



Giants in the Greenhouse

A game of Game of Climate Negotiation by Evan D'Alessandro

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An Educational Game of Climate Negotiation

Designed for the Luther College Environmental Studies Department

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Teacher Information

Before the Game

Before the game players should be divided into teams (see below) and given copies of their national briefing and the general briefing and concessions list. They should then be told both to play around with the En-ROADS model (<https://www.climateinteractive.org/tools/en-roads/>) to understand the various changes that can be made as well as their effects on the climate and to do a little bit of research on their country(ies). Sample questions for a short response paper to the game are provided to be given to the students to respond to for the next class. The teacher should print out the concession cards onto cardstock or another thick, handleable material and cut them out and hand them out to teams when the game starts.

Dividing the Players into Teams

Divide the available players into teams (i.e. Russia, China, US, EU, OPEC, Developing World). Russia and China are best played by the most politically savvy, conniving players available (as these countries require a certain ability to be obstructionist). The EU is best played by the most idealistic players (as the EU is the group that pushes most fervently for better climate agreements). The Developing World is best played by the most go-getter of players, as for the game to be actively engaging and fun for them requires that they seek out other teams the most.

The Player's Roles

Each team should nominate one person to be the Head of State and the rest to be negotiators. The Head of State holds onto and dispenses all concessions to negotiators or other countries, keeps track of what has been agreed to, has final say on agreements, and is the person who can veto at the end of game. Negotiators are sent out to meet members from other countries to negotiate agreements on what to do to help limit climate change.

Game Space Considerations

The game space should be set up so that each team has a table or group of tables of their own that they can work from and conference at, as well as to store their concession cards. It is useful if each team has a large name card with the country on it so that players can identify where to go to talk to certain countries. It is also helpful (though not necessary) to identify team members of one nation or another (by a nametag or colored sticker for example), and to identify Heads of State.

Sequence of the Game (1 Hour)

1. Teacher projects the En-ROADS model where all students can see it
2. Teacher reads the Teacher Instructions to the Class (see below) – 5 minutes
3. Any remaining Player questions are answered
4. Negotiation Time - 40 minutes
5. Final treaty negotiations (veto time) – 5 minutes
6. End of Game Discussion / Hot Wash Up (Sample questions below) – 10 minutes

Vetoing

Vetoes occur at the end of the game. Any Head of State can veto any slider that would help the environment (so the deal can be weakened, but not improved by a veto). It is recommended that each of the energy supply sliders be asked about individually, while Transport and Buildings and Industry are grouped together for purposes of vetoing (as they rely more or less on the same arc of advancing technology and regulatory standards for improvement), and that afforestation and technological removal be asked about separately. The format for this would be a question like “Does anyone wish to veto a moderate carbon tax?” If two or more countries veto the same slider position than the one which is worse for the environment is the one that is used.

Teacher Instructions to the Class

- Each team should nominate one person to be the Head of State and the rest to be negotiators. The Head of State holds onto and dispenses all concessions to negotiators or other countries, keeps track of what has been agreed to, has final say on agreements, and is the person with veto power at the end of game. Negotiators are sent out to meet other members from other countries to negotiate agreements and to horse trade to create deals to limit climate change. This may be anything from agreements on carbon pricing, to an agreement to open special economic zones in China for renewable development.
- When the game begins you can move freely and negotiate with whomever you want.
- All deals made are binding, you can't go back on your word – unless you renegotiate the deal.
- During the game, any country that has made a deal may come up to the teacher and ask for a change to a current slider(s) to any position in accordance with the deal they have just made. The teacher will determine the effect of the agreed deal on the climate model.
- Concession cards represent a concession on any one of a multitude of issues in the following areas: Economic, International Law, International Governance, Human Rights, Environmental, Development and Natural Resources. As such, don't worry about being specific about exactly what they are (e.g. you don't need to say “this Human Rights concession I'm trading you for your backing a moderate carbon tax is about the Uighurs in China”). Concessions are designed to get countries to agree to things they otherwise wouldn't, trading them away on mutually agreeable deals is a waste of your concessions. You cannot trade away concessions you have gotten from other countries.
- With 15 minutes remaining the open negotiations will end, and we will go through slider by slider on the model and ask if there are any Heads of State that wish to veto a progressive result (e.g. you may only veto to weaken the deal). If you veto, the slider will be moved to the position the Head of State wants it to be moved to. The Head of State can veto as many times as they want to.
- At the end of the session a discussion about the game (hot wash up) will be held.
- Any other questions?

End of Game Discussion Sample Questions

Students should be free to ask questions or make any comments about what happened in the game. Ideally each team should explain what their objectives were, if they accomplished them, and why or why not they were successful in accomplishing them. To prompt engagement, you can use one of the questions below:

- Do you think your country came out of the negotiations well?
- What have you learned about climate negotiations?
- Was this simulation accurate?

Sample Response Paper Questions:

- Who did you play and what happened during the game? (1-2 sentences)
- What were you supposed to accomplish? (1-2 sentences)
- What was your strategy to accomplish that? (1-2 sentences)
- How did you achieve or not achieve your objectives? What impeded or helped you? What would you do differently next time? (1 short paragraph)
- What did you learn, and why did you learn it? (1 paragraph)
- What did you learn about the Earth system? (1 paragraph)

Player Handout

Order of the Game

- Teacher Briefing and Questions (5 mins)
- Negotiations (40 mins)
- Vetoes (5 minutes)
- End of Game Discussion (10 minutes)

General Briefing and Concessions List

Russia

Stands to gain from a warming world where the price of oil (and to lesser degree natural gas) is high.

Has Economic and International Law concessions.

OPEC

Many member nations are geostrategically important and depend on oil for stability, but also realize that oil is not sustainable in the long term.

Has Environmental and International Law concessions.

China

Currently reliant upon fossil fuels (especially coal), but also looks like they want to be a climate leader. Stands to gain much from improved renewables and a green tech revolution.

Has Development, Economic and International Law concessions.

US

Dependent on natural gas, but also wants to do something. They also stand to gain from improved renewables and green tech.

Has Human Rights and Economic concessions.

EU

The most idealistic and forward focused of any group on addressing climate change, they want to reach a 2°C agreement (if not lower).

Has Human Rights, International Governance and Economic concessions.

Developing Nations

A diverse group of nations plagued by the need to develop but also needing to contend with climate change, goals which are not mutually exclusive, but also not contiguous.

Has Natural Resource concessions.

Russian Federation

President Putin,

Your political future and success depend on Russia remaining a petrostate, and oil selling for high numbers of dollars per barrel. Any change in the world economy that makes renewables more efficient weakens the price of oil, and consequently your hold on power. A warming world begins to thaw the permafrost of Siberia, opening new land for farming and resource extraction and making Russia more powerful. Things such as increasing the efficiency of technology (such as better home insulation or more efficient grids) that can still be powered by oil and our other big energy source of natural gas, are not bad ideas to push for (and to cover up that we are trying to prevent anything from being done about oil). In addition, very limited concessions in other areas in exchange for non-climate change related concessions are still to our benefit.

We stand to gain much from a warming world and a high price per barrel. Keep it that way.

Objectives

- Maintain our status as a world power, especially versus the United States and China.
- Stifle any efforts that would weaken the price of oil (be obstructionist).
- Make it look like you want to help combat climate change while not violating the above.
- Get as many Human Rights (to shore up our international standing), International Governance (to legitimate illegal activities), and Economic (who doesn't like money?) concessions as possible in exchange for doing the bare minimum.

The government is prepared to give up the following in negotiations:

- Up to 1 Economic concession
- Up to 2 International Law concessions

European Union

President of the European Union,

While the Greens in Germany did not win the Chancellorship in 2021, they represent a turn in European politics towards becoming more climate conscious than it already was. While the US is bureaucratically slow in its support, and there are large disagreements about many things within our Union, the EU is the leading voice in the world for combating climate change. There is no other group of nations that welds together the vision, the contacts, the economic power and the political power that we do.

Climate change is our problem to solve. The voters and our conscience demand it.

Objectives

- Be the key broker and leader in the Climate Negotiations.
- Conduct an all-out push to combat climate change with maximum effort for the strongest possible legislation (2° C or less).
- Working with the US, get as many International Law concessions as possible (most preferably from the Russians) to help stop the Russian's illegal international activities.
- Get as many Environmental concessions as possible, you are dedicated to helping fix the environment after all.

The European Union is prepared to give up the following in negotiations:

- Up to 2 Human Rights concessions
- Up to 2 International Governance concessions
- Up to 1 Economic concession

Organization of the Petroleum Exporting Countries (OPEC)

Secretary General,

As the head of the cartel of petrostates you will recognize the necessity of all our nations continuing to make the maximum amount of money off of their oil. This is not only necessary for their stability (what would happen to the Middle East if Saudi Arabia were to collapse?), but it will also be necessary for their eventual (heavy emphasis on the eventual) transition to become green(er) economies. All of us realize that oil is slowly on its way out, but in the meantime, we must secure our livelihoods to prepare for the transition ahead.

Do what you must, for our regimes and people depend on you.

Objectives

- Push for climate legislation that keeps the petrodollar high, but also have a high amount of technical innovation that you can profit off of and make use of in the years to come.
- Avoid being labeled as an obstacle to progress (but not at the cost of keeping the petrodollar high).
- Get as many Human Rights (to make your poor track record less visible) and Economic (you're going to need the help to switch to non-oil economies) concessions as possible.

The Organization is prepared to give up the following in negotiations:

- Up to 2 Environmental concessions
- Up to 1 International Law concession

United States of America

Mr. President,

We've been a little slow in doing anything about climate change but are not so far behind that we are out of the race. The Chinese are eyeing us, and we need step up our game to keep up with them. The domestic populace hates taxes but loves innovation, and no matter what, we need this thing to be popular at home (as we just had a call with the Party Caucus about the elections next year).

As such we should be careful about not being too heavy handed with natural gas (as we rely upon it for our very important energy independence from the Middle East). At the same time, we need to balance our allies (OPEC dragging their heels while the EU is trying to pull everyone forward). We may not be the most progressive on the climate, but we are here to play the important role of being the cooler head for progress in the room.

Forty years ago, Jimmy Carter spoke of an American 'malaise' in the Second Oil Crisis, now we must avoid our own malaise of the Climate Crisis.

Objectives

- Produce climate legislation that will be effective (2°C or less), but not so overbearing that we can be attacked by the opposition at home (e.g. avoid carbon taxes).
- Sideline China and be the key broker and leader in the Climate Negotiations.
- Working with the EU, get as many International Law concessions as possible (most preferably from the Chinese) to help check Russian, and more importantly, illegal Chinese international activities.

The government is prepared to give up the following in negotiations:

- Up to 2 Human Rights concessions
- Up to 4 Economic concessions

People's Republic of China

President Xi,

On the 100th Anniversary of the Communist Party of China, we stand triumphant in the world (even if we don't get the respect we deserve). Our military is powerful, the world in awe of our success with containing Covid-19, and we have just (with some word trickery) declared that poverty has been eradicated. On the climate front however, we do not yet lead the world.

We should be cautious in terms of carbon taxes, for despite the fact we produce the most renewable energy in the world, much of our current infrastructure relies upon fossil fuels that we cannot begin to phase out until 20-30 years from now (especially the 50% of our energy we produce from coal which we need to keep in service for the time being). On the other hand, our centralized state and powerful state-owned enterprises allows us to rapidly build out and invest in renewables and their associated technology (and a good reforestation project is one of our favorites too!).

To maintain China at the forefront of the world, we must become known as climate leaders!

Objectives

- Minimize carbon taxes (low or moderate only).
- Advance renewable technology.
- Sideline the US and be the key broker and leader in the Climate Negotiations.
- Get as many Human Rights (to shore up your poor record), International Governance (to legitimate illegal activity), Economic (to grow China), and Natural Resource (also to help grow China) concessions as possible.

The Politburo is prepared to give up the following in negotiations:

- Up to 5 Development concessions
- Up to 1 Economic concession
- Up to 2 International Law concessions

The Developing World

Representative,

You represent a diverse group of nations from India to Indonesia to the Ivory Coast. The first world had the luxury of advancing their economies by burning fossil fuels. We may not have that chance. Some of our member states will be underwater in 50 years, some of them rely upon oil to prevent their governments from collapsing. Most agree at some level and to some degree that to develop we must confront climate change and move towards a greener future. Unfortunately, there is little agreement about how, and whenever it comes to one country making a concession for the good of all, economics always seems to triumph over climate (for example the rampant deforestation of the Amazon). Such is the nature of a group of countries not held together by kinship, but by necessity.

Yours is a fractious coalition, you must hold it together, but also deliver the future we need to advance.

Objectives

- Combat climate change while allowing for maximum economic development (and the economic development comes first).
- Balance relations with China, the European Union, and the US (don't become too dependent upon any one of them).
- Get as many Development (you need the help), Human Rights (your track record isn't the best), International Governance (being able to break rules is helpful for development), and Economic (better economies mean more development) concessions as possible.

The Nations are prepared to give up the following in negotiations:

- Up to 6 Natural Resource concessions



**China
Development**



**China
Development**



**China
Development**



**China
Economic**



**China
Development**



**China
International Law**



**China
Development**



**China
International Law**

**Developing
World**
**Natural
Resource**



**Developing
World**
**Natural
Resource**



**Developing
World**
**Natural
Resource**



**Developing
World**
**Natural
Resource**



**Developing
World**
**Natural
Resource**



**Developing
World**
**Natural
Resource**



**EU
Economic**



**EU
Human Rights**







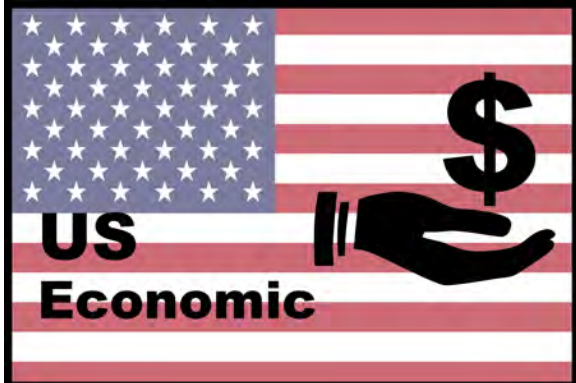
Russia
International Law

This icon features a black gavel resting on a black book. The background is a horizontal split: the top half is white and the bottom half is red, with a blue horizontal band across the middle.



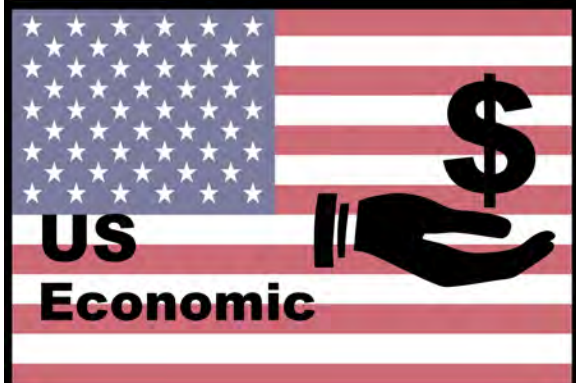
Russia
Economic

This icon features a black hand holding a dollar sign. The background is a horizontal split: the top half is white and the bottom half is red, with a blue horizontal band across the middle.



US
Economic

This icon features a black hand holding a dollar sign. The background is the American flag.



US
Economic

This icon features a black hand holding a dollar sign. The background is the American flag.



US
Economic

This icon features a black hand holding a dollar sign. The background is the American flag.



US
Economic

This icon features a black hand holding a dollar sign. The background is the American flag.



US
Human Rights

This icon features a black hand with fingers spread. The background is the American flag.



US
Human Rights

This icon features a black hand with fingers spread. The background is the American flag.