power felt sitting on the floor, or the lack of cooperation from other groups to support calls for finance), and then ask the group how decisionmakers might overcome those situations. C-ROADS shows that, to limit warming to 2 degrees C, every region of the world would need to be ‘all in’ – the Developed, Developing A, and Developing B Nations all need to engage in ambitious action.

Building or Rebuilding Hope

Now help participants recognize that although the challenge is big, there is much that can be done, and we are in it together. Three approaches you could take to build hope:

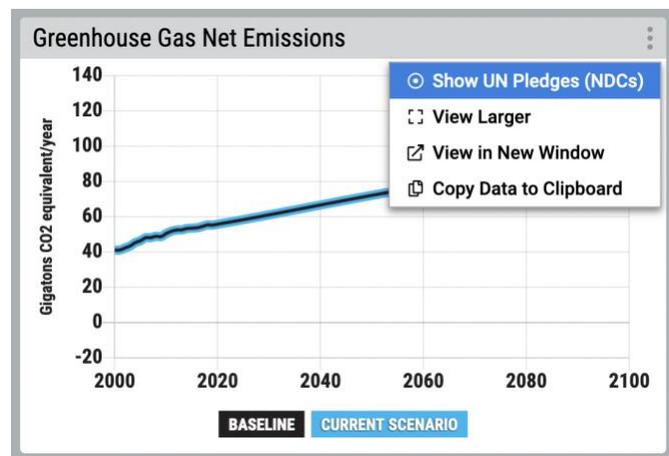
Your Own Hopefulness – Explain why you are personally hopeful. Some approaches include:

- **Use a personal story** – maybe you have a story about overcoming great odds that you or someone you know was a part of. Perhaps a time when you thought the path ahead looked very hard and you were able to overcome great odds to succeed.

- **Humans have addressed “impossibility” before** – We can look to human history for evidence of success and adopt the approach of addressing climate change. (Read this [New York Times Op-Ed](#) by Climate Interactive’s Co-Director Drew Jones for more on this).
- **Hope is a choice, not an assessment** – You could say:
“Hope is a choice, not hinged upon an assessment of the likelihood of future success. Being hopeful is about choosing to prevent this huge problem every day because it is the right thing to do, not because you know that we are going to win.”

Highlighting Real World Trends – You can cite evidence or tell stories of significant recent progress:

- Explain that most countries have their own position, although many of the countries work together, such as in the game. In C-ROADS, select the Greenhouse Gas Net Emissions graph and then click the three dots in the graph’s corner to show the UN Pledges (NDCs) to compare the real pledges with the scenario built by your participants.



- Falling cost of wind and solar coupled with peaking emissions of carbon dioxide from coal.
- Increasing public awareness of climate change and support for climate action from polling.
- More companies, cities and states pledging to go 100% renewable or take other climate actions.
- The increasing number of young people demonstrating for more ambitious action against climate change.

Emphasize Co-Benefits to Climate Action (Multisolving) – Emphasize the many co-benefits beyond the direct impacts to the climate, which may make successful adoption of climate solutions all the more possible. Common examples include:

- Shutting down a coal power plant also improves local air quality which reduces health impacts like asthma that come from local air pollution.
- The clean tech industries, including renewables and energy efficiency, can be a major source of new (and often more rewarding and healthier) jobs.

Their Hope – Often participants will have their own stories that inspire hope and possibility. Give people space to share their experience.

- Give them a few minutes to write down why they are hopeful.
- Have them reflect in pairs.
- Ask them to share with the group.

The Call to Action

The purpose of this simulation is to motivate effective action in the real world, so now is the time to make it happen. Helping people see what they can do to channel their emotions (both positive and negative) into constructive ends. Approaches vary from very simple to quite elaborate. At the simplest level, just say:

“Share with the person next to you, or write in the chat box, one thing that you feel called to do after this experience.”

Give people time to talk and process. There is a broad range of possible actions, from changing one’s personal impact on climate change, to participating in collective action with others, to learning more and talking with others. Sometimes the action might just mean going home and talking about the event with those they live with. Have a few people share their plans with the group.

From here you can wrap up the exercise and thank everyone for their participation and engagement—or include some of the additional activities below.

Additional Discussion (optional)

Depending on the time available and your goals for the game, you could facilitate a discussion by asking some of these questions:

- What surprised you about the results you achieved and the difficulty (or ease/possibility) of achieving them?
- To what extent did your proposals taken together produce the result you expected, or hoped for? Why or why not?
- What impact do you envision the result you achieved will have on the interests you were representing in the roleplay?
- To what extent is the result you achieved feasible? From an economic standpoint? A political standpoint? A social, technical or cultural standpoint?

Transition to En-ROADS (optional)

Climate Interactive also has the [En-ROADS Simulator](#) which allows for groups to explore the types of solutions (e.g energy efficiency, electric vehicles, or coal taxes) that will be needed to reduce emissions in line with the scenarios created in C-ROADS. Explore the En-ROADS Workshop or Climate Action Simulation as a follow-up experience to the World Climate Simulation.

10. Closing

Close the session by thanking the participants and any sponsors, hosts, or facilitators. As a facilitator, you are part of a larger community of the World Climate network. We deeply value the insights from you and your participants on how best we can improve our tools and the whole exercise. We invite you to [join our Facebook group](#) and follow us on Twitter [@worldclimate](#).

Gather everyone around the projector screen with the final scenario in C-ROADS to take a group photo to share. We also encourage you (or your co-facilitators) to take photos during the event. If possible, quickly distribute the group photo (or photos) to participants for them to share on social media, tag us on Twitter [@climateinteract](#) and [@worldclimate](#), or share with us via email at multimedia@climateinteractive.org

Finally, please remember to [register your event](#).

Do not hesitate to reach out to us and share your experience and feedback at support.climateinteractive.org

Appendix

Advanced Facilitation Tips

- **Remember your audience.** Consider what your goals are for the event and what participants will most appreciate from it. For example, if you are presenting to a community audience that might want to get involved further, make time for them to discuss follow-up actions in the debrief.
- **Minimize your advocacy.** Let the game do its work—in most settings, someone will step forward to advocate for improvements. One purpose of the game is to create the conditions for someone to find that voice inside themselves. Often it requires you as facilitator (even playing a UN official) remaining silent.
- **Stir the pot and bring the drama.** Accentuate the inequity between the groups in creative ways in order to prompt an experience of the global power gap between different parts of the world. For example, in your introduction you could thank the rich countries for funding the UN and providing your pleasant accommodations last night. Make sure you have one team sit on the floor. And, when you visit the team sitting on the floor (for example, while the teams read their briefings and before you dive into the role of the UN Secretary General or the UNFCCC Executive Secretary), ask them what power they think they have in the game (i.e. not much).
- **Be open to emotional reactions, not just technical insights.** At its best, World Climate engages participants deeply both in analytical and quantitative thinking (e.g., negotiating, calculating, strategizing), and in empathetic and aspirational feeling (e.g., seeing others' perspective, facing difficult facts, cultivating hope). Providing an opportunity for participants to explore both analytic and affective responses to the experience will deepen their understanding of climate change.
- **Engage minds and hearts.** *Minds* – thinking about strategy, analyzing the numbers, negotiating well. *Hearts* – giving speeches, negotiating with other parties, or experiencing the impacts of climate change.
- **Ask participants to mentally simulate model runs.** As described above, take the time to have participants guess the result of a simulation run before seeing the result with C-ROADS. This practice increases learning.
- **Land the “bathtub” insight.** Take the time to ensure that participants understand the counterintuitive dynamics of the carbon and climate system

and understand how the bathtub (or “stock and flow”) metaphor is a powerful way to think. See later in the Appendix for more details.

- **Retain hope and possibility.** The physics of the carbon and climate system combined with the difficulty of international decision-making can make the global task feel overwhelming. So, during the game, play the role of the optimistic UN leadership, encouraging the parties to work hard to craft a better agreement. Then, during the debrief, follow the guidance listed in this document to cultivate a sense of possibility in the group and share your own reasons to be hopeful.
- **Facilitate, rather than lecture.** Share enough about the climate system, carbon cycle, international dynamics, the UN process, and other matters (note: you don’t need to teach all these topics), but not too much detail. Lecture as little as possible. Set up participants to learn through the process of the game, stretch themselves personally and engage themselves as much as possible. World Climate offers an opportunity to break out of conventional modes of learning and access deeper, active learning pathways. Try to step away from the role of lecturer and, instead, take on the role of a facilitator or guide. Use the game to pique interest and generate questions. Throughout the game, intersperse short presentations with role-play. Make sure to include time for in-depth discussion during the final debriefing session to drive home key insights.

Additional Guidance for Running the Simulation Online

- When you send participants into their breakout rooms, set a clear time frame: *“We will be meeting back in the main room at 1:15pm.”*
- While testing actions on the simulator, be sure to keep your participants’ attention by using verbal cues for where participants should be directing them where to look.
- Encourage use of the chat feature to ask participants for their input on simulation experiments, their questions, their emotional reactions, and so on. This is especially important for large groups in order to include more participants in the discussion.

Tips for using breakout rooms with the Zoom platform specifically:

- Encourage participants to use the “Ask for Help” button if they have a question while in their breakout rooms.
- Use the Broadcast Message feature to send important messages to participants while they are meeting with their groups.

- During the negotiation rounds (particularly the second round) we encourage you to allow for teams to cross-negotiate with other groups. To do this, participants can leave their breakout rooms to return to the “Main Room” where they can ask the host to manually move them into another breakout room.
 - **Pro-Tip:** While in the main room, after the host manually moves a participant from one breakout group to another (if a US delegate wants to speak to the Chinese team), be aware the participant will **not be prompted by Zoom** to join the new room. They will need to click the “Breakout Rooms” button in the corner of the screen to prompt their entrance to the new room.
- Send a facilitator or host to breakout rooms to check in and see if anyone needs help or has any questions. However, we recommend leaving one leader of the game in the main room at all times.

Gameplay Variations

There are many variations we and others have developed for World Climate. If you develop a new approach, we would love to hear about it! Send us an email at support@climateinteractive.org.

Add Lobbyist and Activist Roles

At the actual climate change negotiations there are many other parties besides the official negotiating teams that provide input and represent groups of interests. We have briefing materials available on our website for fossil fuel lobbyists, climate activists, journalists, and more. You might also choose to add a role for someone to represent indigenous peoples, non-human species, or another group of your choice. The additional briefing statements can be found under ‘Additional Groups’ on this page: www.climateinteractive.org/programs/world-climate/facilitator-resources/

Microcosm of Global Population

One variation for setting up the group can be to base the group size on the relative sizes of the actual populations. In the three-region version, ~20% would be Developed, ~50% Developing A, and ~30% Developing B. In the six-region version ~5% US, ~6% EU, ~7% Other Developed Countries, ~17% China, ~17% India, and ~48% Other Developing Countries. There is a spreadsheet to help you calculate these group sizes entitled ‘Participants Breakout Calendar’ at www.climateinteractive.org/programs/world-climate/facilitator-resources/

Detailed Breakdown of Groups

6-region country groupings:

Group	Individual Nations
United States (US)	United States (US)
European Union (EU)	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden
Other Developed Nations	Albania, Armenia, Australia, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Faeroe Islands, Fiji, Georgia, Greenland, Iceland, Japan, Kazakhstan, Kyrgyzstan, Macedonia, Moldova, Montenegro, New Zealand, Norway, Other Southern Europe, Russian Federation, Serbia, South Korea, Switzerland, Tajikistan, Turkmenistan, Ukraine, United Kingdom, Uzbekistan
China	China
India	India
Other Developing Nations	Indonesia, Philippines, Thailand, Taiwan, Hong Kong, Malaysia, Pakistan, Singapore
	Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, Yemen, West Bank and Gaza (Occupied Territory)
	Antigua and Barbuda, Argentina, Bahamas, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haïti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Trinidad and Tobago, Peru, Uruguay, Venezuela , Bolivia, Costa Rica, Cuba, Dominican Rep., Ecuador, El Salvador, Guatemala, Haïti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Puerto Rico, Trinidad and Tobago
	Algeria, Angola, Benin, Botswana, Brunei, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoro Islands, Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea and Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Sao Tome & Principe, Senegal,

	Seychelles, Sierra Leone, Somalia, Sudan, South Africa, South Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe, Mayotte, Saint Helena, West Sahara
	Bangladesh, Myanmar, Nepal, Sri Lanka, Afghanistan, Cambodia, Laos, Mongolia, North. Korea, Vietnam, 23 Small East Asia nations

3-region country groupings:

Group	Individual Nations
Developed Nations	United States (US), Canada
	Australia, New Zealand
	Japan, South Korea
	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom, Iceland, Norway, Switzerland
	Russia, Albania, Bosnia & Herzegovina, Croatia, Macedonia, Slovenia, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine, Uzbekistan
Developing A Nations	Brazil, China, India, Indonesia, Mexico, Philippines, Thailand, Taiwan, Hong Kong, Malaysia, Pakistan, Singapore, South Africa
Developing B Nations	Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, Yemen, West Bank and Gaza (Occupied Territory)
	Antigua and Barbuda, Argentina, Bahamas, Barbados, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Haïti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Trinidad and Tobago, Uruguay, Venezuela
	Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoro Islands, Congo, Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea and Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria,

	Reunion, Rwanda, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, South Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe, Mayotte, Saint Helena, West Sahara
	Bangladesh, Myanmar, Nepal, Sri Lanka, Afghanistan, Cambodia, Laos, Mongolia, N. Korea, Vietnam, 23 Small East Asia nations

Using the C-ROADS Software

To download C-ROADS:

1. Visit: www.climateinteractive.org/c-roads/download-c-roads-world-climate/
2. Fill in your information and click “Download.”
3. Once downloaded, open C-ROADS from your desktop.
4. To ensure you are using the latest version, go to the Help menu and check for the ‘C-ROADS is up to date’ item under the version number. If your version is not up to date you will be asked to restart C-ROADS, prompting an update.

To use C-ROADS online:

1. Visit: c-roads.climateinteractive.org/

Model Features:

- Select the game version you’d like to use under the ‘Simulation’ menu. The model will reaggregate automatically.
- There are several graphs for you to choose from when demonstrating C-ROADS. You can choose to use the default graphs or start with the graphs of your choice. Throughout the simulation, you might also select different graphs to make a more targeted point about a model dynamic. Familiarize yourself with the graph options so you have an idea of which ones you’d like to use for your session. The graph list can be found under the Graphs menu.
- The table at the bottom of the C-ROADS interface is where you’ll enter the group pledges. You’ll notice it is set up to match the Proposal Summary chart. After each cell is changed, the model will update accordingly, and the results will be reflected in the graphs and the temperature change.
- Explore the other menu items to become familiar with your options and select those that work best for you.

Explaining the Carbon Bathtub Insight

One of the best opportunities for teaching carbon dynamics may occur when the groups achieve a leveling of emissions or fall short of their goal by doing too little too late, i.e., when total CO₂ emissions stop growing, and stay roughly level for the rest of the century. This is a good moment to teach the “Bathtub” analogy.

There are several resources for you as you prepare to make this point.

- [Climate Interactive’s bathtub simulation and resources.](#)
- [Dr. Juliette Rooney-Varga’s video on systems thinking to understand climate.](#)
- The Stocks and Flows video that is part of the “Climate Leader” course, [uses the Carbon Bathtub as a main example.](#)

Note: during this time you are acting less like the UN chair and more like a technical advisor.

1. Under the Graphs menu find the “CO₂ Emissions and Removals” graph (under Removals and Land Use) and the “CO₂ Concentration” graph (under Impacts). Draw attention first to the emissions trend, then to the concentration trend (which continues to rise). Using the bathtub analogy, point out that emissions are an inflow (like the tap of the bathtub), while removals make up the outflow (the drain of the bathtub).

“Where do emissions come from?” (elicit from the group – burning coal, oil, and gas, and deforestation).

“The emissions are measured in gigatons of CO₂ per year, a rate over time. Emissions build up the concentration of CO₂ in the atmosphere, which is analogous to the amount of water in the bathtub. <point to the “CO₂ Concentration” graph> What is the current concentration of CO₂?” (elicit from the group: over 400 ppm.)

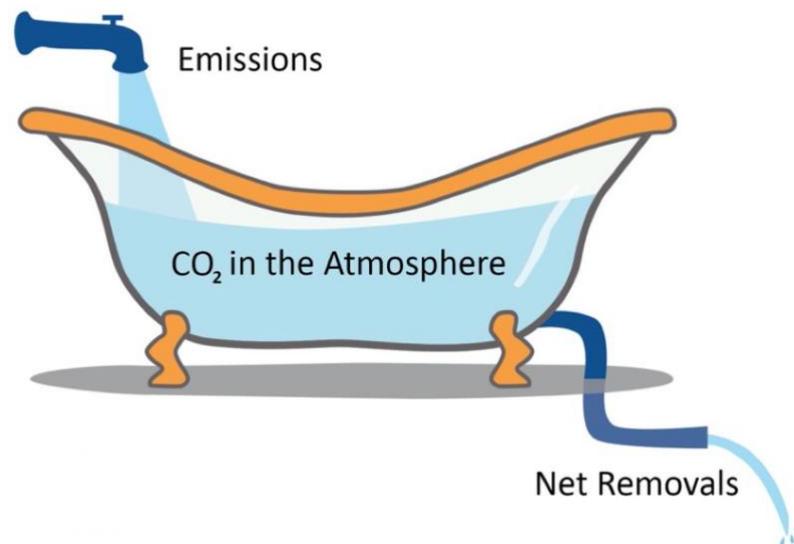
“CO₂ leaves the atmosphere through net removals, analogous to a drain in the bathtub. <point to the removals line in the “CO₂ Emissions and Removals” graph> Where does the carbon in CO₂ end up when it leaves the atmosphere?” (elicit from the group – trees, plants, and soils, and oceans). *“These removals are ‘net’ because a large amount of carbon is constantly moving between the biomass, oceans, and atmosphere.”*

Second, you can elicit participants’ mental models about how the system behaves – i.e., given a graph of flattening emissions (and removals), ask them to draw the resulting graph of atmospheric CO₂ concentrations and temperature trends. Most people use a correlation heuristic and draw a line with the same shape as the emissions trend.

Third, illustrate the actual system behavior using the bathtub analogy. With inputs to C-ROADS that result in flattening emissions, show again the “CO₂ Emissions and Removals” and “CO₂ Concentration” graphs. Explain the dynamic by saying something like:

“As we know, in a bathtub, as long water is coming into the tub faster than it is draining from it, water accumulates. Similarly, as long as emissions of CO₂ into our finite atmosphere are higher than net removals, CO₂ accumulates. Therefore, reductions in emissions are needed to stabilize concentrations. In addition, CO₂ accumulates at an even higher rate as long as action is delayed, requiring steeper rates of decline to meet the same concentration or temperature targets.”

Fourth, encourage participants to use this insight to improve the outcome of their negotiation, i.e., *“Okay, now you see that we need significant reductions in emissions. Meet with your teams and determine the next round of pledges.”*



Overall framing by Dr. John Sterman, MIT Sloan

World Climate Event Planning Checklist

This is a step-by-step checklist to assist facilitators to effectively organize a World Climate Simulation Event. Use it as an indicative event planner but note that the tasks will vary based on how you intend to run your World Climate event.

	Tasks	Completed? <input type="checkbox"/>
Initial Event Planning	Identify the audience you are able to and/or would like to reach, and what goals might best suit them.	
	Select a date and amount of time for your session.	
	Create a list of the additional support you might need (co-facilitator(s), funding, etc.)	
	Secure a venue or online platform link for the event.	
	Register your event: www.climateinteractive.org/programs/world-climate/register-event/	
Outreach	If the event is open to the public, create a flyer or use our standard template and edit the details as per your event. Include the logos of any affiliated organizations or institutions.	
	Publicize the event through your networks. Reach out to us at Climate Interactive if you'd like us to share your event details.	
Facilitation Preparation	Download the World Climate slides and organize/edit as necessary for your specific audience.	
	Familiarize yourself with the C-ROADS simulator, and consider which features of the model you would like to use and highlight during the simulation.	
	Practice the speeches you will give as a UN official.	
Event Preparation	If you've divided your participants up into groups in advance, send them their materials to begin preparing for the simulation.	
	If running an in-person event, print the participant materials based on the number of anticipated attendees.	
	Confirm the venue arrangement (projector, room setup, etc.) or online platform features (breakout rooms, host controls, etc.)	
Day of Event	If not done in advance through online sign-ups or predetermined registrants, compile attendee contact information to follow-up with them after the session.	
	Arrive at least 30 minutes early to set up the room and ensure all technology is working. If running an online event, ensure all controls are functioning properly and that your sitting area is well lit for video conferencing.	
	Welcome participants and begin the World Climate Simulation. Take photos throughout the exercise.	
	Close the session and take a group photo.	
	Provide your contact information or Climate Interactive's for participants to follow-up with any feedback.	