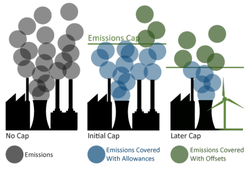
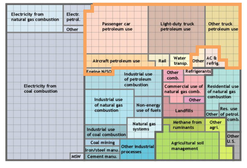
Beyond the Clean Air Act: Regulatory, Legal, and Finance Opportunities Within Carbon Markets to Incentivize Public Transportation (11-4275)

CAP AND TRADE



A diagram of how pollution would be monitized in a cap and trade system.

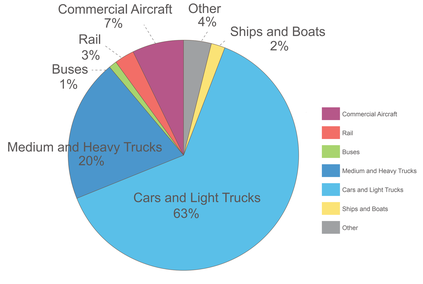


Out of the sectors that emit greenhouse gases, transportation produces 33.1% percent of the total emissions. In 2008 transportation emissions resulted in 1,925.3 million metric tons of greenhouse gas emissions.

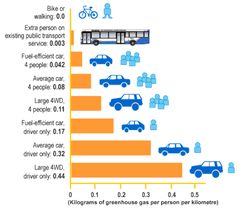
In a cap and trade program, sectors such as electricity generators and refineries will need to use some combination of reduction, allowances, and offsets to meet their greenhouse gas compliance obligation. The increased cost of energy would be passed along to the consumer. An owner of either a gas- or an electric-powered vehicle would be forced to pay more for the environmental impacts of driving, effectively creating a disincentive for driving.

Transportation offsets could form a new source of funding for public transit projects and incentivize multimodal alternatives. If the market is regulating transportation emissions, some of the offsets revenue must be allotted for clean transportation to spur the development of more sustainable transportation options. Otherwise, transportation will be stuck perpetually paying

GHG EMISSIONS FROM TRANSPORTATION



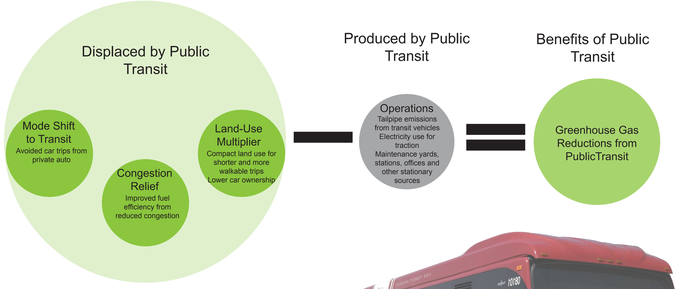
Cars and light duty trucks are the biggest contributers of transportation greenhouse gas emissions.



Cars and light trucks are the most common type of transportation in the United States, despite polluting more compared to other modes, which use cleaner burning fuels such as natural gas.

Image Citations:
1. "Cap and Trade" Climate Legislation & Forestry Offsets." New Forests. Web. 22 Jan. 2011. <http://www.newforests.com.au/news/pdf/cap%20and%20trade/Policy%20Cb.pdf>.
2. "Depleted Commons » Blog Archive » Sources of Greenhouse Gas And A Quick Math Lesson." Depleted Commons. Web. 22 Jan. 2011. <http://depletedcommons.com/sources-of-greenhouse-gas-and-a-quick-math-lesson/>.
3. United States. Environmental Protection Agency. Greenhouse Gas Inventory 2006. 2008. Print.
4. "Cap and Trade." Cap and Trade. Web. 22 Jan. 2011. <http://www.cap-and-trade.com/>. "Cap and Trade Pictures | Publications." Ministry of Economic Development. Web. 22 Jan. 2011. <http://www.med.govt.nz/templates/MultipageDocumentPage____32078.aspx>.
5. Performance Metrics For Transit Agencies. The Climate Registry. 1 June 2010. Web.
6. "Environmental Fact Sheet" Transport Sydney Buses. Web. 22 Jan. 2011. <http://www.sydneybuses.info/buses-and-the-environment/environmental-fact-sheet.htm>.
7. "Bus Rapid Transit - Page 5 - Skyscraperpage." Skyscraperpage. Web. 22 Jan. 2011. <http://www.skyscraperpage.com/forum/showthread.php?t=94039&page=5>.
8. "NHTS_2nd Report Transit - Page 5 - Skyscraperpage." Skyscraperpage - Powered by vBulletin. Web. 22 Jan. 2011. <http://www.skyscraperpage.com/forum/showthread.php?t=94039&page=5>.

REDUCING GHG EMISSIONS



While the transportation sector is a significant contributor to the problem of global warming, it could also serve as part of the solution. The necessary changes include not only switching fuel sources, but also developing **a more systematic vision for sustainable transportation planning**. A cap and trade program would implement new metrics for evaluating the effectiveness of various transportation modes and land use decisions in relation to their greenhouse gas reduction and, by extension, the environmental benefits they provide.

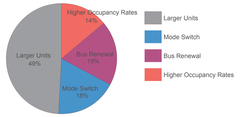
Including sustainable transportation projects in carbon markets can reduce emissions and provide new sources of revenue for public transit. Through this process money can be transferred from greenhouse-gas intensive cars to public transit agencies, which are shown to emit less greenhouse gas per user. Funding transit can help break the cycle of increased street congestion and an over dependence on private vehicle use by improving transit service and ridership. However, these transportation improvements will only occur if transportation projects begin to qualify as offsets. Developing protocols to quantify and trade transportation emissions reductions from a variety of transportation projects can move this market from abstraction to reality.

Despite the need for a carbon market that includes U.S. transportation emissions, barriers to entry in the carbon markets include poor transportation models and offset-certifying boards more familiar with energy than transportation. This paper takes an in-depth look at two foreign projects that have successfully entered an international cap and trade system, examines the lessons that can be drawn from their implementation, and draws attention to the absence of a clear procedure to establish baselines for such projects' certification within an offset system.

The example of international projects shows that the long-term benefits can far outweigh upfront costs. For transportation in particular, these markets could provide transit agencies with capital for ongoing operation of transit lines and help improve their bond ratings.

CASE STUDY: BOGOTA TRANSMILENIO BRT

The Bogota BRT reduces travel times, provides more origin-destination pairs, and offers more attractive service, prompting passengers to switch modes from cars and taxis, which makes the system a success, as indicated by the riders pictured above.



Emissions reductions were counted based on technological changes and ridership increases.

The Bogota BRT system attempts to stretch across the city and provide good coverage with timed transfers to make the system more attractive.

Approved by the Clean Development Mechanism in December of 2006

Goes beyond energy efficiency modifications
Efficient + Attractive Transportation Systems = Emissions Reductions

Transit Improvements:
- 130km of dedicated bus lanes with new bus stations
- 1,200 articulated buses that can hold 160 passengers each
- 500 feeder buses to transport a total of 1.8 million passengers daily

GHG and Financial Benefits:
- 5 million tons of voluntary emission reduction credits
- 8.5 million tons of certified emission reductions
- Potential value of $100 to $300 million, depending on the carbon price
- Payback of up to 10% of initial investment costs

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