



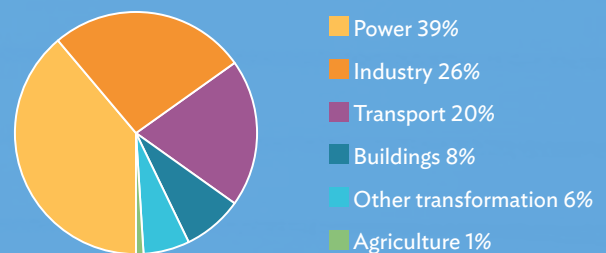
# Climate Finance as the Engine for More Low-Carbon Transport<sup>1</sup>

## Recommendations to Policy Makers on Transport and Climate Change

### INTRODUCTION

Transportation is responsible for more than 20% of global energy-related GHG emissions and is the fastest growing of all sources. The International Energy Agency has calculated that the adoption of a low-carbon pathway for the transport sector (equivalent to the IPCC recommended 2 Degree Scenario) could generate at least USD 70 trillion in cumulative savings up to 2050, with significant potential for additional savings because of other developmental benefits. This summary document provides initial recommendations to policy makers on transport and climate finance on how climate finance<sup>2</sup> can accelerate the realization of sustainable, low-carbon transport. The full version of the (draft) document is available under “meetings” at: <http://transport-namas.org/expertgroup/expert-group-on-climate-finance-for-sustainable-transport/>.

### 2012 Energy Related CO<sub>2</sub> emissions



Source: Energy Technology Perspectives, 2014.

**“Given the role that transport plays in causing greenhouse gas emissions, any serious action on climate change will zoom in on the transport sector.”**  
Yvo de Boer, Executive Secretary UNFCCC, January 2009

**“Improving energy efficiency in the transport sector can slow down growing fuel consumption. Effective policies are available to make that happen.”**  
The Emissions Gap report 2014, UNEP

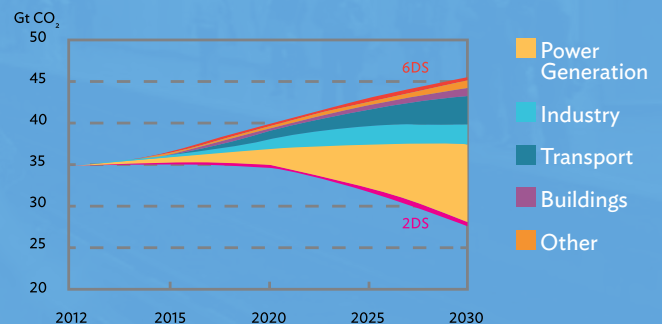
### THE CHALLENGES

**The long lead-time of certain policy and investment measures in transport can cause a lock-in effect.** Choices made today on infrastructure and technology in the emerging and developing economies can lock-in a country to a fossil fuel dependent or low-carbon pathway for the next 30 to 50 years. In order to avoid such effects it is important that all stakeholders adopt a systems change approach.

**Significant transformational investments are urgently needed to increase the sustainability of both existing and new transport systems and to mitigate climate change.** For the period 2015–2035, it is estimated that the net transitional investment required being just over USD 3 trillion of which over 80% relates to low-carbon modes such as railways and mass transit<sup>3</sup>. These transitional investments are on top of existing investments, which are estimated to be between USD 1–2 trillion per year<sup>4</sup>.

**Transport investments are currently dominated by investments in OECD countries while the greatest need is in non-OECD countries.** Of estimated total current annual investments in transport infrastructure, 60% is represented by OECD countries and 40% by non OECD countries, the latter being generally fast growing and developing economies. In future, even if adequate global finance is available, about 85% would need to be directed towards the fast growing non OECD nations, with 15% to the OECD nations, to meet development needs and curb growth in motorization<sup>5</sup>.

### Emission reductions by sector to 2030 to realize 2DS compared to 6 DS baseline



Source: Energy Technology Perspectives, 2014.

<sup>1</sup> This document is the result of the work of an international expert group on climate finance for sustainable transport. The group and its work is supported by GIZ. Further information under: <http://transport-namas.org/expertgroup/expert-group-on-climate-finance-for-sustainable-transport/>

<sup>2</sup> Here, climate finance is defined as all financial flows whose expected effect is to reduce greenhouse emissions and/or to enhance resilience to the impacts of climate change in accordance with the definition of IPCC (2014). This covers private and public funds, domestic and international flows, expenditures for mitigation and adaptation, and the full value of the financial flows rather than only the share associated with the climate change benefit. For the purpose of this policy brief, International Climate Finance, is a key subject of interest, i.e. developed to developing country, public climate finance including climate relevant ODA and specific bilateral and multilateral climate funds.

<sup>3</sup> Nelson, D, Herve-Mignucci, M, Goggins, A, Szambelan, S, and Zuckerman, J (2014), page 4, Table 1.

<sup>4</sup> Lefevre, B, Leipziger, D, and Raifman, M (2014), “The Trillion Dollar Question: Tracking Public and Private Investment in Transport.” Working Paper, World Resources Institute, Washington DC.

<sup>5</sup> IEA (2013), Global Land Transport Infrastructure Requirements: Estimating road and railway infrastructure capacity and costs to 2050.” Refer page 6.

**Sustainable transport systems will generally require public financial support** for investment, operations and maintenance because of their strong welfare and external benefits. Yet, the size of the challenge, especially in the developing and emerging economies is too large to be addressed solely by the public sector. The private sector, in addition to being a source of finance would be able to provide specific specialized knowhow, for design, operation, and managing reasonable risk.<sup>6</sup> However, innovative approaches to involve the private sector financially are still scarce when compared e.g. to the energy sector.

**The limited scale and fragmentation of climate finance, compared to the large financing needs in the transport sector, is a constraint.** This notwithstanding the recent pledge by developed countries, as part of the international climate negotiations under the United Nations Framework Convention on Climate, who have recently USD 9.3 billion for the new Green Climate Fund. Climate finance provided through dedicated multi-lateral funds and bilateral initiatives have different purposes, and different and often long approval procedures and demanding, methodological requirements. Based on past experience, international climate finance is not (yet) working well for sustainable transport, i.e. the transport sector attracts disproportionately small amounts of climate finance and the financing that is available is not leveraging a change in transport policies and investments at the scale required.



**Four major funding and finance related implementation challenges are identified** that hinder the needed transition from the current, still largely car centric transport systems towards more sustainable, low carbon transport:

- i. **How to increase the range and depth of funding sources, and mechanisms used by the public sector to finance sustainable, low-carbon transport;**
- ii. **How to foster increased private sector investment in sustainable transport**
- iii. **How to scale up sustainable transport through Official Development Assistance (ODA);**
- iv. **How to increase the share of climate finance to the transport sector and use it more effectively to obtain maximum leverage.**

**All four implementation challenges are linked to generally inadequate planning and investment frameworks for transport sector that are not aligned with long term strategic goals.** Weakness in planning goes hand in hand with a limited readiness of the public sector (national and sub-national governments) to develop, implement or facilitate and monitor a pipeline of viable and effective sustainable, low-carbon transport investments.

## THE SOLUTIONS

**There is a clear consensus among key stakeholders that appropriate solutions for effective and efficient GHG mitigation from the transport sector are known.** Three broad strategies<sup>7</sup> to reduce GHG emissions and at the same time enhance welfare and social inclusiveness through improvements to accessibility enabled by passenger and freight transport are:

- **Avoid** travel or reduce travel distance by motorized modes through regional development policies, land use planning and travel demand management;
- **Shift** to more environmentally and socially-sustainable modes such as public transport systems, walking and cycling in the case of passenger transport and railways or inland waterways in the case of freight transport; and
- **Improve** the energy efficiency and limit the GHG intensity of transport modes and vehicle technology through the choice of types of vehicles, fuel, fuel efficiency and load factors of vehicles, and better managed transport networks with non-petroleum fuels playing an important role particularly after 2030

**A halving in GHG emissions from transport is projected to be feasible by 2050 by the International Energy Agency (IEA)<sup>8</sup>,** if Avoid-Shift-Improve based approaches are implemented at scale. Effective climate change mitigation will require an active contribution by transport to realize a 2 Degree Scenario, cross-sectoral burden sharing is feasible only to a limited extent. The IEA estimates that under a 4 Degree Scenario (4DS) cumulative investments in transport infrastructure, up-grades, vehicles, fuel and maintenance costs would be USD 515 trillion up to 2050, of which initial investments in infrastructure alone would represent USD 45 trillion. By comparison the 2DS is estimated to represent cumulative investments of USD 445 trillion and represent a cumulative investment and **operating saving of USD 70 trillion over 2010-2030**, with approximately 80% of this saving to be realized post 2025.

**International experience shows the value of national governments setting a national umbrella framework for the realization of sustainable, low-carbon transport.** To optimize the impact of such frameworks, it can be coupled with the devolvement of autonomy to sub-national governments including powers for revenue-raising. Empowering of sub-national governments is important due to continuing rapid urbanization and the impossibility of national governments effectively implementing local transport solutions in many growing cities.

**In creating a sustainable funding and financing framework for their transport sectors, national governments can use the following principles as orientation<sup>9</sup>:**

- **Acknowledge mobility as a public service.** Many countries acknowledge the necessity of access to mobility for everyone in policies and practice. In some countries the access to mobility services is even a constitutional right. This is often a precondition for budget allocation.
- **Get institutions and framework conditions right.** A coherent policy framework should be established, accompanied by institutional and governance reforms.

<sup>6</sup> Lefevre, B, Leipziger, D, and Raifman, M (2014), "The Trillion Dollar Question: Tracking Public and Private Investment in Transport." Working Paper, World Resources Institute, Washington DC.

<sup>7</sup> GIZ (2007), "Transport and Climate Change" Module 5E of Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities." Page 7.

<sup>8</sup> IEA (2013), op. cit. page 423.

<sup>9</sup> GIZ (2014), "Building Blocks for Financing Sustainable Transport Sector Development". Working document of the Sustainable Urban Transport Project (SUTP).





- **Using the transport-finance-transport principle.** The transport sector is too large to be subsidized and funded by other sectors. Efficient financial support for public transportation is justified because of its economic, social and external benefits. A sector-internal partial subsidization of public transportation by fuel and private vehicle tax revenues is common practice in countries with high quality transport systems.
- **Price transport to moderate excessive demand.** Reducing the over-consumption of transport can be achieved by reducing subsidies for individual motorized transport especially those that make private ownership and use cheap.
- **Set clear investment priorities.** One of the key concerns for sustainable transport financing is how to shift investments from conventional, unsustainable to low-carbon, sustainable transport. National transport policies, which are to be “translated” in comprehensive sub-sector strategic plans, and local comprehensive mobility plans provide the necessary guidance for prioritizing investments in the transport sector.

**Experience demonstrates that small step-wise changes will be not be enough to ensure the availability of adequate funding to satisfy access needs in the developing and emerging economies** in the short and medium term. A rapid delivery of priority sustainable transport initiatives on the ground requires considerable strengthening of planning and investment frameworks backed by adequate funding.

## OUR RECOMMENDATIONS

**Developing much needed transport infrastructure and services in developing countries will require trillions of dollars.** Sustainable, low-carbon transport solutions can substantially reduce the total cost. Changes are required in almost all parts of transport related funding and financing arrangements to promote the realization of sustainable, low carbon transport.

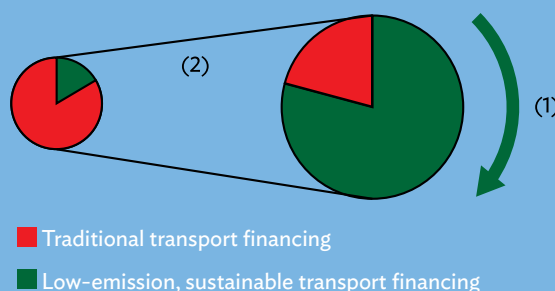
**It is recommended that policy makers should:**

- **Increase the overall availability of public funding** to develop and maintain sustainable transport infrastructure and services by: expanding current sources of domestic funding; and prioritizing available domestic funding to sustainable, low carbon transport in line with the principles outlined above;
- **Accelerate private sector investment** for sustainable, low-carbon transport by: sending the right price signals; creating clear revenue models for the operation of transport infrastructure and services; and strengthening the arsenal of private sector financing modalities;
- **Create clear and predictable investment frameworks** by: ensuring integrity of overarching long-term investment and legal frameworks; strengthening development of competitive, stable and adequately capitalized domestic banking systems; and empowering, and then assisting, sub-national governments to improve credit worthiness; and
- **Harmonize planning approaches, tools, methods and implementation procedures** by: promoting the Avoid-Shift-Improve approach; adopting appropriate appraisal methodologies that balance traditional economic assessments of transport choices and investments with environmental (both climate-related and other environmental) and social (safety and equity) considerations; and harmonizing procurement, safeguard and implementation approaches to minimize delays and ensure high quality outcomes.

**While the principles are the same across countries, the detailed interpretation and implementation of the proposed funding and financing arrangements will vary from country to country** depending on the local situation.

**ODA and international climate finance are too small in scale to substantially replace domestic funding and private sector finance.** The impact will be larger if the limited resources are not used mainly for direct implementation but instead are primarily used to build capacity, guide policy development, support sustainable transport planning and leverage public and the private funding. International Climate Finance initiatives on transport can take a lead from the Green Climate Fund (GCF) that intends that that all GCF funding will be transformative through creating a shift towards low-emission development pathways.

### Required increase and shift in transport funding and financing





### Specific recommendations to make international climate finance more accessible and effective for transport include:

#### Eligibility

- Create a Transport Window under different climate finance mechanisms to ensure that transport is not ‘punished’ for its complex structure and ends up at the end of the line of sectors benefitting from climate finance. A special transport window can help to ensure that transport will be able to realize its full contribution to climate change mitigation.
- Develop a White List (Positive List) of transport measures that can access climate finance, thereby relaxing the need to quantify GHG mitigation and co-benefits at an early stage.
- Prioritize and reward the use of programmatic approaches over a project-by-project approach. This can include the use of ‘aggregators’ that combine smaller projects into larger viable programs.
- Adopt eligibility criteria that match the transport sector. Do not evaluate projects merely based on GHG mitigation costs; despite partly higher abatement costs than other sectors. Include co-benefits as important criterion when deciding on eligibility of transport projects. Aspire at co-benefits quantification but do not make it a prerequisite at the approval stage.

#### Readiness

- Use international climate finance to raise awareness and build capacity for neglected transport sub-sectors that have not received much attention like freight transport.
- Demonstrate, using international climate finance, how to engage the private sector in sustainable transport, including the development of private-sector oriented mechanisms like Climate Bonds.
- Allocate a greater share of international climate finance to support institutional ‘readiness’ in the transport sector with the aim to build up a well-prepared, and viable, program and project pipeline.
- Better align ODA with the use of international climate finance. This will be in the interest of the transport sector considering that transport is typically the largest or second largest lending sector in MDBs.
- Improve approaches where climate funds are blended with other public funds (both national and international) as well as private funding to increase their impact, e.g. by using climate finance to cover part of the incremental costs for low-carbon transport programs and projects or risks related to new low-carbon technologies, which national public funds are not yet willing to take.

#### MRV

- Establish credible but appropriate MRV requirements. Acknowledge the data intensity (and associated costs as well as required time) of doing proper MRV for transport. Allow use of appropriate but preliminary estimates of emission reductions while developing a more robust approach over time.

## Transport sector has difficulties in competing with energy sector for Climate Finance

Unlike fixed energy infrastructure, with readily measured energy consumption and GHG emissions, reliable emission reduction estimates are more challenging in transport. Sustainable, low-carbon transport systems are complex and have strong sustainable development benefits as they facilitate travel, and access to goods and services, by people and firms across cities, nations and regions, through behavioural change and changes in energy consumption to millions of mobile emission sources. Therefore, the quantification of greenhouse gas reductions from transport is more data intense and costly than that for stationary energy sources. This limits transport’s ability to attract a significant share of climate funding commitments if Monitoring, Reporting and Verification (MRV) requirements do not consider this properly. In addition, in many countries globally, investment frameworks for energy are better defined than for transport, which has enabled the development of a multitude policy recommendations and international initiatives for using climate finance to leverage national public and private sector funding in low-carbon energy generation and energy efficiency. Combined with the fact that many low-carbon transport projects require a total investment that goes beyond the size of most climate finance facilities and in the absence of effective approaches for blending climate finance with other funds, this has further hindered the access of the transport sector to climate finance.