

International Workshop to launch the Green Economy Initiative
1-2 December 2008

Transport Briefing Note

Introduction

Transport or transportation is the movement of people and goods from one location to another. As populations grow within cities there is increased pressure to move the people and goods in an efficient and timely manner. Further adding to the stress is the threat of climate change and secure affordable fuel. These factors have all contributed to the need for sustainable transportation, and a market for cleaner, fuel efficient vehicle technologies.

The Green Economy Initiative (GEI) will investigate the economic potential of promoting sustainable transport, including encouraging investments into, and policies that: promote cleaner and efficient modes of transport, and research and development into more fuel efficient technologies. The GEI will also consider how urban planning policies could be improved to encourage public transportation and non-motorized modes of transportation.

Data used in this note are collected from various sources including the internet. They are not meant to be complete or even consistent. The purpose of presenting the existing data, sketchy as they are, is to illustrate the general magnitude of this sector with a focus on transport in urban areas.

Status

- The transport sector contributes 4-8 percent to GDP and 2-4 percent to the labour force in Organisation for Economic Co-operation and Development (OECD) countries. At the same time, this sector contributes 24 percent to the global CO₂ emissions, which is to rise to one-third by 2050. The transport sector CO₂ emissions are growing faster than any other sector. Investing in greening this sector, therefore, has the potential to yield double dividends on both the environment and economic sides.
- In 1987-2005, Africa and the Middle East accounted for just over 1 percent of the world's funded road and rail infrastructure projects, by value. There is a huge potential for increasing the investment in public transport in these regions.

Prospects

- Demand for lithium carbonate for increased battery use is expected to increase five-fold in the next 10 years as supply outstrips demand. 50 percent of the world's known reserves of lithium carbonate are in Bolivia. South Africa owns 75 percent of the world's platinum reserves, essential to fuel cell production.
- In Mexico City, Bus Rapid Transport (BRT) schemes alongside cycle-ways and new traffic measures, envisage a 10 percent cut in transport-related smog and fine air particles together with an average annual energy saving of over \$750 million.
- The International Energy Agency (IEA) estimates that shifting 25 percent of all air travel under 750 km to high-speed rail travel by 2050 would lead to savings of around 0.5 Gt of CO₂/ year. In addition, if 25 percent of all trucking over 500 km were shifted to rail, about 0.4 Gt of CO₂ could be saved per year.
- International shipping accounts for about 80 percent of maritime energy use; feasible energy efficiency measures can cut use by up to 30 percent by 2050.
- The global hybrid vehicles market is expected to surge at a rate of around 12 percent during 2008-2015. In 2010 major European, USA and Japanese vehicle manufacturers will bring plug-in hybrid and electric vehicles on the market that will run for a large part or completely on electricity. China, Brazil and South Africa are among non-OECD countries also starting to produce these types of vehicles. Hydrogen vehicles are not expected to emerge before 2030 due to technical, infrastructure, and cost limitations.

- New aircraft models already incorporate many cost effective efficiencies; combined with improvements in air-routing systems, average fleet efficiency can increase by a total of 50 percent by 2050 above a baseline 2005 scenario.
- The 2007 IPCC 4th report foresees potential for biofuels from agricultural and waste feedstock to replace 5-10 percent of road transport fuel by 2030, with economic potential for net GHG reductions of .6-1.5 Gt CO₂-eq.
- In Nairobi, it has been determined that without improvements to public transportation infrastructure, vehicle ownership is expected to grow from 207,339 vehicles in 2004 to more than triple in 2025 with 716,000 vehicles. Private trips will increase from 15 percent to 26 percent. In contrast the use of public transport and non-motorized transportation will decrease from 36 percent to 30 percent and 49 percent to 44 percent respectively.

Drivers

- The European Union requires that bio-fuels account for 2 percent of the demand for transport fuels. The US government had a target of 4 billion gallons of ethanol for 2006, nearly 3 percent of the gasoline market.
- In December 2007, the European Commission adopted a proposal for legislation to reduce the average CO₂ emissions of new passenger cars, which account for about 12 percent of the European Union's carbon emissions.
- The Global Fuel Economy Initiative to be launched in early 2009 calls for improvement in average fuel economy by 50 percent worldwide by 2050.
- In April 2008, Thailand approved plans with several automobile makers to build fuel-efficient eco-cars in the country. The combined investments of the projects amount to US\$528.7 million.

Main issues

- The speed and scale of investing in and deploying clean and efficient technologies need to catch up with the speed and scale of urbanization, including the rapid development of transportation.
- Green transport requires moving away from transport models and infrastructure that pivot around individual vehicle use. It should offer a multitude of modes for different purposes and distances.
- Currently, access to large amount of capital for investment in infrastructure that is required for cleaner modes of transport (e.g. non-motorized, rapid bus transit systems, and rail) and for investment in the production of cleaner, more efficient vehicles (electric and hybrid and plug-in hybrid), is constrained.
- OECD countries have fuel economy policies in place which drive the clean technology market, while all non-OECD countries, except for China, lack such policies. As the global car fleet is expected to triple, with the majority of growth taking place in non-OECD countries, there is a need for global policy development and promotion of cleaner car technologies. This is required to ensure that there is a market for cleaner vehicle manufacturers in the areas of the world where automotive growth is expected the most.