

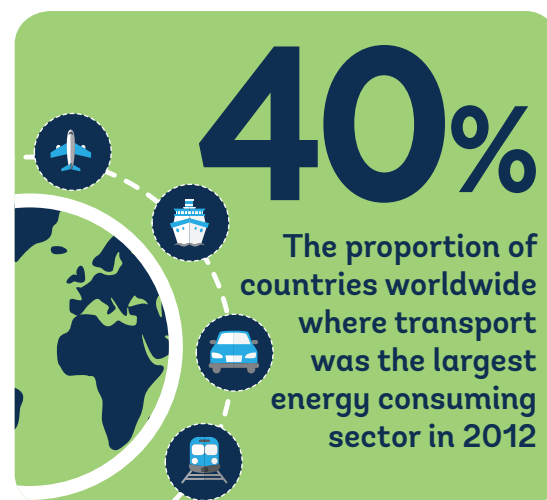
## Green Mobility

### Why Green Transport Interventions Matter for Sustainable Mobility

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As one of the four global goals framing sustainable mobility in the [Global Mobility Report \(GMR\)](#), green mobility aims to reduce both air and noise pollution from transport, and to address climate change in the transport sector through mitigation and adaptation.

Transport currently contributes to 23 percent of global energy-related greenhouse gas (GHG) emissions and 18 percent of all man-made emissions in the global economy. In one projection, energy related carbon dioxide (CO<sub>2</sub>) emissions are expected to grow by 40 percent between 2013 and 2040.<sup>1</sup> Air pollution—both ambient (outdoor) and household (indoor)—is the biggest single environmental risk to health; ambient air pollution alone kills about three million people each year. In addition, evidence from several countries suggests that traffic noise has the second biggest environmental impact on health.



### Green mobility in the global agenda

The importance of green mobility is underscored in the 2030 Agenda for Sustainable Development, the Paris Agreement on Climate Change, and the New Urban Agenda. In seven SDG targets and many Nationally Determined Contributions (NDCs) identified in the Paris Agreement, we see targets and indicators that are dependent on improvements to transport systems. Some of these are related directly to climate change mitigation and resilience. Others focus on energy efficiency or illnesses and deaths that can be closely tied to air pollution caused by inefficient and unsustainable transport. While the 2030 Sustainable Development Agenda does not specify a single quan-

titative target for green mobility, the Paris Agreement implicitly calls for the transport sector to decarbonize by mid-century, in order to hold the increase in the average global temperature to "well below 2°Celsius."<sup>2</sup>

### Methodological challenges in measuring green mobility

Green mobility is a broad concept that aims to simplify a diverse set of environmental impacts caused by the transport sector. In developing the green mobility objective, the GMR identified macro-level, aspirational, "green" targets to be achieved by 2030 and 2050 at the global scale. These targets are related to four dimensions:

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<sup>1</sup> IEA (International Energy Agency) 2015. World Energy Outlook 2015, table 2.1. Paris: OECD.

<sup>2</sup> UNFCCC 2015. [Paris Agreement](#).

- **Climate change mitigation** targets aim to substantially reduce GHG emissions from the transport sector as consistent with limiting the global average temperature increase;
- **Climate change adaptation** targets aim to enhance the climate resilience of transport infrastructure and services, in line with targets set by the Paris Agreement. The GMR proposes a Transport Climate Vulnerability Index to systematically quantify these impacts to make more informed economic and policy decisions.
- **Air Pollution and Physical Activity** targets aim to reduce premature death and illnesses from air pollution and physical inactivity from transport related sources and choices, in line with the SDGs.
- **Noise Pollution** targets aim to reduce the global mortality rate and burden of disease from transport related noise levels.

## Trends in green mobility

Global transport emissions grew at an average annual rate of 2 percent from 1990–2012, and transport remains among the fastest growing sectors of CO<sub>2</sub> emissions from fuel combustion. Road-based transport—passenger and freight transport—is responsible for more than 80 percent of the sector’s CO<sub>2</sub> emissions. Optimizing the contributions of the transport sector will be essential to achieving the mitigations target. Some key trends include:

- In 2012, transport was the largest energy consuming sector in 40 percent of countries worldwide, and the second largest in most of the remaining countries.
- Countries with low transport emissions per capita are in general those with the highest growth rates.
- Countries with gasoline prices above US\$1/liter from 2000 to 2012 show clear reductions in transport emissions growth; as opposed to those that have kept gasoline prices artificially low due to fuel subsidies.

Many countries are already taking climate change mitigation seriously through transport system improvements. 75 percent of NDCs explicitly identify the transport sector as a mitigation source, and more than

63 percent propose transport-sector-specific mitigation measures.<sup>3</sup>

However, climate action in the transport sector still has a long way to go. On an economy-wide scale, mitigation measures proposed in NDCs are expected to fall well short of a 2-degree Celsius scenario, let alone the more ambitious and aspirational 1.5-degree scenario.<sup>4</sup> Increased focus on safe access to active transport modes, including walking and cycling, supported by public transport and the de-carbonization of fuels and vehicles, will help bridge that gap.

In low-and middle-income countries, 98 percent of cities do not meet WHO air quality guidelines, compared with 56 percent of cities in high-income countries. As a result, only 10 percent of people globally live in cities that comply with WHO air quality guidelines.<sup>5</sup>

## Scale of the challenge

The targets set for the Green Mobility objective, especially on climate change mitigation, call for nothing short of transformative change for mobility. Achieving these targets requires that the transport sector achieve net de-carbonization of transport to contribute to a net-zero-emission economy. Such a transformation would also produce significant co-benefits for human health and well-being through the reduction of transport-related pollution.

The transformation of the transport sector, in support of climate action and other environmental goals, needs to be largely completed by 2050 or shortly thereafter, with all modes of transport—including road, rail, air, and waterborne transport, for both people and goods—achieving global systemic change. This transformation will involve new consumption patterns and behavioral changes, major technological innovations, the emergence of new mobility ecosystems, and the creation of new business models.

The required scale and urgency of this change calls for unprecedented immediate and coordinated mobilization of all transport sector players—including public policy makers and private sector interests—and the full participation of civil society. The transport sector cannot realize such ambitious targets in isolation, and will require cooperation with other sectors—including energy, health, and urban development. Only through concerted action will we be able to achieve sustainable mobility for all.

<sup>3</sup> Based on analysis by SLoCaT Partnership. In addition, 9 percent of NDCs include a transport sector emission reduction target, and 12 percent of NDCs include assessments of country-level transport mitigation potential.

<sup>4</sup> SLoCaT Partnership 2016. [Nationally-Determined Contributions \(NDCs\) Offer Opportunities for Ambitious Action on Transport and Climate Change](#).

<sup>5</sup> The statistics are based on data for cities with more than 100 000 inhabitants. Air quality guideline comes from WHO. Source: [WHO Ambient air pollution: A global assessment of exposure and burden of disease](#).

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The notes are available at <http://www.worldbank.org/transport/connections>.

The **GLOBAL MOBILITY REPORT 2017** is available at <http://www.sum4all.org/publications/global-mobility-report-2017>