

Technical Papers Summaries

- Transferring sustainable transport and EcoMobility solutions
- Transport and climate change
- Sustainable development synergies and co-benefits of low-carbon transport measures
- A call to action on green freight in cities
- Soot-free urban bus fleets

Contributions to the
EcoMobility Dialogues,
7 – 9 October 2015
Johannesburg, South Africa

Within the
EcoMobility World Festival 2015



EcoMobility Expertise

The EcoMobility World Festival 2015

The EcoMobility World Festival 2015 will take place in the CBD of Sandton, Johannesburg – the vibrant heart of South Africa – in October. The Festival will offer a view of the cities in the future, with active street life and social inclusivity, served by a sustainable transport system.

As part of the EcoMobility World Festival, the EcoMobility Dialogues aim to encourage local and international dialogue and informed conversations about the future of urban mobility and the need for innovation to meet the needs in developing cities.

The Technical Papers: Contributions to the EcoMobility Dialogues 2015

In the course of preparing the EcoMobility Dialogues 2015 in Johannesburg, South Africa, experts have been asked to prepare and present technical papers on topics that challenge urban mobility today.

Five such technical papers have been compiled.

- Transferring sustainable transport and EcoMobility solutions
- Transport and climate change
- Sustainable development synergies and co-benefits of low-carbon transport measures
- A call to action on green freight in cities
- Soot-free urban bus fleets

The findings and messages of this paper are part of informing local leaders for their debates and provide input to the "Johannesburg Declaration on Climate Smart Cities". They will be further shared within ICLEI's EcoMobility Alliance (www.ecomobility.org) and are made available to a wider audience.

All five technical papers can be found under <http://www.ecomobilityfestival.org/results/>.

We thank all contributing authors for their enormous work and input.

All papers represent the views of the authors.

Further information

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Transferring Sustainable Transport and EcoMobility Solutions

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Executive Summary

While there is a wealth of information about the need for more sustainable transport, and policies and practices to achieve this, progress in this area varies greatly between countries. There is a common assumption that political and institutional frameworks can and will implement best-practice policies provided that technical information is available (e.g. through assessments). This is considered to be overly optimistic and lacking in conceptual and empirical sophistication, in particular considering socio-economic and institutional conditions in many countries. There is a critical difference between a policy's potential and the extent to which this potential can be realised.

This paper focuses on sustainable transport policies in selected developed and developing countries and testing their transferability. This builds on the SOLUTIONS project (www.urban-mobility-solutions.eu); using the project's concept and objectives, and reporting progress made in the focus regions of Europe, Asia, Latin America and the Mediterranean.

Acknowledgements

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The paper represents the view of the authors.



The SOLUTIONS project

SOLUTIONS aims to support the exchange on innovative and green urban mobility solutions between cities from Europe, Asia, Latin America and the Mediterranean. The project brings together a wealth of experience and technical knowledge from international organisations, consultants, cities, and experts involved in transport issues and solutions.

The project's overall objective is to make a substantial contribution to the uptake of innovative and green urban mobility solutions across the world by facilitating dialogue and exchange, promoting successful policy, providing guidance and tailored advice to city officials, and fostering future cooperation on research, development and innovation.



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Transport and Climate Change

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Executive Summary

Urban transport constitutes 40% of total transport energy consumption, which is poised to double by 2050, despite ongoing vehicle technology and fuel economy improvements. At the same time, cities offer immense potential to scale up sustainable low carbon transport solutions to contribute to climate change mitigation, to improve health outcomes through non-motorized transport, and to create more compact developments to increase access and improve mobility.

Under the United Nations Framework Convention on Climate Change (UNFCCC), transport has traditionally been viewed as a sub-sector of energy, which has led to a failure of governments to significantly scale up transport projects to reduce climate impacts. Intended Nationally Determined Contributions (INDCs) have the potential to drive progress on transport, and among INDCs submitted to date, nearly 30% make specific reference to urban transport improvements. It is necessary to continue to raise the profile of sustainable urban transport within the UNFCCC framework – and especially through the actions of non-state actors – to help to raise mitigation ambition within the transport sector before and beyond 2020.

An important leap forward can be seen in the growing role of cities through the Lima-Paris Action Agenda (LPAA), with the voluntary commitments made during and since the 2014 Secretary General (SG) Climate Summit a key example of non-state actors taking concrete transport mitigation actions. To complement the LPAA-backed initiatives, many city governments are taking steps to accelerate action on sustainable low carbon transport. The combination of these commitment types creates a key opportunity for matchmaking among ‘supply-side’ and ‘demand-side’ commitments, which can create further momentum to accelerate action on sustainable low carbon urban transport in the coming decades.

Acknowledgements

The International Society of City and Regional Planners (ISOCARP) is a global association of experienced professional planners. It was founded in 1965 in a bid to bring together recognised and highly-qualified planners in an international network. More information is available at <http://isocarp.org/>



Sustainable Development Synergies and Co-benefits of Low-carbon Transport Measures

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Executive Summary

Low-carbon transport mitigation has the potential of generating synergies with other economic, social and environmental objectives. But when it comes to transport policies, access, economic development, safety, air quality, congestion and other factors are often more important policy objectives than a low-carbon transport sector, in particular at the local level. Based on Avoid-Shift-Improve approaches and case studies from Germany, Colombia, India and Singapore, the author shows that aiming for low-carbon transport does have quantifiable co-benefits in economic, social and environmental terms.

Estimates suggest that urban transport energy consumption could be 40-50% lower compared to the 2010 demand only by using currently available and cost effective measures. Yet, a lack of information prevents authorities from implementing low-carbon transport policies: compared to large-scale transport projects, such as highway construction, small but more sustainable concepts often lack the critical mass to allow for a thorough cost-benefit analysis. Luckily, numerous tools are available for policy-makers and decision-makers to make better informed decisions.

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On behalf of:

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Federal Ministry
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A call to Action on green freight in cities

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Executive Summary

Within the logistics chain, it is the first and/or the last mile that is often the most costly and emission intense of the entire supply chain. High demand of freight within a small geographical area does not translate into high efficiency due to several barriers. Improving the efficiency of the 'first and last mile' of deliveries is of prime importance for economic growth, environmental sustainability and livability of cities.

The urbanization megatrend goes hand in hand with increased urban freight intensity, but also with corresponding negative externalities such as congestion, air pollution, greenhouse gases and traffic fatalities. These trends together with the increasing availability of green urban freight solutions make an ideal business case for green urban freight systems. But current urban freight systems often lack vision, clear targets, are based on poor infrastructure and low technology awareness. Avoid-Shift-Improve Strategies are frequently applied in passenger transport, but rarely in freight transport. Even though the author does not identify “magic bullets” for solving urban freight problems, lessons from experimentations are presented in detail, taking into consideration policy aspects, the institutional setting, stakeholder capacity and technology. The paper closes with a systematic list of 50 green urban freight solutions.

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The paper represents the view of the authors.

Soot-free urban bus fleets

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Executive Summary

The transportation sector is a significant source of short-lived climate pollutants that contribute to near-term climate change. Among these is black carbon, the second largest contributor to human induced climate change after carbon dioxide. The global transportation sector accounts for nearly 20 percent of black carbon emissions emitted annually, and diesel engines are responsible for more than 95 percent of these emissions. Urban buses are a particularly large source of black carbon emissions in the transport sector. These vehicles will account for 25 percent of black carbon emissions from all passenger and commercial goods transport vehicles in 2015.

Buses sold into developing country markets today face limited emission requirements and can emit 250 times or more black carbon than a gasoline passenger vehicle traveling the same distance. The Climate and Clean Air Coalition (CCAC), an intergovernmental partnership to reduce the climate and health impacts of short-lived climate pollutants, has established a Heavy-Duty Diesel Initiative (HDDI) that aims to accelerate the transition of diesel urban bus fleets towards soot-free engine technologies in cities around the world. As EcoMobility cities consider new investments in low-carbon public transport, the HDDI aims to support procurement of soot-free urban bus fleets as a critical component of any future low carbon transport strategy.

The core activity of this project is to directly inform, motivate, secure, and support the implementation of official commitments to shift toward soot-free urban bus fleets in large cities around the world. This will include support to define a public commitment to soot-free bus fleets, as well as implementation support to identify soot-free engine technologies and the fuels that enable them, procure new vehicles, identify financing, and overcome other implementation barriers. Additional activities will include: building a private sector partnership base in order to establish formal relationships with manufacturers of soot-free engines who can serve as a point of contact and technical resource to all cities, including those that have not made a commitment; developing a database of urban bus fleets in selected regions to report in greater detail on the size, emissions, and projected future impacts of urban buses; and pursuing cross-linkages with activities to mitigate emissions of short-lived climate pollutants.

Cities should pursue soot-free low carbon public transport by committing to soot-free urban bus fleets. Near-term steps can include identification of existing procurement requirements, data collection to assess fleet-wide refueling infrastructure and technical barriers, and public commitments to implement new procurement requirements and invest in cleaner fuels. By building the technical capacity, resources and experience necessary to enable a shift, cities can lead their countries in a nationwide shift towards clean, low carbon transport.

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The Climate and Clean air Coalition brings together nations, institutions, organisations and companies to reduce short-lived climate pollutants with the aim to address near-term climate change and air pollution, and to improve public health, food security, and energy efficiency. More information is available at <http://www.ccacoalition.org>



The International Council on Clean Transportation is an independent not-for-profit organization that provides unbiased technical research and policy analysis to environmental regulators working to reduce the health and environmental impacts of the global transportation fleet. Our mission is to improve the environmental performance and energy efficiency of road, marine, and air transportation in order to benefit public health and mitigate climate change. More information is available online at <http://www.theicct.org>