



With the support of:



**NATIONAL CAMPAIGN FOR AIR POLLUTION
REDUCTION IN LEBANON THROUGH EFFICIENT
ENERGY USE IN LAND TRANSPORTATION**

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PROJECT TOPIC

Launching of a national campaign for air pollution reduction in Lebanon through efficient energy use in land transportation.

PROJECT ORGANIZER

The project is organized by **IPT Energy Center (IPTEC)**. IPTEC is a specialized research center established by IPT. IPTEC aims at increasing the awareness and knowledge in the field of sustainable energy by promoting the use of renewable energy sources and energy efficient solutions in different sectors, supporting solutions with low environmental impact and less air pollution, and encouraging the adoption of energy efficient policies and measures in Lebanon. Since the transportation is a major contributor to global energy consumption and air pollution, IPTEC tackles in this project the air pollution reduction and efficient energy use in land transportation through this national campaign.

PROJECT PARTNERS

The project is supported by the **Ministry of Environment (MOE), the Economic and Social Commission for Western Asia (ESCWA), and the United Nations Development Programme (UNDP)**. Throughout the project, IPTEC will rely on partners from both the private and public sectors to accomplish its mission.

PROJECT OVERVIEW

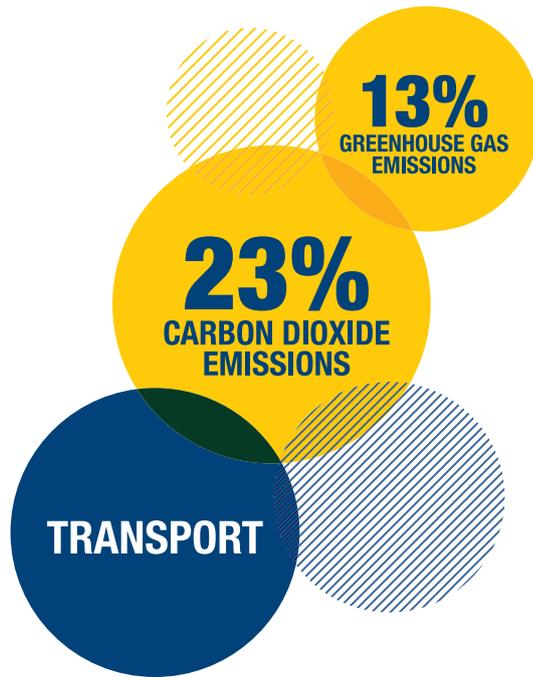
Energy supply is a critical concern for the transport sector. Global demand for mobility is growing rapidly, with the number of vehicles projected by the International Energy Agency (IEA) to triple by 2050.⁽¹⁾ This is especially true in the developing world, where the number of vehicles is growing by 5 to 6% per year.

Transport is fundamental for the social and economic development of countries as well as for sustaining regional and global cooperation and economies. Nevertheless, being highly dependent on fossil fuels, transport is responsible for about 27% of the current energy use worldwide according to the U.S. Energy Information Administration data⁽²⁾, as it accounts for about 50% of the global oil demand.⁽³⁾

⁽¹⁾ International Energy Association, Energy Technology Perspectives IEA, 2008, p650.

⁽²⁾ U.S. Energy Information Administration data, EIA, 2012.

⁽³⁾ Transport for sustainable development in the Arab region: measures, progress achieved, challenges and policy framework, ESCWA, New York 2009.



The fact that the transport sector is growing quickly brings advantages, such as quick access to any geographical location on earth, however it is associated with a number of pollution problems: emissions such as carbon dioxide (CO₂), and greenhouse gases (GHG) primarily responsible for global warming, local smog and regional acid rain. Transport activities are also responsible for accidents, visual intrusion, noise, urban congestion, and other social and economical problems.

Globally, transport is responsible for 13% of total greenhouse gas emissions and 23% of energy related CO₂ emissions according to the International Energy Agency.⁽⁴⁾ Land transportation contributes to an extent of 75% with an expected increase of the emissions by 3 to 5% per year.

In the Arab region, the transport sector has significantly progressed during the past two decades with an average annual growth of the vehicles number by 4.2% between 1998 and 2007. The unabated increase in motorized transport and the concentration of vehicles in urban areas has critically affected the air quality in several cities. The transport sector accounts for 22% of the total greenhouse gas emissions, of which 85% is attributed to in-land transportation.

As for Lebanon, the MOE reported in its 2nd National Communication to the UNFCCC, published in 2011, that the land transport sector contributed, in 2000, to 29% of the total CO₂ energy related emissions and 22% of the total GHG emissions.

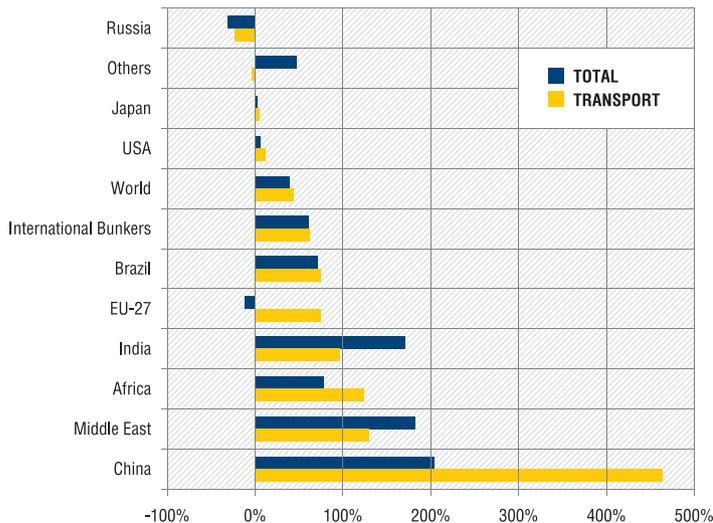


FIGURE 1 Growth of CO₂ emissions in transport and in total, 1990-2009⁽⁵⁾

⁽⁴⁾ International Energy Association, Energy Technology Perspectives IEA, 2008, p650

⁽⁵⁾ IEA, World Energy Outlook, 2011

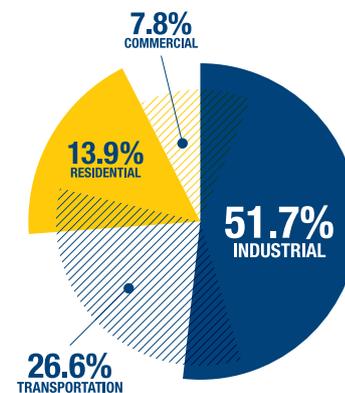


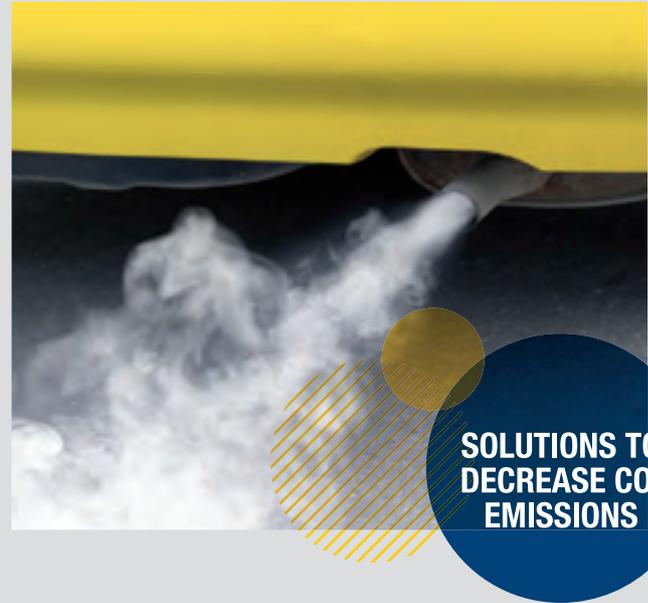
FIGURE 2 Expected world energy consumption in 2012 per sector⁽⁴⁾

In this context, countries began developing policies and adopting measures that reduce the energy use in the transport sector, and decrease the pollutants emissions in order to move towards efficient energy use in land transportation, which is undeniably, an essential pillar of the social and economic sustainable development.

Several approaches are adopted by governments seeking sustainable solutions for the future transportation system.

AMONG THESE:

- /// Improve the management of the transport sector, by promoting the use of public transport, carpooling, cycling, and improving traffic circulation.
- /// Improve fuel specifications by using reformulated gasoline and limiting the volatility of the gasoline and adopt diesel fuel with low sulfur content.
- /// Adopt cleaner-fuel vehicles running on natural gas, compressed (CNG) or liquefied (LNG) or (LPG) petroleum-based fuels with low- or zero-carbon alternative fuels such as renewably produced biofuels. Use catalytic converters for conventional fuel cars.
- /// Adopt advanced transport technologies, which may include electric vehicles using hybrid power sources,...
- /// Promote road networks and rural transportation to lessen traffic congestion by upgrading national and regional networks and road infrastructures and enhancing rural transport sustainability.
- /// Define standards, regulation and institutional frameworks that promote the sustainable transportation and cover the above-mentioned priority options (fuel specifications, vehicle emission standards, vehicle technology,...).



In Lebanon, although the land transport is a major contributor to environmental and social pressure and is compromising the sustainability of the development process of the country, little serious measures concerning the sustainable transport are yet implemented.

In this context, IPTEC seeks to highlight the importance of moving towards a sustainable transport and to tackle challenges that might be faced, by launching a national campaign that promotes sustainable and efficient energy use in land transportation and air pollution reduction. The campaign is based on the findings of previous publications and researches, mainly the ESCWA report published in 2011 (E/ESCWA/SDPD/2011/2) 19 September 2011, Original Arabic, that recommends measures and policies to be adopted in Western Asia region to tend towards sustainable transport system, and the MOE publications.



PROJECT CONTENT

The “National Campaign for Air Pollution Reduction in Lebanon through efficient energy use in Land Transportation” is an initiative led by IPTEC with the support of the Ministry of Environment (MOE) and the Economic and Social Commission for Western Asia (ESCWA), and the United Nations Development Programme (UNDP), in collaboration with sponsors and partners. These tasks include:

1. Dissemination activities to increase public awareness regarding air pollution reduction and efficient energy use in land transportation. These activities will focus on issues related to Eco driving, proper maintenance, and cleaner fuels:
 - Publications promoting sustainable energy use in the transport sector and highlighting its impact on air pollution reduction in Lebanon. These publications would be distributed during seminars, in vehicle inspection centers, private bus companies, IPT stations;
 - Dedicated website supporting the efforts of IPTEC in encouraging efficient energy use in land transportation and air pollution reduction;
 - Communication campaign sensitizing the general public on the topic of air pollution with a focus on the contribution of land transport and engaging them in practices reducing their air pollution footprint.
2. Capacity building workshops and seminars delivered by energy and transport experts. These workshops and seminars will target professionals and decision makers in the land transport sector and oil and gas sector such as: the Association of Petroleum Importing Companies APIC, Association of Gas stations owners, Association of the petroleum trucks owners, the general syndicate of taxi drivers, the United Association of public Transportation Services, private bus companies...

3. Punctual research activities in the field of air pollution reduction and energy efficiency in land transport sector to be conducted in close collaboration with the academic sector. Results of these activities would be disseminated and used to promote eco driving and energy efficiency in land transport.

PROPOSED RESEARCH TOPICS:

- Impact of driving practices on fuel consumption – applied to the case of Lebanon;
 - Improvement of vehicle inspection practices and techniques related to air pollution;
 - Experimental study on the emissions factors for all vehicle categories reflecting the Lebanese conditions;
 - Air quality monitoring using a mobile air quality monitoring vehicle or station.
4. Lobbying for the endorsement of the legislative and regulatory texts in line with improved air quality in Lebanon, especially those currently studied by the parliament.
 5. A closing ceremony will be held to present the national campaign phases and outcomes and the road map for a successful transition towards air pollution reduction and efficient energy use in land transportation in Lebanon.



RESEARCH AND STUDIES

CAPACITY BUILDING

PROJECT DURATION

The project duration is 18 months to fulfill all above mentioned objectives and tasks.

CONTACT INFO

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