Decarbonization – We are Transport

Low carbon transport means halving our emissions from transport before 2050

*Are you ready?*

1. Low-carbon transport must be a priority in addressing climate change. Transport currently represents 23% of global GHG emissions. At present it is still almost totally dependent on fossil fuels (96%) and accounts for almost 60% of global oil use1. According to most projections, transport emissions will continue to increase in the next decades, resulting from growing demand in people mobility, especially in the developing world. This is not compatible with a 2°C or less scenario.

2. Investing in low, rather than high, carbon transport networks for passengers and goods is now found to be cheaper in the mid to long term. Today’s investments in sustainable transport will pay economic, social and climate dividends now and for future generations. And the reverse is true: investments now in carbon-heavy transport will lock-in countries and cities on unsustainable development paths.

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1 International Energy Agency World Energy Outlook (WEO) 2015
3. Sustainable transport for all is economically and technically feasible but requires ambitious action and strong political to tackle difficult issues. Many motorized trips can simply be avoided with improved planning taking the sustainable modes into account and making provision for them – this is one of the cheapest ways to go low-carbon – and is of key importance in urban areas.

Narrative

Under a ‘business as usual’ scenario, GHG emissions from transport will rise from 23% to up to 33% of all GHG emissions by 2050. Sustainable transport – meetings the basic access needs of all in a safe, environmentally friendly and healthy way – is at a major crossroad between meeting increasing mobility needs and reducing our climate footprint. Gridlock and smog are situations to be prevented, not to be remedied. In the long run, planning for effective mobility is much more efficient than dealing with crises. The transport sector’s heavy reliance on oil for its energy translates into significant emissions of air pollutants and GHGs. In 2012, the transport sector accounted for about 23 per cent of global carbon dioxide (CO2e) emissions from fuel combustion. These are expected to increase by 1.7 per cent a year by 2030 with over 80 per cent of growth expected to occur in developing countries and with most of the emissions being generated by land transport.

Transport is vital to economic development and much of the developing world will need to expand its transport networks. However now they have the choice as to how they to do this and can choose to lock their economies into using fossil fuel for the majority of trips (freight and passenger) or not. In the USA vehicle miles (km) travelled rose in line with gross domestic product for decades but since 2000 this relationship is no longer the case and GDP has grown while VMT is stagnant or declines. This is also the case in Germany. Compact cities where the majority of trips are taken by non motorized modes or by efficient public transport have the lowest carbon emissions but also enjoy a high quality of life. There are several examples such as Vienna, Frieburg or Portland in the developed world but very few in the developing world.

The global freight transport sector is not yet on a sustainable path in several aspects. The sector is a major oil consumer and emitter of pollutants and GHGs. International tonnage of freight transported by road is expected to increase by as much as 40 per cent by 2050. Led by growth in Asia, in particular China and India, road and rail freight volumes are expected to increase by between 230 and 420 per cent, respectively, by 2050 (compared with 2010), depending on freight intensity of GDP growth. In addition and reflecting the shift in economic influence eastward and to the south, developing countries are contributing larger shares to world GDP and trade, and have emerged as major importers and exporters over recent years. In 2014, a total of 61 per cent and 60 per cent of global cargo were, respectively, loaded and unloaded in developing countries’ ports.

Sustainable transport (freight and passenger) systems must provide transportation that is safe, socially inclusive, accessible, reliable, affordable, fuel-efficient, environmentally friendly, low-carbon, and resilient to shocks and disruptions, including those caused by climate change and natural disasters.

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As transport is one of the few sectors where GHG emissions are still growing, it is certainly ‘part of the problem’ but it is also part of the solution. Decarbonising transport is also an opportunity for job creation as has been seen in the renewable energy sector. Our present model for mobility does not recognize or provide equal rights to mobility. Learning from the developed world, in much of the developing world a disproportionate amount is spent on providing infrastructure encouraging more motorized transport, while better planning and a higher allocation of funds for improving and integrating the connectivity of the whole transport system for all modes delivers not only environmental but also social and economic benefits.

Low-carbon transport options improve people’s lives and help to redress this balance and will deliver not only fewer emissions but also greater equity in mobility. Investments in sustainable, low-carbon transportation that increase connectivity for all reaps multiple benefits – broader based economic growth, reduction in GHG emissions, and easier access to economic opportunities for the poor. Investments that further inequality of access between those at the top and everyone else also harm a country’s long-term economic growth.

**Evidence/data supporting those facts**

Energy security is a huge challenge especially for the developing world. A recent analysis by the Partnership on Sustainable Transport reveals that the transport sector is the largest energy consuming sector in 40% of countries worldwide, and in most remaining countries, transport is the second largest energy consuming sector. Transport, with an average annual growth rate of 2.0% from 1990-2012, is among the fastest growing sectors of CO2 emissions from fuel combustion. Thus, any attempt at limiting global average temperature rise to less than 2°C without including the transport sector is infeasible.

Transport greenhouse gas emissions primarily come from fossil fuels burned for road, rail, air, and marine transportation. Almost all (95%) of the world’s transportation energy comes from petroleum-based fuels, largely gasoline and diesel. Global carbon emissions from fossil fuels have significantly increased since 1900. Emissions have increased by over 16 times between 1900 and 2008 and by about 1.5 times between 1990 and 2008. It is worrying to see that emissions from transport are growing faster than from any other sector and as economies develop this trend is likely to continue unless efforts are taken to curb these.

There are now many low-carbon transport options such as the use of alternative and 2nd generation biofuels, new sharing models such as car-sharing or car-pooling schemes and a shift towards electric mobility, where electricity production is not overwhelmingly coal based. Electric two and four wheelers and electric buses are being trialed in many cities. Many of these solutions are applicable to both passenger and freight. In addition efforts in maritime (international and inland waterways) and aviation to lower their carbon use are on-going. In all areas of transport now, there are significant efficiencies that can be made across the sector (there are examples of the fuel efficiency standards,

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5 [https://www.ipcc.ch/pdf/.../ar4-wg3-chapter5.pdf](https://www.ipcc.ch/pdf/.../ar4-wg3-chapter5.pdf)
improving fuel quality, increasing the use of alternative fuels, integrating Intelligent Transport (ITS) options and other new approaches to increasing multi-, inter- and syncromodal transport in all modes in the 80 days campaign.

However the most important action must come from governments increasing their ambition to shift towards low carbon transport systems globally. Indeed if we are to really decrease emissions significantly from transport, transformational change is required.

Examples and references
The sector has united in its actions to address climate change. The Paris Process on Mobility and Climate Change (PPMC) was created to strengthen the voice of the sustainable transport community in the UNFCCC process, especially with a view to the upcoming Conference of Parties (COP21) in December 2015 in Paris. COP21 is expected to result in a new global agreement on climate change, which will shape climate policy in the years to come at a global, regional and national level. By bringing together different actors and stakeholders in the sustainable transport community it will be possible for the transport sector to have its voice heard and speak with one voice on the important contribution that sustainable mobility can make to the mitigation of, and adaptation to climate change. www.ppmc-cop21

Some countries and an increasing number of cities have ambitions to be low or zero carbon by 2050.

Sweden to be fossil fuel independent by 2030
The target of achieving independence from fossil fuel requires an 80 per cent reduction in the use of fossil fuels in the transport sector between 2010 and 2030. It is recognized that the remaining 20% required to be fossil- fuel free is difficult to achieve with today’s available technologies and options. Nonetheless, an 80% reduction will translate roughly into about a 60% reduction in CO2 emissions from the transport sector, depending on the methods used to reach the target. To do this They a 2030 coalition of more than 40 partners, including businesses, municipalities, trade organizations, NGOs and academic institutions has been created. Their aim is to ensure that the 2030 fossil fuel target is met through a combination of more efficient vehicles, a switch to alternative fuels and behavioral changes. It is hoped that these systematic measures being undertaken to deal with the transport emissions, will give Sweden global recognition. Sweden is becoming a frontrunner on this and is acting as a model for other nations tackling the issue. Thus Sweden is joining other small nations which have managed to position themselves as world leaders in well-defined sustainable sectors such as wind power in Denmark, electric vehicles in Norway and the use of bicycles in the Netherlands.

Copenhagen - With as projected population growth over the next 10 years of 20% and aspirations for economic growth and proving high quality of life for its citizens, environmental goal of becoming carbon neutral by 2025 it aims that the majority of travel
demand will be satisfied by public transport and soft modes (walking, cycling and sharing).

**Rio de Janeiro, Brazil** - Rio’s network of high-quality bus rapid transit (BRT) serves 9 million people and saves 7.7 million hours of travel every month. Each bus on the two corridors already in place—TransOeste (56 km) and TransCarioca (39 km)—replaces 126 cars on average, resulting in a 38 percent reduction in carbon dioxide emissions on those corridors. The city aspires to make its BRT system the best in Brazil by 2018, and will launch the new TransOlimpica corridor in 2016 to support key locations for the Olympics and provide connectivity to the existing corridors.

Link: [http://www.wri.org/blog/2015/03/4-inspirations-sustainable-transport-rio-de-janeiro](http://www.wri.org/blog/2015/03/4-inspirations-sustainable-transport-rio-de-janeiro)

Many international examples of how transport can shift to low-carbon pathways as well as **all the UNFCCC NAMAs on transport and those INDCs** that include transport can be found on the 365 Campaign [www.365campaign.com](http://www.365campaign.com) and [www/ppmc-cop21.org](http://www/ppmc-cop21.org). A collection of examples of the use of technology, policy and partnerships in all modes of transport can be found on [http://ppmc-cop21.org/80dayscampaign/](http://ppmc-cop21.org/80dayscampaign/)

As of April 2015, the **Nationally Appropriate Mitigation Actions** Facility had the highest transport-related funding share (29 per cent) of projects – a share relatively proportional to the sector’s contribution to the global energy-related GHGs (23 per cent). (details available on the PPMC website)

The global high shift scenario (ITDP) report [https://www.itdp.org/a-global-high-shift-scenario/](https://www.itdp.org/a-global-high-shift-scenario/)

**Key players**


UIC [http://www.uic.org/](http://www.uic.org/)

