

# MENADŽMENT STRATEGIJE ZA POSTIZANJE ENERGETSKI EFIKASNOG I ODRŽIVOG TRANSPORTNOG SISTEMA

## MANAGEMENT STRATEGIES FOR ACHIEVING ENERGY EFFICIENT AND SUSTAINABLE TRANSPORT SYSTEM

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### Summary

Transport energy efficiency is now very close to the top of the political agenda in many countries. There is a widespread consensus that progress towards sustainable development is essential. However, there is considerable debate as to what this term means? One particular part of this debate concerns the role of transport as a major consumer of energy and a generator of pollution. The question is: can transport activity be planned and managed in such a way as to be more energy-efficient?

Demands for greater transport flexibility have increased dependence on road transport, which tends to raise aggregate energy consumption and generate air pollution and to have other adverse effects on the environment which, though not always cumulative and irreversible, are nevertheless not sustainable in the sense that they do not represent chosen outcomes. In practice, however, these adverse environmental (and social) impacts are very difficult to reverse once activity locations and personal lifestyles have been arranged to accommodate a high level of road transport dependency (EUROSTAT, 2010). The challenge is to devise management measures ensuring that the actual outcomes are chosen, rather than being the unintended and unforeseen consequences of the policies adopted.

Viewing transport within the general perspective of sustainable development yields some immediate insights on this process. The weight placed on the various components of the general quality of life varies, of course, with the country and every country must ultimately define its own path of development. Whatever the preferred balance, increasing economic sustainability can always advance environmentally sustainable development, but does not necessarily do so. Failing to incorporate energy efficiency and environmental considerations in the assessment of projects and policies is what creates the “sustainability gap.” The policy challenge is to recognize the trade-offs and to devise instruments that will prevent the sustainability gap from developing.

Most transport improvements are designed to reduce transport costs. This can often have a beneficial impact on the environment, for example, by reducing fuel consumption and air pollution. Almost all transport projects are subject to at least a partial assessment. The increasingly stringent application of these procedures has encouraged the design of projects that are sensitive to energy efficiency concerns and that mitigate any directly adverse environmental impact (Gudmundson, 2004). Furthermore, transport projects, or project components, are increasingly going beyond avoiding direct harm and focusing more positively on environmental improvements.

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These projects address the immediate and direct effects of transport. In such cases the fundamental question is what should be the main accent in transport policy and management?

Management strategies in transport are, in principle, based on an analysis, incorporating both transport and environmental objectives (World Bank, 2008). They include short-term management and pricing instruments and long-term strategic instruments as the context for identifying investment actions. Still, further research will be required to identify critical environmental effects and to determine the efficacy of different interventions. In the interim, an appropriate framework would include:

- Strategic and structural actions, including the creation of economic incentives for sensitive behaviour regarding energy efficiency, would be of a high priority. Although their effects may be slow to come to fruition and may be politically and administratively difficult to be implemented, they are the critical and pervasive basis for sustainable transport development. Within that strategic framework, some priority problems can be identified where the benefits of making improvements are judged to be very high, particularly because they are seriously life- and health-threatening.
- The most appropriate technology should be selected on the basis of relative energy efficiency, in the context of the main problems in transport, taking into account what the companies can afford and effectively implement (ERTRAC, 2007). This often means that the actions with the highest priority are not those attempting to impose “state-of-the-art” standards or technologies but those that make more immediate, implementable changes in the way in which existing equipment is used.

This paper aims to explore the indicators and measures toward sustainable transport system, with particular emphasis on the energy consumption and trends which prevent the achievement of policy objectives of reconciling the economic interests of the transport sector with energy constraints. Several arguments substantiated by empirical evidence from EU countries are put forward to demonstrate that current megatrends in transport are at odds with a sustainable development and lead to high social costs. A variety of policy strategies is discussed to improve the current threatening situation.

The various paragraphs of this paper concentrate on the real problems which energy efficiency of transport present to policy-makers and assess the contribution that the analysis can make to handling more effectively respective considerations in transport decision making. Previously, transport energy consumption concerns have been mainly restricted to local factors but recent concerns over the big dependence of the whole EU economy on the fossil fuels and of pollution-induced diseases have given importance to regional, national and global implications.

The aim of this paper is to provide a general background against which the new research may be set. It does not aim either to be comprehensive in its treatment of all possible management strategies in transport or to provide answers of the questions that it or its paragraphs raise. It is hoped, however, that it may flag some of the key issues where uncertainty remains and where subsequent research could prove beneficial.

**Keywords:** efficiency, transport, improvements, research, beneficial

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