



SUSTAINABLE DEVELOPMENT

**The United Nations Economic and Social Council
Commission on Sustainable Development
(ECOSOC CSD)**

Study Guide

**Singularity Model of United Nations
SMUN2030**



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Welcome letter

It is with great excitement that we welcome you to this year's S'MUN2030 as well as the Economic and Social Council Commission on Sustainable Development. We are glad that you decided to participate in the Model United Nations and engaged in probably the greatest issues within recent memory: harmony, atmosphere activity, sustainability and human rights.

Our world has accomplished wonderful advancement as of late, from expanding the future to eliciting child mortality. Only within one generation, people affected by poverty have been reduced by more than a million. Though there are many risks to the accomplishments.

We are the last generation who can prevent the worst consequences of climate change which have been worsening with every upcoming year. The only way this will be accomplishable is by engagement from our side. We will need to increase ambition, cut emissions and hold leaders accountable.

The changes in the world which we are facing can not be tamed by one country, and this is where the UN comes into action. The UN is a platform for change through action for the most pressing global issue. It works with such issues as climate change, growing inequality, on harnessing new technologies for the good of all, and on all global issues which cannot be addressed by any one country alone.

In 2015, Sustainable goals were introduced, representing a globally-agreed plan for dignity, peace and prosperity on a healthy planet. There are 17 goals introduced and in order to achieve them, all nations must unite and provide solutions. It is proof that international partnership is an option for everyone. That is why the Model United Nations is so important.

We would like to thank you for joining us and standing up for the rights of all humanity. We hope that during this conference you will gain experiences and they will be beneficial in your lives and have an impact on the world.

Chairs of the ECOSOC CSD

Chairs' Introduction

Chair Director:

Dear Delegates,

My name is Roman Chernyaev and I will honourably hold the position of the chair director of ECOSOC CSD. I am a student at Danube International School Vienna. My job during the conference will be making sure our debates are productive, organized and fun at the same time. I always welcome controversy and disagreement, as long as the debate is going on. I am never afraid to intervene in order to point the delegates in the right direction. Points of Order will help me make sure that the debates are efficient and on-point. Seeing all the problems that humanity faces, I place my hopes in our generation to handle them. We get a unique opportunity of attending SMUN2030 and addressing the issues of our society. Mainly, I consider sustainability to be the main goal for our generation to achieve. I am looking forward to having productive and entertaining debates. I highly encourage all the delegates to form their points of view in detail and never be afraid to express them. Together with my deputy chair, we will be making sure that everybody participates in the discussions. We will be helping all of you during the whole conference. Do not hesitate to contact us about any questions you might have about the Rules of Procedure or the topic itself. I am looking forward to meeting all of the delegates. We wish all of you a successful preparation before the conference.

My email is rchernyaev@danubestudent.com

See you at the conference,

Roman Chernyaev

Chair Director of ECOSOC CSD

Deputy Chair:

Dear delegates,

my name is Anna Plavyuk and together with Roman Chernyaev, I have the honour of being your deputy chair for this year MUN's The Economic and Social Council (ECOSOC). Firstly, I would like to thank you all for the opportunity I received to chair this committee. I am currently an 11th-grade student at the Danube International School. SMUN2030 will be the third conference I have attended overall. I enjoy MUN because it allows a group of people who all share similar interests to gather together in a formal setting and engage in active debate. I think our committee's topic is extremely interesting and will allow for some effective debates! I look forward to meeting all of you. In case of any questions or confusion, please do not hesitate to contact me!

My email is - aplavyuk@danubestudent.com

I'm excited to meet and work with all of you,

Anna Plavyuk

Deputy Chair of ECOSOC CSD

Introduction to the committee

The United Nations Economic and Social Council Commission on Sustainable Development (ECOSOC CSD)

The Economic and Social Council (ECOSOC) is the United Nations' central platform for reflection, debate, and innovative thinking on sustainable development. It is one of the 6 main units of the UN formed by the UN charter (charter: sets out the rights and obligations of the Member States and establishes the principal organs and procedures of the United Nations) in 1964. Composed by 54 members, its main purpose is to deal with questions such as economy, society, cultural issues or sustainable development. The United States, United Kingdom, Russia, and France give financing to the vast majority of ECOSOC's spending limit, which is the biggest of any UN subsidiary body.

ECOSOC connects with a wide assortment of partners – policymakers, parliamentarians, academics, major groups, establishments, business area agents and other 3,200+ enrolled non-legislative associations – in a beneficial dialogue on sustainable development through an automatic cycle of gatherings. Crafted by the Council is guided by an issue-based methodology, and there is a yearly topic which goes with each automatic cycle, guaranteeing a supported and centered discourse among different partners.

ECOSOC conducts studies; figures goals, suggestions, and shows conventions for consideration by the General Assembly; and coordinates the activities of different UN programs and concentrated organizations. The vast majority of ECOSOC's work is acted in functional commissions on subjects, for example, human rights, drugs, population, social development, statistics, the status of women, science and innovation; the committee additionally regulates provincial commissions for Europe, Asia and the Pacific, Western Asia, Latin America, and Africa.

The ECOSOC CSD is a body of ECOSOC which was formed in 1992. It is also called the Earth Summit. The Commission was responsible for reviewing progress in the implementation of Agenda 21 and the Rio Declaration on Environment and Development. CSD is confirmed to be the UN's main forum focusing on global sustainability.

References: The Editors of Encyclopaedia Britannica. "Economic and Social Council." Encyclopædia Britannica, Encyclopædia Britannica, Inc., 22 July 2013, www.britannica.com/topic/Economic-and-Social-Council.

Further reading (optional):

<https://www.britannica.com/topic/United-Nations/Economic-and-Social-Council>

<https://sustainabledevelopment.un.org/csd.html>

<https://sustainabledevelopment.un.org/intergovernmental/csd/about>

Sustainable Development Goals



In 2015 a set of goals were set by the countries of the UN. They were called the Sustainable Development Goals (the SDGs). They were enforced in order to ensure that all people enjoy peace and prosperity by the year 2030. The 17 SDGs are incorporated—that is, they perceive which activity in a zone will influence results in others, and that improvement must adjust social, financial and environmental sustainability. Our committee will be focusing on the 11th Sustainable development goal; Transport - Regulation of transport, moving towards sustainability. (GA Commission, Sustainable Development). The goals which had to be reached by 2030 are as follows:

- *By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums*
- *By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons*
- *By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries*
- *Strengthen efforts to protect and safeguard the world's cultural and natural heritage*
- *By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations*

- *By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management*
- *By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities*
- *Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning*
- *By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels*
- *Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials*

References: "About the Sustainable Development Goals - United Nations Sustainable Development." United Nations, United Nations, www.un.org/sustainabledevelopment/sustainable-development-goals/.

Further reading (optional):

<https://www.un.org/development/desa/disabilities/envision2030-goal11.html>

<https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

The topic discussed: "Achieving sustainability and reducing emissions through the development and regulation of transport"

Introduction:

Transport is a system or means of conveying people or goods from place to place. It is a large aspect of the society and its successful development. The world's population is growing and more and more people have to rely on transport in their daily life. Gas-powered vehicles are still being manufactured and used by the world's population despite cleaner and cheaper vehicles being available on the market. The emissions caused by commercial plane travel are steadily increasing and affecting the climate. Trucks are still widely used for long-range transportation in most countries. The world needs sustainable transport systems in order to act upon climate change.

The importance of transport in communities:

Transport allows for communities to grow and develop. Transport has to be reliable and sustainable for both people and goods. It drives development and allows for tourism, trade and overall economic growth. People are able to access many things located in different places: jobs, goods and services. Sustainability is one of the main aspects of transport which have to be evaluated because sustainable transport will allow

for sustainable development and allow humanity to preserve the Earth for future generations. The alternative ways of powering transport as well as viable transport options have to be considered on a par with urban planning have to be considered in order to make communities faster and deal with other issues such as traffic congestion and noise and air pollution.

The effect of transport on climate:

The effect of transport on nature is huge because it is a significant user of energy and consumes a great part of the world's oil. Most vehicles which were and still are used in some countries for commercial transportation (planes, trains, over-the-road trucks, and ships) along with our personal automobiles run on fossil fuels. When fossil fuels are consumed, they release carbon dioxide (CO₂) and other greenhouse gases into the atmosphere, further contributing to climate change, or global warming. Millions of years ago, CO₂ was trapped during the formation of the fossil fuels (i.e., coal, oil, and natural gas) we consume today. With the start of the industrial revolution and the ever-increasing use of these fuels, this trapped CO₂ and other greenhouse gases began being released into the atmosphere at an alarming rate. These gases actually magnify the amount of heat which gets trapped by the atmosphere. Therefore, it is not the act of transporting people and goods which contribute to climate change, it is the power we use in the transportation procedure which contrarily sway nature. As we proceed in our worldwide economy where items are frequently moved long separations and individuals travel all the more widely, the effect of our petroleum derivative use for transportation will keep on increasing, unless we switch to cleaner, alternative fuels sources. Vehicles with better fuel economy and the use of biodiesel and electricity to fuel our transportation needs still serve as the best solutions to slow the progression of climate change in the short term. Likewise, people can buy nourishment from neighbourhood producers and providers, join tasks to make less driving outings, carpool, and use public transport to reduce their own carbon footprints.

Past Action by The UN:

The UN has firstly recognized transport as a part of sustainable development in 1992. It has been later on revisited on multiple summit's and the growth of the energy consumption of the industry in the 21st century has been predicted in the 1990s. As noted previously, the development of transport is one of the SDGs and this makes it an extremely important topic for the UN. The UN General Assembly Resolution A/RES/63/32 (Protection of global climate for present and future generations) has established the importance of handling climate change. The UNECE World Forum for Harmonization of Vehicle Regulations has been working towards achieving energy-efficient vehicles and promoting the use of Plug-In Hybrid and electric vehicles. The UNECE has also been working on transport infrastructure development in order to optimize communities' traffic. Consumer information as well as legal incentives

have also been recommended by UNECE. Research in alternative energy sources began in 1987 with Regulation #67 (further reading encouraged). Since then, sustainability criteria for biofuels have been devised. Overall, the UN has always been addressing the effects of transport on climate change and pollution as well as having an open dialogue on urban planning and sustainable transportation technologies.

References: "Read 'Advancing the Science of Climate Change' at NAP.edu." National Academies Press: OpenBook, www.nap.edu/read/12782/chapter/17#341.

Further reading (optional):

1. <https://unfccc.int/resource/docs/publications/handbook.pdf>
2. <https://unfccc.int/resource/docs/convkp/conveng.pdf>
3. <https://www.iucn.org/theme/climate-change/resources/iucn-resolutions-climate-change>
4. <https://www.un.org/en/sections/issues-depth/climate-change/>
5. https://www.unece.org/trans/theme_global_warm.html
6. <https://sustainabledevelopment.un.org/topics/sustainabletransport>
7. <https://www.unece.org/trans/main/wp29/wp29regs61-80.html>
8. <http://cgse.epfl.ch/page65660-en.html>

Potential solutions/considerations for the future:

1. Hyperloop

The idea of an Hyperloop was introduced in 2014. Modern transport requires far more than just moving people quickly - it needs to consider the economics of land, structure, operations and ongoing maintenance while calculating a payback from rider fees or addition to the economy (if it's a public project). There are logistics in how many people can actually be moved, for both a certain cost and period of time. Safety is also paramount with redundancy needed everywhere, emergency procedures for worst-case scenarios, enough security and the ability to withstand attacks. It is a massive undertaking with more obstacles than potential benefits (as of 2017).

The hyperloop is a transportation system in which a pod (A carrier for passengers & good) moves inside a tube (Nearly vacuum, 1 bar pressure). The speed of the pod is nearly 700 kmph. The two opposing forces which act on a moving body, first, the air friction and second, the friction of the wheels have been reduced to the minimum. To minimize the wheel friction the technique of Magnetic levitation is used and the Pod is moved inside large vacuum tubes. The tubes are maintained at nearly 1 bar pressure, the pod moves inside these tubes by using a linear induction motor (Magnetic levitation). The Hyperloop runs on electric force, and the entire framework is controlled by the sunlight based board introduced on the roof of the tube. The solar panels

produce more energy than what the whole system consume. Therefore, hyperloop can work as a power source, it can power cities, industries along with it. Apart from initial instalment cost and maintenance cost, it is a very cheap transportation system which can be maintained for generations to come.

References: Davies, Alex. "The WIRED Guide to Hyperloop." Wired, Conde Nast, 27 Feb. 2018, www.wired.com/story/guide-hyperloop/.

Further reading:

https://www.era.europa.eu/sites/default/files/library/docs/hyperloop_innovation_for_global_transportation_en_1.pdf

<https://www.wired.com/story/guide-hyperloop/>

<https://hyperloop-one.com/>

2. Hydrogen-powered vehicles

Hydrogen-powered vehicles have been produced since 2013, they run off an electric generator. Hydrogen and oxygen create energy which powers the motor without burning hydrogen, therefore the only emission while driving is water, and no carbon dioxide is emitted. The vehicle takes oxygen from the air which needs hydrogen from high weight hydrogen tanks in the energy component. The motor works as a generator gathering energy when the car speed is low. Fuel Cell Vehicles have the ability to start in extreme cold. It takes about 3 minutes to refill hydrogen just like fuelling gasoline cars, and it is much faster than electric cars. It has to be taken into consideration that there is a lot of infrastructure required to run hydrogen cars in nations since all fuel stations have to have hydrogen.

References: Nicoll, Fergus. "Behind the Wheel of a Hydrogen-Powered Car." BBC News, BBC, 5 Nov. 2019, www.bbc.com/news/business-50212037.

3. Electric vehicles (EVs)

EVs are cars with a battery which run on electric motors. EVs are cheaper to operate because charging a battery pack is cheaper than buying fuel. Up until now, batteries used to cost too much and took too long to charge. Average range for EV's used to be 350 miles per charge and a "quick" 80-mile charge has been available since 2023. EVs produce the least noise and do not produce emissions in comparison to other vehicles (they do not have a combustion engine), preventing not only air but also noise pollution. It has to be taken into consideration that charging stations are required for EVs to operate in communities. EVs also rank as lower-risk vehicles since their centre of mass is located low.

References: Charlton, Alistair. "EVs Explained: Everything You Need to Know about Electric Vehicles." TechRadar, TechRadar, 10 Apr. 2018, www.techradar.com/news/evs-explained.

4. Hydrogen-powered planes

A hydrogen-powered aircraft is an aeroplane which uses hydrogen fuel as a power source. Hydrogen can either be burned in some kind of jet engine, or other kind of internal combustion engine, or can be used to power a fuel cell to generate electricity to power a propeller. Unlike most aircraft, which use wings for storing fuel, hydrogen aircraft are usually designed with the liquid hydrogen fuel carried inside the fuselage, in order to minimize surface-area and reduce boil-off. Emissions from travel can be reduced with more sustainable airplanes.

5. City planning and public transport

- a. Public transport: Using public transport allows the reduction of the amount of emissions from transportation in dense urban areas. Public transportation can help cities to reduce smog, to meet air quality standards, and to decrease the health risks of poor air quality to their residents.
- b. Bicycles and Electric Scooters: This type of transportation allows minimal carbon emission. Using the bicycle requires no energy apart from human and electric scooters do not emit greenhouse gases, nor do they do not add to vehicle congestion.
- c. On foot: Finally, transportation on foot is by far the most convenient transportation which is known, though many are not capable of moving on foot due to lack of capability of reaching the destination in the minimal time.

Issues to consider:

1. Costs:

For example, Hydrogen is a very expensive fuel and right now most hydrogen (>70%) is produced by steam reforming of natural gas. Which means hydrogen is an expensive fuel and not many countries can afford it.

2. Infrastructure and urban planning

Reaching a destination on foot is time consuming and not a favourable option. This is due to inconvenient urban planning; people living far away from work, shops and other

necessary facilities which are to be used throughout the day. Therefore, urban planning must be considered an important aspect of the issue.

3. Public relations

Many refuses to change their way of living due to the set mentality and being used to a certain way of living. PR campaigns have to be looked into in order to educate the public on sustainable transport. Changing a lifestyle is challenging and many are not up to it.

4. Long-term sustainability

It is important that the sustainable transport systems can run for decades without being rebuilt but rather maintained. The energy source has to be able to supply the transport fully and the costs in the long-term have to be kept to a minimum.

Guiding questions:

1. How can personal vehicles be regulated?
2. How can long-distance travel be made sustainable?
3. How can densely populated communities be optimized with urban planning?
4. How can the public be convinced to use sustainable transport?
5. How can the transport of goods be regulated?
6. What types of alternative transport are viable for different nations with different terrains?

Block Positions:

EU- Scandinavian part of the EU are all in favour of the sustainable development of transport as they have been open to the change of renewable energy the most and have the best track record regarding the sustainable development goals. The rest of the EU is still relatively dependent on fossil fuels; however, they are open to the change.

USA- Hyperloop is founded in the USA as many other ecologically friendly technologies. Has the economic capability to introduce eco friendly transportation. Leadership independence on fossil fuels prevents further investment into clean energy. Nominated as the world's second largest greenhouse gas emitter in 2020.

China- Is able to afford many eco friendly technologies. Would benefit greatly from much more ecological innovations. It has an immense number of factories (2,801,143 only in 2015) which require a lot of coal burning. Coal burning is one of the leading reasons of pollution in the country (causes an extreme amount of greenhouse emissions) and this leads to 1.6 million deaths in the country per year.

Russia- 90 percent of the world's natural gas comes from Russia (Europe's biggest importer). Abandoning this business would mean an economical fall due to decrease in revenue. Though, the pollution is causing a loss of 16 million hectares of forest every year due to pollution, logging and fires which shows that it is also greatly affected by global changes.

Australia- The main cause of fire ignitions of Australia's bushfires is dry lightning, essentially lightning from thunderstorms that don't produce rain. Over the long term, climate change is raising the likelihood of extreme wildfires, a risk Australian scientist have been warning about for years. Is in need of reformation due to extreme climate changes that occur due to environmental changes. Despite showing some improvements in earth-friendly behaviour and concern about the environment since 2012, Australians still rank relatively low on the Greendex.

Brazil- With the arrival of new leadership 2019 the idea of technological development has been abandoned and thus prevented the change to sustainable transport.

United Arab Emirates- Has the economical ability to support, yet it relies too much on fossil fuels which one of the main reasons for greenhouse emissions. Dubai has been taking several steps in order to become a more environmentally friendly city. The Emirate has recently announced it will be introducing 500km of bicycle routes by 2020, and now it is planning to build the largest concentrated solar power (CSP) project in the world.

India- It is still a developing country that is struggling with extreme poverty in some areas. Right now, it is not their main goal to switch to eco friendly transport. Yet it is open to the concept even though it is not one of the main issues.

UK- Has the economic ability to support an eco-friendly environment. Would like to contribute in developing the idea to a further extent.

Germany- Large businesses based on oil industries. Switching to eco friendly transport would mean abandoning the business and loss in the economy. Is economically stable enough to introduce eco friendly transport.

France- One of the most eco friendly countries in the world. Is one of the best air and water quality countries. Has the financial ability to support and implement the idea of sustainable transport.

Japan- Overcame the issue of pollution in 1950s 1960s and 1970s as well as the oil shock. Is one of the most technologically developed countries in the world. Leader of the world's sustainable development. Regulates countries waste emission and works on

protecting national health. Though, it has issues with controlling air emissions from all the factories that lead to the appearance of acid rain throughout the country.

Key Terms:

Greenhouse gases- The gases act like the heat trapping glass in a greenhouse, thus the name. A greenhouse gas is a chemical compound found in the Earth's atmosphere, such as carbon dioxide, methane, water vapor, and other human-made gases. These gases allow much of the solar radiation to enter the atmosphere, where the energy strikes the Earth and warms the surface.

Emissions- Greenhouse gases released into the air which are produced by numerous activities, including burning fossil fuels, industrial agriculture, and melting permafrost, to name a few. These gases cause heat to be trapped in the atmosphere, slowly increasing the Earth's temperature over time.

Global warming vs climate change- Global warming is an increase in the Earth's average surface temperature from human-made greenhouse gas emissions. Climate change refers to the long-term changes in the Earth's climate, or a region on Earth, and includes more than just the average surface temperature. For example, variations in the amount of snow, sea levels, and sea ice can all be consequences of climate change.

Fossil fuels- Fossil fuels are sources of non-renewable energy, formed from the remains of living organisms which were buried millions of years ago.

Renewable energy- Energy which comes from naturally replenished resources, such as sunlight, wind, waves, and geothermal heat.

COP and UNFCCC- The United Nations Framework Convention on Climate Change (UNFCCC)(<https://unfccc.int/resource/docs/convkp/conveng.pdf>) is an environmental treaty which nations joined in 1992, with the goal of stabilizing greenhouse gas concentrations in the atmosphere at a level which would prevent dangerous human interference with the climate system. The Conference of the Parties (COP) to the UNFCCC is a yearly international climate conference where nations assess progress and determine next steps for action through the UNFCCC treaty.

INDC- "Intended Nationally Determined Contribution." In preparation for the UN climate talks later this year, countries have outlined what actions they intend to take beginning in 2020 under a proposed global climate agreement. These plans are known as INDCs, which will play a big part in moving us forward on the path toward a low-carbon, clean energy future.

IPCC- An acronym for the Intergovernmental Panel on Climate Change. First set up in 1988 under two UN organizations, the IPCC surveys the research on climate change happening all around the world and reports to the public about the current state of our scientific knowledge.

Mitigation- An action which will reduce or prevent greenhouse gas emissions, such as planting trees in order to absorb more CO₂. It can also include developing and deploying

new technologies, using renewable energies like wind and solar, or making older equipment more energy efficient.

References: Project, The Climate Reality. "Key Terms You Need to Know to Understand Climate Change." Climate Reality, 6 Nov. 2019, www.climaterealityproject.org/blog/key-terms-you-need-understand-climate-change.