

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Energy Efficiency in Household Appliances. 3**

*Author's name : Talat YUKSEL 3*

**Title: Successful Implementation of Energy Efficiency and Renewables with Energy-Contracting:ESCO –  
Perspective 4**

*Author's name: Jan W. Bleyl. 4*

**Title: Macro-economic effects of Energy Efficiency and Renewable Energy Case study of Solar Water  
Heaters. 5**

*Author's name: Rafik MISSAOUI 5*

**Title: Projects & Lessons Learnt from UNDP/GEF in the Region 6**

*Author's name: Benoit Lebot 6*

**Title: Energy Efficiency in Buildings Financing and Fiscal Aspects 7**

*Author's name: Wolfgang Mostert 7*

**Title: The solar water heating program (PROSOL) 8**

*Author's name: Benaïssa Ayadi 8*

**Title: Energy Standards for Buildings 9**

*Author's name: Klaus Dilmetz 9*

**Title: Development of building regulations in Turkey 10**

*Author's name: Timur Diz 10*

**Title: Solar Heaters Success Stories in Palestine 11**

*Author's name: Nabeel Tinah 11*

**Title: Lessons learned and best practices from MEDA 12**

*Author's name: Adel Mourtada 12*

**Title: Case Study - Energy Efficiency Legislation in Morocco 13**

*Author's name: Benoit Lebot 13*

**Title: Framework Conditions in MEDA and Incentives Strategies 14**

*Author's name: Adel Mourtada 14*

**Title: Energy Efficiency Labeling Programs in MEDA 15**

*Author's name: Walid Shahin 15*

**Title: Energy Efficiency Strategy Jordan 16**

*Author's name: Ammar Al Taher 16*

**Title: The energy-saving potential of modern lighting solutions 17**

*Author's name: Henk Rotman and Emad Ourabi 17*

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable Energies in Buildings”  
Syria, June 22-23, 2007**

**Title:** Energy Efficiency in Household Appliances.

**Author’s name :** Talat YUKSEL

**Abstract:**

Household manufacturer in Turkey with more than 17 millions unit production per year is the 2nd biggest producer of white goods in Europe. BESD in Turkey as a member of CECED (European Committee of Domestic Equipment Manufacturers) have performed very important improvement on energy efficiency and environmental performance of product.

The reserves of fossil fuels which currently respond to the major part of world energy requirements are being running out very fast. Because it is forecasted that reserves of some fossil fuels like oil and natural gas will come to an end in the second half of this century, exploiting all energy resources in an efficient manner and renewable energy has great importance. Throughout the world where the energy demand grows continuously but the resources decrease gradually, many types of programs are implemented to provide efficient energy use.

Our main message is ‘Energy efficiency begins at home, with efficient appliances’. Household appliances are critical and indispensable tools in energy efficiency and reduction of CO<sub>2</sub> emission programs. In the last decade, a coherent development of European energy labels and the implementation of industry voluntary agreements produced outstanding progress towards higher-efficient and better eco-friendly appliances, significantly improving features and performances. Today, the energy efficiency of many types of large appliances is close to technological limit. It can be seen that in all categories the resource consumption was decreasing with later year of manufacture. For example, the average washing machine today consumes 44% less energy and 62% less water compared to average machine of 1985. Today’s best refrigerator consumes only one fourth of a typical refrigerator from 1990.

This success of the sector is being awarded almost every year in different platforms, for example, Blomberg A++ refrigerator winning Energy+ awards consumes only 0.375 kWh/24h for 288 lt total net volume.

In order to be successful, a policy on home appliances sector must be based on energy efficient technology, mandatory energy labeling and diffusion of state-of-the-art technology. Real energy savings can only be achieved if energy-efficient technology is being put in place. Market transformation mechanism have a great importance on the plan which secures that customer select most efficient appliance when they buy new appliances or replace old appliance. Energy efficiency plan on household sector can be a big opportunity for customers, industry and governments. Less electricity and water bill for costumers, less energy investment, less CO<sub>2</sub> emission and less unemployment for governments, more business opportunity for sector are only some advantages of the energy efficiency plan in household appliance

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title:** Successful Implementation of Energy Efficiency and Renewables with Energy-Contracting:ESCO – Perspective

**Author’s name:** Jan W. Bleyl.

**Abstract:**

**A brief introduction to Energy-Contracting:**

- The energy-contracting concept?
- The two basic business models
- Key elements of the energy-contracting service package

**Some Financing aspects of Energy-Contracting?**

**Four good practice examples:**

- Energy Saving Partnership“, Berlin
- Public street lighting, Graz
- Pharmaceutical Plant, Austria
- Solar Thermal Supply Contracting, Graz

**Market development of energy-contracting (2 examples)**

**Conclusions and recommendations**

1. Energy-Contracting is a good but long-term business case.  
It requires a comprehensive understanding of the entire energy service package including energy efficiency technologies, construction, operation & maintenance, financing and controlling.
2. Project development requires know how and endurance. Use standards and get support from an experienced consultant => do not re-invent the wheel
3. Financing: please refer to financing slide
4. Basically, no special Contracting legislation is required. Educate building/facility owners and potential ESCOs to create market demand. And put Energy efficiency on top of the agenda!

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title:** Macro-economic effects of Energy Efficiency and Renewable Energy Case study of Solar Water Heaters.

**Author’s name:** Rafik MISSAOUI

**Abstract:**

- Outlook on solar water heater market
- Key factors for solar water heater sector development
- Micro level impact assessment (end user level)
  - Micro-economic level impact analysis
  - Profitability indicators: eg. Pay back period
  - Financial mechanism facilities
- Public finance impact assessment
  - SWH versus electric water heater case of Tunisia (2006)
    - Avoided financial losses for the utility: 3 to 5 €/year/m<sup>2</sup>
    - Avoided public subsidies for natural gas: 12 €/ m<sup>2</sup> / year
    - Saved foreign exchanges currencies: 38 €/ m<sup>2</sup> / year
    - Industry reinforcement: more than 14 suppliers in Tunisia with 5 local industries
    - Employment: More than 800 direct and indirect jobs
    - GHG reduction: around 0,15 TECO<sub>2</sub> / m<sup>2</sup> / year
- Conclusion
  - The solar water heater development has positive effects on all stakeholders
  - Need to put in place a stakeholders win – win approach
  - Need for support mechanisms
    - Financial mechanisms (credit, etc.)
    - Positive signal from Governments
    - Supply support
    - Regulation

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title:** Projects & Lessons Learnt from UNDP/GEF in the Region

**Author’s name:** Benoit Lebot

**Abstract:**

- Evolution of CO2 Concentration in the Atmosphere
- Evolution of temperature on earth
- Ranking of the Warmest Years observed since 1880 (Ranked from the hottest record)
- Equation of GHG proposed by Professeur Kaya (World Summit 1992)
- Most Products that Will Use Energy in Buildings in 2020 Have Not Yet Been Made
- IEA WEO 2006: Alternative Policy Scenario: Global Savings in Energy-Related CO2 Emissions
- The Global Environment Facility
  - \$US 1 Billions for Climate Change Mitigation for 2006-2010
  - Energy Efficiency in Buildings & Appliances is Top Priority: Excellent Cost/Benefit Ratio
- UNDP/GEF EE Building Projects in MEDA Region
- Examples of Barriers to Energy Efficiency in Buildings
  - Wrong Price Signal
  - Weak institution, Insufficient legal and regulatory framework
  - Perceived benefits of EE code
  - Competing interests of different key stakeholders
  - Auditing and enforcement
  - Inadequate testing of building materials
  - Availability of energy efficient materials & equipment
- Objectives of UNDP-GEF Programmes is to help governments implement EE policies
  - EE building codes for public, private and residential buildings
  - EE standards for construction materials, building design, building construction, equipment, etc.
  - Greater EE awareness among public decision-makers; building sector professionals; manufacturers and suppliers; and real estate developers (including the State)
  - Demonstration projects to measure EE effectiveness
  - Technical training and manuals
  - Better auditing and enforcement
- International Collaboration: Benefits of successful regional approach
- Next Steps for UNDP and the GEF
- Proposed Avenue for An Energy Efficient Future
  1. Develop a Common Vision
    - *All New Buildings to become Carbon Neutral*
    - *Phase out Obsolete Technologies*
  2. Funding Agencies (GEF, Europaid) to co-finance design, implementation of policies
  3. Carbon Finance to finance market transformation & Compliance

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Energy Efficiency in Buildings Financing and Fiscal Aspects**

**Author’s name:** Wolfgang Mostert

**Abstract:**

- Reducing Annual Growth in World Energy Demand from 2.2% to 0.7%
- Challenge for EE Policy for Buildings:
  - Presently existing buildings in Germany use on average three times as much energy as standard in latest building code (below Denmark)
  - 85% of building stock in use in EU in 2030 have been constructed already
- Design of EE Support Scheme: Objectives
- Individual instruments have “no impact” only EEprograms:
- Sources of Subsidy Finance and Targets for Subsidies
- Loan-finance Innovations:
  - “Normal consumers”
  - “green mortgages” = increase in loan as % of investment
  - Dedicated “KfW”-type institutions giving low-cost loans
  - Reaching small-scale consumers through involvement of energy supply companies
  - Using Contracting to finance investments by cash- and debt constrained public institutions
  - energy saving contracting
  - energy supply contracting
- Lessons learned – reflected in strategies:
  1. Grants versus Preferential Loans
    - Isolated grants and subsidies only partial effect, rest-finance is still needed
    - Low-interest rate special purpose loans combine investment subsidy with loan finance
  2. Public-Private-Partnerships
    - Impact
    - Flexibility
    - (market transformation)

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: The solar water heating program (PROSOL)**

**Author’s name: Benaïssa Ayadi**

**Abstract:**

- How did the Tunisian SWH Market progress?
- PROSOL Program 2007-2011 Objectives
- PROSOL program (Residential sector) Financing mechanism
- Partnership between Public and private sectors
  - STEG (guarantee of credit payment on the electricity bill during the 5 years of the credit period)
  - ANME (management of the state subsidy and monitoring of the PROSOL program)
  - ATTIJARI Bank (engagement to grant credits to SWH purchasers during the period 2007-2011).
- PROSOL program (Tertiary sector) : hotel sector
  - subsidy at investment to be financed by FNME (20% of global cost maximum 100 DT/m<sup>2</sup>)
  - other financial assistance equivalent to 20% of investment amount granted within the frame work of the international co-operation (UNEP/IMET) :
    - 10% extra subsidy at investment
    - 10% bonification to the maintenance contract and credits interest rate
  - Accompanying measures
    - Trainings
    - Communication and sensitisation

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Energy Standards for Buildings**

**Author’s name: Klaus Dilmetz**

**Abstract:**

- reasons for saving energy: security of supply, energy costs, sustainability
- EU legislation - framework EPBD
  - \* Security of Energy supply
    - reducing demand of Energy
    - more energy efficiency
    - saving energy
  - \* Economic efficiency and competitiveness
    - economic measures
    - for an decreasing energy demand of existing buildings
    - reducing energy costs
  - \* Sustainability, climate protection
    - Kyoto Protocol
    - Climate change, global warming, reducing GHG emissions (20% in 2020)
    - renewables (20% in 2020)
    - increase EE (20% in 2020)
- legislation for EE and REN in buildings in Germany
- German strategies to increase energy efficiency (EnEV, energy certificate, funding)
  - Requirements in Germany (energy demand for space heating in kWh / (70 kWh/m<sup>2</sup> x a since 2002))
- promotion, funding and incentives of EE and REN
- Programs of KfW promotional bank
- Results
  - decrease of energy demand through **better techniques and products** e.g.: Windows, insulation products, insulating bricks (Industry, R&D)
  - increase of energy efficiency of e.g.: **heating, cooling and air-conditioning systems** (I, R&D, Engineering)
  - increasing usage of **renewable energy systems** (I,R&D,E)
  - better **building design, engineering and combination of technical systems and the building construction** (additional: better education, training and best practice examples)
- prospects
  - more transparency by labelling (energy certificates)
  - better building energy efficiency standards
  - better technical systems in buildings
  - more use of renewable energies
  - more funding and advancement
  - investments in buildings for ecology and economy

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Development of building regulations in Turkey**

**Author’s name: Timur Diz**

**Abstract:**

- **First Regulation 1977**
  - Ministry of Energy and Natural Resources “Saving on Fuel Consumption of the Heating and Steam Facilities and Reducing the Air Pollution”
- \* Details of the Regulation – New Buildings
  - 4 different temperature zone were defined
  - A Calculation method was defined
    - Average heat transmission coefficient of the building elements of was to be lower than the limit values
    - Average heat transmission coefficient of the external wall and windows was to be lower than the limit values
  - Obligation on usage of Double framed or double glazing window units.
- \* Details of the Regulation – Existing Buildings
  - Roof Insulation (5 cm – MW)
  - Usage of Double framed or Double glazing windows units
  - Education of boiler operators
  - Replacement of old boilers
  - Insulation of mechanical installations
- **2nd Regulation 1980**
  - Ministry of Agriculture and Forestry “instructions for insulation of buildings”
    - Instructions for lower U-values
- **3rd Regulation 1981**
  - Ministry of Public Works and Settlement “the addition of thermal I insulation related subjects to the settlement regulations of the municipalities”
    - Instructions for lower U-values
- **4th Regulation 1984**
  - Ministry of Energy and Natural Resources “Reducing Fuel Consumption and Air Pollution with Thermal Insulation in Existing Buildings”
    - Instructions for lower U-values
- **5th Regulation 1985**
  - Ministry of Public Works and Settlement “the addition of thermal insulation related subjects to the settlement regulations of the municipalities”
- **6th Regulation 2000**
- **First Law 2007**
  - to improve energy efficiency
  - to protect environment
  - to reduce the presurre of energyprices on economy
  - Definition of Energy service companies
  - Energy administration for buildings
  - Arrangement of Condominium Law

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Solar Heaters Success Stories in Palestine**

**Author’s name: Nabeel Tinah**

**Abstract:**

- Share of renewable in total energy / electricity supply
  - Renewable energy contributes 19% of Total Primary Energy Supply (TPES)
- Energy Prices
  - The cost and consumer prices of electricity in Palestine are the most expensive if compared to other countries in the region.
- A clear comprehensive and general energy policy at a national level is under preparation.
- There are a number of key factors influencing the energy market in Palestine
  - The political situation and future of Palestine
  - The Gross National Product per capita is relatively low
  - The prices of energy are relatively high
  - The Demand for electricity is rising
  - Palestinian indigenous energy resources are quite limited
- Solar Heater Market structure
  - 67.2% of houses are actually using solar family systems for water heating
  - The total area of installed systems is about 1,490,000 m<sup>2</sup>
  - About 50% of the hospitals are equipped with SWH
- Local SWH manufacturing capacity
  - The market for solar thermal energy technologies is limited to water heating estimated to 13 M€
- Financing Schemes
  - no subsidies offered on energy products.
  - no incentives for producing or installation of solar water heating equipment or any special financing schemes.
  - no proper financing schemes adopted or governmental initiatives for encouragement of efficient utilization of renewable resources
- Policy barriers
  - Absence of governmental initiatives and concern for development of renewable resources.
  - Absence of power to control the quality in the market.
  - Absence of qualified testing labs & bodies
- Recommendations
  - Creation of a national fund with participation of the government, private sector and external financial aid for supporting development actions of RE and EE.
  - Imposition of standards, regulations and certifications for improvement the level of market quality.
  - Establishment of national testing facilities/ research centers and labs.

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Lessons learned and best practices from MEDA**

**Author’s name: Adel Mourtada**

**Abstract:**

- What is an Energy Efficiency and Renewable Energy Policy?
  - Governments pledge to generate energy from targeted percentages of RE and EE by fixed dates.
  - Governments define energy savings objective to energy actors, energy savings priorities and projects to implement in order to respect obligation, action plan for implementation, the monitoring and verification methods to apply to measure energy saving and the financial facilities.
- The current policy situation with regards to EE and RE in MEDA countries.
- Specific Laws related to Energy Efficiency or Renewable Energy
- Energy Efficiency or Renewable Energy Targets in MEDA countries
- Thermal Standard for buildings and Energy Building codes in MEDA countries
- Standards of minimum energy efficiency and Energy Label programme in MEDA Countries
- Lessons Learned from the current policy situation:
  - Few countries have a legislative framework providing an impulse to the promotion of EE and RE. Pioneers in the region have been Tunisia and Turkey.
  - Lack of policy instruments (especially energy tariffs) that would lead to the creation of RE markets or the achievement of the set target % of RE.
  - Market forces are not sufficient for encouraging the development of RE/EE.
  - Existing thermal standards aren't implemented excepted in Turkey and Israel.
- Why improving Energy Efficiency and promoting RE in MEDA-Countries ?
- What are the barriers to EE and RE development?
  - The actual subsidised gas price (especially in Algeria and Egypt).
  - Lack of a legal framework for EE and RE technologies
  - Lack of information among political decision makers about the energy savings potential and additional macro-economic benefits of EE and RE technologies.
  - Insufficient human and institutional infrastructure.
  - Weak incentives and inconsistent policies.
  - Lack of implementation (compliance, enforcement) of EE Building codes and Thermal insulation standards, where existing.
  - Lack of normalization and certification of solar thermal technologies and products
- Guideline of “How to develop a good national EE and RE strategy”.
  1. Establish and monitor energy policies/strategies or reform plans detailed by sectors, (including medium to long term objectives, priorities, schedule, resources).
  2. Establish firm targets for EE and RE.
  3. Develop action plans for implementation.
  4. Establish specialised agencies (statistics, regulation, energy efficiency and renewables, climate change flexibility mechanisms);
  4. Remove the inherent barriers and subsidies which penalise EE and renewables.
  5. Implement mechanisms to secure and accelerate the new market.
  6. Acquire and implement information and statistics systems; indicators, monitoring of energy efficiency, and follow up of policies

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Case Study - Energy Efficiency Legislation in Morocco**

**Author’s name: Benoit Lebot**

**Abstract:**

- Absence of EE Standards in Construction Sector Contributes to National Energy Deficit
- Policy Objectives of Moroccan Government
  - Gradual introduction of EE standards and practices in construction sector
  - Target is to reduce energy consumption in buildings by up to 15%
- New EE/RE Law Provides Regulatory Framework
  - Minimum EE standards for housing, health, educational, cultural, administrative and office buildings, including:
    - Technical specifications (insulation, ventilation, heating, cooling, and hot water production, etc)
    - Energy performance standards for buildings
    - Objectives for solar energy and other renewable energies
    - Climate zone-specific standards
  - Standards and labels for building materials and equipment
  - Auditing and verification measures
- New EE/RE Law Provides Institutional Framework
  - Mandate of CDER, Morocco’s RE agency, expanded to cover EE
  - CDER to ensure that builders conform to EE regulations by:
    - Issuing EE building standards through the Ministry of Housing
    - Publishing and disseminating technical information
    - Certifying energy inspection firms
    - Ensuring that penalties are applied for non-compliance
  - CDER to develop three EE programmes for:
    - New construction
    - Public sector buildings (new construction and renovations)
    - Social housing
- Close Partnership with Public and Private Stakeholders
- Next Steps for UNDP and the GEF
  - Promote Programmatic CDM
- Transforming the Equipment Market Impact of EU Label of Cold Appliance
- European Car Label
- Energy Label also used for Buildings: In Austria, UK, Denmark, France, ... private homes are being labeled
- 54+ countries with 80% of the World’s population have standards and labelling

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Framework Conditions in MEDA and Incentives Strategies**

**Author’s name: Adel Mourtada**

**Abstract:**

- General Conditions in MEDA countries :
  - Limited scope for subsidies for incentives EE and RE programmes
  - “Climate change” is not a priority in many countries
  - Sector reforms require financial discipline
  - No macro-economic approach but only sector interests of ministries
  - No high priority in energy-exporting countries
- Financial and Economic Barriers
  - High interest rates in local funds.
  - Indirect and direct subsidies to other sources of energies, without considering their externalities.
  - Lack of information among potential users about the real cost of EE measures
- Human and Technical Barriers
- What is needed for a transition and a market transformation?
  - The main parameters are the energy bills...
  - So the key is tariffs of energy & power applied...
- What needs co-financing?
  - Pre-investment: audits, cost estimates, feasibility studies
  - Investment: key components contributing to EE (double glazing, insulation material, efficient compressor, solar flat collectors etc), as easily surveyed in quantity, or the whole works?
- Economic and Fiscal Incentives in MEDA countries
- Best practices from MEDA Countries:
  - New incentive program for the development of SWH in Tunisia
  - Awareness campaigns and Financing of SWH by commercial banks in Lebanon
- Case studies :
  1. Rehabilitation of Existing Buildings For Saving Energy in ANKARA
  2. Energy Conservation Measures In Residential buildings in Lebanon
- Recommendations for financing incentives
  - Subsidies are needed for a kick-start, over a limited period.
  - Awareness raising, technical assistance and capacity building
  - Market preparation and market assessment.
  - Improving legal and macroeconomic framework conditions for EE and renewable energy technologies.
  - Expanding development partnerships with the private sector (especially Banks).
- Towards a decentralized and balanced financing-funding
  - A small environmental tax on all energies, with adequately tuned parameters...
  - Feeding EE funds at national, regional and obviously municipal levels...

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Energy Efficiency Labeling Programs in MEDA**

**Author’s name: Walid Shahin**

**Abstract:**

- A wide range of energy labels are presently in use globally
  - Types of Energy Labels : Endorsement Label, Comparative Label and Information-only.
  - Some 73 countries comprising a combined population of 4.9 billion have or are implementing energy efficiency information labels for appliances
- What are the Savings?
  - 10% of electric consumption for Air conditioning
  - 20% of electric consumption for Washers
  - 25% of electric consumption for Refrigerators.
- EEL in MEDA
- Conclusion
  - EEL programs Support sustainable development in MEDA through reducing energy consumption, curbing energy demand & protecting the environment
  - Eliminate the availability of energy-wasting products through mandatory standards
  - Stimulate the development and market introduction of new, energy-efficient models
  - Raise the awareness by all participants in the product-distribution chain regarding new products and relevant information
  - Change consumer purchasing practices to increase market penetration of efficient products so that these products become well established in the market
  - MEDA Countries should speed up the development of EEL programs
  - MEDA countries should work on harmonizing their label amongst themselves and with the European standards
- Benefits of Regional or International Policy Co-ordination
  - Greater Market Transparency
  - Reduced Costs for Product Testing & Design
  - Enhanced Prospects for Trade & Technology Transfer

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: Energy Efficiency Strategy Jordan**

**Author’s name: Ammar Al Taher**

**Abstract:**

- Energy Conservation Potential In Commercial Buildings – Jordan
- Barriers & NERC Activities to Create the Market through technology Push and Demand Pull
  - Lack of incentives and financing
  - Lack of information
  - Lack of technical expertise
  - Lack of Management commitment, policy and organizational structure supporting energy management
  - The needed equipment and retrofits are not available in the local market
  - Non existence of laws and regulation to promote energy efficiency
- Jordan Drafted EE Law
- Jordan EE Strategy
  - Reduce energy consumption without negatively effecting production or the standard of living and in order to lower the imported oil bill on the national level and reducing the emission of harmful gasses to the environment
  - Improve the standard of living
  - Achieve balance between imports and exports
  - Reduce production cost and improve competitiveness of the local industries and other sectors
  - Reduce investment in Energy Sector
- Jordan Energy Master Plan
- Jordan National Agenda
- NERC Strategy (2006-2010)
- In January 2007, His Majesty King Abdullah II entrusted a Royal Committee to:
  - Review and modernize the national energy strategy for the upcoming 15 years.
  - To recommend ways to provide the needed energy, particularly the alternative and renewable energy resources.
  - Draw up a- work program with clear mechanism and specified cost within a time frame
  - to implement the strategy and to indicate the roles of all concerned parties in implementing it, which ensures the achievement of national economic interests.

**“Political and Economic Framework Conditions for Energy Efficiency and Renewable  
Energies in Buildings”  
Syria, June 22-23, 2007**

**Title: The energy-saving potential of modern lighting solutions**

**Author’s name: Henk Rotman and Emad Ourabi**

**Abstract:**

- Lighting accounts for 19% of the electricity used worldwide
- Of those 19% the vast majority is used in professional applications (streetlighting, lighting in shops, hotels, offices and industry)
- With existing products substantial savings can be realized (up to 40%)
- Modern lighting solutions do not only save energy but also reduce total costs of ownership and increase quality of light and comfort
- Efficient lighting consists of :
  - Efficient lamps
  - Efficient luminaires
  - Efficient control gear
  - Lighting Controls
  - Efficient design
  - Efficient use
- Maximum energy-savings can be realized combining all elements
- Major roadblock for implementation of energy-efficient lighting are lack of awareness and higher initial investment
- Possible measures to speed up implementation are :
  - Green procurement
  - Financing schemes
  - Discouraging old inefficient technology
  - Environmental (performance) targets

Feedback from discussion with participants : participants recognize the energy-saving possibilities and appreciate the simplicity and the fact that solutions can be implemented on relatively short term. Lack of awareness and higher initial investments are recognized as roadblocks.