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# Financing Fundamentals for the Decarbonisation of the Transport Sector

International Public Investments for Sustainable Mobility Projects



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# Financing Fundamentals for the Decarbonisation of the Transport Sector: International Public Investments for Sustainable Mobility Projects

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# Table of Contents

<b>Introduction</b>	<b>1</b>
<b>Fundamental 1: Realign the purpose and impact of our financial systems</b>	<b>3</b>
• Create an enabling environment for the financing of sustainable transport investments	4
• Climate proof new investments	5
• Eliminate all dirty spending	6
• Put equity at the centre of all new investments and initiatives	8
• Embed sustainability into strategic thinking, common methods, tools and standards across the finance system	10
<b>Fundamental 2: Shift focus to green investments and policies</b>	<b>11</b>
• Reform transportation planning to apply least-cost principles	12
• Shift investment from infrastructure supporting carbon intensive transport to investment in sustainable transport	13
• Investment in addressing the service gap	15
• Invest in low-emission zones and complete streets	16
• Consider the informal transport sector in financing decisions	17
• Redirect fossil fuel subsidies: Let the bad pay for the good	18
• Shift away from aviation towards railway infrastructure and services	19
• Increase taxation on domestic and international aviation railway infrastructure and services	19
• Incentivise electric vehicles	20
• Invest and develop new IT applications which facilitate modal transfer	21
• Financing research and development in green-transport	21
<b>Fundamental 3: Leverage innovative financing mechanisms</b>	<b>22</b>
• Development Finance and International Finance Institutions (DFIs and IFIs)	22
• Private sector and institutional investment	24
• Development Agencies	25
• Green bonds	26
• Climate funds	27
• Green Climate Fund	29
• Climate Investment Fund and the Clean Technology Fund	29
• Global Environment Facility	30
• International Climate Initiative	30
• NAMA Facility	31
<b>Additional Resources</b>	<b>31</b>



## Introduction

Meeting the challenges of decarbonising the transport sector and the wider climate mitigation and adaptation targets will require a step-change increase in investment in low-carbon transport initiatives and activities. These investments must not only meet environmental standards but also ensure they are equitable, healthy and resilient.

These Financing Fundamentals will facilitate an understanding of the power of innovative financing, guide policymakers and practitioners through best practices and case studies and, incentivise and advocate for political leadership and buy-in.

This activity has been developed with the leadership of the Transformative Urban Mobility Initiative (TUMI), the German Federal Ministry for Economic Cooperation and Development (BMZ), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the World Resources Institute (WRI), in collaboration with the SLOCAT Partnership on Sustainable, Low Carbon Transport.

The three main fundamentals are supported through sub-messages and illustrated with case study examples and further information. The goal is to signpost the considerations and financing channels available to governments and the transport sector in pursuing a zero-carbon pathway.

# Fundamentals

The landmark UN Environment report 'The Financial System We Need: From Momentum to Transformation' (2016) and the G7 report by Nicholas Stern for the 'G7: leadership for sustainable, resilient and inclusive economic recovery and growth' (2021) defined key parameters for the sustainable transformation of the transport system. The key messages for the transport sector were identified and adapted as follows:

## I. Realign the purpose and impact of our financial systems

- Create an enabling environment for the financing of sustainable transport investments
- Climate proof new investments
- Eliminate all dirty spending
- Put equity at the centre of all new investments and initiatives
- Embed sustainability into strategic thinking, common methods, tools and standards across the finance system

## II. Shift focus to green investments and policies

- Reform transportation planning to apply least-cost principles
- Shift investment from infrastructure supporting carbon intensive transport to investment in sustainable transport
- Investment in addressing the service gap
- Invest in low-emission zones and complete streets
- Consider the informal transport sector in financing decisions
- Redirect fossil fuel subsidies: Let the bad pay for the good
- Shift away from aviation towards railway infrastructure and services
- Increase taxation on domestic and international aviation railway infrastructure and services
- Incentivise electric vehicles
- Invest and develop new IT applications which facilitate modal transfer
- Financing research and development in green-transport

## III. Leverage innovative financing mechanisms

- Development Finance and International Finance Institutions (DFIs and IFIs)
- Private sector and institutional investment



Fundamental 1:

## Realign the purpose and impact of our financial system

The UN Environment's review of 'The Financial System We Need' identified positive progress and momentum in the reshaping of the global financial system to achieve sustainable development. This includes financial institutions recognising the importance of supporting sustainable development - and financial regulators- acting to increase transparency and assist in the effective reallocation of capital towards sustainable investments.

The momentum, however, remains insufficient to deliver the necessary transformation to finance sustainable development and to meet the challenges faced. Cross-sectoral estimates by CPI suggest that an increase of at least 590% in climate finance is needed by 2030 to meet climate objectives, with the financing gap in transport infrastructure estimated at \$440 billion per annum (SLOCAT). Further action is needed, and specific activities and actions have been identified as critical to the realignment of the purpose and impact of the financial system.

- Create an enabling environment for the financing of sustainable transport investments
- Climate proof all new investments
- Eliminate all dirty spending
- Center equity in all new investments and initiatives
- Raise awareness and coordinate to build capacity across the system
- Embed sustainability into strategic thinking, common methods, tools and standards across the finance system

### References

[UNEP, The Financial System We Need: From Momentum to Transformation \(2016\)](#)

[Stern, G7: leadership for sustainable, resilient and inclusive economic recovery and growth \(2021\)](#)

[Climate Policy Initiative, Global landscape of climate finance \(2021\)](#)

[SLOCAT Transport and Climate Change Global Status Report 2nd Edition](#)

# Create an enabling environment for the financing of sustainable transport investments

Pursuing the net-zero pathway requires transforming the approach to investment in the transport sector, with a need to bring climate risks and resilience to the heart of financial investment decisions made by both government and private sector alike. Financial institutions are increasingly taking the risks of climate change as serious to future success, with a corresponding increase in appetite for investment in low carbon activities. This momentum and shift in priorities presents new opportunities for the financing of sustainable transport initiatives which national and local governments should be looking to harness to support the delivery of their investment ambitions over the coming years.

The development of a sustainable financial system requires the following:

- Clear legally binding targets and supporting regulations (e.g. 10% Sustainable Aviation Fuels by, 25% new ZEV cars by 2025, ban short haul flights) to provide confidence to financial actors;
- Clear definitions on what investments meet the definition of sustainability, taking into account economic, social and environmental protection goals;
- Transparency in climate related disclosures with a clearly defined reporting framework (which includes the scope 1,2 and 3 GHG emissions associated with any new investment);
- Improvements in the understanding and management of climate related risks.

Progress is being made in addressing these requirements with the development of taxonomies defining activities that contribute to climate change mitigation and adaptation and a task force established to improve and increase reporting of climate related financial information. Investment funds are placing increasing pressure on companies that fail

to disclose climate-risk plans or act to reduce emissions. New financial sector bodies such as the International Investor Group on Climate Change (IIGCC) have also been established to bring the sector together to accelerate the transition towards a low carbon future and meet the sustainable investment challenges of the coming years.

It is also important to involve financial system actors early in the project preparation process to help assess the commercial viability of a project and how it can be structured to attract investors.

## References

[EU Sustainable Finance Taxonomy](#)

[Financial Institutions Taking Action on Climate Change, UNEP](#)

[Task Force on Climate-related Financial Disclosures](#)

[The International Investor Group on Climate Change](#)

[Glasgow Financial Alliance for Net Zero](#)

[Global Investors for Sustainable Development Alliance](#)

[Climate Finance Leadership Initiative](#)

# Climate proof new investments

The Global Commission on the Economy and Climate identified this decade as a pivotal moment in economic history<sup>1</sup>. With the scale of investment in infrastructure projected to outstrip the total current capital stock, ensuring the sustainability of this new investment will be the determinant of future growth and prosperity. For the transport sector, ensuring that the investments made will deliver infrastructure and mobility systems/ services resilient to changing climate and that these investments will promote sustainable travel rather than 'locking-in' carbon-intensive travel behaviour must therefore be seen as a priority.

Climate-proofing is a process that integrates climate change mitigation and adaptation measures into the development of infrastructure projects. New European Union technical guidance (EU green taxonomy) has recently been published which sets out common principles and practices in identifying, managing and classifying climate risks when planning and delivering infrastructure projects. The guidance sets out the process for making sustainable, climate-proof investment decisions, divided into two pillars - mitigation and adaptation, and into two phases - screening and detailed analysis.

It is crucial that climate-proofing is institutionalised and mainstreamed across the entire infrastructure asset life cycle to ensure that enough funding is allocated to climate adaptation. Making (transport) infrastructure more resilient to climate change will also offer cost-saving potentials and identify co-benefits that make the investment more attractive to a range of investors.

## References

[EU Guidance on climate proofing of infrastructure investments](#)

[OECD Climate-resilient Infrastructure](#)

[Prioritizing Climate Resilient Transport Investments in a Data-Scarce Environment A Practitioners' Guide](#)

[Guidelines for Climate Proofing Investment in the Transport Sector: Road Infrastructure Projects](#)

[Aligning transport investments with the Paris Agreement Insights from the EIB's transport portfolio 2015-2019](#)

[Tools for sustainable infrastructure including Finance have been collected by The Sustainable Infrastructure Partnership \(SIP\) of the UN Environment Programme \(UNEP\) and GIZ](#)

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<sup>1</sup><https://newclimateeconomy.report/2018/>

# Eliminate all dirty spending

The direction of investment and expenditure channeled toward transport sector investment will be a key determinant in the successful pursuit of a net zero carbon pathway. Planning policies often fail to promote the conditions to minimize the need to travel whilst current investment and spending patterns often support carbon intensive transport activities. These include implicit or explicit support for private motorisation such as fuel price subsidies, significant investment in new expressways and other highway infrastructure and the underpricing of parking provision.

Whilst city governments and transport authorities have taken a lead in adopting initiatives including congestion charging and workplace parking levies, national government must ensure the necessary policy framework with the required legal and regulatory mechanisms to support implementation of these measures and wider policies such as road pricing.

Positive steps have been seen in recent times with the reduction or elimination of fossil fuel subsidies, with reforms seen in Sudan, Tunisia, Venezuela, Cuba and India since the onset of the COVID-19 pandemic. At the COP26 climate summit in Glasgow, world leaders made a historic agreement to phase-out “inefficient” subsidies for fossil fuels.

Indonesia is also reforming its support for gasoline and diesel prices and Nigeria is presently in the process of attempting to bring to an end a fuel subsidy program that has been costing Africa’s largest oil producer billions of dollars a year.

Under the EU sustainable investment taxonomy, in addition to the defining of sustainability objectives, an important principle in sustainable investment is to ‘do no significant harm’. Countries must review spending patterns to identify areas of expenditure that do not directly contribute to the decarbonisation of the transport sector

and which actively support activities that do not reduce emissions within the sector.

Countries should support “fix it first” priorities, which favor maintenance and make better use of existing transportation infrastructure over new projects; these improvements should focus on retrofitting roads to provide safe space for pedestrians and cyclists as well as a redesign to give priority to public transport (e.g. bus only lanes). “Least cost planning,” allows transportation demand management measures - such as vehicle access regulations and tolls/charges- to compete equally with facility expansions for funding.

Governments should expand where and when public parking facilities (such as on-street parking) are priced, and tax private parking facilities. They can thus use parking revenues to finance sustainable transportation programs and community amenities.

## References

[EU sustainable finance taxonomy for transport sector](#)

[Fuel subsidy reform](#)

Indonesia fuel subsidy reform

- [www.iisd.org/articles/indonesia-uses-savings-fossil-fuel-subsidy-reform-finance-development](http://www.iisd.org/articles/indonesia-uses-savings-fossil-fuel-subsidy-reform-finance-development)
- [www.climatepolicyinitiative.org/blog/indonesia-wants-a-carbon-tax-but-with-subsidies/](http://www.climatepolicyinitiative.org/blog/indonesia-wants-a-carbon-tax-but-with-subsidies/)

Nigeria fuel subsidy reform

- [www.bloomberg.com/news/articles/2021-03-25/nigeria-fuel-subsidy-hits-nearly-300-million-a-month-nnpc-says](http://www.bloomberg.com/news/articles/2021-03-25/nigeria-fuel-subsidy-hits-nearly-300-million-a-month-nnpc-says)
- [www.ictd.ac/publication/fuel-subsidy-social-contract-microeconomic-analysis-nigeria-rib/](http://www.ictd.ac/publication/fuel-subsidy-social-contract-microeconomic-analysis-nigeria-rib/)

ISF (2003), Least Cost, Greatest Impact: A Discussion Paper on the Applicability of Least Cost Planning to Transport in Australia, [Institute for Sustainable Futures, University of Technology Sydney](#).

Kathy Lindquist and Michel Wendt (2012), Least Cost Planning in Transportation: Synthesis, Strategic Planning Division, [Washington State Department of Transportation](#); at <https://bit.ly/2EeB45l>.

David Noyce, et al (2021), Modern Project Prioritization for Transportation Investments, [Center for Transportation, Equity, Decisions and Dollars](#); at <https://bit.ly/3ow66sQ>.

[Sustainable Urban Mobility Plans \(SUMP\)](#), The Urban Mobility Observatory

STTI (2018), Modernizing Mitigation: A Demand-Centered Approach, [Smart State Transportation Initiative](#); at <https://bit.ly/2Nri7Ok>.

# Put equity at the centre of all new investments and initiatives

Transitioning to a low carbon economy and making the necessary investments to pursue a low carbon pathway that will generate new opportunities whilst also impacting existing economic activities.

Transport needs to provide safe, affordable access for everybody and, not exist as a luxury only for the rich. Improving access (to jobs, training, education) for the poorest in society is fundamental to sustainable economic development.

**Governments must commit to ensuring that these new opportunities and benefits are widely shared and that those most vulnerable to adverse impacts and economic loss are protected.**

SLOCAT's 2nd Global Status Report identifies the opportunities offered by investment in walking and cycling infrastructure and in electric vehicle charging infrastructure to generate increased employment opportunity, with employment multipliers in sustainable transport exceeding that of other sectors. These benefits are likely to be even higher in developing countries, with a potential for more than 50 million jobs in public transport and vehicle electrification created by 2030 across Africa, Asia, Eastern Europe and Latin America.

Transportation agencies should recognise affordability, inclusivity and public health as important goals, equal in priority with travel speed. This justifies shifting investments in faster but more expensive modes, such as automobile and air travel, to greater investments in slower but more affordable, inclusive, health and resource-efficient modes such as walking, bicycling and public transport.

The funding and financing of investment have important equity considerations in the transition period, with new revenue-raising measures such as land value capture tools and fiscal incentives/disincentives having the potential to impact vulnerable groups economically. Additionally, decisions on what infrastructure to build or improve. For example, investments must not favour a car-driving minority but the active mobility majority. Distributional impact assessments must be undertaken in the implementation of transition activities and introductions of changes to the fiscal landscape.

## References

[SLOCAT Transport and Climate Change Global Status Report 2nd Edition](#)

[Mapping just transitions to a low carbon world](#)

Design of carbon taxes and equity considerations

- [Carbon Tax Guide : A Handbook for Policy Makers](#)
- [Making carbon taxes more acceptable](#)
- [Designing carbon taxation to protect low income households](#)

Evaluating the emissions impacts of transportation projects and land use development plans

- CalSTA (2021), Climate Action Plan for Transportation Infrastructure, [California State Transportation Agency](#); at <https://calsta.ca.gov/-/media/calsta-media/documents/capti-july-2021-a11y.pdf>.

Caltrans (2020), Vehicle Miles Traveled-Focused Transportation Impact Study Guide, [California Department of Transportation](https://bit.ly/3DDSm5H); at <https://bit.ly/3DDSm5H>.

[CoolClimate Calculator](#) estimates household transportation, housing, food, goods and services carbon emissions for U.S communities.

#### Organization

- The [New Urban Mobility Alliance \(NUMO\)](#) targets urban issues and works to leverage the momentum of mobility revolutions, including equity, sustainability, accessibility and labour.

# Embed sustainability into strategic thinking, common methods, tools and standards across the finance system

Effective investment decisions require transparency and robustness of information in relation to the scope, impacts and likely returns on the investment activity. Public investments are guided by comprehensive cost-benefit analyses and impact assessments, which in recent years have evolved to incorporate environmental, health and equity impact considerations.

New technologies that enable cost efficient data generation and collection can support building impact assessment frameworks with tailored mobility specific data and linking these to existing frameworks such as the UN Sustainable Development Goals (SDGs). This can also help to de-risk investments in sustainable mobility by making their impacts more transparent.

Many cities are reforming urban street design and parking policies to reduce hidden subsidies for automobile travel and underinvestment in walking, bicycling and public transit. For example, many cities are eliminating parking minimums in zoning codes, efficiently pricing on-street parking, and converting parking and traffic lanes into wider sidewalks, bike lanes and bus lanes. Some jurisdictions are establishing sustainable transport hierarchies, which favor resource-efficient modes over resource-intensive modes in funding, planning and facility design. They are establishing vehicle travel reduction targets and establishing transportation demand management programs. These policies can increase transportation system efficiency while reducing infrastructure costs, consumer costs and pollution emissions.

Whilst investment products have been labelled to inform investors, a lack of an agreed definition about what may constitute 'green' or 'sustainable' investments has enabled

the potential for 'greenwashing' of less than sustainable investment activities. In order to address this, a range of entities have been working on the development of definitions and standards to improve transparency in defining what types of investment may be considered environmentally sustainable. The European Union has recently published its sustainable finance taxonomy in relation to the transport sector, whilst evolution in the certification of climate related investments has progressed in the issuing and updating of the Climate Bond Standard and Certification Scheme for the labelling of sustainable bonds and loans.

## Resources

[EU sustainable finance taxonomy for transport sector](#)

### Climate Bonds Taxonomy

- [www.climatebonds.net/files/files/CBI\\_Taxonomy\\_Tables-2June21.pdf](http://www.climatebonds.net/files/files/CBI_Taxonomy_Tables-2June21.pdf)
- [www.climatebonds.net/standard/transport](http://www.climatebonds.net/standard/transport)
- [www.climatebonds.net/files/files/CBI%20Transport%20Criteria%20document\\_Apr2021.pdf](http://www.climatebonds.net/files/files/CBI%20Transport%20Criteria%20document_Apr2021.pdf)

[Task Force for Climate-related Financial Disclosures](#)

### Webinar

- [European Union Sustainable Transport Taxonomy, TEG Experts \(2020\)](#)



Fundamental 2:

## Shift focus to green investments and policies

Investment in roads and highways accounts for almost one-third of all global infrastructure investment, receiving \$872 billion of the \$2.7 trillion total investment estimated in 2020<sup>2</sup> with a further \$347 billion invested in rail.

Whilst public sector investment in transport has primarily focused on capital investment in infrastructure and maintenance, and in particular, in roads and highways addressing the 'infrastructure gap, there is increasing recognition that a scaling up of investment is required to address the 'service gap'<sup>3</sup>, ensuring appropriate financial support for the provision and effective delivery of mobility services to support access to services and opportunities whilst encouraging sustainable travel choices.

There is a need to **reprioritise spending and investment** to align with the mobility needs of countries and with climate targets and objectives. This will require:

- Reform transportation planning to apply least-cost principles
- A **shift of investment away from carbon intensive transport** including infrastructure supporting private car towards investment in sustainable transport including public transport, shared services, walking and cycling, and in supporting green freight and logistics.
- A paradigm shift from an infrastructure centric investment focus (transport as a supply-side economy) to **increased investment in mobility services (transport as a demand-side economy)**. This includes measures including mobility as a service (Maas), sharing and improved intermodal integration.
- **Addressing implicit subsidy to non-sustainable modes<sup>4</sup>** and shifting subsidies to sustainable transport receives the necessary funding, ensuring fair pricing of infrastructure and service usage
- Ensure the fiscal system aligns with low carbon pathway ambitions, by **redirecting fossil fuel subsidies to sustainable investment** - Let the bad pay for the good. **Taxation and Carbon pricing mechanisms** disincentive carbon intensive activity whilst providing funding for investment in sustainable travel
- **Prioritize investment in compact and transit oriented urban development** over sprawling urban development

<sup>2</sup> [Infrastructure Outlook](#)

<sup>3</sup> [World Bank, Beyond the Gap](#)

11 <sup>4</sup> Such as tax incentives for company cars, tax free aviation fuel, subsidies for road infrastructure and cost of health care caused by e.g. air pollution and collisions.

# Reform transportation planning to apply least-cost principles

Least-cost planning considers demand management solutions equally with strategies to increase capacity and considers all significant impacts (costs and benefits), including community goals such as affordability, social equity, public health and safety, and environmental protection. As a result, it favors transportation demand management over large-scale infrastructure projects.

Shift transportation infrastructure investments towards least-cost options supports resource-efficient travel options, reflecting a sustainable transportation hierarchy, as illustrated below. This recognizes that private automobile travel requires far more expensive infrastructure, consumes more fuel and produces more pollution than active and public transport modes. Current investment and spending patterns often support carbon intensive transport activities. These include implicit or explicit support for private motorisation such as fuel price subsidies, significant investment in new expressways and other highway infrastructure and the underpricing of parking provision.

Much can be done to reduce the high number of short distance trips in private cars that often overwhelm infrastructure. For example, every city should develop a Sustainable Urban Mobility Plan (SUMP) which integrates sustainable transportation projects and programs. Transit oriented development can help to develop land value capture mechanisms by leveraging an increase in property prices from improved accessibility. Ideally, SUMPs would build on National Urban Mobility Policies (NUMPs) and take into account developments at the metropolitan scale where applicable.

## References:

CH2M Hill and HDR (2010), History and Application of Least Cost Planning for Transportation from the Mid-1990s, [Oregon Department of Transportation](http://www.oregon.gov/ODOT/TD/TP/Reports/History%20and%20Application.pdf); at [www.oregon.gov/ODOT/TD/TP/Reports/History%20and%20Application.pdf](http://www.oregon.gov/ODOT/TD/TP/Reports/History%20and%20Application.pdf).

[System, UK Department for Transport](http://www.dft.gov.uk/pgr/economics/integratedtransporteconomics3026); at [www.dft.gov.uk/pgr/economics/integratedtransporteconomics3026](http://www.dft.gov.uk/pgr/economics/integratedtransporteconomics3026).

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NGA (2004), Fix it First: Targeting Infrastructure Investments to Improve State Economies and Invigorate Existing Communities, [National Governors Association](http://www.nationalgovernors.org).

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STTI (2018), Modernizing Mitigation: A Demand-Centered Approach, [Smart State Transportation Initiative](https://bit.ly/2Nri7Ok); at <https://bit.ly/2Nri7Ok>.

# Shift investment from infrastructure supporting carbon intensive transport to investment in sustainable transport

Public sector investment in the transport sector, in particular investment in the construction and maintenance of transport infrastructure is high. The majority of investments in transport infrastructure are directed towards roads and highways. To ensure the transformation of mobility systems, and to achieve climate targets, requires a transformative change in the direction of investment in support of sustainable and low carbon mobility. Investments in sustainable modes must therefore take priority over investments that contribute to locking in a high carbon dependency.

A shift away from multilateral development banks and governments pushing for large ticket size investments towards small scale infrastructure such as sidewalks, cycle lanes and bike sharing systems that can have a large impact on the sustainability and livability of a city is needed. New financial mechanisms have to be developed to make these projects bankable despite not having a direct revenue stream which is usually required for loan repayment. One solution to financing these smaller projects independent of a large infrastructure project is bundling them together to diversify risk, reduce transaction and due diligence costs. National and local governments need technical assistance and advice on how to develop these projects and present them to public and private investors.

It is important to measure the actual costs of any transport funding (sustainable and unsustainable), including capital investments and recurrent expenditures, but also subsidies and external costs (taking into account social and environmental impacts). Public fossil fuel subsidies lock society into private road transport powered by petroleum or diesel

fuels. The International Monetary Fund (IMF) estimates that the monetised impacts of externalities are 10 times the direct financial cost of subsidies<sup>5</sup>.

These measurements should be accompanied by a robust framework for estimating and forecasting expenditures and revenues throughout the entire lifetime, including risks. Furthermore, transparent accounting and monitoring are essential to ensure an adequate distribution of funding in the long term. This will help to assess any funding gaps and trends in expenditure increases.

## Reference:

<sup>5</sup> [SLOCAT Transport and Climate Change Global Status Report 2nd Edition](#)

## Case Studies

### California

The state of California has established vehicle travel reduction targets, and requires transportation agencies to evaluate transportation and land use development projects based on their VMT, emission and crash reduction targets during the environmental review process. California's Department of Transportation developed an integrated suite of tools and information resources that provide specific, practical technical guidance for modelling travel, crash and emissions impacts.

### Wales

The deputy minister for climate change announced a move to freeze new road-building projects as part of plans to reach net zero emissions by 2050. This is in order to shift away from spending money on projects that encourage more people to drive, and "spend more money on maintaining our roads and investing in real alternatives that give people a meaningful choice."

### Singapore

Singapore presents a good example of such accounting and monitoring, thoroughly assessing the capital investments, land related expenditures and operating expenditure of the Ministry of Transport. Besides breaking down costs and investments to ongoing and new transport measures, Singapore also clearly defines and openly assesses the Key Performance Indicators of transport projects, reflecting any changes or shortfalls.

### New Zealand

*Cost benefit analysis featuring the benefits of promotion of walking*

New Zealand has incorporated valuation of important aspects relating to transport investment into its appraisal of investments, which may otherwise not be fully reflected in the investment decision making process. These wider benefits include valuation of urban realm and of the impact on walking and the health benefits of promoting active travel.

### References

Caltrans (2020), Vehicle Miles Traveled-Focused Transportation Impact Study Guide, [California Department of Transportation](#); at <https://bit.ly/3DDSm5H>.

[Singapore Revenue and Expenditure Estimates](#)

[New Zealand Business Case for Walking](#)

[Welsh Government Road Building](#)

# Investment in addressing the service gap

A focus on addressing the 'infrastructure gap' within the transport sector has seen prioritization of highway construction to improve connectivity and accessibility. However, addressing accessibility and mobility needs must rather focus on the 'service gap', and ensure that the services deliver to the mobility needs of the country are sufficiently funded.

An important aspect of this is ensuring the necessary capacity within government and transport providers to deliver step change in the planning and quality of service provision, with the necessary co-operation within the complex multi-actor environment involved in the delivery of high quality transport services.

Funding and financing of services is also important. Revenue subsidy for public transport services in many countries, and particularly those in the developing world, is limited, restricting the availability and quality of service provision, thus encouraging increasing rates of private motorization.

The COVID-19 pandemic has however seen governments around the world step in to provide financial support to ensure the continued operation of transport services, in recognition of the vital role transport service providers play in ensuring mobility for residents and commuters. Examples include support packages for public transport operators provided by the Egyptian government in the restructuring of loan agreements and service fees for public transport operators in Cairo, whilst the Philippine government introduced a subsidy to bus and jeepney drivers via a service contracting arrangement to keep services operating under pandemic conditions.

Financial support for operations which may in the past have received little or no operational subsidy from governments now represents a transformational change in the relationship between government and private transport service providers. This financial support for operations can come from the national to local level and in a variety of forms with the support mechanisms put in place offering the potential for future support to transport services as travel conditions return to a post-pandemic 'new-normal'.

## Case Studies

### Cairo, Egypt

#### Philippines

- [www.pna.gov.ph/articles/1140559](http://www.pna.gov.ph/articles/1140559)
- [dotr.gov.ph/55-dotrnews/3872-service-contracting-program-relaunched.html](http://dotr.gov.ph/55-dotrnews/3872-service-contracting-program-relaunched.html)

DfT (2020), Gear Change: A Bold Vision for Cycling and Walking, [UK Dept. for Transport](#); at <https://bit.ly/39ZgZ0t>.

PBOT (2021), The Way to Go Plan: Moving People in Portland. A TDM Strategy to Advance Our Mobility, Climate, and Equity Goals, [Portland Bureau of Transportation](#); at <https://bit.ly/2YTvuAo>.

WRI (2019), Reducing Demand for Vehicle Trips in Cities – Learning Guide, [The City Fix](#); at <https://thecityfixlearn.org/en/learning-guide/reducing-demand-vehicle-trips-cities>.

# Invest in low-emission zones and complete streets

Low emission zones (LEZs) and clean air zones are at the centre of many cities' efforts to tackle the related problems of air pollution, greenhouse gas emissions and congestion. Zones are powerful tools for framing and communicating policies on these issues, and enacting policies within a designated zone, rather than a whole city, can be more acceptable for the public and local businesses. They provide a way for cities to take ambitious action more quickly in a priority area.

Whilst these schemes primarily focus on reducing local air pollutants and improving air quality, they also incentivise the move to decarbonisation through the uptake of electric vehicles and encouraging a shift to active mobility combined with public transport and sustainable travel, if combined with complete street principles.

A LEZ cannot work in isolation but needs to be part of a city-wide strategy to not just shift congestion. Citizens need access to sustainable and affordable alternatives which might require investments in public charging infrastructure, expansion of public transport service, the introduction of cargo bikes for last mile deliveries and above all in building out non-motorized transport infrastructure. Some of these investments could be funded by toll revenues or by introducing congestion charging.

## Case Studies

In Germany, low emission zones have been introduced in Berlin, Cologne, Hanover and Stuttgart with 47 LEZs either planned or in operation already across the country. Berlin's scheme, introduced in 2008, saw a reduction of 70% of high polluting passenger cars and over 50% of old commercial vehicles disappearing from the city center.

## Resources

[www.berlin.de/sen/uvk/en/environment/air/low-emission-zone/](http://www.berlin.de/sen/uvk/en/environment/air/low-emission-zone/)

[Complete Streets](#) is a campaign to promote roadway designs that effectively accommodate multiple modes and support local planning objectives.

[Practical Guidance on implementation of Low Emission Zones](#)

[laqm.defra.gov.uk/assets/pb13577laqmpracticeguidance2090216.pdf](http://laqm.defra.gov.uk/assets/pb13577laqmpracticeguidance2090216.pdf)

# Consider the informal transport sector in financing decisions

Transport services in the majority of developing countries are provided by private sector operators in the informal or semi-formal sector. Whilst providing essential means of mobility to a large proportion of travelers in terms of availability, flexibility and accessibility, the service provided is often low quality, unsafe and highly polluting. This is reflective of the low cost of service and lack of subsidies which impedes the ability of operators to invest in modernizing the vehicle fleet.

Decarbonising public transport activity and improving service levels to provide an alternative to increasing rates of private motorisation there requires financial support to the sector if a transformational change is to be achieved. This implies that the informal sector is acknowledged by the authorities as an essential link in the transport system, a major player filling a crucial gap for citizens; the informal sector should be accordingly regulated by the public hand as part of the transport system -and accordingly incorporated in the scope of public support. Fleet modernization programs have been seen in the large bus sector (for example Sao Paulo), the informal minibus sector (including Dakar and the Philippines) and in the smaller paratransit sectors including tricycles and motorcycle taxis (examples in Philippines and India). These programs should provide support to electrify these fleets through pilots and financial incentives.

Key support measures required in increasing the availability of financing for the modernization and decarbonisation of the informal transport sector include:

- Capacity development for operators to increase professionalism and to enable sector consolidation
- Funding of demonstration projects to test which vehicles are apt for the local

context in order to de-risk and support commercial viability of companies that want to enter the space.

- Financial support to meet the increased investment requirement of new vehicles and related infrastructure whilst maintaining the financial viability of operations including financing for early stage accelerator and incubator programs to enable private companies to develop sustainable mobility solutions for the local market.
- Financial support for data collection projects on informal transport networks, to be able to understand mobility patterns around key transport corridors, areas with the highest level of GHG emissions and the highest need of modernisation and decarbonisation measures/ assess strategic nodes for vehicle electrification supporting infrastructure. More informal data to support evidence-based investment and policy decisions.

## Case Studies

[São Paulo](#)

[Dakar](#)

[Philippines](#)

[India](#)

# Redirect fossil fuel subsidies: Let the bad pay for the good

## *Fuel Taxation*

Direct or indirect subsidies of fossil fuels can slow the transition to more efficient vehicles. Countries need to end subsidies for fossil fuels. Fuel taxation is an important tool for the incorporation of the external costs of transport and provides incremental incentives to purchase more efficient vehicles.

The Global Fuel Economy Initiative analysis has shown that fuel economy is better in countries with higher-than-average fuel prices. Therefore fuel tax is an important policy lever for accelerating the shift to more efficient vehicles.

## *Carbon Pricing*

Governments raised more than \$45 billion in carbon pricing revenues globally in 2019, and covered more than 20% of global greenhouse gas emissions, although currently, few carbon pricing schemes cover the transport sector. Recently implemented schemes that cover transport activity include Canada and South Africa, with more also planned for implementation in Germany, Luxembourg and Austria.

Whilst the fuel duties applied in most countries serve to minimize the carbon pricing gap in transport sector activity, the incorporation of transport within wider carbon pricing mechanisms can serve to influence vehicle purchasing decisions, promote technological advancement in vehicle efficiency and reduce overall travel.

## *Feebates*

Feebates are essentially a fee (or tax) on inefficient technology, such as, ICE vehicles, combined with a rebate (or subsidy) on efficient technology, for example, electric vehicles. A 'benchmark' or 'pivot point' defines who pays and who receives benefits at a set level of

fuel economy or emissions (e.g. in gCO<sub>2</sub>/km). A "rate" determines the marginal costs and benefits (usually priced in cost per g/CO<sub>2</sub>). Depending on the choice of the benchmark (and the impact that this has on sales of different vehicles), feebates can produce revenue, be revenue neutral or be a net subsidy to cleaner, fuel-efficient car purchases. The potential to generate income to help subsidise low carbon vehicles makes this an attractive approach, but it needs to be designed with safeguards to protect public finances if demand for subsidised vehicles is greater than expected. The ICCT have more information on feebate systems and have reviewed specific approaches, including France's bonus-malus scheme.

## References

[Fuel taxation](#)

[Carbon Tax](#)

[Canada carbon tax](#)

South Africa carbon tax

- [www.iea.org/policies/3041-south-african-carbon-tax](http://www.iea.org/policies/3041-south-african-carbon-tax)
- [www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/carbon-tax/](http://www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/carbon-tax/)

Feebates

France's Feebate System

- [theicct.org/spotlight/feebate-systems](http://theicct.org/spotlight/feebate-systems)
- [theicct.org/blog/staff/practical-lessons-vehicle-efficiency-policy-10-year-evolution-frances-co2-based-bonus](http://theicct.org/blog/staff/practical-lessons-vehicle-efficiency-policy-10-year-evolution-frances-co2-based-bonus)

## Shift away from aviation towards railway infrastructure and services

Railways have the highest share of electrification among all transport modes and can help to drive transport decarbonisation if rail electricity is increasingly generated from renewable sources. ([Slocat Global status report. 3.5: Passenger and Freight Railways](#)) A shift from air travel to high-speed rail could displace 21% of domestic and international flights in North America, 10% of domestic flights in Europe and 9% of domestic flights in Latin America.

French lawmakers have moved to ban short-haul internal flights where the same journey

could be made by train in under two-and-a-half hours, in a bid to reduce carbon emissions. Connecting flights will not be affected, however.

### Resources

[www.bbc.com/news/world-europe-56716708](http://www.bbc.com/news/world-europe-56716708)

[www.vie-publique.fr/eclairage/281953-loi-climat-et-resilience-des-avancees-et-des-limites](http://www.vie-publique.fr/eclairage/281953-loi-climat-et-resilience-des-avancees-et-des-limites)

## Increase taxation on domestic and international aviation railway infrastructure and services

Passenger aviation demand continues to be driven by subsidies on airline fuels and airport infrastructure as well as value-added tax exemptions on international flights. Airlines benefit from a universal exemption from fuel taxation and thus are subsidised at an estimated annual value of more than EUR 60 billion (USD 73 billion) globally and EUR 20 billion (USD 24 billion) in Europe alone. A leaked 2018 European Commission study concludes that the aviation sector is undertaxed and that taxing aviation fuels - a common practice in other countries, could cut emissions from aviation at least 10% without adverse impacts on GDP.

The EU's Green Deal provides a model for other regions in creating a set of coordinated airline taxes that signal clear incentives and avoid carbon leakage across national and corporate borders. Collaborative planning between aviation and rail systems, including high-speed and overnight rail services, can help drive the use of these more energy-efficient modes for shorter trips, meet greenhouse gas reduction targets and reduce costs in emission trading schemes. Covid recovery spending programs

could be used to invest in inter-city railway infrastructure to make it able to compete with short haul flights. High-speed rail is 12 times more energy efficient per passenger-kilometer than airplanes and cars. Germany's railway company Deutsche Bahn announced plans to pilot zero-emission, hydrogen-powered trains by 2024.

### Resources

[Initiatives supporting railways: The International Union of Railways \(UIC\) Low Carbon Sustainable Rail Transport Challenge](#)

[Shift2Rail | Rail Freight Forward | European Year of Rail 2021 established by the European Commission](#)

### References

[www.transportenvironment.org/sites/te/files/publications/2020\\_03\\_Air2Rail\\_Koios\\_strategy\\_rev.pdf](http://www.transportenvironment.org/sites/te/files/publications/2020_03_Air2Rail_Koios_strategy_rev.pdf)

[EU axes airlines' fuel tax exemption in drive for greener fuels | Transport & Environment](#)

# Incentivise electric vehicles

In order to increase sales of electric vehicles, many countries offer financial incentives for the purchase of electric vehicles, including cars, goods vehicles and transitioning to electric 2 and 3 wheelers in places these modes are prevalent. These are often money off the purchase price but may also include incentives for annual taxes. Consumer purchase incentives are a key driver of electric vehicle adoption and develop the market while technology costs fall and consumer familiarity improves, although subsidies need to be carefully designed to deliver value for money and not act to support sales only amongst the high income population. Over time these incentives can be reduced as costs come down, but it is important to ensure consistency and also address other barriers, such as charging infrastructure. Public investment in supporting the roll-out of the electric vehicle eco-system may be a cost-efficient means of supporting the transition in countries where private sector is not adequately addressing this need. Government incentives to support the electrification of public transport operations has been critical in many cities to overcome the initial investment cost hurdle and the technological barriers of the new vehicles.

Government intervention is needed to de-risk the investment by providing regulatory clarity and long term plans to reduce uncertainty and hence risk of commercial initiatives. Introducing regulations, such as internal combustion engine (ICE) bans or phase out targets are one way to facilitate an accelerated transition to electric vehicles.

In China, these are known as New Energy Vehicles, and subsidies have been extended until 2022, with a new price and sales limit – although these have been cut significantly as part of a general phase out.

## Case Studies

### Norway Electric Vehicle Incentives

Norway provides a successful example of the potential for the incentivisation of electric vehicle purchase through fiscal and complementary measures as a means of electrifying the vehicle fleet and decarbonising the transport sector.

The Norwegian National Transportation Plan set the target of selling only zero emission vehicles by 2025. Through a range of tax incentives, direct subsidies and user privileges such as exemption from toll fees and free parking, Norway achieved a 54% market share of battery electric vehicle sales by the end of 2020. This scale of rapid uptake and success came at a high cost in terms of public investment, however, with the subsidies estimated to cost more than \$2 billion in 2020 and further loss of city revenues through the generous exemptions.

### References

- [elbil.no/english/norwegian-ev-policy/](http://elbil.no/english/norwegian-ev-policy/)
- [www.imf.org/-/media/Files/Publications/WP/2021/English/wpiea2021162-print-pdf.ashx](http://www.imf.org/-/media/Files/Publications/WP/2021/English/wpiea2021162-print-pdf.ashx)

### Electric Bus Incentives

The UK has supported reduced emission bus vehicles through a series of funding rounds which support the operator to adopt new technology and to address the financial viability gap. The various rounds have seen the progression towards increasingly strict emissions requirements and reducing grant funding as costs have fallen and the technology has become more mainstream.

### References

- [www.gov.uk/government/publications/apply-for-zero-emission-bus-funding](http://www.gov.uk/government/publications/apply-for-zero-emission-bus-funding)
- [www.gov.uk/government/publications/low-emission-bus-scheme](http://www.gov.uk/government/publications/low-emission-bus-scheme)

## Invest and develop new IT applications which facilitate modal transfer

Intermodality enhances the economic performance of a transport chain by using modes in the most productive manner. Thus, the line-haul economies of rail may be exploited for long distances, with the efficiency of trucks providing flexible local pickup and deliveries. The key is that the entire trip is seen as a whole, rather than as a series of legs, each marked by an individual operation with separate sets of documentation and rates. Intermodalism functions well when cargo flows need to be continuous and in similar quantities.

Multi-modality is also important for passenger mobility. First and last mile connectivity to public transport station should be provided

by non-motorised or electric vehicles and made attractive by integrating payment and information systems.

In Switzerland, laws stipulate that all freight crossing through the country must be placed on the railways to try to reduce air pollution in alpine valleys. The European Union is trying to promote intermodal alternatives by subsidising rail and shipping infrastructure and increasing road user costs.

### Reference

[transportgeography.org/contents/chapter5/intermodal-transportation-containerization/](https://transportgeography.org/contents/chapter5/intermodal-transportation-containerization/)

## Financing research and development in green-transport

Clean research and development (R&D) can accelerate the market readiness of zero-emission fuels and lower future price barriers. Hundreds of top bank officials, economists and finance ministers voted clean R&D a class favourite among other stimulus investments for having the highest long-term climate impact.

### Reference

[www.wri.org/insights/transport-stimulus-spending-green-recovery](https://www.wri.org/insights/transport-stimulus-spending-green-recovery)

In 2018 the US Department of Energy announced \$80 million investments in advanced vehicle technology research. Projects include batteries and electrification, durable lightweight materials, engines and biofuels, and fuels for off-road construction and agricultural vehicles.

### Reference

[www.energy.gov/articles/department-energy-announces-80-million-investment-advanced-vehicle-technologies-research](https://www.energy.gov/articles/department-energy-announces-80-million-investment-advanced-vehicle-technologies-research)

Since jobs in zero-emission industries come at the expense of jobs in fossil fuel and carbon-intensive industries, governments, academic institutions, and companies must institute comprehensive measures for vocational training to improve skill transferability, ensure social inclusion, and strengthen livelihoods.

A key aspect of ensuring effective investment in R&D is ensuring the transferability and upscaling of the pilots and demonstration projects into the mainstream, and in assessing and demonstrating the impact of the investment through effective monitoring using accepted KPIs and reporting on the output of the climate research.



Fundamental 3:

## Leverage innovative financing mechanisms

The scale of financing available for transport sector investments presently falls far short of the required investment to meet a zero carbon pathway. SLOCAT estimates annual financing of USD 2.7 trillion between 2016 and 2030 to achieve the low carbon transport pathways . With fiscal constraints on increased borrowing in many countries, there is a pressing need to leverage new and innovative forms of financing to meet the financing challenges.

Whilst development financing institutions have played a major role in supporting low carbon transport investments in recent years, there is a need to increase the scale of the private sector and institutional investment. This adoption of financing mechanisms will play an important role in leveraging new financing streams and addressing past challenges in attracting private investment into the transport sector. There are also innovative mechanisms such as pay as you save, battery leasing, results based finance, etc. Regardless of the mechanism, they should help unlock solutions to problems that the market cannot resolve alone (externalities). It can also include innovative use of existing financing sources, e.g. by pooling different resources or unbundling revenue generating assets to make them attractive for a PPP.

## Development Finance and International Finance Institutions (DFIs and IFIs)

DFIs including National Development Banks (NDBs), Bilateral DFIs and Multilateral Development Banks (MDBs) have played an important role in supporting transport infrastructure investment and investment in low carbon transport initiatives. National Development Banks delivered more than half of the public financing of sustainable transport financing in 2017/18 . The major MDBs are on track to meet their commitment to providing

more than \$175 billion in financing for sustainable transport from 2012-2022 during Rio+20 . New pledges and action plans which include a move to decarbonising financing activities will see the MDBs drive a realignment in financing activities in the coming years. MDBs can also accelerate investments in sustainable mobility by providing guarantees and credit enhancements. Other IFIs include Export Credit Agencies (ACAs) who have

been active in financing low carbon transport projects through export credit guarantees for rail rolling stock and bus fleet procurement for Bus Rapid Transit projects amongst others.

IFIs also support sustainable mobility projects through donor-funded technical assistance that provides capacity-building support to help national and local governments identify sources of finance, prepare a strong project pipeline and improve the enabling environment for investments. Well-targeted grant funding can attract impact investors that bring in the patient capital needed to scale up sustainable mobility projects.

The IFIs are also in a strong position to develop innovative financing mechanisms for bundled projects which feature components which may otherwise be difficult to attract financing. Examples include the bundling of walking and cycling facilities and streetscape enhancement within BRT projects, supporting improved accessibility and safety as part of a revenue generating mass transit project.

## Case Studies

- **National Development Bank** – Development Bank of the Philippines and the Public Utility Vehicle Modernisation Program
- **Export Credit Agency** – BNDES and Johannesburg Rea Veya BRT

2020 saw a record year for green bond issuance with over \$243 billion in green debt instruments issued, issuance in 2021 is projected to reach double this figure. With 20% of the proceeds of issuance channelled to the transport sector<sup>1</sup>, this rapidly growing source of financing presents significant future opportunities. Case studies of successful issuance at the sovereign and municipal level and the corporate level can be found.

## Case Studies

Sovereign – Thailand - Bangkok Orange Line

Sub-national - Mexico City – Metrobus Line 5

Corporate – France SNCF

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<sup>7</sup> [SLOCAT Transport and Climate Change Global Status Report – 2nd edition](#)

<sup>8</sup> [Link to forthcoming global climate financing landscape report by CPI](#) (issued 18th Oct)

<sup>9</sup> [Climate Policy Initiative](#). (Based on analysis of source data for transport sector received from CPI)

<sup>10</sup> <https://slocat.net/mdb-sustainable-transport/>

## Private sector and institutional investment

Private sector investment in sustainable initiatives within the transport sector has fallen short of that generated in other sectors; investment in sustainable energy has for example, primarily been driven by private sector investment<sup>11</sup>. However, falling interest rates and asset yields have been reflected in the increasing appetite of investors for sustainable longer-term returns offered by investment in transport infrastructure. Collectively, institutional investors which include pension funds, insurance companies and investment funds manage \$150 trillion globally, underlining their pivotal role in the direction of future investment. Pension funds and other institutional investment funds have held global transport infrastructure assets including toll roads, airports and port assets. Ambitions to decarbonise portfolios amongst some of the largest investment funds offers the opportunity for increased financing channelled towards low carbon transport investments.

Another way to leverage private finance for sustainable mobility projects is to aggregate projects into investor-friendly products/vehicles, including aggregation to achieve size, secure returns and lower risks.

- **Climate funds** – As a core component of the climate financing landscape, multilateral and regional climate funds support climate mitigation and adaptation investment through grants, concessional loans and other instruments. Whilst transport has represented a relatively small component of the major climate fund project portfolios, those most active in the transport sector, including the

Global Environment Facility, the Clean Technology Fund and the Green Climate Fund have been responsible for over \$600 million in financing support over the past decade<sup>12</sup>. Financial support through grant funding and/or concessional finance or other instruments has supported low carbon transport project preparation and closing financial viability gaps to leverage co-financing and achieve project bankability. Notable case studies can be found

### Case Studies

#### GCF Karachi BRT GEF Green Logistics Program

The World Economic Forum and McKinsey & Company launched a joint report on [Unlocking Large-Scale, Long-Term Capital for Sustainable Mobility: Introducing Key Mobility Investment Archetypes](#).

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<sup>11</sup> [Climate Policy Initiative Global Landscape on Climate Finance](#)

<sup>12</sup> [Climate Fund Update Database](#)

## Development agencies

### Role of the National Development Bank in financing the Philippine Public Utility Vehicle Modernization Program (PUVMP)

The PUVMP is an ambitious public transport reform project underway in the Philippines, which will see the replacement of the traditional 'Jeepney' vehicles with modern minibuses meeting tightened emissions and safety standards. The two National Development Banks in the Philippines, LANDBANK and the Development Bank of the Philippines (DBP) have played a pivotal role in delivering the financing mechanism to enable private operators to make the necessary investments in the more efficient modern vehicles which would have been unviable at commercial financing rates. Under the scheme, the NDBs extend loans covering 95% of the vehicle cost over an extended seven-year tenor at a concessional rate of interest.



A modern minibuss operating alongside the traditional Jeepney in Metro Manila.  
Photo credit: GIZ

### Reference

[www.changing-transport.org/wp-content/uploads/2019-11\\_GIZ\\_Jeepney-Modernisation\\_Early-Evaluation\\_final.pdf](http://www.changing-transport.org/wp-content/uploads/2019-11_GIZ_Jeepney-Modernisation_Early-Evaluation_final.pdf)

### Export Credit Agencies – BNDES and Johannesburg Rea Vaya BRT

The Rea Vaya BRT system was launched in August 2009 in preparation for the 2010 FIFA World Cup. Featuring a trunk route of 25km and additional feeder lines, services were delivered by a fleet of articulated 18-meter buses on the trunk and 13m buses on the feeder routes. The operator was formed of existing taxi operators who formed shareholders under a new special purpose company set up to operate the system.

The Brazilian Development Bank BNDES provided export credit to enable the procurement of the initial fleet of 143 Scania buses from Brazil. Financing was secured for the newly formed special purpose vehicle (SPV) Clidet at a fixed interest rate of 3.2% which was well below market rates.



Photo Credit: City of Johannesburg

### References

[www.reavaya.org.za/?\\_id=178&&l=47\\_mirror.unhabitat.org/downloads/docs/7997\\_81569\\_Rea\\_Vaya.pdf](http://www.reavaya.org.za/?_id=178&&l=47_mirror.unhabitat.org/downloads/docs/7997_81569_Rea_Vaya.pdf)

### Resource

<https://slocat.net/mdb-sustainable-transport/>

# Green bonds

Transport represents 20% of green bond proceeds, making it the third-largest sector after energy (32%) and buildings (30%). A total of 74 Green bonds for transport reached USD 52 billion in 2019, up 71% from 2018. Green bonds help attract investor demand for climate-aligned investments, reduce market friction and facilitate financial flows.<sup>13</sup>

However, for municipal transport projects, the use of green bonds is restricted to cities that have both the financial autonomy to independently issue debt and adequate creditworthiness to achieve reasonable borrowing costs based on overall municipal revenues. Technical assistance packages by DFIs can assist in mitigating risks associated with these two requirements, for example by using local government funding agencies or utilities in the case of electric mobility projects.

## Sovereign – Thailand - Bangkok Orange Line

As a first of its kind sovereign issuance in Southeast Asia, Thailand issued its first sustainability bond of THB 30 billion (\$945 million) in 2020, with one-third of the proceeds immediately allocated to support the construction of Bangkok's Mass Rapid Transit Orange East Line. This has since been followed by two further issuances bringing the total to THB50 billion (1.65 billion USD).

### Reference

[www.climatebonds.net/2020/12/thai-govt-marks-2020-certified-sovereign-green-issuance-commitment-recovery-sustainability](http://www.climatebonds.net/2020/12/thai-govt-marks-2020-certified-sovereign-green-issuance-commitment-recovery-sustainability)

## Sub-national - Mexico City – Metrobus Line 5

In a first of its kind financing scheme for a Latin American City, Mexico City issued 1 billion pesos 50 million USD green bonds to support the

financing of investments including the Metrobus Line 5. The bond was so popular with investors that it was more than two times oversubscribed.

### Reference

[www.c40.org/case\\_studies/cities100-mexico-city-green-bonds-for-climate-action](http://www.c40.org/case_studies/cities100-mexico-city-green-bonds-for-climate-action)

## Corporate – SNCF France

France's state-owned rail company SNCF has been issuing green bonds to support continued investment. Since 2016, the company has embarked on a major program of green bonds, with total issuance reaching EUR5.7bn by the end of 2019, accounting for 11% of the company's total debt.

### Reference

[www.sncf.com/en/group/finance/green-bonds](http://www.sncf.com/en/group/finance/green-bonds)

IFCs Breathe Better Bond The bond portion of the BBB is a blended financial instrument, using concessional funding to provide credit enhancements and attract private institutional capital, with bond proceeds used to fund projects that reduce both air pollution and greenhouse gas emissions. Examples of project types that can be funded by BBB proceeds and ring-fenced for debt service include bus rapid transit systems and electric bus conversion.

### Resources

Green Bonds / Climate Bonds  
[www.climatebonds.net/](http://www.climatebonds.net/)  
[www.climatebonds.net/climate-bonds-standard-v3](http://www.climatebonds.net/climate-bonds-standard-v3)  
[ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/european-green-bond-standard\\_en](http://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/european-green-bond-standard_en)  
[www.greenbondpledge.com/files/files/Green-City-Playbook\\_2018.pdf](http://www.greenbondpledge.com/files/files/Green-City-Playbook_2018.pdf)

<sup>13</sup> [SLOCAT Transport and Climate Change Global Status Report – 2nd edition](#)

# Climate funds

*See also the introduction to main climate funds below.*



Photo from Asian Development Bank (ADB)

## GCF Karachi BRT

The Green Climate Fund is co-financing the delivery of a zero-emissions bus rapid transit system in Karachi, featuring a 30 kilometre fully segregated BRT system with the worlds first biomethane hybrid bus fleet and dedicated biogas plant. GCF financing, one of the largest climate fund financing support arrangements for a transport project, has been extended through featuring a 37.2 million loan USD and 11.8 million USD grant, with co-financing from the Asian Development Bank (ADB), the French Development Agency (AFD) and the Asian Infrastructure Investment Bank (AIIB).

## GEF Green Logistics Program

The Green Logistics Program, which is managed by the European Bank for Reconstruction and Development (EBRD) aims to improve the efficiency and productivity of freight transport operations in the Black Sea and Mediterranean Region by enhancing access to finance for the logistics operators.

Whilst many of the transport projects supported by the Global Environment Facility receive grant funding, the Green Logistics Program features an innovative blended financing approach to leverage wider investment by co-financiers and to support private sector investment in energy efficiency improvements.

GEF funding is providing subordinated loans at concessional rates and risk mitigation for investments made by the EBRD to allow increased leveraging of EBRDs financing. The project aims to leverage over 155 million USD with follow-on investments rising to 250 million USD post project completion.

## References

[www.thegef.org/project/green-logistics-program-non-grant](http://www.thegef.org/project/green-logistics-program-non-grant)

[www.thegef.org/sites/default/files/publications/Blended\\_finance\\_Final\\_NI\\_Approved\\_LR\\_0\\_1.pdf](http://www.thegef.org/sites/default/files/publications/Blended_finance_Final_NI_Approved_LR_0_1.pdf)

## Resources

### Climate funds

[www.thegef.org/](http://www.thegef.org/)

[www.greenclimate.fund/](http://www.greenclimate.fund/)

[climatefundsupdate.org/the-funds/clean-technology-fund/](http://climatefundsupdate.org/the-funds/clean-technology-fund/)

[www.nama-facility.org/](http://www.nama-facility.org/)  
[climatefundsupdate.org/the-funds/clean-technology-fund/](http://climatefundsupdate.org/the-funds/clean-technology-fund/)

[www.thegef.org/topics/least-developed-countries-fund-ldcf](http://www.thegef.org/topics/least-developed-countries-fund-ldcf)

### Climate fund tracking

[climatefundsupdate.org/](http://climatefundsupdate.org/)

[slocat.net/1447-2/](http://slocat.net/1447-2/)



**GREEN  
CLIMATE  
FUND**

## Green Climate Fund

Established in 2010, GCF is the largest climate fund by portfolio size, with committed funding of around EUR 4.75bn . It is now considered the favoured vehicle for future finance pledges from donor countries to flow through to support mitigation and adaptation projects.

The GCF typically provides enabling finance in the form of concessional loans to meet the financial viability gap in projects which would otherwise not be able to proceed. Recent GCF supported projects include:

Project	Country	Support (\$)
Karachi BRT	Pakistan	\$49m
Light Rail Transit	Costa Rica	\$271.3m
Green Cities Facility	Regional	\$99m
DBSA Climate Finance Facility	Regional	\$55.6m

However, the future outlook for initiative related to the transport sector is more positive. In partnership with the EBRD, the GCF is supporting the Green Cities Program, which includes focusing on a range of initiatives relating to sustainable urban transport.

It should be noted that as per ANNEX I countries under the Kyoto Protocol are not presently eligible for GCF support. Also, based on fund principles, no support will be extended to transport projects still reliant on fossil fuel (for example CNG bus fleet renewal).



## Climate Investment Fund and the Clean Technology Fund

Founded in 2008, Climate Investment Fund (CIF) incorporates four specific branches of financing which support developing and emerging economies to scale up mitigation and adaptation action in developing and middle-income countries. Supported by 14 donor countries who have contributed almost EUR 7bn to date, CTF is a non-UNFCCC fund with any ODA eligible country able to apply for project financing.

The largest of the sub-funds is the Clean Technology Fund (CTF). This is also the most relevant to the transport sector, supporting the move to greener vehicle technology. The CTF has approved financing for a range of green transport projects, many of which are still progressing to implementation.

Project	Country	Support (\$)
DPSP III: Financing Sustainable Electric Transport	Ecuador and Peru	\$34.1m
DPSP III: Ropeways Transport Limited - Lagos Cable Car Transit Project	Nigeria	\$20m
Ha Noi Sustainable Urban Transport Program	Vietnam	\$100m



## Global Environment Facility

Global Environment Facility (GEF), one of the longest standing climate funds, has to date committed over USD 25bn in funding to support climate-related projects and programs to date, the majority of which is extended in the form of grants in project co-financing and for technical assistance.

GEF has supported transport-related projects worldwide, including bikeway projects, low-carbon urban transport systems, BRT systems, and regional programmes on sustainability and fuel economy. GEF's transport portfolio stands at EUR 425m, with eighty projects with committed financing.

Project	Country	Support (\$)
IFC-GEF Greener Shipping Investment Platform	Regional	\$13.5m
Green Logistics Program (non-grant)	Regional	\$15m
Promoting Low-carbon Electric Public Bus Transport in Mauritius	Mauritius	\$3.23
Lebanon Sustainable Low-emission Transport Systems	Lebanon	\$3.55



## International Climate Initiative

IKI (or Internationale Klimaschutzinitiative) is a funding instrument of the BMU, the German environment ministry. That has been financing climate and biodiversity related projects in developing and newly industrialized economies since 2008.

Recent transport-related and biodiversity-related projects include:

Project	Country	Support (EUR)
NDC Transport Initiative for Asia	China, India, Viet Nam	EUR19.75m
TRANSfer III - Facilitating the development of ambitious transport mitigation actions	Colombia, Indonesia, Peru,	EUR11m
Mitigation actions in the transport sector in Costa Rica	Costa Rica	EUR6.45m

## NAMA Facility

A Nationally Appropriate Mitigation Action (NAMA) is an action that aims to reduce carbon emissions. Proposed under a national government initiative, a NAMA can be defined for any sector and implemented at the national or individual activity level.

Many transport NAMAs have been developed, including fleet renewal, public transport initiatives, and the promotion of alternative fuels. Transport-related NAMAs developed within the wider eastern region include the Low Carbon End-Use Sectors in Azerbaijan, and Georgia is in the process of developing a Vertically Integrated NAMA for the Urban Transport Sector.

The NAMA Facility is a multi-donor program that provides financing to support countries in implementing their NAMAs. The facility recently issued its seventh call for support projects, the facility is available to any ODA eligible country which is preparing a NAMA.

Project	Country	Support (EUR)
Indonesia – Sustainable Urban Transport Program (SUTRI NAMA)	Indonesia	EUR5.5m
Colombia – Transit-Oriented Development (TOD) NAMA	Columbia	EUR15m
Peru – Sustainable Urban Transport NAMA Support Project	Peru	EUR9.3m

## Additional resources

### Key resources

- Commitments made to climate financing
- Climate financing architecture and landscape
- DFIs and transport commitments/ activities
- Climate funds and project databases
- Climate/green bonds
- Carbon Pricing
- Private sector activity
- Webinars

### Funding pledges

#### Climate finance commitments under the Paris Agreement

- [www.unfccc.int/topics/climate-finance/the-big-picture/climate-finance-in-the-negotiations](http://www.unfccc.int/topics/climate-finance/the-big-picture/climate-finance-in-the-negotiations)
- [www.un.org/sites/un2.un.org/files/100\\_billion\\_climate\\_finance\\_report.pdf](http://www.un.org/sites/un2.un.org/files/100_billion_climate_finance_report.pdf)

#### [MDB Working Group on Sustainable Transport](#)

#### Climate financing architecture and landscape

- [climatefundsupdates.org/wp-content/uploads/2021/03/CF2-ENG-2020-Digital.pdf](http://climatefundsupdates.org/wp-content/uploads/2021/03/CF2-ENG-2020-Digital.pdf)
- [www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2019/](http://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2019/)

#### Green bonds / climate bonds

- [www.climatebonds.net/](http://www.climatebonds.net/)
- [www.climatebonds.net/climate-bonds-standard-v3](http://www.climatebonds.net/climate-bonds-standard-v3)
- [ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/european-green-bond-standard\\_en](http://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/european-green-bond-standard_en)
- [www.greenbondpledge.com/files/files/Green-City-Playbook\\_2018.pdf](http://www.greenbondpledge.com/files/files/Green-City-Playbook_2018.pdf)

## Climate funds

- [www.thegef.org/](http://www.thegef.org/)
- [www.greenclimate.fund/](http://www.greenclimate.fund/)
- [climatefundsupdate.org/the-funds/clean-technology-fund/](http://climatefundsupdate.org/the-funds/clean-technology-fund/)
- [www.nama-facility.org/](http://www.nama-facility.org/)
- [climatefundsupdate.org/the-funds/clean-technology-fund/](http://climatefundsupdate.org/the-funds/clean-technology-fund/)
- [www.thegef.org/topics/least-developed-countries-fund-ldcf](http://www.thegef.org/topics/least-developed-countries-fund-ldcf)

## City climate funds

- [www.c40cff.org/knowledge-library/c40-cities-good-practice-guide-city-climate-funds](http://www.c40cff.org/knowledge-library/c40-cities-good-practice-guide-city-climate-funds)
- [energy-cities.eu/publication/finance-your-sustainable-and-climate-action-experience-from-195-public-authorities-in-your-hands-for-learning-and-replication/](http://energy-cities.eu/publication/finance-your-sustainable-and-climate-action-experience-from-195-public-authorities-in-your-hands-for-learning-and-replication/)

## Carbon pricing

### Role of private investment in transport infrastructure

## Webinars

- [www.climatebonds.net/videos/asean-webinar-series-financing-sustainable-transport](http://www.climatebonds.net/videos/asean-webinar-series-financing-sustainable-transport)
- [ledslac.org/en/climate-finance-and-sustainable-urban-mobility-in-latin-america/](http://ledslac.org/en/climate-finance-and-sustainable-urban-mobility-in-latin-america/)
- [www.climatebonds.net/standard/transport](http://www.climatebonds.net/standard/transport)

## Climate bond taxonomy

## Climate finance general

## New ideas for financing solutions

## Tools and trackers

- [www.landusefinance.org/](http://www.landusefinance.org/)
- [www.climatepolicyinitiative.org/netzerofinancetracker/?page=institutions&view=dashboard&dimension=total](http://www.climatepolicyinitiative.org/netzerofinancetracker/?page=institutions&view=dashboard&dimension=total)
- [www.changing-transport.org/tracker/](http://www.changing-transport.org/tracker/)
- [www.ndcpartnership.org/climate-finance-explorer](http://www.ndcpartnership.org/climate-finance-explorer)

## Tracking documents

- [www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Climate\\_Finance\\_Tracking\\_Guidance\\_Manual\\_-\\_Transport\\_Sector.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/Climate_Finance_Tracking_Guidance_Manual_-_Transport_Sector.pdf)
- [www.climatefundsupdate.org/data-dashboard/](http://www.climatefundsupdate.org/data-dashboard/)

## Databases

- [www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm](http://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/climate-change.htm)
- [www.climatefundsupdate.org/wp-content/uploads/2021/03/CFU-Website-Master-March-2021-original.xlsx](http://www.climatefundsupdate.org/wp-content/uploads/2021/03/CFU-Website-Master-March-2021-original.xlsx)
- [www.unfccc.int/climatefinance?home](http://www.unfccc.int/climatefinance?home)

## Summary of financing tools and sites





Contact



Newsletter

