Board Game Rules (Co-Op)

Players: 6-8
Time: 60-120 minutes- this is actually just a guess, we'll see how long it takes

How to win

1) If the global temperature is less than 1.5 C by 2050 then everyone wins
2) If the global temperature has risen to be between 1.5- 2 C, only the countries that have completed their secondary objective win
3) If the global temperature rises above 2 C the game ends, everyone loses

Goals (based of the UN goals)

1) Be prepared incase of a climate disaster, For the UN this is measured in the # of countries that have adopted local disaster risk strategies. In our game this is represented with the disaster fund countries can choose to invest in. Cause, while money doesn't prevent disasters, it sure helps clean up afterwards

2) Create climate friendly policies for your country. In the UN this is measured by the # of countries that have made a policy in-line with the UN standards for being more climate friendly. In this game (since there is a max of 8 countries). Countries have the option to try to change their government policies to reduce their carbon emissions each year. (making policies that are more government friendly)

3) Improve education, and make people more aware about climate change. The UN measures this by how good/how much climate education is in each country. Our game gives players the opportunity to invest into education, which in turn makes it easier to pass policies to lower CO2 emissions. (as in theory that's kinda the point of increasing the education in real life)

4) Help developing countries work towards sustainable development, (with a focus on being climate friendly.) The UN measures this in 2 ways, # of developing countries working towards being sustainable(climate wise), and how much money they have gathered out of their $100 billion annual goal, to help developing countries.

   In this game we assume all the countries that are not players are working towards sustainable practices, so we don't measure it directly. But all countries have the option to contribute to the global $200 billion dollar UN fund each round. (a round is 2 years.) Contributing to this fund will help reduce CO2 emissions globally each year.

Set Up

1) Give each player (table) a country, money per round indicator, fossil fuel production indicators, and secondary mission.
2) Each player should be given a D-100 (2, D-10, one with 1-10, the other with 10-100)

Game play

1) Round 1 will start in the year 2020, and go until 2050. The Paris agreement dictates that global temperature rise should be under 1.5-2 C. Each round will be 2 years of "real-world" time.

2) At the beginning of each turn each player will be given a certain amount of money. (varies based on country) The amount of money given at the beginning of each turn will change throughout the game, the base amount is dictated by the player mat.

3) Each country may take as many of the following actions as they want per turn. But they can only take each action once per turn. (for the sake of class time, each group can do this simultaneously)

A) Invest money towards renewable energy. Each country has a specified amount of money required to go net 0, everytime your country funds 5% of this goal their carbon emissions are reduced by 5%. To Invest this money you will need to vote on this policy. (see "how to vote on policies" below.)

B) Reduce fossil fuel productions. A 10% reduction in fossil fuel productions will decrease global carbon emissions. (amount varies by country.) But as fossil fuel sales are part of a country's income, it will decrease the amount of money you can spend per turn

C) Increase fossil fuel productions. A 10% increase in fossil fuel productions will increase global carbon emissions. (amount varies by country). But as fossil fuel sales are part of a country's income, the amount of money you can spend per turn will increase.

D) Increase funding towards education to increase their awareness of issues of global climate change. The amount of money needed to fund education varies based on country. The funding you put towards education will make it easier to pass a vote for investing money in renewable energy (see "education's role" below). Education requires continued funding, so the amount of money you can spend per turn will decrease.

E) Decrease funding towards education to decrease their awareness on issues of global climate change. As education requires constant funding, the amount of money you get per turn will increase, as it's not going towards education. But defunding education will make it harder to pass policies to go Net-0 (see "education's role" below)

F) Set money aside into an emergency fund for your country, in case your country is affected by a climate/natural disaster. Money in this fund can be used to help other countries also affected by climate/natural disasters.

G) Contribute money to the UN's global fund for underdeveloped countries. The goal is $100 billion each year, ($200 billion, as each round is 2 years). TK (why contribute?

4) Once every country has finished allocating their money, 2 disaster cards will be pulled from the deck (with the exception of the 1st round when only 1 card will be pulled). There are two types of cards, A) country-specific, B) global

A) The affected country must use its emergency fund to avert the effects of the disaster. If they do not have enough money in their fund to avert the effects of the disaster, they can request aid from other countries, and they can choose to use their own emergency fund to help. If the country is still unable to come up with the money, the total cost will be doubled, and will be subtracted from the money given per round until it is paid off. Payments towards dealing with the aftermath of the disaster will take priority over any policies.

B) Global disasters require contribution to avert the effects. Before countries discuss how much money they are going to contribute to the fund they must first decide to contribute to the fund
   - If a country wants to contribute to the fund they should secretly flip their D-10 to display a 10 (0). If they do not want to contribute they should flip it to display a 1.
   - Do not show the dice to anyone until everyone has changed their dice. You are engorged to lie about if you are contributing or not, that's just politics for you.

   If no countries opted in:
   -The price will triple and the amount of CO_2 added to the atmosphere will double until the amount is paid in full (money will be deducted from the money each country gets per round, and will take priority over funding policies) countries must then discuss how they are splitting the money among themselves.

   If at least 1+ country opted in: they can discuss how they are going to divide up the amount owed amongst themselves (money can only come from emergency disaster fund). Any country who did not originally choose to contribute can join in at any time to donate money to the cause.
   - If they are unable to gain enough funds to successfully mitigate the effects of the disaster, the price will triple. But only the countries who opted in to funding the disaster diversion program will be responsible for paying the tripled price. Countries should discuss how they are splitting the price. (money will be subtracted from the amount of money they get per turn, and take priority over policies)

5) The amount of CO_2 added to the atmosphere will be adjusted. The base amount of CO_2 being added per country is written on the player mat. But it will adjust based on the actions of the player. (to save time, each player should calculate it themselves, then share out the final number) It's not hard, but people may act like it is.

-The rest of the world produces 46 billion tons of CO_2, per round and will continue to produce that much unless the UN goal is reached

6) Temperature will be adjusted according to the amount of CO_2 added to the atmosphere. For every 80 billion tons of CO_2 added to the atmosphere the global temperature increases by 0.1 degree C

How to vote on policies

Each country has an amount of money they need to be net-0. (like in real life, we're using those) In this game you can invest money towards that goal in increments of 5%.

But, in what world can you actually pass your policy? In real life it feels like passing policies is like gambling, so that's what we're going to do, Gamble.

In order to approve a policy, a player must roll over a 4 on their D-6 (4-6, a 3is not high enough) But the catch is for every change above 5%, you must roll the dice 1 more time and take the lower number.

For example, Imagine you are Russia, trying to invest into your total goal of $1.5 trillion dollars to go Net-0. You've already invested 10% of the money you need ($140 billion) and you are going to be investing the next 5% needed. (for a total of 15%) you would need to roll the dice 3 times and if even one roll is below 51, then you fail to pass that policy.

You can only attempt to pass a policy once per turn, but may attempt to do so, before you defund education, or after you fund it more.

Education's role

Now, just like in real life when people are aware of a problem they tend to want to solve it. (in theory, we're ignoring everyone who believes climate change is made up) So when you invest in education you make it easier to pass policies.

Every time you invest in education the amount of times you need to roll the dice to pass a policy will decrease by 1 for each investment made.

Using the same example as before. If I was in Russia and had invested in education 1 time, instead of needing to roll the dice 3 times to pass my 15% investment, I would only need to roll it twice. If I had invested in education twice, then I would only have to roll once, and if I had invested in education 3 times, the policy would automatically pass, without a dice roll.

But as a country you also have the option to take money away from education. Which triggers the opposite effect, which is increasing the number of times you have to roll in order to attempt to pass a policy. (so instead of needing to roll 3 times, to pass your 15% policy, you would need to roll 4 times)

Tables, in case you don't want to think (yes lol)

% of $ invested to reach net-0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	80	85	90	95	100
# rolls	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

# of times education has been funded	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
# rolls to subtract	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11-	-12	-13	-14	-15	-16	-17	-18	-19

# of times education has been defunded	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
# rolls to subtract	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19

Soft powers role,

At any time in the game you can ask a country for money, that country can choose to give you money if they want to.

Additionally a country can choose to help another country pass policies, instead of voting on its own policies. How this works is one country forfeits their ability to pass policies for that round. They then combine the # of times they have increased their education with the country that is voting on a policy.

For example: Russia has invested in education twice, and is attempting to make their 25% investment, they would need to roll the dice 3 times. But the UK decides to help Russia pass theri policy, the UK has invested in education 1 time, so Russia only has to roll the dice twice.

This is also stackable, any number of countries can help, for example Brazil can also choose to forfeit its ability to vote on policies for this turn and help Russia pass its policy. Brazil has invested in education twice as well. So between all 3 countries education has been invested in 5 times, meaning Russia does not have to roll any dice, and automatically passes the policy.

Price of funding a policy

For some countries it costs more money to fund a policy then money they get per turn. Such as India, they get $200 billion per turn, but it costs $500 billion to fund 5% of their net-0 plan. Because of this it may cost countries more than 1 round to completely fund the policy. (that is ok)
Additionally, countries who may be able to afford to completely fund a policy in 1 round, may choose to fund the policy over more than 1 round, so they can use the money elsewhere.
But, you can not vote on a new policy on the turn you finish funding it.

For example if India was funding 5% of their goal to be net-0 it would cost $500 billion, they started trying to fund this policy in round 1. If they put all $200 billion down in round 1, all $200 billion in round 2, then the remaining $100 billion needed in round 3 they would technically still have $100 billion dollars left that round. But they can not vote, to attempt to start funding a new policy until round 4.

But, even if the player is unable to vote on a policy for themselves, they can still use their soft-power to help other countries get the votes they need to start funding policies.

Extra money

If a country does not spend all of their money in a round, then it saves and carries over to the next round. There is no limit on the amount of money a country can have in savings.

$200 billion UN global fund

The UN requisitioned all countries to contribute a total of $100 billion per year to a fund for underdeveloped nations to help them develop sustainable practices. (it's $200 billion per round, as a round is 2 years). If the $200 billion goal is met, then the amount of CO_2 added to the atmosphere will decrease by 1 billion tons. If the goal is not met for every $1 billion under the goal, 1 billion tons of CO_2 will be added to the atmosphere.

The base amount of CO_2 the rest of the world is adding to the atmosphere is 46 billion tons per round

Secondary missions

It would be unrealistic to assume that everyone in the world is solely focused on becoming net-0, so every country has a secondary mission to complete that may hinder their ability to become net-0. Once you get your secondary mission card, do not show it to any other country, they are supposed to be secret.

If global temperature rise is under 1.5(1.4 and below, 1.5 does not count) at the end of the game, then everyone wins regardless of who has completed their missions.

If the global temperature is between 1.5-2 degrees celsius then only countries who have completed their secondary mission will win.

But if the global temperature is above 2 C, everyone loses, regardless of who has completed their secondary mission.