Forum: Youth Assembly

Issue: Advancing Sustainable Transportation System to Reduce Global Carbon Emissions

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Position: Co-Head

Personal Introduction

Dear delegates,

My name is Arianna Lachana, and I am a 10th-grade student at Pierce - The American College of Greece. It is with great honor that I serve as this year's Co-Head of the Youth Assembly (YA) at the 9th ACG Model United Nations conference. This will be my second time chairing and I'm motivated to make this conference a memorable experience for all of you.

To begin with, I would like to congratulate all of you for participating in this conference, specifically in the Youth Assembly. While it seems challenging, it truly is a wonderful experience and a great opportunity to socialize and improve your public speaking and critical thinking skills. I hope to create an experience that motivates and excites anyone ready to further explore the world of MUN. I highly urge you to make the most of this conference, as it will be both beneficial and a great introduction to people new to this process, not only to broaden your knowledge on topics we discuss, but also to develop numerous aspects of your character.

This year one of the topics we will be addressing in the committee is "Advancing sustainable transportation systems to reduce global carbon emissions". During this conference, you will have the opportunity to analyze the environmental, social, and economic aspects of sustainable transportation, propose actionable policies, and collaborate to create innovative strategies that balance development and sustainability. I encourage each of you to conduct thorough research, think critically, and engage as your participation is what will make this committee a success.

If any questions occur concerning the study guide and preparation or during the conference, please don't hesitate to contact me at the following address: M.Lachana@acg.edu . I am looking forward to meeting you all and working together.

Kind regards,

Arianna Lachana

Topic Introduction

Although sustainable transport has been discussed for decades, the 1990s period was when the topic earned its recognition[1]. Sustainable transport refers to mobility systems that aim to reduce greenhouse gas emissions and environmental destruction while also remaining safe, affordable, energy-efficient, and inclusive. It relies on the use of public transit, low-emission vehicles, and active transport (e.g., walking, cycling)[2]. These transportation systems encourage environmental protection and social well-being. They function by burning fossil fuels such as petrol and diesel. Most vehicles use engines that release large amounts of carbon dioxide and other gases, which are harmful to the environment. The demanding use of vehicles, traffic congestion, and other factors increase fuel consumption[3]. The need to address climate change is urgent, especially in the transportation sector.

Reducing the impact that transportation has is linked with climate change, as it helps achieve international climate goals[4]. Advancing renewable mobility solutions is crucial not only to address the current environmental challenges but also to ensure long-term sustainability. Implementing renewable mobility now will give us a solid base for resilient transport infrastructure and climate mitigation in the future[5].

After years the issue gained recognition and solutions were being discussed. In the mid 2000s efforts began to target low emission fuels and early sustainable transport strategies, many of them being EU supported projects[6]. Addressing this issue requires coordinated international action, long-term planning, and innovative solutions that balance environmental, economic and social goals. Sustainable transportation offers a pathway to achieving multiple global goals. Measures such as expanding public transit, promoting active transportation, adopting electric and low-emission vehicles, not only reduce greenhouse gas emissions but also improve air quality, enhance public health and promote social equity.

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[1] Ackrill, Rob, and Michael Zhang. “Sustainable Mobility – Editorial Introduction.” Sustainable Mobility, vol. 1, no. 1, 25 Aug. 2020, pp. 1–6, https://doi.org/10.2478/susmo-2020-0001

[2] Improving Sustainable Urban Mobility Sustainable Transport Action Plan https://unece.org/sites/default/files/2025-08/2503622_E_PDF_WEB.pdf

[3] European Environment Agency. “Climate.” Europa.eu, 10 Oct. 2024, www.eea.europa.eu/en/analysis/publications/sustainability-of-europes-mobility-systems/climate.

[4] “Document Viewer.” https://docs.un.org/en/a/res/69/213

[5] Holden, Erling, et al. “Sustainable Mobility at Thirty.” Sustainability, vol. 11, no. 7, 2 Apr. 2019, p. 1965, https://doi.org/10.3390/su11071965.

[6] Carlsson, Helene, and Paul Fenton. Bioethanol for Sustainable Transport: Results and Recommendations from the European BEST Project. 1 Jan. 2010, www.researchgate.net/publication/284183970, https://doi.org/10.13140/rg.2.1.4262.3442

Definition of Key Terms

Sustainable Transport

"Transportation systems that are capable of being maintained over time without causing long-term environmental damage or depletion of resources."[7]

Carbon Emissions

"Carbon dioxide is released into the air, especially as a result of burning fossil fuels such as coal, oil, and gas."[8]

Alternative fuels

"Fuels for internal combustion engines that come from sources other than petroleum and are generally less damaging to the environment than traditional fuels such as gasoline and diesel."[9]

Electrification

"The process of making a machine, system, or infrastructure operate using electricity when it did not before."[10]

Public Mass Transit

"Refers to a system of buses, trains, subways, or other vehicles that are available for use by the general public, usually for a fare, to travel within a city or region."[11]

Lifecycle Emissions

"The total greenhouse gas emissions produced by a product or system over its entire life, from production and use to disposal or recycling."[12]

Background Information

Transportation as a Contributor to Global Carbon Emissions

Transportation has emerged as one of the most challenging sectors to decarbonize due to its heavy reliance on fossil fuels[13]. Globally, the transport sector contributes around

[7] "SUSTAINABLE TRANSPORT Collocation | Meaning and Examples of Use." @CambridgeWords, 24 Dec. 2025, dictionary.cambridge.org/example/english/sustainable-transport
[8] "Definition of Carbon Emissions." Collinsdictionary.com, HarperCollins Publishers Ltd, 22 Dec. 2025, www.collinsdictionary.com/dictionary/english/carbon-emissions#google_vignette
[9] "Merriam-Webster Dictionary." Merriam-Webster.com, 2021, www.merriam-webster.com/dictionary/alternative%20fuel
[10] ---. "Electrification." @CambridgeWords, 12 Feb. 2025, https://dictionary.cambridge.org/us/dictionary/english/electrification
[11] "Merriam-Webster Dictionary." Merriam-Webster.com, 19 May 2024, www.merriam-webster.com/dictionary/public%20transit.
[12] ---. "Life Cycle." @CambridgeWords, 24 Dec. 2025, https://dictionary.cambridge.org/dictionary/english/life-cycle?q=lifecycle
[13] "Energy for Transportation." Understand Energy Learning Hub, Stanford University, 2022, https://understand-energy.stanford.edu/energy-services/energy-transportation

16–18 % of total greenhouse gas emissions, with road vehicles accounting for the majority of this figure[14]. Freight transport, including shipping, also represents a significant share, especially as global trade expands. Urbanization and rising car ownership in developing countries have led to rapid increases in transport demand, often disturbing the growth of public transit and low-emission alternatives[15]. The sector's emissions growth is further affected by congestion, inefficient vehicle use and outdated infrastructure. In the European Union, transport emissions actually increased by 26 % between 1990 and 2022, despite reductions in other sectors, highlighting the difficulty of reducing emissions in this area[16]. Without targeted interventions, transport could become the dominant source of global carbon emissions by mid-century, threatening the achievement of climate targets such as those outlined in the Paris Agreement[17].

Key Innovation Areas and How They Can Be Used

Reducing transport emissions requires innovation not only in technology but also in how transport systems are designed and used. Electrification is one of the most widely recognized innovation areas. Electric vehicles (EVs), including cars, buses and even trucks, can dramatically reduce emissions when powered by renewable energy[18]. Many cities are adopting electric buses for public transport fleets, cutting air pollutants while maintaining efficiency. Similarly, the electrification of rail systems provides low-emission alternatives for long-distance passenger and freight transport. Another key innovation area is smart mobility, which leverages real-time data, AI and digital platforms to optimize traffic flow, reduce congestion and encourage shifts toward public transport and active travel[19]. For instance, mobility-as-a-service (Maas) platforms allow commuters to plan journeys that combine

[14] Leichter, Rasmus. "How Much CO2 Does the Transportation Sector Emit? | Cargoson." How Much CO2 Does the Transportation Sector Emit? | Cargoson, 4 Nov. 2025 www.cargoson.com/en/blog/how-much-co2-does-the-transportation-sector-emit.
[15] "Transport – Climate Transparency." Climate-Transparency.org, 2023, https://climate-transparency.org/transport
[16] ---. "Greenhouse Gas Emissions from Transport in Europe." Www.eea.europa.eu, 24 Oct. 2023, www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emissions-from-transport.
[17] Goar, Matthieu. "Climate: Greenhouse Gas Emissions Are Too High, Pushing Planet toward +3.1°c Warming." Le Monde.fr, Le Monde, 24 Oct. 2024, www.lemonde.fr/en/environment/article/2024/10/24/climate-greenhouse-gas-emissions-are-too-high-pushing-planet-toward-3-1-c-warming_6730363_114.html.
[18] "STRIA." Research and Innovation, 2023, https://research-and-innovation.ec.europa.eu/research-area/transport/stria_en
[19] "Key Technologies to Boost the Digitalisation of Transport | Shaping Europe's Digital Future." https://digital-strategy.ec.europa.eu/en/policies/technologies-digitalisation-transport

buses, trains and bike-sharing, reducing reliance on private cars[20]. Urban planning innovations, such as transit-oriented development, also play a critical role by creating dense, walkable communities where people can live, work and access services without needing long car trips[21]. Together, these innovations demonstrate how technology, policy and efficient planning can converge to make transportation systems more efficient, sustainable and user-friendly.

Policies and Global Efforts to Reduce Transport Emissions

Policy intervention is crucial to guide transportation toward sustainability. Many countries have introduced emission standards for vehicles, incentives for electric vehicle adoption and investment in low-emission infrastructure such as charging stations and dedicated bus lanes[22]. The European Union's Fit for 55 package (a comprehensive set of laws and policies designed to cut the European Union's net greenhouse gas emissions by at least 55% by 2030) sets a legally binding framework to reduce transport emissions by promoting electrification, clean fuels and efficient logistics[23]. Urban policies such as congestion pricing, low-emission zones and support for cycling infrastructure have also proven effective in encouraging shifts away from private vehicles. At the international level, the Paris Agreement requires countries to incorporate transport into their Nationally Determined Contributions (NDCs), ensuring that emission reductions in the sector contribute to broader climate goals[24]. International organizations such as the United Nations and the International Energy Agency support these efforts by providing technical guidance, sharing best practices, and monitoring progress[25]. These coordinated policy and international initiatives show that reducing transport emissions requires systemic change across multiple levels, not just technology adoption.

Technological Options for Emissions Reduction

[20] BIS Research. "The Future of Mobility: Electrification, Autonomy, and Sustainable Transportation Trends 2025." Bisresearch.com, BIS Research, 24 Nov. 2025, https://bisresearch.com/insights/the-future-of-mobility-electrification-autonomy-and-sustainable-transportation-trends-2025
[21] OECD. "OECD.org - OECD." Oecd.org, 2021, www.oecd.org.
[22] "Home." ITF, www.itf-oecd.org.
[23] "EE Fitfor55", 2024, https://commission.europa.eu/topics/climate-action/delivering-european-green-deal/fit-55-delivering-proposals_el
[24] UNFCCC. "Nationally Determined Contributions (NDCs) | UNFCCC." UNFCCC, 2019, https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs
[25] "UNFCCC and IEA Launch New Phase of Cooperation on Tackling Climate Change - News." IEA, 21 Mar. 2024, www.iea.org/news/unfccc-and-iea-launch-new-phase-of-cooperation-on-tackling-climate-change.

Technological solutions build on these innovations and policies, offering practical pathways to lower emissions. Electric vehicles are increasingly accessible, with improvements in battery range, energy efficiency and charging infrastructure making them viable alternatives to internal combustion engines[26]. For sectors harder to electrify, such as aviation or shipping, alternative fuels like sustainable biofuels and hydrogen are being deployed. Hydrogen-powered buses and trucks in Germany and Japan, for example, provide zero-emission alternatives for heavy transport[27]. Vehicle design improvements such as lighter materials and aerodynamic shapes, also contribute to efficiency, while electrified public transport maximizes emissions reductions per passenger[28]. When combined, these technologies offer a comprehensive toolbox for addressing emissions across urban, regional, and long-distance transport.

Environmental Impact

The transportation sector is one of the largest contributors to global greenhouse gas emissions, making its transformation essential to addressing climate change and meeting international climate agreements. Globally, transportation is estimated to account for roughly 24–29 % of carbon dioxide emissions from energy use, with road vehicles, especially passenger cars and heavy freight, responsible for the majority of that pollution[29]. Private cars alone emit significant quantities of CO_2 with average individual vehicles producing a large amount annually and public transit has been shown to reduce emissions by up to about 37 % compared with private vehicle use[30]. Shifting to sustainable transportation systems such as electrified and zero-emission vehicles, expanded public and active transit options, and smarter mobility planning not only reduces carbon emissions but also improves urban air quality, decreases noise pollution and supports public health outcomes[31]. Electric vehicles, for instance, can produce up to 70 % fewer lifecycle emissions

[26] Decarbonizing the Transportation Sector: A Review on the Role of Electric Vehicles towards the European Green Deal for the New Emission Standards." Air, vol. 3, no. 2, 1 Apr. 2025, p. 10, https://doi.org/10.3390/air3020010.
[27] "Hydrogen Use in the Transport Sector." European Climate, Infrastructure and Environment Executive Agency, 2023, https://cinea.ec.europa.eu/hydrogen-eu-supporting-europes-transition-climate-neutrality/hydrogen-use-transport-sector_en
[28] Wang, Xin, et al. "Transportation Carbon Reduction Technologies: A Review of Fundamentals, Application, and Performance." Journal of Traffic and Transportation Engineering (English Edition), vol. 11, no. 6, 4 Dec. 2024, https://doi.org/10.1016/j.jtte.2024.11.001.
[29] ---. "Climate." Europa.eu, 10 Oct. 2024, www.eea.europa.eu/en/analysis/publications/sustainability-of-europes-mobility-systems/climate.
[30] ---. "Climate." Europa.eu, 10 Oct. 2024, www.eea.europa.eu/en/analysis/publications/sustainability-of-europes-mobility-systems/climate.
[31] "Climate & Energy | Sustainable Business News | Latest Eco Headlines | Reuters." Reuters, www.reuters.com/sustainability/climate-energy/.

than conventional gasoline cars, particularly as electricity generation becomes cleaner, and their growing adoption is expected to make a measurable contribution to emission reductions worldwide[32]. Moreover, sustainable transport supports more efficient land use by reducing dependency on personal vehicles, which helps limit urban sprawl and preserve natural habitats. While the environmental benefits are clear, challenges remain, such as the resource demands of battery production and the need for cleaner electricity grids, showcasing the importance of comprehensive policy frameworks that combine decarbonization, infrastructure development and equitable access[33]. Altogether, advancing sustainable transportation is not only a strategic response to climate imperatives but also a pathway toward healthier, more resilient, and more livable communities.

Social Impact

Sustainable transportation systems have significant social impacts that extend beyond environmental benefits, influencing public health, accessibility and community well-being. Reduced reliance on private vehicles lowers air pollution and noise levels in urban areas, which has benefits for respiratory and cardiovascular health and reduces stress for city residents[34]. Active transportation options, such as walking and cycling, also promote physical activity, helping to prevent chronic diseases and improve overall quality of life[35]. In addition, public transit and equitable infrastructure make mobility more accessible to low-income populations, the elderly, and people with disabilities, while transit-oriented urban design can foster stronger community interactions[36]. Investment in sustainable transportation also generates economic opportunities, creating jobs in infrastructure development, vehicle manufacturing and transit operations[37]. However, social challenges remain, including potential affordability barriers for low-income communities during the

[32] Amir Orusov. “Battery Electric Cars Produce 73% Less Emissions -Research.” Reuters, 8 July 2025, www.reuters.com/sustainability/climate-energy/battery-electric-cars-produce-73-less-emissions-research-2025-07-08/.
[33] Mulham, et al. “Using Socio-Economic Indicators, Smart Transit Systems, and Urban Simulator to Accelerate ZEV Adoption and Reduce VMT.” https://arxiv.org/abs/2512.11870
[34] “Transport.” www.who.int, www.who.int/teams/environment-climate-change-and-health/healthy-urban-environments/transport.
[35] “Environment, Climate Change and Health.” Who.int, 2025, www.who.int/teams/environment-climate-change-and-health/.
[36] World Health Organization. “Health Risks.” Www.who.int, 2024, www.who.int/teams/environment-climate-change-and-health/healthy-urban-environments/transport/health-risks.
[37] Sustainable Accessibility for All. https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/06/sustainable-accessibility-for-all_508c25df/5c91857c-en.pdf

transition to electric vehicles or modern transit systems[38]. Overall, advancing sustainable transportation not only contributes to a more sustainable environment but also enhances social equity and health.

Importance of Advancing Sustainable Transport for Future Goals

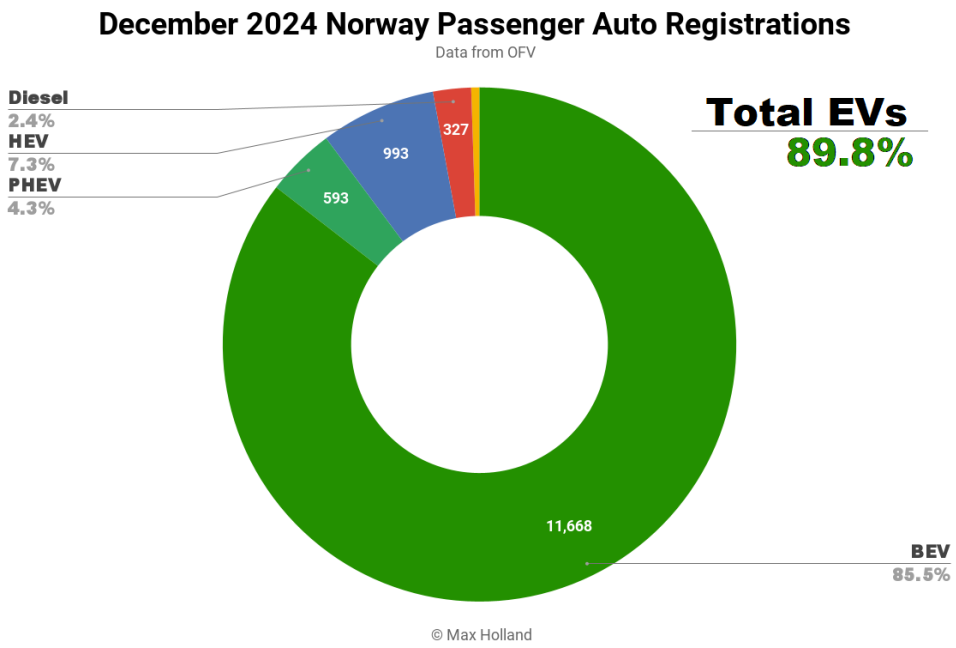
Looking forward, sustainable transport is essential for meeting climate, health and most importantly development goals. Early adoption of low-carbon technologies prevents our reliance on high-emission infrastructure, ensuring that future generations inherit flexible, resilient mobility systems[39]. Sustainable transport contributes to multiple Sustainable Development Goals, from climate action to sustainable cities and economic opportunities[40]. Without decisive action, rising transport emissions could undermine progress in other sectors, making global climate targets increasingly unattainable. Investing in innovative technologies, smart policy frameworks and integrated urban mobility today sets the stage for resilient, equitable and low-carbon societies in the decades to come.

Major Countries and Organizations Involved

Norway

Norway is widely recognized as a global leader in sustainable transportation. The country has promoted electric vehicles (EVs) through a combination of tax exemptions and charging infrastructure. In 2023 over 80% of new cars sold in Norway were electric, making it the highest EV adoption rate in the world[41]. This transition has reduced the carbon footprint of the transportation sector while also encouraging innovation in battery technology[42]. Norway's approach shows how government policy, infrastructure development and public awareness campaigns can successfully implement the adoption of low-emission vehicles.

[38] Nations, United. "7 Things You Need to Know about Sustainable Transportation | United Nations." United Nations, 2025, https://www.un.org/en/desa/7-things-you-need-know-about-sustainable-transportation
[39] Nations, United. "Sustainable Transport – Where Do We Go from Here?" United Nations, www.un.org/en/desa/sustainable-transport-where-do-we-go-from-here.
[40] United Nations. "Sustainable Development Goals." United Nations, 2025, https://sdgs.un.org/
[41] International Energy Agency, Global EV Outlook 2023 (Paris: IEA, 2023), report on Norway's electric vehicle market share and supportive policies, Global EV Outlook 2023 – Analysis - IEA
[42] European Alternative Fuels Observatory, Norway Electric Vehicle Incentives and Legislation (EU, 2024), overview of tax exemptions and infrastructure incentives for EVs, European Alternative Fuels Observatory



[43]**Figure:** In December 2024 nearly 90% of new car registrations in Norway were EVs (electric vehicles)

Japan

Japan has established itself as a pioneer in sustainable mobility by combining technology, infrastructure and related policies[44]. The country was among the first to introduce hybrid vehicles, such as the Toyota Prius, and has invested heavily in hydrogen fuel cell technology for both private vehicles and buses. Japan's extensive rail network, combined with investments in smart traffic management systems, also reduces reliance on private vehicles, helping cities manage congestion and air pollution. National initiatives, such as research into next-generation batteries prove Japan's leadership in clean transportation solutions.

Kenya

Kenya is emerging as a regional leader in sustainable urban transport among developing countries. Nairobi, the capital, has implemented an Urban Mobility Plan which includes the development of Bus Rapid Transit (BRT) to provide efficient and low emission

[43] Total EV sales in Norway, 2024, EVs Take 89.9% Share In Norway — But HEVs Now Outperform PHEVs - CleanTechnica
[44] Ministry of Economy, Trade and Industry (Japan), Hydrogen and Fuel Cell Strategy for Transport Innovation (Tokyo: METI, 2023),. First Selection of Priority Regions for Promoting the Deployment of Fuel-Cell Commercial Vehicles

public transport[45]. The goal is to reduce congestion and lower greenhouse gas emissions while improving access to mobility[46]. Kenya's initiatives demonstrate how LEDCs can make progress toward sustainable transport, even when resources are limited, by prioritizing public transit and urban planning.

India

India is actively promoting sustainable transportation through national programs and policies referring to electrification and low emission vehicles[47]. The Faster Adoption and Manufacturing of Electric Vehicles (FAME) program urges the purchase of EVs and builds charging infrastructure[48]. India is also using electric buses in major cities and promoting alternative fuels in public transport sectors[49]. These measures are designed to reduce urban air pollution, lower the carbon intensity of transportation, and prepare the country for long-term low-emission mobility solutions.

Nigeria

Nigeria's transport sector remains heavily dependent on fossil-fuel-based road travel, making progress toward sustainable transportation slow. In 2023, transport was responsible for about 15.3 % of Nigeria's total greenhouse gas emissions, with most travel relying on private cars and motorcycles and limited access to efficient public transport[50]. Road transport is responsible for over 90 % of freight movement, increasing fuel consumption and emissions through congestion and inefficient logistics[51]. Although Nigeria's Energy Transition Plan includes long-term goals for cleaner fuels and electric mobility, implementation has been limited, with low use of electric vehicles and limited supporting

[45] Nairobi Metropolitan Area Transport Authority, Nairobi Urban Mobility Plan (Nairobi: NAMATA, 2024), plan details including Bus Rapid Transit (BRT) development for sustainable urban transport.Projects & Programmes – NaMATA
[46] *The Weekly Vision*, December 13, 2024 The Weekly Vision
[47] Government of India, Faster Adoption and Manufacturing of Electric Vehicles (FAME) Scheme Phase-II (New Delhi: Ministry of Heavy Industries, 2019)Fame II | Ministry of Heavy Industries
[48] "PIB Headquarters." Pib.gov.in, 2017, https://www.pib.gov.in/PressNoteDetails.aspx?ModuleId=3&NoteId=155094&reg=3&lang=2
[49] "WRI INDIA." WRI INDIA, https://wri-india.org/initiatives/reimagining-indias-public-transport-scale-electric-buses
[50] "GSR4 - Transport, Climate and Sustainability Global Status Report (GSR) – 4th Edition." Transport, Climate and Sustainability Global Status Report (GSR) – 4th Edition, https://gsr4.slocat.net/wp-content/uploads/sites/2/2025/06/Nigeria.pdf
[51] "Nigeria's Green Roadmap: Decarbonizing Transport and Redefining…." Sustainable Stories Africa, 2025, https://sustainablestories.africa/insights-and-data/nigerias-green-roadmap-decarbonising-transport-and-redefining-corporate-sustainability-for-shared-impact

infrastructure[52]. Persistent challenges such as insufficient transport infrastructure, poor planning and weak policy enforcement continue to obstruct the adoption of low-emission transport solutions.

International Transport Forum (ITF)

The ITF is an intergovernmental organization under the OECD, which works to advance sustainable and efficient transport systems worldwide[53]. It conducts research and provides policy recommendations to reduce transport emissions. The ITF emphasizes the fusion of technology, infrastructure and urban planning, and helps governments identify the economic, social and environmental benefits of sustainable mobility. By highlighting issues and proposing actionable solutions, the ITF is an important tool in supporting countries' efforts to meet both climate and development goals.

International Association of Public Transport (UITP)

The UITP is a global network created to promote sustainable public transport. It supports the development of efficient, low-emission systems such as metro networks and BRT corridors while also offering guidance on systems, policy frameworks and service planning[54]. UITP helps governments and transport operators create accessible, equitable, and environmentally friendly urban mobility solutions[55]. Through workshops, reports, and international conferences, the organization fosters collaboration among cities and countries aiming to reduce their transportation-related carbon emissions[56].

Blocs Expected

Alliance 1

This alliance supports the adoption of electric vehicles and the expansion of charging infrastructure. Its main goal is to reduce carbon emissions from private and commercial road transport through policies and incentives that replace fossil-fuel vehicles. Countries in this bloc have developed strong policies to encourage EV use. Germany, for example, is a global

[52] "Policies & Action." Climateactiontracker.org, 2025, https://climateactiontracker.org/countries/nigeria/2023-07-13/policies-action/
[53] International Transport Forum, *About the International Transport Forum* (Paris: OECD/ITF, 2025), About ITF | ITF
[54] "About." UITP, www.uitp.org/about/.
[55] "Global Advocacy & EU Policy - UITP." UITP, 27 Nov. 2025, https://www.uitp.org/advocacy-eu-policy/
[56] "Events & Training List - UITP." UITP, 2026, https://www.uitp.org/events/

leader in EV manufacturing, while China has the largest EV market and is a major producer of electric vehicles. The Netherlands also belongs to this alliance, because of its EV infrastructure and supportive national policies. To summarize, the alliance encourages member states to replace fossil-fuel vehicles with electric ones by supporting EV incentives and charging infrastructure.

Alliance 2

This alliance advocates for improving urban transit systems, including buses and metro lines. It focuses on making public transport more accessible, reliable, and affordable, aiming to reduce urban emissions and encourage shared mobility. Japan is a major member state, as it has advanced rail and metro networks that utilize energy efficient technologies. India is investing in metro networks and electric buses to serve urban populations, while France maintains metro and urban bus systems and actively promotes low emission transit solutions. As an example, the alliance supports expanding and electrifying metro and bus networks to make public transport cleaner, more efficient, and accessible in member countries.

Timeline of Events

Date	Description of Event
Early 1990s	Sustainable transportation begins to gain recognition.
Mid 2000s	Governments of the EU begin supporting early sustainable transport strategies.
October 2011	The EcoMobility Alliance is established as a global network of cities committed to sustainable urban mobility.
19th December 2014	The UN General Assembly's (A/69/213) on the role of transport and transit corridors in ensuring international cooperation for sustainable development.

2015	The UN General Assembly adopts a resolution (A/RES/70/10) on the role of transport and transit corridors in ensuring international cooperation for sustainable development.
12th December 2015	The Paris Agreement encourages countries to include transport related measures policies (NDCs).
2018	Electric vehicles and low emission transport technologies begin to see significant global market growth.
15th March 2022	The UN General Assembly's resolution (A/RES/76/255) promoting the inclusion of bicycling into public transportation systems for sustainable development.
2023	Norway reports that over 80% of new car sales are electric vehicles, demonstrating the use of low emission road transport.
19th December 2023	The UN General Assembly's resolution (UNGA-res. A/78/148) emphasizing the integration of all modes of transport to support the Sustainable Development Goals
2024	The United Nations Economic Commission for Europe (UNECE) releases its strategy on transport decarbonization, promoting electrification, alternative fuels and energy efficiency.

Relevant UN Resolutions, Treaties & Events

Strengthening the links between all models of transport to achieve the sustainable development goals, 19th of December 2023 (UNGA-res. A/78/148)

This resolution emphasizes the importance of integrating different modes of transport to support the Sustainable Development Goals (SDGs). It encourages countries to develop efficient, safe, and low-emission transport systems to achieve economic growth,

environmental protection, and social inclusion. It also encourages investment in infrastructure, policy innovation, and capacity building, particularly in developing countries, to ensure that urban and rural communities benefit from accessible, low-carbon mobility.

Integration of mainstream bicycling into public transportation systems for sustainable development, 15th of March 2022 (A/RES/76/255)

This resolution highlights the role of cycling as an active and sustainable transport alternative. It encourages governments to integrate bicycling with public transit networks. The resolution also calls for the development of safe cycling infrastructure, such as dedicated bike lanes, secure parking and traffic-calming measures, to protect cyclists and encourage wider adoption. By promoting cycling alongside public transport, the resolution supports low-emission, healthy and inclusive mobility, contributing to the achievement of the Sustainable Development Goals.

Role of transport and transit corridors in ensuring international cooperation for sustainable development, 19th of December 2014 (A/69/213)

This resolution highlights how transport and transit corridors connect countries and promote international cooperation. It encourages planning these corridors in a sustainable way, reducing environmental impacts while supporting regional development and trade, while also investing in efficient logistics and low-emission transport infrastructure, ensuring that transport networks support both environmental protection and equitable development.

United Nations Economic Commission for Europe (UNECE) — 2024 Strategy on Inland Transport Decarbonization

UNECE's strategy provides guidelines for reducing emissions from inland transport. It promotes energy efficiency, alternative fuels, electrification, and coordinated policy measures to support sustainable mobility and climate goals across member states.

Previous Attempts to Solve the Issue

Eco Mobility Alliance

Since its establishment in 2011, the EcoMobility Alliance has served as a global network of cities working to implement sustainable urban mobility. Member cities prioritize walking, cycling, public transport, and shared mobility as alternatives to private vehicle

use[57]. This alliance demonstrates how international collaboration and knowledge sharing can support cities in reducing transport emissions and promoting low-carbon urban mobility[58].

SURF Project (Sustainable Urban Freight)

The SURF Project, developed by POLIS (Cities and Regions for Transport Innovation), targets zero-emission urban freight across European cities. By promoting cleaner delivery methods, logistics optimization, and low-emission vehicles, the project addresses the significant emissions generated by goods transport in urban areas[59]. SURF exemplifies how sector-specific initiatives can reduce transport-related carbon outputs while maintaining urban economic activity.

Greenest City 2020 Action Plan (GCAP) in Vancouver

Vancouver's Greenest City 2020 Action Plan set the ambitious goal that over 50% of all city trips be made by walking, cycling, or public transit rather than by private vehicles[60]. By 2015, the city had already met this target, demonstrating the effectiveness of integrated policies combining urban planning, infrastructure development, and public awareness[61]. GCAP illustrates how municipal-level initiatives can contribute to measurable reductions in emissions and support broader sustainability goals.

Possible Solutions

Active Transportation

Promoting active transportation, such as walking and cycling, is a crucial strategy for reducing emissions in urban areas. Safe and accessible sidewalks, bike lanes, and pedestrian-friendly urban design encourage residents to choose low-carbon travel options for both commuting and leisure. Integrating active transportation into city planning not only reduces greenhouse gas emissions but also improves public health, reduces traffic congestion, and enhances overall quality of life in urban communities. In addition, it can make cities more socially connected by creating shared public spaces, support local

[57] "EcoMobility Alliance | Movement of Cities Committed to Ecomobility." ICLEI Sustainable Mobility, 12 Jan. 2024, https://sustainablemobility.iclei.org/ecomobility-alliance/
[58] "EcoMobility Alliance - ICLEI." ICLEI, 6 Aug. 2025, https://iclei.org/ecomobility_alliance/
[59] "Home - POLIS Network." POLIS Network, 31 Oct. 2025, www.polisnetwork.eu.
[60] The Greenest City 2020 Action Plan (GCAP), Eco | GCAP Global
[61] City of Vancouver. "Greenest City Action Plan." Vancouver.ca, 2020, https://vancouver.ca/green-vancouver/greenest-city-action-plan.aspx

businesses as streets become more pedestrian-friendly, and contribute to cleaner, quieter urban environments. By prioritizing walking and cycling alongside public transit, cities can move toward a more sustainable, resilient, and inclusive future.

Electrification and Low-Emission Vehicles

Electrifying road transport is one of the most effective strategies for reducing carbon emissions from the transportation sector. Electric vehicles (EVs) and other low emission vehicles produce significantly lower emissions than fossil fuel vehicles, particularly when powered by low carbon electricity. However, widespread adoption depends heavily on charging and refueling infrastructure to ensure reliability and accessibility. When combined with renewable energy sources, vehicle electrification can contribute not only to cleaner transport systems but also to broader energy system decarbonization. Successful examples from countries such as Norway and China, as mentioned on other sections of the guide, demonstrate how coordinated policy, infrastructure development and market can urge the shift toward low emission mobility.

Public Transit Expansion

Investing in reliable and efficient public transport systems, including buses, metro lines and light rail, can significantly lower reliance on private vehicles. Expanding transit frequency, as well as improving affordability and accessibility, ensures that more people can choose low emission mobility options. Well planned public transit networks also help reduce traffic congestion, air pollution and noise in cities, creating a cleaner and more enjoyable urban environment. Lastly, public transit can promote social equity by providing affordable transportation for all residents, support economic growth by connecting people to jobs and services and contribute to more sustainable urban development by encouraging higher-density, walkable communities.

Policy and Regulatory Measures

Governments play a critical role in promoting sustainable transportation through policy measures and regulations. Examples include tax incentives for low emission vehicles, low emission zones in urban centers, stricter fuel efficiency standards and urban planning regulations. These measures create the conditions necessary for new technologies and infrastructure to succeed, while also encouraging behavioral changes that support long term sustainability goals. Also, policies can guide investment in public transit, cycling

infrastructure and renewable energy for transport, ensuring that sustainable options are both practical and attractive for citizens. By combining regulatory action with incentives, governments can accelerate the transition to cleaner, safer, and more efficient urban mobility systems.

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