

Policy options for reducing transport emissions in the Arab region

Imed THABET - Consultant

Hammamet, 2 december 2013

Plan of the presentation

- ❑ Objectives
- ❑ Introduction
- ❑ Main characteristics of the transport sector in the arab region
- ❑ Energy efficiency experiences in the arab countries
- ❑ Policy options for reducing CO2 emissions in the arab countries
- ❑ Conclusion

Objectives

Objective of the work:

Review and analyze the measures and actions that reduce inland transport CO₂ emissions and facilitate climate change mitigation in Arab countries in general.

Introduction (1)

- ❑ Questionnaire to collect information from arab countries on inland transport
CO2 emissions
- ❑ Previous results obtained from the following studies were used:
 - Study on policies for EE and RE in the RCREEE group of countries (april 2010);
 - Arab countries reports on EE and RE programs available on RCREE website
 - Study on energy efficiency indicators in South and East of the mediterranean countries – RCREEE/MEDENEC/ Plan bleu: october 2012
 - Other relevant websites (e.g. world bank)

Introduction (2)

❑ **Huge short of data on the transport sector and policies implemented for reducing CO2 emissions in the arab region:**

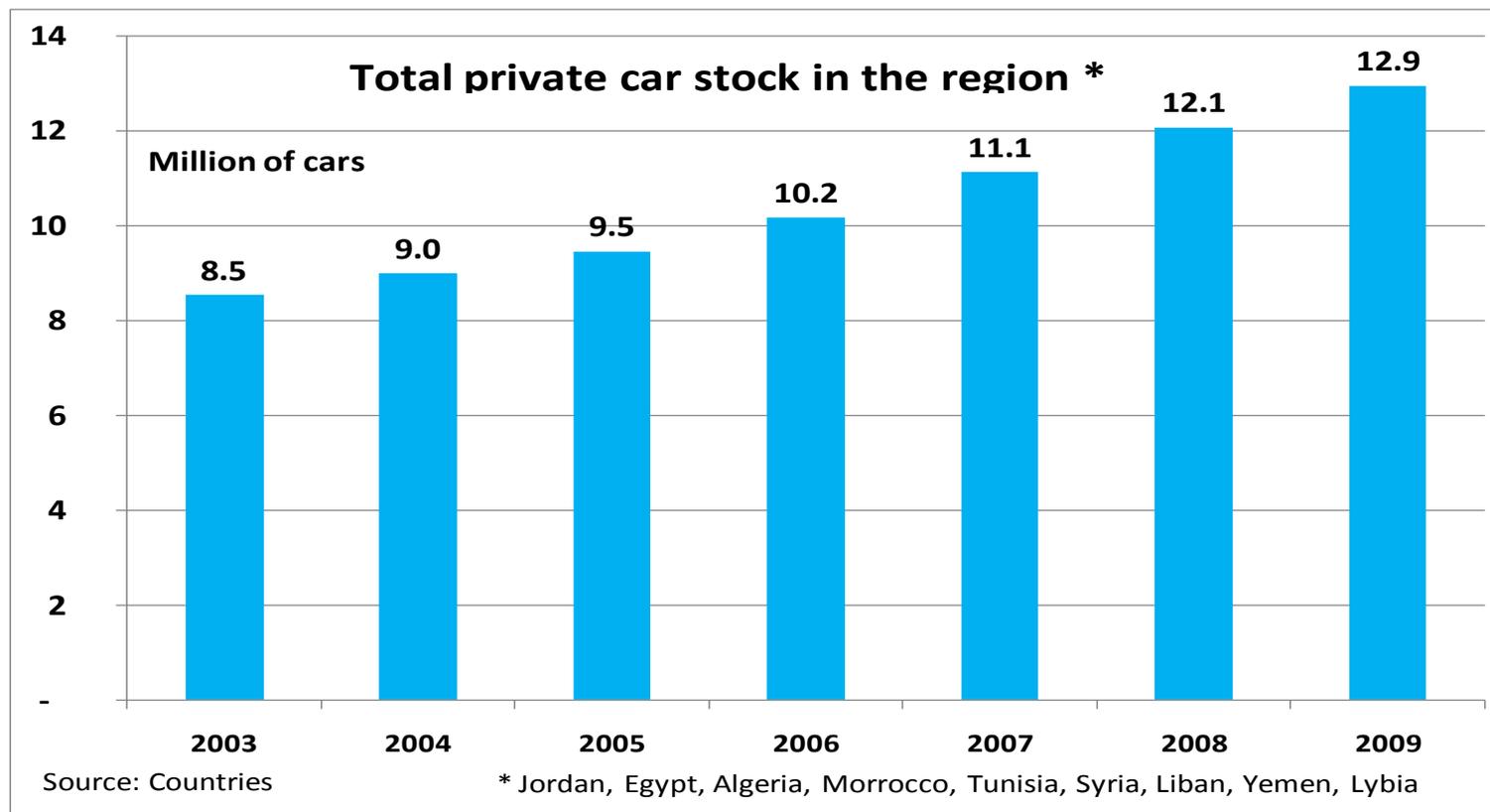
- **Transport sector is complex and various**
- **Many institutions are involved in the development of the transport sector;**
- **Weakness of data collecting system;**

Results that I will present should be interpreted as an order of magnitude and global highlights on the main characteristics of the transport sector and policies implemented in arab region.

Main characteristics of transport sector in the arab region (1)

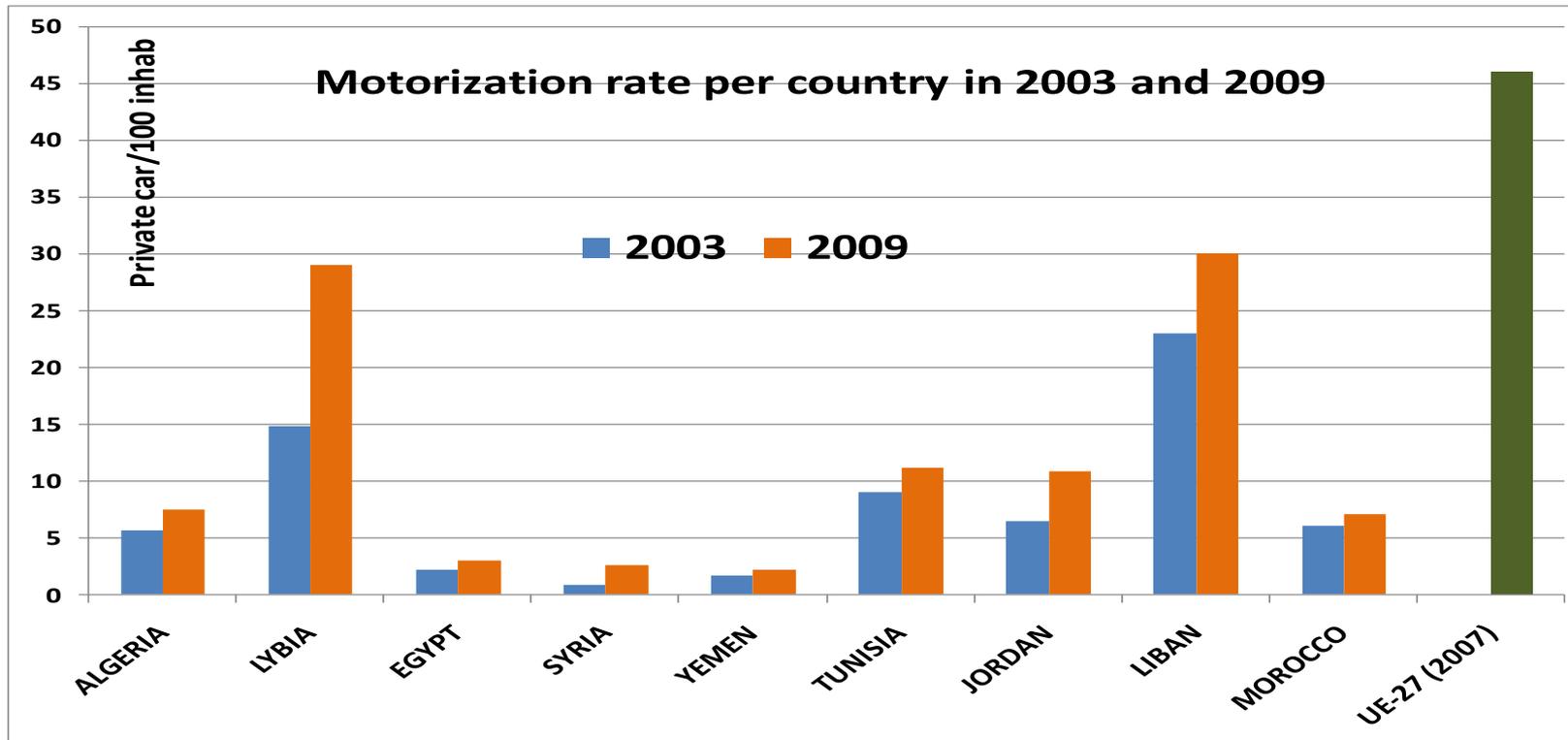
- ❑ **Most cities have experienced rapid growth in urban transport demand and in motorization. However, the quality of transport infrastructure is often deficient and cannot support growing modern economies;**
- ❑ **Congestion has become a growing and serious problem in most large areas;**
- ❑ **The development of urban transport systems, and particularly public transport has lagged, and this has fostered excessive reliance on private automobiles.**

Main characteristics of transport sector in the arab region (2)



**Source: Study on energy efficiency indicators in South and East of the mediterranean countries
– RCREEE/MEDENEC/ Plan bleu: october 2012**

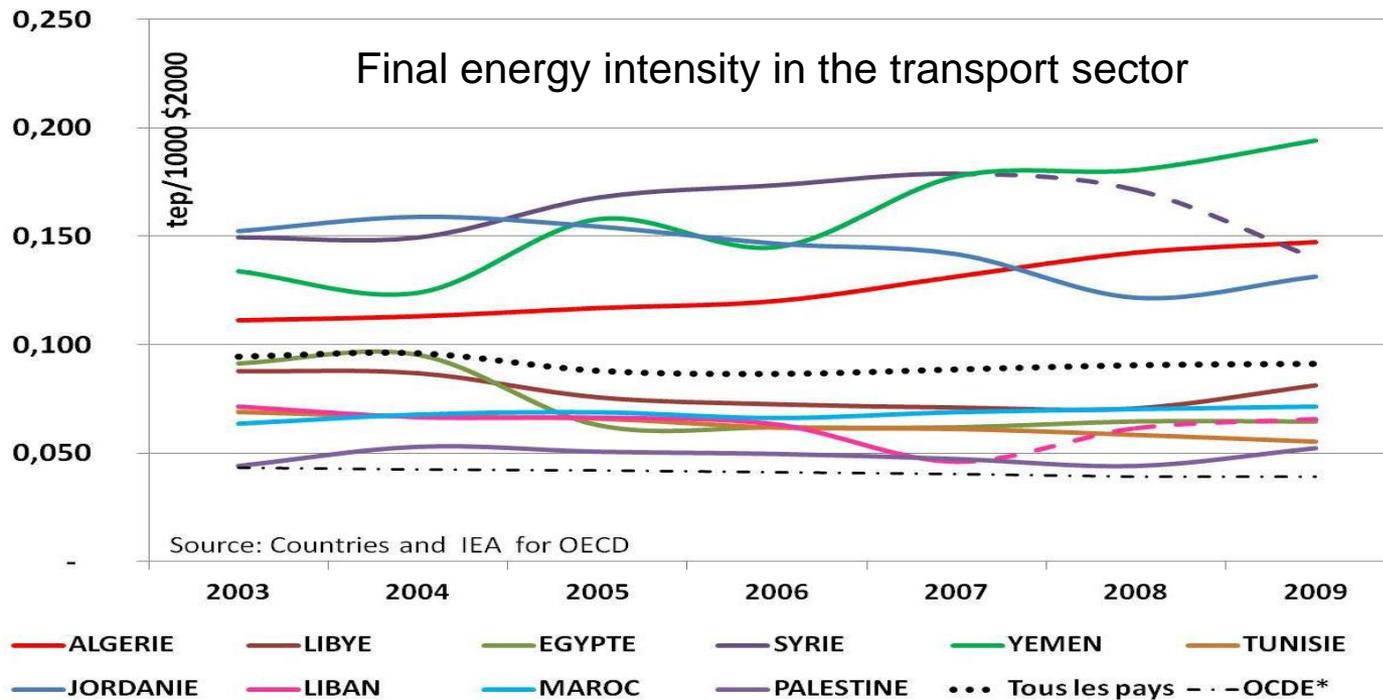
Main characteristics of transport sector in the arab region (3)



Source: Study on energy efficiency indicators in South and East of the mediterranean countries
– RCREEE/MEDENEC/ Plan bleu: october 2012

Main characteristics of transport sector in the arab region (4)

□ Average transport share in final energy consumption: 33%



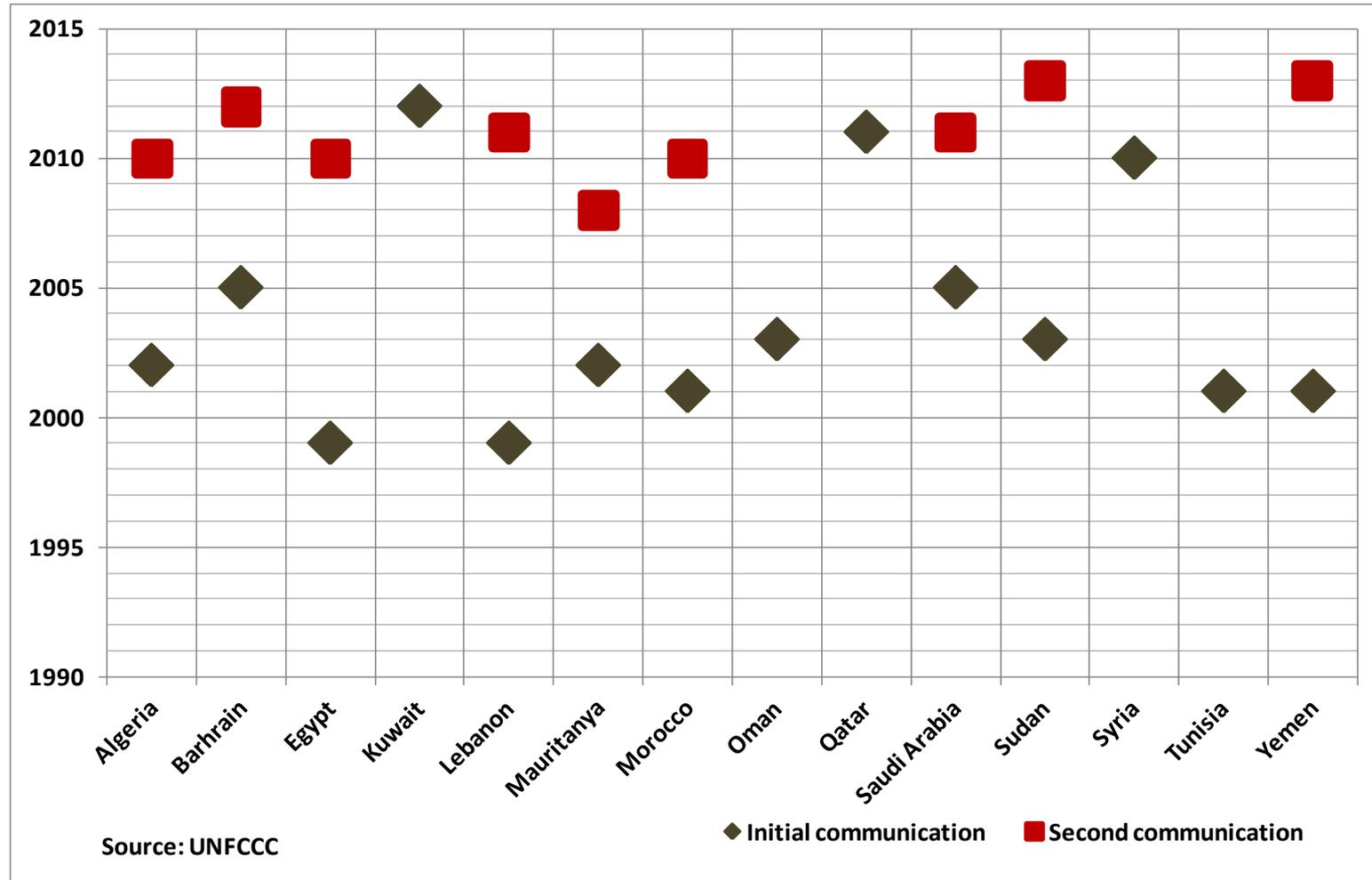
Source: Study on energy efficiency indicators in South and East of the mediterranean countries – RCREEE/MEDENEC/ Plan bleu: october 2012

Energy efficiency experiences in the arab countries (1)

- **Most of arab countries have signed the Framework Convention on Climate Change:**
 - **Obligation of reporting on GHG emissions once per 2 years (National inventory);**
 - **Estimation of GHG emissions according to IPCC guidelines (2006)**

- **Many arab countries have set targets for reducing overall energy consumption (% compared to base year or in term of energy intensity reduction) but not specifically in transport sector.**

Energy efficiency experiences in the arab countries (2)



Energy efficiency experiences in the arab countries (3)

- ❑ **Energy efficiency policies focused mainly on the rolling stock :**
 - **Most countries have imposed controls on imports of second-hand cars;**
 - **Some of them use differential taxation schedules to penalize large engines;**
 - **Obligation for regular engine testing;**
 - **Mandatory energy audits for transport companies consuming more than a certain threshold.**

- ❑ **Weak coordination between institutions involved in land use and urban transport development. However, there are some initiatives that serve as examples of good practices in city planning.**

Energy efficiency experiences in the arab countries (4)

Egyptian case:

Preparation of an Urban transport strategy for the Greater Cairo region that aims mainly to:

- ❑ Scale-up the provision of incentives for the replacement of old public buses and private taxis with a new fleet operating on Compressed Natural Gas (CNG);
- ❑ Complete 4 lines of underground metro by 2017;
- ❑ Identify and prepare specific clean technology projects (Light Rail Transit and Bus Rapid Transit systems)

Energy efficiency experiences in the arab countries (5)

Jordanian case:

Development of an efficient energy urban transport plan for Zarqa downtown:

- **Identify specific projects for the Zarqa downtown area which will tackle congestion, reduce emission rates, improve public transport, stimulate economic activity and optimize energy consumption;**
- **Develop a plan for easy access to Light Rail system (or Bus Rapid Transit system) terminal and stations using an efficient public bus transportation system in the city**

Energy efficiency experiences in the arab countries (5)

Tunisian case:

- ❑ An urban travel master plan for the city of Sousse was published in 2006. The plan was conducted through these main steps:
 - Study based on a survey on the existing transport means was conducted;
 - Action plan to improve the organization and the infrastructure of the transport in the city
 - Implementation of the action plan
- ❑ Municipalities are obliged to elaborate urban transport strategies that take into account energy efficiency and protection of the environment;

Policy options for reducing CO2 emissions in the arab countries (1)

A precondition for any reducing CO2 emissions policy:

❑ Improve significantly the statistical knowledge of traffic, vehicle stock and fuel consumption in each transport mode:

➤ Efficient data collection system in order to collect relevant data from several concerned institutions;

➤ Specific surveys have to be conducted in each transport mode (passengers / freight)

❑ Ensuring sustainable funds to support energy efficiency measures

❑ Implementation of MRV system

Policy options for reducing CO2 emissions in the arab countries (2)

Which factors influence transport energy consumption ?:

- Traffic flow
- State of road networks
- Bad state of vehicle motor
- Manner of driving
- Poor vehicle maintenance

Policy options for reducing CO2 emissions in the arab countries (3)

Five axes have been identified:

- Improving institutional framework**
- Reducing the use of private car and the acceleration of public transport use;**
- Reducing specific consumption of vehicles and promotion of alternative fuels;**
- Improving performance of road freight transport;**
- User behaviour changes**

Policy options for reducing CO2 emissions in the arab countries (8)

Improving performance of institutional framework (1/2):

The joint WB/ADB paper developed for discussion at the G20 (june 2012) shows that without taking account the interactions between land use planning, urban growth and transport development, no sustainable transport system can emerge

□ Creation of a transport authority in national and regional level:

- Better coordinate between the land use planning and urban transport development;
- Regulate and execute projects;

Policy options for reducing CO2 emissions in the arab countries (8)

Improving performance of institutional framework (2/2):

□ Setting-up a national transport observatory:

- carry out field surveys at large scale;
- gather data from a large set of institutional stakeholders;
- Annual review of vehicle stock, traffics, fuel consumption and CO2 emissions.

Policy options for reducing CO2 emissions in the arab countries (4)

Reducing the use of private car and the acceleration of public transport use (1/2):

□ Improvment of urban public transport:

- Ensuring the renewal of public transport vehicles with the requested specifications
- facilitating the circulation of buses in major cities through bus lanes and giving them priority traffic
- Expansion of mass transit systems
- Strengthening the participation of private sector in public transport in order to increase efficiency and ease the strain on public budgets.

Policy options for reducing CO2 emissions in the arab countries (5)

Reducing the use of private car and the acceleration of public transport use (2/2):

□ Improvment of traffic organization and road infrastructure :

Implementing Urban Master Plan in large cities to tackle congestion and improve mobility. In this context, entry of private car to city centres can be restricted (e.g. through the construction of parkings outside the cities and the construction of bus stations near to these parkings)

Policy options for reducing CO2 emissions in the arab countries (6)

Reducing specific consumption of vehicles and promotion of alternative fuels :

- ❑ Mandatory energy audit for transport companies consuming more than a certain threshold;
- ❑ Mandatory engine diagnosis;
- ❑ Promotion of clean fuel vehicle use (CNG, biofuels, ...)
- ❑ Influence the choice to purchase cars that consume less energy (e.g. detaxation of small cars, penalization of large cars)
- ❑ Encourage the removal of old cars (e.g. incentives, negotiated loan,...)

Policy options for reducing CO2 emissions in the arab countries (7)

Improving performance of freight transport :

- ❑ Promotion of logistics Platform to reduce empty returns for road freight transport;
- ❑ Improve rail transport infrastructure and promote rail/road intermodality;
- ❑ Develop the capacity and efficiency of transport infrastructure for international and in particular regional cross-border trade

Policy options for reducing CO2 emissions in the arab countries (9)

User behaviour changes

- ❑ Implementing a large awareness compaigns:
 - Rational driving;
 - Preventive maintenance.
- ❑ Introduction of energy efficiency concepts in highway code;
- ❑ Instructor training on these topics.

Conclusion

- ❑ Much can be done for reducing transport CO2 emissions in the arab region;
- ❑ Developing a more friendly environment urban transport is a great challenge (specific expertise in urban transport, heavy investment, better coordination, ...);
- ❑ Policy-makers have to choose among options in a manner that is best suited to their local context;
- ❑ However, **coordinated actions through integrated planning remain the best way leading to exponentially multiplied benefits**

***THANK YOU FOR YOUR
ATTENTION***