NATIONAL ENERGY DEMAND/SUPPLY DATABASE

Palau

SOPAC Miscellaneous Report 328

Prepared by

The Energy Unit
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1.0 Introduction

The National Energy Demand/Supply Database was established to enable Pacific Island Countries (PICs) to source, record and store energy data for not only to develop their policies but also be made available to donors and other regional organizations for their appropriate responses.

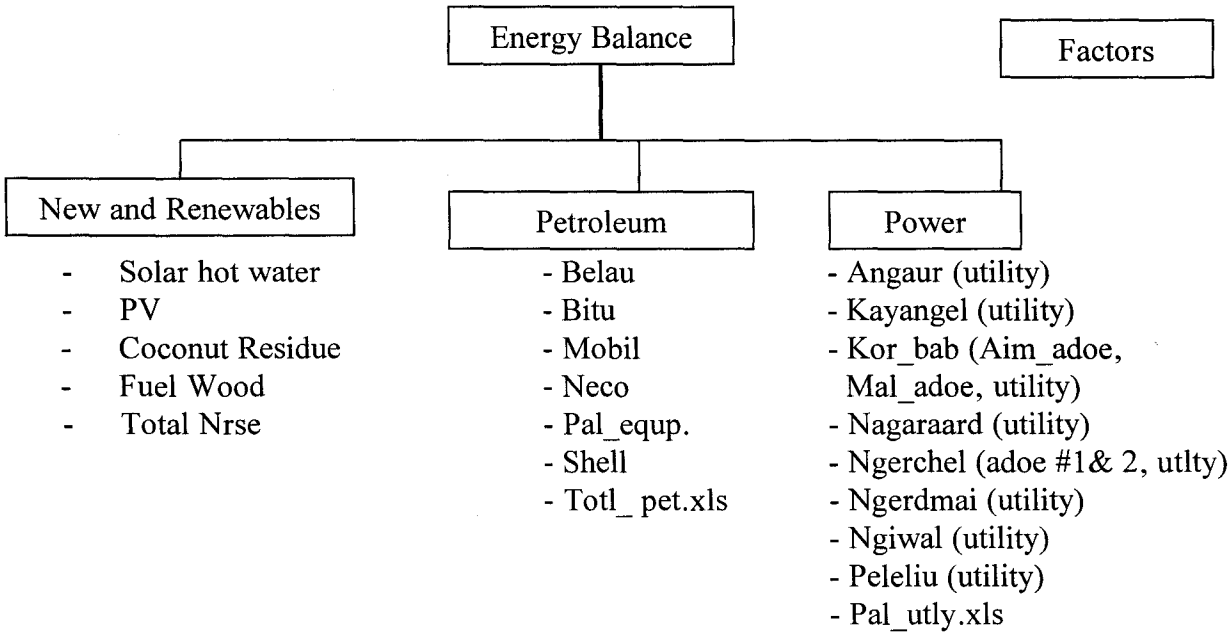
This was implemented by the Energy Division[1] of the Forum Secretariat in 1994. Since then, the database work has not been progressing as expected. A request by the PICs to modify the existing structure so as to reduce complexity, minimize workload in collecting/inputting data and be more user friendly have lead SOPAC to carry-out the necessary modifications.

The modification comprises of reducing the desegregation of the Petroleum Sector and combining the individual sheets to single workbooks. The annexes provide detail information regarding conversion factors, classification of the end-use sectors, abbreviations used and workbook structures.

The purpose of this report is to assist Palau's Energy Planning Unit (EPU) in sourcing, collecting and inputting energy data into the modified version of the database.

2.0 Description of the Modified Database

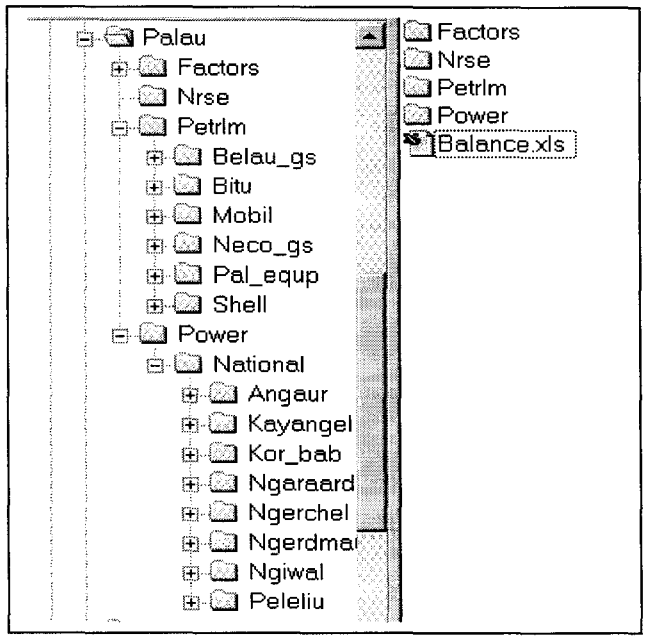
The Energy Supply/Demand Database is a series of inter-linked worksheets/workbooks. The modified database is in Microsoft Excel. The basic structure of the database is as follows:



[1] physically relocated to SOPAC in January 1998

The above diagram illustrates the linkages to the Energy Balance.
Note:

- The "Factors" are not linked to the energy balance.
- All sheets are protected so as to avoid accidental tempering with the hidden formulae.



2.1 Factors

The workbook has a single sheet, which shows Palau's Economic/Demographic Indicators, Current Retail Energy Prices and selected Projections (see Annex 5).

2.2 New and Renewables

The New and Renewables workbook contents are summarized below:

Sheet(s)	Content
Total NRSE	summary of consumption of new and renewables by sectors (units = GJ)
Solar Hot Water Heaters	shows the total energy supplied by SHW systems in MWh and GJ
PV	shows the energy provided by PVs in MWh and GJ
Coconut wood & residue	calculates the energy obtained from coconut wood & residue in GJ and te.
Fuel wood & Woodwaste	gives the total consumption in GJ and te.

The *end-use sectors*[2] in New and Renewables are: Agriculture, Forestry and Fishing; Manufacturing (produce drying, sawmills, oil processing, etc); Electricity Generation; Wholesale, Retail Trade and Recreation (includes hotels, resorts, restaurants, etc); Transport and Communication (warehousing, post & telecommunications, etc); Community and Social Services (street lighting, schools/educational institutes, local government administration services, etc); and Residential (Urban & Rural). Annex 6 provides further details of the New and Renewables workbook.

[2] see Annex 3 for a detailed classification of the end-use sectors

2.3 Petroleum

The petroleum sector comprises of the following workbooks: Belau_gs; Bitu; Mobil; Neco_gs; Pal_equp; Shell and Total Petroleum. Each workbook has a series of interlinked sheets containing data for the respective petroleum products.

The *end-use sectors* are categorized according to product type. For example, Avgas will only have Wholesale, Retail Trade & Recreation, and Transport (International Air & Domestic Air); for ADO the end-use sector comprises of Agriculture, Forestry & Fishing, Mining & Quarrying, Manufacturing, Electricity Generation, Water Supply, Construction, Wholesale/ Retail Trade & Recreation and Transport (rail, road & sea). Refer to Annex 7 for a detail structure of the Petroleum Sector.

2.4 Power

There is no change in the structure of the power sector. The *end-use sector* comprises of: Agriculture, Forestry and Fishing; Mining and Quarrying; Manufacturing; Water and Sewerage; Construction; Wholesale/Retail Trade and Recreation; Transport and Communication; Finance and Business Services; Community and Social Services; Street Lighting; and Residential. See Annex 8 for more details.

2.5 Energy Balance

The energy balance workbook consists of ten sheets (ten energy balances; e.g., 1990 – 1999). This is the end product of the energy database where it summarises details of individual national energy sources and consumption. The energy balance is inter-linked to the New and Renewables, Petroleum and Power Workbooks (see Annex 9 for Energy Balance structure).

3.0 Required Data and Possible Sources

The sub-sections that follow outlines the data required for updating the energy database and their possible sources.

3.1 Factors

Economic/Demographic Indicators

- GDP values (current prices, constant prices, per capita and by sector)
- Value of total imports/exports
- Exchange Rate
- Population
- Number of households
- etc.

Current Retail Energy Prices

- current prices/litre for all petroleum products
- current electricity prices/kWh for Industrial, Commercial, Residential, and Government

3.2 New and Renewables

- number of operating PV modules and solar hot water systems
- average area[3] per module/collector (m^2)
- average system efficiency[4] (%)
- insolation rate ($MJ/m^2/day$)
- number of households (urban & rural)
- estimated number of persons per household
- an average consumption rate of biomass per sector

Biomass consumption[5]: rural – 3400 kg/hh/yr (or 1.4 kg/person/day)

% of fuelwood vs % of coconut residue – assume 90%/10% for island environment.

The following ratios may be used in calculating coconut residue (shell & husks) consumed by the copra industry:

- 2.5 tonnes coconut residue consumed / 1 tonne of copra produced using traditional smoke dryers; or
- 1.25 tonnes coconut residue consumed / 1 tonne of copra produced using "hot-air-dryers".

3.3 Petroleum

- import figures for the petroleum products[6]
- re-export figures, if any
- stock levels at 1st January and 31st December for each year
- actual sales figures
- consumption per end-use sectors

Annex 1 provides details on conversion factors.

[3] typical collector areas: SHW = 2.98 m^2 (180 litre system) & 3.98 m^2 (300 litre system); PV modules ≈ 2 m^2

[4] average efficiency values: SHW = 20% - 30%; PV = 10% - 15%

[5] reference: Manual for the National Energy Demand/Supply Database; assume 10% of households consumes biomass.

[6] Ado, Avgas, Dpk, Benzene, Solvs, Bitu, Lubs & Grease, Mogas and LPG

3.4 Power

- installed capacity (kW)
- derated capacity (kW)
- gross generation (MWh)
- station own use & losses (MWh)
- lubricant oil used (kl)
- ADO used in the power generation (kl)
- maximum station demand (kW)
- purchases from self generators (MWh), if applicable
- sales to self generators (MWh), if applicable
- transmission losses (MWh)
- distribution losses (MWh)
- estimate of pilferage and unmetered sales (MWh)
- maximum system demand (kW)
- consumption by the end-use sectors (MWh)

Annex 1 provides details on conversion factors.

3.5 List of possible data sources

Oil/Gas Companies	Power Utilities	Airlines
Customs Departments	Solar Utilities	Shipping Agencies
Statistical Publications[7]	Meteorological Offices	
Statistics Offices	Energy Survey Results	

Establishing data sources with a company/organization will generally require a formal and senior level approach. It is crucial that a good work relationship is enhanced and data collection is maintained on a regular and consistent basis.

[7] examples: by the ADB, SPC & UN

4.0 ANNEXES

ANNEX 1 CONVERSION FACTORS

The following **factors are indicative**, because a fuel's specifications varies with source, time, place, temperature, etc. The energy factors measure the gross energy content of the fuel.

1. Liquid Fuels

(Note: gallons and tons are US measures)

	Megajoules per Litre	Megajoules per Gallon	Litres per Tonne	Gallons per Ton	Gigajoules per Tonne	Gigajoules per Ton
LPG (Propane)	25.3	95.8	1960	469.7	49.6	45.0
LPG (Butane)	27.7	104.9	1730	414.6	49.0	44.5
Aviation Gasoline (Av Gas)	33.2	125.7	1410	337.9	46.8	42.5
Motor/Automotive Gasoline (Mogas)	34.6	131.0	1340	321.1	46.4	42.1
Dual Purpose Kerosene (DPK)	36.8	139.3	1260	302.0	46.4	42.1
Automotive Diesel Oil (ADO)	38.6	146.1	1180	282.8	45.6	41.4
Industrial Diesel Oil (IDO)	39.0	147.6	1150	275.6	44.9	40.7
Fuel Oil - high sulphur (FO)	40.8	154.4	1050	251.6	42.9	38.9
Ethanol (PNG only)	23.4	88.6	1266	303.4	29.6	26.9
Solvents/White Benzene	34.0	128.7	1420	340.3	48.1	43.6
Lubricants and Greases	38.8	146.9	1120	268.4	43.4	39.4
Bitumen	44.0	166.6	980	234.9	42.7	38.7
Crude Oil (PNG Kutubu Light)	35.9	135.9	1249	299.3	44.9	40.7
Coconut Oil	34.9	132.1	1100	263.6	38.4	34.8

2. Petroleum crude specific gravities (approximate figures at 15°C)

Degrees API	Specific gravity	Litres per Tonne	MJ per Litre
25	0.903	1108	39.7
26	0.898	1114	39.5
27	0.892	1123	39.2
28	0.886	1129	39.1
29	0.881	1136	38.9
30	0.875	1144	38.6
31	0.870	1150	38.5
32	0.865	1157	38.3
33	0.859	1165	38.1
34	0.854	1172	37.9
35	0.849	1179	37.7
36	0.844	1187	37.5
37	0.839	1193	37.3
38	0.835	1198	37.2
39	0.829	1207	37.0
40	0.824	1215	36.8
41	0.820	1220	36.6
42	0.815	1228	36.4
43	0.810	1235	36.3
44	0.805	1243	36.1
***45**	0.801	1249	35.9
46	0.796	1257	35.7
47	0.792	1263	35.6
48	0.788	1270	35.4
49	0.783	1278	35.2
50	0.779	1284	35.1

* "Kutubu Light", PNG.

3. Solid Fuels

	Gigajoules per Tonne	Gigajoules per Ton
Black Coal - steaming coal (Fiji only)	30.1	27.3
Charcoal	30.0	27.2
Fuelwood/Woodwaste (40% mcwb)[1]	10.8	9.8
Fuelwood/Woodwaste (13% mcwb)[2]	17.1	15.5
Coconut Palm Wood	11.5	10.4
Coconut Residues[3]:		
Shell (15% mcwb harvested)	14.6	13.2
Husk (30% mcwb harvested)	12.0	10.9
Average (air dry shell and husk)[4]	14.0	12.7
Palm Oil Residues:		
Shell	17.5	15.9
Fibre	12.5	11.3
Average	15.0	13.6
Empty Bunches	7.5	6.8
Bagasse	9.7	8.7

1. Typical moisture content of undried sawmill residue and timber merchant fuelwood.
2. Typical moisture content of air dried fuelwood and residue.
3. Average yield of 2.93 air dry tonnes of residue per tonne of copra produced.
4. Proportion: kernel 33%, shell 23 % and husk 44% by dry weight.

4. Gaseous Fuels

	Megajoules per Cubic Metre	Megajoules per Cubic Foot
Natural Gas	39.0	1.1
Methane	37.7	1.1

* Approximate figures at 15°C.

5. Electricity

	Megajoules per kWh
Electricity	3.6

Sources for the above tables:

- regional specifications.
- Department of Primary Industries and Energy, Australia.
- World Bank PREA reports 1992.
- Energy Data and Conversion Factors (New Zealand Energy R&D Committee 1984).

Compiled from the Petroleum Economist and the Steinmuller 'Pocket Book', based on the international system of units (SI). Factors are either exact or correct to six significant figures.

Length

1 inch
= 25.4 millimetres (mm)

1 foot
= 12 inches (")
= 0.333333 yard
= 0.3048 metre (m)

1 yard
= 36 inches (")
= 3 feet (')
= 0.9144 metre (m)

1 metre
= 39.3701 inches (")
= 3.28084 feet (')
= 1.09361 yards
= 0.001 kilometre (km)

1 kilometre
= 1,000 metres (m)
= 0.621371 mile

1 mile
= 1,760 yards
= 1.60934 kilometres (km)

1 international nautical mile
= 1.85318 kilometres (km)
= 1.15088 miles

Area

1 square inch
= 645.16 square millimetres (mm^2)

1 square foot
= 0.0929030 square metres (m^2)

1 square yard
= 9 square feet
= 0.836127 square metres (m^2)

1 square metre
= 10.7639 square feet (squ.ft)
= 1.19599 square yards

1 acre
= 4,840 square yards
= 4,046.86 square metres (m^2)
= 0.404686 hectares

1 hectare
= 10,000 square metres (m^2)
= 2.47105 acres
= 0.01 square kilometres (km^2)

1 square kilometre
= 100 hectares
= 0.386102 square miles

1 square mile
= 640 acres
= 258.999 hectares
= 2.58999 square kilometres (km^2)

Volume

1 cubic inch
= 16.3871 cubic centimetres (cm^3)

1 pint
= 0.568261 cubic decimetres (dm^3)

1 litre (l)
= 61.0238 cubic inches (cu")
= 1.75975 pints
= 1 cubic decimetre (dm^3)
= 0.264170 American gallons
= 0.219969 Imperial gallons
= 0.0353147 cubic feet (cu ft)

1 hectolitre
= 100 litres

1 American gallon
= 231 cubic inches (cu")
= 3.78544 litres (l)
= 0.832679 Imperial gallons
= 0.133681 cubic feet (cu ft)
= 0.0238095 American barrels (bbl)
= 0.00378544 cubic metres (m^3)

1 Imperial gallon
= 277.42 cubic inches (cu")
= 4.54609 litres (l)
= 1.20094 American gallons
= 0.160544 cubic feet (cu ft)
= 0.0286355 American barrels (bbl)
= 0.00454609 cubic metres (m^3)

1 cubic foot (cu ft)
= 28.3168 litres (l)
= 7.48047 American gallons
= 6.22884 Imperial gallons
= 0.178366 American barrels (bbl)
= 0.0283168 cubic metres (m^3)

1 American barrel (bbl)
= 9,687.95 cubic inches (cu")
= 158.757 litres (l)
= 42 American gallons
= 34.9725 Imperial gallons
= 5.60645 cubic feet (cu')
= 0.158757 cubic metres (m^3)

1 cubic metre
= 1,000 litres (l)
= 264.170 American gallons
= 219.969 Imperial gallons
= 6.29894 American barrels (bbl)
= 35.3147 cubic feet (cu ft)

1 kilolitre (kl)
= 1,000 litres (l)
= 6.29894 American barrels (bbl)

1 gross ton (shipping)
= 2.83168 cubic metres or 100 cubic feet of permanently enclosed space

Mass

1 ounce (ozs)
= 28.3495 grams (g)

1 pound
= 0.453592 kilograms (kg)
= 0.00892857 hundredweight

1 kilogram (kg)
= 2.20462 pounds (lbs)
= 0.001 tonne (te)

1 hundredweight
= 112 pounds (lbs)

= 50.8023 kilograms (kg)

1 American (short) ton
= 2,000 pounds (lbs)
= 0.892857 long tons
= 0.907185 tonnes (te)

1 Imperial (long) ton
= 2,240 pounds (lbs)
= 1.12 short tons
= 1.01605 tonnes (te)

1 tonne (te)
= 2,204.62 pounds (lbs)
= 1,000 kilograms (kg)
= 1.10231 short tons
= 0.984206 long tons

Energy and Power

1 international table (IT) calorie
= 4.1868 joules (J)

1 megacalorie (IT)
= 1,000,000 calories
= 3968.32 British thermal units (BTU)
= 1163 watt hours (Wh)
= 4.1868 megajoules (MJ)

1 joule (J)
= 0.238846 calories (IT)

1 megajoule (MJ)
= 1,000,000 joules (J)
= 947.817 British thermal units (BTU)
= 277.778 watt hours (Wh)
= 238,846 calories (IT)
= 0.0238846 kilograms of oil equivalent

1 kilogram of oil equivalent (koe)
= 41.868 megajoules (MJ)
= 10 megacalories

1 tonne of oil equivalent (toe)
= 41.868 gigajoules (GJ)
= 10 gigacalories

1 kilowatt hour (kWh)
= 3,412.14 British thermal units (BTU)
= 859.845 kilocalories (IT)
= 3.6 megajoules (MJ)
= 1.34102 horsepower hours

1 metric horsepower (Pferdesaerke or Cheval Vapeur)
= 735.499 watts (W)
= 542.476 foot pounds force/second
= 0.986320 Imperial horsepower

1 Imperial horsepower
= 745.700 watts (W)
= 550 foot pounds force/second
= 1.01388 metric horsepower

1 kilowatt (kW)
= 737.562 foot pounds force/second
= 1.35962 metric horsepower
= 1.34102 Imperial horsepower

ANNEX 2 SHORT CUTS AND ASSUMPTIONS

2. Short Cuts and Assumptions

This end-use sector disaggregation is assisted by the fact that, for most FICs, some fuels will be consumed in only one or two end-use sectors. Consequently, valid assumptions can be made regarding the end-use picture for those fuels. The database reports and the survey forms reflect these assumptions.

The assumptions are based on the equation:

Total supply/sales = demand in end-use sector A + demand in end-use sector B + ...

Consequently, if data for total supply and data for sales to end-use sectors B, C, etc, are known, then demand in sector A can be derived. For example:

- **Total sales of Aviation Gasoline (Av Gas) = Demand in Domestic Air Transport sector**. Consumption of Av Gas for International Air Transport is likely to be negligible.

- **Total sales of DPK = Demand in International Air Transport + Demand in Domestic Air Transport + Demand in Community/Social Services + Demand in Residential**. Demand for DPK in other sectors is likely to be negligible.

- **Total sales of LPG = Demand in Hotels/Restaurants + Demand in Community/Social Services + Demand in Residential**. Demand for LPG in other sectors is likely to be negligible.

- **Total sales of Motor Gasoline = Demand in Agriculture/Forestry/Fishing + Demand in Road Transport + Demand in Community/Social Services + Demand in Residential**. Demand in other sectors is likely to be negligible.

- **Total Biomass supply/demand = Demand in specific Agro-industries + Demand in Community/Social Services + imputed Demand in Residential**. Demand in other sectors is likely to be negligible.

- **Total Solar Hot Water Heater supply/demand = imputed contribution of total number of panels in Hotels/Restaurants + Community/Social Services + Residential**. Demand in other sectors is likely to be negligible.

- **Total Solar Photovoltaic supply/demand = imputed contribution of total number of panels in Community/Social Services + Residential**. Demand in other sectors is likely to be negligible.

While the above assumptions (and others) will apply to most FICs, it is essential that they be examined for their validity on an individual country basis

- a check list of fuels and their likely end-use sectors in which they are consumed is on the following pages for your consideration and review.

Petroleum

Fuel	End-Use Sectors	Relevant for you?
Automotive Diesel Oil (ADO)	Agriculture	
	Forestry and Logging	
	Fishing and Fish Farming	
	Mining and Quarrying	
	Manufacturing - all subsectors	
	Electricity Generation	
	Water and Sewerage	
	Construction	
	Road Transport	
	Rail Transport	
	Sea Transport	
	Communication	
	Wholesale/Retail Trade and Hotels and Restaurants	
	Community, Social and Personal Services	
	Residential	
Aviation Gasoline	International Air Transport	
	Domestic Air Transport	
Benzine	Community, Social and Personal Services	
	Residential	
Bitumen	Bitumen, Lubricants & Solvents	
Crude Oil (PNG only)	Manufacturing	
	Electricity Generation	

Fuel	End-Use Sectors	Relevant for you?
Dual Purpose Kerosene (DPK)	International Air Transport	
	Domestic Air Transport	
	Community, Social and Personal Services	
	Residential	
Ethanol (PNG only)	Road Transport	
Fuel Oil (FO)	Manufacturing	
	Electricity Generation	
	Sea Transport	
	Community, Social and Personal Services	
Industrial Diesel Oil (IDO)	Manufacturing	
	Electricity Generation	
	Sea Transport	
	Community, Social and Personal Services	
Liquefied Petroleum Gas (LPG)	Manufacturing	
	Wholesale/Retail Trade and Hotels and Restaurants	
	Communication	
	Finance, Insurance, Real Estate and Business Services	
	Community, Social and Personal Services	
	Residential	
Lubricants and Greases	Bitumen, Lubricants & Solvents	

Fuel	End-Use Sectors	Relevant for you?
Motor Gasoline (Mogas, Petrol)	Fishing and Fish Farming	
	Road Transport	
	Community, Social and Personal Services	
	Residential	
Regular Motor Gasoline (FSM only)	Fishing and Fish Farming	
	Road Transport	
	Community, Social and Personal Services	
	Residential	
Super Motor Gasoline (FSM only)	Road Transport	
Pre-Mix (2 stroke gasoline)	Fishing and Fish Farming	
	Road Transport	
	Community, Social and Personal Services	
	Residential	
Solvents	Bitumen, Lubricants & Solvents	

New and Renewable Sources of Energy (NRSE)

Fuel	End-Use Sectors	Relevant for you?
Bagasse (sugar cane residue)	Electricity Generation (co-gen.)	
Coconut Wood and Residues	Agriculture	
	Manufacturing	
	Community, Social and Personal Services	
	Residential	
Fuelwood and Woodwaste	Agriculture	
	Manufacturing	
	Electricity Generation (co-gen.)	
	Community, Social and Personal Services	
	Residential	
Oil Palm Residues	Electricity Generation (co-gen.)	
Solar Photovoltaics (PVs)	Communication	
	Community and Social Services (including Street Lighting)	
	Residential	
Solar Hot Water	Wholesale/Retail Trade and Hotels and Restaurants	
	Community, Social and Personal Services	
	Residential	

Black Coal

Fuel	End-Use Sectors	Relevant for you?
Black Coal (export thermal)	Manufacturing - all subsectors	

Natural Gas

Fuel	End-Use Sectors	Relevant for you?
Natural Gas	Electricity Generation	

Electricity

Fuel	End-Use Sectors	Relevant for you?
Electricity	Agriculture	
	Forestry and Logging	
	Fishing and Fish Farming	
	Mining and Quarrying	
	Manufacturing	
	Electricity Generation	
	Water and Sewerage	
	Construction	
	Wholesale/Retail Trade and Hotels and Restaurants	
	Storage and Communication	
	Finance, Insurance, Real Estate and Business Services	
	Community, Social and Personal Services	
	Street Lighting	
	Residential	

Co-generation Heat

Fuel	End-Use Sectors	Relevant for you?
Co-generation Heat	Manufacturing	
	Water and Sewerage	

ANNEX 3 REGIONAL STANDARD INDUSTRIAL CLASSIFICATIONS

Regional Standard Industrial Classification (RSIC)

Division	Sub-division	Group	Sub-group	
A (0000)				**Agriculture, Forestry, Fishing and Hunting**
	0100			Agriculture (includes cleaning and processing when done on site. Further processing is part of 'Div. C: Manufacturing')
		0110		Sugar cane growing
		0120		Coconut growing
		0130		Rice growing
		0140		Oil palm growing
		0150		Tobacco growing and curing
		0160		Fruit, vegetables and other crops growing
		0170		Poultry and egg production
		0180		Milk and cream production
		0190		Other livestock production
	0200			Services to agriculture
	0300			Forestry and logging (excludes sawmilling which is part of 'Div.C - Manufacturing)
		0310		Forestry except logging
		0320		Logging
	0400			Fishing and fish farming
	0500			Hunting
	0600			Subsistence agriculture, fishing and hunting
B (1000)				**Mining and Quarrying**
	1100			Metallic ore mining and beneficiation
	1200			Coal mining
	1300			Oil and gas extraction
	1400			Construction material quarrying
	1500			Other mining and quarrying nec
	1600			Geological and prospecting activities
C (2000)				**Manufacturing**
	2100			Food, beverages and tobacco
		2110		Foods (includes animal feeds)
			2111	Meat products
			2112	Dairy products
			2113	Fruit and vegetable products
			2114	Fish and marine food products
			2115	Margarine and oils/fats nec
			2116	Grain mill and cereal food products
			2117	Bakery products
			2118	Sugar refining and products
			2119	Other food products nec
		2120		Beverages
			2121	Spirits and wines
			2122	Beer and stout
			2123	Cordials and carbonated drinks
		2130		Tobacco products
	2200			Textiles, clothing and footwear
		2210		Textiles
		2220		Clothing
		2230		Footwear
		2240		Leather goods except footwear
	2300			Wood, wood products, cane and furniture
		2310		Wood and cane products except furniture
			2311	Sawmilling and other wood milling
			2312	Wooden and cane containers
			2313	Wood and cane products nec

Division	Sub-division	Group	Sub-group	
		2320		Furniture and fixtures, primarily of wood
	2400			Paper, paper products and printing/publishing
		2410		Paper, paper products and paperboard
		2420		Printing, publishing and allied industries
	2500			Chemical, petroleum, coal, rubber and plastics
		2510		Chemicals and chemical products
			2511	Industrial chemicals
			2512	Paints, varnishes and lacquers
			2513	Soaps, cosmetics and toilet preparations
			2514	Chemicals products nec
		2520		Petroleum refining
		2530		Petroleum and coal products nec
		2540		Rubber products
		2550		Plastic products
	2600			Non-metallic mineral products
		2610		Glass and glass products
		2620		Clay products and refractories
		2630		Cement and cement products
		2640		Other non-metallic mineral products
	2700			Basic metal products
		2710		Basic iron and steel
		2720		Basic non-ferrous metals
		2730		Casting of metals
	2800			Fabricated metal products, machinery and equipment
		2810		Fabricated metal products except machinery and equipment
			2811	Furniture and fixtures primarily of metal
			2812	Structural metal products
			2813	Fabricated metal products except machinery/equipment nec
		2820		Machinery and equipment except electrical (includes manufacture and repair)
			2821	Agricultural machinery and equipment
			2822	Machinery and equipment nec
		2830		Electrical machinery, equipment and appliances (includes manufacture and repair)
		2840		Transport equipment (includes manufacture and repair)
			2841	Ship building and repair
			2842	Transport equipment manufacture and repair nec
		2850		Professional and scientific equipment (includes manufacture and repair)
	2900			Other manufacturing
		2910		Jewellery and related articles
		2920		Manufacturing nec
D (3000)				**Electricity, Gas, Water and Sewerage**
	3100			Electricity supply
		3110		Public electricity
			3111	Sole generator, ie produces electricity only
			3112	Co-generator, ie produces electricity and process heat
		3120		Private electricity
			3121	Sole generator, ie produces electricity only
			3122	Co-generator, ie produces electricity and process heat
	3200			Gas reticulation
	3300			Water treatment and supply (including water distillation)
	3400			Sewerage collection, treatment and disposal

Division	Sub-division	Group	Sub-group	
E (3500)				**Construction**
	3510			Building construction, repair and demolition
	3520			Other construction
F (4000)				**Wholesale/Retail Trade and Restaurants/Hotels**
	4100			Wholesale trade
	4200			Retail trade
	4300			Restaurants/bars and hotels/lodging
		4310		Restaurants, cafes, bars and clubs
		4320		Hotels, resorts and lodging
G (5000)				**Transport, Storage and Communication**
	5100			Transport
		5110		Road transport includes all public and private road transport
			5111	Bus transport
			5112	Taxi transport
			5113	Road freight transport
			5114	Personal vehicle transport
			5115	Road transport nec
		5120		Rail transport includes all public and private rail transport
		5130		Water transport, includes all public and private water transport
			5131	Sea cruises and tours
			5132	Ocean, coastal and inland water transport
			5133	Salvage, towing and stevedoring services
		5140		Air transport, includes all public and private air transport
			5141	International air transport
			5142	Domestic air transport
	5200			Warehousing, cargo handling and services allied to transport
	5300			Communication services includes post, telecommunications, etc
H (6000)				**Finance, Insurance, Real Estate and Business Services**
	6100			Banking, finance and investment services
	6200			Insurance services
	6300			Real estate and business services
I (7000)				**Community, Social and Personal Services**
	7100			Public administration, public order and defence
		7110		Central and local government administration services
		7120		Public order and safety
		7130		Defence
	7200			Street lighting
	7300			Sanitation, pest control and similar services
	7400			Social and community related services
		7410		Education and education services
			7411	Schools and general education
			7412	Technical, vocational, commercial and tertiary education
			7413	Education services nec
		7420		Medical, dental, veterinary and other health services nec
		7430		Welfare institutions and services (includes orphanages, old peoples homes, Salvation Army, Red Cross, etc)
		7440		Business, professional and labour associations

Division	Sub-division	Group	Sub-group	
		7450		Religious, social and community services nec (includes churches, temples, youth organisations (Scouts, YMCS, YWCA, etc)
	7500			Recreational, cultural and sporting services (includes cinemas, television/radio stations, libraries, museaums, sporting clubs and associations)
	7600			Personal and household services nec
	7700			International and extra-territorial agencies
J (8000)				**Residential**
	8100			Urban residential
	8200			Rural residential
K (9000)				**Solvents, Lubricants and Bitumen**

nec = not elsewhere classified.

ANNEX 4 ABBREVIATIONS USED

Abbreviations Used

- New and Renewables Sources of Energy (NRSE)
  - BGSE – bagasse (sugarcane residue)
  - COCO – coconut wood and residue
  - PALM – oil palm residue
  - PV – solar photovoltaics
  - WATR – solar water heater
  - WOOD – fuelwood and woodwaste
  - Totl – Total

- Petroleum (Petrleum)
  - ADO – automotive diesel oil
  - AVGAS – aviation gasoline
  - BTMN – bitumen
  - BNZE – white benzene
  - DPK – dual purpose kerosene
  - FO – fuel oil
  - IDO – industrial diesel oil
  - LPG – liquefied petroleum gas
  - LUBE – lubricants and greases
  - MOGS – mogas, motor spirit, petrol
  - SOLV – solvents
  - SUPR – super mogas

- Electricity (POWER)
  - ADOE – automotive diesel oil / reciprocating engine
  - ADOT – automotive diesel oil / gas turbine engine
  - FOB – fuel oil / boiler
  - FOE – fuel oil / reciprocating engine
  - IDOE – industrial diesel oil / reciprocating engine
  - ROR – run-of-river / hydro
  - STR - storage engine
  - PRIV – private self generator
  - RURL – government rural generator
  - UTLY – utility

ANNEX 5 FACTORS WORKBOOK

Palau Selected Indicators and Prices

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Economic/Demographic Indicators										
GDP (current prices)										
GDP (constant prices)										
GDP per capita										
GDP growth of near large neighbour										
Inflation rate (%)										
Deflator										
Exchange rate (local/$US)										
Disposable Income										
GDP by Sector (Constant Prices):										
Agriculture, Forestry and Fishing										
Mining and Quarrying										
Manufacturing										
Electricity Generation										
Water and Sewerage										
Construction										
Wholesale/Retail Trade and Recreation										
Transport, Storage and Communication										
Finance and Insurance										
Real Estate and Other Services										
Community and Social services										
Value of Total Imports										
Value of Total Exports										
Imports/Exports										
Imports/GDP										
Exports/GDP										
Trade Deficit										
Balance of Payments										
Population										
% Urban, % Rural										
Number of Households										
% Urban, % Rural										
Population in Wage & Salary Employment										

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Government Budget										
Government Revenue										
% Locally generated										
Overseas Development Assistance										
ODA as % GDP										
ODA as % annual Budget										
ODA per capita										
Role of Energy Imports										
Value of Total Energy Imports										
Value of Total Energy Exports										
Energy Trade Deficit										
Energy Imports Dependency (%)*										
Value of Petroleum Imports										
Volume of Petroleum Imports										
Average Wholesale Price per Litre										
Average Marker Crude Price										
Average Wholesale Price/Average Crude Price										
Petroleum Imports/Total Imports (%)										
Petroleum Imports/Total Exports (%)										
Petroleum Imports/Government Budget (%)										
Petroleum Imports/ODA (%)										
Retail Energy Prices (Current Prices)										
Petroleum (Current Prices/litre):										
Automotive Diesel (ADO)										
Motor Gasoline (Mogas/Petrol)										
Kerosene (DPK)										
Liquefied Petroleum Gas (LPG)										

* 'Energy Imports Dependency' = (Energy Imports - Re-exports - Stocks Change) / Total Energy Consumption

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Electricity (Current Prices/kWh):										
Industrial										
Commercial										
Residential - urban										
- rural										
Government										
Street Lighting										
Average Price, i.e. Sales($)/Sales(kWh)										
Firewood										

Selected Projections	1997	1998	1999	2000	2001	2002	2003	2004
GDP (constant prices)								
GDP per capita								
GDP growth of near large neighbour								
Disposable Income								
GDP by Sector (Constant Prices):								
Agriculture, Forestry and Fishing								
Mining and Quarrying								
Manufacturing								
Electricity Generation								
Water and Sewerage								
Construction								
Wholesale/Retail Trade and Recreation								
Transport, Storage and Communication								
Finance and Insurance								
Real Estate and Other Services								
Community and Social services								
Population								
% Urban, % Rural								
Number of Households								
% Urban, % Rural								
Population in Wage & Salary Employment								

ANNEX 6 NEW AND RENEWABLES WORKBOOK

Palau New and Renewable Sources of Energy Supply and Demand

Location: Palau
Product: **Total New and Renewable Sources of Energy**

Production = total Consumption by End-use Sectors

Year	Production = Total Consumption (GJ)	Consumption by End-use Sectors						
		Agriculture, Forestry and Fishing (GJ)	anufacturing (GJ)	Electricity Generation (GJ)	Wholesale/ Retail Trade and Recreation (GJ)	Transport and ommunication (GJ)	Community and Social Services (GJ)	Residential (GJ)
1994	198,041	22,500	20,200		73	7	28,280	126,980
1995	0	0	0		0	0	0	0
1996	0	0	0		0	0	0	0
1997	0	0	0		0	0	0	0
1998	0	0	0		0	0	0	0
1999	0	0	0		0	0	0	0
2000	0	0	0		0	0	0	0
2001	0	0	0		0	0	0	0
2002	0	0	0		0	0	0	0
2003	198,041	22,500	20,200		73	7	28,280	126,980

NOTE: Production = Total Consumption. For the purpose of this table, 'Production' = the aggregate of 'Consumption by End-use Sectors'.

Palau New and Renewable Sources of Energy Supply and Demand

Location: Palau

Product: **Solar Hot Water Heaters**

Production = total Consumption by End-use Sectors

Year	Production = Total Consumption		Consumption by End-use Sectors							
			Wholesale/Retail Trade and Recreation (includes Hotels and Resorts)				Community and Social Services			
	(MWh)	(GJ)	no. of solar collectors (units)	average area per collector (ft^2)	verage system efficiency (%)	ergy available /consumed (MJ)	no. of olar collectors (units)	average area per collector (ft^2)	verage system efficiency (%)	ergy available /consumed (MJ)
1994	61	219	10	5.0	20.0	73,000	10	5.0	20.0	73,000
1995	0	0				0				0
1996	0	0				0				0
1997	0	0				0				0
1998	0	0				0				0
1999	0	0				0				0
2000	0	0				0				0
2001	0	0				0				0
2002	0	0				0				0
2003	61	219	10	5.0	20.0	73,000	10	5.0	20.0	73,000

Consumption by End-use Sectors (continued)

Year	Consumption by End-use Sectors (continued)				Average Insolation Rate
	Residential				
	no. of solar collectors (units)	average area per collector (ft^2)	verage system efficiency (%)	ergy available /consumed (MJ)	($MJ/ft^2/day$)
1994	10	5.0	20.0	73,000	20.0
1995				0	
1996				0	
1997				0	
1998				0	
1999				0	
2000				0	
2001				0	
2002				0	
2003	10	5.0	20.0	73,000	20.0

Note:

Production = Total Consumption. For the purpose of this table, 'Production' = the aggregate of 'Consumption by End-use Sectors'.

Average System Efficiency indicates the efficiency of the total system (collector, storage tank and piping) to convert solar energy to available hot water, ie = energy content of hot water/insolation level.

Papua New Guinea New and Renewable Sources of Energy Supply and Demand

Location:	Papua New Guinea
Product:	**Solar Photovoltaic (PV) Systems**

Production = total Consumption by End-use Sectors

Year	Production = Total Consumption		Consumption by End-use Sectors							
			Transport and Communication				Community and Social Services (includes Street Lighting)			
			Communication							
	(MWh)	(GJ)	no. of PV modules (units)	average area per module (ft^2)	verage system efficiency (%)	nergy availabl /consumed (MJ)	no. of PV modules (units)	average area per module (ft^2)	verage system efficiency (%)	nergy available /consumed (MJ)
1994	6	22	10	2.0	5.0	7,300	10	2.0	5.0	7,300
1995	0	0				0				0
1996	0	0				0				0
1997	0	0				0				0
1998	0	0				0				0
1999	0	0				0				0
2000	0	0				0				0
2001	0	0				0				0
2002	0	0				0				0
2003	6	22	10	2.0	5.0	7,300	10	2.0	5.0	7,300

Consumption by End-use Sectors (continued)

Year	Consumption by End-use Sectors (continued)			
	Residential			
	no. of PV modules (units)	average area per module (ft^2)	verage system efficiency (%)	nergy available /consumed (MJ)
1994	10	2.0	5.0	7,300
1995				0
1996				0
1997				0
1998				0
1999				0
2000				0
2001				0
2002				0
2003	10	2.0	5.0	7,300

Average Insolation Rate

Average Insolation Rate
($MJ/ft^2/day$)
20.0
20.0

Note:

Production = Total Consumption. For the purpose of this table, 'Production' = the aggregate of 'Consumption by End-use Sectors'.

Average System Efficiency indicates the efficiency of the total system (module, battery and inverter) to convert solar energy to available electricity, ie = available electricity/insolation level.

Palau New and Renewable Sources of Energy Supply and Demand

Location:	Palau
Product:	Fuelwood & Woodwaste

Production = total Consumption by End-use Sectors

Year	Production = Total Consumption		Consumption by End-use Sectors					
			Agriculture, Forestry and Fishin (includes produce drying)		Manufacturing (includes sawmills, oil processing, etc.)		Community and Social Services	
	(tons)	(GJ)	(tons)	(GJ)	(tons)	(GJ)	(tons)	(GJ)
1994	7,500	104,850	1,000	9,800	1,000	9,800	1,000	15,500
1995	0	0		0		0		0
1996	0	0		0		0		0
1997	0	0		0		0		0
1998	0	0		0		0		0
1999	0	0		0		0		0
2000	0	0		0		0		0
2001	0	0		0		0		0
2002	0	0		0		0		0
2003	7,500	104,850	1,000	9,800	1,000	9,800	1,000	15,500

Consumption by End-use Sectors (continued)

Year	Consumption by End-use Sectors (continued)									
	Residential									
	Urban Residential				Rural Residential				Total Residential Consumption	
	ave. consumed per household (lbs/HH/yr)	no. of urban households	total urban consumption (tons)	total urban consumption (GJ)	ave. consumed per household (lbs/HH/yr)	no. of rural households	total rural consumption (tons)	total rural consumption (GJ)	(tons)	(GJ)
1994	1,000	3,000	3,000	46,500	1,500	1,000	1,500	23,250	4,500	69,750
1995			0	0			0	0	0	0
1996			0	0			0	0	0	0
1997			0	0			0	0	0	0
1998			0	0			0	0	0	0
1999			0	0			0	0	0	0
2000			0	0			0	0	0	0
2001			0	0			0	0	0	0
2002			0	0			0	0	0	0
2003	1,000	3,000	3,000	46,500	1,500	1,000	1,500	23,250	4,500	69,750

NOTE: Production = Total Consumption. For the purpose of this table, 'Production' = the aggregate of 'Consumption by End-use Sectors'.

Manufacturing = includes the processing and manufacture of coconut/palm oils, sawn timber, etc.

The energy equivalence is assumed to be = 'Manufacturing' and 'Agriculture, Forestry': 10.8 GJ/tonne. For all other sectors: 17.1 GJ/tonne.

Palau New and Renewable Sources of Energy Supply and Demand

Location:	Palau
Product:	Coconut Wood & Residue

Production = total Consumption by End-use Sectors

Year	Production = Total Consumption		Consumption by End-use Sectors					
			Agriculture, Forestry and Fishin (includes produce drying)		Manufacturing (includes sawmills, oil processing, etc		Community and Social Services	
	(tons)	(GJ)	(tons)	(GJ)	(tons)	(GJ)	(tons)	(GJ)
1994	7,500	92,950	1,000	12,700	1,000	10,400	1,000	12,700
1995	0	0		0		0		0
1996	0	0		0		0		0
1997	0	0		0		0		0
1998	0	0		0		0		0
1999	0	0		0		0		0
2000	0	0		0		0		0
2001	0	0		0		0		0
2002	0	0		0		0		0
2003	7,500	92,950	1,000	12,700	1,000	10,400	1,000	12,700

Consumption by End-use Sectors (continued)

Year	Consumption by End-use Sectors (continued)									
	Residential									
	Urban Residential				Rural Residential				Total Residential Consumption	
	ave. consumed per household (lbs/HH/yr)	no. of urban households	total urban consumption (tons)	total urban consumption (GJ)	ave. consumed per household (lbs/HH/yr)	no. of rural households	total rural consumption (tons)	total rural consumption (GJ)	(tons)	(GJ)
1994	1,000	3,000	3,000	38,100	1,500	1,000	1,500	19,050	4,500	57,150
1995			0	0			0	0	0	0
1996			0	0			0	0	0	0
1997			0	0			0	0	0	0
1998			0	0			0	0	0	0
1999			0	0			0	0	0	0
2000			0	0			0	0	0	0
2001			0	0			0	0	0	0
2002			0	0			0	0	0	0
2003	1,000	3,000	3,000	38,100	1,500	1,000	1,500	19,050	4,500	57,150

NOTE: Production = Total Consumption. For the purpose of this table, 'Production' = the aggregate of 'Consumption by End-use Sectors'.

Manufacturing = includes the processing and manufacture of coconut/palm oils, sawn timber, etc.

The energy equivalence is assumed to be = Manufacturing: 11.5 GJ/tonne. For all other end-use sectors: 14.0 GJ/tonne.

ANNEX 7 TOTAL PETROLEUM PRODUCT, GAS & OIL COMPANIES WORKBOOKS

Petroleum Company Annual Supply and Sales

Company: Belau Gas
Petroleum Product: Liquefied Petroleum Gas (LPG)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	Inter-company Receipts	Inter-company Transfers	Stock Level			Calculated Sales	+/- Statistical Discrepancy	Actual Sales
					at 1 January	t 31 December	Stock change			
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000				0	5,000	5,000	15,000	5,000	20,000
1995					5,000		-5,000	5,000	-5,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	20,000				0	5,000	5,000	15,000	5,000	20,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).

Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]					
			anufacturing	Wholesale/ Retail Trade and Recreation	Transport and ommunication ommunication	Finance and Business Services	Community and Social Services	Residential
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000		5,000	5,000				10,000
1995	0							
1996	0							
1997	0							
1998	0							
1999	0							
2000	0							
2001	0							
2002	0							
2003	20,000		5,000	5,000				10,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the oil suppliers' depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Construction Contractors, Palau
Petroleum Product: **Bitumen**

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	Inter-company Receipts ('000 gals)	Inter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 December ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	10,000				0	0	0	10,000	0	10,000
1995					0		0	0	0	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	10,000				0	0	0	10,000	0	10,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).

Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	10,000	10,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	10,000	10,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the company's depot use and losses.

Petroleum Company Annual Supply and Sales

Company: Mobil Oil, Palau
Petroleum Product: **All Petroleum Products**

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	46,000	0	0	3,000	3,000	11,000	8,000	35,000	7,000	42,000
1995	0	0	0	0	11,000	0	-11,000	11,000	-11,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	3,000	3,000	-3,000	3,000	0
2003	46,000	0	0	3,000	3,000	11,000	8,000	35,000	7,000	42,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users (next page)

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]									
			Agriculture, Forestry and Fishing	Mining and Quarrying	anufacturing	Electricity Generation*	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication		
										International Air	Domestic Air	Rail
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	42,000	29,000	0	0	0	1,000	0	0	1,000	0	4,000	
1995	0	0	0	0	0	0	0	0	0	0	0	
1996	0	0	0	0	0	0	0	0	0	0	0	
1997	0	0	0	0	0	0	0	0	0	0	0	
1998	0	0	0	0	0	0	0	0	0	0	0	
1999	0	0	0	0	0	0	0	0	0	0	0	
2000	0	0	0	0	0	0	0	0	0	0	0	
2001	0	0	0	0	0	0	0	0	0	0	0	
2002	0	0	0	0	0	0	0	0	0	0	0	
2003	42,000	29,000	0	0	0	1,000	0	0	1,000	0	4,000	

Company Sales to Resellers and End-users (continued)

Year	Sales to End-users (continued) [Note: this is only a guide to actual end-use consumption]						
	Transport and Communication			Finance and Business Services	Community and Social Services	Residential	Solvents, Lubricants and Bitumen
	Road	Sea	ommunication				
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	0	0			0	0	7,000
1995	0	0			0	0	0
1996	0	0			0	0	0
1997	0	0			0	0	0
1998	0	0			0	0	0
1999	0	0			0	0	0
2000	0	0			0	0	0
2001	0	0			0	0	0
2002	0	0			0	0	0
2003	0	0			0	0	7,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the oil company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation'). * Amount shown here as consumed for 'Electricity Generation' MUST CLOSELY APPROXIMATE that amount shown in the 'POWER' Tables.

Petroleum Company Annual Supply and Sales

Company: Mobil Oil Micronesia
Petroleum Product: Automotive Diesel Oil (ADO)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000			1,000	0	1,000	1,000	8,000	2,000	10,000
1995					1,000		-1,000	1,000	-1,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	10,000			1,000	0	1,000	1,000	8,000	2,000	10,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]									
			Agriculture, Forestry and Fishing	Mining and Quarrying	anufacturing	Electricity Generation*	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication		
										Rail	Road	Sea
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000	9,000				1,000						
1995	0											
1996	0											
1997	0											
1998	0											
1999	0											
2000	0											
2001	0											
2002	0											
2003	10,000	9,000				1,000						

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation'). * ADO shown here as consumed for 'Electricity Generation' MUST CLOSELY APPROXIMATE that amount shown in the 'POWER' Tables.

Petroleum Company Annual Supply and Sales

Company: Mobil Oil Micronesia
Petroleum Product: Aviation Gasoline (Avgas)

Company Imports, Re-exports, Inter-company/depot Transactions (Incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level			Calculated Sales	+/- Statistical Discrepancy	Actual Sales
					at 1 January	t 31 Decembe	Stock change			
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000				0	5,000	5,000	5,000	0	5,000
1995					5,000		-5,000	5,000	-5,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	10,000				0	5,000	5,000	5,000	0	5,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]		
			Wholesale/ Retail Trade and Recreation	ransport and Communication: International Air	Domestic Air
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	5,000		1,000		4,000
1995	0				
1996	0				
1997	0				
1998	0				
1999	0				
2000	0				
2001	0				
2002	0				
2003	5,000		1,000		4,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Mobil Oil Micronesia
Petroleum Product: ual Purpose Kerosene (DPK/Jet A1)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000			1,000	0	1,000	1,000	8,000	2,000	10,000
1995					1,000		-1,000	1,000	-1,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	10,000			1,000	0	1,000	1,000	8,000	2,000	10,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]				
			Wholesale/ Retail Trade and Recreation	ransport and Communicatio International Air	ransport and Communicatio Domestic Air	Community and Social Services	Residential
	(kl)	(kl)	(kl)	(kl)	(kl)	(kl)	(kl)
1994	10,000	10,000					
1995	0						
1996	0						
1997	0						
1998	0						
1999	0						
2000	0						
2001	0						
2002	0						
2003	10,000	10,000					

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Mobil Oil Micronesia
Petroleum Product: Motor Gasoline (Mogas/Petrol)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	10,000			1,000	1,000	2,000	1,000	8,000	2,000	10,000
1995					2,000		-2,000	2,000	-2,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	1,000	1,000	-1,000	1,000	
2003	10,000			1,000	1,000	2,000	1,000	8,000	2,000	10,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales (kl)	Sales to Resellers (kl)	Sales to End-users [Note: this is only a guide to actual end-use consumption] Agriculture, Forestry and Fishing (kl)	Wholesale/ Retail Trade nd Recreation (kl)	Transport and ommunication Road (kl)
1994	10,000	10,000			
1995	0				
1996	0				
1997	0				
1998	0				
1999	0				
2000	0				
2001	0				
2002	0				
2003	10,000	10,000			

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Mobil Oil Micronesia
Petroleum Product: Solvents

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	1,000				2,000	1,000	-1,000	2,000	1,000	3,000
1995					1,000		-1,000	1,000	-1,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	2,000	2,000	-2,000	2,000	
2003	1,000				2,000	1,000	-1,000	2,000	1,000	3,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	3,000	3,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	3,000	3,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the company's depot use and losses.

Petroleum Company Annual Supply and Sales

Company: Mobil Oil Micronesia
Petroleum Product: Lubricants and Greases

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	5,000				0	1,000	1,000	4,000	0	4,000
1995					1,000		-1,000	1,000	-1,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	5,000				0	1,000	1,000	4,000	0	4,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	4,000	4,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	4,000	4,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the company's depot use and losses.

Petroleum Company Annual Supply and Sales

Company: NECO Gas

Petroleum Product: **Liquefied Petroleum Gas (LPG)**

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	Inter-company Receipts ('000 gals)	Inter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 December ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	1,000				0	0	0	1,000	0	1,000
1995					0		0	0	0	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	1,000				0	0	0	1,000	0	1,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).

Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales ('000 gals)	Sales to Resellers ('000 gals)	Sales to End-users [Note: this is only a guide to actual end-use consumption] anufacturing ('000 gals)	Wholesale/ Retail Trade and Recreation ('000 gals)	Transport and ommunication ommunication ('000 gals)	Finance and Business Services ('000 gals)	Community and Social Services ('000 gals)	Residential ('000 gals)
1994	1,000							1,000
1995	0							
1996	0							
1997	0							
1998	0							
1999	0							
2000	0							
2001	0							
2002	0							
2003	1,000							1,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the oil suppliers' depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Palau Equipment Co.
Petroleum Product: **Liquefied Petroleum Gas (LPG)**

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	Inter-company Receipts ('000 gals)	Inter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 December ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	1,000				0	0	0	1,000	0	1,000
1995					0		0	0	0	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	1,000				0	0	0	1,000	0	1,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).

Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales ('000 gals)	Sales to Resellers ('000 gals)	Sales to End-users [Note: this is only a guide to actual end-use consumption] anufacturing ('000 gals)	Wholesale/ Retail Trade and Recreation ('000 gals)	Transport and ommunication ommunication ('000 gals)	Finance and Business Services ('000 gals)	Community and Social Services ('000 gals)	Residential ('000 gals)
1994	1,000							1,000
1995	0							
1996	0							
1997	0							
1998	0							
1999	0							
2000	0							
2001	0							
2002	0							
2003	1,000							1,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the oil suppliers' depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Shell , Palau
Petroleum Product: All Petroleum Products

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	46,000	0	3,000	0	4,000	21,000	17,000	32,000	-1,000	31,000
1995	0	0	0	0	21,000	0	-21,000	21,000	-21,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	4,000	4,000	-4,000	4,000	0
2003	46,000	0	3,000	0	4,000	21,000	17,000	32,000	-1,000	31,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users (next page)

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]									
			Agriculture, Forestry and Fishing	Mining and Quarrying	anufacturing	Electricity Generation*	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication		
										International Air	Domestic Air	Rail
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	31,000	15,000	0	0	0	0	0	0	1,000	5,000	4,000	0
1995	0	0	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0
2003	31,000	15,000	0	0	0	0	0	0	1,000	5,000	4,000	0

Company Sales to Resellers and End-users (continued)

Year	Sales to End-users (continued) [Note: this is only a guide to actual end-use consumption]						
	Transport and Communication			Finance and Business Services	Community and Social Services	Residential	Solvents, Lubricants and Bitumen
	Road	Sea	ommunication				
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	0	0			0	0	6,000
1995	0	0			0	0	0
1996	0	0			0	0	0
1997	0	0			0	0	0
1998	0	0			0	0	0
1999	0	0			0	0	0
2000	0	0			0	0	0
2001	0	0			0	0	0
2002	0	0			0	0	0
2003	0	0			0	0	6,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the oil company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation'). * Amount shown here as consumed for 'Electricity Generation' MUST CLOSELY APPROXIMATE that amount shown in the 'POWER' Tables.

Petroleum Company Annual Supply and Sales

Company: Shell
Petroleum Product: Automotive Diesel Oil (ADO)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000		1,000		0	5,000	5,000	6,000	-1,000	5,000
1995					5,000		-5,000	5,000	-5,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	10,000		1,000		0	5,000	5,000	6,000	-1,000	5,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]									
			Agriculture, Forestry and Fishing	Mining and Quarrying	anufacturing	Electricity Generation*	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication		
										Rail	Road	Sea
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	5,000	5,000										
1995	0											
1996	0											
1997	0											
1998	0											
1999	0											
2000	0											
2001	0											
2002	0											
2003	5,000	5,000										

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation'). * ADO shown here as consumed for 'Electricity Generation' MUST CLOSELY APPROXIMATE that amount shown in the 'POWER' Tables.

Petroleum Company Annual Supply and Sales

Company: Shell
Petroleum Product: Aviation Gasoline (Avgas)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000				0	5,000	5,000	5,000	0	5,000
1995					5,000		-5,000	5,000	-5,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	0	0	0	0	
2003	10,000				0	5,000	5,000	5,000	0	5,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]		
			Wholesale/ Retail Trade and Recreation	ransport and Communication: International Air	Domestic Air
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	5,000		1,000		4,000
1995	0				
1996	0				
1997	0				
1998	0				
1999	0				
2000	0				
2001	0				
2002	0				
2003	5,000		1,000		4,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Shell
Petroleum Product: ual Purpose Kerosene (DPK/Jet A1)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000		1,000		1,000	5,000	4,000	7,000	-2,000	5,000
1995					5,000		-5,000	5,000	-5,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	1,000	1,000	-1,000	1,000	
2003	10,000		1,000		1,000	5,000	4,000	7,000	-2,000	5,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]				
			Wholesale/ Retail Trade and Recreation	ransport and Communicatio International Air	Domestic Air	Community and Social Services	Residential
	(kl)	(kl)	(kl)	(kl)	(kl)	(kl)	(kl)
1994	5,000			5,000			
1995	0						
1996	0						
1997	0						
1998	0						
1999	0						
2000	0						
2001	0						
2002	0						
2003	5,000			5,000			

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Shell
Petroleum Product: Motor Gasoline (Mogas/Petrol)

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company	nter-company	Stock Level			Calculated	+/- Statistical	Actual
			Receipts	Transfers	at 1 January	t 31 Decembe	Stock change	Sales	Discrepancy	Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000		1,000		1,000	2,000	1,000	10,000	0	10,000
1995					2,000		-2,000	2,000	-2,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	1,000	1,000	-1,000	1,000	
2003	10,000		1,000		1,000	2,000	1,000	10,000	0	10,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales to Resellers and End-users

Year	Actual Sales	Sales to Resellers	Sales to End-users [Note: this is only a guide to actual end-use consumption]		
			Agriculture, Forestry and Fishing	Wholesale/ Retail Trade nd Recreation	Transport and ommunication Road
	(kl)	(kl)	(kl)	(kl)	(kl)
1994	10,000	10,000			
1995	0				
1996	0				
1997	0				
1998	0				
1999	0				
2000	0				
2001	0				
2002	0				
2003	10,000	10,000			

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation').

Petroleum Company Annual Supply and Sales

Company: Shell
Petroleum Product: Solvents

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	1,000				1,000	2,000	1,000	0	1,000	1,000
1995					2,000		-2,000	2,000	-2,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	1,000	1,000	-1,000	1,000	
2003	1,000				1,000	2,000	1,000	0	1,000	1,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	1,000	1,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	1,000	1,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the company's depot use and losses.

Petroleum Company Annual Supply and Sales

Company: Shell
Petroleum Product: Lubricants and Greases

Company Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	5,000				1,000	2,000	1,000	4,000	1,000	5,000
1995					2,000		-2,000	2,000	-2,000	
1996					0		0	0	0	
1997					0		0	0	0	
1998					0		0	0	0	
1999					0		0	0	0	
2000					0		0	0	0	
2001					0		0	0	0	
2002					0	1,000	1,000	-1,000	1,000	
2003	5,000				1,000	2,000	1,000	4,000	1,000	5,000

NOTE: Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.
Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change. 'Sales' include company's own use and losses (eg, spillage, evaporation).
Actual Sales = The booked Sales figure (INCLUDING the company's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

Company Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	5,000	5,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	5,000	5,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the company's depot use and losses.

Palau Annual Petroleum Supply and Demand

Petroleum Product: All Petroleum Products

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	124,000	0	3,000	3,000	7,000	37,000	30,000	94,000	11,000	105,000
1995	0	0	0	0	37,000	0	-37,000	37,000	-37,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	7,000	7,000	-7,000	7,000	0
2003	124,000	0	3,000	3,000	7,000	37,000	30,000	94,000	11,000	105,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales and Consumption by End-use Sectors (next page)

National Sales and Consumption by End-use Sectors

Year	Actual Sales = Total Consumption	Consumption by End-use Sectors: Agriculture, Forestry and Fishing	Mining and Quarrying	anufacturing	Electricity Generation*	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication: International Air	Transport and Communication: Domestic Air	Transport and Communication: Rail
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	105,000	2,000	0	5,000	1,000	1,000	0	7,000	5,000	8,000	
1995	0	0	0	0	0	0	0	0	0	0	
1996	0	0	0	0	0	0	0	0	0	0	
1997	0	0	0	0	0	0	0	0	0	0	
1998	0	0	0	0	0	0	0	0	0	0	
1999	0	0	0	0	0	0	0	0	0	0	
2000	0	0	0	0	0	0	0	0	0	0	
2001	0	0	0	0	0	0	0	0	0	0	
2002	0	0	0	0	0	0	0	0	0	0	
2003	105,000	2,000	0	5,000	1,000	1,000	0	7,000	5,000	8,000	

Consumption by End-use Sectors (continued)

Year	Consumption by End-use Sectors (continued): Transport and Communication: Road	Sea	ommunication	Finance and Business Services	Community and Social Services	Residential	Solvents, Lubricants and Bitumen
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	26,000	5,000	0	0	0	22,000	23,000
1995	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0
2003	26,000	5,000	0	0	0	22,000	23,000

NOTE: Actual Sales = 'Sales to Resellers' plus 'Sales to End-users'. If not equal, then 'ERROR' message will show. Include the oil company's depot use (under 'Road Transport') and losses (under 'Wholesale/Retail Trade and Recreation'). * Amount shown here as consumed for 'Electricity Generation' MUST CLOSELY APPROXIMATE that amount shown in the 'POWER' Tables.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Automotive Diesel Oil (ADO)

National Imports, Re-exports, Inter-company/depot Transactions (Incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000	0	1,000	1,000	0	6,000	6,000	14,000	1,000	15,000
1995	0	0	0	0	6,000	0	-6,000	6,000	-6,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0
2003	20,000	0	1,000	1,000	0	6,000	6,000	14,000	1,000	15,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales and Consumption by End-use Sectors

Year	Actual Sales = Total Consumption	Consumption by End-use Sectors									
		Agriculture, Forestry and Fishing	Mining and Quarrying	anufacturing	Electricity Generation*	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication		
									Rail	Road	Sea
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	15,000				1,000	1,000				8,000	5,000
1995	0										
1996	0										
1997	0										
1998	0										
1999	0										
2000	0										
2001	0										
2002	0										
2003	15,000				1,000	1,000				8,000	5,000

NOTE: Actual Sales = Total Consumption = the aggregate of 'Consumption by End-use Sectors'. If not equal, then an 'ERROR' message will show. Include the oil companies use under 'Road Transport' and losses under 'Wholesale/Retail Trade and Recreation'. * ADO shown here as consumed for 'Electricity Generation' MUST CLOSELY APPROXIMATE that amount shown in the 'POWER' Tables.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Aviation Gasoline (Avgas)

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level			Calculated Sales	+/- Statistical Discrepancy	Actual Sales
					at 1 January	t 31 Decembe	Stock change			
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000	0	0	0	0	10,000	10,000	10,000	0	10,000
1995	0	0	0	0	10,000	0	-10,000	10,000	-10,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0
2003	20,000	0	0	0	0	10,000	10,000	10,000	0	10,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales and Consumption by End-use Sectors

Year	Actual Sales	Consumption by End-use Sectors		
		Wholesale/ Retail Trade and Recreation	ransport and Communication: International Air	Domestic Air
	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000	2,000		8,000
1995	0			
1996	0			
1997	0			
1998	0			
1999	0			
2000	0			
2001	0			
2002	0			
2003	10,000	2,000		8,000

NOTE: Actual Sales = Total Consumption = the aggregate of 'Consumption by End-use Sectors'. If not equal, then an 'ERROR' message will show. Include the oil companies losses under 'Wholesale/Retail Trade and Recreation'.

Palau Annual Petroleum Supply and Demand

Petroleum Product: ual Purpose Kerosene (DPK/Jet A1)

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000	0	1,000	1,000	1,000	6,000	5,000	15,000	0	15,000
1995	0	0	0	0	6,000	0	-6,000	6,000	-6,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	1,000	1,000	-1,000	1,000	0
2003	20,000	0	1,000	1,000	1,000	6,000	5,000	15,000	0	15,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales and Consumption by End-use Sectors

Year	Actual Sales = Total Consumption	Consumption by End-use Sectors				
		Wholesale/ Retail Trade and Recreation	ransport and Communicatio International Air	ransport and Communicatio Domestic Air	Community and Social Services	Residential
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	15,000		5,000			10,000
1995	0					
1996	0					
1997	0					
1998	0					
1999	0					
2000	0					
2001	0					
2002	0					
2003	15,000		5,000			10,000

NOTE: Actual Sales = Total Consumption = the aggregate of 'Consumption by End-use Sectors'. If not equal, then an 'ERROR' message will show. Include the oil companies losses under 'Wholesale/Retail Trade and Recreation'.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Liquefied Petroleum Gas (LPG)

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	22,000	0	0	0	0	5,000	5,000	17,000	5,000	22,000
1995	0	0	0	0	5,000	0	-5,000	5,000	-5,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0
2003	22,000	0	0	0	0	5,000	5,000	17,000	5,000	22,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales and Consumption by End-use Sectors

Year	Actual Sales = Total Consumption ('000 gals)	Consumption by End-use Sectors: anufacturing ('000 gals)	Wholesale/ Retail Trade and Recreation ('000 gals)	Transport and ommunication ommunication ('000 gals)	Finance and Business Services ('000 gals)	Community and Social Services ('000 gals)	Residential ('000 gals)
1994	22,000	5,000	5,000				12,000
1995	0						
1996	0						
1997	0						
1998	0						
1999	0						
2000	0						
2001	0						
2002	0						
2003	22,000	5,000	5,000				12,000

NOTE: Actual Sales = Total Consumption = the aggregate of 'Consumption by End-use Sectors'. If not equal, then an 'ERROR' message will show. Include the oil companies losses under 'Wholesale/Retail Trade and Recreation'.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Motor Gasoline (Mogas/Petrol)

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000	0	1,000	1,000	2,000	4,000	2,000	18,000	2,000	20,000
1995	0	0	0	0	4,000	0	-4,000	4,000	-4,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	2,000	2,000	-2,000	2,000	0
2003	20,000	0	1,000	1,000	2,000	4,000	2,000	18,000	2,000	20,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales and Consumption by End-use Sectors

Year	Actual Sales = Total Consumption	Consumption by End-use Sectors: Agriculture, Forestry and Fishing	Wholesale/ Retail Trade nd Recreation	Transport and ommunication Road
	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	20,000	2,000		18,000
1995	0			
1996	0			
1997	0			
1998	0			
1999	0			
2000	0			
2001	0			
2002	0			
2003	20,000	2,000		18,000

NOTE: Actual Sales = Total Consumption = the aggregate of 'Consumption by End-use Sectors'. If not equal, then an 'ERROR' message will show. Include the oil companies use under 'Road Transport' and losses under 'Wholesale/Retail Trade and Recreation'.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Solvents

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	nter-company Receipts ('000 gals)	nter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	2,000	0	0	0	3,000	3,000	0	2,000	2,000	4,000
1995	0	0	0	0	3,000	0	-3,000	3,000	-3,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	3,000	3,000	-3,000	3,000	0
2003	2,000	0	0	0	3,000	3,000	0	2,000	2,000	4,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	4,000	4,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	4,000	4,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the oil companies depot use and losses.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Lubricants and Greases

National Imports, Re-exports, Inter-company/depot Transactions (incl. Borrow/Loan), Stock Change, and Sales

Year	Imports ('000 gals)	Re-exports ('000 gals)	Inter-company Receipts ('000 gals)	Inter-company Transfers ('000 gals)	Stock Level at 1 January ('000 gals)	Stock Level t 31 Decembe ('000 gals)	Stock change ('000 gals)	Calculated Sales ('000 gals)	+/- Statistical Discrepancy ('000 gals)	Actual Sales ('000 gals)
1994	10,000	0	0	0	1,000	3,000	2,000	8,000	1,000	9,000
1995	0	0	0	0	3,000	0	-3,000	3,000	-3,000	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	1,000	1,000	-1,000	1,000	0
2003	10,000	0	0	0	1,000	3,000	2,000	8,000	1,000	9,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales = Consumption by End-users

Year	Actual Sales = Total Consumption ('000 gals)	Consumption Solvents, Lubricants and Bitumen ('000 gals)
1994	9,000	9,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	9,000	9,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the oil companies depot use and losses.

Palau Annual Petroleum Supply and Demand

Petroleum Product: Bitumen

National Imports, Re-exports, Inter-company/depot Transactions (Incl. Borrow/Loan), Stock Change, and Sales

Year	Imports	Re-exports	nter-company Receipts	nter-company Transfers	Stock Level at 1 January	Stock Level t 31 Decembe	Stock change	Calculated Sales	+/- Statistical Discrepancy	Actual Sales
	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)	('000 gals)
1994	10,000	0	0	0	0	0	0	10,000	0	10,000
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0
2003	10,000	0	0	0	0	0	0	10,000	0	10,000

NOTE: Inter-company/depot Receipts' MUST EQUAL 'Inter-company/depot Transfers' at the national level. Otherwise an imbalance has occurred.

Stock Change = Decrease/increase in stock level at year end due to stock drawdown/stock build respectively. NOTE that 'Stock Level' at 1 January must be equal to 31 December in the year before.

Calculated Sales = Imports - re-exports + inter-company receipts - inter-company transfers +/- stock change.

Actual Sales = The booked Sales figure (INCLUDING the companies's own use and losses). Any difference between the 'Actual Sales' and the 'Calculated Sales' is the 'Statistical Discrepancy'.

National Sales = Consumption by End-users

Year	Actual Sales = Total Consumption	Consumption Solvents, Lubricants and Bitumen
	('000 gals)	('000 gals)
1994	10,000	10,000
1995	0	0
1996	0	0
1997	0	0
1998	0	0
1999	0	0
2000	0	0
2001	0	0
2002	0	0
2003	10,000	10,000

NOTE: Actual Sales = 'Consumption by End-use Sectors'. This includes the oil companies depot use and losses.

ANNEX 8 POWER WORKBOOKS

tation reference no.:

Power Station and Grid Annual Operation - Angaur State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Angaur State System
Power Station and Location:	Angaur Power Station and Grid
Power Station Type:	Thermal | ADO | Reciprocating Engine | Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%

NOTE: [A] **Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**

Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.

Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.

System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.

Total System Own Use and Losses = Total of 'Station Own Use and Losses', plus 'Transmission, Distribution and Pilferage Losses' of the System.

Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	treet Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	750.00			50.00			50.00			50.00		600.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	750.00			50.00			50.00			50.00		600.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

Power Station and Grid Annual Operation - Kayangel State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Kayangel State System
Power Station and Location:	Kayangel Power Station and Grid
Power Station Type:	Thermal | ADO | Reciprocating Engine | Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%

NOTE: [A]**Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**

Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.

Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.

System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.

Total System Own Use and Losses = Total of 'Station Own Use and Losses', plus 'Transmission, Distribution and Pilferage Losses' of the System.

Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	treet Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	750.00			50.00			50.00			50.00		600.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	750.00			50.00			50.00			50.00		600.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

Power Station and Grid Annual Operation - Koror-Babeldaob System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Koror-Babeldaob System
Power Station:	Aimeliik Power Station
Power Station Type:	**Thermal** | **ADO** | **Reciprocating Engine** | **Sole Generator**
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	ormal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Koror-Babeldaob Power System Annual Operation (Utility)

Utility: Palau Utilities Corporation (PUC)
System/Grid name: Koror-Babeldaob System

System Generation Operation and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	220.00	200.00	1,600.00	40.00	1,560.00	200.00	29,220.00	20%	10.00
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2003	220.00	200.00	1,600.00	40.00	1,560.00	200.00	29,220.00	20%	10.00

Year	Generation Indicators	
	Average Station Capacity Factc (%)	Maximum Generation Demand (kW)
1994	91%	180.00
1995	#DIV/0!	0.00
1996	#DIV/0!	0.00
1997	#DIV/0!	0.00
1998	#DIV/0!	0.00
1999	#DIV/0!	0.00
2000	#DIV/0!	0.00
2001	#DIV/0!	0.00
2002	#DIV/0!	0.00
2003	91%	180.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.
Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.
Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).
Installed Capacity = Sum of the 'Installed Capacity' of the power stations within the System.
Derated Capacity = Sum of the 'Derated Capacity' (if applicable) of the power stations within the System.
Station Own Use and Losses = Sum of the 'Station Own Use and Losses' of the power stations within the System.
Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.
Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.
Average Station Capacity Factor = Ratio of the System's power station's 'Gross Generation' to their potential generation had their generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

System Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and nmetered Sal (estimate)	Sales to nd-use Sector	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	1,560.00			1,560.00		60.00		1,500.00	170.00	105%	260.00	17%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	1,560.00			1,560.00		60.00		1,500.00	170.00	105%	260.00	17%

NOTE: [A]**Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**
Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.
Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.
System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.
Total System Own Use and Losses = Total of 'Station Own Use and Losses' of all power stations in the System, plus 'Transmission, Distribution and Pilferage Losses' of the System.

System Sales and Consumption By End-use Sectors

Year	Sales to nd-use Sector	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and ommunication	Finance and Business Services	Community and Social Services	treet Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	1500.00			300.00			50.00		50.00	50.00	50.00	1,000.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	1,500.00			300.00			50.00		50.00	50.00	50.00	1,000.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

tation reference no.:

Power Station and Grid Annual Operation - Koror-Babeldaob System (Utility)

Utility:	Palau Utilities Corporation (PUC)			
System/Grid name:	Koror-Babeldaob System			
Power Station:	Malakal Power Station			
Power Station Type:	Thermal	ADO	Reciprocating Engine	Sole Generator
Date of Commissioning:				

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity (kW)	Derated Capacity (kW)	Gross Generation (MWh)	Station Own Use and Losses (MWh)	Net Generation Sent Out (MWh)	Automotive Diesel Oil (ADO) (reciprocating engine) ('000 gallons)	(GJ)	Fuel Use Efficiency (%)	Lubricant Oil ('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Power Station and Grid Annual Operation - Ngaraard State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Ngaraard State System
Power Station and Location:	Ngaraard Power Station and Grid
Power Station Type:	Thermal / ADO / Reciprocating Engine / Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%

NOTE: [A]**Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**

Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.

Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.

System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.

Total System Own Use and Losses = Total of 'Station Own Use and Losses', plus 'Transmission, Distribution and Pilferage Losses' of the System.

Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	treet Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	750.00			50.00			50.00			50.00		600.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	750.00			50.00			50.00			50.00		600.00

NOTE: Sales to End-use Sectors = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

tation reference no.:

Power Station and Grid Annual Operation - Ngerchelong State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Ngerchelong State System
Power Station:	Ngerchelong#1 Power Station
Power Station Type:	Thermal | ADO | Reciprocating Engine | Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity (kW)	Derated Capacity (kW)	Gross Generation (MWh)	Station Own Use and Losses (MWh)	Net Generation Sent Out (MWh)	Automotive Diesel Oil (ADO) (reciprocating engine) ('000 gallons)	(GJ)	Fuel Use Efficiency (%)	Lubricant Oil ('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

tation reference no.:

Power Station and Grid Annual Operation - Ngerchelong State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Ngerchelong State System
Power Station:	Ngerchelong#2 Power Station
Power Station Type:	Thermal / ADO / Reciprocating Engine / Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity (kW)	Derated Capacity (kW)	Gross Generation (MWh)	Station Own Use and Losses (MWh)	Net Generation Sent Out (MWh)	Automotive Diesel Oil (ADO) (reciprocating engine) ('000 gallons)	(GJ)	Fuel Use Efficiency (%)	Lubricant Oil ('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Ngerchelong State Power System Annual Operation (Utility)

Utility: Palau Utilities Corporation (PUC)
System/Grid name: Ngerchelong State System

System Generation Operation and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	220.00	200.00	1,600.00	40.00	1,560.00	200.00	29,220.00	20%	10.00
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2003	220.00	200.00	1,600.00	40.00	1,560.00	200.00	29,220.00	20%	10.00

Year	Generation Indicators	
	Average Station Capacity Factor (%)	Maximum Generation Demand (kW)
1994	91%	180.00
1995	#DIV/0!	0.00
1996	#DIV/0!	0.00
1997	#DIV/0!	0.00
1998	#DIV/0!	0.00
1999	#DIV/0!	0.00
2000	#DIV/0!	0.00
2001	#DIV/0!	0.00
2002	#DIV/0!	0.00
2003	91%	180.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.
Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.
Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).
Installed Capacity = Sum of the 'Installed Capacity' of the power stations within the System.
Derated Capacity = Sum of the 'Derated Capacity' (if applicable) of the power stations within the System.
Station Own Use and Losses = Sum of the 'Station Own Use and Losses' of the power stations within the System.
Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.
Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.
Average Station Capacity Factor = Ratio of the System's power station's 'Gross Generation' to their potential generation had their generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

System Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	1,560.00			1,560.00		60.00		1,500.00	170.00	105%	260.00	17%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	1,560.00			1,560.00		60.00		1,500.00	170.00	105%	260.00	17%

NOTE: [A] **Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**
Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.
Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.
System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.
Total System Own Use and Losses = Total of 'Station Own Use and Losses' of all power stations in the System, plus 'Transmission, Distribution and Pilferage Losses' of the System.

System Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	Street Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	1500.00			300.00			50.00		50.00	50.00	50.00	1,000.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	1,500.00			300.00			50.00		50.00	50.00	50.00	1,000.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

Power Station and Grid Annual Operation - Ngerdmau State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Ngerdmau State System
Power Station and Location:	Ngerdmau Power Station and Grid
Power Station Type:	Thermal | ADO | Reciprocating Engine | Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%

NOTE: [A] **Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**

Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.

Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.

System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.

Total System Own Use and Losses = Total of 'Station Own Use and Losses', plus 'Transmission, Distribution and Pilferage Losses' of the System.

Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	Street Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	750.00			50.00			50.00			50.00		600.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	750.00			50.00			50.00			50.00		600.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

Power Station and Grid Annual Operation - Ngiwal State System (Utility)

Utility:	Palau Utilities Corporation (PUC)
System/Grid name:	Ngiwal State System
Power Station and Location:	Ngiwal Power Station and Grid
Power Station Type:	Thermal | ADO | Reciprocating Engine | Sole Generator
Date of Commissioning:	

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%

NOTE: [A]**Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**

Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.

Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.

System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.

Total System Own Use and Losses = Total of 'Station Own Use and Losses', plus 'Transmission, Distribution and Pilferage Losses' of the System.

Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	Street Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	750.00			50.00			50.00			50.00		600.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	750.00			50.00			50.00			50.00		600.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

Power Station and Grid Annual Operation - Peleliu State System (Utility)

Utility:	Palau Utilities Corporation (PUC)			
System/Grid name:	Peleliu State System			
Power Station and Location:	Peleliu Power Station and Grid			
Power Station Type:	Thermal	ADO	Reciprocating Engine	Sole Generator
Date of Commissioning:				

Station Operations and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00
1995					0.00		0.00	#DIV/0!	
1996					0.00		0.00	#DIV/0!	
1997					0.00		0.00	#DIV/0!	
1998					0.00		0.00	#DIV/0!	
1999					0.00		0.00	#DIV/0!	
2000					0.00		0.00	#DIV/0!	
2001					0.00		0.00	#DIV/0!	
2002					0.00		0.00	#DIV/0!	
2003	110.00	100.00	800.00	20.00	780.00	100.00	14,610.00	20%	5.00

Year	Station Generation Indicators		
	Normal Period of Station Operation (hours/day)	Station Capacity Factor (%)	Maximum Station Demand (kW)
1994	12.00	91%	90.00
1995		#DIV/0!	
1996		#DIV/0!	
1997		#DIV/0!	
1998		#DIV/0!	
1999		#DIV/0!	
2000		#DIV/0!	
2001		#DIV/0!	
2002		#DIV/0!	
2003	12.00	91%	90.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.

Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.

Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).

Installed Capacity = Sum of the nameplate capacities of the generator units within the power station.

Derated Capacity = Sum of the derated capacities (if applicable) of the generator units within the power station.

Station Own Use and Losses = Electricity used in the power station (eg lighting, equipment operation) and unaccounted losses.

Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.

Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.

Period of Station Operation = The normal daily operating period of the power station. Although generally 24 hours/day, smaller stations may operate only 10 hours/day or less.

Station Capacity Factor = Ratio of the power station's 'Gross Generation' to its potential generation had the generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%
1995	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1996	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1997	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1998	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
1999	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2000	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2001	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2002	0.00			0.00				0.00		#DIV/0!	0.00	#DIV/0!
2003	780.00			780.00		20.00	10.00	750.00	90.00	101%	50.00	6%

NOTE: [A]**Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**

Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.

Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.

System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.

Total System Own Use and Losses = Total of 'Station Own Use and Losses', plus 'Transmission, Distribution and Pilferage Losses' of the System.

Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	treet Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	750.00			50.00			50.00			50.00		600.00
1995	0.00											
1996	0.00											
1997	0.00											
1998	0.00											
1999	0.00											
2000	0.00											
2001	0.00											
2002	0.00											
2003	750.00			50.00			50.00			50.00		600.00

NOTE: **Sales to End-use Sectors** = The aggregate of 'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors' as shown in above tables; otherwise an 'ERROR' message will show.

Palau Total Power Systems Annual Operation
(Utility)

Utility: Palau Utilities Corporation (PUC)
System name: Palau

System Generation Operation and Fuel/Lubricant Usage

Year	Station Capacity		Station Generation			Station Fuel and Lubricant Usage			
	Installed Capacity	Derated Capacity	Gross Generation	Station Own Use and Losses	Net Generation Sent Out	Automotive Diesel Oil (ADO) (reciprocating engine)		Fuel Use Efficiency	Lubricant Oil
	(kW)	(kW)	(MWh)	(MWh)	(MWh)	('000 gallons)	(GJ)	(%)	('000 gallons)
1994	1,100.00	1,000.00	8,000.00	200.00	7,800.00	1,000.00	146,100.00	20%	50.00
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00
2003	1,100.00	1,000.00	8,000.00	200.00	7,800.00	1,000.00	146,100.00	20%	50.00

Year	Generation Indicators	
	Average Station Capacity Factor (%)	Maximum Generation Demand (kW)
1994	91%	900.00
1995	#DIV/0!	0.00
1996	#DIV/0!	0.00
1997	#DIV/0!	0.00
1998	#DIV/0!	0.00
1999	#DIV/0!	0.00
2000	#DIV/0!	0.00
2001	#DIV/0!	0.00
2002	#DIV/0!	0.00
2003	91%	900.00

NOTE: **Sole Generator** = Power station that produces electricity only, as opposed to a Co-generation power station that produces both electricity and process heat.
Co-generator = Power station that produces both electricity and process heat for consumption by its associated industry (such as a saw mill or water distillation plant), and possibly for input to the grid.
Power Station Type = Either Hydro/(run-of-river, or storage) or Thermal/Fuel/(reciprocating engine, gas turbine, or boiler).
Installed Capacity = Sum of the 'Installed Capacity' of the power stations within the System.
Derated Capacity = Sum of the 'Derated Capacity' (if applicable) of the power stations within the System.
Station Own Use and Losses = Sum of the 'Station Own Use and Losses' of the power stations within the System.
Net Generation Sent Out = 'Gross Generation' minus 'Station Own Use and Losses'.
Fuel Use Efficiency = The energy equivalent of the 'Gross Generation' (plus the 'Process Heat Produced', if applicable) divided by the energy equivalent of the total fuel input, expressed as a percentage.
Average Station Capacity Factor = Ratio of the System's power station's 'Gross Generation' to their potential generation had their generator units been operated at their maximum (derated) capacity for 365 days x 24 hours.

System Bulk Purchases/Sales, Losses, Sales to End-use Sectors, and Operational Indicators

Year	Net Generation Sent Out	Bulk Purchases/Sales[A]			Transmission/Distribution				Operational Indicators			
		Purchases from Self Generators	Sales to Self Generators	Total Power into System	Transmission Losses	Distribution Losses	Pilferage and Unmetered Sales (estimate)	Sales to End-use Sectors	Maximum System Demand	System Load Factor	Total System Own Use and Losses	
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(kW)	(%)	(MWh)	(%)
1994	7,800.00	0.00	0.00	7,800.00	0.00	240.00	60.00	7,500.00	880.00	101%	500.00	6%
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!
2003	7,800.00	0.00	0.00	7,800.00	0.00	240.00	60.00	7,500.00	880.00	101%	500.00	6%

NOTE: [A] **Total 'Purchases' and 'Sales' of electricity by 'UTILITIES' from/to the Private Self Generators MUST BE EQUAL to that shown in the 'PRIVATE SELF GENERATORS' Tables.**
Total Power into System = 'Net Generation Sent Out' plus 'Purchases from Self Generators' minus 'Sales to Self Generators'.
Sales to End-use Sectors = 'Total Power into System' minus 'Transmission Losses' minus 'Distribution Losses' minus 'Pilferage/Unmetered Sales'.
System Load Factor = Ratio of the average System load to the peak System load, assuming an operating year of 365 days x 24 hours. It indicates, in a rough way, the excess generating capacity that is required to serve peak loads.
Total System Own Use and Losses = Total of 'Station Own Use and Losses' of all power stations in the System, plus 'Transmission, Distribution and Pilferage Losses' of the System.

System Sales and Consumption By End-use Sectors

Year	Sales to End-use Sectors	Consumption by End-use Sectors										
		Agriculture, Forestry and Fishing	Mining and Quarrying	Manufacturing	Water and Sewerage	Construction	Wholesale/ Retail Trade and Recreation	Transport and Communication	Finance and Business Services	Community and Social Services	Street Lighting	Residential
	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
1994	7500.00	0.00	0.00	900.00	0.00	0.00	400.00	0.00	100.00	400.00	100.00	5,600.00
1995	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1996	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1998	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1999	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	7,500.00	0.00	0.00	900.00	0.00	0.00	400.00	0.00	100.00	400.00	100.00	5,600.00

NOTE: **Sales to End-use Sectors** = The aggregate of **'Consumption by End-use Sectors' MUST BE EQUAL to 'Sales to End-use Sectors'** as shown in above tables; otherwise an 'ERROR' message will show.

ANNEX 9 ENERGY BALANCE

Palau 1994 Energy Balance
(Terajoules)

	Black Coal	Bagasse	Coconut Wood & Residue	Fuelwood & Wood Waste	Total Biomass	Crude Oil	ADO	AVGAS	DPK	FO	IDO	LPG	MOGAS	Solvents, Lubricants & Bitumen	Total Petroleum	Natural Gas	Hydro-[B] Electricity	Geo-[E] thermal Electricity	Electricity	Solar	Co-generation Heat[C]	TOTAL ENERGY
ENERGY PRODUCTION AND SUPPLY																						
Indigenous Production			93.0	104.9	197.8										0.0						0.2	198.0
plus Imports					0.0		2,922.0	2,514.0	2,786.0			2,307.8	2,620.0	3,392.4	16,542.2							16,542.2
minus Exports/Re-exports					0.0		0.0	0.0	0.0			0.0	0.0	0.0	0.0							0.0
minus Stock Changes [A]					0.0		876.6	1,257.0	696.5			524.5	262.0	293.8	3,910.4							3,910.4
+/- Statistical Discrepancy					0.0		146.1	0.0	0.0			524.5	262.0	404.3	1,336.9							1,336.9
= TOTAL ENERGY SUPPLY	0.0	0.0	93.0	104.9	197.8	0.0	2,191.5	1,257.0	2,089.5	0.0	0.0	2,307.8	2,620.0	3,502.9	13,968.7	0.0	0.0	0.0			0.2	14,166.7
minus CONVERSION SECTOR																						
Petroleum Refining					0.0										0.0							0.0
Electricity Generation [B]					0.0		146.1								146.1				-28.8			117.3
Co-generation Industries [C]					0.0										0.0							0.0
Own Fuel Use & Losses [D]					0.0										0.0				1.8			1.8
= NET OR FINAL ENERGY SUPPLY	0.0	0.0	93.0	104.9	197.8	0.0	2,045.4	1,257.0	2,089.5	0.0	0.0	2,307.8	2,620.0	3,502.9	13,822.6	0.0	0.0	0.0	27.0	0.2	0.0	14,047.6
for END-USE SECTOR CONSUMPTION																						
Agriculture, Forestry & Fishing			12.7	9.8	22.5		0.0						262.0		262.0				0.0			284.5
Mining & Quarrying					0.0		0.0								0.0				0.0			0.0
Manufacturing			10.4	9.8	20.2		0.0					524.5			524.5				3.2			547.9
Road Transport					0.0		1,168.8						2,358.0		3,526.8							3,526.8
Rail Transport					0.0										0.0							0.0
Air Transport					0.0			1,005.6	696.5						1,702.1							1,702.1
Sea Transport					0.0		730.5								730.5							730.5
Water & Sewerage							146.1												0.0			0.0
Commercial Sectors					0.0		0.0	251.4	0.0			524.5	0.0		775.9				1.8	0.1		777.8
Community & Social Services			12.7	15.5	28.2				0.0			0.0			0.0				1.8	0.1		30.1
Residential			57.2	69.8	126.9				1,393.0			1,258.8			2,651.8				20.2	0.1		2,798.9
Solvents, Lubricants & Bitumen														3,502.9	3,502.9							3,502.9
= FINAL ENERGY CONSUMPTION	0.0	0.0	93.0	104.9	197.8	0.0	2,045.4	1,257.0	2,089.5	0.0	0.0	2,307.8	2,620.0	3,502.9	13,822.6	0.0	0.0	0.0	27.0	0.2	0.0	14,047.6

(A) If 'Stocks' have decreased (shown as a negative) then they have been made available for consumption and consequently add to the 'Total Energy Supply'. An increase in the 'Stocks' level (shown as a positive) reduces the amount available for 'Supply'.

(B) 'Total Energy' for 'Electricity Generation' represents the energy lost in the conversion of fuels into electricity in the thermal electricity generation process. Conversion losses are generally of the order of 70% of fuel input.

(C) 'Co-generation Industries' convert input fuels to both electricity and process heat. The conversion process is shown in the 'Conversion Sector', while final consumption of the electricity and process heat is shown in the appropriate 'End Use Sector'.

(D) 'Own Fuel Use and Losses' is the sum of power stations' and petroleum refineries' own use, plus the losses involved in power transmission and distribution.

(E) After generation, 'Hydro-electricity' and 'Geothermal Electricity' combine with 'Electricity' generated in thermal power stations to become part of the general electricity supply. 'Indigenous Production' of 'Hydro-electricity' and 'Geothermal Electricity' is a measure of the electricity generated from these energy sources.