Appendix to:
A Model United Nations Experiment on Climate Negotiations

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Additional material and further analyses

Session & Committee	Mean Age	Mean Gender (female = 1)	Mean Semester	Mean MUN participations	Mean Preparation time (in minutes)	Mean Evaluation: Realism resolution
Bern C1	23.60	.60	5.63	2.00	373.60	3.70
Bern C2	24.30	.60	5.14	2.80	348.70	5.10
Mean COP Bern	*23.95*	*0.60*	*5.40*	*2.40*	*361.15*	*4.40*
Munich C1	20.67	.50	5.83	4.33	605.00	4.11
Munich C2	21.80	.40	4.11	5.10	542.00	4.30
Mean COP Munich	*21.26*	*0.45*	*4.80*	*4.74*	*571.84*	*4.21*
Zurich C1	22.90	.50	4.83	4.30	322.44	4.10
Zurich C2	21.10	.20	4.00	6.80	397.60	3.20
Mean COP Zurich	*22.00*	*0.35*	*4.31*	*5.55*	*362.00*	*3.65*
Mannheim C1	20.20	.30	3.17	3.38	460.40	4.00
Mannheim C2	20.90	.10	2.14	2.90	632.50	5.10
Mean COP Mannheim	*20.55*	*0.20*	*2.61*	*3.11*	*546.45*	*4.55*
Cologne C1	23.00	.80	4.70	1.56	414.60	4.80
Cologne C2	22.70	.60	4.20	2.00	386.70	3.50
Mean COP Cologne	*22.85*	*0.70*	*4.45*	*1.79*	*400.65*	*4.15*
Tübingen C1	22.50	.60	4.30	3.00	523.50	4.90
Tübingen C2	21.00	.50	4.00	0.80	610.10	4.10
Mean COP Tübingen	*21.75*	*0.55*	*4.15*	*1.90*	*571.61*	*4.50*

Table A.1: Balance table: Summary statistics delegates split by Committee for all six experimental sessions.

Session	Year	Committee 1	Committee 2
1: Bern	2030	-13.44	0.00
	2040	13.55	20.00
	2050	29.75	30.00
	Session Mean over all three years	*9.95*	*16.67*
2: Munich	2030	-19.64	- 20.00
	2040	-12.48	40.00
	2050	- 4.29	100.00
	Session Mean over all three years	*-12.14*	*40.00*
3: Zurich	2030	14.20	0.00
	2040	23.84	53.00
	2050	33.70	100.00
	Session Mean over all three years	*23.91*	*51.00*
4: Mannheim	2030	- 20.28	- 29.86
	2040	0.21	- 22.06
	2050	7.91	-8.80
	Session Mean over all three years	*-4.05*	*-20.24*
5: Cologne	2030	-15.04	- 31.03
	2040	-7.81	-17.23
	2050	-0.30	-0.67
	Session Mean over all three years	*-7.72*	*-16.31*
6: Tübingen	2030	8.80	27.00
	2040	24.16	40.00
	2050	36.81	80.00
	Session Mean over all three years	*23.26*	*49.00*

Table A.2: Average actual carbon emission reductions in percent compared to 2010 for 2030, 2040, and 2050, and Session Mean over all three years for all six experimental sessions split by Committee.

	(1)	(2)	(3)
(Intercept)	5.54	-36.41***	-19.29***
	(6.16)	(11.15)	(6.06)
C2 Treatment	14.48	14.48	-19.76
	(13.93)	(13.93)	(12.42)
Year		20.98***	12.42***
		(4.89)	(2.09)
C2 Treatment x Year			17.12**
			(8.31)
Akaike Inf. Criterion	358.32	335.19	329.64
Bayesian Inf. Criterion	366.23	343.11	339.15
Log Likelihood	-174.16	-162.60	-158.82
Observations	36	36	36

Notes: *** p < .01, ** p < .05, * p < .1; Regression results from mixed effects models; Abatement levels of carbon emissions was the dependent variable in all three Models; Random intercepts are associated with groups in all three Models and additionally with time in Model 1. Robust standard errors are provided in parentheses.

Table A.3: Determinants of actual average CO_2 emission reductions 2030-2050 grouped on experimental group level.

	(1)	(2)	(3)	(4)	(5)
(Intercept)	5.54	-15.52**	4.85	-0.33	-7.57
	(6.46)	(7.00)	(6.48)	(6.12)	(6.16)
C2 Treatment	14.48	14.48	15.71	5.31	-1.41
	(10.39)	(10.39)	(10.21)	(6.76)	(5.91)
Year 2040		21.21***	2.06*		14.48***
		(3.98)	(1.25)		(3.28)
Year 2050		41.95***		17.59***	24.83***
		(7.50)		(2.82)	(4.39)
C2 Treatment x Year 2040			-3.67		13.46
			(2.80)		(11.32)
C2 Treatment x Year 2050				27.51*	34.24*
				(14.11)	(19.57)
Akaike Inf. Criterion	355.08	338.97	358.64	341.94	337.85
Bayesian Inf. Criterion	363.00	348.47	368.14	351.44	350.51
Log Likelihood	-172.54	-163.49	-173.32	-164.97	-160.92
Observations	36	36	36	36	36

Notes: *** p < .01, ** p < .05, * p < .1; Regression results from mixed effects models. Abatement levels of carbon emissions is the dependent variable in all five Models. Random intercepts are associated with location in all five Models and additionally with time in Model 1. Robust standard errors are provided in parentheses.

Table A.4: Determinants of actual average CO_2 emission reductions 2030-2050 grouped on experimental session level with time as Dummy variables.

Results without Bern:

Result 1:

A one-sided Wilcoxon signed-rank test for the year 2050 shows similar results regarding carbon emissions reductions without Bern (z = 2.470, p = .007) as compared to the analysis with Bern (z = 2.071, p = .019). Also, the regression results are similar (see Table A.5).

	(1)	(2)	(3)
(Intercept)	4.65	-38.37***	-16.51**
	(7.84)	(10.79)	(7.00)
C2 Treatment	16.04	16.04	-27.69**
	(12.58)	(12.58)	(11.06)
Year		21.51***	10.58***
		(4.54)	(1.48)
C2 Treatment x Year			21.86**
			(10.48)
Akaike Inf. Criterion	301.61	287.45	283.42
Bayesian Inf. Criterion	308.62	294.46	291.83
Log Likelihood	-145.81	-138.73	-135.71
Observations	30	30	30

Notes: *** p < .01, ** p < .05, * p < .1; Regression results from mixed effects models; Abatement levels of carbon emissions was the dependent variable in all three Models; Random intercepts are associated with location in all three Models and additionally with time in Model 1. Robust standard errors are provided in parentheses.

Table A.5: Determinants of actual average CO_2 emissions reductions 2030-2050 grouped on experimental session level without Bern.

Result 2:

Wilcoxon signed-rank tests without Bern show similar results regarding differences in the resolutions between C1 and C2 (two-sided test, z = -1.082, p = .279) as the analysis with Bern (two-sided test, z = -1.614, p = .107).

Also, the analysis regarding differences between resolutions and actual average emissions in C1 (one-sided tests, z = 2.023, p = .022) and C2 (two-sided tests, z = 1.406, p = .160) are similar to the ones with Bern in C1 (one-sided tests, z = 2.201, p = .014) and in C2 (two-sided tests, z = 1.408, p = .159).

Result 3:

A Fisher's Exact test without Bern reveals a similar result (p = .074) as compared to the data analysis with Bern (p = .029). Also, a binary logistic regression results in similar findings (coefficient = 1.06, p = .095, odds ratio = 2.9) as compared to the analysis with Bern (coefficient = 1.25, p = .041, odds ratio = 3.5).

Result 4:

The data analysis without Bern regarding differences of emissions reductions between the countries in C1 ($H(9) = 88.71$, $p < .001$) and C2 ($H(9) = 2.32$, $p = .985$) are similar to the ones reported in the data analysis with Bern in C1 ($H(9) = 103.15$, $p < .001$) and C2 ($H(9) = 1.53$, $p = .997$).

Nationally Determined Contributions from CAT

It is often difficult to compare the Nationally Determined Contributions (NDC) listed in the official Annexes to the Paris Agreement, as each country has some discretion which measures to list and how to count them. Climate Action Tracker (CAT)[1] is an independent scientific analysis platform that tracks government climate action over time. Through its analyses and estimates, CAT helps to compare officially submitted NDCs. Drawing from CAT, we compare the real NDC of the Paris Agreement available at the time of our experiments to the average behavior in C1. Due to data availability in real NDCs, we perform the comparison for 2030 and 2050. Table A.6 summarizes the comparison. Table A.7 and A.8 provide the data sources.

2030	**Real NDC**	**C1**
EU	29%	31%
JPN[2]	17% (26%)	27%
CAN	26%	28%
AUS	18% to 20%	23%
IND	-176 to -184%	-12%
ZAF	-12% to 26%	2%
CHN[3]	-33 to -53%	-18%
RUS	-18% to -26%	-24%
SA	-62% to -108%	-28%
USA[4]	26% to 28%	-33%

2050	**Real NDC**	**C1**
EU	76% to 94%	77%
JPN	79% to 81%	75%
CAN	80%	66%
AUS	None; *Net Zero by 2050, announced in 2021*	63%
IND	None; *Net Zero by 2070, announced in 2021*	42%
ZAF	21% to 59%	28%
CHN	None; *Net Zero by 2060, announced in 2020*	10%
RUS	None; *Net Zero by 2060, announced in 2021*	-8%
SA	None; *Net Zero by 2060, announced in 2021*	-18%
USA[5]	68% to 76%	-33%

Table A.6: Comparison of real NDC with C1 for 2030 and 2050. Negative numbers indicate emission increases. Real NDCs are taken from CAT and are either provided by single numbers or ranges.

We find that the overall majority of the pledges in C1 are very close to their real counterparts, especially in 2030 for the EU, Japan, Canada, Australia, South Africa, and Russia. For China, the actual pledges for emission increases are higher than in our experiment but the stance is similar. In our experiments, Saudi Arabia did not vote in favor of the resolution half of the time,

[1] See https://climateactiontracker.org/about/.
[2] Regarding the comparison in 2030, Japan's NDC was to reduce emissions by 26% below 2013 levels, which CAT estimates to be about 17% below 2010 levels.
[3] Range for 2030 combined from "peaking and non-fossil targets" and "carbon intensity targets".
[4] Stated as reductions below 2005 by 2025.
[5] Stated as reductions below 2005 by 2050.

its emission increases were hence capped at an increase of 40%, which is realistic given its real stance to increase emissions by about 62-108% above 2010 by 2030. We find that for India, emission increases in 2030 are substantially larger in reality than in our experiments. However, in both committees, India had a very similar stance (as shown in Result 4).

Regarding the comparison in 2050, we also find strong conformity for the EU, Japan, Canada, and South Africa. At the time of our experiments, Australia, India, China, and Saudi Arabia did not submit clear long-term goals. These countries however specified their long-term goals in 2020/2021 as indicated in the table.

Regarding the comparison for the US, the numbers of the real NDC in the tables refer to the Mid-Century Strategy of the Obama administration that had not been updated by the Trump administration. However, at the time of our experiments, the Trump Administration had announced to withdraw from the Paris Agreement. This is reflected in the behavior in the experiment. In C1, the US voted 'No' for the resolution in five out of six sessions and the actual reductions of the US for 2030 was an increase of 33% in 2030 and 2050.

Data Sources for Table A.6

Country	Source
EU	https://climateactiontracker.org/countries/eu/2018-11-28/pledges-and-targets/
JPN	https://climateactiontracker.org/countries/japan/2018-11-30/pledges-and-targets/
CAN	https://climateactiontracker.org/countries/canada/2018-11-30/pledges-and-targets/
AUS	https://climateactiontracker.org/countries/australia/2018-12-09-3/pledges-and-targets/
IND	https://climateactiontracker.org/countries/india/2018-12-03/pledges-and-targets/
ZAF	https://climateactiontracker.org/countries/south-africa/2018-11-30/pledges-and-targets/
CHN	https://climateactiontracker.org/countries/china/2018-11-30/pledges-and-targets/
RUS	https://climateactiontracker.org/countries/russian-federation/2018-12-03/pledges-and-targets/
SA	https://climateactiontracker.org/countries/saudi-arabia/2018-11-30/pledges-and-targets/
USA	https://climateactiontracker.org/countries/usa/2018-11-29/pledges-and-targets/

Table A.7: Data sources from CAT for each country (November and December 2018).

Country	Source
AUS	https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Australia%20First/Australia%20Nationally%20Determined%20Contribution%20Update%20October%202021%20WEB.pdf
IND	https://climateactiontracker.org/countries/india/net-zero-targets/
CHN	https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/China%20First/China%E2%80%99s%20Achievements,%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf
RUS	https://climateactiontracker.org/countries/russian-federation/
SA	https://climateactiontracker.org/countries/saudi-arabia/

Table A.8: Data sources for each country for the updated net zero targets from 2020/2021.

Conference of the Parties to the United Nations Framework Convention on Climate Change

(COP)

Climate Change Negotiations

Study Guide

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Foreword by the Organizers

Honorable Chairs, Dear Delegates,

It is an honor to welcome you to the **Tübingen Conference of the Parties to the United Nations Framework Convention on Climate Change** (COP TÜBINGEN).

As a delegate of this conference, you will have the opportunity to represent your country in a complex, international set-up. All delegates are reminded to represent their country as realistically as possible, which will give you an unforgettable ***as-real-as-it-gets*** experience in complex climate change negotiations.

This simulation is part of a scientific study, so you are randomly assigned to a country you will represent at the conference. You will find the country which you are assigned to in the email that is sent to you together with this study guide.

Please keep in mind that you are required to hand in your position paper by **November 26, 2019 (23:59)**. We will give you some feedback until November 28. Furthermore, the **best position paper will be rewarded with a prize** at the end of the conference. You will find more information on the position paper in this study guide.

If you have any questions, please don't hesitate to contact us via Email at ############. We will get back to you as soon as possible.

We would like to thank the United Nations Hochschulgruppe Tübingen, especially Caroline Míček, for their cooperation and support of this conference.

Dear Delegates, we are very much looking forward to a realistic debate, your sharpened arguments, and an altogether great experience!

Sincerely

The organizing committee of COP TÜBINGEN

Prof. Dr. Klaus M. Schmidt	(University of Munich)
Elisa Hofmann	(University of Jena)
Lucas Kyriacou	(University of Bern)
Tanja Mitric	(University of Bern)
Timothy Rabozzi	(University of Bern)

Dates, Schedule and Venue

Dates

7.11.2019	Registration deadline
15.11.2019	Receipt of study guide
26.11.2019 (23:59)	Deadline for handing in your position paper to ##########.
28.11.2019	Feedback on your position papers
30.11.2019	Conference

Conference Schedule, 30.11.2019

09:30 – 09.50	Arrival of delegates at conference venue, registration
10:00	Opening speech by the organizing committee
10:15 – 16.50	Conference (breaks will be announced by the chairs)
	Debriefing and feedback round
17:00	End of conference

Conference Venue

The conference will take place at the Neuphilologikum ("Brechtbau"), Wilhelmstraße 50. Please come to the main entrance of the Neuphilologikum ("Brechtbau"). A location map is on the next page. If you cannot find the location, please either call ######## **(Lucas)** or ######## **(Caroline).**

Location Map

Neuphilologikum ("Brechtbau"), Wilhelmstraße 50

We meet at the main entrance of Neuphilologikum ("Brechtbau"), Wilhelmstraße 50.

Introduction

This study guide will first give a brief outline on climate change and the topic of the conference. Thereafter several measures on how to mitigate climate change will be discussed. At the end of this study guide - along with the instructions to write your position paper - you will find a concise outline on how to prepare for the conference. Note that this MUN simulation is designed to reflect reality as closely as possible.

Climate Change

CO2 emissions and other greenhouse gases heat up the atmosphere and are widely considered to be the main cause of climate change. In this study guide the term "greenhouse gases" and "CO2 emissions" will be used synonymously.[1] CO2 emissions accumulate in the atmosphere and have affected our climate for hundreds of years. Today, the stock of CO2 in the atmosphere is almost twice as high as in preindustrial times. The world has never experienced such a sudden increase in CO2 in the atmosphere and such a dramatic increase in the global surface temperature (GST).

The Intergovernmental Panel on Climate Change (IPCC, "Weltklimarat") is an independent scientific body founded by the United Nations. The mission of the IPCC is to collect and summarize the scientific evidence on climate change. In its latest assessment, the IPCC concluded that the global surface temperature (GST) has increased by 0.85°C above its preindustrial level and that "it is extremely likely that human influence has been the dominant cause of the observed warming… ."

How climate change will progress in the next decades and beyond, depends on a broad spectrum of factors. These factors include population growth, economic growth, technological developments, international conflicts, and – the focal element of this study guide – the efforts taken by the world community to mitigate CO2 emissions.

Climate change scenarios

The IPCC conducted hundreds of simulations that try to assess how climate change will progress in the future. These simulations can be summarized in five main scenarios:[2]

Scenario	***Change in CO2 emissions in 2050 compared to 2010***	***Change in CO2 emissions in 2100 compared to 2010***	***Global surface temperature change in °C (likely range)***	***Global surface temperature change °C (possible range)***
1	+40%	+100%	4.1-4.8	2.8-7.8
2	+20%	-20%	2.6-2.9	1.8-4.5
3	0%	-80%	2.1-2.3	1.4-3.6
4	-40%	-100%	1.8-2.0	1.2-3.3
5	-80%	<-100%	1.5-1.7	1.0-2.8

Table 1: IPCC Scenario Summary

[1] CO2 emissions are the most important but not the only greenhouse gas. Other greenhouse gases can be measured in CO2 equivalents. This is why we will use the terms greenhouse gases and CO2 emissions synonymously.

[2] This is a slightly simplified summary of IPCC, Fifth Assessment Report, Working Group III, Summary for Policymakers, p. 13.
https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_summary-for-policymakers.pdf.

To give you a better understanding of Table 1, consider **Scenario 1.** This is the baseline scenario, often called "business as usual", in which only modest efforts to limit CO2 emissions are taken by the world community. In this "business as usual" scenario, CO2 emissions will increase by 40% until 2050 as compared to 2010 and by 100% until 2100. In this scenario, the global surface temperature will likely go up by about 4.5° C, possibly much more.

On the opposite side of the spectrum is **Scenario 5.** In this scenario, the global surface temperature increase is limited to about 1.6° C. This scenario requires a sharp reduction of worldwide CO2 emissions. As indicated in the second column, worldwide CO2 emission would have to be reduced by 80% until 2050 as compared to 2010. Furthermore, this scenario requires negative net emissions until 2100, i.e. a net removal of CO2 from the atmosphere, for example by capturing carbon from the atmosphere and storing it underground.

The other scenarios lie in between scenarios 1 and 5. The likelihood of each of these different scenarios ultimately depends on the level of climate action taken by the world community as a whole. The level of climate action in terms of a reduction of CO2 emissions is, as will be outlined below, therefore the central element of discussion of this conference.

Consequences of climate change

Climate change due to alleviated CO2 emissions and hence the ensuing increase in global surface temperature have severe consequences[3], for example:

- Melting glaciers and polar ice caps, increasing sea levels, flooding of coastal areas and cities.
- Changes in precipitation patterns, more droughts and heat waves, more severe hurricanes and tropical cyclones, increasing humidity, floods and other extreme weather events.
- Extinction of many animal species (due to ocean acidification and ecosystem changes).
- Increased human mortality rates due to the spreading of tropical diseases.
- More international conflicts about water rights and food supply, mass migration of climate refugees.

Climate scientists agree that the effect of an increase of global surface temperature on worldwide damages is "non-linear". This means that a small increase in global surface temperature is likely to result in significant, but relatively small negative consequences. But as the global surface temperature increases, much more disruptive climate change ("catastrophic climate change") becomes more likely, for example dramatic sea level increases, the desertification of large regions, or mass extinction of a broad range of species. Thus, the cost and the risks of climate change rise disproportionately with the global surface temperature.

[3] For an in-depth research we recommend you to study the Summary of the IPCC's 5th assessment report: http://ar5-syr.ipcc.ch/topic_summary.php .

COP TÜBINGEN 2019

In order to mitigate climate change, all nations have to cooperate to reduce CO2 emissions. This is why the UNFCCC[4], an international body of the UN representing 197 countries, holds the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP). The COP is the executive body of the UNFCCC and thus the main framework to negotiate worldwide climate actions and agreements.

In your position as a distinguished delegate and official representative of your country, you are now taking part in the

Tübingen Conference of the Parties to the United Nations Framework Convention on Climate Change (COP TÜBINGEN).

The central agenda item at COP TÜBINGEN is the negotiation of an agreement **on how much to reduce CO2 emissions until 2050** in order to mitigate climate change. Before diving into the central agenda item, we first give you a brief overview of the countries that are represented at COP TÜBINGEN.

Represented countries

Given the nature of a MUN conference, we restrict attention to 10 countries that differ in their size, population, gross domestic product (GDP), GDP per capita, and their CO2 emissions. This means that for this conference only these ten countries are relevant. Please assume in the negotiations and for your calculations that these are the only nations in the world. Table 2 gives you an overview of these statistics, Figure 1 graphically displays the last column.

	GDP in mill. USD (PPP) (2010)	GDP in 1000 USD (PPP)/ person (2010)	Population in mill. (2010)	CO2 emissions in mill. tons (2010)	CO2 emissions/ person in tons (2010)	Total CO2 emissions 1970-2010 in mill. tons	**Share of worldwide CO2 emissions in % (2010)**
Australia	865,292	39	22	407	18	11,574	**2**
Canada	1,361,137	40	34	554	16	19,222	**2**
China	12,484,967	9	1,338	8,840	7	128,543	**35**
European Union[5]	16,776,890	33	504	3,950	8	178,770	**16**
India	5,312,415	4	1,231	1,640	1	29,702	**7**
Japan	4,482,491	35	128	1,220	10	45,706	**5**
Russia	2,928,119	20	143	1,670	12	80,260	**7**
Saudi Arabia	1,220,509	45	27	468	17	8,022	**2**
South Africa	600,824	12	52	456	9	12,379	**2**
USA	14,964,372	48	309	5,730	19	218,010	**22**
Sum/weighted average	60,997,016	16	3,788	24,935	7	732,188	**100**

Table 2: Summary statistics of countries represented at COP TÜBINGEN. All monetary numbers are in US Dollars (USD) converted from local currencies at purchasing power parity (PPP).

[4] United Nations Framework Convention on Climate Change, https://unfccc.int/ .

[5] Note that the Delegation of the European Union is acting representative for all 28 member countries of the European Union.

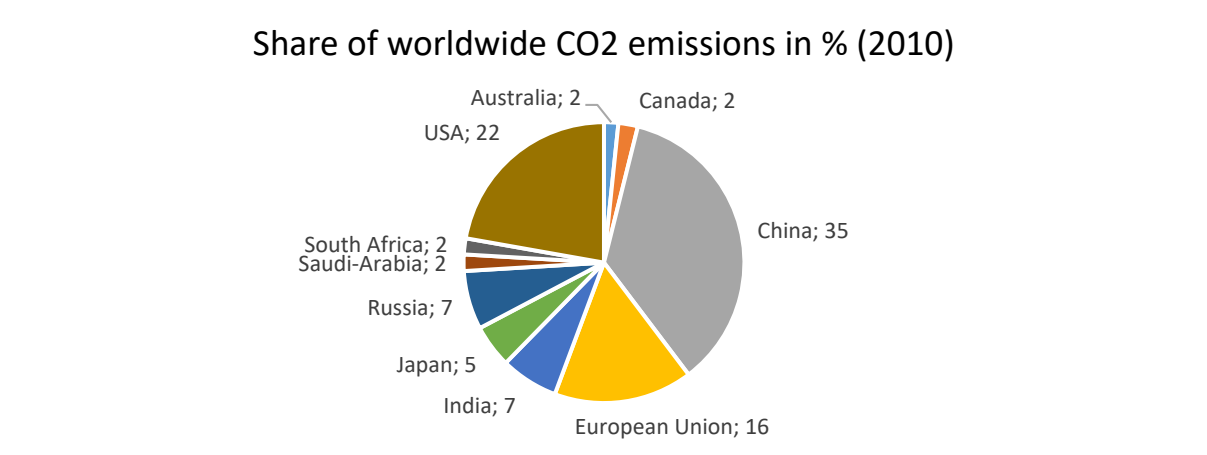

Figure 1: Share of worldwide CO2 emissions in % (2010)

The countries that are represented at this MUN simulation also differ with respect to their geography, history and political situation:

- Some nations are affected more severely by climate change than others (e.g. by rising sea levels or desertification).
- Some nations are industrialized countries that have been emitting CO2 for more than a century, while other nations are emerging economies that started to industrialize only recently.
- Some countries represented in the simulation benefit from selling fossil fuels, while others may benefit from new technologies that are being developed for the production of green energy.
- Some countries have democratic political systems while others are one-party systems, dictatorships or monarchies.

Climate action at the country level

Each country can engage in many different actions that limit or reduce CO2 emissions. In the next table you will find some examples of climate actions that reduce CO2 emissions and a corresponding cost estimate showing how costly it is to reduce emissions by one ton of CO2 in US Dollars (USD) with that given measure.

CO2 reducing measures	***Cost estimate per ton of reduced CO2 in USD***
Replace coal by natural gas	24 - 40
Replace fossil fuel by solar photovoltaic	28 – 130
Replace fossil fuel by wind energy	24 – 105
Replace fossil fuel by advanced nuclear energy	55 - 80
Reducing emissions of cars by improving energy efficiency and moving to electric cars and rail transport	50 – 100
Better isolation of existing and new buildings	negative – 200
Improving energy efficiency in homes and industry	negative – 200
Agricultural emissions and livestock management policies	50 – 200
Reforestation	20 – 60
Carbon Capture and Storage	60 – 300

Table 3: CO2 reducing measures and cost estimate per ton of reduced CO2 in USD.

The cost estimates are taken from the literature.[6] You should keep in mind that these numbers are rough estimates that should be taken with a lot of caution. The actual cost of a given action not only highly depends on the specific circumstances each country faces, but also on how any given action is implemented in that country. Therefore, actual costs can differ significantly.

Regarding the CO2 reducing measures in Table 3, there are a few comments that you should consider:

- **Replacing coal by natural gas** reduces CO2 emissions because a gas burning power plant produces only about half as much CO2 as a coal burning power plant. But, it still produces a lot of CO2, so this is only a short-term solution.
- The cost of **solar and wind energy** depends on the geographic location (latitude, weather conditions, onshore vs. offshore windfarms). In some countries there is opposition against windfarms, so they can be politically costly.
- **Nuclear energy** is controversial in many countries, so it may be politically impossible to build new, more advanced nuclear power plants. Furthermore, the cost of depositing nuclear waste is difficult to predict.
- Reducing the **emissions of cars** by further increasing fuel efficiency of gasoline and diesel engines is expensive. Moving to electric cars requires large investments to develop better batteries and a new infrastructure for recharging them.
- **Insulating many existing buildings** would save costs and be profitable even if there was no concern about CO2 emissions. In these cases, costs are negative. Some countries have exploited these possibilities to a large extend already, other countries still have many opportunities for doing this. For new buildings, the cost to further reduce CO2 emissions can be significant.
- The same holds for **improving energy efficiency in homes and industry**. For example, replacing traditional bulbs with LEDs is profitable, so here the cost is negative. But improving the energy efficiency of household appliances or internal combustion engines can be high.
- **Agricultural emissions and livestock management** policies are very important. For example, some fertilizers and cattle release large quantities of methane in the atmosphere, a much more aggressive greenhouse gas than CO2.
- The **cost of reforestation** depends on population density and geographic conditions. The more land is reforested already, the more expensive this policy becomes.
- **Carbon capture and storage** is a new technology to withdraw CO2 from the air and capture it under high pressure in the ground. This technology is not yet fully developed. Its costs depend on the existence of safe storage places in the ground (such as depleted oil fields or mines that can be used to store CO2 under high pressure).

Implementation of CO2 reducing measures

For almost all of these measures there are two ways how they can be implemented, **direct regulation** and **carbon pricing**.

[6] See e.g. Gillingham and Stock (2018), https://www.aeaweb.org/articles?id=10.1257/jep.32.4.53 .

Direct regulation

The government of a given country can **directly regulate CO2 emissions**. Here are some examples for different sectors of the economy:

- **Energy production**: Replacing coal burning power plants by gas turbines (which is more energy efficient) and/or by solar and wind power, imposing environmental performance standards on energy production, limiting the total amount of emissions by introducing an emissions trading system, investing into carbon capture and storage technologies, …
- **Transport**: Imposing fuel economy performance standards, restricting or forbidding the use of vehicles with traditional combustion engines, restricting the use of vehicles in certain areas (e.g. in city centers), subsidizing electric cars, imposing capacity constraints on airports, subsidizing trains and public transport, …
- **Buildings**: Imposing energy efficiency standards on buildings (zero emission buildings), labelling energy efficient household appliances, restricting or forbidding the use of inefficient light bulbs and other inefficient household appliances, …
- **Industry**: Imposing energy efficiency standards on industry, voluntary agreements on energy targets, introducing an emission trading system, subsidizing the introduction of new technologies, investing into carbon capture and storage technologies, …
- **Agriculture, forests, and land use**: Restricting the use of nitrogen-based fertilizers, restricting meat production, imposing forest laws to reduce deforestation, restrictive land use planning, protection of national and local forests, reforestation, …

Carbon pricing

The government can indirectly affect CO2 emissions by imposing **a price on each ton of CO2 emissions stemming from fossil fuels.** A price on carbon provides a direct incentive to reduce emissions. For example, if a price of 100 USD is imposed on a ton of CO2 emissions, then

- the burning of coal becomes costlier, so power plants will switch to gas (which produces only half as much CO2 than coal), solar and wind energy;
- gasoline becomes more expensive, so motorists will switch to more fuel efficient or electric cars;
- heating becomes more expensive, so home owners will invest into insulating their houses and heat pumps;
- carbon capture and storage become more profitable, so firms will start investing in it.

It is very important that carbon prices are announced long enough in advance. If firms and consumers know what carbon prices to expect in 2030, 2040 and 2050, they can invest now in order to adjust in the most cost effective way to these price increases.

How are consumers affected by carbon pricing? Burning 1 liter of gasoline produces 2.43 kg of CO2. Thus, a CO2 price of 100 USD/ton increases the cost of 1 liter of gasoline by just 0.243 USD. In the short-term, such a modest price increase will not reduce gasoline consumption very much. But if such a price increase is credibly announced long enough in advance, it induces the development of new technologies (such as electric cars) that are competitive with cars that burn fossil fuels. Thus, relatively modest CO2 prices that are announced now can

have large effects in the long-term, provided that firms and households know how CO2 prices are going to increase, so that they can invest and adjust accordingly.

How is a carbon price linked to a change in CO2 emissions? At a first approximation, CO2 emissions are a linear function of the CO2 price. If a uniform price is imposed in **all sectors of all countries** and if the carbon price is announced long enough in advance, then this has the following predicted impact on worldwide CO2 emissions:

Carbon price in USD per ton of CO2 emissions	***Change in CO2 emissions***
0	+40%
30	+20%
60	0%
90	-20%
120	-40%
150	-60%
180	-80%
210	-100%

Table 4: Carbon price in USD per ton of CO2 emissions and resulting change in CO2 emissions.

Economists unanimously agree that a uniform carbon price achieves the reduction of CO2 emissions at a much lower cost than direct regulation, because firms and consumers are free to find the cheapest way to adjust to lower CO2 emissions. Another advantage of a price on CO2 emissions is that it not just a cost to consumers but also a revenue for the government. Carbon pricing can generate large revenues that can be used to lower other taxes, to compensate vulnerable parts of the population that are particularly affected by the carbon price, and/or to invest in infrastructure projects.

Many countries are imposing a price on carbon in some sectors of their economies already, for example by having a carbon tax on at least some fossil fuels (such as the gasoline and diesel taxes in many countries) and/or by having an emissions market on which pollution rights can be traded. The European Union introduced an “Emissions Trading System” in 2006 that imposes a price of currently about 20 €/ton of CO2 on about half of all CO2 emissions in Europe. China introduced a similar market in 2018. Sweden introduced a tax of 26 € in 1991 that has been gradually increased to 120 € in 2018. Switzerland taxes CO2 emissions at different rates in different sectors (between 0 and 300 €/ton of CO2). Japan and British Columbia also introduced carbon taxes in 2012 and 2018, respectively. South Africa and Canada are planning to introduce a tax on carbon in the near future.

The introduction of carbon prices is often unpopular because it is seen as the introduction of an additional tax and is – by some – considered to be socially unjust. Recently, some prominent republican politicians and scientists in the US proposed to solve this problem by redistributing the revenues from carbon pricing as a “climate dividend” to the population. If each citizen receives the same amount, then poor people would actually benefit from a carbon price, even if they have to pay more for heating and gasoline.

However, one major drawback of a carbon price is “carbon leakage”.

Carbon Leakage

If a given carbon price is not applied uniformly in all countries, the problem of "carbon leakage" arises. Suppose that a carbon price is imposed in your country (or just a few countries) only. Then the energy intensive industries in your country are at a competitive disadvantage. Compared to their competitors in countries that do not impose a carbon price, the industry in your country faces higher production costs. Because of this disadvantage, they will either shut down or relocate their energy intensive production to countries without a carbon price. This costs jobs in your country and may hurt your economy severely. Furthermore, it makes the intended reduction of CO2 emissions via the carbon price much less effective. For example, if a steel company moves to another country with no carbon price and produces its steel there (which is then imported by your country), then there is no reduction in CO2 emissions.

For climate change it does not matter whether the CO2 is emitted in your country or somewhere else. Because of carbon leakage, most governments rely on direct regulation to reduce CO2 emissions. Furthermore, if they impose a carbon price they exempt energy intensive industries which makes carbon pricing much less effective. Thus, if all countries are firmly committed to the same carbon price, this is an effective and efficient instrument, but much less so if it is introduced by just one or a few countries.

A global measure of climate action

The effect of each ton of CO2 emissions on climate change does not depend on the country in which it is emitted. Thus, the only thing that matters for climate change is the global reduction/increase of CO2 emissions. Total global CO2 emissions are simply the sum of the emissions of all countries. We will focus the discussion on the emission reductions or increases in percent relative to their 2010 level, i.e., we will focus on the worldwide change in annual CO2 emissions until 2050 compared to 2010.Because total global CO2 emissions are the sum of the emissions of all countries, the change of CO2 emissions worldwide (in percentage terms) is the weighted sum of the changes of CO2 emissions in all countries (in percentage terms).

To see this, consider the following simple example: Suppose that there are only two countries in the world, called A and B. Country A is responsible for 60% of CO2 emissions and country B for 40% of CO2 emissions in 2010. Note that you can refer to "Share of worldwide CO2 emissions in % (2010)" in Table 2 for the actual numbers for the countries represented at COP TÜBINGEN. Now imagine that A reduces its emissions by 40% while B increases its emissions by 20% until 2050. Then the worldwide emissions change is given by

$$0.6 \cdot (-0.4) + 0.4 \cdot (+0.2) = -0.16.$$

Thus, with these changes worldwide emissions fall by 16%.

You have also been provided with a **CO2 calculator**.[7] This is a simple Excel file that you can use in order to compute the effect on global CO2 emissions, taking into account the CO2 emission reductions/increases of the different countries involved in COP TÜBINGEN. Please have a look at this file and experiment with a few examples in order to see the effect on global emissions of CO2 reductions, depending on different countries.

The success/failure of COP TÜBINGEN will be measured by the global reduction of CO2 emissions averaged over 2030, 2040 and 2050!

[7] See the Excel file: „CO2_Calculator.xlsx".

How to prepare for COP TÜBINGEN

This section will outline how you can prepare for COP TÜBINGEN. Specifically, we will outline how you can prepare for the conference and what you should include in your position paper. Please read these instructions carefully before you start.

General Preparation

It is your job as a distinguished delegate to find out more about the country you represent. In particular, you should make the following assessments:

- How will your country be affected by the consequences of global warming under the five different scenarios outlined in Table 1? In particular, how are rising sea levels, extreme weather events, droughts or flooding, climate refugees and migration, going to affect your country in the different scenarios?
- Furthermore, find out what the position of the government of your country on climate action is. What is your country doing already? What did it promise already? Under what conditions is your government and your population willing to take additional climate action? Focus **on the specific measures that were outlined in the previous section** "Climate action at the country level".

In order to help you gather the required information, we provide you with some links that offer useful information:

- The "**IPCC**" offers a rich set of data, research summaries, and policy reports. However, the information provided is not always easily accessible. This is partly due to the fact that the IPCC tries to be impartial and politically neutral.
- Submitted "**Intended Nationally Determined Contributions**" of each country from the Paris agreement.

The following links are sponsored by governments of specific countries and may therefore be less neutral, but they are often much more easily accessible.

- **Climate Transparency** is a global partnership that brings together climate assessments with the goal to track climate action since 2014. Their "G20 Brown to Green Report" is a very comprehensive review of climate action taken by the G20 countries. It is partly funded by the German Ministry of the Environment. **Go to their webpage and click on "G20 Brown to Green Report", choose the most current one "G20 Brown to Green Report 2018." Click then on "Country profiles" and you will find a concise summary of various countries and their current policies on climate action.**
- **European Climate Change Program** is sponsored by the European Union and describes what is being done in Europe to reduce CO2 emissions.
- The **National Aeronautic and Space Administration** (NASA) is financed by the USA and offers detailed information and many examples of how climate change affects the world.
- The **Notre Dame Global Adaption Initiative** provides an Index on how much a country is affected by climate change and how resilient it is.
- The **Report of the High-Level Commission on Carbon Prices** has been commissioned by the World Bank. It offers a good introduction to carbon pricing.

In order to get a realistic picture of the position of your country and hence cast forward a realistic position in the negotiations, you may also want to look out for information on climate change that is directly provided by your country. The resources above are meant to be the starting point of your research. **Important note: If you do not find specific answers to the questions asked for in the position paper below (e.g. reduction of C02 emission goals for 2030, 2040, 2050), please try to come up with a realistic suggestion that fits the general position of your country.**

Committee specific preparation: QARMA

In order to specifically prepare for your committee and its agenda, please ***carefully*** read the "Questions a Resolution Must Answer" (QARMA) document.[8] This document clearly specifies the agenda items to be discussed in your committee as well as outlines the requirements a Resolution must answer. For the validity of the scientific study, it is essential that you keep these QARMA **strictly confidential** (so please do not share them with anyone). Since we will have two separate committees, you are also asked **to not** discuss them with members of the **other** committee when preparing for the conference.

Your country and committee

You will find your country and committee allocation in the email this study guide was attached to.

Position Paper

Each delegate is required to submit an individual position paper (PP) in preparation for the conference. **Since we will have two separate committees, you are asked not to work with delegates from the other committee when preparing for the conference and writing your position paper (working with delegates that are in the same committee is fine)**. You are asked to hand in in your position paper as a PDF by sending it to ##########. After that we will give you feedback and we will make the position papers available to all delegates. **Please note that the position paper is due by November 26, 2019 (23:59).** The length of your position paper should be 1 - 2 pages (A4, font Calibri 12 pt., 1.5 line spacing). You don't need to explicitly provide sources.

Content of the Position Paper

Your position paper should address the following questions:

1. How will your country be affected by climate change as a function of the increase in global surface temperature (see scenarios in Table 1)?
2. What is the general position of your country on climate action? Which measures have been discussed in your country or adopted previously? Which measures would be accepted in your country in 2030, 2040 and 2050?
3. According to your country, by how much should **the world as a whole** reduce CO2 emissions until 2030, 2040 and 2050 (compared to 2010)?
4. According to your country, by how much should **your country** reduce CO2 emissions until 2030, 2040 and 2050 (compared to 2010)?

[8] See the PDF: „QARMA.pdf".

5. What are the advantages and disadvantages of carbon pricing for your country? Which amount of USD for one ton of CO2 emissions would be accepted in your country in 2030, 2040 and 2050?

Questions 3 and 4 are the most important questions that will be at the heart of the COP TÜBINGEN negotiations, so it is important that you prepare them well.

Position Paper Award

We will reward the best position paper per committee with a prize (consisting of two cinema tickets for each winner). The following criteria will be applied in the evaluation of the position papers for the award:

- Does the PP take a credible and realistic stance on your country's **exposure** to climate change?
- Does the PP take a credible and realistic stance on your **country's position on climate action?** Are all relevant climate actions for your country considered?
- Does the PP state realistic CO2 emissions reduction goals in 2030, 2040 and 2050 compared to 2010 on an international and national level?
- How well is the PP written in terms of structure, information content and clarity?

Conference of the Parties to the United Nations Framework Convention on Climate Change

(COP)

Climate Change Negotiations

Questions a Resolution Must Answer

(QARMA)

Global Emissions Target & Nationally Determined Contributions

The UNFCCC instructs the Tübingen Conference of the Parties to the United Nations Framework Convention on Climate Change (COP TÜBINGEN) **to pass a Resolution on the global reduction of CO2 emissions**. Furthermore, countries are asked to submit a separate Annex, in which they specify their nationally determined contributions.

There are **two reasons** for this negotiation format:

1. Mitigating climate change is the joint responsibility of all countries. Thus, it is essential that **as many countries as possible agree on what they jointly want to achieve. Therefore, the main agenda item of the Resolution is the global reduction of CO2 emissions with concrete milestones in 2030, 2040, and 2050.**
2. To achieve this goal, all participating countries have to make legally binding commitments. Countries differ in their economic, geographic and political situation. Thus, in the preparation of this conference it was agreed that **each country should determine for itself how much it will contribute to achieve the aspired reduction of CO2 emissions.**
    - Each country that signed the Resolution has to commit to a reduction of CO2 emissions that it will achieve in a separate Annex to the Resolution (see 'Annex'). These commitments are legally binding! Furthermore, each country should specify the measures it plans to take to achieve this goal.
    - These nationally determined contributions by a country are the measures of its efforts to mitigate climate change.
    - They are not part of the global reduction goal negotiations but decided upon by each country after the Resolution on the common goal has been passed.

Agenda

The UNFCCC has specifically tasked this conference of COP TÜBINGEN to discuss the global reduction of CO2 emissions. There are many related issues that are not agenda items of this conference but will be addressed at other conferences in the future.

In particular, the UNFCCC has already stated the project of a "Green Fund". The idea of the Green Fund is to help low income countries to introduce measures against climate change and to cushion the impact on vulnerable parts of their population. Only those low income countries that signed the current Resolution will benefit from the Green Fund. The fund will be financed by contributions of high income countries. Which countries will benefit from the Green Fund and how much will be paid is to be discussed at this later conference.

In the current conference the only agenda item is the common goal of emissions reductions.

Resolution

The Resolution has to state a concise goal to be achieved by the participating countries. This goal should be expressed in terms of **by how much CO2 emissions of the participating countries should be reduced or increased in percent compared to CO2 emissions in 2010 in**

- **2030**
- **2040**
- **2050**

and which countries are committed to achieving this goal. The Resolution requires a majority of at least 50%, i.e. at least five out of ten countries participating at COP TÜBINGEN. Each country has one vote, abstentions are not allowed.

Note that the Resolution may be passed by a subset of all participants of COP TÜBINGEN. This subgroup will be called "the coalition" in the following.

- It is desirable to form a coalition that is as large as possible.
- But: not all countries have to support the Resolution. If a majority of countries is willing to make an ambitious commitment, while a few other countries are not willing to go along, then the majority can go ahead.
- Countries that did not participate in the coalition and voted against the Resolution are not bound by it. Countries that do participate in the coalition declare that they will try to contribute to the goal specified in the Resolution by making nationally determined contributions. These nationally determined contributions are set by each country individually in the Annex (see below). They are not part of the Resolution itself.
- In the end, it is the global reduction of CO2 emissions achieved by the nationally determined contributions that counts for mitigating climate change. The global reduction is the weighted reduction of the emission reductions of all countries, participating in the coalition, that are specified in the Annex. For details, see the example in the study guide on p. 8, and Table 2 for the weights (i.e. the "Share of worldwide CO2 emissions in % (2010)"). Please use the CO2 calculator[1] to compute the reduction/increase of worldwide CO2 emissions.

Annex

The Annex has to be filled in separately from the Resolution and only after the Resolution has been passed. In the Annex, each country that voted for the Resolution specifies its nationally determined contributions. This is done in private and it is not discussed with the other delegates. You have to specify by how much your country will reduce its CO2 emissions at least as compared to 2010 in

- **2030**
- **2040**
- **2050**

[1] See the Excel file: „CO2_Calculator.xlsx".

Please think about these commitments carefully. These nationally determined contributions are legally binding! For example, if a country committed in the Annex to reduce its CO2 emissions in 2040 by at least x%, but then fails to do so, then the country can be sued in front of an international court and is obliged to pay penalties. Note that the goal that is jointly set by all participating countries in the resolution is not legally binding but just an expression of intend. However, the commitments made in the Annex are legally binding. To enforce this, each country is required to specify which actions it is going to take in order to achieve its goals. For example, each country should list in the Annex the most important direct regulations it will impose in different sectors (energy, transport, buildings, etc.) or which CO2 price it wants to impose in some or all sectors of the economy. These actions should be sufficiently ambitious to achieve the reductions of CO2 emissions that the country committed itself to.

Please do not submit ranges (e.g. that you will reduce emissions by 50-80%). In this case only the lower number counts for the success of the Resolution.

Note that **the contribution of each country in the Annex is nationally determined.** It may be discussed during the negotiations on the Resolution, but it is not part of the Resolution and **will not be voted upon.** Hence, after having finished discussions and the voting procedure on the Resolution, each country submits its nationally determined commitment to climate action independently and privately to the Annex. **Only countries that voted in favor of the Resolution are obliged to submit a nationally determined contribution to the Annex**. It is assumed that countries that did not support the Resolution will pursue "business as usual" policies with respect to carbon emissions, referring to the IPCC Scenario 1 (see study guide on p. 6f.).

If no Resolution is adopted, this will be interpreted as "business as usual" by all countries. "Business as usual" refers to the IPCC Scenario 1 (see study guide on p. 6f.).

The success/failure of COP TÜBINGEN will be measured by the global reduction of CO2 emissions averaged over 2030, 2040, and 2050! Please use the CO2 calculator[2] to see the global reduction/increase of CO2 emissions achieved by the Resolution.

Final Note

When you discuss and vote upon the Resolution, try to be realistic and to act in the interest of your country. You should be open to compromise, if you believe that the compromise is in the long-term interest of your country and that it is possible to "sell" the compromise at a reasonable political cost at home. But, if a proposed policy is not in the interest of your country or if it would be politically impossible to "sell" it at home, you should resist it. Therefore, think carefully about the economic and political costs and benefits of the proposed climate actions before you commit to them.

For the validity of the scientific study it is essential that you keep these QARMAs strictly confidential.

[2] See the Excel file: „CO2_Calculator.xlsx".

Conference of the Parties to the United Nations Framework Convention on Climate Change

(COP)

Climate Change Negotiations

Questions a Resolution Must Answer

(QARMA)

Uniform Global Carbon Price

The UNFCCC instructs the Tübingen Conference of the Parties to the United Nations Framework Convention on Climate Change (COP TÜBINGEN) **to pass a Resolution on the global reduction of CO2 emissions by introducing a (minimum) uniform global carbon price**.

There are **two reasons** for this negotiation format:

1. Mitigating climate change is the joint responsibility of all countries. Thus, it is essential that **as many countries as possible agree on what they jointly want to achieve. Therefore, the main agenda item of the Resolution is the global reduction of CO2 emissions with concrete milestones in 2030, 2040 and 2050.**
2. To achieve this goal, all participating countries have to make legally binding commitments. A uniform global carbon price is the most cost efficient way to achieve any given reduction of CO2 emissions, if it is introduced by all countries. Thus, in the preparation of this conference it was agreed that **all countries should strive to introduce a uniform carbon price to achieve the aspired reduction of CO2 emissions:**
    - The carbon price introduced by a country is a simple measure of its efforts to mitigate climate change. **By having a carbon price that is the same for all countries, all countries contribute similarly to this end.**
    - If the carbon price specified by the Resolution is reduced, it is reduced for all participating countries. If it is raised, it is raised for all participating countries. **Thus, each country has an incentive to push for a carbon price that it believes is optimal for all participating countries.**
    - If the same carbon price is introduced in all countries, **carbon leakage is prevented**.

Agenda

The UNFCCC has specifically tasked this conference of COP TÜBINGEN to discuss a uniform global carbon price on CO2 emissions. There are many related issues that are not agenda items of this conference but will be addressed at other conferences in the future.

In particular, the UNFCCC has already stated the project of a “Green Fund”. The idea of the Green Fund is to help low income countries to introduce a carbon price and to cushion the impact on vulnerable parts of their population. Only those low income countries that signed the current Resolution will benefit from the Green Fund. The fund will be financed by contributions of high income countries. Which countries will benefit from the Green Fund and how much will be paid is to be discussed at this later conference.

In the current conference the only agenda item is the common goal of a uniform global carbon price.

Resolution

The Resolution has to state a concise goal to be achieved by the participating countries and how to achieve it with a uniform carbon price. This goal should be expressed in terms of **by how much CO2 emissions of the countries signing the resolution should be reduced or increased in percent compared to CO2 emissions in 2010 in**

- **2030**
- **2040**
- **2050**

Furthermore, the Resolution has to **specify how high the (minimum) uniform carbon price is going to be until**

- **2030**
- **2040**
- **2050**

and which countries are committed to introducing at least this price (on average across all sectors of their economies). The Resolution requires a majority of at least 50%, i.e. at least five out of ten countries participating at COP TÜBINGEN. Each country has one vote, abstentions are not allowed.

Note that the Resolution may be passed by a subset of all participants of COP TÜBINGEN. This subgroup will be called "the coalition" in the following.

- It is desirable to form a coalition that is as large as possible.
- But: not all countries have to support the Resolution. If a majority of countries is willing to make an ambitious commitment, while a few other countries are not willing to go along, then the majority can go ahead.
- Countries that did not participate in the coalition and voted against the Resolution are not bound by it. Countries that do participate in the coalition are legally committed to introducing carbon prices in all sectors of their economy that on average are at least as high as the uniform carbon price agreed upon in the Resolution.
- In the end, it is the global reduction of CO2 emissions achieved by carbon pricing that counts for mitigating climate change. The global reduction is the weighted reduction of the emission reductions of all countries participating in the coalition. For details, see the example in the study guide on p. 8, and Table 2 for the weights (i.e. the "Share of worldwide CO2 emissions in % (2010)"). Please use the CO2 calculator and the CO2 calculator with carbon price[1] to compute the reduction/increase of worldwide CO2 emissions.

[1] See the Excel files: „CO2_Calculator.xlsx" and „CO2_Calculator_Carbon_Price.xlsx".

The global carbon price is legally binding! For example, if the Resolution requires a carbon price of x USD in 2040 and if a country that signed the Resolution fails to introduce at least this carbon price (on average across all sectors of its economy), then the country can be sued in front of an international court and is obliged to pay penalties.

Each country that signs the Resolution is free how to implement the agreed upon carbon price, e.g. by using emissions markets (as they exist in the EU, China, California and other countries already), by imposing a carbon tax (as in Sweden or Switzerland) or by using some other form of carbon pricing. If carbon prices exist in a country already, they can be integrated and count for achieving the minimum uniform carbon price. Each country that signs the Resolution commits to an average carbon price (across all sectors) of at least the required amount. Please do not submit ranges (e.g. that you will introduce a carbon price of 100-150 USD). In this case only the lower number counts for the success of the Resolution.

The revenues from carbon pricing accrue to each country and can be spent freely, e.g. by paying a climate dividend to its citizens, by compensating groups or industries that are particularly affected by the carbon price, and/or by investing in infrastructure projects.

Carbon Leakage: The countries that sign the Resolution will introduce a joint system of border adjustment taxes that effectively prevent carbon leakage. A border adjustment tax increases the price of imported goods that are produced without paying a CO2 price. It compensates for the disadvantage that domestic industries have as compared to their competitors in other countries that do not impose the uniform carbon price. Furthermore, it gives an incentive to other countries to also introduce the carbon price in order to avoid the border adjustment tax. Thus, even if not all countries support the Resolution, there is no carbon leakage.

If no Resolution is adopted, this will be interpreted as “business as usual” by all countries. “Business as usual” refers to the IPCC Scenario 1 (see study guide on p. 6f.).

The success/failure of COP TÜBINGEN will be measured by the global reduction of CO2 emissions averaged over 2030, 2040, and 2050! Please use the CO2 calculator and the CO2 calculator with carbon price[2] to see the global reduction/increase of CO2 emissions achieved by the Resolution.

Final Note

When you discuss and vote upon the Resolution, try to be realistic and to act in the interest of your country. You should be open to compromise, if you believe that the compromise is in the long-term interest of your country and that it is possible to “sell” the compromise at a reasonable political cost at home. But if a proposed policy is not in the interest of your country or if it would be politically impossible to “sell” it home, you should resist it. Therefore, think carefully about the economic and political costs and benefits of the proposed climate actions before you commit to them.

For the validity of the scientific study it is essential that you keep these QARMAs strictly confidential.

[2] See the Excel files: „CO2_Calculator.xlsx” and „CO2_Calculator_Carbon_Price.xlsx”.

Conference of the Parties to the United Nations Framework Convention on Climate Change

(COP)

Climate Change Negotiations

Rules of Procedure

GENERAL RULES

1. Scope

The rules included in this guide are applicable to all Committees of the General Assembly, the Economic and Social Council, and the Specialized Agencies. Each rule is self-reliant unless modified by the Secretariat, in which case, the modification will be deemed adopted before the session begins. No other rules of procedure apply. If a situation arises that has not been addressed by the Rules of Procedure, the Committee Chair will be the final authority on what procedure to follow. For Committees in the Specialized Agencies and some Committees in the ECOSOC, the rules can be adapted by the Committee Chair to reflect the rules of the actual body that is being simulated, and these adapted rules will take precedence unless explicitly specified by the Committee Chair.

2. Language

English will be the official and working language of the conference. If a Delegate wishes to present a document written in a language other than English, the Delegate will have to provide a translation to the Committee staff that will then distribute the translated version to the rest of the Committee.

3. Representation

A member of the Committee is a representative who is officially registered with the Conference. Each member will be represented by one or two Delegates and will have one vote on each Committee. If two Delegates represent a Member State of a Committee, the Delegates can present speeches together without formally yielding as long as only one Delegate speaks at any given time.

4. Credentials

The credentials of all delegations have been accepted upon registration. Actions relating to the modification of rights, privileges, or credentials of any member may not be initiated without the written consent of the Secretary-General. Any representative whose admission raises an objection by another member will provisionally be seated with the same rights as other representatives, pending a decision from the Secretary-General.

5. Participation of Non-Members

Representatives of Accredited Observers will have the same rights as those of full members, except that they may not sign or vote on draft resolutions or amendments. These representatives reserve the right to vote only on procedural matters but not on substantive matters. A representative of an organization that is neither a member of the United Nations nor an Accredited Observer may address a Committee only with the prior approval of the Chair.

6. Statements by the Secretariat

The Secretary-General or a member of the Secretariat designated by him/her reserves the right to make either written or oral statements to the Committee at any time.

7. General Powers of the Committee Staff

The Committee Dais Staff consists of the two Committee Chairs and the Committee Supervisor. Each Committee session will be announced open and closed by the Committee Chairs, who may also propose the adoption of any procedural motion to which there is no significant objection. The Chairs, subject to these rules, will have complete control of the proceedings at any meeting.

The Chairs will direct the flow of debate, grant the right to speak, ask questions, announce decisions, rule on points of order, and enforce adherence to these rules. If necessary and given no objections, the Committee Chairs may choose to suspend the rules in order to clarify a certain substantive or procedural issue. The Committee Chairs also have the right to interrupt the flow of debate in order to show a presentation or to bring in a guest speaker or an expert witness. The Chairs can choose to temporarily transfer their duties to another member of the Secretariat. Committee Dais staff members

may also advise delegations on the possible course of debate. Further, no handouts may be circulated to the Committee body without the knowledge and explicit approval of the Chairs. In the exercise of these functions, the Committee Dais staff will be at all times subject to these rules and responsible to the Secretary-General.

8. Quorum

Quorum denotes the minimum number of Delegates who need to be present in order to open debate. When at least half of the members of the Committee (as declared at the beginning of the first session) are present, quorum is met, and the Chairs declare a Committee open to proceed with debate. A quorum will be assumed to be present unless specifically challenged and shown to be absent. A roll call is never required to determine the presence of a quorum. In order to vote on any substantive motion, the Committee must establish the presence of a simple majority of members. For double delegation Committees, at least one Delegate from each pair must be present during substantive voting.

9. Courtesy

Every Delegate will be courteous and respectful to the Committee staff and to other Delegates. The Chairs will immediately call to order any Delegate who does not abide by this rule. Any Delegate who feels that he or she is not being treated respectfully is encouraged to speak to the Chair, who will then take the appropriate action.

10. Electronic Aids

Delegates are not permitted to use any type of electronic device, including laptops, phones, etc., in the Committee room when the Committee has been convened. All laptop use must occur outside of the Committee room unless otherwise specified by the Chair. The Chair may grant the use of electronic dictionaries at his or her discretion.

11. Delegate Conduct

Delegates are warned that COP TÜBINGEN 2019 has a zero-tolerance policy for slandering, disparaging, or acting in any other way that is inflammatory to other Delegates. Neither speeches nor debates with other Delegates may contain remarks of this nature. Those Delegates who believe that their countries' policies merit such conduct are advised to consult the Chair before taking any action.

12. Absences

If a Delegate is not present during roll call, he or she is considered absent until a note is sent to the dais staff. A Delegate who is recognized but is not present when called upon yields his or her time to the Chair, and debate shall continue unabated.

RULES GOVERNING DEBATE

13. Agenda

Since there is only one topic per Committee at COP TÜBINGEN 2019, the agenda is automatically considered as set. There will be no agenda setting and the Committee will go directly into General Debate after the Roll Call.

14. Debate

The setting of the Agenda is followed by the opening of a new, continuous Speakers' List, which is used to begin general debate. This Speakers' List will decide the order of speakers for all debate on the Topic Area, except when superseded by procedural motions, amendments, or the introduction of a draft resolution. Speakers may speak generally on the Topic Area being considered and may address any draft resolution currently on the floor. Once a draft resolution has been introduced, it remains on the floor and may be debated until it fails, the Committee postpones debate on it, or the Committee moves to the next Topic Area.

15. Unmoderated Caucus

A Delegate may move for an unmoderated caucus at any time when the floor is open, prior to closure of debate. The Delegate making the motion must specify a time limit and a topic of discussion for the caucus, not to exceed twenty minutes. The motion will

immediately be put to a vote and will pass given a simple majority. In the case of multiple unmoderated caucuses, the Chair will rank the motions in descending order of length, and the Committee members will vote accordingly. The Chair may rule the motion dilatory, and his/her decision is not subject to appeal. An unmoderated caucus may be extended only twice but only after the caucus has ended and not for a longer duration than the initial caucus time.

16. Moderated Caucus

The purpose of a moderated caucus is to facilitate substantive debate at critical junctures in the discussion. In a moderated caucus, the Chair will temporarily depart from the Speakers' List and call on Delegates to speak at his/her discretion. A motion for a moderated caucus is in order at any time when the floor is open, prior to closure of debate. The Delegate making the motion must briefly explain its purpose and specify a time limit for the caucus, not to exceed twenty minutes, and a time limit for the individual speeches. Once raised, the motion will be voted on immediately, with a simple majority of members required for passage. In the case of multiple moderated caucuses, the Chair will rank the motions in descending order of length, and the Committee members will vote accordingly. The Chair may rule a motion dilatory, and his/her decision is not subject to appeal. No motions are in order between speeches during a moderated caucus. A Delegate can and will be ruled out of order if the Delegate's speech does not address the topic of the moderated caucus. If no Delegate wishes to speak during a moderated caucus, the caucus shall immediately end. A moderated caucus may be extended only twice but only after the caucus has ended and not for a longer duration than the initial caucus time. There is no yielding of time in moderated caucuses.

At the discretion of the Chair, the Committee may raise a motion for a moderated caucus with questions where Delegates have the opportunity to directly respond to speeches and address questions. For this purpose, the Chair will allocate the demanded speaking time into two phases: (i) the Delegate's speech and (ii) the time to answer questions. After each speech, the Chair will select Delegates to state their question to the Delegate who held his/her speech. The time will be paused during the time the questions are raised. The Delegate will use the remaining time to answer the questions. The Delegates who asked the questions have no right of response to the answer of the question. The Chair may rule the motion dilatory, and his/her decision is not subject to appeal.

17. Consultation of the Whole

At the discretion of the Chair, Delegates may move for an informal consultation of the entire Committee in which the rules of procedure are suspended and which goes without the Chair moderating the ensuing discussion. The Delegate making the motion must specify the time limit and a topic of discussion for the consultation of the Whole, not exceeding ten minutes. The motion will be put into a vote and requires simple majority to pass. During the execution of this motion, Delegates will be expected to remain in their seats and be respectful of speakers at all times. The moderation will be carried out by the Committee's Delegates. Each Delegate may address the Committee and then announce the next speaker. No speaker can address the speaker who spoke right before. The consultation of the Whole can only be extended twice, for a maximum of ten minutes under the discretion of the Chair. The Chair's decision regarding the Consultation of the Whole are not subject to appeal.

18. Closure of Debate

When the floor is open, a Delegate may move to close debate on the substantive or procedural matter under discussion. Delegates may move to close debate on the general topic, debate on the agenda, or debate on an amendment. The Chair may, not subject to appeal, rule such a motion dilatory. Closure of Debate on the General Topic is only allowed after at least one Draft Resolution has been introduced.

When closure of debate is moved, the Chair may recognize up to two speakers against the motion. No speaker in favor of the

motion will be recognized. Closure of debate requires the support of two-thirds of the members present and voting. If there are no speakers against the closing debate, the Committee Chair will ask the Delegates if there are any objections to voting by acclamation (Please see Rule 37 for details on procedure). If there are no objections, the motion to close debate will automatically be adopted and the Committee will move immediately to substantive voting procedure.

19. Suspension or Adjournment of the Meeting

The suspension of the meeting means the postponement of all Committee functions until the next meeting. The adjournment of the meeting means the postponement of all Committee functions for the duration of the Conference. Whenever the floor is open, a Delegate may move for the suspension of the meeting or adjournment of the meeting. The Chair may rule such motions dilatory; these decisions shall not be subject to appeal. When in order, such motions will not be debatable but will be immediately voted upon, barring any motions taking precedence, and will require a simple majority to pass. A motion to adjourn will be out of order prior to the lapse of three-quarters of the time allotted for the last meeting of the Committee. In the case of a real emergency as declared by the Secretary-General, members of the Secretariat or the Committee Staff, debate will automatically be suspended without any exceptions.

20. Postponement and Resumption of Debate

Whenever the floor is open, a Delegate may move for the postponement of debate on a draft resolution, amendment, or topic currently on the floor. The motion, otherwise known as “tabling,” will require a two-thirds vote to pass and will be debatable to the extent of one speaker in favor and one opposed. No debate or action will be allowed on any draft resolution, amendment, or topic on which debate has been postponed. A motion to resume debate on an amendment, draft resolution, or topic on which debate has been postponed will require a simple majority to pass and will be debatable to the extent of one speaker in favor and one opposed. Resumption of debate will cancel the effects of postponement of debate. The Chair may rule a motion for postponement or resumption dilatory, but his/her decision is subject to appeal.

21. Reconsideration

A motion to reconsider is in order when a draft resolution or amendment has been adopted or rejected, and must be made by a member who voted with the majority on the substantive proposal. The Chair will recognize up to two speakers opposing the motion after which the motion will be immediately voted upon. A two-thirds majority of the members present is required for reconsideration. If the motion passes, the Committee will immediately vote again on the draft resolution or amendment being reconsidered. The Chair may rule a motion for reconsideration dilatory, but his/her decision is subject to appeal.

22. Appeal

An appeal can only be made to procedural matters, but not substantive ones (for the difference, see Rules 35 and 36). A Delegate may appeal any procedural decision of the Chair unless it is one that cannot be appealed as stated by the rules of procedure. The Delegate can only appeal a ruling immediately after it has been pronounced. The Delegate will be given thirty seconds in order to explain the reasoning behind the appeal. The Chair may speak briefly in defense of the ruling. The appeal shall then be put to a vote, and the decision of the Chair shall stand unless overruled by two-thirds of those members present and voting. A “Yes” vote indicates support of the Chair’s ruling; a “No” vote indicates opposition to that ruling.

The following rulings of the Chair may never be appealed by a Delegate:

- Decision to rule a motion for an unmoderated (Rule 15) or a moderated caucus (Rule 16), including extensions out of order;
- Decision to end a moderated caucus early;

- Decision to rule a motion for a consultation of the whole (Rule 17), including extensions out of order;
- Decision to rule a motion for closure of debate (Rule 18) out of order;
- Decision to rule a motion for suspension or adjournment (Rule 19) out of order;
- Decision to refuse a right of reply (Rule 27);
- Approval of a working paper (Rule 31), draft resolution (Rule 32) and amendment (Rule 34);
- Decision to rule a motion for reordering draft resolutions (Rule 38) out of order;
- Decision to rule a motion for division of the question (Rule 39) out of order;
- Decision to rule a motion for a roll call vote (Rule 40) out of order.

RULES GOVERNING SPEECHES

23. Speakers' List

The Committee shall at all times have an open Speakers' List for the Topic Area being discussed. The Chair will either set a speaking time or entertain motions to set a speaking time. Separate Speakers' Lists will be established as needed for procedural motions and debate on amendments. A member may add its name to the Speakers' List by submitting a request in writing to the Chair, provided that member is not already on the Speakers' List, and may remove its name from the Speakers' List by submitting a request in writing to the Chair. At any time the Chair may call for members that wish to be added to the Speakers' List. The names of the next several members to speak will always be posted for the convenience of the Committee. The Speakers' List for the second Topic Area will not be open until the Committee has proceeded to that topic. The Speakers' List is the default activity of the Committee. If no motions are on the floor, debate automatically returns to the Speakers' List. A motion to close any Speakers' List is never in order; nor is a motion to return to the Speakers' List ever in order.

No Delegate may address a session without having previously obtained the permission of the Chair. The Chair may call a speaker to order if his/her remarks are not relevant to the subject under discussion, or are offensive to Committee members or staff. Delegates are required to make all speeches from the 3rd person perspective. There can be no speeches made from the 1st person unless the approval of the Chair is received. There can be no props used unless the approval of the Chair is received.

24. Time Limit on Speeches

The Chair may limit the time allotted to each speaker. The minimum time limit will be ten seconds. When a Delegate exceeds his/her allotted time, the Chair may call the speaker to order without delay. However, the Chair has the discretion to be flexible (within reason) about the time limit to allow a Delegate to finish his or her thought in order to account for the varying fluency of English among conference attendees.

25. Yields

A Delegate granted the right to speak on a substantive issue may yield in one of three ways at the conclusion of his/her speech: to another Delegate, to questions, or to the Chair. A Delegate must declare any yield at the conclusion of his or her speech.

Yield to another Delegate: His or her remaining time will be offered to that Delegate. If the Delegate accepts the yield, the Chair shall recognize the Delegate for the remaining time. The second Delegate speaking may not yield back to the original Delegate. To turn the floor over to a co-Delegate of the same member state is not considered a yield.

Yield to questions: Questioners will be selected by the Chair and limited to one question each. Follow-up questions will be allowed only at the discretion of the Chair. The Chair will have the right to call to order any Delegate whose question is, in the opinion of the Chair, rhetorical, leading, and/or not designed to elicit information. Only the speaker's answers to questions will count toward the remaining speaking time.

Yield to the Chair: Such a yield should be made if the Delegate does not wish his/her

speech to be subject to questions. The Chair will then move to the next speaker.

Only one yield is allowed per speech (i.e. no yields on yielded time). There are no yields allowed if the Delegate is speaking on a procedural matter. A Delegate must declare any yield by the conclusion of his/her speech. Delegates cannot yield if they run out of time. Yields only need to be made when debate proceeds according to a Speakers' List.

26. Comments

If a substantive speech involves no yields, and if the speaker does not use all of the time allotted, the Chair may recognize up to two Delegates, other than the original speaker, to comment for thirty seconds on the specific content of the speech just completed. Commentators may not yield. No comments shall be in order during debate on procedural motions.

27. Right of Reply

A Delegate whose personal or national integrity has been impugned by another Delegate may submit a Right of Reply only in writing to the Committee staff. The Chair will grant the Right of Reply at his/her discretion; this decision is not appealable. A Delegate granted a Right of Reply will not address the Committee except at the request of the Chair. A Right of Reply to a Right of Reply is out of order.

RULES GOVERNING POINTS

28. Points of Personal Privilege

Whenever a Delegate experiences personal discomfort, which impairs his/her ability to participate in the proceedings, he/she may rise to a Point of Personal Privilege to request that the discomfort be corrected. A Point of Personal Privilege may only interrupt a speaker if the Delegate speaking is inaudible. Otherwise, the Delegate rising on the Point of Personal Privilege must always wait till the end of the speech to raise the Point.

29. Points of Order

During the discussion of any matter, a Delegate may rise to a Point of Order to indicate an instance of improper parliamentary procedure. The Point of Order will be immediately decided by the Chair in accordance with these rules of procedure. A representative rising to a Point of Order may not speak on the substance of the matter under discussion. A Point of Order may not interrupt a speaker during the speech. The Delegate who rises to a point of order must wait till the end of the speech. Additionally, the Committee Chair has the right to address a Delegate if proper parliamentary procedure is not being followed.

30. Points of Parliamentary Inquiry

When the floor is open, a Delegate may rise to a Point of Parliamentary Inquiry to ask the Chair a question regarding the rules of procedure. A Point of Parliamentary Inquiry may never interrupt a speaker. Delegates with substantive questions should not rise to this Point, but should rather approach the Committee staff during caucus or send a note to the chairs. Points of Information do not exist.

RULES GOVERNING THE PATH TO A DRAFT RESOLUTION

31. Working Papers

Delegates may propose working papers for Committee consideration. Working papers are intended to aid the Committee in its discussion and formulation of draft resolutions and need not be written in draft resolution format. Working papers are not official documents and may be presented in any format approved by the Chair but do require the signature of the Chair to be copied and distributed. Once distributed, Delegates may consider that working paper introduced and begin to refer to that working paper by its designated number. Working papers do not require signatories or votes of approval. No document may be referred to as a "working paper" until it has been approved and introduced. The

approval of a working paper is not subject to appeal.

32. Draft Resolutions

A draft resolution may be introduced when it receives the approval of the Chair and is signed by the required amount of members of the Committee. **The Chair will announce the exact amount of signatories a draft resolution will require.** The number of required signatories for a draft resolution is subject to modification by the Committee Chair. The approval of a draft resolution is not subject to appeal. Signing a draft resolution need not indicate support of the draft resolution, and the signatory has no further rights or obligations. There are no official sponsors of draft resolutions. Signatories should be listed in alphabetical order on every draft resolution.

A draft resolution requires a simple majority of members present to pass and become a resolution. Only one draft resolution may be passed per Topic Area. After a draft resolution is passed, substantive voting procedure will end and the Committee will either move directly into the second Topic Area, or a motion for adjournment of the meeting (Rule 19) is in order.

33. Introduction of Draft Resolutions

Once a draft resolution (technically still a working paper) has been approved by the chairs as stipulated above, the chairs will display the document on the screen for all delegates to read within a reasonable time frame *(since we do not cop*

y and distribute working papers or draft resolutions to delegates in order to save paper). Delegates may then move for the introduction of a draft resolution. Before voting, the Chair may recognize a certain number of Delegates (at the Chair's discretion) to come forward to answer questions on the document to which the delegates were signatories. In addition, the Chair may also allow for an informal presentation of the document. The Chair, at his/her discretion, may also answer any clarifying points on the draft resolution. Any substantive points will be ruled out of order during this period, and the Chair may end this 'question-answer period' for any reason, including time constraints. No document may be referred to as a "draft resolution" until it has been introduced.

A procedural vote is then taken to determine whether the document shall be introduced as a draft resolution. Should the motion receive the simple majority required to pass, the document will be considered introduced and on the floor and can now be referred to as a draft resolution. More than one draft resolution may be on the floor at any one time. They will be numbered in order of introduction. A draft resolution will remain on the floor until debate on that specific draft resolution is postponed or a Resolution on that Topic Area has been passed. Debate on draft resolutions proceeds according to the general Speakers' List for that Topic Area, and Delegates may refer to the draft resolution by its designated number.

34. Amendments

Delegates may amend any draft resolution that has been introduced by adding to, deleting from, or revising parts of it. Only one amendment may be introduced at any given time. An amendment may be introduced when it receives the approval of the Chair and is signed by the required amount of members of the Committee. **The Chair will announce the exact amount of signatories an amendment will require.** Approval of an amendment is not subject to appeal. Amendments to amendments are out of order; however, an amended part of a draft resolution may be further amended. There are no official sponsors of amendments. As there are no official sponsors of draft resolutions, there can be no friendly amendments. If a submitted amendment contains a typological error, the corrected version should be submitted to the Chair only and does not need to be circulated to the entire Committee. The Chair, at his or her discretion will announce the corrections made in the latter version. Pre-ambulatory phrases may not be amended. The final vote on the amendment is substantive; NGOs, Observer Nations, and Third Party Actors will not be allowed to vote on amendments.

A motion to introduce an approved amendment may be introduced when the floor is open. After this motion, the Chair may read the amendment aloud or show it on the screen. Thereafter, a procedural vote on the introduction of the amendment is taken. The motion will pass by a simple majority. If the motion passes, General debate will be suspended, and a new Speakers' List will be established for and against the amendment. A motion to close debate will be in order after the Committee has heard from at least two speakers for the amendment and from at least two speakers against. A motion to close debate will proceed as described by Rule 18.

When debate is closed on the amendment, the Committee will move to an immediate substantive vote. Amendments need a simple majority to pass.

After the vote, debate will resume according to the general Speakers' List.

RULES GOVERNING VOTING

35. Procedural Voting

Voting on any matter other than draft resolutions and amendments is considered procedural. Each and every member of the Committee, including representatives of Accredited Observers and of NGOs must vote on all procedural motions, and no abstentions will be allowed. A simple majority shall be considered achieved when there are more "Yes" votes than "No" votes. A two-thirds vote will require at least twice as many "Yes" votes than "No" votes. If there is not the required number of speakers for or against a motion, the motion will automatically fail or pass.

36. Substantive Voting

Substantive voting includes voting on draft resolutions and amendments. Once the Committee closes debate on the general Topic Area, it will move into substantive voting procedures. At this time, the chambers are sealed, and no interruptions will be allowed. The only motions (in order of precedence) and points that will be in order are:

- Point of Personal Privilege (Rule 28);
- Point of Order (Rule 29).
- Point of Parliamentary Inquiry (Rule 30);
- Reordering Draft Resolutions (Rule 38);
- Division of the Question (Rule 39);
- Motion for a Roll Call Vote (Rule 40).

If there are no such points or motions, the Committee will vote on all draft resolutions. For substantive voting, each member will have one vote. **Each vote may be a "Yes" or "No". Abstentions are not allowed.**

All matters will be voted upon by a show of placards, unless a motion for a roll call vote is accepted.

The chairs will announce the exact amount of votes a simple majority and a two-thirds majority will require.

Once any Resolution has been passed, the voting procedure is closed, as only one Resolution may be passed per Topic Area. NGOs, Observer Nations, and Third Party Actors will not be able to vote on draft resolutions and/or amendments.

37. Voting by Acclamation

Before the beginning the vote on a particular motion, draft resolution or amendment, the Committee Chair has the right to ask his or her members if there are any objections to a vote by acclamation. In addition, if no speakers against the motion to close debate are recognized, the Chair will propose a vote by acclamation, subject to objections from the Delegates. If the Committee members have no objections, then the motion will automatically be adopted without the Committee going into voting procedure. A single objection to voting by acclamation will mean that the Committee will go into normal voting procedure.

38. Reordering Draft Resolutions

A Motion to Reorder Draft Resolutions will only be in order immediately after entering voting procedure, and before voting has started on any draft resolutions. The Chair

will take all motions to reorder draft resolutions and then vote on them in the order in which they were introduced. Voting will continue until either a motion to reorder passes with a simple majority, or all of the motions fail, in which case the Committee will move into voting procedure, voting on the draft resolutions in their original order. The Chair may rule a motion for reordering draft resolutions dilatory, and his/her decision is not subject to appeal.

39. Division of the Question

After debate on any topic has been closed, a Delegate may move that the operative parts of a draft resolution be voted on separately. The Chair may rule a motion for division of the question dilatory, and his/her decision is not subject to appeal. Pre-ambulatory clauses and sub-operative clauses may not be altered by division of the question.

The motion can be debated to the extent of two speakers for and two against, to be followed by an immediate procedural vote on that motion.

If the motion receives the simple majority required to pass, the Chair will take motions on how to divide the question and prioritize them from most severe to least severe.

The Committee will then vote on the motions in the order set by the Chair. If no division passes, the resolution remains intact. Once a division has been passed with a simple majority, the draft resolution will be divided accordingly, and a separate procedural vote will be taken on each divided part to determine whether or not it is to be included in the final draft resolution.

If all of the operative parts of the substantive proposal are rejected, the draft resolution will be considered to have been rejected as a whole.

Parts of the draft resolution that are subsequently passed will be recombined into a final document. The final document will be put to a substantive vote.

40. Roll Call Voting

A Delegate has the right to request a roll call vote after debate on a draft resolution is closed. A roll call vote can only be in order for substantive votes. A motion for a roll call vote may be made from the floor and seconded by 3 members of the Committee. The required number of seconds is subject to modification by the Committee Chair. The Chair may rule a motion for roll call voting dilatory, and his/her decision is not subject to appeal.

In a roll call vote, the Chair will call members in alphabetical order starting with a randomly selected member. In the first sequence, Delegates may vote “Yes,” “Yes with Rights”, “No,” “No with Rights”, or “Pass.”

Delegates who vote either “Yes with Rights” or “No with Rights” reserve the right to explain his/her vote only when the Delegate is voting against the policy of his/her country. The Delegate will only be allowed to explain an affirmative or negative vote.

- A Delegate who voted “Pass” during the first sequence of the roll call must vote during the second sequence. The same Delegate may not request the right to explain his/her vote.
- The Chair shall then call for changes of votes; no Delegate may request a right of explanation if he or she did not request on in the previous two sequences. All Delegates who had requested the right of explanation will be granted time to explain their votes. The speaking time will be set at the discretion of the Chair, not to exceed thirty seconds.
- The Chair will then announce the outcome of the vote.

PRECEDENCE OF MOTIONS

Motions will be considered in the following order of preference:

- Point of Personal Privilege;
  Point of Order;
- Point of Parliamentary Inquiry;
  Adjournment of the Meeting
  Suspension of the Meeting;
- Unmoderated Caucusing;
  Moderated Caucusing;
  Consultation of the Whole
  Introduction of a Draft Resolution;
  Introduction of an Amendment;
  Postponement of Debate;
  Resumption of Debate;
- Closure of Debate;

At the start of voting procedure, the following points and motions are in order, in the following order of precedence:

- Point of Personal Privilege;
  Point of Order;
- Point of Parliamentary Inquiry;
  Reordering Draft Resolutions;
  Division of the Question;
- Motion for a Roll Call Vote;

Conference of the Parties to the United Nations Framework Convention on Climate Change

(COP)

Climate Change Negotiations

Position Paper Awards

Position Paper - COP Bern 2018

Committee: 1

Topic: Climate Change Negotiations

Country: China

Delegate: [redacted]

In recent years, China with its fragile ecological environment, experienced more extreme weather events. Floods, heat waves, droughts and dust storms now happen on a regular basis causing great damage to health and society. Heat waves and other extreme weather condi tions have been associated with increased death risk in large Chinese cities, such as Beijing and Shanghai. China is particularly concerned with the chance of increasing flooding. While the population affected by river flooding will increase already 93% by a temperature rise of 1.5 C, 4C will lead to 442% more people being affected and 443% more economic damages from river flooding.

China sees itself in a leadership position. In the Paris Agreement, China committed to reach peak carbon emission around 2030 and is on track to not only deliver, but to exceed its NDC. When policy targets are set as “restrictive” by the central government, they are taken as bind ing at all levels of local governments and are consequently implemented by relevant adminis trative units and enterprises. China is currently working on a long term low emission strategy including a reduction target for 2050, however, already presents its policies in five year plans. The country has exceeded its 2020 renewable electricity target three years early. More than half of new global solar PV capacity in 2016 and 2017 was installed in China, showing one of the highest growth rates in renewable energy. China recognizes, that tradable carbon units are one of the most affective weapons in the battle of a better environment, why the govern ment is launching trial periods for a new emission trading scheme for the power sector. When the system is fully implemented, it’s expected to cover 3.5 billion metric tons of carbon pollu tion from more than 1’700 companies, which is 39% of China’s total emissions, making it the largest carbon market in the world.

China, a still emerging economy with per capita income significantly lower than other Western economies, could serve as a credible example to other developing countries struggling to bal ance economy and environment. China encourages the reduction of CO2 emissions until 2050 by 40% to stay under 2C above pre industrial levels, recognizing the need to increase its cur rent target for non fossil fuel consumption from 15% to 26% by 2020 to meet this goal.

County or Position: Canada
Committee: COP
Name: [redacted]
University: Universität Bern
Topic: Climate Change Negotiations

Canada has already seen a temperature increase by 1.7 degrees Celsius since 1948. The increase in surface temperature has had and will continue to have severe consequences on Canada and its inhabitants. The temperature increase causes the shrinking of sea ice, which disrupts normal ocean circulation and creates changes in climate and weather around the globe. Canada has gotten a foretaste of what is to come in the future by seeing an increase in stronger and harsher wildfires, a higher frequency in droughts and floods and heat extremes in combination with poor air quality. As eight of Canadas 10 provinces and all three of its territories border the oceans, it is vulnerable to flooding caused by rising seas and an increase in storms. Furthermore, Canadians have come in contact with diseases like Lyme disease in areas which had no record of these kinds of cases before. It is believed the reason for this is the migration of species which were traditionally habitants of Southern regions of the world. Acknowledging the effects of climate change, the Canadian government views climate change not just as a challenge, but also a historical opportunity to build a sustainable economy. In accordance to that the Canadian government has set itself and in extension the world the goal to reduce the greenhouse gas emission by 30% compared to the levels of 2005 by 2030 and by 80% by 2050. In 2016 Canada issued the Pan-Canadian Framework, which outlines the actions Canada is planning to take to combat CO2 emissions. The plan is structured into 4 pillars: carbon pricing, complementary actions to reduce emissions across the economy, the adaptation of measures and actions to accelerate innovation and support clean technology. Canada wants to implement carbon pricing through either a carbon tax or levy with a performance-based emission system that should be adapted during the progression of time. In addition, Canada has committed to a coal phase-out by 2030 and a modernization of the electricity system. Canada intends to update its transportation systems by creating emission standards for all types of vehicles and invest in public transport. Moreover, it is planning to reduce its methane emissions by 40-45% in its industry by 2025 and is working on phasing-out of fossil fuel subsidies by 2025. Additionally, carbon storages in forests and agricultural lands are being enhanced and its financial commitments are being delivered by supporting other nations and international institutions with 2.65 billion dollars.

Delegate: [redacted]

Country: Saudi Arabia

Committee: 1

Topic: Climate Change Mitigation

I. General Information

Saudi Arabia does not believe that the international community will be able to agree successfully on a climate treaty if the treaty's intention is to set an additional economic burden on developing countries. Even if climate change is a global problem and a universal challenge for the international community, it is still unjust and unrealistic to expect adoption of a treaty by developing countries apart from those that are already included in the Kyoto Protocol. Saudi Arabia eagers to point out that it is the industrial countries that are largely historically responsible for carbon dioxide emissions. Even today industrial countries are still responsible for nearly half of the emissions despite the fact that they represent only 20 percent of the world's population. Saudi Arabia stresses the important role of industrialized countries on climate change and is against developing countries taking on binding climate commitments. If mitigation is strictly necessary for Saudi Arabia and to reach sustainable development objectives mitigation should not hinder development in Saudi Arabia and must not affect the oil sector which constitutes 60% of the government revenue. Saudi Arabia has a conditional acceptance on Climate Change and has signed documents such as the Paris Climate Agreement on November 4, 2016. Saudi Arabia aims to reduce its annual emissions up to 230 million tons of carbon dioxide by 2030. Saudi Arabia urges further research in climate change that is conducted and efforts are undertaken to ensure that an emissions reduction target is well defined and, importantly, is aligned with the national low-carbon initiatives. The economic and social consequences of international climate change policies and measures do not pose disproportionate or abnormal burden on the Kingdom's economy. This is fully consistent with Article 3 paragraph 2 and Article 4 paragraph 8(h) and 10 of the United Nations Framework Convention on Climate Change.

II. Climate Change Effects on Saudi Arabia

Saudi Arabia is projected to experience mainly decreases in precipitation, in common with the majority of the Middle East. Decreases of up to 20% or higher are projected in the northwest of the country, with strong agreement across CMIP3. Towards the south and east, smaller decreases are projected, and increases of up to 20% or more projected for the far southeast. As well as temperature increases over Saudi Arabia to be up to 4°C. Food security could decrease with climate change for Saudi Arabia. Saudi Arabia has planned to reduce its dependency on domestic production of wheat, the country's most important crop. Moreover, over 90% of crop production in Saudi Arabia is fed by irrigation, moderate to high crop yield losses could be possible if the high demand for groundwater could not be met in the presence of climate change. Increase in water stress with climate change for Saudi Arabia, but of an uncertain magnitude. There are no detailed assessments of the impact of climate change on flooding in Saudi Arabia. Initial evidence shows that there is no consensus across climate models in the sign of change in flood risk with climate change for Saudi Arabia.

III. Goals 2030/2040/2050 in Saudi Arabia

Saudi Arabia seeks to reduce its annual emissions by up to 130 million tons of carbon dioxide equivalent by 2030. This emissions reduction target remains conditional and is limited in at least two ways: First, the baseline from which its abatement target is deducted was not defined and hence it remains unclear what the target is relative to, and second, the target is voluntary, not legally binding, and subject to future changes. In fact, the Nationally Determined Contribution mentions that Saudi Arabia may choose to adjust it between 2016 and 2020 if the Paris Agreement creates an "abnormal burden" on its economy. Further, the kingdom conditions its engagement on climate actions as contingent with its economic growth. Apart from listing climate mitigation and adaptation ambitions in the Nationally Determined Contribution. However, Saudi Arabia has still yet to release a national climate change action plan. No other long-term goals for the country are set.

IV. Goals 2030/2040/2050 in the world.

Saudi Arabia is opposed to binding commitments in future climate negotiations and believes that only the industrialized countries that are already committed to emission reductions under the Kyoto Protocol should have future emissions targets. Saudi Arabia believes that developing countries should only have voluntary and non-specific commitments on greenhouse gas emissions. Saudi Arabia points out that energy is necessary for economic and social development. Saudi Arabia is dependent on its oil and it believes that conversion to renewable energy sources would involve an unreasonable cost and would hinder the country's continued development. It argues that political decisions must support the two key requirements for sustainable development – social and economic development. The 2.4 billion people that today only have access to bio-fuel and lack modern energy for cooking and heating lack the very concept of reducing greenhouse gas emissions. For these people, the daily focus is to get their worst opponent: poverty. For the benefit of these people, the world's objective must be to make sure they have access to modern kinds of energy that are reliable, economically realistic, socially accepted and environmentally sound. This will not only raise their living standards, it will also help them to adapt to the unavoidable consequences of climate change.

V. Projects

In March 2018 Saudi Arabia and the SoftBank Group signed a memorandum of understanding to build a200 GW solar plant, the largest single solar project worldwide, which could dramatically lower the emission outlook for the Kingdom. The Public Investment Fund recently announced it wants to locate an electric vehicle industry in Saudi Arabia, following

an agreement to invest more than USD 1 billion in a US-based electric vehicle manufacturer. And would meet the goal set by 2030 easily.

VI. Carbon Pricing Mechanisms

To date, Saudi Arabia does not have an emissions trading scheme (ETS) or a carbon tax either in place, or under consideration.

UNFCCC COP MUNICH 2

Russian Federation

[redacted]

Topic: Global greenhouse gas emissions limitation

Climate Change's global effects are undeniable. Just last month, the Russian archipelago of Novaya Zemlya made headlines around the world with hosts of polar bears wandering into human settlements in search for food and endangering the population. Increasing global temperature will particularly affect Russia's North, weakening permafrost and reducing the amount of ice in the Arctic Sea. While the former destabilises buildings and infrastructure and can lead to the release of stored methane, the latter on the one hand caused the polar aforementioned bear crisis but also on the other hand enables the use of the Northeast Passage and general economic exploitation.

While the climate of the earth will inevitably change, the Russian Federation seeks to cooperate with all other countries to limit the manmade increase to 2°C above the preindustrial level and has therefore signed the Paris Climate Deal. While currently in the process of ratification, Russia stands by its commitments made in the 2015 Intended Nationally Determined Contribution (INDC) action plan active from 2020 to 2030. This complements the 2009 Climate Doctrine and Energy Strategy and following edicts and laws particularly in 2013 and 2014 and forms a consistent and coherent long-term strategy.

The Russian Federation will limit its anthropogenic greenhouse gas (GHG) emissions to 75% of its 1990 level by 2020 and to 70%-75% by 2030. This figure includes the positive effects of forestry with its full and realistic value. Protecting and reproducing the Russian boreal forests, encompassing 25% of the whole earth's woods is a cornerstone of Russian contribution to the global efforts. Direct regulation for GHG emission and absorption enables the Russian Federation to achieve its goals without the need to make use of international market mechanism and carbon pricing. The importance of commitment and cooperation of sovereign

nation states cannot be overstated in this process and Russia opposes globally dictated carbon prices. Much more consensus and clarity are needed from the international scientific community in order to lay the groundwork for rational and reasonable long-term planning of each member state. The Russian Federation proposes following sensible limitations to the GHG emissions – factoring in absorptions – compared to the 1990 baseline in order to achieve the 2°C goal. The comparison to the 2010 level is given in brackets for clarity.

	2030	2040	2050
Russia	**-30% to -25%** (+40% to +50%)	**-32.5%** (+35%)	**-35%** (+30%)
World	**+20%** (-10%)	**+13%** (-15%)	**+6%** (-20%)

Sources:

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Canada recognizes the need for immediate and global actions to reduce the emission of greenhouse gases. As a northern nation with vast landmasses, Canada faces severe impacts caused by climate change. Since the first temperature recordings in 1948 Canada's annual average temperature has increased by staggering 1.7 $°C$ - more than double the global average. This fast increase causes climate impacts such as severe flooding and extreme heat resulting in rising risk of wildfires. Furthermore an increase in infectious diseases is to be expected. Especially our Indigenous Communities, which mainly populated Canada's coastal and northern regions. Aware of its responsibility Canada has already committed to building climate-resilience infrastructure and adapt existing codes and standards to enhance Canada's readiness - especially in northern communities. As a part of those efforts Canada has already announced investments of more than $ 45 billion to support green infrastructure - such as renewable energy -, energy-efficient public transportation and clean energy research.

Canada also accepts its global responsibility to reduce its own greenhouse gas emissions and has committed to a reduction of 30% in 2030 compared to 2010. But we do not want to stop there but rather continue our climate actions to reduce greenhouse gas emissions 50% by 2040 and 80% by 2050. In order to reach this ambitious goal we already have taken steps to reduce our emissions in the two sectors contributing most to greenhouse gas emissions - electricity and transportation.

Canada already has one of the cleanest electricity systems in the world, with close to 80% of our electricity supply being CO_2 neutral. We aim to further push this value by the recent introduction of new coal-fired electricity standard that ban the construction of traditional coal-fired electricity generation units and accelerate the complete phase-out of traditional coal units by 2030. To complement these actions Canada will allocate a budget to modernize its electricity infrastructure such as new and enhanced transmission lines, smart grid and energy storage technologies.

In the transportation sector Canada plans to introduce a set of increasingly stringent emission standards for light- and heavy-duty vehicles. To reduce greenhouse gas emissions in industrial sectors Canada is working on new regulations for the oil and gas sector in order to reduce the emission of the particularly strong green house gas methane by 40-45% by 2025. We will further invest in new technologies to reduce emissions in the oil and gas sector. Further efforts include improving energy efficiency in the building sector, by 'net-zero energy ready' building codes to be implemented by 2030 for new buildings.

In addition to those actions Canada is actively working on the removal of emitted CO_2 from the atmosphere. In 2014 we already build the worlds first large scale power sector carbon capture and storage project in Saskatchewan, as well as the first carbon capture and storage project at an oil sands operation in 2015. Further we are increasing our efforts in protecting and enhancing natural carbon sinks as forests, wetlands and agricultural lands.

Another measure we already have implemented and are committed to enhance our efforts con-

sists out of carbon pricing. After the first introduction of subnational carbon taxes ranging from C$20 to C$35 per tonne of CO_2, we have established nation wide carbon taxes of at least C$20 per tonne with an incremental increase of C$10 per year until it reaches C$50 in 2022. In order to maintain fairness within the global economic landscape, we expect similar introductions of carbon pricing from the world community.

In order to realistically achieve the goal set by all of us within the Paris agreement the world relies on each of its nations to take actions in order to decrease their greenhouse gas emissions by at least 40%, but take full effort to reduce emissions by 80% by 2050 compared to 2010.

Committee: COP ETH MUN 2019, C2
Topic: Climate Change Negotiations
Stakeholder: People's Republic of China

Permanent Mission of
the People's Republic of China
to the United Nations

Office of
the Permanent Representative

中國常駐聯合國代表

Re: Uniform Global Carbon Price

Honourable members of the council,

We wish to preface this statement with a strong commitment to the preservation of our planet and a devotion to creating a future where development does not come as a counterweight to environmental preservation.

The People's Republic of China (PRC) has had its share of environmental difficulties caused by climate change. We have experienced temperature extremes, draughts, rising sea levels, and air pollution that is threatening to destabilize our food supplies, trade development, and economic growth. Some of our most economically active and most densely populated regions are located on the coastline and are in direct jeopardy from rising sea levels and extreme-weather events.

We are aware of these risks and we have taken several measures that aim to curb their adverse effects. The PRC is a signatory to the Kyoto Protocol since 1998, the Washington Declaration since 2007, and the Paris Agreement since 2016, among others. In addition to international treaties, our domestic agenda focuses on the mitigation of climate change. The 13th Five-Year Plan established ten binding environmental targets aimed at reducing carbon emissions while simultaneously increasing investments into clean technologies and renewable energy,

further establishing our leading position in these industries. We are also implementing a carbon trading market that will be comprised of the most emission-intensive industries. Already now, we can report that our *per capita* carbon emissions are among the lowest in the world despite the strong economic growth.

Even with these great efforts and results, we understand that no country can single-handedly undo the negative environmental impact of two hundred years of industrialisation, which is why we believe that the world can, and should, aim to reduce the global emission of carbon by 40 % by 2030, 80 % by 2040, and reach near-total elimination of carbon emissions by 2050. It is a lofty goal but the importance of its fulfilment cannot be understated.

As a developing economy, our total emissions are not negligible and the growth that we need to maintain in order to stay competitive in the global economy will create an increase in our emissions for the near future. The continuous move of production facilities to our country is a significant contributing factor in this process. However, we are not idle. We have set a goal of capping our emissions by 2030 and reducing them from there on. Based on our projections, we expect a reduction of 40 % by 2040 and a near-80 % reduction by 2050. As this is a non-linear process, and advancements in technology can radically increase the reduction of emissions, we will additionally continue increasing our previously mentioned investments in clean technology with the aim to reduce our emissions even more.

The carbon price has a value as a mechanism to reduce emissions and we are, through our carbon trading market, working on its implementation. The current price of 5 USD per ton of emitted CO2 is a reasonable first step that our economy can handle. We are open to linearly increasing it over time based on how successfully the countries meet global emission-reduction targets. After agreeing on this minimal uniform price, we will encourage other parties to adopt binding scaling factors that will take into account the country's development and past emissions.

Sincerely,

Delegate: [redacted]

Topic: Common goal of emissions reductions

Country: Canada

Committee: COP Mannheim 1

Introduction

As an important stakeholder with a clear position on climate change, Canada recognizes the need for sustainable growth and the importance of developing win-win situations through innovation, cooperation and communication with other nations, private enterprises and NGOs. Our government recognizes that business as usual is unacceptable and pledges to take the necessary climate action to avoid this scenario and keep temperature increase well below 2°C as agreed to in the Paris Conference.

The effects of climate change on our country

Between 1948 and 2013, temperature in Canada increased by 1.6 °C, more than the average global increase in this period. Canada's has a large part of its territory in the North, which has been especially affected and according to projections further warming will disproportionately affect this region. With a total coastline of 243 thousand kilometers, rising average and extreme sea levels have a widespread effect on all aspects of our citizens lives. Climate change affects relative sea levels differently in different regions. Average increases in the East of 3.2mm yearly last century are almost double that of the global average. Much smaller increases or even decreases have been observed on the West coast due to land rise. Extreme weather such as storms and hurricanes will be more frequent in the future. Increased ocean temperature and salination will speed up the melting of sea-ice on both coasts, resulting in larger waves reaching the coast during storms, as sea-ice no longer acts as a natural stormbreaker. Business as usual will likely result in moderate to drastic acceleration of sea level increase and occurrence of extreme weather events, though accurate projections remain hard to make.

Besides the visible change in sea levels at our coast, the increased levels of CO_2 contribute to acidification (30% compared to pre-industrial levels), having negative effects to marine life and our fishing sector, which endangers the employment of some 72 thousand Canadians.

Climate change is making most regions in the world less uninhabitable due to desertification, extreme weather, droughts, submersion of coastal and island regions. Densely populated

coastal cities on the East Coast such as Quebec face risk of flooding and displacement if no action is taken today. Internal displacement due to climate change is besides in the most extreme cases not a major risk to Canada. More acute are the projected international migration flows resulting from climate change (so called climate refugees). These could reach 200 million by 2050, many of them who might want to come to our relatively wealthy country. While Canada does not currently recognise the term climate refugee, current public debate on the issue might result in it doing so.

Climate policy implemented or expected in the near to midterm

Canada is rapidly undergoing a change in its energy mix. With renewable energy making up 67% of energy production it can be proud. Number one producer of hydro energy worldwide it aims to become the leading exporter of renewables by 2050. With coal in 2019 making up only 9% of the energy mix, it will continue to lose importance in the future. Having initially set a goal of complete coal phase out for 2040, this has been revised to 2030 by a decision in 2018. The second largest exporter of uranium and exporter of the CANDU reactor type power plant, nuclear energy remains an important part of the Canadian economy and energy mix. Currently at 15% of the total supply, it is expected to stay at this level in the midterm. Opinion polls show however that public support of nuclear energy is waning with slightly less than half of Canadians in favour of it.

Concerning energy efficiency, considerable efforts are made in the domains of industry, homes and transportation. The Canadian Industry Partnership for Energy Conservation (CIPEC) aims at improving competitiveness and sustainability for domestic firms, offering financial assistance, certification and workshops on energy management. Between 1990 and 2014, energy efficiency in industry improved by 8%. Further gains, especially in the mining and paper industry (respectively 35% and 15% of industry energy consumption) are expected by 2030. Canada works together in a partnership with the US and Mexico to expand the energy relationship between the three countries since 2016. Located in colder latitudes, the main energy expenditure of households is space heating (63%). Between 1990 and 2014, energy efficiency in homes has improved by 47%, due to policies encouraging isolation and construction of energy efficient new houses. A pilot project currently being deployed is the Energuide Rating System (ERS), informing homeowners about their energy efficiency and how to improve it. With the second largest land mass and widely dispersed population, transportation is responsible for a third of energy consumption in Canada, more than in comparable countries. Total energy needs are projected to increase by 2050, close to 28% if business goes as usual. However, due to investments in public transportation, fuel efficiency standards and teleworking schemes increased efficiency will lower this number to 15%. Other ongoing efforts which will be realised in the coming years are the installment of Electric Vehicle (EV) chargers and subsidising research on alternative fuels.

Pricing carbon pollution in Canada

Arguably the most effective tool in climate action is carbon pricing through either a direct carbon tax or a market-based system of emission trading. Canada combines the two

approaches through its 2018 Pan-Canadian Approach to Pricing Carbon Pollution which entails a direct fuel tax and a trading system for industry. The price for 1 ton of carbon stands at $20 presently and will rise by $10 yearly until 2022. The government returns all revenue from the systems in a handout to the regional governments, to improve public opinion on the measures.

Canada's position on global & national emission reduction

Under the Paris Agreement, Canada has committed to reducing its GHG emissions by 30% below 2005 level by 2030. Using 2010 as a reference this means that it commits itself to a reduction of 27% by 2030. Environment and Climate Change Canada (ECCC) reviews progress yearly and concluded in 2018 that with the measures taken but no further ones added, total reduction by 2030 would be 4%. Taking into consideration policies currently being developed, total reduction would stand at 16%. Based on current data available, if policies announced but not yet being developed are included in the projection, Canada would reach its goal of 27% by 2030, though a degree of inaccuracy remains due to lack of empirical data. Our government therefore will not seek to lower or raise its legally binding targets at the COP Mannheim summit.

As no relevant political debate in Canada has happened concerning 2040 and 2050 emission goals, setting targets remains a speculative affair. Allowing for technological advance in areas of carbon capture, energy efficiency and a broadly integrated global market for emission rights, Canada will commit to the reductions proposed in between scenario 4 and 5. More concretely, Canada is willing to legally bind itself to reduce emission by 40% and 50% by 2040 and 2050 if it finds the other countries willing to set ambitious goals as well.

Countries with more historical responsibility for contributing to the climate crisis by emitting carbon into the atmosphere, and that have more wealth to tackle the problem, should do more. Canada falls into both categories and thus encourages countries of comparable economic development to follow our goals of 27%, 40% and 50%. The government intends to use its diplomatic weight to encourage the US and the EU as the 2th and 3th largest polluters to match our ambition. For countries still undergoing industrialisation, namely China, India and South Africa we understand that climate goals need to be balanced with economic development. We hope to convince these countries to reach reductions more moderate but still ambitious by 2030 and commit to increase efforts towards 2040 and 2050.

Mannheim Conference of the Parties – Position Paper European Union

The different regions of the European Union are affected by climate change in different ways. While there are some benefits, like improved opportunities for agriculture and lower heating costs in Northern Europe, most effects will negatively affect the environment. Many ecosystems will suffer and there will be a loss of biodiversity. Moreover, people's health will be affected due to tropical diseases as well as extreme weather phenomena such as heat that leads to drought or heavy rain that leads to flooding, especially in the Southern areas.

The European Union (EU) considers itself as leader and role model in terms of climate action. In order to set an example and prove its commitment to tackle climate change, a robust policy-making was implemented. The initiative is called *European Climate Change Programme* and consists of several actions. For example, the EU built up the first international carbon trading system market, called *European Emission Trading System* (ETS). The ETS imposes a price of currently ca. 24€/ton of CO2 on more than 11,000 heavy energy-using installations and airlines operating between EU countries, accounting for about half of all CO2 emissions in Europe. Furthermore, through the *Effort Sharing Decision*, the implementation of European Union member state's emission reduction targets in areas such as waste, infrastructure, transport and agriculture, could be monitored as well. It amounted to a cut of CO2 emissions by 10% from 2005 to 2020. Its successor, the *Effort Sharing Regulation*, aims to cut the emissions by 30% until 2030, using 2005 as baseline. Several other actions, like the *Renewable Energy Directive* that sets legally binding targets for EU countries to raise their share of energy consumption that is provided by renewable energy to 20%, also exist. Other actions are for example binding targets to improve the energy efficiency of buildings as well as to reduce the CO2 emissions from vans and cars. Finally, the *carbon dioxide capture and storage* (CCS) also has to be mentioned.

The European Union believes that the world must aim a net-zero emission in the long term. The European Union's own binding targets are presented in the next paragraph. However, CO2 emissions reduction will only make sense if all countries participate. Hence, the European Union based its own targets on the emissions reductions it considers as necessary to tackle climate change. The ultimate goal to reach a net-zero emission world should be a worldwide goal. As the EU currently serves as leader and role model in terms of climate change, it accepts that the worldwide CO2 emissions reductions are a little bit lower than the EU targets. Some countries might need more time to adapt to environmentally friendly systems. Therefore, the EU proposes a CO2 emissions reduction by at least 24% from the 2010 level until 2030 as a binding global target. By 2040, at least a 44% reduction of CO2 emissions should be reached. However, by 2050 a reduction of at least 76% is proposed as legal binding target, but 80-94% are desirable. The last proposal is the same target that the EU has set itself. In order to prevent carbon leakage, all countries must act in concert and the long-term goal should be identical.

In the *2030 climate and energy framework* of the European Union, a binding target to cut emissions by at least 40% below 1990 levels by 2030 is explicitly stated. Sectors that are currently included in the ETS need to cut the CO2 emissions by 43% below 2005 level until 2030. The binding target corresponds to a 29% reduction of total CO2 emissions within the EU until 2030. The EU has set a long-term strategy until 2050 with the aim to reduce the CO2 emissions substantially. In 2050, the emissions should be reduced by 80-95% below 1990 levels. This

corresponds to a reduction of 76%-94% from 2010 levels. As CO2 emissions do not reduce linearly because the industry and households first have to adapt and build up CO2 neutral systems, the 2040 minimum level should be less than the mean between the 2030 and 2050 value. Therefore, the delegation of the European Union aims to achieve a minimum reduction of 46% below 2010 levels.

As described above, the European Union has introduced the ETS in 2005 as key tool to reduce greenhouse gas emissions cost-effectively. It is the world's first and biggest carbon market. The ETS is considered to be a fair system, as the market price is created by supply and demand. Moreover, some countries have introduced an additional carbon tax, reaching up to ca. 45€ in France and ca. 120€ in Sweden. The European Union prefers a trading system because then it can control the amount of allowances and substantially reduce it. Moreover, the price remains flexible and can adapt to economic phenomena such as depressions and inflation. Therefore, the EU prefers to stick to the carbon trading system and extend it. It has to be applied to all areas that emit CO2. There is already a bilateral cooperation with other countries that implemented a system, in particular China. If a trading system could be introduced on a global level by 2030, this will be a great effort. However, in case a carbon tax with fixed prices is preferred, the European Union proposes to start with a minimum price of 45 USD in 2030 and then substantially increase it to 75 USD in 2040 and 110 USD in 2050. These prices increase substantially and therefore stick to the idea presented by the targets of CO2 reduction mentioned above. However, the EU identifies problems in accepting a price that is acceptable by all countries in the world, as some European Union countries vetoed against higher minimum carbon prices that would have been consistent with the goals set. A trading system would be a more acceptable solution for all countries. In either case, at least half of the revenues gained through the pricing must be reinvested in actions that help to tackle climate change. This is already the case in the ETS and helps to support areas and countries that struggle to reach the goals because of a disadvantageous initial situation.

Sources:

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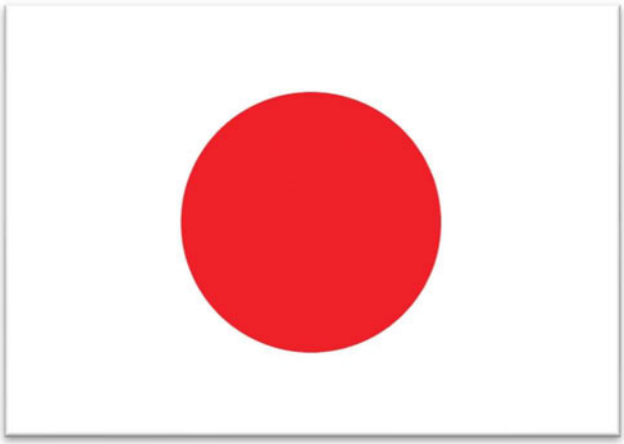

POSITION PAPER

Country: **Japan**

Committee: **1**

Topic: **Climate Change Conference Cologne, 9.11.2019**

Japan considers climate change to be a global challenge and recognizes the necessity of immediate action by the international community.

6852 islands form the country of Japan. It shows a low vulnerability and high readiness score in the *Notre Dame Global Adaptation Initiative* (ND-GAIN), ranking 20th in the ND-GAIN Index. Japan is the 43rd least vulnerable country and the 17th most ready country to adapt to climate change. Nevertheless, the increase in global surface temperature will affect Japan severely. The average temperature in Japan over the last years has already increased significantly, rising at a rate of 1.15 °C per 100 years.[1] It will continue rising in line with all climate change scenarios by 2.1 - 4.0°C. In addition, heavy rains (including a higher probability of floods) as well as typhoons with low central pressure will occur more frequently, while snowfall and days with rain will decrease. Higher temperatures combined with less rain and snowmelt might lead to droughts and a change of flora and fauna habitats. Already, rising temperatures in the past years have led to poor rice harvest in more than 80% of Japanese prefectures. Due to less water circulation and in some regions potential increase in saltwater intrusion into the groundwater the (drinking) water quality might be affected. Sea levels are about to rise, whilst at the same time the population in low-lying areas is expected to grow. Due to an increased risk of high waves and storm in bay areas, this might cause serious problems. Furthermore, insects carrying infectious diseases such as mosquitoes might expand their habitats due to higher temperatures. Heart illness comes as a direct impact of heat and is considered to be closely related to climate change - therefore climate change could cause higher rates in death

[1] Global Average 0.68 °C.

from heart stress up to 3.7x compared to the current level (based on scenario 1). Hence, the impact of climate change on Japan could be quite severe.

Due to the accident at the Fukushima Nuclear Power Station, Japan has gotten more involved with rebuilding its environmental strategy. Since then, the government has tried to achieve a more balanced growth of renewable energy. Japan plans on renewable energy providing approximately 24% of Japanese total power generation by 2030. In addition, the country has revised building energy efficiency standards in 2017. Japan aims to have net-zero emissions in new public buildings by 2020, and in all new buildings by 2030. Furthermore, Japan aims for a promising 50% to 70% share of electric vehicles in total domestic vehicles sales by 2030. Only recently, the government has announced that Japan would be selling only electric passenger vehicles by 2050, and that emissions of all passenger vehicles would be reduced by 90% against the 2010 level. Tax breaks and subsidies for eco vehicles are already available. The government has established energy efficiency benchmarks for steel, electricity, cement, paper and pulp, oil refineries and the chemical industry. Also, Japan passed a Forest Environmental Tax effective from 2024 onward.

According to Japan, the global greenhouse gas (GHG) emissions should be reduced by 30% by 2030, 40% by 2040 and 50% or more by 2050 (all compared to 2010).

Japan's nationally determined contribution towards post-2020 GHG emission reductions is at the level of a reduction of 26.0% by 2030 compared to 2013. Its long-term goal is a 50% reduction of GHG emissions by 2040 and an 80% reduction by 2050, in accordance with the global reduction goal for developed countries.

In 2012 Japan finally introduced a tax for climate change mitigation, to be used for enhancing renewable energy, energy conservation measures, etc. The idea was to utilize market dynamics through carbon pricing by supporting market competitiveness of low-carbon technologies, products and services and to contribute to global GHG reduction. Yet, prices remained relatively low, so that industries would not cut back on investments and due to a rise in costs of production and services the risk of a drop in demand would be small. Japan aims towards uniform carbon pricing to achieve the GHG reduction effectively without having to fear competitive disadvantage. It agrees to a gradual increase of the carbon price to achieve its reduction goals. By 2030 US$60, by 2040 US$90 and by 2050 US$120/tCO2e would be acceptable.

[redacted]
Japan
COP Cologne 2019, 9th of November

Japan is pleased to participate in the "Conference of the Parties to the United Nations Framework Convention on Climate Change". A conference that challenges the current dangers that threaten our environment. We hereby want to declare our position and explain our future plans to contribute to the solution of climate change.

As it has been already said in the Paris Agreement of 2015, Japan aims to work together with the other major emitters to undertake domestic emission reductions. Japan wants to contribute to reducing global greenhouse gas (GHG) emissions through Japan's leading technologies and support for developing countries. For the reason that climate change is a global challenge, the contributing Parties need to set clear goals in order to subsequently reduce their CO2 emissions in the years 2030, 2040 and 2050. Following the drastic circumstances of the Great East Japan Earthquake and the accident at the Tokyo Electric Power Company's Fukushima Dai-ichi Nuclear Power Station, Japan had to change its energy strategy. But nevertheless, GHG emissions have been decreasing for four consecutive years since 2013 and are returning to levels before the tragic events in 2011. Since 2014, CO2 emissions from the energy sector (which is the largest emission sector in Japan) have decreased due to the progress in energy saving activities and the decrease in thermal power generation. The goal for 2030 is a 18 % reduction against FY2010 and a 37% reduction in 2040. The long-term goal is a reduction of 72% by 2050, so that our country can fight the impacts of the increase in global surface temperature. We would like to inspire the other Parties to also set high aims in our common battle against climate change.

Due to higher temperatures impacts on Japan include deterioration of product quality and the shifting of locations suitable for growing specific products such as unshu mikan oranges, peaches, grapes, and other fruits. It has already been reported that throughout Japan cases of white immature grain, cracked grain and other degraded quality rice can be found. Furthermore, the condition of coastal areas, the flooding of rivers due to increased intensity and frequency of sudden downpours, damage due to slope failures and high tides due to more intense typhoons have become a concern. Additionally, the number of fatalities due to heat illness is on an increasing trend. Generally, the impact on the natural environment leads to an impact on the human society which further leads to an impact on industrial and

economic activities. The flooding of the Chao Phraya River in Thailand in 2011 brought damages to Japanese companies in local areas. Through the supply chain of hard disks, estimated damage to domestic companies was around 315 billion yen. The industry's action plan towards a low-carbon society consists of four pillars: emission reduction targets from domestic business operations that otherwise could face penalty charges, development of low-carbon products, contribution at the international level through technology transfer and the introduction of innovative technologies. For example, Japan was the first country to introduce a program, such as the Tokyo Cap-and-Trade Program, which makes it mandatory for large-scale facilities in Tokyo to reduce their CO2 emissions in order to avoid penalties. Japan has also promoted the uptake of electric and hybrid cars using subsidies and infrastructure support, and had a fleet of 15000 in 2016. The state's electricity mix should include a 20-22% share of nuclear and 22-24% share of renewables by 2030. By 2030, Japan expects 7% of its electricity to come from solar, 9% from hydro, 4% from biomass and 2% from wind. Coal should provide 26% of power and natural gas 27%. Japan also plans to reduce total electricity demand by 17% compared to a business-as-usual scenario. Moreover, the government provides for PR activities and a transparent climate policy that deepens the understanding of climate change for all levels of society. Japanese companies are already aware of the importance of reducing their greenhouse gas emissions. That is why an increasing number of companies are introducing "internal carbon pricing (ICP)". By 2018, 67 Japanese companies, including Kokuyo Co., Astellas Pharma Inc. and Tokyo Electric Power Company Holdings Inc., introduced ICP. Already in 2012, Japan implemented a carbon tax on oil, gas and coal imports, with revenues going towards measures to curb CO2 emissions. The price of this currently remains at $3 per tonne CO2e. But Japan aims higher and wants to introduce a national tax that is phased, ($55- $138/t) so that the companies and consumers will have time to adjust. Carbon pricing is surely the most efficient tool to help achieve the 2050 target. It gives rise to resourceful selections of lower cost reduction effort, that further lead to emissions reduction in society all together. In addition, it increases demand for more climate-friendly technologies and for low-carbon products. In continuation, this stimulates the growth of low-carbon technologies and products. To conclude, Japan strives for a change in order to fight climate change by relying on innovative technologies and energy sources, as well as carbon pricing and the development of low-carbon products.

[redacted]
Japan
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Delegation from the Commonwealth of Australia
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Rising sea levels, heatwaves and long-lasting droughts are within the highly visible negative global impacts of climate change in the last years. Australia is highly aware that those global issues require global solutions. Extreme weather and climate events significantly have affected the vulnerability of Australia's economy, society and environment. Some changes to extreme events have already been observed in Australia – notably an increase in fire weather, record-breaking temperatures and heatwaves. Heatwaves in 2013 (Australia's hottest year), 2014 and 2015 had substantial impacts on infrastructure, health, electricity supply, transport and agriculture. Moreover, high sea surface temperatures have repeatedly bleached coral reefs in north-eastern Australia since the late 1970s and more recently in Western Australia.

Australia is committed to taking action on climate change because a business as usual scenario would lead to a 4-4.5 degree increase in the annual temperature of Australia from 2010 to 2090. Therefore, Australia wants to play its part in that global solution to reduce emissions. Australia reaffirms the Paris Agreement as a powerful symbol of countries' commitment to a low-carbon, climate resilient future. On 10 November 2016, Australia ratified the Paris Agreement and the Doha Amendment to the Kyoto Protocol, reinforcing the country's commitment to action on climate change. In 2017, the Government reviewed its climate policies to ensure they remain effective in achieving Australia's 2030 target and Paris Agreement commitments. Australia recommends a global reduction plan, that worldwide total CO2 emissions must be cut by 45% below 2010 levels by 2030 and reach net zero by 2060 at the latest. To reach this global goal, Australia is promoting global action to progress activities that reduce emissions from deforestation and forest degradation in the Asia-Pacific region through the Asia-Pacific Rainforest Partnership.

Knowing that Australia was responsible for a 2% share of worldwide CO2 emission in 2010, Australia's national 2030 emissions reduction target is a strong, credible and responsible contribution to climate action. It builds on Australia's impressive track record of addressing climate change and is consistent with strong growth in the economy and jobs. Australia will reduce greenhouse gas emissions to 17-19% below 2010 levels by 2030. Building up on this, Australia wants to reduce its emissions to 45-50% below 2010 by 2040 and to 85-90% below 2010 by 2050.

To meet the 2030 target Australia has implemented several policies that provide positive incentives to reduce emissions. Central to Australia's action on climate change have been the Emission Reduction Fund and its Safeguard Mechanism. In 2014 the Government allocated $2.55 billion to the Emissions Reduction Fund that supports Australian businesses, communities and landholders to undertake activities which reduce or avoid greenhouse gas emissions. This Fund is complemented since July 2016 by the Safeguard Mechanism which ensures that emissions reductions purchased by the Government are not offset by significant rises in business-as-usual emissions elsewhere in the economy. On 25 February 2019 the Australian Government announced the Climate Solutions Fund, providing an additional $2 billion to continue the momentum towards reaching Australia's 2030 emissions reduction target. This brings the total investment in the Emissions Reduction Fund to $4.55 billion and delivers around another 100 million tonnes of emissions reductions by 2030. Additionally, the Renewable Energy Target, operating since 2001 helps Australian households and businesses to install solar and other renewable energy technologies, transforming our electricity sector to cleaner and more diverse sources, and supporting growth and employment in the renewable energy sector. The National Energy Productivity Plan, including a target to improve Australia's energy productivity by 40% between 2015 and 2030, will see improvements in how households and businesses use energy in their homes, offices, and industrial facilities more efficiently. Moreover, Australia is developing a National Electric Vehicle Strategy that will ensure the transition to electric vehicle technology and infrastructure is planned and managed, so that all Australians can access the benefits of the latest vehicle technology. As part of Australia's commitment to cleaner air, the Coalition Government is also improving Australia's fuel quality to ensure access to the latest vehicles, and savings for motorists from more fuel-efficient vehicles.

Regarding carbon pricing, Australia is convinced that direct regulation is more important to reach the targets in 2030, 2040 and 2050. The 2011 Carbon Tax of 23 $/tonne (2012-2013) or 24,15 $/tonne (2013-2014) through the Clean Energy Act, despite compensation by the government, reportedly increased the cost of electricity for the average family by 10%. Therefore, the Australian government removed the Carbon Tax in 2014. Even by experiencing a significant decrease of the country's emissions of 1.4% in the second year after the implementation of the carbon pricing, Australia is convinced to meet its targets without a carbon pricing in the future.

The Republic of Canada recognizes the challenges imposed by a changing climate as well as the responsibility to reduce greenhouse gas emissions in a transition to a diverse and competitive low-carbon economy. Canada supports the common goal of the Paris Agreement to limit the rise of the global surface temperature to well below 2 degrees.

Canada faces various challenges in addressing climate change: Having one of the longest coastlines in the world, rising sea levels increase the risk of coastal flooding and threaten coastal communities. Rising temperatures in oceans as well as freshwater sources such as rivers and lakes lead to a loss of oxygen along with a higher acidity, which disturbs marine ecosystems and is expected to have a negative impact on Canada's fishing industries. As a vast northern nation, Canada will be affected even more severely by an increase in the global surface temperature. Records of temperature rises in Northern Canada have shown about double the magnitude of the average global warming. Thus, extreme weather events (snowstorms, landslides, coastal erosion, flooding, droughts, wildfires) are becoming more frequent and threaten forest and farming industries as well as communities.

As a response to these developments, Canada is taking action to limit greenhouse gas emissions and restructure the economy to be fit for a sustainable future. To contribute to the Paris Agreement, Canada has set a goal to reduce emissions by 30% below 2005 levels by 2030 (equivalent to a reduction of 32,4 % based on emissions in 2010). Working towards this goal, Canada established the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) as an extensive plan on reducing emissions throughout all sectors of the economy, enhancing clean economic growth and preparing to be resilient against the impacts of climate change. In total, Canada is committing a budget of $46.2 billion to strenghtening sustainable developments in a transition towards a clean economy.

Due to steady investments and research in the power sector, Canadas power mix as of today is made up by two thirds of renewables, which is the second highest level in the G20. The share of coal power makes up only 8 % (2018), running for a complete phase out in 2030. To help accelerate clean growth by phasing out coal-fired electricity, especially supporting developing countries, Canada and the United Kingdom founded the Powering Past Coal Alliance in 2017 which has been joined by 78 other states so far.

Regarding the actions outlined in the PFC, Canada is well on track to meet or even exceed the 2030 goal. By 2040, emissions should be reduced by 65% compared to 2010 levels. Regarding the future, the goal of net zero emissions by 2050 is currently in the discussion.

As a central part of the PFC, Canada introduced a nationwide carbon price with a minimum of $10 per tonne in 2018, which was raised to $20 per tonne in 2019 and will be raised up to $50 per tonne by 2022. An economy-wide carbon price is the best way to reduce emissions and stimulate investments in more sustainable solutions. In order to limit economic impacts, carbon prices should occur in a consistent and gradual way, changes in stringency will have to be announced well in advance. The government of the Republic of Canada commits to thoroughly reviewing the overall approach on nationwide carbon pricing by early 2022 to adjust further proceedings in mechanisms and stringency regarding progress towards climate goals as well as actions of other countries in response to carbon pricing.

To tackle climate change, the world must act as a whole. Each country contribute by lowering their emissions. To achieve the agreed-upon goals of the Paris Agreement, global emissions should be reduced by at least 80 % in 2050 compared to 2010, and reach a net zero in 2070. Working towards this goal, global emissions should be reduced by 45 % in 2030, about 60 % in 2040.

Coordinating global efforts against climate change is an important part of the progress. Therefore, Canada supports the approach of a global carbon price as a functional tool to provide economic background to climate action throughout the world.