No. 2

Japan International Cooperation Agency (JICA)

Department of Energy
The Republic of The Philippines

A Master Plan Study on The Development of the Natural Gas Industry in The Republic of The Philippines

Appendix



January 2002

The Institute of Energy Economics, Japan Osaka Gas Co., Ltd.

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Appendix A

Natural Gas Quality and Energy Unit Conversion

Natural Gas Quality and Energy Unit Conversion

Energy units involving natural gas are seriously affected by the gas composition. Information on the exact composition of the gas from Camago/Malampaya after gas processing has not been available at the time of finalizing this Report. Information on an example composition on the Malampaya gas reservoir and a preliminary composition at the inlet of gas power generation has been available as the gas "A" and "B" in Table A-2, which also shows the results of thermal value calculation as well as others.

The contractual thermal value of the gas for a gas-power generation company in Tabangao is defined in terms of "net calorific value" (LHV or LCV, i.e., lower calorific value) as to be in a range of 42 to 47.5 MJ/kg, while normal energy trade and energy statistics are handled in the gross calorific value (HHV or HCV, i.e., higher calorific value). The theoretical calculation of fuel into gas conversion is occasionally done by using the net calorific value, though its direct calorific measurement is difficult without knowing the composition. Power generations often use net calorific values for efficiency calculation giving apparently higher efficiency rates. In most cases, however, higher or gross calorific values are used. Unlike past, since gas could be ultimately used to a level of reaching latent heat (e.g., by the use of condensing boilers), it is not inconsistent to use gross thermal values for conversion calculation.

As a stark difference from solid fuels, a thermal value of a gas per volume changes with temperature and we have to define the standard temperature for thermal value expression. A state of atmospheric pressure combined with zero (0) degree Celsius is called a normal state and "N" is attached to a volume unit as in MJ/Nm3 or kcal/Nm3. The state at the temperature of 60 F (Fahrenheit) or 15 C (or 15.5C) is called a standard state and we attach "S" or "s" as in mscf (thousand standard cubic feet) or Bscm (billion standard cubic meters). For an American unit of cubic feet, a standard state is normally assumed even without "s". For other regions in the world, standard temperatures for natural gas are: 15 C in Europe, 0 C (i.e., normal temperature) in the Far East, 20 C in Former Soviet Union and 27 C in Indonesia (domestic).

A gas having a value of, e.g., 10,161 kcal(IT)/Nm3 is converted into the 15 C condition as in the following:

```
10,161 \text{ kcal/Nm}3(0\text{C}) := 10,161*273.15/(273.15+15.5) = 9,615 \text{ kcal/sm}3(60\text{F})
:= 9,615*3.968/35.314 = 1,080 \text{ Btu/scf}(60\text{F})
```

The preliminary gas components at the gas power generation company, shown as the gas "B" in Table A-2, includes unusual heavy hydrocarbons like heptane (n-C7H16) and octane (n-C8H18), as well as high content of CO2, giving HCV of the gas as 9,780 kcal/Nm3 (at 0 C), 9,250 kcal/m3 (15.5 C or 60 F) or 1,040 Btu/scf (at 60 F), and LCV as 8,359 kcal/m3 (60 F), 10,408 kcal/kg or 43.577 MJ/kg. Gas containing higher hydrocarbons hopefully will not cause serious problems, except in case of peak shaving liquefaction, if such is installed, in which heavy ends are removed causing the resultant quality to significantly change. Some gas users needing high precision flame length control like glass industries may have to install a thermal value control facility. Also gas tariff will better be adjusted to respond to the changes of thermal values in the gas network.

In the long term planning in which introduction of LNG is forecast, we have considered the quality of regasified LNG, too. Table A·1 shows an example of a typical composition of LNG, the gas "C", which is comparatively close to an average in Asia in 2000. The gas from normal LNG is considerably higher in thermal content, which centers around 10,500 kcal/Nm3 at 0 C (or 1,121 Btu/cf at 60F), than a usual pipeline gas.

For future projection of gas volumes in the JICA study, if certain precision is required, we will basically use an average of the compositions of First Gas Power and of a typical LNG, as the composition "D" shown in Table A-2 for a simplification purpose.

The gas compositions on the gas field, the gas "A", will be used for technical calculations of upstream pipelines, the "B" for power generation and the "C" for LNG terminal relevant pipelines and LNG power generation.

For thermal conversion between gas and petroleum products, DOE presents the Conversion Tables in PEP 2002. Philippine petroleum volumes, as well as other energy quantities, are normally interpreted in "barrels fuel oil equivalent" or "BFOE" and the PEP2002 defines this as:

1 lb. (pound) of fuel oil= 18,600 Btu (British thermal units).

While the "pound" is a unit of mass or weight, the quantities are shown in "barrel" or volume; thus we need the values of density or specific gravity as a connecting factor to know the calorie or Btu values for a volume of a petroleum product. This requires the knowledge of relations between thermal values and density of various petroleum products. This can be done through the use of the API (American Petroleum Institute) degree, a petroleum density index for regular oil products.

The "API degree" of various petroleum products is defined as:

```
API deg= 141.5/specific_gravity(15/15) - 131.5;
i.e., Specific_gravity=141.5/(API+131.5)
```

where, the specific _gravity (15/15), is the specific _gravity of the product at 15C (degree Celsius) compared to that of water at 15C. The formula is normally applicable at API = 0 to 65.

The knowledge on the relations between thermal values and API degrees of petroleum products are further necessary and are occasionally found in engineering books for approximate values. The relation does not follow a straight line. The author uses self made empirical formulae for EXCEL sheet as:

HCV(kcal_{IT}/kg)=IF(API<19.62375,9849.98+32.194*API-0.060695*API^2,IF(API<46.80 979,9673.92+47.1211*API-0.36417*API^2,9662.71+52.9835*API-0.640277*API^2+0.00 33323*API^3))

LCV(kcal_{IT}/kg)=IF(API<20.64204,9356.20+26.9166*API-0.039274*API^2,IF(API<43.99 918,9132.092+45.3645*API-0.40702*API^2,9089.44+53.86026*API-0.77357*API^2+0.0 044431*API^3))

API=IF(HCV(kcal/kg)<10488,-96.6205·0.011319*HCV+2.14507E·6*HCV^2,IF(HCV<10920,9824.5232·0.561223^HCV+2.80205E·5*HCV^2,5279.6987·1.010685*HCV+4.8592E·5*HCV^2))

where HCV is the higher or gross calorific value in kcal(IT)/kg and LCV is the lower or net calorific value. The unit "kcal(IT)", or kcal_{IT}, is "kilo-calorie international" which is defined as: 1 cal_{IT} = 4.1868 J, and 1 Mcal_{IT} = 1.163 kWh. There are other "calories" used

in other communities: 1 cal(15), or cal₁₅, = 4.1855 J, 1cal(th), or cal_{th}, = 4.184 J. These depend on what temperature a thermal value is defined at when it is determined as the thermal quantity to raise a gram of water by one degree. For reference, a Btu is defined as: 1 Btu= 1055.056 J, in the ISO 31.4 which, however, recommends to use Joule related units only.

The PEP2002 shows standard BFOE (barrels fuel oil equivalent) values of petroleum products. These numbers can be interpreted into "Btu/lb" (Btu per pound) values and then to "kcalɪr/kg". By reverse calculations based on the above formulae, we find API values as well as density and thermal values per a volume expressed in MJ/liter, kcal/liter or Btu/bl (Btu per barrel). The results are shown below:

Table A-1 Thermal Values of Oil Products in The Philippines

Standard Thermal Values	Derived from PEP2001
4000 - 40000 Dt. ffl.	ADMESTED 1 DIG T

1Blfoe: 18600 Btu/lb=API:15	.465 1 Blfoe=	6.2763	mmBtu		1
	Bblfoe/bl	kcal/liter	mmBtu/bl	MJ/liter	
Philippine Petroleum Products	(standard fo)	9,949	6.276	41.655	
Reg. Gasoline	0.8470	8,427	5.316	35.282	
Prem. Gasoline	0.8624	8,580	5.413	35.923	
Kerosene	0.8798	8,753	5.522	36.648	
Diesel	0.9328	9,281	5.855	38.856	
LPG	0.6384	6,351	4.007	26.592	
Aviation oil	0.8475	8,432	5.319	35.302	
, Fuel oil	1.0058	10,007	6.313	41.896	
Coal (Btu/lb)	10,000	5,556	kcal(IT)/kg	23.260 MJ/kg	1
LPG (Btu/lb)	21,600	12,000	kcal(IT)/kg	50.242 MJ/kg	

The Philippine standard energy unit "blfoe", originating from the PEP2002, is hereby established as:

1 blfoe = 6.2763 mmBtu = 6.621.85 MJ = 1.581,600 kcal(IT).

Our standard gas, for the JICA study, has a thermal value (gross) of either 1080 Btu/scf, 10,161 kcal(IT)/Nm3 or 9,610 kcal(IT)/m3(15C). Combinations of this and above formula will now more easily convert our gas volumes into Philippine oil volumes and vise versa. For more details see Table A-2 for gas quality and Table A-3 for conversion.

Table A-2 Gas Composition and Quality

Philippine Gas Quality in the Study

			Higher Call	Compositions	<u></u>	· · · · · · · · · · · · · · · · · · ·	
Compositions:			Value	"A"	*B*	"C"	"D"
•			(ideal)	Malampaya	First Gas Pwr	Typical	Average
(T, P conditions	for functions)	%	kcal(15)/N	Reservoir	Preliminary	LNG	'B" and "C"
T1=	15.5	CO2	0	3.65	4.79	0	2.40
T2≖	0	N2		0.7	0.58	0.04	0.31
Patm=	1	CH4	9500	86.15	88.08	89.97	89.03
PTUnit=	AtmC	C2H6	16644	2.74	3.87	6.64	5,26
Summation		C3H8	23688	1.38	1.63	2.46	2.05
adjustmen	it: yes	iC4H10	30640	0.4	0.33	0.44	0.39
-	-	nC4H10	30713	0.65	0.42	0.44	0.43
		iC5H12	37645	0.35	0.11	0.01	0.06
		nC5H12	37730	0.31	0.1	0	
		C6H14	44758	0.44	9.05	0	0.03
		C7H16	51830	3.23	0.04	Ö	
		02	0	0	0	0	0
				100	100	100	100
		Original Co	mponents:				
		C7H16		2.4225	0.04 ~	L C8H18 w	as merged into
		C8H18		0.8075	0.01	C7H16 for	simpler calcu
Molecular Wei	ght etc.:						-
0	kgMol kg	MW		21.758	18.954	18.045	18.500
0	Spec. Grav.	SpGr		0.760	0.657	0.625	0.641
15.5	m3/ton	SpV		1,085	1,245	1,307	1,276
	s at 0 or 15.5 de		oal gases):				
0	kcal/Nm3	HCV 0C		11,460	9,780	10,542	10,161
15.5	kcal/m3	HCV 15C	_	10,836	9,250	9,970	9,610
15.5	MJ/m3	HCVMJ/m3	3	45.358	38.719	41.732	40.226
0	kcal/Nm3	LCV 0C		10,402	8,838	9,533	9,185
15.5	kcal/m3	LCV 15C		9,836	8,359	9,015	8,687
15.5	Btu/scf	HCVcf		1,217.8	1,039.6	1,120.5	1,080.0
15.5	Btu/scf	LCVcf		1,105.4	939.4	1,013.2	976.3
15	kcal/kg	HCVkg		11,725	11,517	13,043	12,262
MJ/kg		68 HCV kJ/kg	ļ	49,092	48,220	54,610	
15 MAIA:	kcal/kg	LCVkg		10,652	10,408	11,795	11,085
MJ/kg		68]LCV kJ/kg		44,596	43,577	49,385	46,410
15.5 0	(kcai/m3)	Wobbe		12,432	11,412	12,606	12,001
V	Compare with		orlo Coos :	36.19	37.45	41.71	_ 39.55
	Compare with	First Gas Pow Mol Wt.:	ers Spec.: 18.956	and HHV:	48.273	kJ/ka	
		14101 771	10.550	QUICLITITY.	70,210	voluM	

Mol Wt.: 18.956 and HHV: 48,273 kJ/kg

Note 1) HCV is higher or gross calorific value, and LCV is lower or net calorific value; HHV is higher heating value or the same as HCV. The calorific value calculation on the ISO base here involves compressibili factors at atmospheric pressure usually affecting 4th digit. The "kcal" is "kcal (15degC)" based.

Note) The Gas "D" is a standard for fuel-gas conversion in this Study.

Table A-3 Gas Energy Conversion

Unit Convesion Based on the Gas "D":

<u>mmBtu</u>
Bbl foe
Bbl foe
mBbl foe /y
mmBbl foe/y
mmBbl foe/y

Note) m=1,000, mm=1,000,000 as suffix; cm=cubic meter; Btu=British thermal unit; Bbl = barrels.

Appendix B

Forecast of Potential Gas Demand For Power Generation

Appendix 1-1 Forecast of potential gas demand for power generation (High case: Domestic gas 500 mmscfd)

	<u>.</u>			•	-		•	•					:													-	
Power Generation						· · · · · · · · · · · · · · · · · · ·							<u> </u>														(Gwh)
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
ieothermai, Hydro & Others (Biorna	ass)	13,141	13,311	11,093	11,093	11,093	13,315	14,525	14,525	14,525	14,525	14,882	15,096	15,658	16,446	17,238	18,285	18,878	19,025	19,813	19,719	19,684	19,299	19,362	21,008	20,519	20,472
omestic coal		2,855	2,431	1,904	2,042	2,372	2,098	2,148	2,370	2,581	2,691	2,552	2,050	1,990	1,967	2,812	2,816	2,868	2,873	2,882	2,999	2,883	2,818	2,809	2,517	2,476	2,422
xisting gas fired power plant		13	13	13	13	13	13	13	13	13,	13	13	13	13	13	13	13	13	13	13	. 13	13	13	13	13	13	13
omestic gas (A-1)		0	0	13,909	14,645	15,065	15,485	16,326	17,062	17,062	17,062	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941
lomestic gas (A-2; B; D)		0	0	0	0	0	1,577	1,708	1,840	3,875	5,715	5,715	5,715	5,856	5,856	5,856	5,858	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856
×		13,182	15,082	7,858	7,924	8,161	9,182	9,545	11,006	11,729	11,948	12,276	10,811	11,436	11,928	12,260	12,760	14,074	13,553	13,216	14,929	15,367	15,367	16,024	15,872	15,803	16,022
mported gas		0			0	0	0	Q.	. 0	Û	1,708	1,708	7,161	7,358	9,198	10,249	11,957	14,086	17,608	20,542	23,915	27,5 94	32,281	35,268	38,150	43,318	48,712
mported coal		16,112	13,722	11,929	12,790	14,858	13,143	14,396	15,885	17,303	18,042	20,473	21,378	24,736	26,692	28,965	31,252	32,977	35,915	38,905	40,489	43,539	45,929	49,153	52,301	55,289	57,590
Balance		0	0	0	0.	0	0	0	0	0.	0	<u>0</u>	<u>Q</u> .		0	0_	0	0	Ü.	0	0	0	0	0	0	0	0
[otal		45,290	44,547	46,493	48,492	51,547	54,801	58,648	62,688	67,076	71,692	76,547	81,152	85,975	91,028	96,321	101,867	107,679	113,771	120,155	126,847	133,864	140,490	147,412	154,645	162,202	170,015
Note) A-1: Batangas, A-2: San Pas	cual, B: Sucat	, C: Marivele	s/Limay, D	; Batangas	Cogen Co	rp. (First Pt	nilippine in	dustrial Pa	k)		- 1							. !									
:					•																					:	
Hant Capacity by fuel as of the beg	ninning of each	s Vear		. :							• :	- 1			:												(MM)
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
ieothermal, Hydro & Others (Biom	acc)	4,167	4,221	4,221	4,221	4,221	4,606	4,606	4,506	4,606	4,606	4,719	4,787	4,965	5,215	5,456	5,798	5,986	6,033	6,283	6,253	8,242	6,120	6,140	6,662	6,507	6,492
lomestic coal		505	505	455	455	455	455	455	455	455	455	455	350	350	350	500	500	500	500	500	500	500	500	500	450	450	450
xisting gas fired power plant		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3:	3	3.	300	300	300	300	3	3	4,00
lomestic gas (A-1)		ň		2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025
Nomestic gas (A-2; B; D)		~	U.	-,. <u>-</u> ,.	٠,٠٤٠	-,:20	300	300	300	632	932	932	932	955	955	955	955	955	955	955	955	955	3,025 955	3,025 955	3,025 955	3,025 955	3,023 955
M		5,015	5,739	4,371	4,523	4,658	4.557	4,737	5,026	5.356	5,456	5,606	4.937	5,222	5,447	5,577	5,827	6.427	6,727	6.927	6.817	7,017	7,017	7,317	7,247	7,216	7,316
Sub-Total		9,691	10,468	11,775	11.927	12.062	12,646	12.826	13,115	13,777	14,177	14,740	14.034	14,520	14,995	15,526	16,108	16,896	17.243	17.693	17.553	17,741	17,619	17,939	18,342	18,156	18,241
		,,v,		,	n in the second	, <u>-,</u> 001	, <u>.,</u> , .,,.,,	12,020	10,110	19,777	300	300	1,200	1,200	1,500	1,800	2,100	2.400	3,000	3,500	3,900		5,500	6.100	6,700		
mported gas		2.850	2,850	2,850	2.850	2.850	2.850	3,050	3,050	3,050	3,050	3,650	3,650	4,350	4,750	5,150	5,550	5,750	6,250		6,750	4,500.				7,900	8,900
imported coal		12,541		14,625		14,912		15.876		16,827			18,884		21,245					6,750		7,550	8,150	8,750	9,350	10,050	10,700
Grand total		14,941	13,318	14,027	14,777	74,912	15,496	13,879	16,165	10,821	17,527	18,690	10,004	20,070	21,240	22,476	23,758	25,046	26,493	27,943	28,203	29,791	31,269	32,789	34,392	36,108	37,841
:		1	:	:							i					i											
Plant Development Plan		i 1												400 0											-		/8/BAD
TER COVOIDATION TRAIT	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015	2047	2018	2040	2020	2024	2022	2022	2024	(MM)
Name Bland Connection for domestic a		2000	2001		2003:	2004		2000	2007	2000	2009		2011	2012	2013.	2014	2013	2010	2017:	2016	2019	2020	2021	2022	2023	2024	2025
New Plant Capacity for domestic g	Luzon (A-1)	"	0	2,725	U	U		U	U	U,	U	300	U	U	U	U		U	0	U	0	0	0	0:	0	0	9
	Luzon (A-2)	"	U	U.	Ų	U	300	U	U	0	0	U:	U	Ų	a a	ų,	U	U.	Đ;	U;	Ü	Ų	U	U	U	U	U
	Luzon (B)		<u>X</u> ,			<u>Y</u>		······································	<u>.</u>	300	300	🖫	<u>V</u>		<u>v</u>	<u>y</u> .	<u>.</u> .	U.		<u> </u>					0	0	0
N	Luzon (D)	- 0	<u> </u>		U.			0		32	U:	<u> 0.</u>	0	23	0.	- 0	0	U	Ų:	0		U.		<u> </u>	U		
New Plant Capacity for imported g	Luzon (A-1)	"	0	0	U,		0	. 0	U	0	0	0:	0	0	300	300	300	300	D.	0	0	500	600	0	400	600	200
	Luzon (C)	-!		_		_	_	0	0	0:	300	0	900:	0	0:	_!	0	0	600	500	0	0	400	600	200	0	800
	Cebu	.	B					<u>Q</u>	0	. 0	0	O;.	0:		0	0		0	0;	<u>G</u>	200		0	0	0	300	0
	Davao	- 0	<u>U</u>	0		0		0		0.	0:	0:	0:	0;	0,	0:	0	. 0	9	0	200	Û.	0	0	0	300	D
New Plant Capacity for geo., hydro		54	210	<u> </u>	<u>.: 0:</u>	- 0	385	0	0	0	0	113	68	265	250	361	542	335	50	475	80	200	0	130	500	50	100
New Plant Capacity for imported co	oal	0	470	0	` 0.	0	<u> </u>	200	0	0 <u>:</u>	0	600	0	700:	400	400	400	200	500	500	0_	800	600	600	600	700	650
New Plant Capacity for oil		1,688	16	32	152	230	90	180	320	330	310	150	180	315	270	130	300	600	300	200	100	200	0	300	550	650	100
Total	<u>L</u>	1,742	596	2,757	152	230	775	380	320	662	910	1,163	1,148	1,303	1,220	1,191	1,542	1,435	1,450	1,675	580	1,800	1,600	1,630	2,350	2,600	1,850
Accumulated additions (imported			1								300	300	1,200	1,200	1,500	1,800	2,100	2,400	3,000	3,500	3,900	4,500	5,500	6,100	6,700	7,900	8,900
Accumulated additions (Imported	coal)	1	470	470.	470	470	470	670	670	670	670:	1,270	1,270	1,970	2,370	2,770	3,170	3,370	3,870	4,370	4,370	5,170	5,770	6,370	6,970	7,670	8,320
										1	i			-								:					
Capacity Factor by power source	:																										
	l	2000	2001	2002		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Bion	nass)	36%	36%	30%		30%	33%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
Coal		65%	55%	48%		60%	53%	54%	59%	65%	68%	64%	67%	65%	64%	64%	64%	65%	66%	66%	68%	66%	64%	64%	64%	63%	61%
Existing gas fired power plant		50%	50%			50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Domestic gas (A-1)	1	1		58%	61%	63%	. 65%	68%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%
Domestic gas (A-2; 8; D)	1						60%	65%	70%	70%	70%		70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70 X
Oil		30%	30%	20%	20%	20%	23%	23%	25%	25%	25%		25%	25%	25%	25%	25%	25%	23%	22%	25%	25%	25%	25%	25%	25%	25%
Imported gas	L			<u> </u>	: :					-	65%	65%	68%	70%	70%	65%	65%	67%	67%	67%	70%	70%	67%	66%	65%	63%	62%
	1			T											: [.]			!								}.	
Power Source Mix		:																					1			- 1	
	<u> </u>	2000	2001	2002		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Sior	mass)	29.0%				21.5%	24.3%	24.8%	23.2%	21,7%	20.3%	- 1	18.6%	18.2%	18.1%	17.9%	18.0%	17.5%	16.7%	16.5%	15.5%	14.7%	13.7%	13.1%	13.6%	12.7%	12.0%
Domestic coal		6.3%				4.6%	3.8%	3.7%	3.8%	3.8%	3.8%		2.5%	2.3%	2.2%	2.9%	2.8%	2.7%	2.5%	2.4%	2.4%	2.2%	2.0%	1.9%	1.6%	1.5%	1.4%
Domestic Gas	i	0.0%				29.3%	31.2%	30.8%	30.2%	31.2%	31.8%		30.4%	28.9%	27.3%	25.8%	24.4%	23.0%	21.8%		19.6%	18.5%	17.7%	15.8%	16.0%	15.3%	14.6%
Oil	1	29.1%				15.8%	16.8%	16.3%	17.6%	17.5%	16.7%	-	13.3%	13.3%	13.1%	12.7%	12.5%	13,1%	11.9%	11.0%	11.8%	11.5%	10.9%	10.9%	10.3%	9.7%	9.4%
Imported gas		0.0%	1 - 1-1-1-1			0.0%	0.0%	0.0%	0.0%	0.0%	2.4%		8.8%	8.5%	10.1%	10.6%	11.7%	13.1%	15.5%		18.9%	20.6%	23.0%	23.9%	24,7%	26.7%	28.7%
imported coal		35.6%	2				24.0%	24.5%	25.3%	25.8%	25.2%		26.3%		29.3%	30.1%	30.7%		31.6%		31.9%	32,5%	32.7%	33.3%	33.8%	34.1%	33.9%
Total	1	100.0%	100.0%	100.0%	100.0%	100.0%	100,0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		1	1	:						. :				·	-	i	_					-		:			
Gas Consumption in Newly Built I	Power Plants		<u>:</u>		:											: 						i					(mmscfd)
	ļ	2000	-				2005	2006	2007	2008	2009		2011	2012	2013		2015		2017		2019	2020	2021	2022	2023	2024	2025
Domestic Gas (A-1))				309	326	341	341	341		378		378			and a second to the ag		: :	378	378	378	378	378	378	378
Domestic Gas (A-2; B; D)) () (0	0	34	36	38	77					115						115	115		115	115	115	115
Imported Gas) () (0	0	. 0	0	0	0	32	32			170		222		326		443	511	598	653	707	802	902
Total) (278	292	301	343	362	378	417	484	522	623	629	663	683	714	754	819	873	936	1,004	1,091	1,148	1,200	1,295	1,395

Appendix 1-2 Forecast of potential gas demand for power generation (Low case: Domestic gas 500 mmscfd)

Appendix 1-2 Forecast of pote	ential gas den	nand for po	wer gene	ration (Lo	ow case: I	Domestic	gas 500 m	ımscfd)																			
Power Generation																											(0.4)
Dies Gerial Mary		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	(Gwh) 2025
Seothermal, Hydro & Others (Biom		13,141	13,311	11,093	11,093	11,093	12,105	12,105	12,105	14,525	14,525	14,882	15,096	15,658	17,156	19,971	21,018									2024	
Domestic coal	ass)	2,853	•	-	1,863		• .	,		1,948			•		•		•	21,611	21,758	22,547	22,452	22,417	22,032	22,095	23,741	23,252	23,205
		-	2,493	1,779	•	2,000	1,844	1,879	2,029	•	2,250	2,201	2,158	2,131	2,077	2,911	3,042	3,067	2,935	2,746	3,117	2,856	2,834	2,863	2,550	2,459	2,453
Existing gas fired power plant		13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Domestic gas (A-1)				13,909	14,645	15,065	15,485	16,326	17,062	17,062	17,062	17,062	17,062	17,062	17,062	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941	18,941
Domestic gas (A-2; B; D)		0		C		0	1,577	1,577	1,577	1,890	1,890	1,890	2,177	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856
ON		13,182	14,077	7,602	7,868	8,105	7,928	8,121	8,398	8,661	8,784	11,330	10,755	10,890	12,259	11,515	12,128	13,109	13,845	13,870	14,091	14,459	14,949	15,096	14,264	14,334	14,334
mported gas		0	0.	0	0	G.	0	0	0:	0	Q	0	0	C	1,971	2,048	4,100	6,150	11,444	17,509	19,132	25,765	28,267	30,437	33,358	39,315	41,487
mported coal		16,101	14,071	11,148	11,671	12,531	11,550	12,593	13,604	13,059	15,080	14,751	18,801	18,571	18,101	17,759	18,651	19,962	19.113	17,873	21,463	20,743	23,797	27,280	30,014	30,997	35,524
Balance	·	0	0	0	-0	0	0	0	0	0	C	C	0	0	0	0	0	-0	ė.				0		0	0	0
Total		45,290	43.965	45.542	47,153	48,807	50,502	52.613	54.788	57.159	59,605	62,129	65,062	70.181	74,495	79,014	83,749	88,709	93,907	99,354	105,064	111,049	116,689	122,581	128,736	135,167	141,814
(Note) A-1: Batangas, A-2: San Pas	scual B: Sucat	<u> </u>	,								00,000				,	,		30,100			100,004	111,040	110,000	122,001	120,130	100,107	141,014
funda it it beim Bent et si nist i mi		A. 111 ALA		man Ann	oogus oo	ihi ta mari i		Marika Fal	N					:- ::													
e e e e													-		:	:										:	
Blant Campains by Sual an of the bar			:	:			-	:	1	:		:			:	:	:						-			:	
Plant Capacity by fuel as of the be	graming or secon	,	2004	2002	2002	2004	2005	2004	5007		2004	2040	2044	2040	2042	4044	2045	2242							****		(MW)
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Biom	1855)	4,167	4,221	4,221	4,221	4,221	4,606	4,606	4,606	4,606	4,506	4,719	4,787	4,965	5,440	5,916	6,248	6,436	6,483	6,733	5,703	6,692	6,570	6,590	7,112	6,957	6,942
Domestic coal		505	505	455	455	455	455	455	455	455	455	455	350	350	350	500	530	530	530	530	530	530	530	530	480	480	480
Existing gas fired power plant		3	3	3.	3	3	3	3	3	3	3	3	3	3	3	3	3,	3	3	3	3	3	3	3	3	3	3
Domestic gas (A-1)	l	0	0	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025	3,025
Domestic gas (A-2; B; D)		0	0	0	Ó	0	300	300	300	332	332	332	355	955	955	955	955	955	955	955	955	955	955	955	955	955	955
Oil		5,016	5,739	4,339:	4,491	4,626	4,525	4,635	4,794	4,944	5,014	5,174	4,385	4,440	4,685	4,695	4,945	5,345	5,645	5,655	5,745	5.895	6.095	6,155	5.815	5,844	5,844
Sub-Total		9,691	10,468	11,743	11,895	12.030	12,614	12,724	12,883	13,065	13,135	13,408	12,605	13,438	14,138	15,094	15,706	16,294	15,641	16,901	16,961	17,099	17,177	17.257	17,390	17,264	17,249
Imported gas		2/22/	n, 155	n-	n	n:	Α	n	n:	0.01000	10,100	10,400	,	.5,400	300	300	600	900	1,800	2,800	2,800	3,800	4,400	5,000	5,600	6,800	7,400
······································		2 950	2.850	2 950	2 850	2.850	2 850	3 060	2.050	2.050			3.050	2.050									· · · · · · · · · · · · · · · · · · ·				
Imported coal		2,850 12,541		2,850 14,593	2,850	14,880	2,850	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,250	3,450	3,450	3,450	3,650	3,850	4,450	5,050	5,650	6,050	6,950
Grand total	l	12,341	13,318	14,593	14,745	14,550	15,464	15,774	15,933	16,115	16,185	16,458	15,655	16,488	17,488	18,444	19,556	20,644	21,891	23,151	23,411	24,749	26,027	27,307	28,640	30,114	31,599
				:			1	. !	-					. 1		1.	. :				:				:		
<u>i i angara gara mangara na manana</u>	:	ļ												i													
Plant Development Plan												:			:								:	*	:	<u> </u>	(MVV)
	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
New Plant Capacity for domestic g	Luzon (A-1)	0	0	2,725	0	0;	0	Q:	0:	0	0	0.	0	0	0	300	0	0	0.	0	0	Đ	0.	0	0	0	0
	Luzon (A-2)	0	0	0	0	0	300	0	0:	0	0	0	0	0	0.	0	O	a	0:	0		G	0	0	0	0	D
	Luzon (B)	0	C	0	0	0	0	0	0	0	0	Ď.	0	500	0	ß	0		. 0	D	0			0	. 6	0	
	Luzon (D)	0	0	0	G	G	0	9	0	32	Ð.	0	23	0.	o.	0	0	0		ñ	Ď	ň	n	0	ň	0	ň
New Plant Capacity for imported g		0	0	0	1	0.		0	0		<u> </u>	n:					0		600	600	0:		400	600	200	0	400
	Luzon (C)		··· · · · · · · · · · · · · · · · · ·		· · ¥	······································	· · · · · · · · · · · · · · · · · · ·			··· ····· · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·			300		300	300	300	400		600			200		400
	Cebu	١ .		0:	•					,		v	ž	v	300		360	300	300	400	u,		200.	U.	400	600	200
	Davao	· · · · · ×	·····					V.								<u>'</u>	· · · · · · · · · · · · · · · · · · ·	💃 .	<u>Y</u>		·- ·- ·	200	💁		0	300	U
Name Observe Community of the case I harden					<u>`</u>	<u> </u>	205		<u> </u>	<u>v</u>	<u>u</u>	440		9:	475			205	- 0	475	<u></u>	200	<u>U.</u>	<u>U:</u>	0	300	
New Plant Capacity for geo., hydro		54	210	0	0	0	385	0:	0;	U:		113	68	265	475	586	542	335	50	475	80	200	Q:	130	600	50	100
New Plant Capacity for imported c	COM	0	470	0	0	0	0	200	0	0	0	0	0	0	0:	<u> </u>	200	200	<u>0</u>	0_	200	200	600	600	600	400	900
New Plant Capacity for oil	ļ	1,688	<u> </u>	32	152	230	90:	110	190	150	280	160	60	85	270	30	300	400	300	10	300	150	200	60	280	710	0
Total	<u> </u>	1,742	680	2,757	152	230	775	310	190	182	280	273	151	950	1,045	916	1,342	1,235	1,250	1,485	580	1,550	1,400	1,390	2,080	2,360	1,600
Accumulated additions (Imported	gas)	ì	:	:		1	i	1		:		0	0	0	300	300	600	900	1,800	2,800	2,800	3,800	4,400	5,000	5,600	6,800	7,400
Accumulated additions (Imported	coal)	<u> </u>	470	470	470	470	470	670	670	670	670	670	670	670	670.	670	870	1,070	1,070	1,070	1,270	1,470	2,070	2,670	3,270	3,670	4,570
		1	:	:		-				:				- :			- 1										
		Į.					E E		1					1	:				:				:		:		
Capacity Factor by power source			;	5			- 1					1							1				1	1		1	*
	T .	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Bion	nece)	36%		2007	200		***	****	***		***	444					444							2022			2025
	1.409)	54%	36%	30%	30%	30%	30%	30%	30%	36%	36%	36%	36%	36%	36%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%
Coal			56%	45%	47%	50%	46%	47%	51%	49%	56%	55%	70%	70%	68%	66%	66%	66%	63%	59%	67%	62%	61%	62%	61%	58%	58%
Existing gas fired power plant		50%	50%	50%	50%			50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Domestic gas (A-1)		1 -		58%	61%	63%		68%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%
Domestic gas (A-2; B; D)							60%	60%	60%	65%	65%	65%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Oil	1	30%	28%	20%	20%	20%	20%	20%	20%	20%	20%	25%	28%	28%	30%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
imported gas	L	<u> </u>	:					i							75%	78%	78%	78%	73%	71%	78%	77%	73%	59%	68%	66%	64%
		1																						. 1			
Power Source Mix																								:		: :	
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023.	2024	2025
Geothermal, Hydro & Others (Bior	mass)	29.0%	30.3%	24.4%	23.5%			23.0%	22.1%	25.4%	24.4%	24.0%	22.9%	22.3%		25.3%	25.1%	24.4%	23.2%	22.7%	21.4%	20.2%	18.9%	18.0%	18.4%	17.2%	
Domestic coal	1	6.3%		3.9%				3.6%	3.7%	3.4%	3.8%	3.5%	3.3%	3.0%		3.7%	3.5%	3.5%	3.1%	2.8%	3.0%	2.6%	2.4%	2.3%	2.0%	1.8%	1.7%
Domestic Gas		0.0%						34.1%	34.0%	33.2%	31.8%	30.5%		32.7%		31.4%		28.0%	26.4%	25.0%	23.6%	22.3%				18.4%	17.5%
Oil		29.1%																					21.3%	20.2%	19.3%		
Imported gas								15.4%	15.3%	15.2%	14.7%	18.2%	16.3%	15,5%		14.6%	14.5%	14.8%	14.7%	14.0%	13.4%	13.0%	12.8%	12.3%	11.1%	10.6%	10.1%
• •	1	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		2.5%	4.9%	5.9%	12.2%	17.6%	18.2%	23.2%	24.2%	24.8%	25.9%	29.1%	29.3%
Imported coal		35.6%						23,9%	24.8%			23.7%	28.5%	26.5%		22.5%		22.5%	20.4%	18.0%	20.4%	18.7%	20.4%	22.3%	23.3%	22.9%	25.0%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100,0%	100.0%	100.0%	100.0%	100,0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
La Carlo de Carlo de Carlo La Carlo		ļ					i								:											1	
Gas Consumption in Newly Built I	Power Plants																	i							:		(mmscfd)
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017.	2018	2019	2020	2021	2022	2023	2024	2025
Domestic Gas (A-1)		. 0	0	278	292	301	309	326	341	341	341	341	341	341	341	378		378	378	378	378	378	378	378	378	378	378
Domestic Gas (A-2; B; D)	ľ	0	0	0		0			38			41		115		115			115	115	115	115	115	115	115	115	115
Imported Gas		0			· · · · •) 0		0	0	0		0	n	0	37	38	76	114	212	324	354	477	524	564	618	728	769
Total	1	Ĭ	, ,	278	292		· •	•	378		-		385	455		531	569	607	705	817	847	970	1,017	1,057		1,221	
		, , , , , , , , , , , , , , , , , , , 						~~~	219		- 444	- JUL.	- 303	733	756	331	ÇUŞ.	- OU /	(03	911	07/	aid	1,917	1,037	1,111:	1,441	1,261

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Appendix 1-3 Forecast of potential gas demand for power generation (High case: Domestic gas 650 mmscfd)

Power Generation																		<u> </u>									(Gwh)
		2000	2001	2002	2003	2004.	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	202
othermal, Hydro & Others (Biomi	nss)	13,141:	13,311	11,093	11,093	11,093	13,315	14,525	14,525	14,525	14,525	14,882	15,096	15,658	16,446	17,238	18,285	18,878	19,025	19,813	19,719	19,684	19,299	19,362	21,008	20,519	20,47
mestic coal		2,855.	2,431	1,904	2,042	2,372	2,098	2,148	2,370	2,581	2,669	2,533	2,019	1,979	1,967	2,754	2,755	2,830	2,838	2,849	2,988	2,883	2,818	2,809	2,517	2,436	2,42
isting gas fired power plant		13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	1
mestic gas (A-1)		0	0	13,909	14,645	15,065	15,485	16,326	17,062	17,062	18,941	20,819	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,45
mestic gas (A-2; B; D)		0	0	0	0	0.	1,577	1,708	1,840	3,875	5,715	5,715	5,715	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,85
1		13,182	15,082	7,658	7,924	8,161	9,182	9,545	11,006	11,729	11,948	12,276	16,811	11,436	11,928	12,260	12,760	14,074	13,553	13,216	14,929	15,387	15,367	16,024	15,872	15,803	16,02
nported gas		0	0	0	0	0:	0	0	0	0	0	0	0	1,696	3,370	5,046	6,833	8,741	12,268	15,209	18,349	21,810	26,458	29,439	32,314	38,362	42,81
ported coal		16,112	13,722	11,929	12,790	14.858	13,143	14,396	15.885	17,303	17,893	20,322	21,056	22,897	25,006	26,713	28,924	30.846	33,776	36,757	38,552	41.809	44,239	47,468	50,623	52,772	55,97
alance		0	0	0	0	0	0	0	0	0	0	0	0	. 0	0	. 0	Ô	0	0	0	C	0	0	0	0	0	1
otal		45,290	44,547	46,493	48,492	51,547	54,801	58,648	52,688	67,076	71,692	76,547	81,152	85,975	91,028	96,321	101,887	107,679	113,771	120,155	126,847	133,864	140,490	147,412	154,645	162,202	170,01
Note) A-1: Batangas, A-2: San Pas	cual, B: Sucat					 _					,	,						101,010:	110,111,	120,100	120,041	100,001	170,700	. 171,711	104,040	102,1.02	
		:		-			.,		•										:			i					
Plant Capacity by fuel as of the beg	inning of each	year 2000	2001	2002	2003	2004:	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2018	2017	2018	2019	2020	2021	2022	2023	2024	(MW) 2025
Seothermal, Hydro & Others (Biom	202)	4,167	4,221	4,221	4,221	4,221	4,606	4,606	4,606	4,606	4,606	4,719	4,787	4,965	5,215	5,486	5,798	5,988	6,033	6,283	6,253	6,242	8,120	6,140	6,662	6,507	6,49
lomestic coal	as si	505	505	455	455	455	455	455	455	455	455	455	350	350	350	500	500	500	500	500	500	500	500	500	450	450	450
1		303	303	3	3	3	3	900	433	400	4 55	3	330	3	330	3	3	300	300	3	300	3	300	300	450	430	401
ixisting gas fired power plant		1	3	•	-:	2,725	•	2 726	-	2 725	3,025	3,325	4,225	4,225	4,225	4,225	4,225	4,225	4,225	4,225	•	4,225	•	_	•	4 225	4 22
Cornestic gas (A-1)			V	2,725	2,725	2,120	2,725 300	2,725 300	2,725	2,725	932	932	932	955	955	955	955	955	955	9,225 955	4,225 955		4,225	4,225	4,225	4,225	4,22
Domestic gas (A-2; B; D)		E 040	U 720	4,371	4,523	4,658	4,557		300 5,026	632 5,356	5.456	5,606	4,937	5,222	5,447	5,577	5,827	6,427	6.727	6,927		955 7,017	955	955 7 247	955: 7.247	955 7 246	95
Did Total		5,016	5,739					4,737					15,234	15,720	16,195	16,726	17,308		18,443		6,817 48.753		7,017	7,317	7,247	7,216	7,31 19,44
Sub-Total		9,691	10,468	11,775	11,927;	12,062	12,646	12,826	13,115	13,777	14,477	15,040			600			18,096		18,893	18,753	18,941	18,819	19,139	19,542	19,356	
mported gas		0,	U	- 0	U.	0.	0	- 0	0	0	0	0	0	300		900	1,200	1,500	2,100	2,600	3,000	3,600	4,600	5,200	5,800	7,000	8,00
mported coal		2,850	2,850	2,850	2,850	2,850	2,850	3,050	3,050	3,050	3,050	3,650	3,650	4,050	4,450	4,850	5,250	5,450	5,950	6,450	6,450	7,250	7,850	8,450	9,050	9,750	10,40
Grand total		12,541	13,318	14,625	14,777	14,912	15,496	15,876	16,165	16,827	17,527	18,690	18,884	20,070	21,245	22,476	23,758	25,046	26,493	27,943	28,203	29,791	31,269	32,789	34,392	36,106	37,84
		. !	:			;			1			-											:		:		
																						;					
Plant Development Plan		<u>,</u>	:.		1								·														(MW)
	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	202
New Plant Capacity for domestic g	Luzon (A-1)	0:	0	2,725	0	0	Q	0	0:	0	300	300	900	0	0.	0	0	0	0	0.	0	D:	0	0	0	0	•
	Luzon (A-2)	0	0.	0	0	0	300	0	0:	0	. 0	0	0	.0	0	0	0	0	0	0]	0	0.	0	0	0	0	0
	Luzon (B)	0	0	0	0	0;	0	0	0:	300	300	D:	0	0	0	0.	0	0	0	0	0	0	0	0	0.	0	
	Luzon (D)	0	0	_ 0	0.	. 0	0	0	0	32	0	0	0	23	0	0:	0	0	0	0	0	0	0	0	0	O	C
New Plant Capacity for imported g	Luzon (A-1)	0	D	0	0	0	0	0	0,	8.	0	0	0	0	0	0,	. 0	390	600	300	0	0.	600	600	0	0	1,000
	Luzon (C)							0	0	0	0	0	0	300	300	300	300	0	0	200	0	600	400	0	600	600	0
	Cebu	0	0	0	0	0	0	0	0	0	0	0:	0	0	0	0.	0	0	0	0	200	0	0	0	8	300	C
	Davao	0	0	0	0.	9	0	0	0	0	C	0	0,		0	0	0	0	Q	0	200	9	0	0	0	300	
New Plant Capacity for geo., hydro	& others	54	210	0	0	0	385	0	0	0	0	113	68	265	250	361	542	335	50	475	80	200	0	130	600	50.	100
New Plant Capacity for imported or		0	470	0	0	0	0	200	0	0	0	600	0	400	400	400	400	200	500	500	0	800	500	600	500	700	650
New Plant Capacity for oil		1,688	16:	32	152	230	90	180	320	330	310	150	180	315	270	130	300	600	300	200	100	200:	0.	300	550	650	100
Total		1,742	696	2,757	152	230	775	380	320	662	910	1,163	1,148	1,303	1,220	1,191	1,542	1,435	1,450	1,675	580	1.800	1,600	1,630	2,350	2,600	1,850
Accumulated additions (Imported	rae)	1,00									300	300	300	600	900	1,200	1,500	1.800	2,400	2,900	3,300	3,900	4,900	5,500	6,100	7,300	8,300
Accumulated additions (Imported		1 1	470	470	470	470	470	670	670	670	670	1,270	1.270	1.670	2,070	2,470	2,870	3,070	3.570	4,070	4,070	4,870	5,470	6,070	6,570	7,370	8,020
Accommend additions (imported	Comp	<u> </u>			470.	410	410	010	010	070	010	1,210	I ₃ £IQ	1,010	2,010	2,410.		<u> </u>	0,010	4,010	4,070	4,010	0,410		0,010	1,010	0,024
					:					on or other									· · · · · · · · · · · · · · · · · · ·								
Canacity Seator by namer course												:				·			··· ··· · · · · · · · · · · · · · · ·			······ ·· ·· ::					
Capacity Factor by power source	i -	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Conthermal there & Others (Sin	l	36%		30%	30%										36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
Geothermal, Hydro & Others (Bion	 					30%	33%	36%	35%	36%	35%	36%	36%	36%			or warming gifter a		· • · • • • · · · · · · · · · · · · · ·					3357	: 1.05		
Coal		65%		48%	51%	50%	53%	54%	59%	65%	67%	64% 504	66%	65%	64%	53%	63%	65% 50%	65% 50%	65%	68%	66%	64% 50%	64% 50%	64%	52%	61% 50%
Existing gas fired power plant		50%	50%	50%		50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%		50%	50%	50%	50%	50%		50%	50%	50%
Domestic gas (A-1)			ļļ	58%	61%	63%	65%	68%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%
Domestic gas (A-2; B; D)		·					60%	65%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%	70%
Oil		30%	30%	20%	20%	20%	23%	23%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	23%	22%	25%	25%	25%	25%	25%	25%	25%
Imported gas	<u> </u>	1	<u>: </u>										i	65%	64%	64%	85%	87%	67%	67%	70%	69%	66%	65%	64%	63%	61%
									. !	٠.			:		÷			1	- !						į		
Power Source Mix	 	1						1													****						
: 	ــــــ	2000		2002		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2018	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Bior	mass)	29.0%		23.9%			24.3%	24.8%	23.2%	21.7%	20.3%	19.4%		18.2%	18.1%	17.9%	18.0%	17.5%	16,7%	16.5%	15.5%	14.7%	13.7%	13.1%	13.6%	12.7%	12.09
Domestic coal	1	6.3%		4.1%		4.6%	3.8%	3.7%	3.8%	3.8%	3.7%	3.3%	2.5%	2.3%	2.2%	2.9%	2.7%	2.6%	2.5%	2.4%	2.4%	2.2%	2.0%	1.9%	1.6%	1.5%	1.45
Domestic Gas	ļ	0.0%		29.9%			31,2%	30.8%	30.2%	31.2%	34.4%	34.7%	39.7%	37.6%	35.5%	33.6%	31.7%	30.0%	28.4%	26.9%	25.5%	24.1%	23.0%	21.9%	20.9%	19.9%	19.09
Oil	1	29.1%		18.5%			16.8%	16.3%	17.6%	17.5%	15.7%	16.0%	13.3%	13.3%	13.1%	12.7%	12.5%	13.1%	11.9%	11.0%	11.8%	11.5%	10.9%	10.9%	10.3%	9.7%	9.49
Imported gas	1	0.0%					0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	3.7%	5.2%	6.7%	8.1%	10.8%	12.7%	14.5%	16.3%	18.8%	20.0%	20.9%	23.7%	25.29
imported coal	1	35.6%		25.7%	26.4%		24.0%	24.5%	25.3%	25.8%	25.0%	25.5%	25.9%	26.6%	27.5%	27.7%	28.4%	28.6%	29.7%	30.6%	30.4%	31.2%	31.5%	32.2%	32.7%	32.5%	32.99
Total	<u> </u>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100,0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	100,0%	100,0%	100,0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.01
						:																					
Gas Consumption in Newly Built i	Power Plants		1			:																			i		(mmscfd
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	202
Domestic Gas (A-1)	T	1 (309	326	341	341	378	418		528		528		528	528	528	528	528	528	528	528	528	52
Domestic Gas (A-2; B; D)		.) ^				34	36	38	77	112	112		115				115		115	115	115		115	115	115	
Imported Gas	1 .) ^				0		·····	0		0	112	31	62	93		162		282	340	404	490	545	599	711	
Total	1.		•	278	•	•		362	378	417	490	528						805				1,047	1,133	1,188	1,242	1,354	
11.00				2/0	202	. 301	. 343	302	3/6	41/	490	7 4 \$:	940	0/4	/V3:	1.50	110	003	010	273	803	1,04/	1,133	1,100	5,Z4Z	1,334	1,43

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Appendix 1-4 Forecast of potential gas demand for power generation (Low case: Domestic gas 850 mmscfd)

Power Canamian																									-		4
Power Generation		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2024	2022	2022	2074	(Gwh)
Geothermal, Hydro & Others (Bioma	ee)	13,141	13,311	11,093	11,093	11,093	12,105	12,105	12,105	14,525	14,525	14,882	15.096	15,658	18,470	21,285	23,646	25,553	27,014	27,803	27,708	2020 27,673	2021 27,288	2022 27,351	2023	2024	2025
Domestic coal		2,853	2,493	1,779	1,863	2,000	1,844	1,879	2,029	1,948	2,250	2,201	2,158	2,131	1,951	2,750	2,721	2,610	2,305	2,201	2,804	2,637	27,200 2,544	2,486	28,997 2,200	28,508 2,139	28,451
Existing gas fired power plant		13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	- 13	13	13	13	13	13	13	13:	13	13:	2,098
Domestic gas (A-1)		0	Õ	13,909	14,645	15,065	15,485	16,326	17.062	17,062	17,062	17,062	17,062	17,062	18,941	20,819	22,698	24,576	26,454	26,454	26,454	26,454	26,454	26,454	26,454	26,454	25,454
Domestic gas (A-2; B; D)		0	0	0	0	0	1,577	1,577	1,577	1,890	1,890	1,890	2,177	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5,856	5.856	5,856	5,856	5,856
Oil		13,182	14,077	7,602	7,868	8,105	7,928	8,121	8,398	8,661	8,784	11,330	10,755	10,890	12,259	11,515	12,128	13,109	13,845	13,870	14,091	14,459	14,949	15,096	14,264	14,334	14,334
Imported gas		0	0	0	0	0	0	0	Ö	0	0.	0	0.	0	0	0	. 0	Ó	3,416	8,830	8,830	14,804	18,221	21,637	25,054	30,905	34,217
Imported coal		16,101	14,071	11,148	11,671	12,531	11,550	12,593	13,604	13,059	15,080	14,751	18,801	18,571	17,005	16,776	16,686	16,991	15,003	14,327	19,308	19,153	21,363	23,687	25,898	26,957	30,381
Balance		C	0	0.	-0	0	0.	0	. 0	0	0.	0	0	0	0	. 0	0	0:	0	-0	Ö	Ó	0	0	-0	0	0
Total		45,290	43,965	45,542	47,153	48,807	50,502	52,613	54,788	57,159	59,605	62,129	66,062	70,181	74,495	79,014	83,749	88,709	93,907	99,354	105,064	111,049	116,689	122,581	128,736	135,167	141,814
(Note) A-1: Batangas, A-2: San Pas	cual, B: Sucat	, C: Marivele:	s/Limey, D:	: Batangas	Cogen Cor	rp. (First P	hilippine In	dustrial Pa	rk)	:				:												:	
		; .																									
Plant Capacity by fuel as of the beg	incino of sact	iveer :								:													:				(6040
FRANK COLUMN DY HOS US OF UND DOS		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	(MNV) 2025
Geothermal, Hydro & Others (Biom	A55)	4,167	4,221	4,221	4,221	4,221	4,505	4,606	4,686	4,505	4,506	4,719	4,787	4,965	5,440	5,916	6,248	6,436	6,483	6.733	6,703	6,692	6,570	6,590	7,112	6,957	6,942
Domestic coal	,	505	505	455	455	455	455	455	455	455	455	455	350	350	350	500	530	530	530	530	530	530	530	530	480	480	480
Existing gas fired power plant		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Domestic gas (A-1)		0	0	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	2,725	3,025	3,325	3,625	3,925	4,225	4,225	4,225	4,225	4,225	4,225	4,225	4,225	4,225
Domestic gas (A-2; B; D)		0		0	0	0	300	300	300	332	332	332	355	955	955	955	955	955	955	955	955	955	955	955	955	955	955
Oif		5,018	5,739	4,339	4,491	4,626	4,525	4,535	4,794	4,944	5,014	5,174	4,385	4,440	4,565	4,695	4,945	5,345	5,645	5,655	5,745	5,895	6,095	6,155	5,815	5,844	5,844
\$ub-Total		9,691	10,468	11,743	11,895	12,030	12,614	12,724	12,883	13,065	13,135	13,408	12,605	13,438	14,438	15,394	16,306	17,194	17,841	18,101	18,161	18,299	18,377	18,457	18,590	18,464	18,449
Imported gas		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	600	1,600	1,600	2,600	3,200	3,800	4,400	5,600	6,200
Imported coal		2,850	2,850	2,850	2,850	2,850	2,850	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,050	3,250	3,450	3,450	3,450	3,650	3,850	4,450	5,050	5,650	6,050	6,950
Grand total		12,541	13,318	14,593	14,745	14,880	15,464	15,774	15,933	16,115	16,185	16,458	15,655	16,488	17,488	18,444	19,556	20,644	21,891	23,151	23,411	24,749	26,027	27,307	28,640	30,114	31,599
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Plant Development Plan				·-·		······································	·					,															(1000)
TRUE GOTTON FIRM TREE	Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	(MW) 2025
New Plant Capacity for domestic of	Luzon (A-1)	0	0	2.725	0	0	0	0	0		1000		0	0	300	300	300	300	300		0	2020	2021.	7022	1023	2024	2023
	Luzon (A-2)	0	0	0.		0	300			0	0.		0	0	0		S	1	545	ā	· · · · · · · · · · · · · · · · · · ·			0	ň		ň
	Luzon (B)	0	0	0	0	0	0	Ō	Ō	0	0	Ŏ	0	600	Ŏ	Ō	0	0	Ö	o o	0.	0	Ô	0	0	o.	ŏ
:	Luzon (D)	0	0	0	0	0	0	Ð	0	32	0	0	23	0	8	0	0	0	0	0	0	0	0	0	Õ	O.	o
New Plant Capacity for imported g	Luzon (A-1)	C	0	0:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	400	0	600	200	0	400	600	200
	Luzon (C)		1					. 0	0	0	0	6	0	0	0	Q	0	0	600	600	0	8.	400	600	200	O;	400
	Cebu	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	300	0
	Davao	0:	0	0		0	0	0	0	0	0	. 0	0	0	0	0	0	0	. 0	· D:	0	200	0.	0	QQ	300	0
New Plant Capacity for geo., hydro		54	210	0	0	0	385	0	0_	0	0	113	68	265	475	586	542	335	50	475	8 0.	200	0	130	600	50	100
New Plant Capacity for imported co	oal	0	470	0	. 0	0	0	200	0	0	0.	0	0	0	. 0	0	200	200	0	0.	200	200	600	600	600	400	900
New Plant Capacity for oil		1,688	0	32	152	230	90	110	190	150	280	160	60	85	270	30	300:	400	300	10	300	150	200	60	280	710	0
Total Accumulated additions (Imported)	c=c1	1,742	680	2,757	152	230	775	310	190	182	280	273	151	950	1,045	916	1,342	1,235	1,250 600	1,485	580.	1,550	1,400	1,390	2,080	2,360	1,600
Accumulated additions (Imported			470	470	470	470	470	670	670	670	670	670	670	670	670	670	870	1.070	1,070	1,000	1,600 1,270	2,600 1,470	3,200 2.070	3,800 2,670	4,400 3,270	5,600 3,670	6,200 4,570
		<u> </u>		- 110	714	77.4	470	***				0.0		- 0,0		410		1,010	1,010	1,010	1,270	1,770	2,070	2,070	3,210	3,010	4,370
						:			-		Ī		1							:			:				
Capacity Factor by power source			1															i		. 1		!				1	
·	L	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Bion	nass)	36%	36%	30%	30%	30%	30%	30%	30%	35%	35%	36%	36%	36%	39%	41%	43%	45%	48%	47%	47%	47%	47%	47%	47%	47%	47%
Coal	ļ	84%	56%	45%	47%	50%	46%	47%	51%	49%	56%	55%	70%	70%	64%	63%	59%	56%	50%	47%	60%	57%	55%	54%	52%	51%	50%
Existing gas fired power plant Domestic gas (A-1)	ł	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Domestic gas (A-2; B; D)		· [· · · · · · · · · · · · ·		58%	61%	63%	65% 60%	68% 60%	71% 60%	71% 65%	71% 65%	71% 65%	71% 70%	71% 70%	71% 70%	71% 70%	71% 70%	71% 70%	71% 70%	71% 70%	71% 70%						
Oil	ļ	30%	28%	20%	20%	20%	20%	20%	20%	20%	20%	25%	28%	28%	30%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%	28%
Imported gas															65%	65%	65%	65%	65%	63%	63%	65%	65%	65%	65%	63%	63%
		·					- ;													:							
Power Source Mix					-		- 1											. :		- :	:		;				
: 	<u>l</u>	2000	2001	2002		2004	2005	2006	2007	2008	2009	2010	2011	2012		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Geothermal, Hydro & Others (Bion	nass)	29.0%	30.3%			22.7%	24.0%	23.0%	22.1%	25.4%	24.4%	24.0%	22.9%	22.3%		26.9%	28.2%	28.8%	28,8%	28.0%	26.4%	24.9%	23.4%	22.3%	22.5%	21.1%	20.1%
Domestic coal		6.3%	5.7%		4.0%	4.1%	3.7%	3.6%	3.7%	3.4%	3.8%	3.5%	3.3%	3.0%	2,6%	3.5%	3.2%	2.9%	2.5%	2.2%	2.7%	2.4%	2.2%	2.0%	1.7%	1.6%	1.5%
Domestic Gas		0.0%	0.0%			30.9%	33.8%	34.1%	34,0%	33.2%	31.8%	30.5%	29.1%	32.7%	33.3%	33.8%	34.1%	34.3%	34.4%	32.5%	30.8%	29.1%	27.7%	26.4%	25.1%	23.9%	22.8%
Oil		29.1%	32.0%			16.6%	15.7%	15,4%	15.3%	15.2%	14.7%	18.2%	16.3%	15.5%	16.5%	14.6%	14,5%	14.8%	14.7%	14.0%	13.4%	13.0%	12.8%	12.3%	11.1%	10.6%	10.1%
Imported gas Imported coal		0.0% 35.6%	0.0% 32.0%			0.0% 25.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	8,9%	8.4%	13.3%	15.6%	17.7%	19.5%	22.9%	24.1%
Total		100.0%	100.0%				22.9% 100.0%	23.9% 100.0%	24.8% 100.0%	22.8% 100.8%	25.3%; 100.0%;	23.7% 100.0%	28.5% 100.0%	26.5% 100.0%	22.8% 100.0%	21.2% 100.0%	19.9% 100.0%	19.2% 100.0%	16.0% 100.0%	14.4%	18.4%	17.2% 100.0%	18.3% 100.0%	19.3% 100.0%	20.1% 100.0%	19.9% 100.0%	21.4%
	<u> </u>	1		:		100.0 8	100.0 /	,,,,,,,,,	.00.0 #	.00.00	N U.OU.	.00.07	W.00.0	,00.076	100.07	,00.03	, A	.00.0 #	.50.07	100.UA	100.0%	100.074	100.076	100.076	100.076	100.076	100.0%
Gas Consumption in Newly Built F	Power Plants																			!				-			(mmscfd)
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024:	2025
Domestic Gas (A-1)		0	0	278	292		309	326	341	341	341	341	341	341		416	453	491	528		528	528	528	528	528	528	528
Domestic Gas (A-2; B; D)]	0	0		0	T	34	36	38	41	41	41	- 44	115	115	115	115	115	115	115	115	115	115	115	115	115	115
Imported Gas		0	, 0	-	0	0	. 0	. 0	0	9	0	0	0	0	0	0	0	0	63		164	274	338	401	464	573	634
Total	<u> </u>	0	. 0	278	292	301	343	362	378	382	382	382	385	455	493	530	568	605	706	807	807	917	980	1,044	1,107	1,215	1,277



Appendix C

Potential Gas Demand and Energy Consumption Tables

Table C-1	Potential Demand of Natural Gas (Total Philippines)
Table C-2	Potential Demand of Natural Gas (NCR: Area L-1)
Table C-3	Potential Demand of Natural Gas
	(Southern Tagalog: Area L-2)
Table C-4	Potential Demand of Natural Gas
	(Central Luzon: Area L-3)
Table C-5	Potential Demand of Natural Gas
	(Central Visayas: Area C-M)
Table C-6	Potential Demand of Natural Gas
	(Southern Mindanao: Area D)
Table C-7	Price and Conversion Factor & Results of Estimation
Table C-8	Mo. Gasoline
Table C-9	Kerosene
Table C-10	Diesel Oil
Table C-11	Fuel Oil
Table C-12	LPG
Table C-13	Electricity

Potential	Substitution	to	ĦĠ	by	Fuel
Dhillingia.	a Tadal				

hilippine Total			· · · ·															· ·								
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2003	2010	2011	2012	2013	2814	2015	2015	2017	2018	2015	2026	2021	2022	2823	2024	2025
	Previous Form	rula :																	:							
lo Gasoline	0.00	:	i	- :		ě	i i										*	:								
ransportation Gasoline	0.02	0.02	0,02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.05	9.05	0.05	0.05	0.06	0.06	0.06	0.08	0
erosene	:					:							:				:									
Residential Kerosene	3.64	2.78	2.04	3.13	3.36	4.21	4.86	5.62	6.46	7.42	6.43	9.34	10.29	11.28	12.30	13.35	14.45	15.58	16,75	17.96	19.22	20.34	21.50	22.70	23.93	25
				i.													1									
liesel	: :				:		:										3		:							
ndustry Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.02	0.03	9,07	0.12	0.16	0.20	0.25	0.30	0.36	0.44	9,47	0.53	0.60	0.67	0.74	0.81	0.89	0.97	1
ransportation Diesel	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	9.03	0.03	8.83	0.04	0,94	0.04	0.05	0.05	0.06	0.06	0.07	0.07	80.0	0.08	9,09	0.03	ŧ
	1	:		:		1.1	:	:	:																	
uel Oil								1																		
ndustry Fuel Oil	0.01	0.01	0.01	0.01	0.01	0.01	0.03	9.06	88.0	0.10	0.13	0.16	0.19	0.21	0.25	0.28	0.31	0.35	9.39	0.43	0.47	0.51	0.56	0.60	0.65	0
ransportation Fuel Oil	0.00	0.00	0.00	0.00	0,00	0.00	9,60	90.0	0.00	0.00	0.00	0.00	8.08	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Ð
Commercial Fuel Oil	0,00	0,00	0.00	0.00	0.00	0.00	0.01	9.01	9.02	9.02	0.03	0.04	0.04	0.05	0.96	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0
	·			:				1								1	-	• (:	:			-			
_PG	1 1.						:								:											
ndustry LPG	0.29	0.30	0.31	0.32	0.34	0.36	0.41	8.45	0.50	0.56	0.51	0.67	8.73	0,79	38.0	0.92	1.00	1.08	1.16	1.24	1.34	1.43	1.52	1.62	1.72	1
Residential LPG	0.37	0.38	0.40	0.42	0.45	0.48	0.56	2.00	3.54	10.08	16.82	23.61	30.59	37.76	45.13	52.69	61.44	70.41	79.61	89.05	98.72	108,13	117.64	127.25	136.97	146
Commercial LPG	5.47	0.12	0.13	0.13	0.14	1.48	2.58	4.29	6.11	8.33	10.68	12.97	15.40	47.97	20.68	23,55	26.58	29.78	33.16	36.74	40,52	44.24	48,16	52.28	56.62	61
 			:			1			:								:	(:		
Electricity										,																
ndustry Electricity	0.01	0.01	0.01	0.01	0.01	0.01	0.01	6,01	0.81	0.01	0.01	0.01	0.01	0.01	0.81	0.01	9.01	0.01	9.02	9.02	0.02	0.02	0.02	0.02	0.02	0
Residential Electricity	0,01	0,01	0.01	0.01	0.01	0.01	6.61	0.01	0.02	8.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	5.03	0.03	0.03	0.04	0.04	0.04	0.04	8
Commercial Electricity	0.09	0.10	0.10	0.11	0.11	0.12	9.13	0.13	0.14	D.15	0.16	0.17	9.18	0.19	0.20	0.21	9.22	0.23	0.25	9.26	9.28	0.29	0.34	0.32	0.34	0
	1		:								:	i					1			÷						
Potential Substitution Total to NG	9.92	3.75	3.05	4.18	4.48	6.73	8.64	12.65	16.97	26.82	37.06	47.22	57.73	68,61	79.88	91.55	104.62	118.13	132.10	146.55	161.50	175.99	190.82	206.01	221.57	237.
•	1		-			444								;			-			:			:	:	:	
Total Energy Consumption (mmscfd)	1,190.57	1,279.66	1,489.82	1,449.70	1,556.02	1,531.33	1,744.13	1,827.27	1,951.40	2,846.51	2,181.66	2,309.09	2,442.86	2,583.39	2,731.13	2,886.49	3,845.69	3,222,29	3,484.57	3,596.92	3,799.82	3,987.40	4,184.08	4,390.06	4,506.01	4,830
	-																							:	:	
Total by Sector			:					·		-			:					3	_	:						
Industry	0.30	0.32	0.33	0.34	9.36	0.38	8,45	0.53	0.62	9.74	9.87	1.00	1.13	1.27	1.41	1.57	1.74	1.91	2.09	2.29	2,49	2,70	2.91	3.13	3,37	3
Transportation	6.53	0.03	0.04	0.04	9.04	0.04	0.05	0.05	0.05	Ð. 0 6	0.06	0.07	0.07	9.08	0.08	0.09	0.09	0.10	9.11	9.12	8.12	0.13	0.14	0.15	9.16	0
Residential	4.02	3.18	2.45	3.56	3,82	4.70	5.44	7.60	16.82	17.52	25.26	32.98	40.91	49.06	57.45	66.07	75.92	86.02	96.39	107.04	117.97	128,51	139.18	149.99	160.94	171
Commercial	5,57	0.22	0.23	0.24	0.26	1.60	2.71	4.44	6.27	8,50	10,87	13.18	15,62	18.21	20.94	23.82	26.87	30.09	33.50	37.10	48.91	44.65	48.59	52.74	57.11	61
					! ! 										ا											
by Fuel	1					1					:															
Mo Gasoline	0.02	9.02	0,02	0'05	0.02	0.02	0,03	0.03	0.03	0.03	0.03	0.03	0.93	0.04	0.34	0.04	9.04	0.05	0. 05	0.05	0.05	0.06	90.0	0.08	0.06	Ð
Kerosene	3.64	2.78	2.04	3.13	3,36	4.21	4.86	5.62	6.46	7.42	8.43	9.34	10.29	11.28	12.30	13.35	14,45	15.58	16.75	17.96	19.22	20.34	21.50	22.70	23.93	25
Diesel	0.01	0.02	0.02	9.02	0.02	0.92	0.02	0.04	0.06	9.10	0.15	0.19	0.24	0,29	0.35	0.40	0.46	6.53	0.59	0.67	0.74	9.82	0.89	0.98	1.06	
Fuel Oil	0.01	0.01	0.01	0.01	0.01	0.02	0.04	0.07	0.10	0.13	0.16	8.19	0.23	0.26	0.30	0.34	0.39	0.43	0.48	0.63	0.58	0.63	0.69	0.76	0.81	
d201 - 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		3.55	* * * 4						44.45		** **	47.00	40 75	F4 F4	A4 44	77.46	20.00	40.4 63	445.00	407.00	440.50	422.70	42244	***	45553	
LPG	6.13	0.88	0.84	0.88	0.93	2.33	3.55	6.75	10.16	18.96	28.11	37.26	46.72	56.52	86.88	77.16	89.02	181.27	113,93	127.03	140,58	153.79	167.31	181.15	195.31	209

Table C-1 Potential Demand of Natural Gas (Total Philippine)

Dealers of al	Parker Hideatless	to UC to Cool
1 (2) (1) (1)	อนมระแบนเบย	to HG by Fuel
		•

ICR Metropolitan Manila (L1 Area)		0006	****																			 				
	2000	2001	2002	2003	2004	2995	· 2005	2007	2008	2009	2018	2011	2012	2013	2014	2015	2018	2017	2018	2019	2020	2021	2022	2023	2024	2025
to Gasoline									,			-														
ransportation Gasoline	0.01	0.01	0.01	0.01	0.01	0.01	0.61	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	10.0	0.01	0.01	0.82	0.02	0.02	0.02	0.02	0.02	0.0
(erosene	· · · · · · /	:									!															
esidential Kerosene	2.08	1.54	1.13	1.74	1,87	2.34	2.74	3.13	3.61	4.14	4.71	5.22	6.76	6.31	6.88	7.47	8.69	8.72	9.38	10.06	10.77	11.40	12.05	12.73	13.42	14.1
										;					· 		:									
ndustry Diesel	0.00	9.09	0.00	0.00	0.00	0.00	9.00	0.01	0.01	0.03	0.05	0.06	0.08	0.10	0.12	8.14	0.16	0.19	0.21	0.24	8.27	0.29	0.32	0.35	0,38	0.4
ransportation Diesel	0.08	0,00	0.01	0.01	0.01	0.01	0.01	0.01	8.01	0.01	0.01	0.01	0.01	9.01	0,01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.0
r production of the contract of			:											:		:										
uel Oil		* **		* ***				1				:	:													
ndustry Fuel Oil	0.00	0.00	0.00	0.00	0.00	9.00	0.01	0.02	0.03	0.04	0.05	0.06	9.67	0.08	0.10	9.11	0.12	0.14	9.15	0.17	0.19	0.28	0.22	0.24	0.26	0.2
ransportation Fuel Oil	0.00	0.00	0.00	0.00	0.00	9.90	0.00	0.00	0.00	9.00	0.00	0.00	9.00	0.00	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.06	0.00	90.0	0.00	0.0
Commercial Fuel Oil	9.00	0.00	0.00	0.00	0.00	0.0 0	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	B.03	0.04	0.04	0.05	0.05	9.06	0.06	0.07	0.97	0.08	0.09	9.0
ndustry LPG	0.11	0.12	0.12	0.43	6.14	9.14	0.16	0.18	0.28	0.22	8.24	0.27	0.29	0.31	0.34	0.37	0.40	0.43	0.46	0.49	0.63	0.56	0.60	0.64	0.68	0.7
Residential LPG	0.21	0.21	0.22		0.25		0.31	1.12	1.98	5.65	9.43	13.24	17.16	21.19	25.32	29.57	34.49	39.53	44.70	50.00	55.44	60.73	66.08	71.49	76.96	82.3
Commercial LPG	3.12	0.07	0.07	0.07	80.9	0.83	1.44	2.40	3.42	4.67	5.99	7.28	8.64	10.08	11.61	13.22	14.92	16.72	18.62	20.63	22.76	24.85	27.05	29.36	31.80	34.3
			: }	· · · · · · · · · · · · · · · · · · ·	· ·							: 										:				
Electricity Industry Electricity	9.00	0.00	i 0.80	0.00	0.00	0.80	9.00	: 9.80	0.0 0	0.00	0.00	0.80	9,00	0.80	: 0,80	0.01	0.01	0.04	8 84	0.01	0.64	0.04	0.04			
Residential Electricity	0.01	0.01	0.01	0.01	0.01	0.01	8,84	8,01	0.00	9.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.91 0.02	9.91 0.82	0.01	9.01 9.02	0.01 0.02	0.01	0.01	0.01	0.0
Commercial Electricity	0.05	0.05		0.06	0.06		0.07	0.07	6.08	9.08	0.09	0.09	0.10	0.10	0.11	0.12	0.02	0.02	0.02	0.02 0.15	8.02 8.15	0.02 0.16	0.02 0.17	0.02 0.18	0.02 0.19	0.0 0.2
			1	į.				4													:				1	
Potential Substitution Total to HG	5.60	2.02	1.63	2.26	2.42	3.63	4.73	6.97	9,37	14.88	20,60	26.28	32.16	38.25	44,55	51.88	58.39	65.95	73.77	81.86	90.23	98.34	105.64	115.15	123.86	132.5
Total Energy Consumption (MMCFD)	591,14	521.58	587.83	595.73	627.94	561.39	708.18	746.57	798.67	142.01	229.58	953.18	1,009.37	1,001.30	1,130.13	1,195.03	1,263.18	1,334.84	1,410.38	1,483.88	1,573.52	1,651.84	1,732.15	1,817.00	1,905.78	1,997.8
Total by Sector				Antonia Sasarana	Engare assumanas E		£		\$ 10 A.A 0 A.A.A											constant of		· · · · · · · · · · · · · · · · · · ·				order Albania
Industry	0.12	0.12	0.13	0.14	0.14	8.15	0.18	8.21	0.25	₽,29	0.34	8.39	9.45	0.50	9.56	0.62	0.69	0.76	9.83	0.91	0,99	1.07	1.15	1.24	1.33	1.4
Transportation	9.01	0.01	0.01	0.01	0.01	8.01	9.01	0.02	9.02	8.02	0.02	0.02	9.02	0.02	0.02	8.03	0.03	0.03	9.83	0.04	0.04	0.04	0.04	0.04	0.05	8.0
Residential	2.29	1.76	1,36	1.98	2.13	2,62	3.03	4.26	5,60	9.80	14.14	18.47	22.93	27.51	32.22	37.06	42,59	48.27	54.18	60.08	66.23	72.15	78.16	84.24	90.40	96.4
O		0.40	0.42	0.13	8.14	. 0.89	1.51	2.48	3,51	4.76	8,09	7.39	8.77	10,22	11,75	13,37	15.08	16,90	18.81	20.83	22.97	25.08	27.29	29,62	32.08	34.6
Commercial	3.18	0.12	0.13	0.13					è :		,															
	3.18	U.12	0.13					Į	• •															(/5** 2
Total by Fuel						-)	6.04	0 04			0.04	0.44	0.04	0.04	0.64	0.04	0.04	A PS		0.00	0.55	0.00		/2/. 2 .
Total by Fuel Mo Gasoline	0.01	0.01	9.01	0.61	0.01	0. 01	0.01	B.81	0.01 3.64	9.81	0.01	0.01	9,01 5.76	0.01		0,01	8.01 2.00	9.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	D.0
Total by Fuel Mo Gasoline Kerosene	0.01	0.01 1.54	9.01 1.13	8.01 1.74	0.01 1.87	B.81 2.34	0.01 2.71	3.13	3.61	4.14	0.01 4.71	0.01 5.22	5.76	6,31	6.88	7.47	8.89	8.72	9.38	10.06	10.77	11.40	12.05	12.73	13.42	14.1
Total by Fuel Mo Gasoline Kerosene Diesel	0.01 2.08 6.90	6.01 1.54 0.00	9.81 1.13 0.01	8.01 1.74 0.01	0.01 1.87 0.01	D.01 2.34 0.01	0.01 2.71 0.01	3.13 0.01	3.61 0. 02	4.14 8.04	0.01 4.71 0.06	0.01 5.22 0.07	5.76 0.09	6,31 0,11	6.88 0.13	7.47 0.16	8.09 0.18	8.72 0.20	9.38 0.23	10.06 0.26	18.77 8.29	11.40 0.32	12.05 0,35	12.73 0.38	13.42 0.41	14.1 0.4
Total by Fuel Mo Gasoline Kerosene Diesel Fuel Oil	0.01 2.08 6,00	0.01 1.54 0.00	9.01 1.13 0.01 6.01	0.01 1.74 0.01 0.01	0.01 1.87 0.01 0.01	9.01 2.34 9.01 9.01	0.01 2.71 9.01 0.02	3.13 0.01 0.03	3.61 0. 02 0. 04	4.14 0.04 0.06	0.01 4.71 0.06 0.87	0.01 5.22 9.07 0.08	5.76 0.09 0.10	6,31 0,11 0,11	6.88 0.13 0.43	7.47 0.16 0.15	8.09 0.18 0.16	8.72 0.20 0.18	9.38 0.23 0.20	10.06 0.26 0.23	10.77 0.29 0.25	11.40 0.32 0.27	12.05 0,35 0,29	12.73 0.38 0.32	13.42 0.41 0.34	14.1 0.4 9.3
Total by Fuel Mo Gasoline Kerosene Diesel Fuel Oil LPG Electricity	0.01 2.08 6.90	6.01 1.54 0.00	0.01 1.13 0.01 0.01 0.42	8.01 1.74 0.01 0.01	0.01 1.87 0.01 0.01	8.01 2.34 0.01 0.01 1.24	0.01 2.71 9.01 0.02	3.13 0.01 0.03 3.70	3.61 0. 02	4.14 8.04	0.01 4.71 0.06	0.01 5.22 0.07	5.76 0.09	6,31 0,11	6.88 0.13 0.43 37.27	7.47 0.16	8.09 0.18	8.72 0.20	9.38 0.23	10.06 0.26	18.77 8.29	11.40 0.32	12.05 0,35	12.73 0.38	13.42 0.41	0.0 14.1 0.4 0.3 117.4 0.2

Table C-2 Potential Demand of Natural Gas (NCR: L1 Area)

Potential Substitution to NG by Fuel

Columbia Substitution to NG by rite; Study Area in Southern Tagalog (L.2 Area):						· :															:					
	2000	2001	2002	2063	2004	2005	2006	2507	288	2005	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2621	2022	2023	2024	2025
				• · · · · · · · · · · · · · · · · · · ·																L. 7- 17			<u> </u>			
Mo Gasoline										-	:															
Transportation Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.98	0.00	9,00	0.00	0.00	0.01	0.01	0.81	0.01	0.01	0.01	0.01	9.01	0.01	0.01
Kerosene																Ē					-					
Residential Kerosene	0.34	0.28	0.20	0.31	0.33	0.41	0.47	8.54	0.62	0.71	0.80	0.88	0.96	1.05	1.14	1.24	1.33	1.43	1.54	1.65	1.76	1.85	1.95	2.06	2.17	2.27
Diesel									٠.			>														
Industry Diesel	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.0₽	9,01	0.02	0.02	0.03	0.04	0.05	0.05	0,06	0.07	0.08	6.09	0.10	0.11	0.12	0.13	0.15	0.16
Transportation Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.90	0.00	0.00	0.00	0.00	0.00	9.01	9.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	9.01
Fuel Oil		:																		:						
Industry Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	8.81	0.01	0.01	6.82	0.02	0.02	0.03	0.83	0.84	0.04	0.05	0.05	0.06	36.0	0.07	0.08	0.08	0.09	0.10	0.11
Transportation Fuel Oil	0.00	0.00	6,00		0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Commercial Fuel Oil	0.00	0.00	9.00		9.00	0.00	0.00	0.00	0.00	9.00	9.90	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	9.01	0.01	0.01	0.01	6.01	0.01	8.01
LPG				: } ·· ·· ·										Í Í				-		<u>.</u>		: 				
Industry LPG	8.04	6.04	0.05	9.85	0.05	0.05	0.06	0.07	9.08	80.0	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21	0.23	0.24	0.26	0.28
Residential LPG	0.04	0,04	0.04		0.64	0.05	0.05	8.19	0.33	0,92	1.54	2.15	2.77	3.42	4.87	4.75	5.52	6.32	7.13	7.96	8.81	9.63		11.30	12.14	12.96
Commercial LPG	8.52	0.01	0.01	0.01	0.01	0.14	0.24	0.40	0.56	0.76	0,97	1.18	1,39	1.62	1.86	2.12	2.39	2.67	2.97	3,29	3.62	3.95		4.65	5.04	5,44
· · · · · · · · · · · · · · · · · · ·]					:				:						:					******	: 2122		,,,,,		
Electricity										- 1								:		: · · · · · · · · · · · · · · · · · · ·						
Industry Electricity	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residential Electricity	0.00	0.00	0.00		9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Electricity	0.01	9.91	0.01	0.01	9.01	9.61	9.01	9.91	9,01	0.01	9.02	0.02	9.02	8.02	0.02	0.02	0.02	0,02	0.02	9.02	9.03	0.03	0.03	0.03	0.03	0.03
Potential Substitution Total to NG	0.96	0.39	0,32	0.43	0.46	0.68	0.86	1.23	1.63	2.53	3.47	4.38	5.33	6.32	7.33	8.38	9.55	10.76	12.00	13.29	14.62	15.90	17.21	18.55	19.92	21.29
Total Energy Consumption (MMCFD)	134.40	149.11	184.03	168.45	198.48	188.81	201.46	218.56	224.41	234.79	249.86	264.85	278.96	294.62	311,89	328.42	346.63	365.91	386.29	407.60	438.52	451.52	473.55	496.66	520,89	546,17
<u> </u>		ļ												<u> </u>						laan sa			:	,		
Total by Sector		0.05		0.05	, D.A.C	0.00		9.00	2.00				A 47	1			4 44	. :				3				
industry	0.04 0.00	0.05 0.00	0.05 0.09		0.05 0.01	0.96 0.91	9.07 9.01	0.68 0.81	0.09	0.11	0.13 0.91	0.15	0.17	0.19	0,21	0.24	0.26	0.29	0.32	0.35	0.38	8.41	0.44	0,47	9.51	0.55
Transportation	9.38	0.00 0.32	0.24		0.37		9.61 9.53	0.73	0.01 0.95	0. 6 1 1. 6 3	2.34	0.01 3.03	8.01		9.01 5.22	0.01 5.99	0.01 6.86	6.61	0.01	0.01	0.81	9.02		9.02	0.02	0.02
Commercial	9.53	0.02	0.02			0.46 0.16	0.33	0.41	0.53 0.58	6.78	2.34 8.99	1.20	3.74 1.42	4,47 1,65	1.89	2.14	2.42	7.76 2.70	8,67 3.90	9.61 3.32	10.57 3.66	11.4 9 3.99		13.36 4.70	14.31 5.08	15.2± 5.46
	1		4.44					7 (1.	:	5. 4	7,55		11-12	1.93		2.17	2.12	2.10	0.00	3.52	2490		7.33	7.10	2.00	O. ret
Total by Fuel				1					1													f : :				
Mo Gasoline	8.00	9.00	0.00	0.00	0.00	6,00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.01	0.01	0.01	9.01	0.01	0.01	0.01	0.01	0.04
Kerosene	0.34		9.20	0.31	8.33	0.41	0.47	8.54	6.62	0.71	9.80	98.0	9.96	1.05	1.14	1,24	1.33	1.43	1.54	1.65	1.76	1.85	1.95	2.06	2.17	2.2
Diesel	0.80	0.00	9.00		0.00	9,00	0,00	0.01	0.01	0.61	9.02	0.03	9.04	0.04	0.05	9.06	0.07	80.0	0.09	0.10	0.11	9.12	0.13	0.14	0.16	. 0.1
Fuel Oil	0.00	9.90	0.00		0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.03	0.03		9.84	0 ,05	0.05	9.06	0.07	0.07	80.0	0.09		0.10	0.11	0.1
LPG	0.60	0.10	0.10		0.11	0.25	0.38	0.65		1,77	2.60	3.43	4.28		6.07	7.00	8.08	9.15	10.28		12.64	13.80		16,20	17.44	18,68
Electricity	0.01	0,01	0.01	0.61	0.91	0.01	0.91	0.02	0.02	0.02	0.02	9.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	8.03	0.03	0.03	0.03	0.04	0.04	0.04

Table C·3 Potential Demand of Natural Gas (Southern Tagalog: L2 Area)

Potential Substitution to MG by Fuel

Charles		•	Control	1 11700	4 3	Ares
- TIME	ALC: U	m	COLLIN	LUZURI	11.3	~ 61

Study Area in Central Luzon (L3 Area)	2900	2001	2002	2903	2004	2005	2996	2007	2000	2009	2010	2011	2012	2013	2014	2016	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Mo Gasoline		4.4								1						* * *								•		
Fransportation Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.0
			-																							
Residential Kerosene	0.12	0.10	0.07	0.11	0.12	8.14	0.17	0.19	8.22	0.25	0.28	0.32	0.35	0.38	0,41	0.45	0.48	0.52	32.0	0.60	0.64	83.0	0.72	9.75	0.79	0.83
Diesel								•		;											-				•	
Industry Diesel	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	9.09	0.01	0.91	0.01	0.02	8.02	9.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.97
Transportation Diesel	0.00	0,00	0.00	0.00	0,00	0.00	0.00	9.90	9.00	0.00	6.00	0.00	0.00	0.00	9.00	0.00	0.00	6.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00
Fuel Oil	}		: -			ļ ļ. :		i			:			:										:		
Industry Fuel Oil	0.00	0.00	0.00	6.00	9.00	0.00	0.00	0.00	0,01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	9.03	0.03	0.03	0.03	0.04	0.04	0.04	0.08
Transportation Fuel Oil	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.09	6.0€	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00
Commercial Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	9.91
LPG				ļ			<u>.</u>	1														:		:	1	
Industry LPG	0.02	0.02	0.02	0.02	8.02	0.02	0.03	0.03	0.03	0.04	0.84	6.04	0.05	9.05	0.06	0.06	0.07	ŏ.ò7	0.08	0.08	0.09	0.09	0.10	0.11	0.11	9.13
Residential LPG	0.01	0.01	6.01	9.01	0.02	9.02	0.02	0.07	0.12	0.34	0.56	0.79	1.02	1.25	1.50	1.75	2.04	2.33	2.63	2.94	3.26	3.57	3.88	4.19	4.51	4.82
Commercial LPG	9.18	0.00	0.00	9,60	9.09	0.06	0.09	0.14	0.20	0.28	0.36	0.43	0,51	9.60	0.69	9.78	88.0	0.99	1.10	1.22	1.34	1.46	1.59	1.73	1.87	2.02
Electricity								<u> </u>																		
Industry Electricity	0.00	0.00	0.00	0.00	0,00	0.00	0 .0 0	0.90	0,00	9.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80
Residential Electricity	0.00	9.00	0,00	0.00	0.00	0.00	0 .0 0	0.00	0.00	9.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	9.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial Electricity	0.00	0.00	9.00	0.00	9.00	0,00	0.90	0.00	0.00	0.01	0.01	0.01	0.01	0.01	9.01	0.01	0.01	0.81	0.01	10.0	0.01	9.01	0.01	0.01	0.01	0.04
Potential Substitution Total to HG	0.33	9.1	0.12	0.15	0.17	0.24	0.31	0.45	0.59	6.92	1.27	1.61	1.96	2.33	2.70	3.09	3.53	3.98	4.45	4.93	5.43	5.91	6.40	6,90	7.42	7.9
Total Energy Consumption (MMCFD)	63,29	69,81	65.00	5 57.84	72.76	78.11	81.25	14.88	90.50	94.64	190.76	106,53	112.81	118.99	125,72	132,79	140.24	148.13	156.47	165.29	174.60	183.23	192.29	291.79	211,76	222.18
Total by Sector	,		1		ļ.,		: . ! !	ļ	: • • :		,		1				· · · · · · · · · · · · · · · · · ·					:			}	
Industry	0.02	0.0	0.82	2 0.02	0.02	0.02	0.83	0.03	6.04	9.05	9.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	8,14	0.15	0,16	0,18	0.19	0.20	0.22	0.2
Transportation	0.00	0.0					0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	9.01	0.01	0.01	0.61	0.01	0.01	0.01	0.8
Residential	0.13	0.1							0.34	8.59	0.85	1.10		1,63	1.91	2.20	2.52	2.85	3.19		3.90	4.25	4.60	4,95	5.31	5.60
Commercial	0.18	0.0							9.21	9.28	0.36	0.44		0.60	0.69	0.79	0.89	1.00	1.11	1.23	1.35	1.48	1.60	1,74	1.88	2.03
Total by Fuel	<u>:</u>	-		, j				1			*	 -	}					: :								
Mo Gasoline	0.00	0.9	0.0	0.00	0.04	0.00	9.08	0,00	99.0	0.00	0.00	9.00	9.00	0.00	0.00	9.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kerosene	0.12	D.1	0.0	7 0.11	0.12	2 0.14	0.17	0.19	0.22	0.25	0.28	0.32	9.35	0.38	9.41	0.45	0.48	0.52	8.56	0.60	0.64	0.68	0.72	0.75	0.79	0.83
Diesel	0.00	0.0	0.0	0.00	0.00	0.00	9.00	0.00	0.00	8.01	0.91	0.01	0.02	0.02	0.02	0.03	0.83	0.03	9.04	0.04	0.05	0.05	0,06	30.0	0.07	0.0
Fuel Oit	0.00	0.0	0.0	0.00	9,00	0.00	8.00	0.00	0.01	0.01	0,81	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	9.83	0.03	0.04	0.04	0.94	0.05	0.0
LPG	0.21	0.9	4 0.0	4 0.04	8,04	4 0,09	0.13	0.24	9.36	0.65	9.96	1.26	1.58	1.90	2.24	2.59	2.98	3.39	3.84	4.24	4.69	5.12	6.57	6.03	6.49	6.9
Electricity	0.00	0.0	0.0	0.00	0.00	8 0.00	9.01	0.61	0.01	8.01	0.01	0.01	0.01	0.01	9.01	0.01	0.81	0.01	9,01	0.01	0.01	0,81	0.01	0.01	0.01	0.0

Table C-4 Potential Demand of Natural Gas (Central Luzon: L3 Area)

Potential Substitution to NG by Fuel

Fuel Oil

Electricity

LPG

Study Area in Central Visayas (CM Area	·—,—			******				·				****				· 2222 · · · · · · · · · · · · · · · ·										
	2000	2001	2002	2003	2004	2005	2006	2007	2000	2000	2010	2011	2012	2013	2014	2015	2018	2017	2018	2018	2020	2021	2022	2823	2824	2025
le Geseline				:													1									
ransportation Gasoline	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.09	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.0
erosene										}														-		
esidential Kerosene	0.12	9.09	0.07	0.10	€.11	0.14	9.16	0.19	0.21	0.25	0.28	0.31	0.34	0.37	0.41	0.44	0.48	0.52	0.56	0.60	0.64	0.67	0.71	0.75	0.79	8.0
		}					!															,		-		
esel							1											:						. :		
dustry Diesel	0.00	0.90	0.00	9.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.01	0.01	0.01	0.01	0.02	9.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.0
ansportation Diesel	0.00	0.00	0.00	9.00	9,90	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.0
uel Oil									:		-			٠.		-										
dustry Fuel Oil	0.80	0.00	0.00	0.00	0.00	9,00	0.00	6.00	0.00	0.00	0.00	9.01	0.01	9.01	0.01	0.81	0.01	0.01	9.01	0.02	0.02	0.02	0.02	0.02	0.02	0.0
ransportation Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Commercial Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00	. 0.00	0.00	0.00	9.01	0.0
, , , , ,		, , <u></u> , <u></u>									i.								:							
ndustry LPG	0.01	0.01	9.01	0.01	0.01	0.01	0.02	6.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	20.0	0.0
Residential LPG	0.01	0.01	0.01	9,91	0.02	0.02	0.02	9.97	0.12	0,33	0.56	0.78	1.61	1.25	1,49	1.74	2.03	2.33	2.63	2.94	3.26	3.57	3,89	4.20	4.52	4.8
Commercial LPG	0.18	0.00	0.00	0.60	0.00	0.05	0.09	0.14	0.28	0.28	0.35	0.43	0.54	0.60	83.0	0.78	88.0	0.99	1.18	1.22	1.34	1,46	1.59	1.73	1.87	2.0
Electricity								-							· · · · · · · · · · · · · · · · · · ·		!		. :					:		
ndustry Electricity	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.00	0.00	0.0
Residential Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	0.00	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.0
Commercial Electricity	0.00	0.00	0.00	0.00		6.00	0.00	9.08	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	9.81	0.01	0.01
Potential Substitution Total to HG	0.32	0.13	0.10	6,14	0.16	0.23	0.29	0,42	0.57	0.89	1.23	1.57	1,92	2.28	2.65	3.04	3.47	3.92	4.38	4.86	5.35	5.83	6.32	6.83	7.34	7.88
Total Energy Consumption (NAMCFD)	47.82	52.14	57.87	59.40	63.82	66.74	71.31	74.44	79.43	83.02	88.44	93.56	44.9 2	104.57	118.51	116.76	123.33	130.36	137.66	145.46	163,67	161.26	163.21	177.56	186,31	195,44
the time the constitution (wants of			31.01	****	1		* 1271	1 200	10.00	-		-		19431	110.01			130.30	131.25	170/70	19991	10120	19342.1	111.30	199.4	120.7
lotal by Sector												:														
ndustry	0.01	0.01	0.01	9.01	0.01	0.81	0.02	0.02	0.02	9.03	9.83	8.04	0.84	0.05	0,05	0.06	0.07	9,07	80.0	0.09	0.09	0.19	0.11	0.12	0.13	0.1
Fransportation	9.00	0.00	6.00	8.00	9.00	0.00	0.00	90.0	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	6.00	0.60	0.01	0.01	9.01	0.01	0.01	0.01	0.01	6.04
Residential	8,13	0.11	80.0	0.12	0.13	0.16	0.18	9.25	0.33	8.58	0.84	1.09	1.36	1.63	1.90	2.19	2.51	2,85	3.19	3,54	3.90	4.25	4.60	4.96	5.32	5.6
Commercial	0.18	0.01	0.01	0.01	0.91	0.05	0.09	0.15	0.21	0.28	0.36	0.44	0.52	0.60	0.69	0.79	0.89	1.06	1.11	1.23	1.35	1.48	1.61	1.74	1.89	2.0
otel by Fuel						l											<u> </u>						!		:	$\alpha = I$
Mo Gasoline	0.00	0.00	0.00	9.00	0.06	0.00	0.80	0.00	0.00	0.00	0.00	8.00	0.00	0.00	9.00	9.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Kerosene	0,12	0.09	0.07	0.18	0.11	0,14	0.16	9.19	0.21	0.25	0.28	0.31	8.34	0.37	0,41	0.44	9.48	0.52	0.56	0.60	0.64	8,67	0.71	0.75	0.79	0.83
N		0.00	4.00			0.00					0.04			0.04		~ ~~		0.00	0.00	2.00	4.44		* **			

Table C-5 Potential Demand of Natural Gas (Central Visayas: CM Area)

0.01

0.93

9.01

0.01

1,24

0.81

0.01

1.55

0.81

0.01

1.88

0.01

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2.21

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0.01

2.56

0.01

0.02

0.01

2.95

9.91

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0.02

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0.82

8.92

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0.02

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0.03

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0.02

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0.03

0.00

0.03

0.00

Potential Substitution to HG by Fuel

Study Area in Southern Mindanao (D Area)

Total Energy Consumption (MMCFB)

Total by Sector Industry

Transportation

Total by Fuel

Mo Gasoline

Kerosene

Diesel

LPG

Fuel Oil

Electricity

Residential

Commercial

49.13

0.01

9.00

0.13

0.19

0,00

0.12

0.00

0.00

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8 43

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6.21

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8 44

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0.00

2002 2003 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2823 2824 2625 Mn Geenline Transportation Gasoline 0.00 0.00 9.00 0.00 0.00 0.00 0.00 0.00 0,00 0.00 0.00 6.00 0.00 0.00 0.00 0.000.00 0.00 0.00 0.00 0.00 9.00 0.00 0.00 Kerosene Residential Kerosene ŭ.12 0.07 0.050.08 0.13 0.15 0.18 0.20 0.23 0.26 0.28 0.31 0.34 0.37 0.40 0.430.46 0.50 0.53 0.57 0.600.63 0.67 0.70 Diesel Industry Diesel 0.00 0.00 0.000.00 0.000.000.00 0.00 0.00 0.00 0.600.01 0.010.01 0.01 0.01 0.01 0.02 11.02 0.82 0.02 0.02 0.03 0.83 0.03 0.04 0.00 :Transportation Diesel 0.00 0.00 0.00 0.00 0.00 a.aa 0.00 0.00 0.00 0.000.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 6.08 60.0 0.00 0.00 0.00 Fuel Oil Industry Fuel Oil 0.00 A OO a.na 0.00 0.00 0.00 0.00 0.00 8.60 0.00 0.00 0.01 9.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.02 0.02 0.02 Transportation Fuel Oil 0.000.00 0.00 0.00 0.00 0.009.00 0.00 0.00 0.00 0.00 8.08 0.00 0.00 8.00 0.00 09.0 0.000.00 0.00 0.00 0.00 0.090.00 0.00 0.00 0.00 0.00 0.00 Commercial Fuel Oil 0.00 0.000.00 6.60 0.00 0.00 0.00 0.000.00 0.00 0.00 0.00 0.00 0.000.00 0.00 0.00 0.00 0.06 0.00 0.00 0.00 0.00 LPG Industry LPG 0.81 0.01 0.019.01 0.01 0.01 0.01 0.01 0.02 0.02 0.02 0.02 0.02 0.03 0.03 0.03 9.030.04 0.04 0.04 0.04 0.05 0.65 0.05 0.08 0.06 Residential LPG 0.61 8.01 0.04 8.64 0.01 8.81 0.02 86.0 8.10 0.28 0.47 88.0 0.85 1.05 1.26 1.47 1.72 1.97 2.23 2.50 2.77 3.04 3.31 3.58 3.86 4.13 Commercial LPG 0.18 9.00 0.000.000.000.040.07 0.12 8.17 0.23 6.30 0.38 0.43 0.50 0.589.66 9.74 0.83 0.93 1.03 1,14 1.24 1.35 1.47 1.69 1.72 Electricity Industry Electricity 0.00 0.00 0.00 9.00 0.00 9.00 0.00 Residential Electricity 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 80.9 9.00 0.00 0.00 0.0000.0 0.00 0.00 0.00 ስ በሰ ត ពក 0.00 0.00 0.00 0.00 Commercial Electricity 0.900.00 0.00 0.60 0.00 0.00 0.00 0.00 9.00 0.00 0.00 0.00 0.00 0.61 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 Potential Substitution Total to NG 0.33 0.19 0.09 8.11 8.12 81.0 0.24 ₽.35 0.74 0.47 1.03 1,32 1.61 1.92 2.23 2,56 2.93 3.34 3.71 4.12 4.54 4.96 6.38 5.81 6.25 6.70

73.01

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62.40

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0.00

0.91

0.37

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9.01

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87.23

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0.00

0.28

9,01

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1.31

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\$2.25

0,84

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97.54

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0.34

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103,11.

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8.37

0.01

0.61

2.16

0.01

115.18

0.06

0.00

2.40

0.84

0.00

0.43

0.02

0.01

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0.01

100.56

6,06

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0.03

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0.01

121.75

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3.20

0.01

128.70

0.08

0.01

3.00

1.04

0.00

0.50

0.02

0.02

3.57

0.01

135.85

6.08

0.01

3.31

1.15

0.00

0.53

0.03

0.02

3.95

0.01

142.93

0.09

0.01

3.61

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9.00

8.57

0.03

0.62

4.33

0.91

150.15

8.10

0.01

3.91

1.37

£.00

0.60

0.03

6.62

4.71

9.01

69,89

9.02

0.00

0.27

0.17

0.00

8.18

0,89

0.00

0.28

0,00

Table C-6 Potential Demand of Natural Gas (Southern Mindanao: D Area)

157.63

0.11

0.01

4.22

1.48

0.00

0.63

0.03

0.07

5.11

0.01

165.47

0.11

0.01

4.63

1.61

0.00

0.87

0.04

0.03

5.51

0.01

173.67

0.12

0.01

4.84

1.74

0.00

6.70

8.04

0.03

5.91

0.01

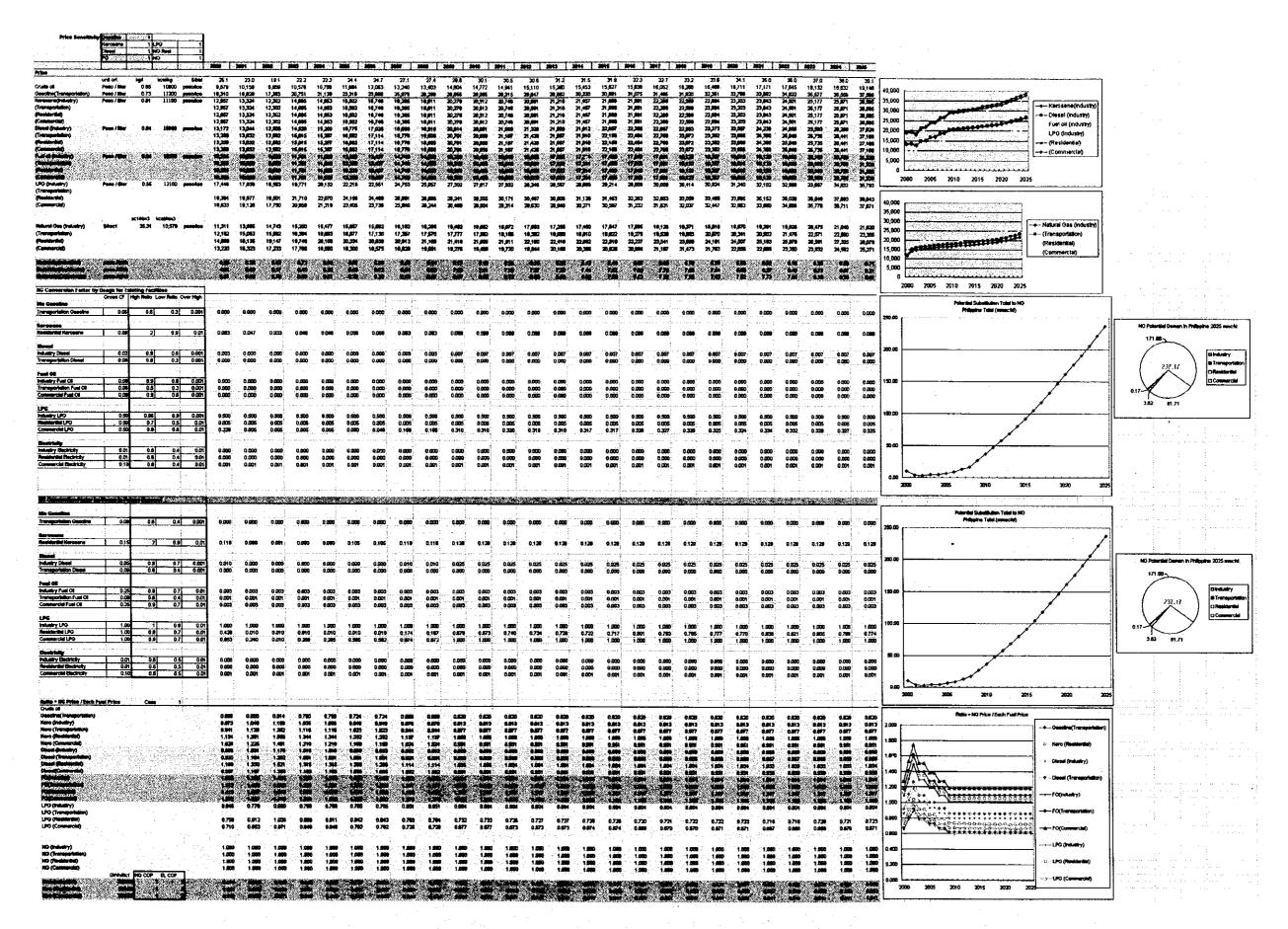


Table C-7 Price and Conversion Factor & Results of Estimation

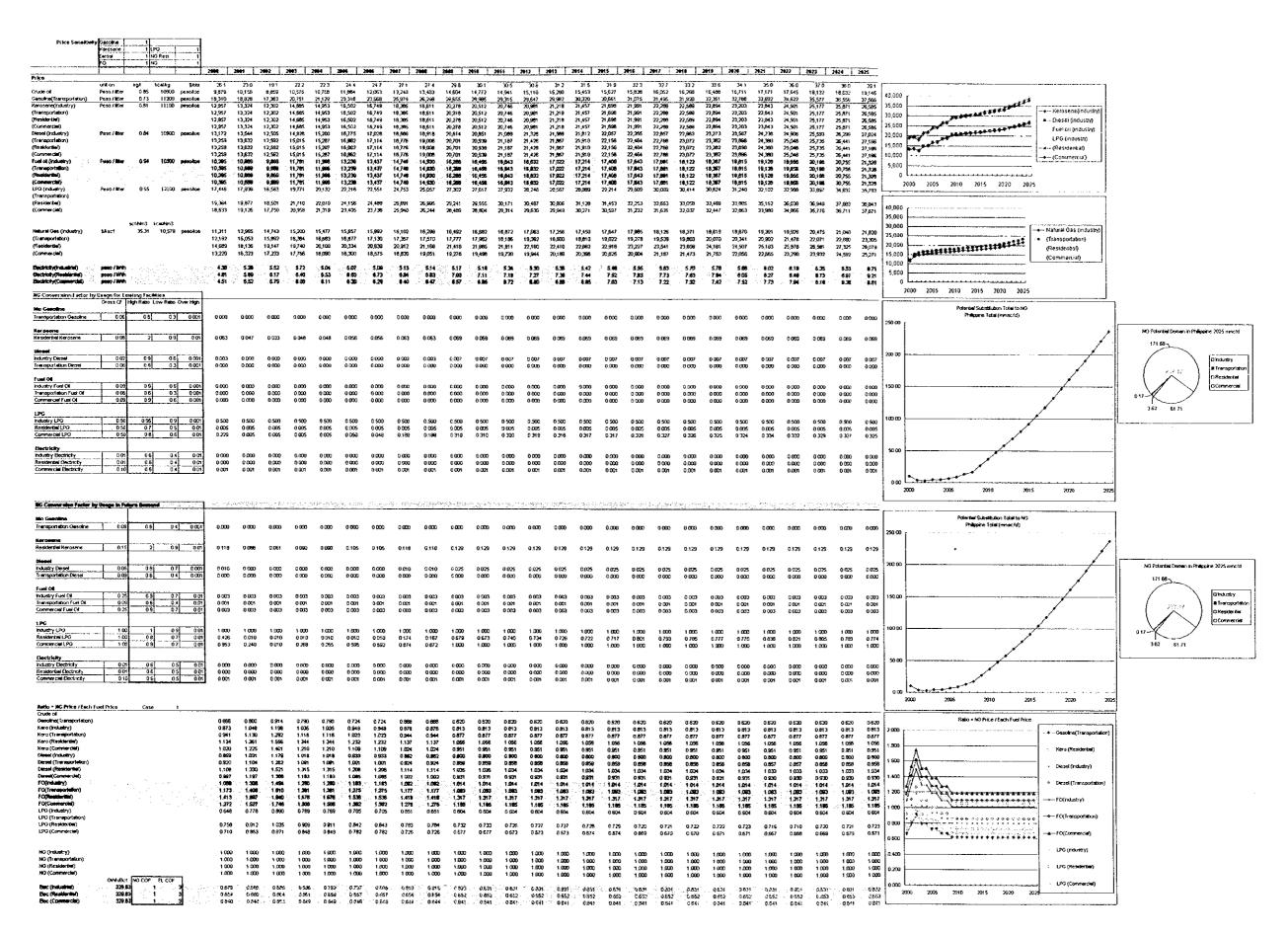


Table C-7 Price and Conversion Factor & Results of Estimation

Philippins
Petroleum Product Consumption by Secto
Mo Gesoline (in Idoe) E≥ DGE Date 123 Special Formula 1. NOUSTRY 1. NOUSTRY
Beverage
Totacco
Coco/Vegetable Oil
Suger
Other Food products
Texttes/Apparete
Wood Product/Furniture
Paper Product/Furniture
Paper Product/Furniture
Fortitizer
Futitizer
Futitizer
Guitas-Futitizer
Fortitizer
Colless/Guitas-Product
Colless/ Other Non-Metallic Mineral Mining Construction 2. TRANSPORT
Relivroy
Road Transport
Internal Water Transport
Domestic Air Transport 3,172 3,579 3,905 3. AORICULTURE 4. RESIDENTIAL/COMMERCIAL Residential Commercial Wholesale Trade Finance & Housing 5. GOVERNMENT 6. OTHERS, N. E. C. 6. TRANSFORMATION Power Consention NPC Other private Electric Own Use Power Losses TOTAL (Mos) Excluding Transformer Excluding Transp (A) TFC EA Delta (Idoe) Ind EA Delta (Idoe) (B) Miscellaneous calc. 1.378 2.228 Equirement so HG mmeetd NOHV (JICA) 10011 kcelm3152 283,478 ## NO Int (ACA) 10011 localino 15.5
Total as NO muscid
Industry as NO sensord
Transportation as NO muscid
Residential as NO muscid
Residential as NO muscid
Commercial as NO muscid
Convernment do, as NO muscid
Power Generation as NO muscid 263,478 133.26 0.00 133.26 0.00 0.00 0.00 0.00 149.13 0.00 149.13 0.00 0.00 0.00 0.00 155.79 0.00 155.79 0.00 0.00 0.00 0.00 0.00 150.29 0.00 150.29 0.00 0.00 0.00 0.00 182,76 0.00 182,76 6.00 0.00 0.00 0.00 215.14 0.00 215.14 0.00 0.00 0.00 0.00 0.00 241.33 0.00 241.33 0.00 0.00 0.00 0.00 281.24 0.00 261.24 0.00 0.00 0.00 0.00 0.00 279.61 0.00 279.61 0.00 0.00 0.00 0.00 306.52 0.00 306.52 0.00 0.00 0.00 0.00 353.85 0.00 353.85 0.00 0.00 0.00 377.41 0.80 377.41 0.00 0.00 0.00 0.00 274.48 0.60 274.48 0.00 0.00 0.00 0.00 0.00 277.24 0.00 277.24 0.00 0.00 0.00 0.00 345.86 0.00 345.86 0.00 0.00 0.00 0.00 369.32 0.00 369.32 0.00 0.00 0.00 0.00 409.62 9.00 409.52 0.00 0.00 0.00 0.00 419.13 0.00 419.13 0.00 0.00 0.00 0.00 472.21 0.00 472.21 0.00 0.00 0.00 0.00 0.00 492.23 0.00 492.23 0.00 0.00 0.00 0.00 534.56 0.00 534.56 0.00 0.00 0.00 0.00 558.98 0.00 558.98 0.00 0.00 0.00 580.31 0.00 580.31 0.00 0.00 0.00 830.25 0.00 630.25 0.00 0.00 0.00 0.00 862.46 0.00 862.46 0.00 0.00 0.00 0.00 438.93 0.00 439.99 0.00 0.00 0.00 0.00 450.34 0.00 450.34 0.00 0.00 0.00 0.00 804.63 0.00 604.63 0.00 0.00 0.00 0.00 665.29 0.00 585.29 0.00 0.00 0.00 0.00 742.05 0.00 742.05 0.00 0.00 0.00 0.00 0.00 770.46 0.00 770.46 0.00 0.00 0.00 0.00 714.72 830.62 9.00 512.99 0.00 0.00 0.00 0.00 0.00 657.14 0.00 0.00 0.00 0.00 0.00 630.62 0.00 630.62 0.00 0.00 0.00 0.00 0.00 714.72 0.00 0.00 0.00 0.00 0.00 NO EA as NO muscid Legist Sector of HG Sobisti

1. INDUSTRY
2. TRANSPORT
3. AGRIGATURE
4. RESIDENTIAL
COMMERCIAL
5. GOVERNMENT
6. OTHERS, N. E. C.
7. Miscolimicous
8. TRANSPORMATION
TOTAL (Most) 0.00 3,859.24 0.00 0.00 0.00 0.00 0.00 0.00 0.00 3,659.24 0.00 0.00
8,277.23 8,594.41
0.00 0.00
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							<u> </u>		- :				:		<u> </u>	<u>-</u>	: <u>:</u> -					· · : -			· <u> </u>	<u> </u>	• - : }		: -						· !-	· · · · · · ·
9.98 0.00	9.25 0.00	12.75 0.00	15.64	18.74	16.89	19.37	19.57 0.00	25.49 0.00	22:22	18.97	17.59 1.52	16.57	19.31	20.11	20.93	22.10	23.36	24.81	26.35	27,98	29.72										51.98	54.94	57.85 0.00	60.92	64,14	67,54 8,00
5.00	6.00	6.00	6,00	7.00	7.00	7.00	8.00	8.00	9.00	9.00	2.60	2.69	2.75	2.85	2.95	3.07	3.19	3.36	3.52	9.69	3.88	4.07	4.26	4.45	.65	4.86	5.08	5.30	5.54	5.79	6.05	6.33	6.55	6.78	7.01	7.26
324.00 0.00	397.00	0.00	412.00 0.00	450.00 0.00	467.00 0.00	492.00 0.80	502.00 0.00	525.00 0.00	582.00 0.00	\$76.00 0.00	547.94 56.04	585.86 58.93	615.27 60.82	644.31 63.31	673.79 65.90	723.70 69.60	776.39 73.56	78.12	906.83 52.97	981.06 1 98.11	,058,31 1 93,57											005.07 Z 172.99	2,095.25 2 192.16		2,284.07 : 201.98	2,382,89 212.69
	0.00	0.00 63.14	0.00 41.27	0,00 40,74	0.00 42.67	0.00 39.34	0.00 41.33	0.00 53.94	0.00 40.63	0.00	19.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00			0.00 0.00				0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	62.62	42.43	-23.54	-20.65	19.21	-17.19	-16,42	-29.41	-14.24	11.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00
0.00 55.74 40.65	62.52 -40.74		0.09	0.07 496.01	0.90 535.25	0.15 539,66	0.26 554.74	0.28 583,30	0.39 : 640.01 :	0.57 634.28	0.34 645,08	0.00 676.05	0.00 698.15	0.00 730,58	0.00 763.57	0.00 818,47	0.00° 876.51	948,73 1	0.00 1,019.68	0.00 1,100.65	0.00 1,185,48 1	0.00 ,273.71 1,3	0.00 _. 355.04 1.4	0.00 39.42 1,52		0.00 7.82 1.7			0.00 11.38 2.0	0.00 16.68 2.	0.00 125.95 2	0.00 239.33 2	0.00 2.341 NO - 2	0.00 2.447.72 (0.00 2.557.21	9.00 - 2 670 36
0.00 55.74		0.02 464.49	451.47						**.			* * * * :				- 1	1.0		•		,		-1										,	,, ,		
0.00 55.74 40.65 0.09	40.74 0.06	0.02																																		
0.00 55.74 -40.65 0.09 354.17	40.74 0.06 434.20	0.02 +64.49	451.47	· ·.						- :		. :	- :																							
0.00 55.74 40.65 0.09 354.17	40.74 0.06 434.20	0.02		1.01	1.83 0.00	1.76	1.89	2.46	2.15	1.83	1.70 0.15	1.79	1.07	. 1.94 0.00	2.02	2.14 0.00	2.26 0.00	2.40	2.55 0.00	2.70	2.67	3.05	3.22 0.00			3.61 0.00		4.25 0.00	4.50 0.00	4,75	\$.02 0.00	5.31	5.59	5.89	6.20	6.53
0.00 55.74 -40.65 0.09 354.17 203,478 m 0.96 0.00 0.48	-40.74 0.06 434.20 mnkcal/Bef 0.89 0.00 0.58	0.02 464.49 1.23 0.00 0.58	1.51 0.00 0.58	1.01 0.00 0.68	0.00 88.0	0.00 0.68	0.00 0.77	0.00 0.77	0.00 0.87	0.00 0.87	0.15 0.25	0.00 0.26	0.00 9.27	0.00	0.00 0.29	0.00 0.30	0.00 0.31	0,00	0.00 0.34	0.00	0.00 0.37	0.00 0.39	0.00 0.41	0.00 0.43	0.00 0.45	0.00 0.47	0.00 0.49	0.00 0.51	0.00 0.54	0.00 0.56	0.00 0.59	0.00 0.61	0.00 0.63	0.90 0.85	0.00 0.58	0.00 0.70
0.00 55.74 -40.65 0.09 354.17 263,478 m 0.96 0.00	-40.74 0.06 434.20 www.califect 0.92 0.00 0.58 36.37 0.00	0.02 464.49 1.23 0.00 0.58 41.07	1.51 0.00 0.56 39.82 0.00	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00 0.39	0.00 0.41	0.00 0.43 24.55 13	190 1.45 2.18 14	0.00 0.47 10.09 1	0.00 0.49 48.28 15	0.00 0.51 6.75 1	0.00 0.54 65.54 1	0.00 0.56 174.63	0.09 0.59 184.64	0.00 0.61 193.78	0.00 0.63 202.50	0.90 0.65 211.48	0.00 0.58 220.75	0.70 0.70 230.30
0.00 55.74 -40.65 0.09 354.17 203,478 m 0.96 0.00 0.48 31.31 0.00 0.00	-40.74 0.06 434.20 mnkcal/Bcf 0.82 0.00 0.58 36.37 0.00 0.00	0.02 464.49 1.23 0.00 0.58 41.07 0.00 0.00	1.51 0.00 0.58 39.82 0.00	1.81 0.00 0.68 43.49 0.00	0.00 0.68 47.07 0.00 0.00	0.00 0.68 47.55 0.00 0.00	0.00 0.77 48.52 0.00 0.00	0.00 0.77 50.74 0.00 0.00	0.00 0.87 56.25 0.00	0.00 0.87 55.57 0.00	0.15 0.25 52.96 5.42 0.00	0.00 0.26 57.59 5.70 0.00	0.00 0.27 59.46 5.66 0.00	0,00 0,28 62,27 6,12 0,00	0.00 0.29 55.12 6.37 0.00	6.00 0.30 589.94 6.73 0.00	0.00 0.31 75.04 7.11 0.00	0,00 0,32 81,23 7,55 0,00	0.00 0.34 87.64 6.02 0.00	0.00 0.36 94.82 8.52 0.00	0.00 0.37 102.28 9.04 0.00	6.00 8.39 110.05 9.60 0.00	0.00 0.41 117.17 1 10.15 0.00	0.00 0.43 24.55 13 10.73 1 0.00	190 0.45 2.18 14 1.34 1	0.00 0.47 10.09 1 11.99 0.00	0.00 0.49 48.28 15 12.67 1 0.00	0.00 0.51 6.75 1 3.39 0.00	0.00 0.54 65.54 1 14.16 0.00	0.00 0.56 174.63 14.96 0.00	0.00 0.59 184.04 15.82 0.00	0.00 0.61 193.78 16.72 0.00	0.00 0.63 202.50 17.51 0.00	0.50 0.65 211.48 18.54 0.00	0.00 0.98 220.75 19.52 0.00	0.00 0.70 230.30 20.56 0.00
0.00 55.74 -40.65 0.09 354.17 263,478 m 0.96 0.00 0.48 31.31 0.00	-40.74 0.06 434.20 www.califect 0.92 0.00 0.58 36.37 0.00	0.02 464.49 1.23 0.00 0.58 41.07	1.51 0.00 0.56 39.82 0.00	1.81 0.00 0.58 43.49 0.00	0.00 0.68 47.07 0.00	0.00 0.68 47.55 0.00	0.00 0.77 48.52 0.00	0.00 0.77 50.74 0.00	0.00 0.87 56.25 0.00	0.00 0.87 55.57 0.00	0.15 0.25 52.96 5.42	0.00 0.26 57.59 5.70	0.00 0.27 59.46 5.06	0.00 0.28 62.27 6.12	0.00 0.29 55.12 6.37	0.00 0.30 589.94 6.73	0.00 0.31 75.04 7.11	0,00 0,32 81,23 7,55	0.00 0.34 87.64 8.02	0.00 0.36 94.82 8.52	0.00 0.37 102.28 9.04	6.00 0.39 110.05 9.60	0.00 0.41 117.17 1 10.15	0.00 0.43 (24.55 13 10.73 1 0.00 0.00	0.00 0.45 2.18 14 1.34 1 0.06	0.00 0.47 10.09 1 11.99	0.00 0.49 48.28 15 12.67 1 0.00	0.00 0.51 6.76 1 3.39	0.00 0.54 65.54 1 14.16	0.00 0.56 174.63 14.96	0.09 0.59 184.04 15.82	0.00 0.61 193.78 16.72	0.00 0.63 202.50 17.51	0.90 0.65 211.48 18.54	0.00 0.98 220.75 19.52	0.00 0.70 230.30 20.56
3 3 3 3 3 3	254 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	257.4 62.82 257.4	257.00 397.00 425.00 42	257.00 397.00 425.00 412.00 274.00 397.00 425.00 412.00 275.00 397.00 425.00 412.00 275.00 397.00 425.00 412.00 275.00 0.00 0.00 0.00 275.74 62.62 63.14 41.27 275.74 63.14 61.27 275.74 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.14 63.	24 00 367 00 425 00 412 00 450 00 27 00 397 00 425 00 412 00 450 00 28 00 0.00 0.00 0.00 0.00 0.00 35 74 62 62 63 14 41 27 40 84 36 36 36 36 36 36 36	24 00 367 00 425 00 412 00 450 00 487 00 127 00 397 00 425 00 00 00 00 00 00 00	124 100 397 100 425 100 412 100 487 100 489 100 487 100 489 100 127 100 397 100 475 100 412 100 450 100 487 100 489 100	124 100 397 00 425 00 412 00 450 00 487 00 482 00 502 00 124 100 397 00 425 00 412 00 450 00 487 00 482 00 502 00 125 100 397 00 425 00 412 00 450 00 487 00 482 00 502 00 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125	124 100 367 00 425 00 412 00 450 00 462 00 502 00 525 00 124 100 387 00 425 00 412 00 450 00 467 00 482 00 502 00 575 00 125 100 387 00 425 00 412 00 450 00 467 00 482 00 502 00 575 00 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125 125	124 100 397 100 425 100 412 100 480 100 487 100 482 100 502 100 525 100 582 100	124 100 397 100 425 100 412 100 450 100 487 100 482 100 525 100 525 100 526 100 578 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124	\$500	\$5.00 6.00 6.00 6.00 6.00 7.00 7.00 7.00 7	500 6.00 6.00 6.00 6.00 7.00 7.00 7.00 8.00 8.00 9.00 9.00 2.00 260 2.89 2.75 PAR 00 987.00 425.00 417.00 450.00 487.00 482.00 500.00 525.00 525.00 580.00 578.00 809.98 864.79 878.00 PAR 00 987.00 425.00 417.00 450.00 487.00 482.00 500.00 525.00 520.00 578.00 609.98 864.79 878.00 PAR 00 987.00 425.00 417.00 450.00 407.00 482.00 500.00 526.00 526.00 578.00 447.54 545.56 865.50 500.00 PAR 00 987.00 425.00 417.00 450.00 407.00 482.00 500.00 526.00 526.00 578.00 447.54 545.56 865.50 500.00 PAR 00 987.00 425.00 417.00 400.00 400.00 400.00 400.00 400.00 500.00 550.00 550.00 526.00 526.00 550	5.00 6.00 6.00 6.00 6.00 7.00 7.00 7.00 8.00 6.00 9.00 9.00 2.60 2.69 2.75 2.65 Final Street	Section Sect	500 6.00 6.00 6.00 6.00 7.00 7.00 7.00 7.00 8.00 6.00 9.00 9.00 9.00 260 269 275 265 2.95 3.07	500 6.00 6.00 6.00 7.00 7.00 7.00 7.00 8.00 8.00 9.00 3.00 2.60 2.69 2.75 2.65 2.25 3.07 3.19 574.00 587.00 425.00 412.00 450.00 487.00 487.00 482.00 502.00 525.00 525.00 526.00 578.00 503.98 644.79 578.08 707.82 739.89 739.30 849.98 574.00 987.00 425.00 412.00 450.00 497.00 402.00 500.00 500.00 578.00 578.00 578.00 578.50 582.00 578.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 582.00 578.30 578.50 578.50 582.00 578.30 578.50 578.50 582.00 578.30 578.50 578.50 582.00 578.30 578.50	5.00 6.00 6.00 6.00 7.00 7.00 7.00 7.00 8.00 9.00 9.00 9.00 2.60 2.60 2.75 2.65 2.65 3.07 3.19 3.35 7.10 3.70 3.70 3.70 462.00 467.00 467.00 467.00 507.00 5	500 600 600 600 700 700 700 700 800 600 900 900 220 280 275 285 285 307 319 335 335 345 370 370 370 370 400 400 400 400 500 500 500 500 500 50	5.50 6.00 6.00 6.00 7.00 7.00 7.00 8.00 8.00 8.00 8.00 8	500 620 620 620 770 770 770 700 800 800 800 800 800 80	500 600 600 600 800 720 720 720 70 800 000 900 900 900 900 220 225 225 225 207 319 335 335 338 388 407 100 900 900 900 900 900 900 900 900 900	500 600 600 600 770 770 770 770 800 600 800 900 900 920 220 220 220 225 307 319 335 355 350 380 407 425 1200 1200 1200 1200 1200 1200 1200 12	500 6.00 6.00 6.00 7.00 7.00 7.00 7.00 80 0.00 9.00 9.00 9.00 9.00 9.00 9.0	500 600 600 770 770 770 770 800 600 900 900 900 900 900 900 900 900 9	100 600 600 100 100 100 100 100 100 100	500 600 600 700 700 700 700 700 800 600 900 900 900 900 900 900 900 900 9	500 600 600 700 700 700 700 700 800 800 800 800 8	500 600 600 700 700 700 600 600 600 700 7	50 60 60 60 70 70 70 80 60 60 70 70 80 60 60 60 70 70 80 60 60 60 60 60 60 60 60 60 60 60 60 60	50 6.00 6.00 1.00 7.00 1.00 1.00 1.00 1.00 1.00 1	500 600 500 600 700 700 700 700 800 600 800 800 800 800 800 800 800 8	50. 500 500 500 500 500 500 500 500 500	1.00	100 600 100 100 100 100 100 100 100 100

Table C-9 Kerosene

Philippine Petroleum Product Consumption by Sector

Patroloum Product Consumption by Se Diesel (in litoe)	ctor										123 Sp	OE Detà pecial Form																										
	1966	1900	1100	1901	1942	1903	1294	1905	1906	1997	123 E	A or Calcula	2989	2801	2002	2043	2004	2005	2940	2907	2040	2009	2010	2011	2912	2913	2914	2015	2914	2017	2018 1	2919	2920	2021	2022	2023	2024	2025
1, NOUSTRY		363.83	372.56	347.55		379.26	358.31	391.53	365,90	437.06	428,43	457.13	482.73	502.04	522.63	544.05	574.52	807.27	644.92	684.90	727.37	772.46	820.36	867.12	915.54								1,428.08					
Beverage Yobecco	0 00 1 93	9 30 1 9°	0.00 0.45	9.50 2 + 7	0.60 3.50	0.00 4.44	0.00 2.04	393 341	8.69 3.18	23.54 0.64	22 54 3 76	16 37 2.93	19 82 3.15	20.61	21.46 3.41	22.34 3.55	23.59 3.75	24 93 3.97	26 48	28 12 4.47	29 86 4 75	51.71 565	33.58 5 35	35.80 5.86	37 63 5.99	33 77 6.33	42 64 6 69	44.44 7.67	46.97 7.47	49.85 ?.90	52 43 8:35	56.47 6.83	58 63 9.33	61.74 9.82	65.01 10.34	63,45 10,39	72.68	75 90 12.03
Coco/Vegetable Oil Sugar	5.93 M.36	4.52 37.35	5.35 19.47	6.11 54.42	960. 3400	9,79 36.16	926 1882	9 62 30 43	7.68 36.50	15.34 24.20	1076 2675	8 (%) 45 (%)	3.75 44.33	9.10 46.10	9.47 47.93	9 9€ 49 9€	10 41 52 75	11.63 55.78	11.69 59.22	12.41 62.39	13.18 68.79	14 00 70.93	14 67 75.33	15.71 79.62	16.61 34.18	17.55 83.96	13 56 94 63	19.61 98.38	20 73 105 05	21 31 311 04	23.16 117.37	24.40 124.05	25.80 131.13	27 25 136.08	28.69 145.40	30 21 (53.11	31.01 161.22	33.50 169.77
Other Food products	3160	55 17	55 50	54.53	63.97	6/3:09	49.00	59	01.50	48.97	45.8%	42.49	44 0?	48 £7	10.50	(0.57	\$3.41	SF: 45	53.95	6367	67.61	71.81	75.26	90 69	05.20	SO 68	95.19	199 61	106.35	112 41	118 82	105.59	13275	139 78	147.13	154,99	163 21	171.85
Textile/Apparets Wood ProductiFurniture	8.60 8197,	रूप (8.4)	7 84 47 83	7 31 43 45	3.33 37.66	7.97 93.29	5.96 5.96	579 (807)	\$74 13/3	8.61 10.65	677	4.24 3.13	4.90 3.59	5.69 3.53	539 930	5 52 9 63	5.83 10.22	6.16 (0.63	6.54	6.95 12.19	7.36 12.91	7 84 13 74	8 32 14 60	8 80 15 43	9.30 16.31	9,83 17.26	10 39	10 98 19 26	11 61 26 36	12 27 21 52	12 97 22 74	13,71 24,04	14.49 25.41	15 % 26 75	16 07 36 17	15 92 23 67	17.81 31.04	18.76 32.83
Paper Product/Printing	10.81 9.62	9.20	9.91 (4.64)	10.83	5 59 17 88	2,027 30,600	1.85 17.32	0.79 16.40	2,35	18.00	134	244	2.58	2.68	2.73 22.27	2.91	3.07 24.48	3 24 25.87	3 45	3 86 23 18	3 89 30 50	4.13 32.91	4.33	4.63	4.93	5 18	5 47	5.78	8.11	6.48	6.63	7 22	7.63	8.04	8.45	8.91	9.18	9.86
Chemical except Fortilizer Fortilizer	1.55	2 29	3 65	375	2.40	1.40	1.48	167	3.73	211	10 19	13.45 2.65	20.57	21.33 2.51	303	23 10 3 16	3 33	3.52	3.74	3.97	422	4 43.	34,95 4.76	36.94 5.03	39.05 5.32	41 27 5.62	43.63 5.94	46.11 6.28	43.74 5.54	\$1.50 7.91	54.46 7.41	57 58 7,84	60 64 8.28	64 07 6 72	67.46 9.18	71 04 9 67	74.00 10.18	78.77 10.72
Rubber/Rubber Product Glass/Glass Product	3 20 6 02	5.46 5.54	190 6.47	2.73 4.93	2.57 16.41	196	2.25 10.39	215 1264	1.33	3.2 0 5.60	217 621	226 664	2.39 7.01	2.43 7.29	2.59 7.59	2.59 2.90	2.84 8.34	3.00 8.82	3:19 9:36	3.39 3.34	3.60 10.56	3.62 11.22	4.08 11,91	4.29 12.59	4 54 13 31	4.79 14.07	5.07 14.87	5.05 15.72	5.56 18,61	5.36 17.56	6.32 19.55	6.63 19.62	7.07 20.74	7,44 21.83	7 64 22.93	9.2 5 24.21	6 6 9 25 49	9,15 26,86
Cornera	9.58	:016	11.05	9.40	12:30	14.01	15.11	15.51	1795	25 24	20.34	17.77	18.77	19.52	20.32	21,15	22 33	23,61	25.07	26.63	26 26	20,03	31.39	33.71	35 63	37 6E	33.81	42.00	44.47	47.01	19.69	52.52	55 52	56 46	61.56	64.32	63 25	71.67
Other Non-Melalic Minerals	2.54	2 4€	1.32	1.93	ત (મ	4.54	189.	1.66	1.73	3.68	K 49	1.66	1.99	2.03	2.11	2.20	2.32	2.45	260	2.27	294	3.12	3.31	3 50	3.70	391	4.14	4.37	4.62	466	516	5 45	5.27	8.07	6.39	6.73	7(4)	7.47
Dasic Metals machinery/Equipment	(5.92) (6.60)	17 94 6 (9)	27.16 0.67	1927	52.79 60%	25 64 6.00	15 40 0.49	20.00 9 (e)	(9.90± 0.00	93.45 \$43	43 (#) 13 (#)	71 (9 12.12)	75 08 12.60	78 08 13 31	81.28 13.86	84.61 14.42	89.35 15.23	34.41 16.10	100 30 17,10	106 52 18.16	113.12	120.14 20.49	127,58 21.75	134.88 22.99	142.51 24.30	150 67 25.69	153.28 27.15	158.33 26.70	177.93 30.35	188.07 37.06	138 79 33 89	210.12 35.82	222 10 37 86	233.87 39 87	248.28 41.95	259,32 44,21	273.06	287 53
												-								-									.23.33	37 Un	35.69	33 62	3) (10	35.67	4195	44 71	46.55	49 02
Mining Construction	87 94 59 30	90.39 43.25	95,22 47,96	92.94 52.79:	82 64 61 81	21 10 62 15	55.85 第17	75.45 110.37	72,73	56.50 142.41	49.07 127.32	47.69	59.88 153.72	52.76 159.87	54.881 166.42	57.11 173.24	69.31 182.95	63.75 133.37	87 70 205 36	71.90 218.00	78.38 231 62	61.03 245,98	69.52 261,23	91.03 276.12	96 22 231 85	101 70 308 49	107.56 326.68	113.63 344.68	120.10 364.31	126.95 385.07	134 181 407 62	141 83 430 22	149.92 454.76	157.86 478.85	166.23 504.23	175.04 530.95		194.60 588.72
-		:	4 200 54	4 407 04	4 075 40	2424 72	2 000 74	0.750.00			1			:		-		-				-		-								•						
Refway	1,323.54	1,034.61	1,306.51	1,407.01	1,013.63	2,124.72	3,005.71	2,750.92	2,000.20	3,003.33	2,918.33	2,023,91	2,306.93	2,301.26	3,5/3,04	3,395.22	3,963.04	4,102.64	4,442.00	4,337.33	4,820.00	Sec. 1991	5,452.48	5,830.46	6,233.VI	6,662.29	7,120.46	7 609.76	8,129.74	8,691.20	9,295.46	9,944,47 1	10,640.71 1	1,276.26 1	1,950.69 1	2,666.07 1	3,424.77 1	1,229.33
Road Transport Internal Water Transport Domestic Air Transport	1,121.64 202.00	1,420.81 234.00	1,038.51 268.00	1,125.01 282.00		1,690.72 434.00		2,349.92 407.00			2,484.33 454.00	2,332 ft. 435 64 6 97						3,536,89 565.75								5,774.70 887.59												
3. AGRICULTURE	164.02	187.85	196.63	197 37	218.23	234.95	242 83	249.42	285.08	315.45	296 67	297.17	307 10	314.78	374.70	337.20	350.68	364,71	382.95	402.08	422.20	443.31	485.47	486.43	508.31	521 12	ece no	6 9 0 67	ene 17	en 46	ee 1 oc	804.74	777 67	740 17	774.96	901.40		
	·		:							•		:							:	- 1	:					531.18	- :		7 :		-				····			
4. RESIDENTIAL/COMMERCIAL Residential	225.00 225.00	261.00 261.00	295.00 295.00	311.00		478.00	460.00 460.00	452.00 452.00	471.00 471.00	582.32 518.00	504.00	504 85	700.83 549.00	723.57 566.88	756.75 593.85	790.60	846.09 966.79	904.86 715.34	975.63	835.52	903.91	975.09	1,305.16	1,387.86	1,473.39	1,562.50	1,855.13	1,751.41	1,851.49	1,955.54	2,063.71	2,178.17	2,293.09 1.847.39	2,399.79 1.930.48	2,510.33	2,624.83	2,743.46	2,883.42
Commercial Wholesale Trade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	84 32	97.27	144.29	151.83	156.68	183.11	189.80	179.30	189.52	201.27	213.75	227.01	241.08	256.03				319.59	337.60	357.06	377,41	398.92	421.66	445.69	469.32			547.96	
Finance & Housing	:													1												-											-	
Private Service		:					:													:																		
5. GOVERNMENT											·										· — · · ·																	
8. OTHERS, N. E. C.	390.89	397.71	366.36	308.25	337.78	369.24	437.43	469.94	465.08	198.64	154.71	169.46			:	:					:					-		:	:									
	36377	-321 SA			12178	40.41	.4574										- 	45°4580			erenerei.	Tanis d		2.000	00000000000000000000000000000000000000		VIII IX POS		serrii	Services:	258666		Mitrana.	14,869,908,004		san we	V 935 ()	
		:					,	34153-4-4-4			:	-		547 6300 State See	0000 gt/ 30,232	(45) - (45) - (45)	-dinnac-		-01 6 2 6 9 1 A C - 3 A	:		:	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		** ** ****	-			MIN SOUTH NA	ander variety	agouege carges	Province State	SE 10 E (1997)	Comment of the Comment		(1,543) (30)	22 - 25 - 25 - 25 - 25 - 25 - 25 - 25 -	
8. TRANSFORMATION Power Generation	396.67 395.33	434.85 434.33	365.96 365.67	374.01 373.67	607.31 686.33	1,516.74		1,433.85	1,545.40	1,667.46	1,696.00	1,703.25	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NPC	22.00 373.33	121.00	329.00 36.67	327.00						767.00 900.00	746.00 950.00	747 26 961 60								!		1			:			:.		:								
Other private Electric Own Use	3/3,33	313.33	30,07	46.67		33,33	130.07	736.67	946.57	300.00	850.00	33: (4)	:						:									:										
Power Losses					:								:			3						1				:										:-		
Refinery Fuel/Losses	1 34	0.51	3.23	0.35	0.57	62.41	93.00	29 10	0.74	0.46	0.39	4.33		1 1											:	:		:									1 1	
TOTAL (Moe)	2,487.34	2,978.51	2,590.29	2,746.35	3,757.97	5,159.41	5,604.06	5,859.18	5,663.74	6,328.40	6,158.39	6,100.17	4,057.59	4,491.94	5,176.22	5,267.06	5,734.34	5,979.46	6,445.58	8,693.56	7,201.34	7,489.63	0,043.50	8,571.66	9,131.26	9,724.76 1	10,354.66	1,023.60	11,731.47	12,489,47	3,299.33	14,163,44	15,084.75 1	15,926.01 1	5,818.64 1	7,759,75 1	8,753,50 1	9,600,11
Excluding Transformation Sector (ir	2 000 87	2,543,67									4,462.00							1	-	1	1				-									:				
Excluding Transp (A)	767.02		925.83	967.32	1,195.23	1,417.95	1,480.63	1,468.42	1,531,00	1,597.45	1,543.67	1,573.02	1,490.66	1,540.39	1,805.17	1,671.85	1,771.30	1,976.84	2,003.49	2,136.27	2,280.48	2,431.94	2,581.01	2,741.20	2,898.25	3,052.47	3,234.22	3,413.85	3,601.73	3,798.27	4,003.87	4,218,97	4,444.04	4,651.73	4,868.15	7,736.73 s 5,093.68	5,328.73	5,570.78
TFC IEA Data (Idoe)	1,868.00	1,935.00	2,128.00	2,241,00	2,843.00	3,449.00	3,416.00	3,361.00	3,497.00	3,728.00	3,528.00	0.00								-	-		-			:				:						•		
Ind IEA Date (tipe) (B) Miscellaneous cuic.	378.00 -423	440.00 809	434.00 -104	459.00 -133			778.00 -1,130		795.00 720	784.00 -933	743.00 -834	0.00 -4.397				!			:	;		:		:											:			
	743		-14-			-574	-1,130		•120		-034																											
Equivalent es NG mmedé NO HV (JICA) 10011 licalm3 15.5	283 478					-		-										:				:					-	- :										· · ·
Total as NO minectd	240.39	297.96	251.12								595.19	589.56	392.15	434.13	500.46			577.90		646.92	695.99	723.85		828.42									1,457.89					
Industry as NO mesord Transportation as NO mesord	31,34 127,93		33.27 126.27						34.46 259.62	39.03 296.08	36.26 282.05	40.53 272.52	43.11 248.09	44.84 265.26	46.67 345.32		\$1,31 383,02	54.23 396.51	57.60 429.31	61.17 440.45	64.96 475.58	68.99 469.91	73.26 526.97	77.44 563.50	91.85 602.40	86.52 843.89	91.45 888.17	95.66 735.46	102.17 785.71	198.90 839.98	114.15 098.36	120.66 961.10	1,028,39	134.30 1,069.82	141.41	148,91 1,224,14	156.80 1,297.46	166.11 1,375.22
Agriculture se NG mmecfd Residential as NG mmscfd	15.85 21.75	18.18 25.22	19.02 28.51								28.87 48.71	28.72 48.79	29.58 53.08	30.42 54.79	31.49 57.37		33.89 64.44	35.25 59.14	37.01 74.84	36.86 80.75	40.80 87.36	42.84 94.24	44.98 101.40	47.01 107.98	49.13 114.75	51.34 121.79	53,65 129,08	56.06 136.62	58.58 144.43	61.22 152.52	63.98 160.90	66.85 169.57	69.86 178.54	72.31 186.57	74.84 194.85	77,46 203,39	80.17 212.19	82.98 220.98
Commercial as NO minacid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.22	9.40	13.95	14.57	15.14	15.76	16.41	17.33	18.32	19.45	20.66	21.94	23.30	24.74	26,15	27.65	29.22	30.89	32.65	34.51	36.48	38.55	40.75	43.07	45.36	47.78	50.29	52.96	55.77
Government etc. as NO mmscfd Power Generation as NO mmscfd	0.00 36,21	0.00 41.98	0.00 35.34								163.91	0.00° 164.19	0.00	0.00	0.00		0.00 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.0 90.0	0.00	0.00	0.00	0,00.	0.00	0.00	0.00	0.00 0.00	0.00. 0.00	0.00 . 0.00	0.00	0.00	0.00 0.00
IND EA as NO mmscfd	36.53	42.52						/ ··· ··				8.00	0.00	0.00	0.00				<u> </u>		0.00	1	0.00	0.00				:		0.00			· · · · ·		· ;			
in the second second	30.33	72.32	71.57	77.4	30,33	90.14	: 13,13	74.13	76.83	13,04	(1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9,00	9.00	0.00	0.00
the second second	-				<u> </u>				-	· · · · · · · · · · · · · · · · · · ·								:																				
Terget Sestor of NC Substitution 1. NOUSIRY		104 0~	100.00	101 10		100 17	·	·			170 24				-	:		220.54		. :				<u> </u>		****		400.24		457.00							0000	
2. TRANSPORT	196.52 1,121.64	1,420.81	1,038.51	1,125.0	1,518.43	1,690.72	2,652.71	2,349.92	2,263.26	170.16 2,596.55	2,464.33	2,362.02	2,110,53	2,479.92	3,082.83	3,085.27		229.54 3,536.69			275.06 4,247.55	292.11 4,344.13						409.31 6,622.06		457.30 7,592.02	483.36 6,135.67	510.91 8,721.13	540.04 9,350.09	568.68 9,921.10	598.80 10,527.66 1	630.53 1,171.74	663.95 11.855.50 1	699.14 2,581.30
3. AGRICULTURE 4. RESIDENTIAL	164.02 225.00													314.78 566.68			350.68 666.79	364.71 715.34	382.96 774.35	402.09 835.52	422.20 903.91		485.47 1.049.15			531.18 1,260.15	555.09 1 335.54	580.07 1,413.60	606.17	633.45 1.578.13	961.95 1.864.79			748.17 1,930.48	774.35 2.016.14	901.46 2.104.45		858.54 2,296.42
COMMERCIAL.	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0,00	64.32	97.27	144,38	151.63	156.68	163,11	169.60	179.30	189.52	201.27	213.75	227.01	241.08	256.03	270.62	266.05	302.35	319.59	337.80	357.06	377.41	398.92	421.66	445.69	469.32	494.19	520.38	547.96	577.00
5. GOVERNMENT 6. OTHERS, N.E. C.	0.00 390.89												0.00 00.00	00.00 00.0	0.00		0.00			0.00	0.00	0.00	0.00	0.00 0.00		0. 00 . 0. 00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0,00	0.00	0.90 0.00
7. Miscellaneous 8. TRANSFORMATION	-363.77 396.67	-321.54	326.94	-196.8	-123.76	43.51	-15.74	94,47	-45.98	63.78	62.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL (Idoe)	2,130.98						1 1,057.75 5 5,015.78			1,867.48 5,594.58	1,695.39 5,452.16			0.00 3,700.12									0.00 6,777.13	0.00 7,234.76		0.00 8,234.74	0.00 8,781.61	9,362.64	0.00 9,978,09	0,00 10,636.30	0.00 11,344.89	0.00 12,099.94	0.00 12,906.00	0.00 13,637.72	0.00 ₋ 54,415.14 ₋ 5	0,00 5,228.56	0.00 16.092.42 1	0,90 7,002,40
Equipment as HG numbered NG HV (JICA) 10011 localing 15:									<u> </u>							- '			:							· 		•		•		•		-	:		.	
1, INDUSTRY 2, TRANSPORT	18.99 108.40												17.54 203.98	18.35 239.68	19,10 297,93		21.00 331.13		23.57 371.37	25.03 379.05	28.58 410.51	28,23 419,85		31.69 486.40	33.50 521.08	35.41 558.11	37.42 597.68	39.56 640.00	41.81 685.01	44.20 733.75	46.72 786.31	49.36 842.87	52.19 903.66	54.96 958.94	57.07	60.94	64.17	67.57
3. AORICULTURE	15.85	10.16	19.02	19.0	7 21.05	22.7	23.45	5 24.11	25.62	30,49	28.67	28.72	29.68	30.42	31,49	32.59	33.89	35.25	37.01	38.86	40,80	42,84	44.99	47.01	49.13	51.34	53.65	56.06	58.58	61.22	63.98	66.85	89.86	72.31	74.64	1,079.71 77.46	80.17	1,215,94 82.98
4. RESIDENTIAL COMMERCIAL	21.75 0.00												53.06 14.87	54.78 15,14	57.37 15.76		64.44 17.33			80.75 20.56	87.36 21.94	94.24 23.30	101.40 24.74	107.96 28.15	114.75 27.65	121.79 29.22	129.08 30.89	136.62 32.65	144.43 34.51	152.52 36.48	160,90 36,55	169.57 40.75	178.54 43.07	186.57 45.36	194.85 47.76	203.39 50.29	212.19 52.96	220.98 55.77
5. GOVERNMENT	0.00	0.00	0.00	0.0	0 0.00	0.0	0,00	0.00	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. OTHERS, N. E. C. 7. Miscellaneous	37.78 -35.16	31.00	-31.60			8 4.2	1 -1.5						90.00 90.00		0.00					0.00 0.00	0.00		0.00	0.00			0.00	0.00	0.00		0.00 0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00	0.00	0.00
8. TRANSFORMATION	36.34 205.98									161.16	183.95	164.51		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL (Rice)	AP. #	240.0		- 641.4	- 431.A	34	9 484.71	6 465,64	503.40	540.70	526,93	313.30	SI SUS	330.35	421.85	427.06	467,79	406.72	528,24	544.35	567.20	. 606.46	854,89	696.22	746.10	795.66	848.72	904.89	304,35	1,020,16	1,096.45	1,109,42	1,247.33	0.04 م 1	1,392.79	1,471,79	355.20	1,643.23

Philippine
Petroleum Product Consumption by Sector 123 DOE Date 123 Special Formul 123 IEA or Calculat 1980 1980 1980 1991 1. MOUSTRY Beverage Tabacco 343 0.22 0.00 0.00 8 59 0 84 0 00 0.34 5.59 0 00 0 00 0 00 1.35 0.09 0.00 0.00 0.33 0.00 0.13 2.20 0.00 0.37 0.90 9 9 3 9 9 3 9 9 5 2.51 016 000 000 528 061 2.65 0.17 0.00 9.00 5.64 0.65 0.95 0.06 0.00 0.00 2.24 0.32 0.00 1.46 0.00 0.00 0.00 0.00 9.83 0.06 0.00 2.33 0.23 9.00 9.09 1.52 0.00 0.00 9.25 9.00 0.99 0.09 0.09 2.43 0.00 0.10 1.53 0.00 0.25 0.00 0.00 0.00 0.00 0.00 0.00 0.12 1.95 0.00 0.00 0.00 0.00 1.52 0.10 0.00 3.61 0.57 0.00 0.15 2.48 0.00 0.41 9.00 2.25 0.30 0.30 5.62 0.55 0.55 0.30 0.22 3.88 0.40 0.61 0.51 278 618 000 000 699 683 0.07 0.00 0.00 1.46 0.04 0.00 2.00 1.20 0.00 0.00 0.09 0.00 0.00 3.59 0.35 0.14 2.34 0.00 0.39 0.00 6.11 6.00 6.00 4.26 6.42 6.00 6.17 6.00 6.00 6.00 6.00 6.00 6.00 0.00 0.00 4.50 0.44 0.00 6.18 2.93 0.00 0.43 0.00 0.00 0.00 0.00 4.76 0.46 0.60 0.19 3.10 0.00 0.52 0.14 0.60 0.50 5.32 0.52 0.21 3.46 0.66 0.96 0.58 0.90 0.20 0.00 0.00 7.75 0.00 0.31 5.04 0.00 0.69 0.69 0.25 0.00 0.00 8.16 0.00 0.32 5.31 0.00 0.00 0.00 0.00 0.00 9.00 9.00 9.00 2.78 9.41 9.00 9.00 9.00 9.00 9.00 9.00 9.00 0.07 0.00 6 60 2 82 0 26 0.61 1.84 0.00 0 00 0 31 0 00 013 060 060 5.83 0.43 0.60 0.26 3.27 0.60 0.55 0.60 9.15 0.00 0.00 5.94 0.68 0.00 9.24 3.87 9.90 9.96 0.64 0.00 6 60 6 60 6 60 6 76 6 60 9:12 9:00 9:00 2:77 9:51 9:51 9:00 9:00 9:00 9:00 9:00 0.05 0.00 0.00 2.53 0.25 0.00 6.10 1.65 0.00 0.00 0.00 0.07 0.09 0.00 2.67 0.26 6.00 6.11 1.74 0.00 0.09 0.23 0.90 0.08 0.00 0.00 3 18 0.31 0.00 6.63 2.07 0.00 0.00 0.35 0.00 0.10 0.00 9.00 4.03 0.00 0.16 2.62 0.00 0.44 0.00 Coco/Vegetable O Cocol/regelable OI Suger Other Food products Textile/Apparels Whood Product/Furniture Paper Product/Furniture Chemical except Fertilizer Fullbler/Rubber Product 0.00 0.26 4.32 0.00 0.00 0.00 9.72 0.00 0.00 0.29 4.79 0.00 0.00 0.00 0 (9) 0 23 4 55 0 60 0 60 0 76 0 (9) 6.24 9.61 6.00 0.00 6.33 6.00 9 25 4 09 9 00 9 00 9 63 9 00 Glass/Glass Product Cement 0,65 1,56 6,00 0.00 1.60 0.00 0.02 1.25 0.00 6 94 1 95 0 00 1.00 215 0.00 0 63 2 49 0 00 6 66) 3 96 9 52 0,00 1,66 6,64 0.00 4.25 0.75 0.00 4.43 0.73 6.00 6.55 1.16 8.69 7.35 1.30 \$ 6% 6 87 9.00 036 164 6.00 0.54 2.92 0.00 9.60 9.60 9.60 0.00 4.09 0.72 0.00 4.61 0.61 6.0) 4.8? 0.88 6.00 5.15 0.91 0.06 5.47 0.97 0.00 5.30 1.03 0.00 6.16 1.09 9.00 635 1.23 0.00 7.77 1.37 6 00 8.21 1.45 0.00 3.68 1.53 0.60 9.17 1.62 0.90 9.70 1.71 0.00 10.25 1.81 0,09 19,33 1,91 8 60 11 45 2 92 0.00 12 10 2.14 0 (20 10 74 2 25 (.6) 0.03 6 00 14 66 2 83 0:00 15:87 2:77 Other Non-Metallic Minerals Basic Metals machinery/Equipmen 0.03 0.00 6 02 0.01 614 661 0 04 0 00 9.49 9.26 646 9.13 9.99 0 14 0 09 0.14 0.09 0.15 0.03 0 15 0 10 0.17 0.19 9.06 9.00 0.66 9.04 400 4009 0.90 0.01 9 25 0 03 0.16 0.10 0.18 0.12 0.21 0.13, 0.22 0.14 0.23 0.15 0.15 0.16 0.25 0.17 0.27 0.29 0.13 0.31 0.20 0.32 0.21 8.34 0.22 9.35 0.23 0.38 0.24 0.40 0.26 0 43 0 27 0.50 Mining Construction 0.45 0.23 6.30 0.32 2. TRANSPORT Railway Road Transport Internal Water Transpor 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 3. AGRICULTURE 0.00 0.00 304.00 304.00 0.00 507.00 507.00 0.00
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Wholesale Trade Finance & Housing Private Service toe/paraun 0.0022 11,407 0.002 ton/m-household at 191 6,500.00 0.004 ton/m-hh at 1990 0.0006 toesperson-m at 2000 5. GOVERNMENT 8. OTHERS, N. E. C 0.00 00.0 00.0 00.0 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 Power Generation NPC Other private Bectric Own Use Power Losses 6.00 6 (5) Refinery Fuel/Losse 0.00 0.00 0.06 0.00 0.00 ii tat 0,80 0.00 6.08 0.00 904.00 1,003.00 1,067.00 1,100.74 904.00 1,003.00 1,067.00 1,100.74 1,058,94 1,058,94 1,773.24 812.00 812.00 1.025.00 1,107.28 1,158.62 1,237.09 1.322.36 1,424.86 1,902.23 2,021.97 2,146.50 2,276.03 2,410.74 2,550.87 2,896.62 2,846.25 3,005.99 3,170.09 3,340.82 3,497.14 3,659.18 3,827.18 4,001.35 4,177.82 1,802.23 2,021.97 2,146.50 2,276.03 2,410.74 2,550.87 2,896.82 2,848.25 3,005.99 3,170.09 3,340.82 3,497.14 3,859.18 3,827.18 4,001.35 4,177.82 408.00 1.531.61 1.649.78 0.00 0.00 1,059 408.00 127.00 0 449.00 6.00 0 463.00 6.00 0 802.00 0.00 0 695.00 0.00 0 812.00 305.00 0 0.00 0.00 -1,101 0.00 0.00 -1.026 0.00 0.00 -1,107 0.00 0.00 -1,157 0.00 0.00 -1,237 0.00 0.00 -1,322 0.00 0.00 -1,425 0.00 0.00 -1,532 0.00 0.00 1,850 0.00 0.00 -1,773 0.00 0.00 -1,902 0.00 0.00 -2,022 0.00 0.00 -2,147 0.00 0.00 -2,276 0.00 0.00 -2.551 0.00 0.00 -2,697 0.00 0.00 -2,848 TFC EA Data (Moe) Ind EA Data (Moe) (B) Miscellaneous calc. 341.00 112.00 0 530.00 7.00 0 0.00 0.00 -2,411 0.00 0.00 -3,006 0.00 0.00 3,170 0.00 0.00 -3,341 0.00 0.00 3,859 0.00 0.00 0.00 0.00 -4,001 0.00 0.00 -4,178 0.00 -3,497 0.00 -3,827 Equivalent so HG mimocfd NO HV (JICA) 10011 kcelm3 283.47B NO 17Y (MCA) 10011 Icealm: Total as NO mmeetd Industry as NO mmeetd Transportation as NO mmeetd Agriculture as NO mmeetd Residential as NO mmeetd 39.43 0.45 0.00 9.00 27.16 0.00 0.00 43.30 0.48 0.00 0.00 29.38 0.00 0.00 232.98 1.94 0.00 0.00 180.80 50.29 0.00 0.00 322.88 2.71 0.00 0.00 249.82 70.13 0.00 0.00 353.65 3.00 0.00 0.00 272.64 77.77 0.00 6.00 386.72 3.33 0.00 0.00 296.89 86.23 0.00 0.00 87.17 0.62 0.00 0.00 44.17 0.00 0.00 103.12 0.86 0.00 0.00 64.46 22.73 0.00 102.34 0.95 0.00 0.00 76.66 24.65 0.00 107.02 0.90 0.00 0.00 60.20 25.57 0.00 0.00 111.78 1.03 0.00 0.00 83.95 26.72 0.00 119.58 1.09 0.00 0.00 90.17 28.22 0.00 0.00 127.80 1.15 0.00 0.00 96.73 29.82 0.00 0.00 137,71 1,22 0,00 0,00 104,71 31,67 0,00 0,00 148.02 1.30 0.00 0.00 112.90 33.54 0.00 150.45 1.38 0.00 0.00 122.23 35.72 0.00 0.00 171.36 1.46 0.90 0.90 131.66 37.94 0.00 183.84 1.58 0.00 0.00 141.87 40.29 0.00 195.42 1.84 0.00 0.00 151.05 42.58 0.00 207.45 1,74 0.00 0.00 180.56 45.01 0.00 219.97 1,84 0.00 0.00 170.41 47.58 0.00 246.53 2.05 0.00 0.00 191.16 53.16 0.00 260.62 2.17 0.00 0.00 202.09 56.19 0.00 275.27 2.29 0.00 0.00 213.40 59.36 0.00 290.52 2.42 0.00 0.00 225.12 62.77 0.00 0.00 306.38 2.56 0.00 0.00 237.26 96.35 0.00 0.00 337.99 2.85 0.00 0.00 261.05 73.85 0.00 0.00 369.88 3.18 0.00 0.00 264.58 81.89 0.00 0.00 403.77 3.50 0.00 0.00 309.18 90.80 0.00 58.18 0.59 0.00 0.00 39.34 0.00 0.00 76.48 0.80 0.00 0.00 49.00 0.00 0.00 67.37 0.75 0.00 0.00 54.61 0.00 0.00 106.36 0.87 0.00 0.00 69.27 24.06 0.00 0.00 98,12 0,92 0,00 0,00 74,24 23,89 0,00 0,00 32.96 0.36 0.00 0.00 22.13 0.00 0.00 51.22 0.55 0.00 0.00 34.70 0.00 0.00 44.75 0.50 0.00 0.00 30.73 0.00 0.00 96.94 1.02 0.00 0.00 60.80 11.67 0.00 10.82 0.58 0.00 NO EA as NO masch Earget Sector of HG Substituti

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2. TRANSPORT

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MG HV (ACA) 1601

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Petroleum Product Consumption by Sec Final Cit (in Mon.) 113 DOE Data 123 special formula

(miktoe) van van tinia van van til	1000	1200	1989	1001	1982	1903	1984	1905		pecial formul alculation on 4887	trás sheet a	*******	2000	2001	2002	2003	2084	766E	2906	2007	2006	2940 1	1016			<u> </u>	46 1 2	T ~	<u> </u>	1247						T	
STRY		1,335,38	1,247,28	1,029.80	1,261.22	1,333.21	,		1,546.33							1,781.58	:			242.95	· · · · · ·			839.67 3						3960.20							2024 5749.84
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egetable Of	34 65	56. 0	4.41	31.03	1,115	51.36	31.15	100.40	26.25	(3.29)	73.86	47.35	45.57	47.18	49 12	51.13	54 (3)	57 07	60.61	64 37	66.36	72.58	77.10	81.50					27.43 07.53	29.00 113.66	30.85 120.83	32 40 126 98	34.25 134.22	36.96 141.33	37 97 149 0 2	39 98 156 71	42.10 165,02
od products	67.85 134.90	96 48 169 (6)	60 (A)	\$3 26 174 55	96 79° 126 12	84.30 222.77	254 00	91 15 272 59	37 61 197.64	201.95	97.76 (80.40	65 62 108.84	99 62 207 87	94 25 216 18	38 f i 225.04	102 13 234 27	107.85 247.33	114 00 261 49	121.07 277.76	126 57 294 92	136 (5 313 21	145.01 322.63							1477 19264		239.95 550 46	253 63 561 78	383 (9) 614.94	282.30 847.53	297.26 581.85	313 61 217 99	029.66 756.04
perets	17136	116.56	110.53	11573	13440	142.39	14 6. 37	157.15	156,48	165 58	145.51	155.33	184 61	171 19	178.21	185 52	195 91	207.07	219 91	235 55	248.03	283 40	279.73	235.58	31253 3	390.35	49.13	369 G8 3	99.12	412,35	435 86	450.70	486.96	512 77	539,95	568 56	598 70
duct/Furniture duct/Printing	7.30 20.00	966 1376	10.44 131.26	5.61 123.55	5 25 159.32	157.24	1257 175.30	9,34 317,24	7.71 134.06	343 (62.30	3 84, 117 80,	6.45 184 74	677 17357	7.04 100.92	7.33 136.34	7.63 196 (8	5 (55 207 (54)	9,51 2‡6,65	3.04 232.41	9.69 246.82	10.20 262.13	10 83 278 38	11.50 295.64	12.16 312.49			14.35 89.03 :		16.64 12.20	16.95 435.60	17 32 460.64	13.94 486.94	20.00 514.65	21 08 541.92	22.20 570,95	23.37 £36.69	24 61 632.74
except Fertifizer	52.31	52,81	4931	43.43	55.70	59 (9	61.9	73.14	72.34	75.77	91.44	171.09	169.99	188.23	195 94	203.98	215.40	227 68	241.80	256.79	2?2 71	269.52	307.57	325 10	349.63	63.22 3	33.92	405.61	23.94	450.39	479.23	106 55	535.42	\$63.90	593.88	825.15	658.26
ober Product	1776 18英	10.40 20.00	33	12.97	10.31 21.34	1739 3599	17 44 27:33	21.90 23.73	36.25 .11.89	22.15 25.19	21.77 25.13	38 (98 33 (48	25.14 29.£6	26.15 30.85	27 22 32 11	28.34 33.43	29.92 35.30	31 63 37 31	33.59 33.62	35.67 40.08	37 88 44 69	49,23 47,46	42.73 50.40	45 16 53 28			59.93 62.92		59.59 70.29	62,93 74,30	58.57 78.53	70 37 83 61	74 33 87 74	78.32 92.39	82 47 97 23	89 84 102 45	91.45 107.80
ss Product	69 61 62 61	74 69 217 83	79.49 1)0.90	\$2,99 \$0,09	153 (4) 153 (4)	71.60 140.90	74 % 226 24	31 14 255 90	64.59 254.85	25:34 24:00	64 53 208 34	65.37 241.78	€9.€6 255.32	72 45 265 53	75.42 276.42	78 51 287 75	82.91 303.67	97.63 321.19	93.06	96.63 362.25	104 % 364.71	111.47 400.56	(18.39)	125.10	192 26	33 60. 1	47.27	156.19	65.09 05.11	174.50	134,45 676,66	194 96 214 59	306.93 755.32	217,09	228.50 837.51	240.01 661.90	253.36 926 64
Metalic Minerals	1756 6940	16 67 166.97	15.31 116.43	15 (c) 165 (f)	14 69 117 70	16.46 140.74	16 35 (44.00)	18:58 174.18.	7.25 196.06	19 35 200 64	12.97 139.89	4.37 145 93	5.15 155.22	5.35 161.43	5.57 168.05	5 60 174 93	€.13 164.73	6.46 195.26	6.88 207.37	7.80 220.22	7.76 233.66	8:24 248:38	3.75 263.73	9.25 276 61					12.20 02.36	10:63 388:63	13.63 411.00	14.41 434.42	15.23 459.19	16 03 493.52	15.30 509.15	17.70 536.10	18 72 564 55
Equipment	· 66	6.00	0.00	0.00	0.00	030	0.0 0 1	0.90	0.00	11.20	11,54	744	7.86	6.17	8 51	₽.65	9.35	9.80	10.50	11.15	11 84	12.57	13.35	14 15	14.92				18.82	19.63	20.80	21 99	23.24	24.47	25.77	27.13	20.57
ion .	250 03 4.45	249.31 19.75	24365 7.27	171.33	176.50 9.78	16.19	119.05	107.59	19.64	46.95 14.25	50.04 8.91	7.1\$	40.83 7.56	12.47 7.87	8.19	45.02 3.53	48 GO 9 GO	51 37 9.52	54.55 10.11	57 93 10.73	61 53 11 40	65.34 12.10	63:33 12:65	78-35 13.59			06 62 16.05		96.77 17.93	102 29 18.93	108,10 20,03	114.26 21.17	120.80 22.33	127.20 23.56	133 34 24.61	141.01 26.13	146.51 27.51
PORT	179.26	223.05	242.69	232.93	235.12	261.09	322.82	400.41	450.14	492.05	453.24	381,45	393.01	406.12	422.29	439.11	462.33	487.16	516.25	547.09	579.79	614.44	651.19	\$86.88	724.55	764.30 8	08.24	85 0.50 (97.21	946.50	998.52	1,053.42	1,111.35	1,166.94	1,225.36	1,286.76	1,351.29
report	4 (%)	€.43	5.39	3.3	5.43	6.76		€ 63	16 35	1289	10.08	3.57	3.68	3.23	3.95	4.51;	4.32	4.56	4.83	5.12	5.42	5.75	8.09	6.42	6.78	7,15	7.54	7.35	3.39	8.85	9.34	9.85	10.33	10.91	11.46	12.03	12.64
ater Transport Air Transport	. :74.53	218,50	237 50	229,70	228.64	256,3%	317.13	401.28	139 76	479,35	443,18	377 85	389.33	402.32	418 34	435.00	+58.CO	432 61	\$11.43	541.93	574 36	618.70	645,10	E90 46	717.78	757.15 7	96.70	842.55	89.82	937 65	989.18	1,043.56	1,100.95	1,156.03	1,213 90	1,274.73	1,338.65
LTURE	231.42	244.57	244.83	:		243.72		-	369.86				-:	- :	-	441.40	459.14	477.51	501.38	526.45	552.77	580.41	609.43	636.86	665 .52	595,47 7	26.78	759.47	93.64	829.38	86.68	905.68	946.43	979.56	1,013.84	1,049.33	1,086.05
ITIAL/COMMERCIAL	134.42	139.57	139.83	133.00	129.79	138.72	189.56	212.83	213.68	298.59	239.73 0.00	235.08 0.00	261.96 0.00	270.36	0.00	292.97	0.00	327.01 0.00	347.28 0.00	0.00	391.68	415.97 0.00	0.00	466.94 0.00	493.55 :	521.69 5 0.00	0.00	582.85 (H 6.07	0.00	688.31 0.00	727.54	766.01	809.77	652.89	697.88	945.47
ei .	134.42	139.57	136.83	133.00	129.79				213.68					270.35			309.36			368.82		415.97							16.07		688.31	727.54	769.01	0.00 809.77	0.00 852.69	0.00° 897.86	0.00 945.47
s Trads Housing	† · · · ·							!						:			:					- 4				÷	- 1	. :			:						
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NMENT :								: :												- :					:												
S, N. E. C.	68,81	-82.05	-10.98	125.25	-122.14	-117.02	9.47	177.00	193.85	i55.52	109.33	134.54								·				-											:	:	
SFORMATION	:		:					. !			i	:		1	1	:							-			:			:							(2,77)	tyx develo
norsion										4,228.54 4,171.06			0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
rate	1,956.94		2,111.90 249.10	2,628.10 70.38						3,983.42 267.64					iį												· · · · · · · · · · · · · · · · · · ·										
hwn Use	137.13	301.00	240.10	70.36	392.21	405.40	, 20 ,33	A1.50	338.07	201.04	321,58	413.52			- 1	}-							-													:	
3563											· · · · · · · · · · · · · · · ·]									``. j :						:		· · · · · · · · · · · · · · · · · · ·								
Fuel/Losses	641.77	546,71	950 .C	284.28	96.50	162) 81	82.83	421.48	201 35	52.43	35.63	259.00	- · · · · ·						- :	 -			<u></u> .							<u></u>	:				}		
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j Trensformelion Sector (Ic j Trensp (A)		1,632,95		1,749.00 1,515.07	1,726.00	1,858.00 1,594.91	2,275.00 1,952.18	2,795.00 2,386.59	2,762.00 2,311.86	2,376.95	2,790.00 2,336.76	2,305.73	2,637.92 2,244.91	2,732.70 2,326.58	2,641.79 2,419.50	2,855.25 2,516.14	3,112.30 2,649.96	3,280.39 2,793.22	3,476.92 2,980.67	3,685.31 3,138.21	3,906.25 3,326.47	4,140.52 3,526.07	4,386.91 4 3,737.73 3	4,630.35 4 3,943.46 4	,180.80 4,	154.06 5,4 369.76 4,6	137.88 5 531.84 4	737.42 6; 806.92 5;	153.57 156.36	6,367.25 6 5,440.75 5	739.44 740.92	7,111.17 6,057.75	7,503.52 6,35(2.17	7, 88 0.87 (6,713.92	8,277.49 7,052.13	8,894,41 7,407.64	9,132,65 7,781,36
Custa (Mose) wha (Mose) (19)										2,889.00 2,239.00		0.00 0.00		. :	*. :		.*		:		:		:			:				:	:		•				
ent so HG mmocfd						! }																		·			i :						!		}-	:	
JICA) 18011 kcallm315.5														-		-					····				:	<u>:</u>											-
NO remedid as NO mnedid	431.90 99.00	485.62 119.26	471.56 111.39	452,36 91,97					677.57 138.10	885.96 133.71	848,89 129,59	536.89 133.70	254.95 141.10	264.11 146.63	. 274.65 152.65	285.62 159.12	300.79 166.03	317.04 177.80	336.03 186.62	356.17 200.31	377.53 212.73	400.17 225.82							585.06 334.80		851.35 373.83	687 <i>2</i> 7 395.14	725.19 417.88	761.86 439.80	799.99 463.11	840.29 487.85	982.64 513.50
flation as NG mmecfd	17.32	21.56	23.47	22.51	22,72	25.23	31.20	39.47	43,50	47.56	43.80	36.87	37.98	39.25	40.81	42.44	44.88	47.08	49.89	52.67	56.03	59.36	62.94	66.39	70.03	73.67	77.92	62.20	66.71	91.48	96.50	101.61	107.41	112.78	118.43	124.36	130.80
re as NG mmecid ini as NG mmscid	22.37 0.00	23,64	23.66 0.00	22,42 0.00						44.22 0.00	37.96 0.00	37.80 0.00	35.86 0.00	39.83 0.00	41.23 0.00	42.67 0.00	44,37 1 0,00	46.15 0.00	48,46 0.00	50.86 0.00	53.42 0.00	56.10 0.00	58.90 0.00	61.55 0.00	64.32 D.00	67.21 0.00	70.24	73.40 0.00	76.70 0.00	80,15 0,00	63.78 0.00	87.53 0.00	91,47 0.00	94.67 0.00	97,98 0.00	101.41	104.96
del es NG minsofd ent etc. es NG minecfd	12.99	13.49	13.42	12.85						28.86 0.00	23.07	22.72	25.32	26.13	27.20	20.31	29.90	31.60	33.58	35.64	37.85	40.20	42.69	45.13	47.70		53.29	58.33	59.54	62.94	86.52	70.31	74.32	78.26	82.41	86.78	91.38
eneration as NG mmscfd		253,41	228.08								00.00 368.96	0,00 253.10	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00 0.00	0.00	0.00	0.00	0.00 0.00	0.00	00.00 00.00	0.00	0.00	0,00 0.00
s NO minsofd	129.12	139.94	140.14	131 63	130.28	139.94	171.55	210.69	208.18	216.30	210.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00	0.00	6.00	0,00	0,00	0.00	0.00	0.00
Sector of H6 Substitute	in			 •									i.														 		‡								
STRY	580.14									974.84	953.14	1,057.56	1,116.79	1,161.46	1,209.08	1,258.65	1,329.13	1,404.89	1,492.00	1,584.50	1 682 74	1,787.07	1,897.87	2,006.05 2	120.39 2	241.25 2,	369.01 2	504.04 2	646.77	2,797.63	957.10	3,125.65	3,303.82	3,478.92	3,663.30	3 857.46	4,061.90
sport Julture	231.42			3.23 232.00						12,69 457,56	10.08	3.57 389.08	3.68 402.08	3.60 412.13	3.95 426.55	411.48	4.32 459.14	4.56 477.51	4.83 501.36	5.12	5.42	5.75 580.41	6.09 609,43	6.42 836 86	6.78 665.52	7.15 685.47	7.54 726.78	7.95	8.39	8.85	9.34	9.85	10.39	10.91	11.46	12.03	12.64
ENTIAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	526.45 0.00	552.77 0.00	0.00	0.00	0.00	0.00	0.00	0.00	759.47	793.64 0.00	829.36 0.00	0.00	905,68	946.43 0.00	979.56 0.00	1,013.64 0.00	0.00 0.00	1,086.05 0.00
ERCIAL FINNENT	134,42 0,00		130,83	133.00 0.00						298.59 0.00	238,73 0.00	235.08	261.96	270.35 0.00	201.43 0.00	292.97 0.00	309,36 0,00	327.01 0.00	347.28 0.00	368.82 0.00	391,68	415.97 0.00	441.76 0,00	466.94 0.00	493.55 0.00	521.69 5 0.00	551.42 0.00		0.00	651.19	688.31 0.00	727.54	769.01 0.00	809.77 0.00	852.69 0.00	897.86 0.00	945,47
RS, N. E. C.	60.81	-82.05	-10.98	125.25	122.14	-117.03	9.47	177.00	193.85	155.52	189.33	184.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.90	0.00	0.00	0.00	0.00
leneous SFORMATION	2,755,84									-31.96 4,228.54	64.66 3.903.31	0.00 2,886.66	0.00	0.00	0.00	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 0.00	0.00	0.00	0.00
doe)																								3,116,27			654.73 3					4,768.73	•	5,279.16		0.00 5,616.70	0.00 6,106.06
ent as HG mensefet (JICA) 10011 kcalim315. STRY	5.5 203,470 65.73			84 2	76.2	2 82.6	3 92,4	+101.00	96,84				4m~	42.55	4455-	400.00	:						400	400,000		~~~											
ISPORT	0.45	0.62	0.57	0.3	0.5	3 0.5	0.59	5 0.64	1.00		92.12 0.97	102.21 0,34	107.93 0.36	112:25	118.85 0.36	121.84 0.40	128.46 0.42	135.70 0.44	144.20 0.47	153.14	152.63 0.52	172.71 - 0.56:	183.42 0.59	1 93.66 0.62	204.93 0.65	216.61 : 0.69	226.96 0.73	242.01 0.77	255.60 0.81	270.36 0.86	285.79 0.90	302,06 0.95	319.30 1.00	336.23 1.05	354.05 1.11	372.61 1.16	392.57 1.22
CULTURE DENTIAL	22.3 0.00						28.80	35.84			37.96	37.60	38.86	39.83	41.23	42.67	44.37	46,15	48.46	50.88	53.42	56.10	58.90	61.55	64.32	67.21	70.24	73.40	76.70	80.15	83.76	87.53	91.47	94.67	97.98	101.41	104.96
MERCIAL	12.9	10.49	13.42	12.8	12.5	4 13.4	16.30	9 20.57	20.65	28.86	0.00 23.07	0.00 22.72	0.00 25.32	0.00 26.13	0.00 27.20	0.00± 26.31	0.00 29.90	0,00 31,60	0.00 33.56	0.00 35.64	0.00 37.65	0.00 40.20	0.00 42.69	0.00 45.13	0.00 47.70	0.00 50.42	0.00 53.29	G.00 56.33	0.00 59.54	0.00° 62.94°	0.00 68.52	0.00 70.31	0,00 74.32	0,00 78.26	0.00: 82.41	0.00 66.78	0.00 91.36
EFRAMENT ERS, N. E. C.	0.00 6.83	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
steneous .	. 6.6	-0.44	-0.37			6 -0.3	8 -0.3				18.30 6.27	17.84 0.00	0.00		0.00 0.00		0.00: 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 00.0	0.00	0.00	0.00	0.00 0.00	. 0,00 0,00	0.00 0.00	0.00 0.00	0.00
ISFORMATION	266.3			263.4		6. 275.7							0.00		0.00		0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(lidoe)	373.6	405.67	398.20	395.1	9 412.0	0 384.4	0 479.6	4 596.00	562.26	539.14	555.33	459.89	172.47	178.58	185.86	193.02	203,15	213.97	226,68	240.16	254.43	269.57	205.81	301.18	317.60	334.93	353.22	372.51	392.86	414.33	436.96	460.88	486.10	510.21	535.55	7.00	

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ISTRY	8,56	6 9,78	8,962	9,339	8,64	5 9,4	6 7,502	8,06	0 6,80 6	9,133	8,978	9,068	3.595	9,948	10,358	10,781	11,365	12,033	12,779	13.572	14,413	15,307 1			162 19:							6.772 2		29,798	31 377		
94 10		0 Ú	9			0	0 351 6 51	37		423 51	415 60	419 60	442.60 83.73	460.33 66.33	479.26 69.05	433.91 71.66	526 05 75.91	556 88 80 24	591 40 85.21		657 01	709 36 7	2 26 79	5.16 640	0.49 068 1.10 126	.40 93	03 990 30 143	65 1,049	13 1,109	94 1,17	2.14 1.2	3936 1.3				1,529.03	1,610.0
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ood products		li i	. 0			·	0 1,588	1,70	8 1,884	2,810	1,865	1.693	2,104.71	2,196.90	2,278 65	2,372.07	2,604.91	2,647.69 2	811.84	99618 3	171 32 3	367.94 3,5	675 3,78	0.63 3,93		91 4,46		15 4,936	15 5,277	47 5,57	300 5,69	90.66 6,2		236,52 6,556,43 (301.71 6,903.92	317,78 7,289,83	
Apperets roduct/Furniture		ti ti	: u			e O	6 254 6 163	. 19	68 E90	903 903	₹%S 249	36 231	951.58 233.48	242 82	252.70	263 14	277 08	293.72		331.26		37362 3	6.78 41	9 26 1,693 9 49 441	869 1,959 336 498	57 495	28 523	51 553						2,564.23 727.32	3,121 33 765 87	3,236.76 606.46	
roduci.Prireing al excapt Fertilizer		0 6	1 4			0 6	6 618 8 260			E25 785	61 4 761	610 736	654 09 332,44	580.25 865.74	709 14 901 24	737 17 93 3 19	773.46 990.75							1.91 1,241 15.20 1,598		87 1,360 82 1,783	.49 1,466 .34 1,366	58 1,650 49 1,972		.54 1,73 34 2,20		39.55 1,9 29.34 2,4				2,259.08 2,875.32	
Rubber Product		0 ()) 0	:	:	6 0	6 70 6 92	1	75 79 14 140	. 94 117	33 115	118	83.18 122.71	31.79 127.62	95.46	39.36 138.29	104 34	110.92 154.36							7.62 - 176 286 - 246	.96 18	05 192	71. 208	03 220	69 20	3.40 2	4679 1	20.35	274.68 382.25	289 24 402.51	334.57 423.84	320.7 466.3
Gless Product		G e) 0 . 0			e. 6	0 61 0 363		65 59 58 35?	29 1,015	72 990	73.	76.55	79.62 1,105.69	82.09	86.29	91.12	S6 31	102.20	166.62	115.36		0.11 13	7.52 149	5.75 157	.65 167	40 171	£S 181	45 131	79 20	2.72 21	14.20 2	220.43	238,49	251.13	264.44	270.4
		0				d o	() ()		1 2	2.	. 2	2	-																			75.93 3,1		3,311.60	3,487 12	3,671.94	3,856.5
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DENTIALACOMMERCIAL	9,0	EG 9,58	9 10,771	11.09	10,91	9 11.5	15,710	17.0	85 18.554	20.380	22,174	22.498	22 SD2	23.573	24.582	25 780	27 536	29 407	31 629	33.955	38 503	39.175 4	1.979 44	LSIR 47	,370 SO,	246 53	251 56	990 59,6	70 63.	nge ee		,		77 989	81,799	85,767	89.90
rdiel rcieli	5,1 3,9									10,364 15,017	11,307 16,337	11,705 10,732	11,453	11,861	12,470	13,086 12,692	14,135 13,403	15,241 14,187	16,584 15,045		19,534 16,969	21,155 2	2,841 24	307 25	,986 27	645 29	362 31	39 32,9	80 34	966 36	,859 3	6,901 4	11 016	42,900	44,858	46,869	48 94
ele Trade e & Housing						". ~		. vie 	42 3,371	12,017			11,200	11,712;	12,132			19,101		19,80		10,021 1	9,138 20),229 21	3802 22,	901 23,	909 25,	26,0	90 28,	ZN1 Z9	(819 3	1,519 3	33,315	35,081	36,940	36,896	40,96
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ng Transformation Sack	er (G 19,1	14 20,8	1 20,860	: 21,35	5 20,6	e5 21,	35 24,58	3 28,4	67 28,524	30,918	32,466	32,950	33,770	34,952	35,494	38,094	40,502	43,079	46,126	49,338	52,806	58,467	0.321 63	: 3,980 67	216 71	636 76	1950. 9 6	: 469 85.1	C1 89	: 958 95	052 10	0,395 10	000,000	111.300	116,841	122,832	128.8
ing Transp (A)	19,1	14 20.0	20,86	21,36	5 20,5	15 21,	35 24,56	6 26,4	42 20,497	30,009	32,437	32,919	33,770	34,952	35,494	36,084	40,502	43,079	46,126		52,006			3,980 67	816 71			169 85,							116,841	122,832	
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rcial as NO amactd	33	.06 36	0.04	40.	9 40.	96 40	21 70.7	0 74	24 78.99	83.25	86.17	69.70	94.33	97.35	101.34	109.78 105.49	117.49 111.40	126.68 117.75	137.84 125.05		162.36 141.04	149.78	59.07 10	68.13. 17	77.72 18	7,85 19	J.55: 2U	1.82 274 1.87 221	.83 23	1.48 24	7.84 2	61.97		356.54 291.58	372.85 307.03	389.56 323.31	340.
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es NG mescid	. 71	.20 81	15 74.6	5 77.	2 71.	86 78	.35 88.6	90 93	1,32 98.50	104.15	94.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.1
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USTRY		586 9,7					126 5,40		771 6,140			6,461	8,623	7,096	7,387	7,690	0,120	0,583	9,115	9,661	10,261								170 17		066 1		20,185	21,255	22,361	23,567	24,8
ANSPORT RICULTURE	1 .	-	0	D	0.	0	0 1,27	75 1,	.0. 0 288, 1,335	1,376	7	1,383	1,402	1,431	0 1,478	1,523	1,579	1,638	1,717	1,801	1,880	1,985	0 2,085	0 2,182 2	0 2,285 2	0 383 2	0 508 2	0 831 2,	0 161 2	0 899 3	0	0 3,203	0 3,370	0 3,51 3	0 3,864	0 3,825	3,96
SIDENTIAL MMERCIAL		105 5,1 978 4,4					967 7,20 138 8,50		134 9,051 932 9,504	10,364	11,807	11,706 10,792	11,453 11,349	11,861 11,712	12,470 12,192		14,135 13,403	15,241 14,167	16,584 15,045	17,977 15,978	19.534 16.969	21,155	2,841 2	4,387 25	S 988 27	645 25	362 31	139 32 250 26	980 34	886, 36	858 3	8,901	41 016 33 315	42,908 35,061	44,858 36,940	46,869	48,9
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HERS, N. E. C.	5	0	0 22 4,35	0 2 4,2	0 9 5,2	0 24 5	0 042 5,86		0 0 962 7,470 985 33,498	7,510	0 7,441		0	0	0 0 33,525	0 0 34,963	0 0 37,236			0 0 45,437	0 0 48,674	0: 0	0	0	0 0 2,608 66	D 0	0 0 233 74	0 0 319 78,	0 0 801 83	0' 0' 0'	0 0 0 7,790 9	0	Ď	0	0 0 0 107,844		

Table C-13 Electricity

71.34 0.00 13.62 126.68 117.75 0.00 0.00 0.00 329.36

75.76 0.00 14.27 137.54 125.05 0.00 0.00 0.00 0.00 352.93

69.46 0.00 14.97 149.42 132.60 0.00 0.00 0.00 0.00 377.85

95.45 0.00 15.71 162.36 141.04 0.00 0.00 0.00 0.00 404.58

90.75 0.00 16.50 175.63 149.78 0.00 0.00 0.00 432.86

96.37 0.00 17.33 186.65 196.07 0.00 0.00 0.00 0.00

101.87 0.00 18.14 202.70 168.13 0.00 0.00 0.00 9.00

107.87 0.00 18.99 215.00 177.72 0.00 0.00 0.00 520.38

113.61 0.00 19.89 229.76 187.85 0.00 0.00 0.00 0.00 551.33

120.30 0.00 20.85 244.05 198.55 0.00 0.00 0.00 583.75

127.18 0.00 21.87 258.82 209.87 0.00 0.00 0.00 817.71

134.40 0.00 22.95 274.12 221.83 0.00 0.00 0.00 0.00 653.30

142.06 0.00 24.10 269.96 234.48 0.90 0.00 0.00 0.00

\$8.71 0.00 11.85 86.20 94.33 0.00 0.00 0.00 257.89

53.70 0.00 11.33 97.29 89.70 0.00 0.00 63.63 315.86

\$3.22 0.00 10.66 96.13 66.17 0.00 0.00 61.64 310.05

54.14 0.00 11.44 66.14 63.25 0.00 0.00 52.42 287.39

81.40 0.08 12.27 103.54 101.34 0.00 0.00 0.00 0.00 278.86

98.98 0.00 11.90 98.58 97.35 0.00 0.00 0.00 288.80

83.91 0.00 12.86 105.78 105.49 0.00 0.00 0.00 0.00 290.95

97.49 0.00 13.13 117.49 111.40 0.00 0.00 0.00 0.00 0.00 309.51

Equivalent as NG MMSCF8
NO HY (JCA) 10811 loalen315.5
1. NOUSTRY
2. TRANSPORT
3. AOROLEURE
4. RESIDENTAL
COMMERCIAL
5. OOVERNMENT
6. OTHERS, N.E. C.
7. Mecolemous
8. TRANSFORMATION
TOTAL (Mose)

306 (71.26) 0.00 0.00 42.43 33.06 0.00 12.16 0.00 45.09 203.96

81.15 0.00 0.00 42.90 36.80 0.00 10.80 0.00 40.91 212.55

74.88 0.00 9.00 49.45 40.07 0.00 9.48 0.00 35.17 209.83

71.88 0.00 6.00 49.77 40.98 0.00 8.98 0.00 43.42 215.01

78.35 0.00 0.00 55.41 40.21 8.00 5.88 0.00 41.91 222.56

44.95 0.00 10.59 59.87 70.70 0.00 0.00 48.77 234.85

47.98 0.00 10.89 87.81 74.24 0.00 0.00 57.87 296.36

51.03 0.00 11.19 75.23 78.99 0.00 0.00 0.00 62.08 276.43

77.62 0.00 6.00 51.94 40.29 0.00 7.73 0.00 35.65 213.23

195.88 0.00 31.79 389.56 323.31 0.00 0.60 0.00 940.54

206.26 0.00 33.19 406.73 340.44 0.00 0.00 0.00 0.00 986.89

217 20 0.00 34.88 424.00 358.49 0.00 0.00 0.00 0.00

158.72 0.00 26.62 323.33 261.97 0.00 0.00 0.00 0.00 770.85

150.16 0.00 25.32 306.35 247.84 0.00 0.00 0.00 729.88

167.77 0.00 28.01 340.91 276.90 0.00 0.00 0.00 0.00 013.59

176.86 0.00 29.20 356.64 291.58 0.00 0.00 0.00 0.00 0.54.07

186.02 0.00 30.46 372.85 307.03 0.00 0.00 0.00 0.00 896.36

