TRANSPORT at COP23 BONN

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TRANSPORT’S CONTRIBUTION TO A 1.5 DEGREE WORLD
DAY FIVE – 11 November 2017

Opening Perspectives

Today’s report focuses on the mitigation potential of the transport sector to stay on track for a 1.5 degrees Celsius scenario (1.5DS). We also explore policy responses at various levels, including country-level (such as Germany and China), sub-national level (e.g. Kaohsiung, Taiwan), and industry-driven strategies (e.g. electrification) necessary to achieve this ambitious target. In addition, we explore climate and transport financing through emerging strategies from multilateral development banks to scale up sustainable transport at the needed pace and scale.

The transport sector requires transformational change to meet its full emissions reduction potential. Transport is the fastest growing sector of GHG emissions, and in the absence of further action and increased NDC ambitions, global transport emissions could continue to rise and become a major roadblock to avoiding dangerous climate change. Yet, if countries collectively maximize efforts to implement comprehensive low-carbon solutions, the sector could achieve reductions approaching a 1.5DS.

By having agreed upon to “pursuing efforts to limit the temperature increase to” a 1.5DS at COP21, COP23 displays many events on how this aspirational target can be transformed into tangible actions. In today’s report we explore what changes in policies and resulting actions we need to take for transport to achieve its full mitigation potential. By highlighting key events of the day, we will shed light on how this hypothetical transformation could play out in practice.

Transport and Mitigation

The transport sector has long been viewed as a tough nut to crack in mitigation terms, and thus has often been passed up in favor of sectors such as power generation that are seen to have fewer moving parts. Existing global modelling scenarios assume a relatively low mitigation potential and high abatement cost for transport, resulting in relatively modest
carbon reductions by 2050, and rapid decarbonisation in the second half of the century. Recent research by SLoCaT shows that that based on a “proportional” emission reduction share, global transport emissions in 2050 should be about 70% below 2010 levels and about 90% below business as usual (BAU) projections to achieve a 1.5DS.

Low carbon scenarios suggest a higher emission reduction potential than is traditionally assumed in models, with an optimistic study scenario being close to what is needed in a 1.5DS. Given the urgency to reduce economy-wide emissions and the growing ambition of different stakeholders to take transformative action on transport and climate change, it is critical to better understand the transport sector’s potential role in economy-wide mitigation both through scaling up known solutions and harnessing emerging mobility strategies.

One emerging strategy is shared mobility, which holds the potential to reduce vehicle ownership and optimize road space if thoughtfully and strategically deployed. A side event hosted by Institute for Transportation and Development Policy (ITDP) and International Transport Forum (ITF) focused on solutions for decarbonization in the transport sector, with a special emphasis on shared mobility. ITDP highlighted that three revolutions will need to take place, which can lead to a 80% cut in CO₂ emissions: electrification, automation and (most importantly) sharing. The idea of sharing rides was also presented in various simulations by ITF: in two scenarios from the cities of Lisbon and Helsinki it became clear that switching from personal vehicle use to shared mobility could lead to fewer cars on the road, increased access and a significant reduction in CO₂ emissions.

Other presenters showed how policy changes can stimulate the decarbonization process. The Argentinian Ministry of Transport described various pilot programs focused on electrification of vehicles, and stressed the need to improve their own data collection to make comprehensive policy changes. The City of Leipzig outlined how, through the creation of shared mobility stations around the city, a public transport company can provide all modes of transport on one screen. These initiatives illustrate the potential of accelerated action on transport and climate through top-down strategies. The FIA Foundation also presented on the TRUE initiative that aims to collect more data on NOx emissions, discussed in the Daily Talk Show section below.

Along with shared mobility, electrification could be a big part of the equation for decarbonizing transport, as illustrated in a session focused primarily on electrification of rail and public transport. However, as noted by the European Association of Power Producers (Eurelectric), low carbon transport must go hand in hand with decarbonization of the power sector. The session allowed a review of low carbon targets and actions on both sides, and European power producers have pledged to be largely carbon neutral by 2050, with the share of ‘carbon free’ electricity (including bio-energy) reaching more than 50% in 2015.

On the transport side, organizations for railways and public transport have ambitions to reduce energy consumption and CO₂ emissions, and to raise the market shares of public transport. The International Union of Railways (UIC) illustrated growing electricity shares among railways worldwide with countries like Germany, Italy, Japan and Korea, and long distance trains in Germany will operate on fully renewable energy from this year. CO₂ data for rail can be found in a joint 2017 UIC-IEA Handbook, soon to be available the UIC website.

UITP emphasized the need for capacity building in public transport companies to effectively implement clean bus solutions.

Transport and Adaptation

At an event on resilience action in Asia-Pacific cities, representatives emphasized the importance of sub-national action to achieve the objectives set out in the Paris Agreement.
and the Sustainable Development Goals. The German Federal Ministry of Economic Cooperation and Development (BMZ) stated that “cities are the key agents for implementing global action”, while the Center for Urban Studies showed examples of community-based initiatives in Indonesia that are of vital importance in adapting to climate change. This ties into the idea that a global community, and not just state actors, is needed for climate action; similarly the global transport community collectively needs to support countries, cities and companies to take collaborative action on climate and development.

With increasing populations and more extreme weather events, there will be enhanced action needed, as BMZ mentioned, to strengthen resilience in local communities, just as the capacities of these communities will have to be strengthened to successfully reach the goals of the 1.5 degrees Celsius target. Increasing resilience in the transport sector not only enhances the ability of sustainable mobility networks to provide access to essential services and opportunities, but also sustains the ability of such networks to serve a mitigation function.

Global Climate Action

The German Corporation for International Cooperation (GIZ) was the host of a full day focused on decarbonising transport in Germany and abroad. GIZ is helping to bring the best German experience to the developing world by supporting sustainable transport strategy development, programming, and implementation in countries ranging from Vietnam, Peru to Namibia.

However, that everything is not perfect in Germany was clearly illuminated in a presentation on decarbonizing transport by the German initiative ‘Agora Verkehrswende’ (Transport transition) followed by a lively panel debate chaired by Holger Dalkmann of SLoCaT. As highlighted in the daily report of November 9, Germany has set the target to reduce transport emissions by 40-42% by 2030. Electrification will be key to achieve this target, while a major contribution in this regard would be stronger emission limits including quotas for zero emission vehicles.

It was made clear that the new European limits proposed earlier this week will be inadequate, as they deliver only 5% of what is required for Germany’s goals. This can have at least three negative impacts: Germany will have to introduce a multitude of national measures to reach the goal, cities and regions will introduce their own uncoordinated requirements which will distort the market, and German automakers will likely lose out to companies operating under more ambitious schemes.

The panel debate sought to uncover the ‘good’, the ‘bad’, and the ‘ugly’ part of the transformation towards sustainable transport. Starting with the ‘ugly’, Dr. Lehmann from the German Environment Agency mentioned behavioral barriers: “Germans are as addicted to their cars as Americans are to their guns”, he stipulated. On the ‘bad’ side the panelists questioned if automakers would actually deliver on recent promises to put zero-emission vehicles in significant numbers on the market soon. On the ‘good’ side, this actually caused that companies, in this case DHL Deutsche Post, had been forced to develop its own e-vehicle, which proved to be a viable business option. Nevertheless, the panelists remained undecided whether countries like Germany are ‘finally’ moving from ambition to action at the pace required. That there is still a long way to go was also illuminated by Daniel Bongardt of GIZ, who presented the new study on transport decarbonization in G20 countries, as referenced in our November 9 Daily Report.

The eyes of the climate community are often focused on China, not least when it comes to transport. In an event at GIZ, a representative of the Energy Research Institute of the Chinese
National Development and Reform Commission explained the Chinese outlook on transport and climate change. Despite the fact that the transport sector is expanding in volume significantly, China has set out a vision to modernize the transportation system in a sustainable fashion, by aiming peak oil consumption in 2040 and transport related CO₂ emissions a few years later.

China has outlined several strategies to help curb growth in emissions, showing that a transition is underway. There will be massive investments in high speed rail, integrated transport hubs and intermodal freight hubs. Additionally, there will also be increased focus on limiting freight vehicle fuel consumption, something that has so far been neglected. Similarly e-buses are already adopted on a wide scale, since these have demonstrated to reduce an impressive 70% in fuel consumption. Lastly, China invests significantly in smart IT architecture and in technologies for taxis and bike sharing.

ICLEI organized an event around the concept of ‘moving goods and people, not vehicles,’ which highlighted EcoMobility and EcoLogistics as priority areas for local and national governments. ICLEI introduced a new project which will include working on policy and pilots with African and Latin American cities, with more details to follow.

The city government of Kaohsiung, Taiwan presented their results of a recent month-long ICLEI EcoMobility Festival in the Hamasen district. The presentation included a video of the preparations and results, including their activities around the 3D strategies: Decarbonise, Downsize and Decrease Speed. Moreover, the festival also led to concrete results in the form of the Kaohsiung Strategies for the Future of Urban Mobility. Mark Major of SLoCaT emphasised a key issue: “The challenge for cities is to maximise access to social, cultural and economic opportunities, whilst minimising the negative impacts”. Ultimately the purpose of transport is to provide access and cities function as the machine to facilitate this.

A highlight was the presentation from the mayor of Yarra, a district of Melbourne, who was frustrated that the federal and not the local government is responsible for infrastructure and transport funding. Nevertheless, by putting in substantial effort, Yarra achieved one of the country’s highest levels of cycling investment, a significant amount of shared mobility, and a successful “Trains not toll roads” campaign to change regional transport investment priorities. Sophie Punte from the Smart Freight Centre also introduced their work on urban freight.

With the wealth of leading climate law and governance experts at COP23, a unique opportunity was presented to leverage the knowledge of this community and to build capacity. Thus the Climate Law and Governance Initiative (CLGI), together with GIZ and other sponsors, hosted a symposium at the University Forum in Bonn to share innovative international, national, and local climate law and governance mechanisms, challenges and best practices. SLoCaT attended an event exploring legal tools and obstacles in promoting sustainable finance and investment flows to implement NDCs and the Paris Agreement.

At the symposium SLoCaT learned that to a large extent, the menu of financial instruments are common across the board: from national or international development finance to grants, green bonds, user charges, value capture and carbon credits (though such mechanisms are not uniformly applied across sectors). However, developing countries and cities are hampered by poor global investment ratings and a lack of appetite for risk among investors, as corruption and mismanagement stalk the reputations of many of the countries that most need assistance.

Further, while many cities indeed do have the capacity to develop high-quality and bankable proposals, not every city has the legal framework in place within which to access finance in their individual capacities, and therefore require national or federal input. While public-private
partnership investments hold promise for climate financing, it is not easy for developing countries or cities to bypass any cautioning by ratings agencies regarding their ‘investability’.

**Financing and Technology in the Transport Sector**

A panel discussion on *climate action and transport financing* hosted by the Islamic Development Bank and SLoCaT Partnership, chaired by SLoCaT board co-chair Holger Dalkmann, and featuring the Multilateral Development Bank Working Group on Sustainable Transport (MDB WGST), proved that financing is a technical topic with a human face.

The session first addressed the forthcoming 2017 MDB WGST Progress Report, which measures progress toward the banks’ $175 billion commitment to sustainable transport at the Rio+20 Conference in 2012. Discussion focused on the Special Feature on Transport and Climate Change, which highlights efforts to mainstream climate action in MDB transport investments through policy documents, investment targets, and assessment methodologies.

Further discussion centered on the challenges of creating MDB targets for sustainable transport investments. The CAF Development Bank of Latin America noted that MDBs have the opportunity to guide priorities through policy dialogue, but ultimately must respond to the priorities of member countries. Franz Drees-Gross of the World Bank agreed with this assessment: “Cities in developing countries aren’t necessarily concerned with being ‘climate friendly,’ but the Bank is seeing more requests to assist with urban planning, and [from there] we can shift the discussion to more sustainable transport projects.”

Further evidence of country-driven priorities came from the Asian Development Bank (ADB), who noted that ADB’s sustainable transport targets are driven as much by prevailing trends (e.g. high country demand for rail) as by internal bank strategies, and that ADB investment patterns are often shaped in discussion with regional initiatives (e.g. through Southeast Asia cooperation) or cities, rather than national governments. The Islamic Development Bank’s (IsDB) Salim Refas noted that some IsDB member countries are striving to be the first to implement high-profile sustainable transport projects. “A new generation of city leaders see the positive political impact of climate-friendly projects, and banks should capitalise on this.”

The development banks have sustainable transport targets to meet, which means that well-prepared proposals with clear, measurable climate change outcomes are unlikely to be rejected. However, as noted by Sandra Hannusch, from the Reconstruction Credit Institute (KfW), measurement, reporting, and verification remain a challenge for transport, as illustrated in the selection criteria of the Green Climate Fund (GCF), which only consider generally higher abatement costs for transport but do not reflect significant co-benefits, and thus have not approved a single transport project. Thus, a paradigm shift is needed, a potential opportunity for the MDB WGST to call for new GCF criteria with a single voice.

In summary, MDBs acknowledged the need for transformation in transport and climate through a change in composition and structure, and not just appearance, and stressed the need to further align sustainable transport investments with national plans and roadmaps.

**Closing Thoughts**

A key shift from COPs in the past, which started at COP22 last year, is the dedicated focus on implementation of climate action compared to continuous negotiations on a global climate change agreement. With a historic number of transport related events at COP23, it is clear...
that there is not only increasing ambition from many entities but also concrete ideas in place to accelerate the decarbonization of the transport sector.

Realizing the full mitigation potential of transport will require the balanced implementation of low carbon mitigation policies, and the chances that such a comprehensive approach is taken will increase if countries, cities and companies actively integrate sustainable development objectives in their policies on transport and climate change.

Nevertheless, key barriers will have to be overcome. For example, at the national level countries could have difficulties accessing the necessary climate finance to bring their ambition into reality. Concrete action at the sub-national level could be hindered by weak coordination between national and local governments, just as communities do not always have the capacity to implement needed changes. Yet, these barriers are essential to overcome to stay on track to limit global average temperatures to 1.5 degrees Celsius and to focus climate action in the transport sector for both mitigation and adaptation.

**Clean Mobility Reception**

A popular tradition started at COP21 is the Clean Mobility Reception. As the interest in action for progress towards sustainable transport is on the rise globally, the PPCMC sees great value in bringing together committed and ambitious stakeholders to exchange ideas and collaboratively find new solutions. Awed by the vertical architecture of the host venue, the DHL Post Tower, the Clean Mobility Reception inspired people to bring the transport conversation to even higher levels than before.

More than 250 people attended the reception and enjoyed lively exchanges supplemented with a drink and a bite. The SLoCaT team would like to thank everybody who showed up and shared their ideas and perspectives with others, organized with the generous support of DHL and Michelin’s Movin’On. We hope to continue this discussion during the remainder of COP23, afterwards in all the different corners of the world and also at next year’s COP.
Daily Talk Show on Transport and Climate Change

The SLoCaT Partnership and Movin’On by Michelin are organizing daily talk shows on transport and climate change during COP23.

The topic of the November 10 talk show was E-Mobility and Innovations in Transport, featuring experts from EV100, the FIA Foundation, China Sustainable Transportation Center and EY. The November 10 talk show can be viewed via this link.

The all-female panel all agreed that with easy solutions in the transport sector, significant progress can be made. EV100 has connected a group of large international companies who all set ambitious decarbonization targets for transport by 2030, which are achievable with short-run cost-effective investments. The FIA Foundation explained that with existing technologies, efficiency of internal combustion engines can increase up to 50%. EY described its cooperation with governments, companies and investment funds to shift to alternative fuels in the medium to long term, and to seek quick wins by incentivizing sustainable behaviour.

The China Sustainable Transportation Center (CSTC) echoed ICLEI’s focus on people, not on vehicles. As a consequence of the growing Chinese economy, road infrastructure has received increased attention, and cycling has declined significantly in the last 20 years. CSTC with other entities are transforming urban superblocks to more open, human communities. The FIA Foundation also takes a more human-centred approach through the TRUE initiative, which stresses transparency on NOx emissions. As realities on the road do often not align with tests performed in the laboratory, the initiative will share a large number of data points with the public to provide an adequate overview of the actual height of emissions.

The November 13 talk show at 18:00 CET will focus on Celebrating Transport Climate Action.
MPGCA Transport Initiatives of the Day

Under the Marrakech Partnership for Global Climate Action (MPGCA), 21 transport initiatives were established to represent a broad range of multi-stakeholder coalitions to cover diverse modes of transport through decentralised action to reduce transport greenhouse gas emissions and strengthen the resilience of transport infrastructure. The MPGCA transport initiatives also demonstrate implementation and the considerable co-benefits of climate action on transport (e.g. improved air quality, decreased road deaths, increased access to goods and services).

**Global Sidewalk Challenge: Valuing and delivering more walkable communities**

The Global Sidewalk Challenge raises the voice and profile for walking internationally and sets a challenge to governments, private businesses and NGO’s to collaborate and invest in walking infrastructure, especially dedicated, safe and barrier free sidewalks at transport hubs, to benefit the people who walk most by focusing on the places most walked in order to reduce GHG emissions, improve the efficiency of public transport and deliver better public health.

The Challenge seeks to catalyze action around the globe by consolidating the efforts of partner cities and organizations into a high profile campaign that brings momentum and ambition to construct, or rehabilitate, 100,000km of additional dedicated, safe, barrier free, sidewalks in the proximity of public transport hubs, the majority of which will be in low and middle income countries by 2030.


**Global Strategy for Cleaner Fuels and Vehicles: introducing low sulfur fuels, and vehicle emission standards by 2030.**

The Initiative’s objective is to virtually eliminate fine particle and black carbon emissions from new and existing heavy-duty diesel vehicles and engines through the introduction of low sulfur fuels, and vehicle emission standards by 2030.

The goal of the Global Strategy is for most countries to achieve 50-ppm sulfur fuels by 2020, all countries to reach this level by 2025 and most countries to reach 10-ppm fuels by 2030.

The environmental and health benefits of cleaner fuels and vehicles are substantial, eliminating an expected 14 million metric tons of PM cumulatively through 2050 and up to 500,000 fewer premature deaths a year in 2050.

ITS for Climate: Using intelligent transportation systems (ITS) to deliver big results at a small cost

ITS for Climate Initiative aims to take a stand in favor of using ITS solutions to work towards a low-carbon, resilient world and to limit global warming below the 2-degree target and contribute to adaptation to climate change in large cities and isolated territories.

The initiative commits to spread awareness about ITS, and deliver accurate information; train and develop experts; promote “cross-fertilize” to build on past successes, develop incentive programs for ITS project deployment.

For more information on the initiative, please see: http://www.ppmc-transport.org/its-for-climate/

Global Macro Roadmap Component of the Day

PPMC has developed a Global Macro Roadmap which identifies a balanced package of actions based on the Avoid-Shift-Improve Framework. The Roadmap brings together the work accomplished at the technological, modal, national and regional levels into a single vision for the global Transport sector along eight priority areas. These priorities, if being considered and applied by the government, will bring to the pass the policy and institutional capacity required to promote the changes in behavior and the clear market signals necessary for a disruptive transition towards a net-zero emission economy in countries.

Component 4: De-fragment and shorten supply chains to manage freight Transport emissions

Trade continues to increase, and the linked growth in freight movements is potentially huge. Therefore, above and beyond promoting lower-carbon transport means, more fundamental steps are to be taken towards rationalizing supply chains and reducing overall transport distances. For business and the logistics sector this can mean to:

- (Re-)localize and/or optimizing purchasing choices, redefining supplying schemes
- De-fragment certain operations (e.g. semifinished products manufactured in different places and then assembled elsewhere)
- Increase collaboration among logistics centers, data, final delivery
● Simplify and streamline distribution circuits

Transforming transportation towards a net-zero emission economy requires that trade policy should be increasingly based on environmentally-led paradigms, and the success of such policies should specifically address GHG impacts. This is an area which is today overlooked by both governments and business. It must become a more urgent priority for companies, the Word Trade Organization (WTO) and countries.


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### Upcoming Transport Events

**November 11, 2017**

- **Joint Conference on Transport, Energy, Human Settlement**
  Organized by UNFCCC
  Nov 11, 09:00 – 10:30, COP23 Media Centre

- **Thematic Day on Transport**
  Organized by PPCM and Transport Content Group (ITF, PPCM, UITP, UIC)
  Nov 11, 10:00 – 16:45, Bonn Zone

- **Accelerating change in the transportation and mobility ecosystem**
  Organized by Ademe
  Nov 11, 15:00 – 16:30, French Pavilion, Bonn Zone

- **The Role of Sustainable Mobility in a Changing Climate**
  Organized by UN DESA and World Bank (on behalf of the SuM4All Consortium)
  Nov 11, 16:45 – 18:15, Bonn Zone

- **Scaling Up Action on Transport and Climate Change: Establishment of a Transport Decarbonisation Alliance (TDA)**
  Organized by PPCM, French Transport Ministry
  Nov 11, 17:00 – 18:00, French Pavilion, Bonn Zone

**November 12, 2017**

- **Electric Vehicles Global Leaders’ Forum**
  Organized by WWF
  Nov 12, 10:00 – 11:15, WWF #PandaHub Pavilion, Bonn Zone

- **Climate Summit of Local and Regional Leaders**
  Organized by ICLEI
  Nov 12, 10:00 – 17:45, Cities & Regions Pavilion, Bonn Zone

- **Aviation & Shipping: Supporting the Goals of the Paris Agreement?**
  Organized by WWF
  Nov 12, 11:30 – 12:45, WWF #PandaHub Pavilion, Bonn Zone

Please visit the PPCM Sustainable Transport Events at COP23 website for a full listing of upcoming transport events.
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