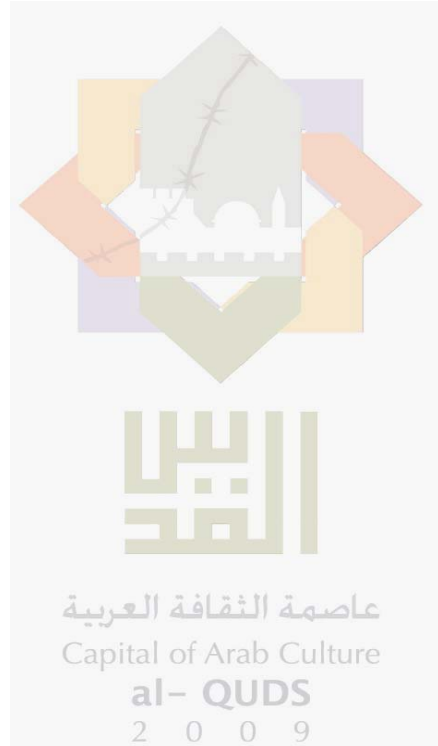
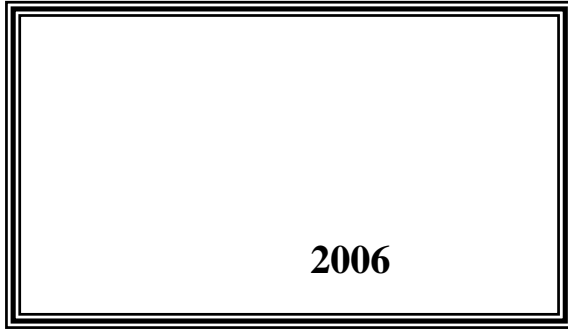




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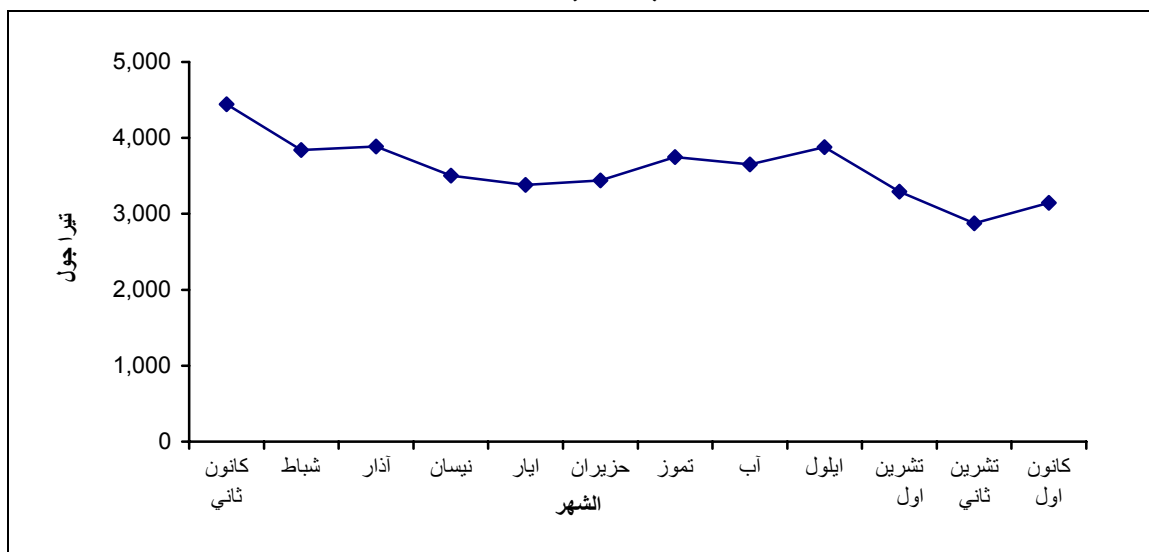
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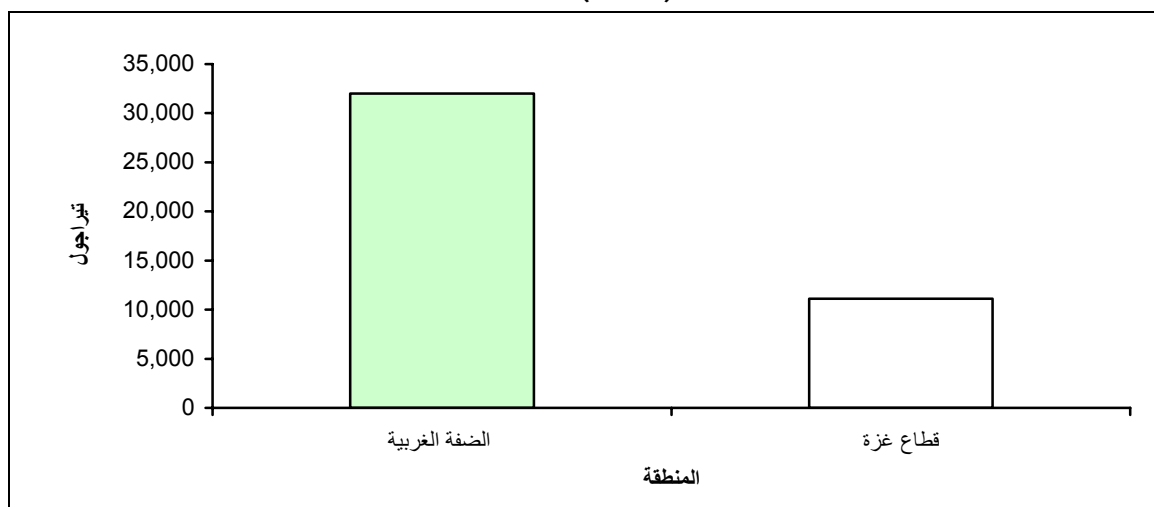
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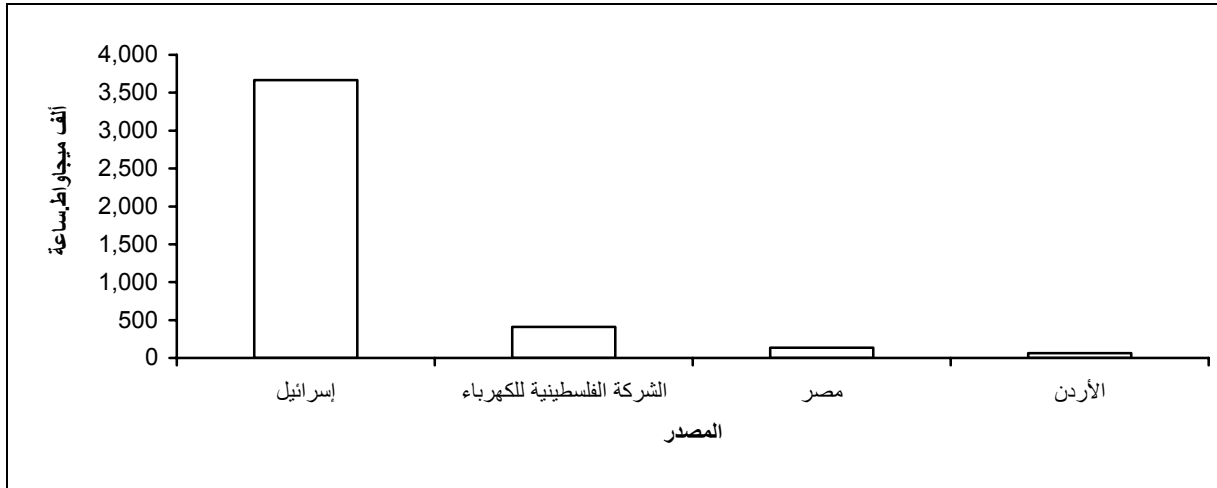
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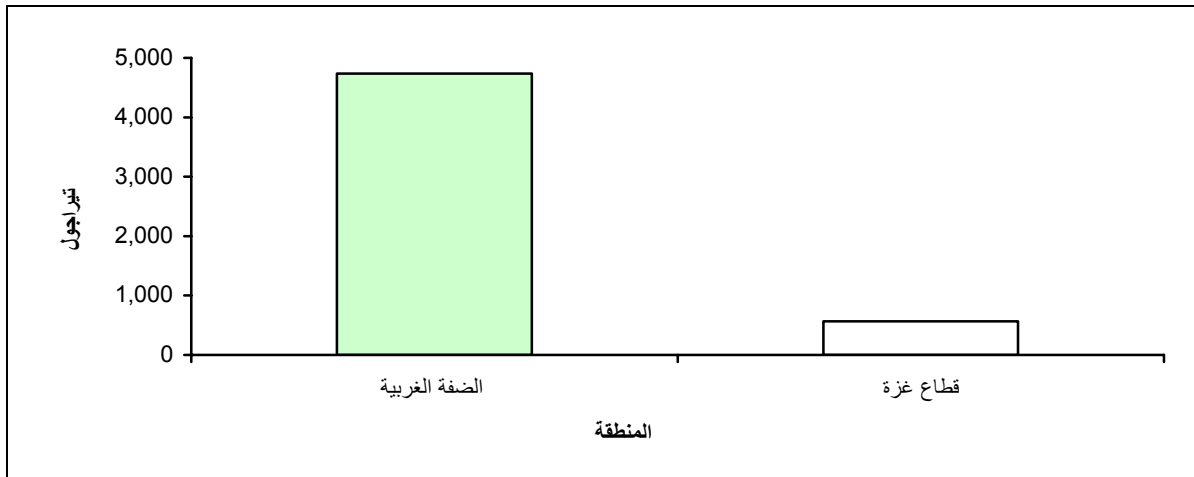
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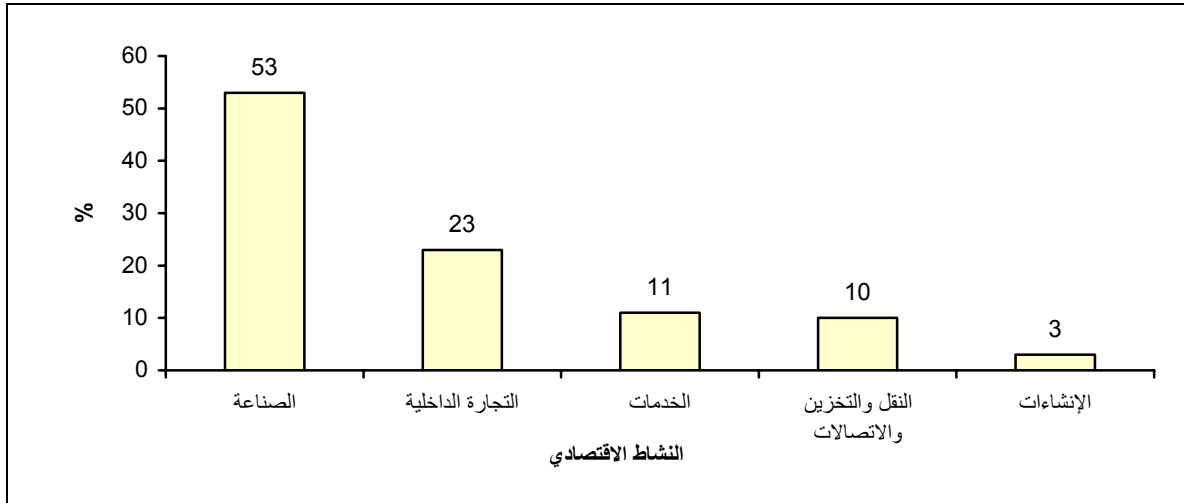
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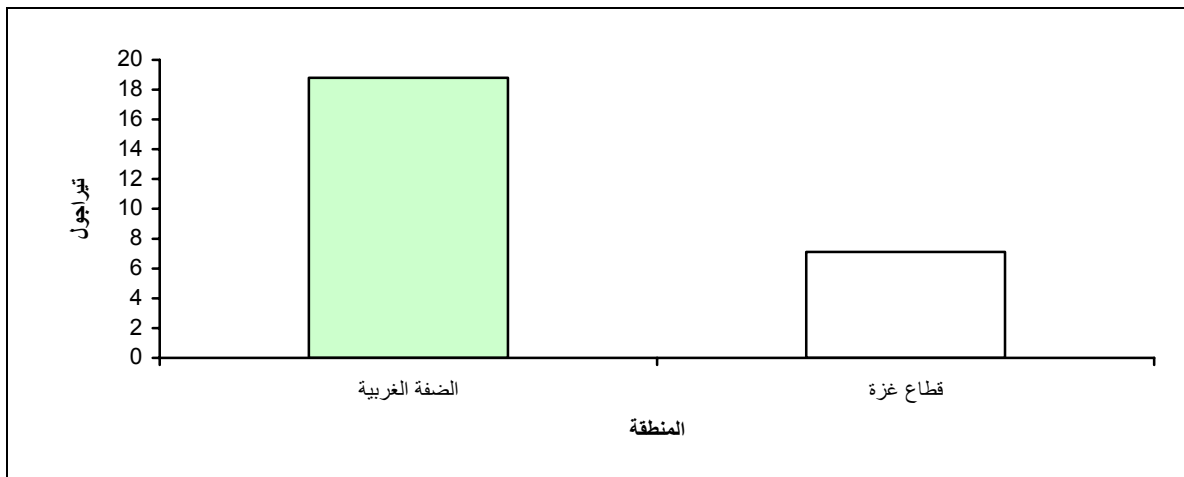
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## **Tables**



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**Table 1: Quantity of Imported Energy in the Palestinian Territory by Type of Energy and Month, 2008**

Month	( ) Total Energy (TJ)	Type of Energy							( ) Electricity (MWh)
		( ) Charcoal (Ton)	( ) Bitumen (Ton)	( ) LPG (Ton)	( ) Kerosene (1000 Liter)	( ) Diesel (1000 Liter)	( ) Gasoline (1000 Liter)		
January	<b>4,442.0</b>	317	5	16,131	1,378	48,907	10,106	420,249	
February	<b>3,839.0</b>	236	107	14,268	1,352	43,020	9,759	340,760	
March	<b>3,887.7</b>	258	-	13,608	90	48,075	11,046	310,037	
April	<b>3,502.1</b>	577	-	8,656	3	45,035	12,257	285,415	
May	<b>3,382.4</b>	902	-	8,627	38	43,355	10,138	286,051	
June	<b>3,441.0</b>	679	59	8,420	19	43,099	11,160	300,260	
July	<b>3,747.8</b>	565	63	9,313	252	44,316	10,881	362,192	
August	<b>3,650.9</b>	168	63	8,778	5	47,370	11,864	307,246	
September	<b>3,880.0</b>	1,023	53	9,926	0	47,794	12,836	336,571	
October	<b>3,291.6</b>	1,013	157	8,206	36	38,684	10,933	305,499	
November	<b>2,876.6</b>	1,619	-	6,987	254	30,415	10,467	286,763	
December	<b>3,146.6</b>	591	-	8,788	383	31,620	11,725	323,767	
<b>Total</b>	<b>43,087.7</b>	<b>7,948</b>	<b>507</b>	<b>121,708</b>	<b>3,810</b>	<b>511,690</b>	<b>133,172</b>	<b>3,864,810</b>	

2008

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**Table 2: Quantity of Imported Energy in the Palestinian Territory by Type of Energy and Region, 2008**

Type of Energy	Region			( )
	Gaza Strip	West Bank	Palestinian Territory	
Electricity (MWh)	<b>1,064,820</b>	<b>2,799,990</b>	<b>3,864,810</b>	( . )
Gasoline (1000 Liter)	4,189	128,983	<b>133,172</b>	( )
Diesel (1000 Liter)	140,104	371,586	<b>511,690</b>	( )
Kerosene (1000 Liter)	509	3,301	<b>3,810</b>	( )
LPG (Ton)	42,006	79,702	<b>121,708</b>	( )
Bitumen (Ton)	-	507	<b>507</b>	( )
Charcoal (Ton)	636	7,312	<b>7,948</b>	( )
<b>Total Energy (TJ)</b>	<b>11,099.1</b>	<b>31,988.6</b>	<b>43,087.7</b>	( )

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**Table 3: Quantity of Electricity Purchases (MWh) in the Palestinian Territory by Source and Month, 2008**

Month	Energy Source				
	Total	Jordan	Egypt	Palestine Electric Company	Israeli Electricity Company
January	<b>454,228.8</b>	-	13,049.0	33,979.8	407,200.0
February	<b>377,941.5</b>	930.0	11,130.0	37,181.5	328,700.0
March	<b>344,924.1</b>	5,060.0	10,077.0	34,887.1	294,900.0
April	<b>319,398.8</b>	5,950.0	9,765.0	33,983.8	269,700.0
May	<b>315,793.8</b>	6,540.0	10,711.0	29,742.8	268,800.0
June	<b>336,131.5</b>	7,980.0	11,080.0	35,871.5	281,200.0
July	<b>402,548.1</b>	7,190.0	11,802.0	40,356.1	343,200.0
August	<b>354,241.6</b>	8,120.0	11,926.0	46,995.6	287,200.0
September	<b>382,060.4</b>	7,800.0	11,171.0	45,489.4	317,600.0
October	<b>346,394.5</b>	3,810.0	10,989.0	40,895.5	290,700.0
November	<b>305,588.7</b>	5,540.0	10,823.0	18,825.7	270,400.0
December	<b>335,869.7</b>	5,420.0	11,847.0	12,102.7	306,500.0
<b>Total</b>	<b>4,275,121.5</b>	<b>64,340.0</b>	<b>134,370.0</b>	<b>410,311.5</b>	<b>3,666,100.0</b>

2008

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**Table 4: Quantity of Electricity Purchases (MWh) in Gaza Strip by Source and Month, 2008**

Month	Energy Source		
	Total	Jordan	Israeli Electricity Company
January	<b>340,142.8</b>	-	340,142.8
February	<b>257,873.6</b>	930.0	256,943.6
March	<b>214,666.4</b>	5,060.0	209,606.4
April	<b>195,536.7</b>	5,950.0	189,586.7
May	<b>183,880.5</b>	6,540.0	177,340.5
June	<b>202,173.0</b>	7,980.0	194,193.0
July	<b>254,692.3</b>	7,190.0	247,502.3
August	<b>249,630.0</b>	8,120.0	241,510.0
September	<b>243,040.3</b>	7,800.0	235,240.3
October	<b>217,522.4</b>	3,810.0	213,712.4
November	<b>198,816.7</b>	5,540.0	193,276.7
December	<b>242,014.9</b>	5,420.0	236,594.9
<b>Total</b>	<b>2,799,989.6</b>	<b>64,340.0</b>	<b>2,735,649.6</b>

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**Table 5: Quantity of Electricity Purchases (MWh) in Gaza Strip by Source and Month, 2008**

Month	Energy Source			
	Total	Egypt	Palestine Electric Company	Israeli Electricity Company
January	114,086.0	13,049.0	33,979.8	67,057.2
February	120,067.9	11,130.0	37,181.5	71,756.4
March	130,257.7	10,077.0	34,887.1	85,293.6
April	123,862.1	9,765.0	33,983.8	80,113.3
May	131,913.3	10,711.0	29,742.8	91,459.5
June	133,958.5	11,080.0	35,871.5	87,007.0
July	147,855.8	11,802.0	40,356.1	95,697.7
August	104,611.7	11,926.0	46,995.7	45,690.0
September	139,020.1	11,171.0	45,489.4	82,359.7
October	128,872.1	10,989.0	40,895.5	76,987.6
November	106,772.0	10,823.0	18,825.7	77,123.3
December	93,854.8	11,847.0	12,102.7	69,905.1
<b>Total</b>	<b>1,475,132.0</b>	<b>134,370.0</b>	<b>410,311.6</b>	<b>930,450.4</b>

2008-2002

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**Table 6: Diesel Quantities Delivered to Gaza Power Plant and Electricity Purchased from it by Year, 2002-2008**

Year	( . ) Electricity Purchased (MWh)	( 1000 ) Diesel Quantities Delivered (1000 Liter)	
2002	147,146	30,000	2002
2003	445,426	115,000	2003
2004	395,065	96,000	2004
2005	500,519	133,740	2005
2006	345,307	74,663	2006
2007	404,695	101,071	2007
2008	410,312	100,663	2008

**Table 7: Quantity of Energy Used in Economic Activities in the Palestinian Territory by Type of Energy and Region, 2008**

Type of Energy	Region			
	Gaza Strip	West Bank	Palestinian Territory	
Electricity (MWh)	61,768	342,271	<b>404,039</b>	( . )
Gasoline (1000 Liter)	622	10,732	<b>11,354</b>	( )
Diesel (1000 Liter)	4,358	67,319	<b>71,677</b>	( )
Kerosene (1000 Liter)	329	416	<b>745</b>	( )
LPG (Ton)	3,245	9,860	<b>13,105</b>	( )
Oils and Lubricants (Ton)	28	4,164	<b>4,192</b>	( )
Wood & Coal (Ton)	41	1,191	<b>1,232</b>	( )
<b>Total Energy (TJ)</b>	<b>565</b>	<b>4,734</b>	<b>5,299</b>	( )

2008

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Table 8: Quantity of Energy Used in Economic Activities in the Palestinian Territory by Economic Activity and Type of Energy, 2008

Economic Activity	( ) Total Energy (TJ)	Type of Energy							
		( ) Wood & Coal (Ton)	( ) Oils and Lubricants (Ton)	( ) LPG (Ton)	( ) Kerosene (1000 Liter)	( ) Diesel (1000 Liter)	( ) Gasoline (1000 Liter)	( ) Electricity (MWh)	
Industry	<b>2,779</b>	730	2,647	5,703	433	33,697	3,051	286,789	
Construction	<b>182</b>	1	201	42	46	3,381	986	3,541	
Internal Trade	<b>1,206</b>	242	846	2,766	151	16,628	5,353	68,050	
Services	<b>599</b>	259	164	4,533	32	4,983	1,803	37,900	
Transport, Storage and Communications	<b>533</b>	0	334	61	83	12,988	161	7,759	
<b>Total</b>	<b>5,299</b>	<b>1,232</b>	<b>4,192</b>	<b>13,105</b>	<b>745</b>	<b>71,677</b>	<b>11,354</b>	<b>404,039</b>	

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**Table 9: Quantity of Energy Used in Olive Press in the Palestinian Territory by Type of Energy and Region, 2008**

Type of Energy	Region			
	Gaza Strip	West Bank	Palestinian Territory	
Electricity (MWh)	1,374.0	3,262.9	<b>4,636.9</b>	( . )
Gasoline (1000 Liter)	3.9	2.6	<b>6.5</b>	( )
Diesel (1000 Liter)	48.4	171.7	<b>220.1</b>	( )
LPG (Ton)	1.5	5.9	<b>7.4</b>	( )
Oils and Lubricants (Ton)	4.1	9.3	<b>13.4</b>	( )
Kerosene (1000 Liter)	0.1	0.1	<b>0.2</b>	( )
<b>Total Energy (TJ)</b>	<b>7.1</b>	<b>18.8</b>	<b>25.9</b>	( )

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2008-2003

**Table 10: Quantity of Total Energy (TJ) Used in Production in Economic Activities in the Palestinian Territory by Economic Activity and Year, 2003-2008**

Economic Activity	Year						
	2008	2007	2006	2005	2004	2003	
Industry	2,779	1,267	1,909	2,924	3,426	2,380	
Construction	182	256	892	203	311	216	
Internal Trade	1,206	1,931	1,202	1,567	1,400	1,531	
Services	599	962	750	832	839	564	
Transport, Storage and Communications	533	797	990	644	573	384	
<b>Total</b>	<b>5,299</b>	<b>5,213</b>	<b>5,743</b>	<b>6,170</b>	<b>6,549</b>	<b>5,075</b>	



**Table 11 : Energy Prices for Consumer in the Palestinian Territory by Region, Month and Type of Energy, 2008**

Region and Month	Type of Energy						
	( ) Charcoal (Kg)	( ) Oils and Lubricants (Kg)	( ) LPG (Kg)	( ) Kerosene (Liter)	( ) Diesel (Liter)	( ) Gasoline (Liter)	
<b>Palestinian Territory</b>							
January	5.92	13.25	5.23	5.99	5.42	6.11	
February	5.75	13.38	5.32	6.04	5.42	6.11	
March	5.50	13.91	5.47	6.15	5.51	6.17	
April	5.58	13.23	5.58	6.32	5.72	6.17	
May	5.61	13.93	5.64	6.61	6.14	6.42	
June	5.75	13.92	5.67	6.93	6.68	6.59	
July	5.85	14.12	5.79	6.95	6.69	6.88	
August	5.76	15.27	5.81	6.61	6.43	6.62	
September	5.82	15.22	5.90	6.67	6.50	6.59	
October	6.09	15.70	5.90	6.47	6.25	6.35	
November	6.04	14.97	5.52	5.50	5.32	5.45	
December	6.09	15.31	5.18	5.22	5.03	5.03	
<b>Average Price</b>	<b>5.81</b>	<b>14.35</b>	<b>5.58</b>	<b>6.29</b>	<b>5.93</b>	<b>6.21</b>	
<b>West Bank*</b>							*
January	5.25	12.74	4.72	4.89	4.90	5.98	
February	5.25	13.13	4.73	4.89	4.90	5.98	
March	5.00	14.73	4.67	5.17	5.18	5.99	
April	5.25	12.70	4.96	5.23	5.35	6.09	
May	5.00	12.54	4.97	5.70	5.74	6.36	
June	5.00	12.75	4.92	6.15	6.15	6.54	
July	5.06	12.87	5.04	6.18	6.17	6.78	
August	5.13	14.30	5.13	6.04	6.04	6.48	
September	5.30	13.65	5.19	6.06	6.09	6.50	
October	5.77	14.10	5.19	5.75	5.74	6.12	
November	5.63	14.15	4.50	4.85	4.87	5.26	
December	5.77	14.29	4.13	4.60	4.60	4.80	
<b>Average Price</b>	<b>5.28</b>	<b>13.50</b>	<b>4.85</b>	<b>5.46</b>	<b>5.48</b>	<b>6.07</b>	

\*Exclude those parts of Jerusalem which were annexed by Israel in 1967.

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**Table 11 (cont) : Energy Prices for Consumer in the Palestinian Territory by Region, Month and Type of Energy, 2008**

Region and Month	Type of Energy						
	( ) Charcoal (Kg)	( ) Oils and Lubricants (Kg)	( ) LPG (Kg)	( ) Kerosene (Liter)	( ) Diesel (Liter)	( ) Gasoline (Liter)	
<b>Jerusalem (J1)*</b>							<b>*(J1)</b>
January	6.50	16.5	6.50	8.10	6.42	6.36	
February	6.00	16.5	6.88	8.10	6.42	6.36	
March	6.00	16.5	7.29	8.30	6.31	6.33	
April	6.00	16.5	7.29	8.37	6.46	6.33	
May	6.00	16.5	7.29	8.37	6.94	6.56	
June	6.00	16.5	7.29	8.50	7.75	6.74	
July	6.00	16.5	7.33	8.50	7.75	7.13	
August	6.00	16.5	7.29	7.75	7.25	6.81	
September	6.00	16.5	7.50	7.90	7.25	6.80	
October	6.00	16.5	7.50	7.90	7.25	6.80	
November	6.00	16.5	7.50	6.81	6.24	5.84	
December	6.00	16.5	7.29	6.46	5.89	5.48	
<b>Average Price</b>	<b>6.04</b>	<b>16.5</b>	<b>7.25</b>	<b>7.92</b>	<b>6.83</b>	<b>6.46</b>	
<b>Gaza Strip</b>							
January	6.00	10.50	4.48	4.99	4.92	6.00	
February	6.00	10.50	4.36	5.14	5.02	6.19	
March	5.50	10.50	4.44	4.99	5.04	6.19	
April	5.50	10.50	4.50	5.35	5.35	6.09	
May	5.83	12.75	4.67	5.75	5.75	6.34	
June	6.25	12.50	4.81	6.15	6.15	6.50	
July	6.50	13.00	5.00	6.17	6.16	6.74	
August	6.17	15.00	5.00	6.03	6.00	6.56	
September	6.17	15.50	5.00	6.06	6.17	6.49	
October	6.50	16.50	5.00	5.75	5.74	6.12	
November	6.50	14.25	4.56	4.85	4.85	5.26	
December	6.50	15.13	4.13	4.60	4.60	4.80	
<b>Average Price</b>	<b>6.12</b>	<b>13.05</b>	<b>4.66</b>	<b>5.49</b>	<b>5.48</b>	<b>6.11</b>	

\*Those parts of Jerusalem which were annexed by Israel in 1967.

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## **Annexes**



:1

**Annex 1: Calorific Value and Equivalent Weight of Different Fuels**

<b>Fuel</b>	<b>(<sup>3</sup> / ) Equivalent Weight (Ton/m<sup>3</sup>)</b>	<b>( / ) Calorific Value (Giga Joules/Ton)</b>	
Charcoal	1.00	28.89	
Fuel wood	1.00	12.60	
LPG	0.54	45.55	
Gasoline	0.74	43.97	
Kerosene	0.81	43.21	
Diesel	0.87	42.50	
Lubricating oil	0.90	42.14	
Bitumen	1.04	41.80	

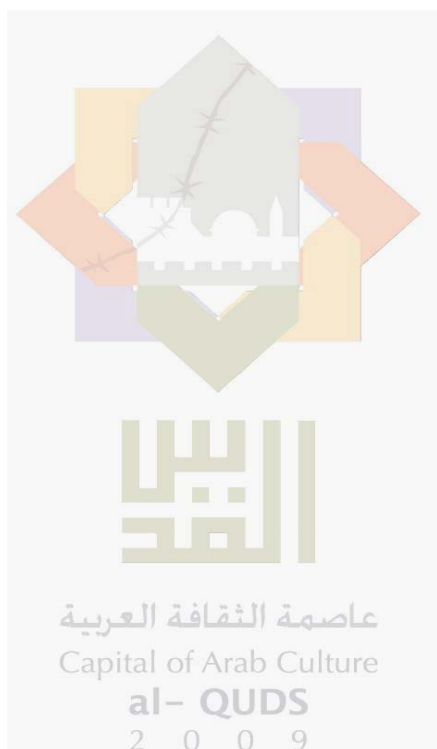


**Palestinian National Authority  
Palestinian Central Bureau of Statistics**

**Energy Consumption in the Palestinian Territory  
Annual Report 2008**

**November, 2009**

PAGE NUMBERS OF ENGLISH TEXT ARE PRINTED IN SQUARE BRACKETS.  
TABLES ARE PRINTED IN THE ARABIC ORDER (FROM RIGHT TO LEFT)



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## **Preface**

Most countries give special attention toward providing statistics on energy due to the important role of energy in reflecting the infrastructure, economic situation and level of living standards of society. In Palestine, extra attention is given due to the shortage of natural resources, high cost of energy and high population density. All these factors create a need for comprehensive and high quality statistics for the requirements of data users among decision makers and researchers in this field of study.

PCBS is pleased to introduce energy consumption in the Palestinian Territory for the year 2008. This report is considered to be a collective summary of the available data from the activities and surveys conducted by PCBS and the data obtained from the administrative records.

This report presents statistical data on the basic indicators related to energy consumption in different economic activities. Also, the report provides data on the consumption of energy in the domestic sector in the Palestinian Territory.

PCBS hopes that the results of this report will contribute to provide the necessary data to develop the energy situation in the different sectors and raise their consumption efficiency, and to light the way for decision makers toward comprehensive national development.

**November, 2009**

**Ola Awad  
Acting President**



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## **Executive Summary**

PCBS Publishes annually data about energy consumption in the Palestinian Territory that covers data about consumption and use of different energy types (electricity, petroleum products and other types of energy) in different economic sectors and other sectors.

The main findings of the report indicate that the total energy imports in the Palestinian Territory in 2008 were estimated to be 43,088 TJ. This amount of energy was composed of 3,864,810 MWh of electricity, 133.2 million liters of gasoline, 511.7 million liters of diesel, 3.8 million liters of kerosene, 121,708 tons of liquid petroleum gas and 7,948 tons of charcoal and wood.

Total electrical energy purchases in the Palestinian Territory in 2008 reached 4,275,121 MWh; 2,799,990 MWh in the West Bank (2,735,650 MWh from Israel and 64,340 MWh from Jordan) and 1,475,132 MWh in Gaza Strip (930,450 MWh imported from Israel and 410,312 MWh produced by the Palestinian Electric Company and 134,370 MWh from Egypt).

Data indicate that the total energy purchases in economic activities in the Palestinian Territory in 2008 were estimated to be 5,299 TJ (4,734 TJ in the West Bank and 565 TJ in Gaza Strip).

The average annual price (to the consumer) for different types of energy in the Palestinian Territory were distributed as follows: gasoline 6.21 NIS\ liter, diesel 5.93 NIS\ liter, kerosene 6.29 NIS\ liter, LPG 5.58 NIS\ Kg, charcoal 5.81 NIS\ Kg and 14.35 NIS\ Kg for oils and lubricants.



## **Introduction**

### **1.1 Introduction**

Energy plays an important role in people's level of living; the presence of energy is considered to be one of the main elements for the welfare and the level of living of citizens. Also it is considered to be an indicator to the economic situation of the country, and so most official statistical bureaus around the world pay attention to gathering, classifying and publishing specialized statistics regarding energy.

The data of this report is based on the administrative records and the data extracted from surveys conducted by the Palestinian Central Bureau of Statistics (PCBS). This data was gathered and processed to prepare this report to cover energy consumption in different sectors in the year 2008.

This report is considered to be a step by which to focus on the energy situation in the Palestinian Territory in the absence of accurate and comprehensive data in this important field.

### **1.2 Report Aims**

This report aims to present statistical data about the main indicators related to energy in the Palestinian Territory. This report is to achieve especially the following:

- Provides essential data for preparing energy balance in the Palestinian Territory.
- Provides necessary data for research and analysis purposes.
- Provides necessary data for policy makers, planners and concerned persons in the energy field.

The report provides data on the following indicators:

- Imported energy in the Palestinian Territory by type of energy.
- Amount of energy used in the different sectors by type of energy.
- Average energy prices in the Palestinian Territory by type of energy.

### **1.3 Report Structure**

This report is divided into five chapters; the first chapter contains the introduction, aims and report structure. The second chapter contains the concepts and definitions in this report. The third chapter defines the main findings of the report. The fourth chapter explains the methodology of this report according to the methodology of the surveys and the administrative records which were considered to be sources of this report. The fifth chapter handles data quality of the report.



## Chapter Two

### Concepts and Definitions

#### **Motor Gasoline**

Gasoline is a hydrocarbon fuel used mainly in internal- combustion engines. This fuel is obtained via filtration of crude oil. The quality of this type of fuel is measured by the octane number (from 0 to 100), which points to its resistance to early burning. This number is obtained by comparing the performance of its resistance to early burning with a mixture of  $C_7H_{16}$  and  $C_8H_{18}$ . For instance, the performance of “Gasoline 95” equals the performance of a mixture of 95%  $C_8H_{18}$  and 5%  $C_7H_{16}$ .

#### **Kerosene**

Medium oil distilling between  $150^{\circ}C$  and  $300^{\circ}C$ . Its specific gravity is around 0.80 and the flash point is above  $38^{\circ}C$ . It is used in sectors other than aircraft transport.

#### **Diesel**

Heavy oil distilling between  $200^{\circ}C$  and  $380^{\circ}C$ . Its flash point is always above  $50^{\circ}C$ , and its specific gravity is higher than 0.82.

#### **Lubricants**

Viscous, liquid hydrocarbons rich in paraffin waxes, distilling between  $380^{\circ}C$  and  $500^{\circ}C$ , obtained by vacuum distillation of oil residues from atmospheric distillation. Its flash point is greater than  $125^{\circ}C$ , an ash content less than or equal to 0.3% and water content less than or equal to 0.2%.

#### **Liquefied Petroleum Gases (LPG)**

It is mainly used in heating as well as a fuel in some types of engines and as a raw material for chemical industries. Usually it is marketed in cylinder metallic packages. This gas is comprised of propane and butane or mixture of them. It is obtained from natural gas or by fracture of crude petroleum.

#### **Bitumen**

Solid or viscous hydrocarbon with a colloidal structure, brown or black in color. It is used mainly in road construction.

#### **Fuel Wood**

All wood in the rough used for fuel purposes.

#### **Charcoal**

The solid residue, consisting mainly of carbon, obtained by the destructive distillation of wood in the absence of air.

#### **Joule Unit**

Energy unit, it is defined as the energy resulting from the movement of a one-Newton body to a distance of one meter.

#### **Metric Ton Unit**

Mass unit, a Metric ton = 1000 kg.



### **Mega Watt-Hour**

Energy unit, a 1 MWh =  $10^6$  Watt  $\times$  3600 Second  
=  $3.6 \times 10^9$  Watt-second

Other prefixes are used for referring to the multiplications of the units, Kilo =  $10^3$ , Gega =  $10^9$  and Tera =  $10^{12}$ .

**A set of special symbols was used in the tables of this report. The representation of these symbols are:**

<b>(-)</b>	<b>Does not exist</b>
<b>MWh</b>	<b>Mega-Watt.hour</b>
<b>TJ</b>	<b>Terajoules</b>

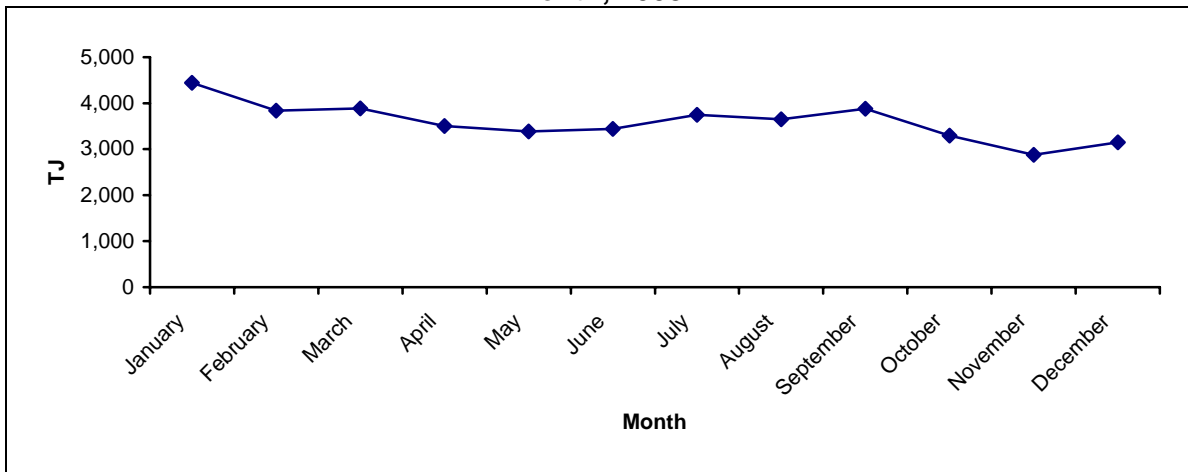
## Main Findings

This section presents the main findings of the report, divided into eight parts to simplify its presentation.

### 3.1 Energy Imports

The main findings of the report indicate that the total energy imports in the Palestinian Territory in 2008 were estimated to be 43,088 TJ. This amount of energy was composed of 3,864,810 MWh of electricity, 133.2 million liters of gasoline, 511.7 million liters of diesel, 3.8 million liters of kerosene, 121,708 tons of liquid petroleum gas and 7,948 tons of charcoal and wood.

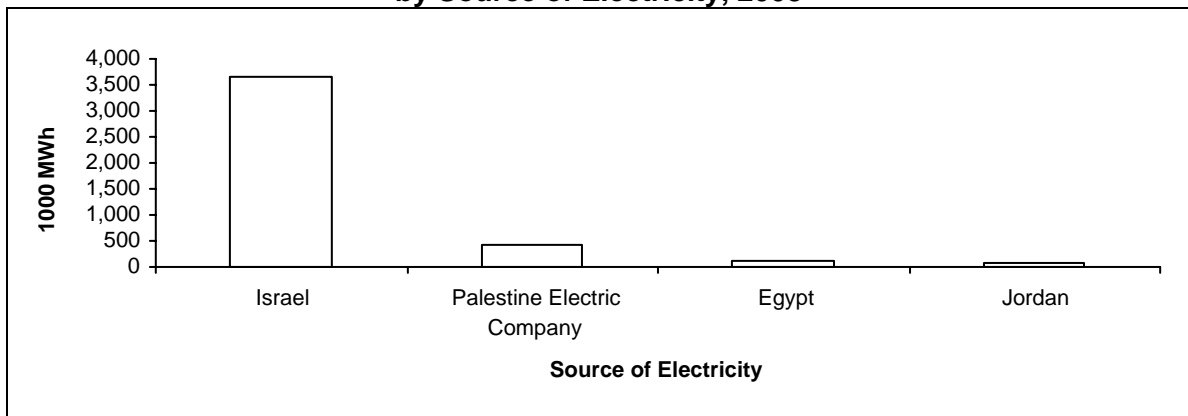
**Figure 1: Quantity of Total Imported Energy (TJ) in the Palestinian Territory by Month, 2008**



### 3.2 Purchases of Electrical Energy

Total electrical energy purchases in the Palestinian Territory in 2008 reached 4,275,121 MWh; 2,799,990 MWh in the West Bank (2,735,650 MWh from Israel and 64,340 MWh from Jordan) and 1,475,132 MWh in Gaza Strip (930,450 MWh imported from Israel, 410,312 MWh produced by the Palestinian Electric Company and 134,370 MWh from Egypt).

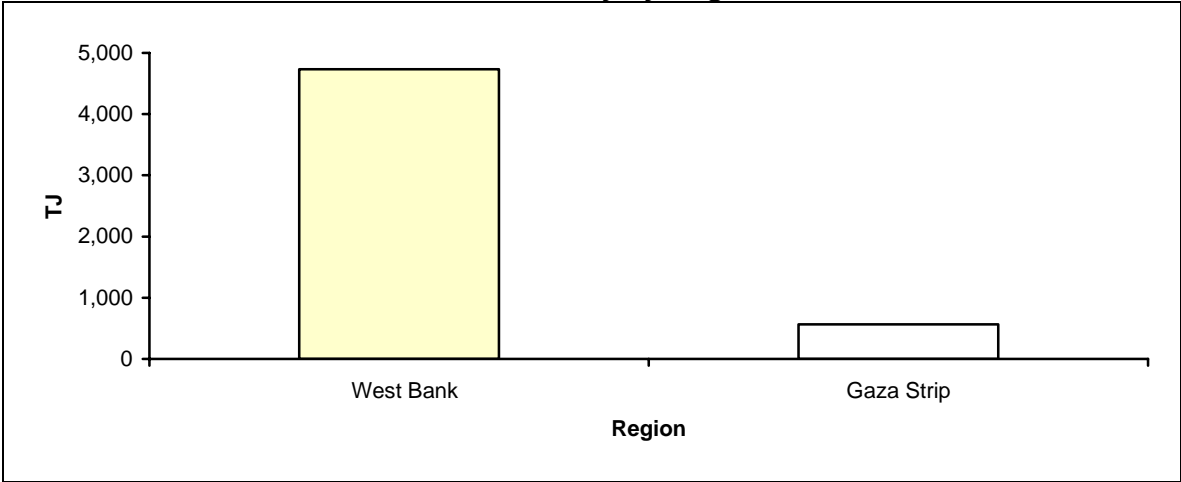
**Figure 2: Quantity of Total Imported Electricity (1000 MWh) in the Palestinian Territory by Source of Electricity, 2008**



**3.3 Energy Used in the Economic Activities**

Data indicate that the total energy used in economic activities in the Palestinian Territory in 2008 reached to 5,299 TJ (4,734 TJ in the West Bank and 565 TJ in Gaza Strip). This amount of energy was composed of 404,039 MWh of electricity, 11.4 thousand liters of gasoline, 71.7 thousand liters of diesel, 745 thousand liters of kerosene, 13,105 tons of LPG, 1,232 tons of charcoal and wood and 4,192 tons of oils and lubricants.

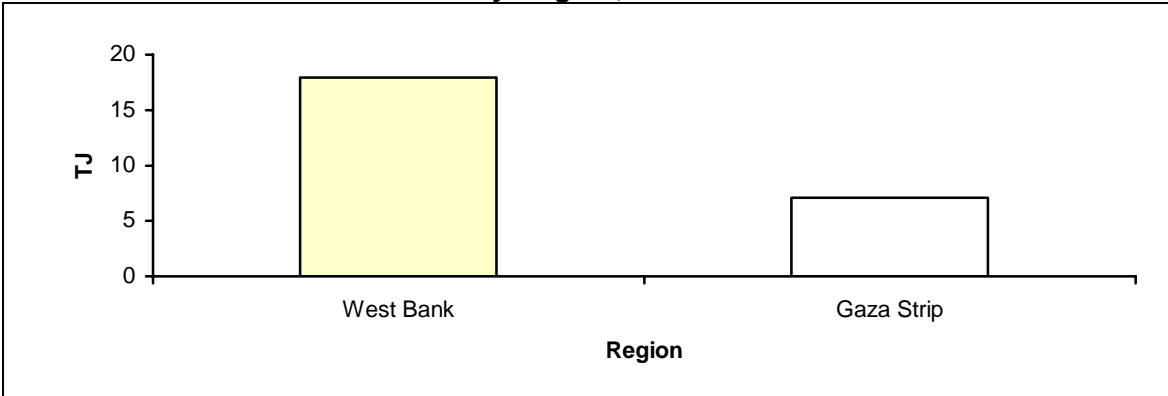
**Figure 3: Quantity of Total Energy Purchases in Economic Activities (TJ) in the Palestinian Territory by Region, 2008**



**3.4 Energy Used in Olive Press Establishments**

The total energy used in olive press establishments in 2008 reached 25.9 TJ (18.8 TJ in the West Bank and 7.1 TJ in Gaza Strip). The quantities of energy types used were as follows: 4,636.9 MWh of electricity, 6.5 thousand liters of gasoline, 220 thousand liters of diesel, 7.4 tons of LPG, and 13.4 tons of oils and lubricants.

**Figure 4: Quantity of Total Energy Used in Olive Press (TJ) in the Palestinian Territory by Region, 2008**



**3.5 Prices of Energy to Consumer**

The price of energy differs between regions due to the full control of Israeli Authority on energy sources for the Palestinian Territory. The average annual price (to the consumer) for different types of energy in the Palestinian Territory were distributed as follows: gasoline 6.21 NIS/liter, diesel 5.93 NIS/liter, kerosene 6.29 NIS/liter, LPG 5.58 NIS/Kg, charcoal 5.81 NIS/Kg and 14.35 NIS/Kg for oils and lubricants.

## Chapter Four

### Methodology

This chapter presents documentation of the main characteristics of the methodology used in preparing these tables and the methodology used in data collection from the different sources, including the economic survey series, foreign trade statistics, prices statistics, General Petroleum Corporation and the Palestinian Energy and Natural Resources Authority.

#### 4.1 Methodology of the Report

In the absence of opportunity of implementing an inclusive survey for energy, and because administration records on this subject do not include the whole Palestinian Territory, we depended on the surveys conducted by the PCBS to obtain the data on energy used in preparing these tables. The data covers the following forms of energy:

- Electricity
- Petroleum products: diesel, gasoline, kerosene, oils and lubricants, pitumen and LPG
- Wood and charcoal

The energy tables in the Palestinian Territory were prepared in physical units; the Joule unit was used also to express some totals. International energy conversion factors were used following the United Nations recommendations to convert the different types of energy into a common energy unit (Joule).

The General Petroleum Corporation and the foreign trade statistics provided data on import of energy forms, and the Palestinian Energy and Natural Resources Authority provided data on purchased electrical energy. The economic surveys provided data about the value of energy used. The olive press survey was used to provide data on energy used in olive press establishments. The department of price statistics provided the average consumption price for the different energy forms.

#### 4.2 Data Sources

##### General Petroleum Corporation

The General Petroleum Corporation provides statistics on the petroleum products imports from Israel, and also on diesel used in the electric generation station in Gaza Strip.

##### Economic Surveys

The main objective of these surveys is to collect data on the basic economic indicators covering the main economic activities (industry, internal trade, service, transport and storage and communication and construction). Data related to production inputs of goods were used to provide data on energy purchases, energy used in production, and energy used in generating electricity.

##### Foreign Trade Statistics

The main objective of the foreign trade statistics is to cover data related to the flow of goods to the Palestinian Territory, and figures from the foreign trade statistics has been used in the publication of data on imports of bitumen, coal and wood. Foreign trade statistics in meeting their data relies on the administrative records from a range of official sources, including invoices and clearing customs data as well as some other sources.

**Prices Statistics**

Through the price statistics directorate, PCBS is gathering data about consumer prices, depending on a complete system covering the ways of gathering prices, resources and its geographical distribution.

The prices data are gathered in the field through personal interviews by a team trained for this purpose, from retail shops and the different service shops in the main cities of the Palestinian Territory.

**Palestinian Energy and Natural Resources Authority**

The Energy and Natural Resources Authority provides statistics on the electrical energy imports from Israel and Egypt, and also on diesel used in the Palestinian Electric company, and also the electric power produced by the Company.

## Chapter Five

### Data Quality

This chapter provides the most important points concerning the statistical quality for energy consumption in the Palestinian Territory depending on the calculations of the data quality for the surveys and the administration records that were used as sources for this report. In addition there are special technical notes which should be taken into consideration.

This chapter is divided into two sections: the first one presents data quality according to the sources; the second section presents the special technical notes concerning the energy balance of the Palestinian Territory.

#### 5.1 Data by Sources

##### Foreign Trade Statistics

The program for foreign trade statistics has many strong points in the methodology and data processing that are consistent with international standards and recommendation. The foreign trade statistics in the Palestinian Territory include all goods that are imported or exported. The strength of the foreign trade statistics is in the fact that they provide the real number gathered through total counting of data and is not based on estimates. But it is worth mentioning the following important notes:

- Data excludes the quantities that entered into the Palestinian Territory in illegal cases.
- Data does not cover the quantities that are not included in interchange between Israel and the Palestinian National Authority (about 20% of the total interchange according to Ministry of Finance).
- For Petroleum Products, administrative records of General Petroleum Corporation covers the major part of data related to imports; the other part is covered by value added tax invoices from the Ministry of Finance.
- For electricity data, administrative records of the Palestinian Energy Authority were used to provide data on electricity imports as well as the data of the Palestinian Company.

##### Economic Surveys

In dealing with data from economic surveys, the following points should be taken into consideration:

- The response rate of data for these surveys is relatively high if it is compared with the response in other countries. There are some rejections (14.7%) which affect the accuracy of data especially in cases where the rejected establishment has significant weight in its economic activity.
- All data depends on establishment records, and if these records were not available, for small establishments, in most cases, the respondent was asked to give approximate estimates.
- Detailed energy data were estimated for each of the Gaza Strip and Jerusalem, where the economic surveys provided the energy data in these areas in totals, without breakdown for each type of fuel.

## 5.2 Technical Notes

- The tables cover data related to the main types of energy (electricity, petroleum products and biomass). It is important to note that there are other types of energy (coke, other petroleum products, animal and vegetal residues) that are not included due to the lack of data, and rarity of such energies.
- In all calculations related to Gasoline, we deal with the average of all available types of Gasoline. Also, a common price and conversion factor were used.
- In all calculations related to oils and lubricants, we deal with the average of all available types of oils and lubricants. Also, a common price and conversion factor were used.
- In all calculations related to wood and coal, a convenient conversion factor was taken for each year according to the quantities.
- The ton unit in the tables refers to a metric ton.
- The average exchange rate of US dollar against Israeli shekel 3.582
- The average exchange rate of US dollar against Israeli shekel 5.061

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