**Energy Efficiency** Country Profile

### Primary Energy Intensity

![Bar Chart](chart1.png)

- **2000**
  - Algeria: 0.16 koe/US$05ppp
  - EU: 0.10 koe/US$05ppp
- **2010**
  - Algeria: 0.14 koe/US$05ppp
  - EU: 0.12 koe/US$05ppp

Sources: WEC (2013), World Bank (2013)

### Primary Energy Consumption

- **2000**
  - Natural gas: 63%
  - Oil: 36%
  - Hydroelectricity: 1%
  - 602 Thousand boe/day

- **2011**
  - Natural gas: 61%
  - Oil: 39%
  - Hydroelectricity: 1%
  - 875.3 Thousand boe/day


### Final Energy Consumption - 2009

- Residential: 64%
- Industrial: 34%
- Transport: 2%
- 52%
- 11%
- 1%

Source: IEA (2009)
EE Targets and Designated Agency

- No clear EE targets are adopted.
- In 2011, Algeria approved a new national program for renewable energy and energy efficiency with a three-year (2011-2013) initial phase for energy efficiency.
- National Energy Efficiency Action Plan (NEEAP) is under preparation.
- National Agency for the Promotion and Rationalization of Energy Use (APRUE) is responsible for promoting EE, developing NEEAP, and implementing national EE policies.

Regulatory Framework

- Thermal regulations for new buildings No. 2000-90 are adopted.
- Minimum energy performance standards with appropriate labeling scheme have been adopted since 2009 for air conditioners, household refrigerators, freezers, and lamps by three ministerial orders.
- Executive decree No. 495-05 is adopted prescribing mandatory energy audits for large energy-consuming facilities.

Implementation Capacity

- By 2012, 600 units of Solar Water Heaters have been installed.
- No buildings are built according to new buildings thermal regulations No. 2000-90.
- In 2011, APRUE launched ECO-BAT program which aims at constructing 600 housing units as demonstration projects in order to raise awareness about energy-efficient buildings and mobilize stakeholders in the construction industry.
- By 2012, 500,000 Compact Fluorescent Lamps (CFLs) have been distributed as a part of APRUE’s ECO-Lumiere program, which aims to promote energy-efficient lighting.
- As part of APRUE’s TOP-industrie program, the following feasibility studies were conducted in order to promote EE in the industrial sector:
  - Feasibility study on the restarting of a gas turbine generator of 14MW.
  - Feasibility study on the recovery of thermal energy from the heating of pretreatment baths in a furnace for zinc.
  - Feasibility study on the use of an existing steam turbine of 2.1 MW.

Financial Incentives

- The National Fund for Energy Management (FNME) was established in 2000 by decree 2000-116 for financing EE projects. Sources of financing include taxes on natural gas and electricity. Taxes are defined by finance law (2000). Areas of expenditure are specified by the inter-ministerial order of September 17, 2000.
- Customs duty on importing Solar Water Heaters and Compact Florescent Lamps is 30%.
Fossil fuel subsidies in the power sector are large.
- No special tariffs for households to encourage a rational use of energy.
- Time-differentiated electricity pricing exists for large industries to encourage consumption shifting from peak hours.

### Energy Service Providers
- No energy audits are conducted in residential and tertiary sectors.
- More than 17 audits are conducted in the industrial and commercial sectors.
- No energy service companies (ESCOs) exist.

### Electricity Tariffs

| Tariff Code | Customers Fixed Fee | Time of Use | Tariff in cDA/kWh (*) (**) (***)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>421177.73</td>
<td>Peak hours</td>
<td>550.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full hours</td>
<td>113.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night hours</td>
<td>49.19</td>
</tr>
<tr>
<td>32</td>
<td>421177.73</td>
<td>Peak hours</td>
<td>114.12</td>
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<tr>
<td></td>
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<td>Full hours</td>
<td>726.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night hours</td>
<td>161.47</td>
</tr>
<tr>
<td>41</td>
<td>32227.79</td>
<td>Peak hours</td>
<td>85.33</td>
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<tr>
<td></td>
<td></td>
<td>Full hours</td>
<td>356.92</td>
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<tr>
<td></td>
<td></td>
<td>Night hours</td>
<td>313.02</td>
</tr>
<tr>
<td>42</td>
<td>429.71</td>
<td>Peak hours</td>
<td>726.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off-peak hours</td>
<td>150.53</td>
</tr>
<tr>
<td>43</td>
<td>429.71</td>
<td>Night hours</td>
<td>85.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Day hours</td>
<td>356.92</td>
</tr>
<tr>
<td>44</td>
<td>429.71</td>
<td>Uniform rate</td>
<td>85.33</td>
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<tr>
<td>51</td>
<td>286.44</td>
<td>Peak hours</td>
<td>716.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full hours</td>
<td>191.07</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night hours</td>
<td>106.37</td>
</tr>
<tr>
<td>52</td>
<td>66.4</td>
<td>Peak hours</td>
<td>716.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off-peak hours</td>
<td>157.19</td>
</tr>
<tr>
<td>53</td>
<td>66.4</td>
<td>Night hours</td>
<td>106.37</td>
</tr>
<tr>
<td></td>
<td>Residential &lt;41.6kWh/month</td>
<td>Uniform rate</td>
<td>417.89</td>
</tr>
<tr>
<td>54-1</td>
<td>Residential &gt;41.6kWh/month</td>
<td>Uniform rate</td>
<td>417.89</td>
</tr>
</tbody>
</table>

*There are two fixed fees/kWh for each tariff code based on power absorbed and power delivered.

** Separate tariff exists for reactive energy (surplus of energy).

***Prices do not include the Value Added Tax (VAT).
Power Transmission and Distribution Losses (in Percentage) - 2010


Power Generation Efficiency - 2009

Source: National authorities

Contributors
Fawzi ben Zaid, Ministry of Energy and Mines, Algeria
Florentine Visser, Key Expert, MED-ENEC
Mathilde Andersson, Energy Specialist
### Primary Energy Intensity

![Primary Energy Intensity Chart]

- **2000**
  - Bahrain: 0.43
  - EU: 0.07
- **2010**
  - Bahrain: 0.41
  - EU: 0.07

Sources: WEC (2013), World Bank (2013)

### Primary Energy Consumption

- **2000**
  - Total: 181 Thousand boe/day
  - Natural gas: 88%
  - Oil: 12%

- **2011**
  - Total: 213.8 Thousand boe/day
  - Natural gas: 88%
  - Oil: 12%


### Final Energy Consumption - 2009

- **Residential**: 52.9%
- **Commercial**: 35.3%
- **Industrial**: 11.8%

- **58%**
- **25%**
- **17%**

Source: IEA (2009)
EE Targets and Designated Agency

- No EE targets are adopted.
- Bahrain is in the process of preparing the National Energy Efficiency Action Plan (NEEAP).
- No designated EE agency. Currently, activities related to promoting EE fall under the auspices of the Electricity and Water Conservation Directorate (EWCD) at the Electricity and Water Authority.

Regulatory Framework

- The Economic Vision 2030 for Bahrain, Article 3.5 describes the implementation of EE regulations.
- No general legal framework for EE measures exists.
- Mandatory Thermal Insulation Regulations (TII) for buildings above 4 stories have been adopted since the year 2000, and are extended to cover all buildings in 2013.
- Minimum energy performance standards have been developed for room air conditioners (2012-2013). In addition, a regulatory phase out policy for incandescent lamps is currently being developed.

Implementation Capacity

- No Solar Water Heaters are installed.
- In 2012, 81 multi-story buildings are built according to Thermal Insulation Regulations (TII) for buildings (2000).
- The government issued a public tender in 2013 to replace around 2.1 million of incandescent lamps by CFLs in the residential sector to be fully-subsidized (free of charge).

Financial Incentives

- No internal tax benefits for EE projects.
- No EE fund is established for financing EE projects.
- Customs duty on importing Solar Water Heaters and Compact Florescent Lamps is 5%.
Electricity Pricing

- Fossil fuel subsidies are large.
- No special tariffs for households to encourage a rational use of energy.
- No time-differentiated price structure for industrial sector to encourage consumption shifting from peak hours.

Energy Service Providers

- 19 Energy audits are conducted in residential and tertiary sectors.
- No Energy Service Companies (ESCOs) exist.

### Electricity Tariffs

<table>
<thead>
<tr>
<th>Customers</th>
<th>Tariff (Fils/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Residential Consumption</strong></td>
<td></td>
</tr>
<tr>
<td>&gt; 5001 kWh</td>
<td>16</td>
</tr>
<tr>
<td>3001 - 5000 kWh</td>
<td>9</td>
</tr>
<tr>
<td>1 - 3000 kWh</td>
<td>3</td>
</tr>
<tr>
<td><strong>Residential Consumption</strong></td>
<td></td>
</tr>
<tr>
<td>&gt; 5001 kWh</td>
<td>16</td>
</tr>
<tr>
<td>3001 - 5000 kWh</td>
<td>9</td>
</tr>
<tr>
<td>1 - 3000 kWh</td>
<td>3</td>
</tr>
</tbody>
</table>
Energy Efficiency Country Profile

**Primary Energy Intensity**

<table>
<thead>
<tr>
<th>Year</th>
<th>Egypt</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.150</td>
<td>0.070</td>
</tr>
<tr>
<td>2010</td>
<td>0.190</td>
<td>0.070</td>
</tr>
</tbody>
</table>

Sources: WEC (2013), World Bank (2013)

**Primary Energy Consumption**

- **2000**
  - Coal: 1%
  - Hydroelectricity: 7%
  - Natural gas: 53%
  - Oil: 39%

- **2011**
  - Coal: 1%
  - Hydroelectricity: 4%
  - Natural gas: 44%
  - Oil: 51%


- 930 Thousand boe/day (2000)
- 1718.1 Thousand boe/day (2011)

**Final Energy Consumption - 2009**

- Industrial: 38%
- Transport: 5%
- Residential: 33%
- Commercial: 18%
- Agricultural: 6%

Source: IEA (2009)

**EE Targets and Designated Agency**

- The National Energy Efficiency Action Plan (NEEAP) is adopted (2012-2015) with cumulative EE targets of 5%.
- No designated EE agency is responsible for formulating, promoting, and implementing energy efficiency measures and policies. There is an EE unit at the Council of Ministers secretariat that is identified as the mandated entity for developing and implementing NEEAP.

**Regulatory Framework**

- No general legal framework for EE measures. Draft electricity law contains a chapter on EE with provisions relating to cogeneration, standards, and labeling.
- Mandatory EE code for residential buildings (2006), EE code for commercial buildings (2009), and EE code for governmental buildings (2011) are adopted.
- Minimum energy performance standards with mandatory labeling schemes have been adopted for refrigerators, freezers, washing machines, air conditioners, CFLs, and electric water heaters.

**Implementation Capacity**

- By 2012, 750,000 m² of Solar Water Heaters have been installed.
- No buildings are built according to EE building codes.
- No demonstration projects for energy-efficient buildings are built.
- By 2012, 10.25 million Compact Fluorescent Lamps (CFLs) have been distributed.

**Financial Incentives**

- No internal tax benefits for EE projects.
- No EE fund is established for financing EE projects.
- Customs duty on importing Solar Water Heaters is 2.5%. Customs duty on importing Compact Florescent Lamps is 17%.
Electricity Pricing

- Fossil fuel subsidies are medium to large.
- No special tariffs for households encouraging a rational use of energy.
- Extra high voltage and high voltage customers (intensive industries only) are exposed to peak load pricing structure to shift their consumption from peak hours.

Energy Service Providers

- 40 Energy audits are conducted in the residential and tertiary sector.
- 268 Audits are conducted in the industrial sector.
- Around 10 Energy Service Companies (ESCOs) exist.

Electricity Tariffs

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Customers</th>
<th>Tariff (Egyptian Piasters/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra High Voltage</td>
<td>Kema</td>
<td>4.7</td>
</tr>
<tr>
<td>Arab Petroleum Pipelines Company (SUMED)</td>
<td>Intensive industries: steel, cement, aluminum, copper, and petrochemical.</td>
<td>27.7 (*)</td>
</tr>
<tr>
<td>Industries: flat glass, ceramic, and porcelain.</td>
<td>25.2</td>
<td></td>
</tr>
<tr>
<td>Other industries</td>
<td>12.9 - 15.4 (**)</td>
<td></td>
</tr>
<tr>
<td>High Voltage</td>
<td>Intensive Industries: steel, cement, aluminum, copper, and petrochemical.</td>
<td>30 (*)</td>
</tr>
<tr>
<td>Industries: flat glass, ceramic and porcelain.</td>
<td>25.2</td>
<td></td>
</tr>
<tr>
<td>Other industries</td>
<td>15.7-18.6 (**)</td>
<td></td>
</tr>
<tr>
<td>Medium Voltage</td>
<td>Industries</td>
<td>From 25.5 to 35.8 (*)</td>
</tr>
<tr>
<td>Other subscribers</td>
<td>&gt; 500 kW</td>
<td>21.4</td>
</tr>
<tr>
<td>Agriculture and land reclamation</td>
<td>&lt; 500 kW</td>
<td>11.2</td>
</tr>
<tr>
<td>Other subscribers</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Low Voltage</td>
<td>Commercial</td>
<td>60</td>
</tr>
<tr>
<td>&lt; 1001 kWh</td>
<td>601 - 1000 kWh</td>
<td>58</td>
</tr>
<tr>
<td>251 - 600 kWh</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>101 - 250 kWh</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>&lt; 100 kWh</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>&gt; 1000 kWh</td>
<td>48</td>
</tr>
<tr>
<td>651 - 1000 kWh</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td>351 - 650 kWh</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>201 - 350 kWh</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>51 - 200 kWh</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>&lt; 50 kWh</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

(*) Prices are 50% higher during the peak period (4 hours defined by the Ministry of Electricity and Energy).
(**) Prices vary according to the type of industry.
Power Transmission and Distribution Losses (in Percentage) - 2010

Power Generation Efficiency - 2009

Contributors
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Florentine Visser, key Expert, MED-ENEC
Mathilde Andersson, Energy Specialist

Primary Energy Intensity

<table>
<thead>
<tr>
<th>Year</th>
<th>Iraq</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.3</td>
<td>0</td>
</tr>
<tr>
<td>2010</td>
<td>0.4</td>
<td>0</td>
</tr>
</tbody>
</table>

Sources: WEC (2013), World Bank (2013)

Primary Energy Consumption

2000: 527 Thousand boe/day
- Hydroelectricity: 4%
- Natural gas: 23%
- Oil: 73%

2011: 745.1 Thousand boe/day
- Hydroelectricity: 4%
- Natural gas: 21%
- Oil: 79%


Final Energy Consumption - 2009

- Industrial: 17%
- Residential: 40%
- Commercial: 5%
- Unspecified: 38%

Source: IEA (2009)
EE Targets and Designated Agency

- No EE targets are adopted.
- No designated EE agency. Currently, activities related to promoting EE fall under the auspices of the working group on EE at the Ministry of Electricity.

Regulatory Framework

- No general legal framework for EE measures.
- Voluntary reference EE specifications for buildings (2012) are adopted.
- No minimum energy performance standards with mandatory labeling schemes are adopted for household appliances.

Implementation Capacity

- No Solar Water Heaters are installed.
- No energy-efficient buildings are built.
- No demonstration projects for energy-efficient buildings are built.
- By 2012, 5,000,000 Compact Florescent Lamps are distributed.

Financial Incentives

- No internal tax benefits for EE projects.
- No EE fund is established for financing EE projects.
- Customs duty on importing Solar Water Heaters and Compact Florescent Lamps is 15%.
Electricity Pricing

- Fossil fuel subsidies are large.
- No special tariffs for households to encourage a rational use of energy.
- No time-differentiated price structure for industrial sector to encourage consumption shifting peak hours.

Energy Service Providers

- No energy audits are conducted in residential, tertiary, and industrial sectors.
- No Energy Service Companies (ESCOs).

Electricity Tariffs

<table>
<thead>
<tr>
<th>Customers</th>
<th>Tariff (Cent/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>&gt;4001 kWh</td>
</tr>
<tr>
<td>Government</td>
<td>2001-4000 kWh</td>
</tr>
<tr>
<td>Commercial</td>
<td>1001-2000 kWh</td>
</tr>
<tr>
<td>Residential</td>
<td>1-1000 kWh</td>
</tr>
</tbody>
</table>
Energy Efficiency Country Profile

Primary Energy Intensity

- 2000: 0.3 ktoe/US$0.5ppp
- 2010: 0.2 ktoe/US$0.5ppp

Sources: WEC (2013), World Bank (2013)

Primary Energy Consumption

- 2000: 100 Thousand boe/day
- 2011: 189.6 Thousand boe/day

Sources: OAPEC (2005, 2012)

Final Energy Consumption - 2009

- Industrial: 22.7%
- Residential: 41%
- Commercial: 22.7%
- Agricultural: 13.6%

Sources: IEA (2009)
**EE Targets and Designated Agency**

- Activities related to promoting energy efficiency fall under the auspices of Energy Efficiency Department under the Ministry of Energy and Mineral Resources.

**Regulatory Framework**

- Voluntary EE building code is adopted since 2009.
- Solar energy code is adopted since 2012.
- Minimum energy performance standards with appropriate labeling schemes are adopted for air conditioners, refrigerators, freezers and lamps. Article 7 (b) of the bylaw No. 73 (2012) prohibits importing equipment that does not satisfy the prescribed minimum energy efficiency standards.
- Article 10 of the bylaw No. 73 (2012) obliges mandatory installation of Solar Water Heaters effective from 1 April, 2013 for new apartments exceeding 150 m2, as well as for offices in commercial buildings exceeding 100 m2, and for buildings exceeding 250 m2.

**Implementation Capacity**

- By 2012, more than 500,000 m2 of Solar Water Heaters are installed.
- No buildings have been built in compliance with EE building code. However several measures mentioned in the EE building code had been applied, especially using insulation materials.
- Article (4) of the bylaw No. 73 (2012) regulating procedures and means of conserving energy and improving its efficiency obliges consumers to comply with EE policies and regulations.
- 11 EE demonstration building projects are constructed.
- No Compact Fluorescent Lamps (CFLs) are distributed; however CFLs are commonly used in the Jordanian local market.

**Financial Incentives**

- By law No 10 (2012) provides a full exemption from sales tax and customs duty for CFLs, Solar Water Heaters and other RE and EE equipment.
- The Jordanian Renewable Energy and Energy Efficiency Fund (FREEEF) is established by law No 13 (2012) for financing RE and EE projects. Procedures for funds disbursement are not defined yet.
**Electricity Pricing**

- Fossil fuel subsidies are medium to low.
- No special tariffs for households to encourage a rational use of energy.
- Time-differentiated electricity pricing exists for large industries to shift consumption patterns away from peak hours.

**Energy Service Providers**

- Approximately 6 energy audits are conducted in governmental buildings.
- More than 60 audits are conducted in the industrial and commercial sectors during the period of 2011-2012.
- More than 6 energy service companies (ESCOs) exist. EMS performed around 20 energy audits.

**Electricity Tariffs**

<table>
<thead>
<tr>
<th>Customers</th>
<th>Items</th>
<th>Tariff (Fils/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large industries</td>
<td>Day</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>76</td>
</tr>
<tr>
<td>Large industries: mining and quarrying industry</td>
<td>Day</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>134</td>
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<tr>
<td>Hotel</td>
<td>Flat tariff</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Day</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>102</td>
</tr>
<tr>
<td>Port corporation</td>
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<td>112</td>
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<td>Army forces</td>
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<td>Street lighting</td>
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<td>Water pumping</td>
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<td>66</td>
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<td>Medium industries</td>
<td>Day</td>
<td>63</td>
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<td></td>
<td>Night</td>
<td>53</td>
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<td>Small industries</td>
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<td>57</td>
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<tr>
<td>Telecommunication</td>
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<tr>
<td></td>
<td>&lt;2000 kWh</td>
<td>227</td>
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<tr>
<td>Banking</td>
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<tr>
<td></td>
<td>&lt;2000 kWh</td>
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<tr>
<td>Commercial</td>
<td>&gt;2000 kWh</td>
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<tr>
<td></td>
<td>&lt;2000 kWh</td>
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<tr>
<td></td>
<td>&gt;1000 kWh</td>
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<td>751 to 1000 kWh</td>
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<td>601 to 750 kWh</td>
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<td>501 to 600 kWh</td>
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<td>301 to 500 kWh</td>
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<td>161 to 300 kWh</td>
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<td>1 to 160 kWh</td>
<td>33</td>
</tr>
<tr>
<td>Residential</td>
<td>TV and broadcasting</td>
<td>122</td>
</tr>
</tbody>
</table>
**Power Transmission and Distribution Losses (in Percentage) - 2010**


**Power Generation Efficiency - 2009**

Source: National authorities

Contributors
Mohammed Dabbas, Director of Energy Efficiency Department, Ministry of Energy and Mineral Resources
Florentine Visser, Key Expert, MED-ENEC
Mathilde Andersson, Energy Specialist
### Primary Energy Intensity

- **Lebanon**
  - 2000: 0.16 koe/US$05ppp
  - 2010: 0.14 koe/US$05ppp

- **EU**
  - 2000: 0.12 koe/US$05ppp
  - 2010: 0.10 koe/US$05ppp

Sources: WEC (2013), World Bank (2013)

### Primary Energy Consumption

- **2000**
  - 121 Thousand boe/day
  - 93% Oil
  - 2% Coal
  - 5% Hydroelectricity

- **2011**
  - 154.1 Thousand boe/day
  - 94% Oil
  - 2% Coal
  - 4% Hydroelectricity


### Final Energy Consumption - 2009

- **Total**
  - Industrial: 26%
  - Residential: 38%
  - Commercial: 17%
  - Unspecified: 19%
  - Other: 3%

- **Main Sources**
  - Oil products: 69%
  - Coal and peat: 25%
  - Bio fuels and waste: 3%

Source: IEA (2009)
**EE Targets and Designated Agency**

- The National Energy Efficiency Action Plan (NEEAP) for 2011-2015 has been adopted in November 2011 with EE targets of 5% reduction in growth rate.
- Measurement and verification of energy savings is planned to be conducted in 2013 and the NEEAP will be updated accordingly.
- The Lebanese Center for Energy Conservation (LCEC) is the mandated entity responsible for the implementation of NEEAP.

**Regulatory Framework**

- No general legal framework exists yet for EE measures. Draft energy conservation law has been prepared. It sets a legal framework for energy audits, EE standards, labels, and financial incentives for EE appliances.
- A mandatory EE building code is under preparation.
- Minimum energy performance standards with voluntary labeling schemes are adopted for refrigerators, air conditioners and electric/gas water heaters.

**Implementation Capacity**

- By 2012, 350,000 m² of Solar Water Heaters have been installed.
- No energy-efficient buildings are built.
- Several demonstration projects for energy-efficient and green buildings are built.
- By 2012, 3,090,000 Compact Fluorescent Lamps (CFLs) have been distributed.

**Financial Incentives**

- No internal tax benefits for EE projects.
- The National Energy Efficiency and Renewable Energy Action (NEEREA) was established in 2010 to finance renewable energy and energy efficiency projects. NEEREA provides low interest soft loans for financing various RE and EE projects, including soft loans covering up to 45% of the project costs for LEED and BREAM certified buildings.
- Custom duties on importing Solar Water Heaters and Compact Florescent Lamps is 5%.
Electricity Pricing

- Fossil fuel subsidies are medium to large.
- No special tariffs for households to encourage a rational use of energy.
- A time-differentiated price structure for high voltage customers (intensive industries) is applied to encourage shifting consumption from peak hours.

Energy Service Providers

- 11 Energy audits are conducted in residential and tertiary sectors.
- More than 22 audits are conducted in the industrial sector.
- Around 15 energy audit companies exist with almost 2 fully recognized ESCOs.

Electricity Tariffs

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Customers</th>
<th>Tariff (LBP/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Voltage</td>
<td>All Subscribers</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>Night rate (00:00 to 07:00)</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Day rate (07:00 to 18:30)</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>Peak rate (18:30 to 21:30)</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>Day rate (21:30 to 23:00)</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>Night rate (23:00 to 24:00)</td>
<td>80</td>
</tr>
<tr>
<td>Medium Voltage</td>
<td>Industry, craftsmen, agriculture</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>Active energy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reserve energy</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Other subscribers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Active energy</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>Reserve energy</td>
<td>50</td>
</tr>
<tr>
<td>Low Voltage</td>
<td>Lighting, home and commercial use</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 500 kWh</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>401 - 500 kWh</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>301 - 400 kWh</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>201 - 300 kWh</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>101 - 200 kWh</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>1 - 100 kWh</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Street lighting, public establishments, free medical care centers, hospitals, mosques, churches, cinemas, hotels</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>Industry, craftsmen, agriculture, water treatment and pumping stations</td>
<td>115</td>
</tr>
</tbody>
</table>
Primary Energy Intensity

<table>
<thead>
<tr>
<th>Year</th>
<th>Oil</th>
<th>Electricity</th>
<th>Biofuels and Waste</th>
<th>Natural Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.3</td>
<td>0.25</td>
<td>0.2</td>
<td>0.15</td>
</tr>
<tr>
<td>2009</td>
<td>0.2</td>
<td>0.17</td>
<td>0.1</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Libya vs EU

Primary Energy Consumption

- 2000: 310,000 boe/day
- 2011: 437,100 boe/day

Sources: WEC (2013), World Bank (2013)

Final Energy Consumption - 2009

- Industrial: 18%
- Residential: 28%
- Commercial: 41%
- Agricultural: 13%

Sources: IEA (2009)
EE Targets and Designated Agency

- No EE targets are adopted.
- Libya is in the process of preparing the National Energy Efficiency Action Plan (NEEAP).
- No designated EE agency. Currently, activities related to promoting EE fall under the auspices of the Renewable Energy Authority of Libya (REAOL).

Regulatory Framework

- No general legal framework for EE measures.
- No mandatory EE regulations for buildings.
- No minimum energy performance standards with mandatory labeling schemes are adopted for household appliances.

Implementation Capacity

- By 2012, 600 systems of Solar Water Heaters are installed. REAOL contracted importing 3000 Solar Water Heating systems of 4m2 and 300 liters. The systems are planned to be installed in 2013.
- No energy-efficient buildings are built.
- No demonstration projects for energy-efficient buildings are built.
- No energy-efficient lighting technology is distributed.

Financial Incentives

- No internal tax benefits for EE projects.
- No EE fund is established for financing EE projects.
- Customs duty on importing Solar Water Heaters and Compact Florescent Lamps is 5%.
Fossil fuel subsidies are large.
- No special tariffs for households to encourage a rational use of energy.
- No time-differentiated price structure for industrial sector to encourage consumption shifting from peak hours.

### Electricity Pricing

<table>
<thead>
<tr>
<th>Customers</th>
<th>Tariff (Dirham/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td></td>
</tr>
<tr>
<td>Heavy industries</td>
<td>31</td>
</tr>
<tr>
<td>Light industries</td>
<td>42</td>
</tr>
<tr>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Large agricultural</td>
<td>32</td>
</tr>
<tr>
<td>Small agricultural</td>
<td>30</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
</tr>
<tr>
<td>&gt; 1400 kWh</td>
<td>68</td>
</tr>
<tr>
<td>1001- 1400 kWh</td>
<td>20</td>
</tr>
<tr>
<td>1 - 1000 kWh</td>
<td></td>
</tr>
</tbody>
</table>

### Energy Service Providers

- No energy audits are conducted in residential, tertiary, and industrial sectors.
- No Energy Service Companies (ESCOs).

### Electricity Tariffs

- Energy audits
- Energy Service Companies (ESCOs)
Energy Efficiency Country Profile

**Primary Energy Intensity**

![Graph showing primary energy intensity for Morocco and EU from 2000 to 2010.](image)

**Primary Energy Consumption**

- 2000: 208 Thousand boe/day
- 2011: 300 Thousand boe/day

![Graph showing primary energy consumption by sector in 2000 and 2011.](image)

**Final Energy Consumption - 2009**

- Industrial: 38%
- Transport: 5%
- Residential: 33%
- Commercial: 18%
- Agricultural: 6%

![Graph showing final energy consumption by sector in 2009.](image)

Sources:
- WEC (2013), World Bank (2013)
- OAPEC (2005, 2012)
- IEA (2009)
EE Targets and Designated Agency

- No EE targets are adopted.
- EE strategy is under preparation.
- The Agency for the Development of Renewable Energy and Energy Efficiency (ADEREE) is responsible for promoting energy efficiency, development of EE strategy, and implementation of national EE and RE policies.

Regulatory Framework

- Law No. 47-09 (2009) on EE is adopted laying down a framework for mandatory EE energy audits, EE buildings regulations, minimum energy performance standards for appliances, and EE public procurement requirements.
- Voluntary thermal regulations for buildings have been adopted in 2010.
- EE technical specifications for buildings passive and active components are under preparation.
- Minimum energy performance standards with appropriate labeling schemes are under preparation for refrigerators and air conditioners.

Implementation Capacity

- By 2012, 440,000 m2 of Solar Water Heaters (SWHs) are installed.
- No energy efficient buildings are built.
- Nine demonstration projects for energy efficient buildings are currently under construction in six climatic zones in Morocco. Projects are within the EU cooperation framework with a budget of €7.5 million.
- By 2012, 8,000,000 Compact Fluorescent Lamps (CFLs) are distributed.

Financial Incentives

- Sales tax exemption for CFLs and Solar Water Heaters exists.
- Energy Development Fund (FDE) was established in 2010 to finance renewable energy and energy efficiency projects. The fund contains a capital of $1 billion: 200 million from Hassan II Fund, 300 million from UAE, and 500 million from Saudi Arabia.
Electricity Pricing

- Fossil fuel subsidies are low.
- 20/20 Tariff incentive awards households that reduce electricity consumption by 20% compared to the same month in the previous year with an additional 20% of the value of the saved consumption. At the end of 2011, the impact of this incentive resulted in total electricity savings of 1770 GWh. Bonuses are granted by the Energy Development Fund.
- High-voltage consumers are exposed to super peak pricing structure to shift their consumption patterns away from peak hours.

Energy Service Providers

- 16 Energy audits are conducted in the residential and tertiary sectors.
- 52 Audits are conducted in the industrial sector.
- No energy service companies (ESCOs) exist.

Electricity Tariffs

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Items</th>
<th>Tariffs (Moroccan Dirhams/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High Voltage (150 to 225 kV)</td>
<td>Mid-peak hours</td>
<td>0.5749 - 0.8413 (*)</td>
</tr>
<tr>
<td></td>
<td>Peak hours</td>
<td>0.7468 - 1.5688 (*)</td>
</tr>
<tr>
<td></td>
<td>Off-peak hours</td>
<td>0.4814 - 0.5029 (*)</td>
</tr>
<tr>
<td>High Voltage (60 kV)</td>
<td>Mid-peak hours</td>
<td>0.5873 - 0.8851 (*)</td>
</tr>
<tr>
<td></td>
<td>Peak hours</td>
<td>0.788 - 1.7258 (*)</td>
</tr>
<tr>
<td></td>
<td>Off-peak hours</td>
<td>0.4961 - 0.5202 (*)</td>
</tr>
<tr>
<td>Low Voltage (Residential)</td>
<td>&gt;500 kWh</td>
<td>1.5009</td>
</tr>
<tr>
<td></td>
<td>201 to 500 kWh</td>
<td>1.0961</td>
</tr>
<tr>
<td></td>
<td>101 to 200 kWh</td>
<td>1.0022</td>
</tr>
<tr>
<td></td>
<td>0 to 100 kWh</td>
<td>0.9222</td>
</tr>
</tbody>
</table>

(*) Prices vary according to the duration of use: very long use (lowest price/kWh), medium use (intermediate price/kWh), and short use (highest price/kWh).
Power Transmission and Distribution Losses (in Percentage) - 2010

Power Generation Efficiency - 2009

Contributors
Abdel Ali Dakkina, Directeur du Pôle de la Stratégie et du Développement, Agence Nationale ADEREE
Florentine Visser, Key Expert, MED-ENEC
Mathilde Andersson, Energy Specialist

Primary Energy Intensity

![Graph showing primary energy intensity from 2005 to 2010.](image)

Source: National authorities

Final Energy Consumption - 2009

- Residential: 66.6%
- Industrial: 6.6%
- Transport: 3.3%
- Tertiary: 23.3%

![Chart showing final energy consumption](image)

Source: National authorities

Electricity Supply Sources - 2010

- Israeli Electric Corporation: 89%
- Gaza Power Plant: 4%
- Imports from Jordan and Egypt: 7%

![Chart showing electricity supply sources](image)

Source: Palestinian Energy and Natural Resources Authority (PEA)
EE Targets and Designated Agency

- The National Energy Efficiency Action Plan (NEEAP) has been adopted in March 2012 with EE targets of 5% or cumulative energy savings of 426 GWh by 2020. The first phase of the plan (2012-2014) plans to achieve 1% or 54 GWh.
- Currently activities related to promoting EE and implementing NEEAP fall under the auspices of the Palestinian Energy and Natural Resources Authority (PEA).

Regulatory Framework

- Cabinet decree adopted in March 2012 provides a general legal framework for EE measures adoption.
- Voluntary EE building code (2004) is adopted.
- No minimum energy performance standards with appropriate labeling schemes for household appliances are adopted.

Implementation Capacity

- By 2012, 1,600,000 m² of Solar Water Heaters have been installed.
- No energy-efficient buildings are built.
- One demonstration project for energy-efficient building is built in the Industrial Zone in Bethlehem funded by the French Development Agency (AFD).
- By 2012, 5,000 Compact Fluorescent Lamps (CFLs) have been distributed.

Financial Incentives

- No internal tax benefits for EE projects exist.
- Revolving Fund for financing EE projects was established in 2012. It is based on ESCO model where financial savings achieved as a result of EE measures are transferred back to the fund for financing future EE projects.
- There is a full exemption from customs duty on importing Solar Water Heaters. Customs duty for importing Compact Fluorescent Lamps is 8%.
Electricity Pricing

- Electricity prices are unsubsidized.
- A special tariff exists for residential customers to encourage a rational use of electricity based on pre-paid metering system and consumption level.
- There is no time-differentiated price structure for industrial customers to encourage consumption shifting from peak hours.

Energy Service Providers

- More than 25 energy audits are conducted in residential and tertiary sectors.
- 15 energy audits are conducted in the industrial sector.
- No Energy Service Companies (ESCOs) exist.

Electricity Tariffs

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Customers</th>
<th>Tariffs (ILS/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium voltage</td>
<td>Industrial (*)</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>Low voltage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temporary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-paid (*)</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>Pre-paid (*)</td>
<td>0.8</td>
</tr>
<tr>
<td>Low voltage</td>
<td>Street lighting (*)</td>
<td>0.466</td>
</tr>
<tr>
<td></td>
<td>Agriculture rate (*)</td>
<td>0.46</td>
</tr>
<tr>
<td></td>
<td>Water pumping (*)</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Commercial</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-paid (*)</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>Pre-paid</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Residential (pre-paid)</td>
<td>0.52</td>
</tr>
<tr>
<td></td>
<td>&gt;600 KWh</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>401-600 KWh/month</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td>251-400 KWh/month</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>161- 250 kWh/month</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td>1- 160 kWh/month</td>
<td>0.465</td>
</tr>
<tr>
<td></td>
<td>Residential (post-paid and pre-paid) (*)</td>
<td></td>
</tr>
</tbody>
</table>

(*) Fixed monthly fee applies for the post-paid option.
Primary Energy Intensity

<table>
<thead>
<tr>
<th>Year</th>
<th>koe/US$05ppp</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.30</td>
</tr>
<tr>
<td>2010</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Sudan vs EU

Sources: WEC (2013), World Bank (2013)

Primary Energy Consumption

- 2000: 48 Thousand boe/day (83% Oil, 17% Electricity)
- 2011: 106.4 Thousand boe/day (92% Oil, 8% Hydroelectricity)


Final Energy Consumption - 2009

- Residential: 53%
- Commercial: 32%
- Agricultural: 5%
- Industrial: 10%

Source: IEA (2009)
**EE Targets and Designated Agency**

- In October 2012, Sudan adopted the National Energy Efficiency Action Plan (NEEAP) for 2013-2016, setting cumulative EE targets of 11.8% (32% by 2020).
- No designated EE agency. Currently, activities related to promoting EE and implementing NEEAP fall under the auspices of the Electricity Regulatory Authority (ERA).

**Regulatory Framework**

- No general legal framework for EE measures.
- No mandatory energy efficiency regulations for buildings.
- No minimum energy performance standards with mandatory labeling schemes are adopted for household appliances.

**Implementation Capacity**

- By 2012, only individual units of Solar Water Heaters are installed.
- No energy-efficient buildings are built.
- No demonstration projects for energy-efficient buildings are built.
- No energy-efficient lighting technology is distributed.

**Financial Incentives**

- No internal tax benefits for EE projects.
- No EE fund is established for financing EE projects.
- Customs duty on importing Solar Water Heaters and Compact Florescent Lamps is 20%.
Electricity Pricing

- Fossil fuel subsidies are medium.
- No special tariffs for households encouraging a rational use of energy.
- No time-differentiated price structure for the industrial sector to encourage consumption shifting from peak hours.

Energy Service Providers

- No energy audits are conducted in residential, tertiary, or industrial sectors.
- No Energy Service Companies (ESCOs).

Electricity Tariffs

<table>
<thead>
<tr>
<th>Customers</th>
<th>Tariff (SDG/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>0.16 – 0.18</td>
</tr>
<tr>
<td>Commercial</td>
<td>0.34</td>
</tr>
<tr>
<td>Governmental</td>
<td>0.7</td>
</tr>
<tr>
<td>Agricultural</td>
<td>0.16</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
</tr>
<tr>
<td>&gt; 200 kWh per month</td>
<td>0.26</td>
</tr>
<tr>
<td>1 - 200 kWh per month</td>
<td>0.15</td>
</tr>
</tbody>
</table>
**Primary Energy Intensity**

- **Tunisia**
- **EU**

<table>
<thead>
<tr>
<th>Year</th>
<th>Tunisia</th>
<th>EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>0.13</td>
<td></td>
</tr>
</tbody>
</table>

Sources: WEC (2013), World Bank (2013)

**Primary Energy Consumption**

- **2000**
  - Coal: 1%
  - Hydroelectricity: 1%
  - Natural gas: 32%
  - Oil: 67%
  - Total: 127 Thousand boe/day

- **2011**
  - Coal: 1%
  - Hydroelectricity: 1%
  - Natural gas: 34%
  - Oil: 65%
  - Total: 175 Thousand boe/day


**Final Energy Consumption - 2009**

- **Industrial** 46%
- **Transport** 1%
- **Residential** 25%
- **Commercial** 22%
- **Agricultural** 5%

- **Electricity**
- **Natural gas**
- **Oil products**

Sources: IEA (2009), National authorities
**EE Targets and Designated Agency**

- A Strategic study for EE is currently under preparation. Based on the study results, the government will adopt the third energy program with EE targets (2013-2016).
- The National Agency for Energy Conservation (ANME) is the designated agency for formulating, promoting, and implementing energy efficiency measures and policies.

**Regulatory Framework**

- **Energy audits:** Mandatory energy audits for large energy-consuming facilities are prescribed by the decree No. 2004-2144 (2004), amended by decree No 2269-2009 as of 31 July 2009. Specifications for new buildings energy audits (prior to construction) in the residential and tertiary sectors are prescribed by the order of the Ministry of Industry, Energy and Small and Medium Enterprises as of 11 June 2007.
- **EE household appliances:** Minimum energy performance standards with mandatory labeling schemes are adopted for air conditioners, refrigerators, freezers and their combinations by ministerial orders as of 10 September 2004 and 21 April 2009.
- **Lighting:** The sale of incandescent light bulbs with power superior or equal to 100 Watt and voltage superior or equal to 100 Volt is banned effective 1 January 2011 by a joint order by the Ministry of Industry and Technology and the Ministry of Commerce and Handicraft as of 18 August 2010.

**Implementation Capacity**

- By 2012, 625,000 m² of Solar Water Heaters have been installed.
- By 2012, municipal authorities granted 4,681 permits for construction of administrative buildings and 14,724 for construction of residential buildings according to EE specifications.
- 43 Demonstration projects for energy-efficient buildings have been built in three climatic zones of Tunisia. A full list of projects is available at http://www.enerbat.nat.tn
- 8,900,000 Compact Fluorescent Lamps (CFLs) have been distributed during the period between 2009-2011.
Electricity Pricing

- Subsidies for electricity prices are medium to low.
- No special tariffs for households encouraging a rational use of energy.
- Time-differentiated price structure is applied on high and medium voltage customers to encourage consumption shifting from peak hours.

Energy Service Providers

- More than 74 energy audits are conducted in residential and tertiary sectors during the period between 2010-2012.
- 91 Energy audits are conducted in the industrial sector during the period between 2010-2012.
- Around 10 Energy Service Companies (ESCOs) exist.

Financial Incentives

- The National Fund for Energy Savings (FNME) was established in 2005 by law No. 2005-82 (2005) for subsidizing investments in EE projects. Sources of financing include revenues from taxes on first registration of cars, imports or manufacturing of air conditioners according to law No. 2005-2234 (2005), financial savings achieved as a result of EE activities, and private donations.
- Law No. 93-120 (1993), Article 41 grants an exemption from Value Added Tax and a reduction of customs duty to a minimum rate of 10% on importing EE equipment that do not have locally-manufactured equivalent. All domestically-produced EE equipment are exempted from Value Added Tax.
- Decree No. 2205-2234 (2005), amended by the decree No. 2009-362 (2009) provides the following subsidy schemes for EE projects:
  - 70% Of energy audit costs with a ceiling of 30,000 TND
  - 70% Of immaterial investments with a ceiling of 70,000 TND
  - 20% Of material investments with a ceiling of 100,000 TND for facilities whose annual total average energy consumption does not exceed 4000 toe; 200,000 TND for facilities whose annual total average energy consumption runs from 4,000 to 7,000 toe; and 250,000 TND for facilities whose annual total average energy consumption exceeds 7,000 toe.
- These subsidies are available in accordance with the provisions of so called “program contract” (a bilateral agreements on achieving energy savings) concluded with ANME after carrying out investments.
- Financing incentives that are currently provided for Solar Water Heaters include: 200 TND if system surface is less than 3m² (residential sector); 400TND if system surface is between 3 to 7 m² (residential sector); 30% of investment costs with ceiling of 150TND/m²; and 15000TND/project (Industry and tertiary sectors).
- Other financial incentives include subsidies for co-generation, substitution of natural gas, and for setting up stations for engine diagnosis and for installing EE equipment on fishing units.
Power Transmission and Distribution Losses (in Percentage) - 2010

Electricity Tariffs

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Customers</th>
<th>Tariff (Mill/kWh)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Voltage</td>
<td>Four hours post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(quatre postes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>horaires)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Day</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>Peak</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>Evening</td>
<td>152</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Secours</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Day</td>
<td>147</td>
</tr>
<tr>
<td></td>
<td>Peak</td>
<td>206</td>
</tr>
<tr>
<td></td>
<td>Evening</td>
<td>170</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>104</td>
</tr>
<tr>
<td>Medium Voltage</td>
<td>Day</td>
<td>104 - 155</td>
</tr>
<tr>
<td></td>
<td>Peak</td>
<td>184 - 213</td>
</tr>
<tr>
<td></td>
<td>Evening</td>
<td>120 - 175</td>
</tr>
<tr>
<td></td>
<td>Night</td>
<td>80 - 108</td>
</tr>
<tr>
<td>Low Voltage</td>
<td>Residential</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 to 2 kVA 1 - 50 kWh/month</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>&gt; 2 kVA 1-300 kWh/month</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>&gt;2 kVA &gt;300 kWh/month</td>
<td>230</td>
</tr>
<tr>
<td></td>
<td>Public Lighting</td>
<td>Day</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
<td>Day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night</td>
</tr>
</tbody>
</table>

(*) For each tariff, fees are applied at different rates. There are two fees: one for subscription, and one for power consumption. Value Added Tax (VAT) for all fees and energy prices for uses other than domestic and irrigation is 18%. Energy prices for domestic purposes and irrigation is 12%.

Contributors
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Mathilde Andersson, Energy Specialist
### Primary Energy Intensity

<table>
<thead>
<tr>
<th>Year</th>
<th>Yemen koe/US$05ppp</th>
<th>EU koe/US$05ppp</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.15</td>
<td>0.10</td>
</tr>
<tr>
<td>2010</td>
<td>0.10</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Sources: WEC (2013), World Bank (2013)

### Primary Energy Consumption

- **2000**
  - 100% Oil
  - 84 Thousand boe/day

- **2011**
  - 100% Oil
  - 168 Thousand boe/day


### Final Energy Consumption - 2009

- Residential: 65%, 92%
- Commercial: 21%, 1%
- Unspecified: 14%, 7%

Source: IEA (2009)
EE Targets and Designated Agency

- No EE targets are adopted.
- Yemen is in the process of preparing the National Energy Efficiency Action Plan (NEEAP).
- No designated EE agency. Currently, activities related to promoting EE fall under the auspices of the Ministry of Electricity and Energy.

Regulatory Framework

- No general legal framework for EE measures.
- No mandatory EE regulations for buildings.
- No minimum energy performance standards with mandatory labeling schemes are adopted for household appliances.

Implementation Capacity

- No Solar Water Heaters are installed.
- No energy-efficient buildings are built.
- No demonstration projects for energy-efficient buildings are built.
- No energy-efficient lighting technology is distributed.

Financial Incentives

- No internal tax benefits for EE projects.
- No EE fund is established for financing EE projects.
- Customs duty on importing Solar Water Heaters and Compact Florescent Lamps is 5%.
Electricity Pricing

- Fossil fuel subsidies are medium to large.
- No special tariffs for households to encourage a rational use of energy.
- No time-differentiated price structure for industrial sector to encourage consumption shifting from peak hours.

Energy Service Providers

- 3 Energy audits are conducted in residential, tertiary, and industrial sectors.
- No Energy Service Companies (ESCOs) exist.

Electricity Tariffs

<table>
<thead>
<tr>
<th>Customers</th>
<th>Tariff (Fils/kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td></td>
</tr>
<tr>
<td>Large industries and cement plants</td>
<td>35</td>
</tr>
<tr>
<td>Small industries</td>
<td>22</td>
</tr>
<tr>
<td>Agricultural</td>
<td>30-22</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
</tr>
<tr>
<td>Large businesses and hotels</td>
<td>30</td>
</tr>
<tr>
<td>Small businesses and hotels</td>
<td>30-35-22</td>
</tr>
<tr>
<td>Governmental</td>
<td>30</td>
</tr>
<tr>
<td>Water Pumping</td>
<td>30</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td></td>
</tr>
<tr>
<td>&gt; 700 kWh</td>
<td>19</td>
</tr>
<tr>
<td>351 - 700 kWh</td>
<td>12</td>
</tr>
<tr>
<td>201 - 350 kWh</td>
<td>9</td>
</tr>
<tr>
<td>1 - 200 kWh</td>
<td>6</td>
</tr>
<tr>
<td>Rural</td>
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</tr>
<tr>
<td>&gt; 100 kWh</td>
<td>19</td>
</tr>
<tr>
<td>1 - 100 kWh</td>
<td>9</td>
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<td>Mosques</td>
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<td>351 - 700 kWh</td>
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<tr>
<td>201 - 350 kWh</td>
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<td>1 - 200 kWh</td>
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<td>&gt; 100 kWh</td>
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<td>9</td>
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</table>