



Strengthening Statistical Capacity of Arab Countries in
Producing Energy Statistics and
Energy Consumption Surveys

Evidence-based National Energy Policies

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Beirut, July 23, 2015

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- Objectives
- National Energy Policies
- Transport Sector Energy Consumption
- Survey Outcomes
- Conclusion



BACKGROUND

Background

- Energy Sector
 - High Energy Demand growing in all economic sectors
 - High National Energy Bills
 - Limited Energy resources
 - Poor Infrastructure
 - Pollution and CO₂ emissions
 - Geopolitics and Conflicts

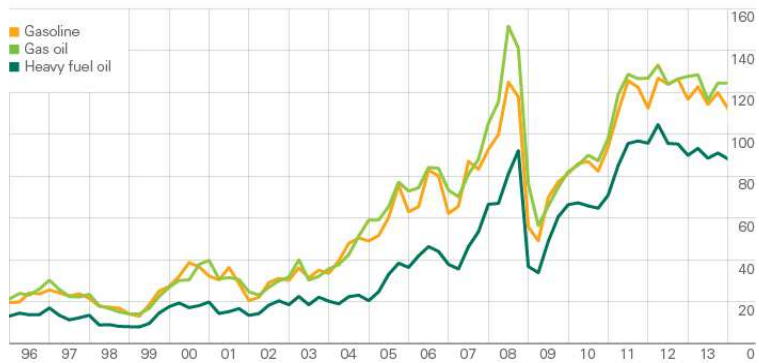


Background

- Energy Cost

Rotterdam product prices

US dollars per barrel



Source: Platts.

BP Statistical Review of World Energy 2014
© 2014 BP p.l.c.

Background

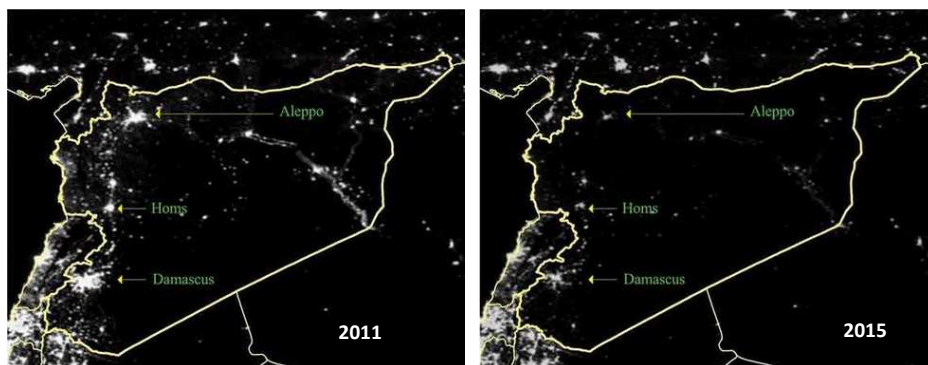
- Pollution



Work boats pull booms to skim oil at the site of the BP oil spill in the Gulf of Mexico (UPI/Newscom)

Background

- Political conflicts



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Background

- Lack of data
 - At the energy demand side
 - At the energy supply side
- Gap between the demand for information and reliable energy statistics
- Low quality of existing statistical data on energy use
- Absence of clear Energy Policy
 - Especially for the Transport sector

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OBJECTIVES

Objectives

**Reduce Energy Consumption
&
Enhance Energy Efficiency**

1st step: To understand the Energy Sector Issues

- Strengthening Statistical Capacity
- Energy Statistics
- Energy Consumption Surveys

Objectives

- Within **ESCWA current initiative** for three member countries (Egypt, Jordan and Palestine)
- **Surveys** on Energy Indicators
 - Develop **National Energy Policies**
 - Reduce Energy Consumption
 - In particular, **Transport** Energy Consumption



NATIONAL ENERGY POLICIES

National Energy Policy

- What is Policy?

- Guidelines, laws, rules, regulations, principles, and directions

What is to
be done?

Who is
to do it?

How is it to
be done?

- **Identify the issues**

- Understand the policy process (policy occurs at different levels and points of interaction)
- Engage stakeholders and develop networks

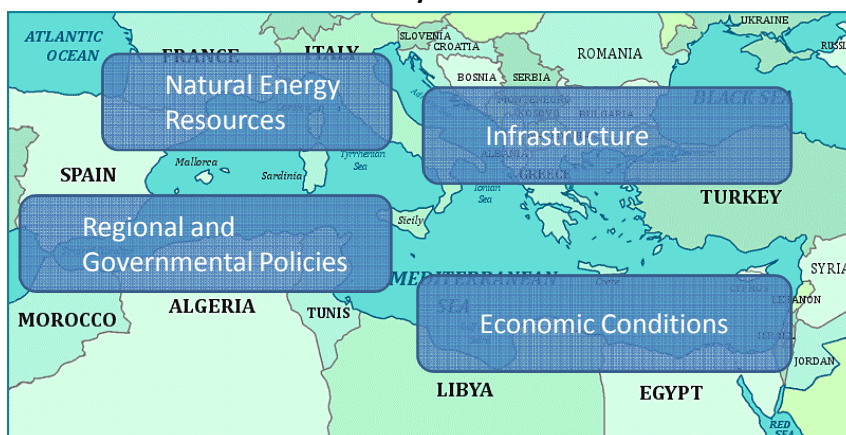
National Energy Policy

- Policy Paper Outline

- Context, issues and reasons
- Objectives
- Acts consistency
- Administration Process Control
- Information
- Support
- Specific Recommendations

National Energy Policy

- Energy Policy varies significantly from country to another due to many factors:



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National Energy Policy

- Energy Policy for a Specified Sector

Building Sector

- Energy Consumption Limits (kWh/m²/year)
- Energy Audit
- Efficient Building
- Passive Building
- Positive Building
- Green Building

Industry Sector

- Energy Consumption Limits (kWh/m²/year)
- Energy Audit
- Energy Efficiency
- Emissions Control
- Use of Renewable Energies

Electricity Sector

- Respond to national electricity demand
- Upgrade Existing Utility
- Define Energy Mix
- Use of Renewable Energies

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National Energy Policy

- Energy Policy Example

- EU

- 20-20-20 targets

By **2020**, the EU must get **20% of its energy from renewables**, have reduced its **carbon emissions** by **20%** and have improved its **energy efficiency** by **20%**.

National Energy Policy

- Energy Policy Example

- Increase of energy demand
- Target of **20 %** of its installed capacity coming from renewable sources by 2022
- Tariff reform program
- Feed in Tariff scheme
- New Renewable Energy Law
- Egypt's New and Renewable Energy Agency (NREA)



National Energy Policy

- Energy Policy Example



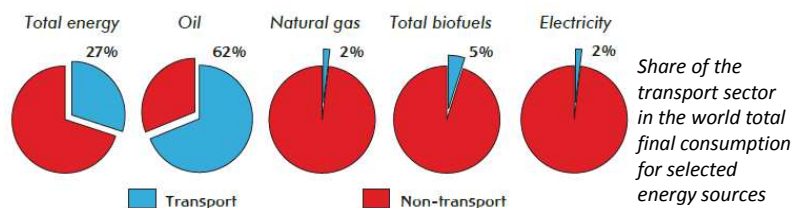
- Increase of energy demand and Electricity shortage
- Policy Paper for the Electricity Sector, Ministry of Energy and Water (June 2010)
- NEEREA - National Energy Efficiency and Renewable Energy Action
- NEEAP - National Energy Efficiency Action Plan for Lebanon (2011 - 2015)



TRANSPORT SECTOR ENERGY CONSUMPTION

Transport Sector Energy Consumption

- Investigating the transport sector energy consumption is challenging:
 - sector's complexity
 - uncertainty in energy use and production data
- Transport sector is heavily dependent on oil products
 - More than 60% of total oil products worldwide (IEA, 2014)



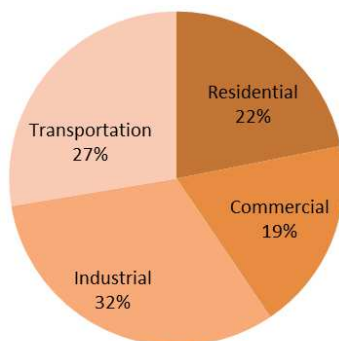
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Transport Sector Energy Consumption

- US Primary Energy Consumption
 - Transport sector 27 %



Source EIA, 2014

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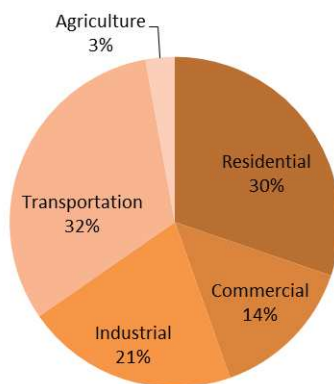
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Transport Sector Energy Consumption

- FRANCE Primary Energy Consumption

- Transport sector 32 %



Source ADEME, 2013

Transport Sector Energy Consumption

- Efficient Transport Measures (Kroner 2012)

- Reduce or avoid travel or the need to travel

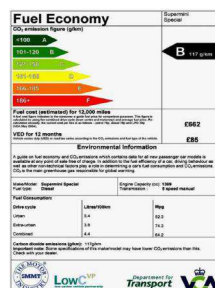
- Integration of transport and land use planning
- Parking policy
- Urban design
- Alternative work concepts: Tele working

- Shift to more efficient transport modes

- Improve the energy efficiency of transport modes and vehicle technology

Transport Sector Energy Consumption

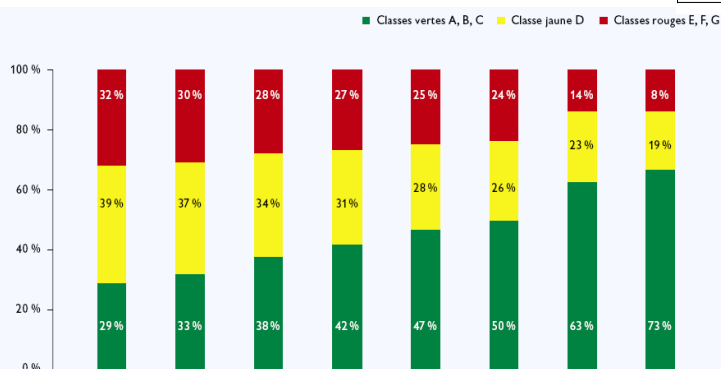
- Transport Sector Energy Policy
 - Vehicle imports
 - Car labeling
 - Car taxation
 - Road pricing
 - Fuel (Gasoline, diesel, gas, bioethanol...) pricing
 - Hybrid cars
 - Private / Public transport



Transport Sector Energy Consumption

- Transport Sector Energy Policy
 - French System Bonus Malus

	CO2, g/km	Barème, €
Malus	>250	2600
	De 201 à 250	1600
	De 166 à 200	750
	De 161 à 165	200
	De 131 à 160	0
Bonus	De 121 à 130	200
	De 101 à 120	700
	De 61 à 100	1000
	<60	5000



Source: Ademe



SURVEY OUTCOMES

Survey Outcomes

Energy Statistics Essential for Policy Making

- Identification of priority areas for the improvement of energy efficiency and reduction of energy consumption;
- Definition of the sector(s) that offer potential to further improve energy efficiency;
- Selection of the data and indicators that best support policy development in these sectors;
- Development of an energy strategy and targets to be achieved through the use of survey indicators;
- Tracking progress of energy policies.

Survey Outcomes

- Therefore, Energy Surveys:
 - Improve the process of energy policy decision-making;
 - Provide necessary data for policy makers, planners and concerned parties;
 - Provide essential statistical data for preparation of energy balance;
 - Constitute national energy databank for energy forecasting and policy impact analysis;
- Institutional and organizational framework for the updating and upgrading of the data.

Survey Outcomes in Transport Sector

- Realistic and up-to-date statistical data on the **fuel consumption** in the transport sector
- Better understanding of the **economic and technical factors** that influence decisions regarding consumption of energy by the various modes of the sector
- A database for the transport sector to use as a base for **forecasting future fuel demand** by the various modes of the sector
- **Policy makers** provision with vital statistical data needed on fuel consumption to improve fuel efficiency in the transport sector.

Survey Outcomes in Transport Sector

- Details on all modes of transportation activities
 - Air
 - Rail
 - Maritime
 - Road transportation
- Details on the fleet of vehicles
 - Age
 - Model
 - Make
 - Use
 - Fuel consumption
 - Efficiency

Survey Outcomes in Transport Sector

List of Indicators

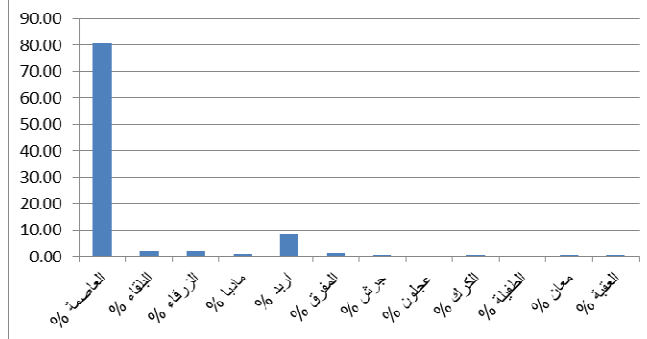
- General information
- Energy consumption
- Energy efficiency
- Social indicators
- Economic indicators
- Environmental indicators

Survey Outcomes

National Preliminary Results

- **46 %** of the total final energy consumption

توزيع مراكز النقل البري حسب المحافظات



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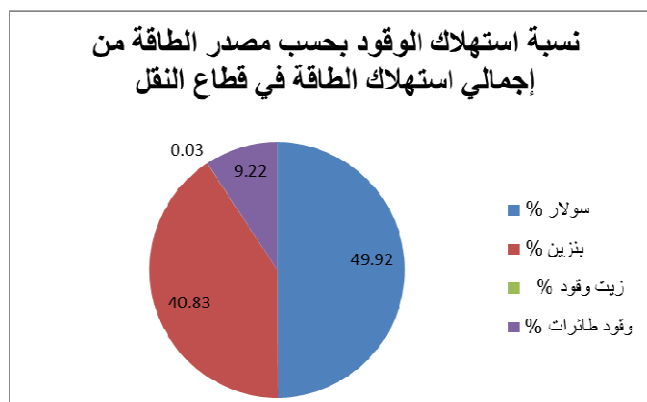
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Survey Outcomes

National Preliminary Results

نسبة استهلاك الوقود بحسب مصدر الطاقة من إجمالي استهلاك الطاقة في قطاع النقل



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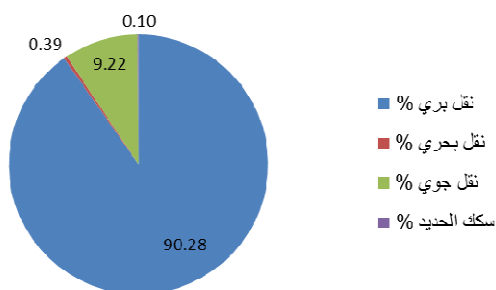
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Survey Outcomes

National Preliminary Results

نسبة استهلاك الوقود بحسب وسيلة النقل من إجمالي استهلاك الطاقة في قطاع النقل



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National Energy Policies

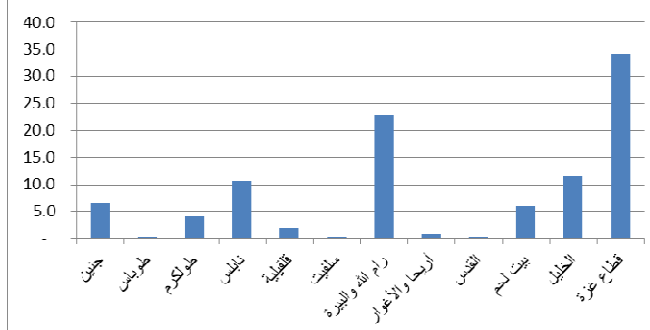
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Survey Outcomes

National Preliminary Results



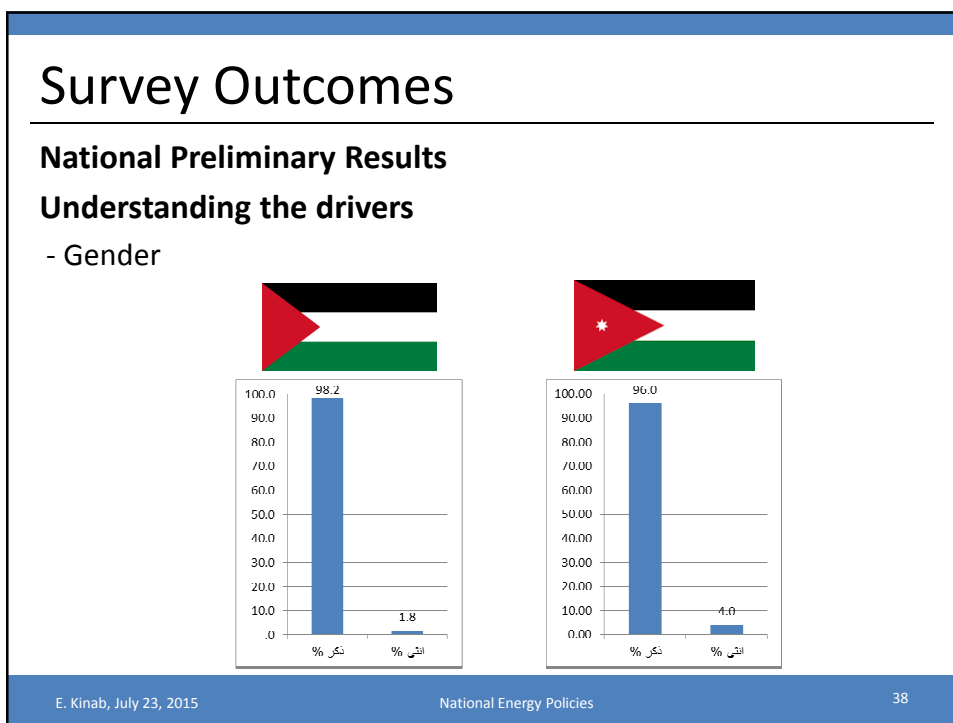
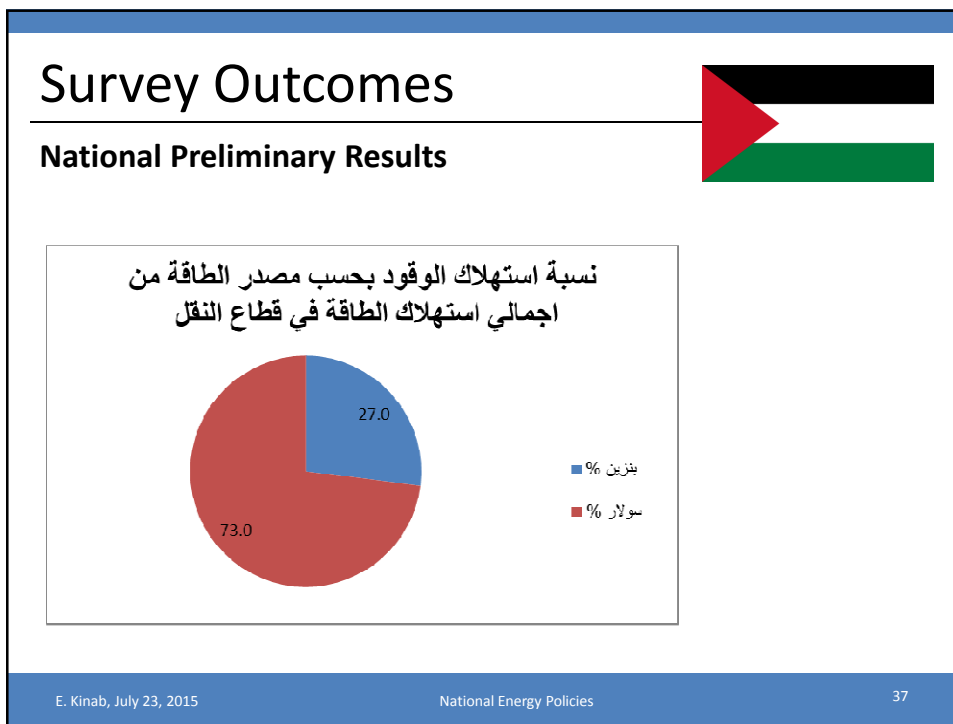
توزيع مركبات النقل البري حسب المحافظات %



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CONCLUSION

Conclusions

- **Energy Statistics are essential for National Energy Policy Making**
- Identification of available opportunities and interventions
- Unreliable energy data in many countries makes it difficult to draw their national energy policy and roadmaps
- Energy statistics are crucial for international energy markets especially with the volatility, and complexities of energy prices
- Constraints of global issues such as climate change, increased greenhouse gas emissions, emphasize the need to understand international conventions in monitoring and reporting.

Perspectives

- **Link Energy Statistics to National Energy Policy Making**
- New targets to be achieved in energy efficiency, greenhouse gases emissions, and renewable energies
- Reliable and accurate energy data at national level for most countries

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- Körner, A. 2012. Transport sector: Trends, indicators energy efficiency measures. International Energy Agency (IEA), 2012



THANK YOU

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