Transport and the Global Environment: Accounting for GHG Reductions in Policy Analysis

Developed by UNEP Collaborating Centre on Energy and Environment

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Table of Contents

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Abbreviations and Acronyms

AIJ	Activities Implemented Jointly
CC	Climate Change
CDM	Clean Development Mechanism
CH_4	Methane
CO	Carbon monoxide
CO_2	Carbon dioxide
GEF	Global Environment Facility
GHG	Greenhouse gas(es)
GO	Global overlay
GWP	Global warming potential
HC	Hydrocarbons
HFC	Hydrofluorocarbons
I & M	Inspection and maintenance (programme)
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
LPG	Liquefied petroleum gas
N_2O	Nitrous oxide
NMHC	Non-methane hydrocarbons
NMVOC	Non-methane volatile organic compound
NO	Nitric oxide
NO_2	Nitrogen dioxide
NO_x	Oxides of nitrogen
O_3	Ozone
OEM	Original equipment manufacture
PFC	Perfluorocarbons
PLS	Pumpless lubrication system
PM	Particulate matter
PTE	Present tonnes equivalent
SF_6	Sulphur hexafluoride
SO_2	Sulphur dioxide
SPM	Suspended particulate matter
TSEV	Two-stroke engine vehicle
TSP	Total suspended particulates
VOC	Volatile organic compound(s)
WHO	World Health Organisation
ZEV	Zero emissions vehicle

Preface

That the transport sector is among the fastest growing economic sectors in both developed and developing countries is no surprise. The movement of people and goods is an essential part of modern society, and unlike some other economic goods the demand for transport largely coupled to income, so that as people become wealthier they demand ever more transport. Despite their many advantages of personal choice, convenience, and flexibility, modern transportation systems are not without problems, notably those that affect the environment and quality of life. The poor, even hazardous, air quality in many cities is often largely attributed to motor vehicle use, while the transport sector globally contributes one quarter of the greenhouse gases emitted to the atmosphere each year. Unfortunately, the environmental consequences of transportation choices – both local and global – are often overlooked when transport planning decisions are made.

This book attempts to remedy that deficiency by providing a guide to technical experts and policy makers concerned with environmental polices for the transport sector. It offers a consistent analytical structure for examining the environmental aspects of transport choices; defines the key economic and environmental concepts used in good policy analysis; and gives information on technologies, environmental impacts, and cost effectiveness of various policy options. The book also describes international financial mechanisms that can be used to support sustainable transportation policies and programmes.

The methodological framework presented was developed by the UNEP Collaborating Centre on Energy and Environment. Kirsten Halsnaes was the lead economist for the project, and worked closely with Anil Markandya of the University of Bath, UK, and Jayant Sathaye of the Lawrence Berkeley Laboratory, USA. The work was sponsored by the World Bank and by UNEP DTIE as part of the latter's energy and transportation sector programme. UNEP's International Environmental Technology Centre, located in Osaka, Japan, will promote the framework as a tool for good policy analysis in the transport sector.