

INFORME DE GESTION DE EFICIENCIA ENERGETICA ELECTRICA

CLIENTE: PLANTA PAPELERA

A handwritten signature in black ink, which appears to read 'Eduardo Tiravanti Zapata'.

Ing. Eduardo Tiravanti Zapata
CIP 67938

1.- Memoria Descriptiva:

- ♦ La empresa está considerada como cliente regulado en plan tarifario MT3 con calificación Presente en hora Fuera de punta. La carga contratada está en 1150 Kw.
- ♦ Estamos adjuntando en el siguiente acápite las Tablas y Gráficos de los Consumos Eléctricos y Producción históricos para el año 2006, 2007, 2008, 2009, 2010 y lo que va del 2011. Estos datos nos sirven para el seguimiento respectivo de los consumidores en la empresa y saber exactamente si hemos mejorado nuestra eficiencia en el consumo eléctrico de planta, de lo contrario para tomar acciones que permitan el uso eficiente de la energía eléctrica.
- ♦ El Consumo Total de Energía Activa para los meses de enero y febrero del 2011 fueron:

Enero 2011:	538,954.20	Kwh.
Febrero 2011:	487,740.00	Kwh.

- ♦ El Pago que se realizó por dicho Consumo para los meses enero y febrero del 2011 fueron:

Enero 2011:	S/. 100,370.82
Febrero 2011:	S/. 91,656.80

- ♦ La Producción de Papel en Toneladas Métricas para los meses enero y febrero del 2011 fueron:

Enero 2011:	355.732 TM
Enero 2011:	328.274 TM

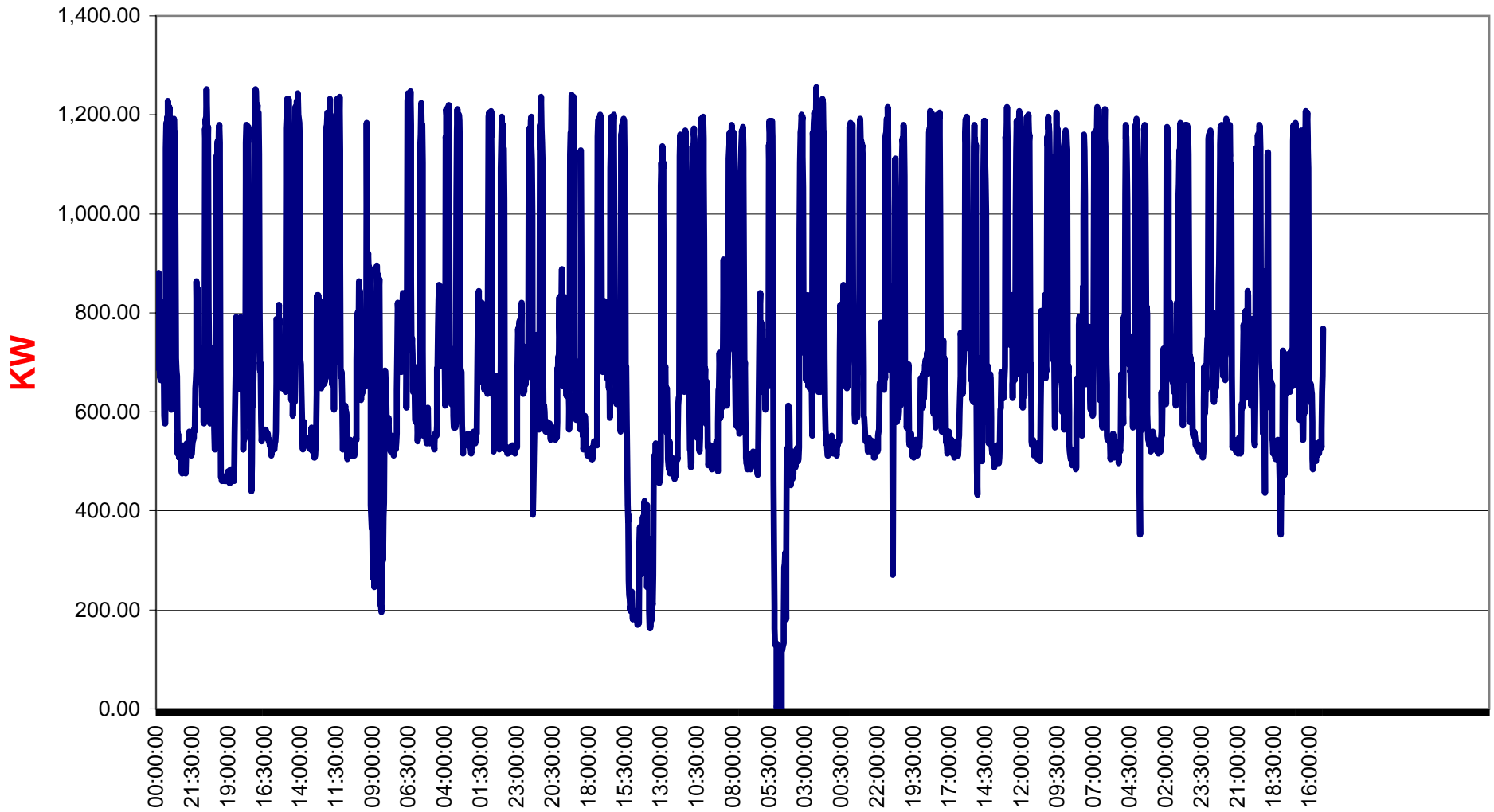
- ♦ El Indicador Energético para los meses de enero y febrero del 2011 fueron:

Enero 2011:	1,515.06 KWH / TM
Febrero 2011:	1,485.77 KWH / TM

2.- Observaciones y Conclusiones

- Visualizando los pagos realizados por los consumos de energía eléctrica de enero y febrero del 2011, tenemos una disminución en el pago de **S/. 8,714.02**, esta disminución se debe básicamente a la disminución del consumo y a los 29 días considerados en este mes de facturación. Se ha tenido una mejora en la eficiencia energética lo cual se observa en el valor del indicador energético de producción, que este mes ha seguido bajando, cerrando en 1,485.77 KWH / TON versus 1,515.06 KWH / TON del mes de enero del 2011.
- La energía reactiva sigue controlada, el porcentaje entre la reactiva/activa estuvo en **30.00 %**, lo que está en el límite del **30%**. Volvemos a insistir en que, con el lanzamiento de la nueva máquina Papelera, se tiene que prever la instalación de un nuevo banco de condensadores que compense el aumento de carga que se viene con esta nueva máquina.
- Todavía sigue en trámite nuestro reclamo por mala facturación de la demanda máxima en meses anteriores. Si observamos este mes, al igual que el mes anterior, la demanda máxima en fuera de punta es similar a la del ECS, esto debido a que sigue funcionando un nuevo medidor de Edelnor, pues el antiguo está en proceso de calibración. Se están calibrando también el Trafomix de voltaje y corriente. Los resultados del reclamo en primera instancia aún no salen, estamos a la espera de la carta de resolución que enviará Edelnor. Al recibir ésta podremos apelar a Osinerg adjuntando las nuevas pruebas dadas por la demanda máxima facturada en los últimos dos meses que si coinciden con nuestros valores del ECS interno.
- Con la situación del mercado de generación eléctrica actual, no es conveniente que nos atiendan como clientes libres un Generador y/o distribuidor. Nuestro nivel de demanda máxima es pequeño para efectos de conseguir mejores condiciones que las que tenemos como clientes regulados en tarifa MT3, por esto es recomendable mantenernos como clientes regulados. Estaremos monitoreando siempre la posibilidad de que algún Generador se interese en atendernos en mejores condiciones que las actuales de cliente regulado.
- Presentamos a continuación las tablas y gráficos históricos de consumos, así como el diagrama de demanda máxima del mes de Febrero del 2011 y la tabla de comparación entre lo facturado y el sistema de control ECS. Se adjunta también la hoja Excel de los registros de cargas y consumos eléctricos del sistema de control ECS.

DIAGRAMA DE MAXIMA DEMANDA ELECTRICA TOTAL FEB 2011



COMPARACIÓN DE DATOS: FACTURACION V.S. MEDICIÓN CON SIST. ECS
(FEBRERO 2011)

DESCRIPCIÓN	FACTURACIÓN	SIST. ECS	PORCENTAJE DE VARIACIÓN
Demanda Registrada H.P. (Kw)	612.00	608.00	0.65%
Demanda Registrada F.P. (Kw)	1,278.00	1,256.00	1.72%
Energía Activa H.P. (Kwh)	62,700.00	64,316.30	-2.58%
Energía Activa F.P. (Kwh)	425,040.00	432,202.10	-1.69%

kwh totales ECS	496,518.40
kwh totales Edelnor	487,740.00
diferencia en kwh:	-8,778.40
% de diferencia:	-1.80

TABLA DE CONSUMOS DIARIOS DE ENERGIA ELECTRICA

DIA	FECHA	KWH TOTAL	KWH_HP	KWH_FP
1	29/01/2011	16,719.00	2,699.00	14,020.00
2	30/01/2011	16,818.00	0.00	16,818.00
3	31/01/2011	17,360.00	2,671.00	14,689.00
4	01/02/2011	17,940.00	2,651.00	15,289.00
5	02/02/2011	18,077.00	2,655.00	15,422.00
6	03/02/2011	14,395.10	2,682.00	11,713.10
7	04/02/2011	17,367.00	2,712.00	14,655.00
8	05/02/2011	17,597.00	2,724.00	14,873.00
9	06/02/2011	17,202.00	0.00	17,202.00
10	07/02/2011	17,352.00	2,794.00	14,558.00
11	08/02/2011	16,964.00	2,646.00	14,318.00
12	09/02/2011	16,512.40	970.30	15,542.10
13	10/02/2011	11,663.00	2,450.00	9,213.00
14	11/02/2011	18,065.00	2,561.00	15,504.00
15	12/02/2011	17,331.00	2,507.00	14,824.00
16	13/02/2011	12,178.10	0.00	12,178.10
17	14/02/2011	18,717.00	2,660.00	16,057.00
18	15/02/2011	17,406.00	2,671.00	14,735.00
19	16/02/2011	17,727.80	2,634.00	15,093.80
20	17/02/2011	17,270.00	2,651.00	14,619.00
21	18/02/2011	17,451.00	2,575.00	14,876.00
22	19/02/2011	19,195.00	2,624.00	16,571.00
23	20/02/2011	18,790.00	0.00	18,790.00
24	21/02/2011	17,669.00	2,637.00	15,032.00
25	22/02/2011	17,153.00	2,679.00	14,474.00
26	23/02/2011	18,447.00	2,688.00	15,759.00
27	24/02/2011	18,637.00	2,658.00	15,979.00
28	25/02/2011	17,033.00	2,494.00	14,539.00
29	26/02/2011	17,482.00	2,623.00	14,859.00
30	00/01/1900	0.00	0.00	0.00
31	00/01/1900	0.00	0.00	0.00
32	00/01/1900	0.00	0.00	0.00
33	00/01/1900	0.00	0.00	0.00
TOTAL:		496,518.40	64,316.30	432,202.10

F.C.	MAX KWH HP MES
0.43	80,007.20

SALDO KWH HP MES
15,690.90

MAX KWH/DIA QUE RESTAN

CONSUMOS ELECTRICOS HISTORICOS

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	PRODUCC TN	RATIO PROD KWH/TON	PAGADO SI.	FACT.CARGA %	PRECIO PROM SI./KWH
Ene-05	570,046.80	75,685.80	645,732.60	1,276.80	741.60	1,285.20	933.60	184,707.00	282.689	2,284.25	122,664.52	70.24	0.1900
Feb-05	520,568.40	76,291.20	596,859.60	1,288.80	748.80	1,291.20	933.60	168,310.80	255.123	2,339.50	119,242.95	64.32	0.1998
Mar-05	626,968.20	82,849.80	709,818.00	1,315.20	751.20	1,304.40	933.60	218,846.25	276.213	2,569.82	129,040.36	74.96	0.1818
Abr-05	400,962.00	56,767.80	457,729.80	1,298.40	662.40	1,306.80	933.60	123,337.80	197.859	2,313.41	88,698.67	48.96	0.1938
May-05	528,949.80	74,462.40	603,412.20	1,190.40	672.00	1,306.80	835.20	207,475.65	222.959	2,706.38	104,667.35	70.40	0.1735
Jun-05	495,490.85	73,439.84	568,930.69	1,390.69	1,146.49	1,352.95	948.85	176,227.24	257.115	2,212.75	128,822.48	56.82	0.2264
Jul-05	203,824.20	29,046.60	232,870.80	1,008.00	628.80	1,306.80	750.00	60,398.10	91.865	2,534.92	63,757.28	32.09	0.2738
Ago-05	464,668.80	65,320.20	529,989.00	1,003.20	633.60	1,003.20	633.60	162,639.00	267.910	1,978.24	93,833.23	73.37	0.1770
Sep-05	430,776.00	58,856.40	489,632.40	1,005.60	628.80	1,004.40	631.20	235,896.75	251.519	1,946.70	94,159.25	67.63	0.1923
Oct-05	438,349.80	55,540.80	493,890.60	976.80	544.80	1,004.40	631.20	295,161.75	244.552	2,019.57	93,613.35	70.23	0.1895
Nov-05	418,097.40	61,917.00	480,014.40	1,041.60	616.80	1,023.60	631.20	185,622.75	284.987	1,684.34	88,406.18	64.01	0.1842
Dic-05	447,976.80	58,305.60	506,282.40	1,020.00	566.40	1,030.80	631.20	167,517.45	280.500	1,804.93	90,571.36	68.94	0.1789
Ene-06	456,576.00	65,870.40	522,446.40	1,039.20	556.80	1,040.40	631.20	170,239.50	305.765	1,708.65	92,947.19	69.82	0.1779
Feb-06	423,876.60	61,260.00	485,136.60	1,003.20	561.60	1,040.40	622.80	162,470.55	277.847	1,746.06	87,453.08	67.17	0.1803
Mar-06	444,051.60	67,112.40	511,164.00	1,022.40	573.60	1,040.40	595.20	150,535.65	303.305	1,685.31	89,057.88	69.44	0.1742
Abr-06	332,678.40	56,433.60	389,112.00	902.40	604.80	1,040.40	610.80	87,225.75	241.935	1,608.33	75,831.04	59.89	0.1949
May-06	299,735.40	43,891.20	343,626.60	926.40	554.40	1,030.80	589.20	67,694.85	193.534	1,775.54	64,125.47	51.52	0.1866
Jun-06	443,637.60	65,591.40	509,229.00	933.60	578.40	1,030.80	591.60	92,675.70	349.694	1,456.21	81,465.62	75.76	0.1600
Jul-06	441,893.40	61,600.20	503,493.60	945.60	588.00	1,012.80	596.40	98,880.75	316.553	1,590.55	82,484.00	73.95	0.1638
Ago-06	381,924.00	57,071.40	438,995.40	919.20	568.80	984.00	596.40	83,353.95	278.979	1,573.58	75,355.01	66.33	0.1717
Sep-06	406,787.40	65,815.80	472,603.20	988.80	600.00	967.20	602.40	113,710.95	289.037	1,635.10	79,121.15	66.38	0.1674
Oct-06	472,675.80	65,539.20	538,215.00	996.00	600.00	992.40	600.00	131,765.40	340.044	1,582.78	86,248.69	75.05	0.1602
Nov-06	424,306.20	58,663.20	482,969.40	984.00	633.60	992.40	616.80	115,039.80	299.543	1,612.35	77,855.65	68.17	0.1612
Dic-06	362,344.20	54,001.20	416,345.40	962.40	571.20	992.40	616.80	100,319.40	244.854	1,700.38	70,627.96	60.08	0.1696
Ene-07	357,659.00	52,591.00	410,250.00	938.40	544.80	992.40	616.80	99,335.00	266.539	1,539.17	69,983.82	60.72	0.1706
Feb-07	399,970.20	57,237.60	457,207.80	993.60	540.00	994.80	616.80	114,212.50	325.627	1,404.08	74,890.52	63.91	0.1638
Mar-07	425,911.20	65,985.60	491,896.80	938.40	547.20	994.80	616.80	120,850.20	345.165	1,425.11	78,567.75	72.80	0.1597
Abr-07	435,676.20	59,677.80	495,354.00	972.00	547.20	988.80	602.40	126,306.90	361.774	1,369.24	79,226.34	70.78	0.1599
May-07	434,477.40	61,167.60	495,645.00	984.00	542.40	988.80	559.20	128,187.45	337.539	1,468.41	77,289.70	69.96	0.1559
Jun-07	427,789.80	59,483.40	487,273.20	988.80	571.20	991.20	559.20	92,693.25	303.996	1,602.89	76,776.43	68.44	0.1576
Jul-07	453,468.00	59,849.40	513,317.40	1,008.00	556.80	1,000.80	564.00	115,721.10	302.588	1,696.42	79,703.38	70.73	0.1553
Ago-07	471,406.80	66,830.40	538,237.20	991.20	559.20	999.60	565.20	151,015.00	374.426	1,437.50	84,989.13	75.42	0.1579
Sep-07	445,877.40	67,080.00	512,957.40	1,005.60	573.60	1,006.80	572.40	144,288.45	341.532	1,501.93	82,904.07	70.85	0.1616

Oct-07	474,379.80	65,775.60	540,155.40	988.80	556.80	1,006.80	572.40	141,542.10	359.878	1,500.94	85,763.16	75.87	0.1588
Nov-07	371,182.20	48,705.00	419,887.20	996.00	537.60	1,006.80	572.40	110,569.50	271.027	1,549.24	69,469.42	58.55	0.1654
Dic-07	428,019.60	50,457.00	478,476.60	955.20	564.00	1,006.80	568.80	139,685.40	332.792	1,437.76	74,857.59	69.57	0.1564
Ene-08	418,605.60	55,108.20	473,713.80	928.80	487.20	1,006.80	572.40	136,973.25	307.949	1,538.29	71,885.63	70.84	0.1517
Feb-08	414,846.00	59,090.40	473,936.40	931.20	520.80	1,000.80	568.80	152,221.50	302.976	1,564.27	71,850.73	70.69	0.1516
Mar-08	420,737.40	52,719.60	473,457.00	955.20	504.00	992.40	560.40	143,774.55	334.684	1,414.64	71,032.88	68.84	0.1500
Abr-08	418,833.60	61,026.00	479,859.60	912.00	516.00	975.60	550.80	124,950.15	349.506	1,372.97	73,053.14	73.08	0.1522
May-08	448,308.00	61,918.20	510,226.20	936.00	535.20	955.20	549.60	124,410.15	370.392	1,377.53	78,063.38	75.71	0.1530
Jun-08	434,711.40	60,485.40	495,196.80	952.80	540.00	954.00	537.60	119,922.30	325.296	1,522.30	76,511.71	72.18	0.1545
Jul-08	449,026.80	57,607.20	506,634.00	957.60	535.20	956.40	537.60	128,469.60	310.756	1,630.33	83,570.89	73.48	0.1650
Ago-08	448,580.40	60,791.40	509,371.80	981.60	537.60	969.60	538.80	144,622.80	331.627	1,535.98	82,167.35	72.07	0.1613
Sep-08	420,430.20	58,488.60	478,918.80	928.80	532.80	969.60	538.80	130,700.70	321.684	1,488.79	83,463.95	71.62	0.1743
Oct-08	435,748.20	61,119.00	496,867.20	916.80	540.00	969.60	540.00	132,620.85	320.298	1,551.27	86,717.54	75.27	0.1745
Nov-08	434,419.20	58,613.40	493,032.60	924.00	535.20	969.60	540.00	105,587.55	323.561	1,523.77	86,527.46	74.11	0.1755
Dic-08	466,464.00	59,982.60	526,446.60	979.20	542.40	980.40	541.20	113,922.45	376.623	1,397.81	87,298.13	74.67	0.1658
Ene-09	427,033.80	56,407.20	483,441.00	993.60	516.00	987.60	541.20	141,827.40	293.997	1,644.37	81,771.87	67.58	0.1691
Feb-09	421,999.20	58,941.60	480,940.80	998.40	552.00	996.00	547.20	131,151.60	331.014	1,452.93	77,830.14	66.90	0.1618
Mar-09	437,273.40	56,617.20	493,890.60	972.00	552.00	996.00	552.00	76,743.00	325.979	1,515.10	82,882.62	70.57	0.1678
Abr-09	440,940.00	58,638.00	499,578.00	948.00	578.40	996.00	565.20	110,793.15	359.932	1,387.98	83,913.87	73.19	0.1680
May-09	436,290.00	62,876.40	499,166.40	1,034.40	588.00	1,016.40	570.00	74,789.10	323.172	1,544.58	86,778.90	67.02	0.1738
Jun-09	362,715.60	49,863.60	412,579.20	981.60	532.80	1,016.40	583.20	68,715.40	240.019	1,718.94	77,242.92	58.38	0.1872
Jul-09	455,217.60	61,210.20	516,427.80	993.60	547.20	1,016.40	583.20	98,545.05	327.479	1,576.98	88,808.72	72.19	0.1720
Ago-09	437,147.40	60,930.00	498,077.40	984.00	542.40	1,034.40	588.00	72,652.95	306.157	1,626.87	87,553.82	70.30	0.1758
Sep-09	465,288.60	66,320.40	531,609.00	1,000.80	549.60	1,017.60	583.20	102,666.60	382.378	1,390.27	84,353.13	73.78	0.1587
Oct-09	481,776.00	67,355.40	549,131.40	993.60	568.80	1,017.60	578.40	110,462.85	386.768	1,419.80	86,508.56	76.76	0.1575
Nov-09	487,557.60	64,606.80	552,164.40	1,046.40	568.80	1,023.60	568.80	100,437.30	397.142	1,390.35	86,101.97	73.29	0.1559
Dic-09	465,267.00	61,352.40	526,619.40	1,036.80	559.20	1,041.60	568.80	80,041.05	376.468	1,398.84	83,821.77	70.55	0.1592
Ene-10	437,457.00	62,796.00	500,253.00	1,020.00	578.40	1,041.60	573.60	86,337.00	359.814	1,390.31	80,257.20	68.12	0.1604
Feb-10	423,939.60	61,251.00	485,190.60	1,029.60	552.00	1,041.60	573.60	102,390.30	345.730	1,403.38	78,610.67	65.45	0.1620
Mar-10	431,445.60	60,266.40	491,712.00	1,003.20	535.20	1,041.60	573.60	109,569.15	360.709	1,363.18	85,432.25	68.08	0.1737
Abr-10	445,679.40	58,387.80	504,067.20	1,068.00	561.60	1,057.20	573.60	136,801.35	324.724	1,552.29	86,971.27	65.55	0.1725
May-10	446,611.20	61,042.80	507,654.00	1,068.00	564.00	1,068.00	571.20	148,954.95	312.335	1,625.35	83,028.67	66.02	0.1636
Jun-10	418,815.00	60,342.60	479,157.60	1,209.60	549.60	1,138.80	571.20	77,323.95	305.550	1,568.18	82,288.55	55.02	0.1717
Jul-10	456,426.60	59,815.20	516,241.80	1,286.40	564.00	1,248.00	564.00	80,075.25	336.422	1,534.51	90,411.52	55.74	0.1751
Ago-10	362,750.40	50,213.40	412,963.80	1,288.80	578.40	1,288.40	578.40	76,880.00	362.396	1,139.54	76,801.90	44.50	0.1860
Sep-10	486,242.40	69,954.60	556,197.00	1,303.20	597.60	1,296.00	588.00	108,458.00	333.162	1,669.45	93,722.76	59.28	0.1685
Oct-10	414,960.60	61,105.80	476,066.40	1,399.20	628.80	1,351.20	613.20	105,210.00	321.172	1,482.28	87,631.71	47.26	0.1841

Nov-10	495,873.60	71,441.40	567,315.00	1,327.20	645.60	1,363.20	637.20	133,886.00	318.801	1,779.53	98,419.34	59.37	0.1735
Dic-10	486,014.40	64,499.40	550,513.80	1,348.80	628.80	1,374.00	637.20	148,638.67	369.223	1,491.01	97,364.94	56.69	0.1769
Ene-11	471,238.20	67,716.00	538,954.20	1,267.20	664.80	1,374.00	655.20	150,907.18	355.732	1,515.06	100,370.82	59.07	0.1862
Feb-11	425,040.00	62,700.00	487,740.00	1,278.00	612.00	1,374.00	654.80	136,567.00	328.274	1,485.77	91,656.80	53.01	0.1879

S/. 2005:	1,217,476.98
S/. 2006:	962,572.74
S/. 2007:	934,421.31
S/. 2008:	952,142.79
S/. 2009:	1,007,568.29
S/. 2010:	1,232,968.40

R. PROM.05	2,199.57	Kwh/TM
R. PROM.06	1,639.57	Kwh/TM
R. PROM.07	1,494.39	Kwh/TM
R. PROM.08	1,493.16	Kwh/TM
R. PROM.09	1,505.58	Kwh/TM
R. PROM.10	1,499.99	Kwh/TM

PROD 2005:	2,913.29	TM
PROD 2006:	3,441.09	TM
PROD 2007:	3,922.88	TM
PROD 2008:	3,975.35	TM
PROD 2009:	4,050.51	TM
PROD 2010:	4,734.04	TM

TABLA DE AHORROS ACUMULADOS

Ahorros comparando con producciones antes de la gestión que inició en agosto del 2005

MES	KWHr-TOTAL	PRODUCC TN	PAGADO S/.	AHORRO ACUMULADO S/.	AHOR ACUM ANUAL S/.
Ene-05	645,732.60	282.689	122,664.52		
Feb-05	596,859.60	255.123	119,242.95		
Mar-05	709,818.00	276.213	129,040.36		
Abr-05	457,729.80	197.859	88,698.67		
May-05	603,412.20	222.959	104,667.35		
Jun-05	568,930.69	257.115	128,822.48		
Jul-05	232,870.80	91.865	63,757.28		
Ago-05	529,989.00	267.910	93,833.23		
Sep-05	489,632.40	251.519	94,159.25	25,083.70	
Oct-05	493,890.60	244.552	93,613.35	11,054.00	
Nov-05	480,014.40	284.987	88,406.18	34,258.34	
Dic-05	506,282.40	280.500	90,571.36	32,093.16	102,489.20
Ene-06	522,446.40	305.765	92,947.19	36,093.17	
Feb-06	485,136.60	277.847	87,453.08	35,211.44	
Mar-06	511,164.00	303.305	89,057.88	39,982.48	
Abr-06	389,112.00	241.935	75,831.04	43,411.91	
May-06	343,626.60	193.534	64,125.47	24,573.20	
Jun-06	509,229.00	349.694	81,465.62	47,574.74	
Jul-06	503,493.60	316.553	82,484.00	46,556.36	
Ago-06	438,995.40	278.979	75,355.01	43,887.94	
Sep-06	472,603.20	289.037	79,121.15	43,543.37	
Oct-06	538,215.00	340.044	86,248.69	42,791.67	
Nov-06	482,969.40	299.543	77,855.65	51,184.71	
Dic-06	416,345.40	244.854	70,627.96	48,614.99	503,425.98
Ene-07	410,250.00	266.539	69,983.82	49,259.13	
Feb-07	457,207.80	325.627	74,890.52	54,149.84	
Mar-07	491,896.80	345.165	78,567.75	50,472.61	
Abr-07	495,354.00	361.774	79,226.34	49,814.02	
May-07	495,645.00	337.539	77,289.70	51,750.66	
Jun-07	487,273.20	303.996	76,776.43	52,263.93	
Jul-07	513,317.40	302.588	79,703.38	49,336.98	
Ago-07	538,237.20	374.426	84,989.13	44,051.23	
Sep-07	512,957.40	341.532	82,904.07	46,136.29	
Oct-07	540,155.40	359.878	85,763.16	43,277.20	
Nov-07	419,887.20	271.027	69,469.42	59,570.94	
Dic-07	478,476.60	332.792	74,857.59	54,182.77	604,265.60
Ene-08	473,713.80	307.949	71,885.63	57,154.73	
Feb-08	473,936.40	302.976	71,850.73	57,189.63	
Mar-08	473,457.00	334.684	71,032.88	58,007.48	

Abr-08	479,859.60	349.506	73,053.14	55,987.22
May-08	510,226.20	370.392	78,063.38	50,976.98
Jun-08	495,196.80	325.296	76,511.71	52,528.65
Jul-08	506,634.00	310.756	83,570.89	45,469.47
Ago-08	509,371.80	331.627	82,167.35	46,873.01
Sep-08	478,918.80	321.684	83,463.95	45,576.41
Oct-08	496,867.20	320.298	86,717.54	42,322.82
Nov-08	493,032.60	323.561	86,527.46	42,512.90
Dic-08	526,446.60	376.623	87,298.13	41,742.23
Ene-09	483,441.00	293.997	81,771.87	47,268.49
Feb-09	480,940.80	331.014	77,830.14	51,210.22
Mar-09	493,890.60	325.979	82,882.62	46,157.74
Abr-09	499,578.00	359.932	83,913.87	45,126.49
May-09	499,166.40	323.172	86,778.90	42,261.46
Jun-09	412,579.20	240.019	77,242.92	42,000.03
Jul-09	516,427.80	327.479	88,808.72	40,231.64
Ago-09	498,077.40	306.157	87,553.82	41,486.54
Sep-09	531,609.00	382.378	84,353.13	44,687.23
Oct-09	549,131.40	386.768	86,508.56	42,531.80
Nov-09	552,164.40	397.142	86,101.97	42,938.39
Dic-09	526,619.40	376.468	83,821.77	45,218.59
Ene-10	500,253.00	359.814	80,257.20	48,783.16
Feb-10	485,190.60	345.730	78,610.67	50,429.69
Mar-10	491,712.00	360.709	85,432.25	43,608.11
Abr-10	504,067.20	324.724	86,971.27	42,069.09
May-10	507,654.00	312.335	83,028.67	46,011.69
Jun-10	479,157.60	305.550	82,288.55	40,375.97
Jul-10	516,241.80	336.422	90,411.52	32,253.00
Ago-10	412,963.80	362.396	76,801.90	45,862.62
Sep-10	556,197.00	333.162	93,722.76	28,941.76
Oct-10	476,066.40	321.172	87,631.71	35,032.81
Nov-10	567,315.00	318.801	98,419.34	24,245.18
Dic-10	550,513.80	369.223	97,364.94	25,299.58
Ene-11	538,954.20	355.732	100,370.82	22,293.70
Feb-11	487,740.00	328.274	91,656.80	31,007.72
TOTAL:	32,459,127.00	21,185.43	5,456,423.67	2,853,855.01

596,341.53

531,118.62

462,912.66

CONSUMOS ELECTRICOS HISTORICOS AÑO 2005

MES	kW hr - FP	kW hr - HP	kW hr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	REAC/ACT	PAGADO S/.	PRECIO PROM S/./KWH
Ene-05	570,046.80	75,685.80	645,732.60	1,276.80	741.60	1,285.20	933.60	184,707.00	28.60	122,664.52	0.1900
Feb-05	520,568.40	76,291.20	596,859.60	1,288.80	748.80	1,291.20	933.60	168,310.80	28.20	119,242.95	0.1998
Mar-05	626,968.20	82,849.80	709,818.00	1,315.20	751.20	1,304.40	933.60	218,846.25	30.83	129,040.36	0.1818
Abr-05	400,962.00	56,767.80	457,729.80	1,298.40	662.40	1,306.80	933.60	123,337.80	26.95	88,698.67	0.1938
May-05	528,949.80	74,462.40	603,412.20	1,190.40	672.00	1,306.80	835.20	207,475.65	34.38	104,667.35	0.1735
Jun-05	495,490.85	73,439.84	568,930.69	1,390.69	1,146.49	1,352.95	948.85	176,227.24	30.98	128,822.48	0.2264
Jul-05	203,824.20	29,046.60	232,870.80	1,008.00	628.80	1,306.80	750.00	60,398.10	25.94	63,757.28	0.2738
Ago-05	464,668.80	65,320.20	529,989.00	1,003.20	633.60	1,003.20	633.60	162,639.00	30.69	93,833.23	0.1770
Sep-05	430,776.00	58,856.40	489,632.40	1,005.60	628.80	1,004.40	631.20	235,896.75	48.18	94,159.25	0.1923
Oct-05	438,349.80	55,540.80	493,890.60	976.80	544.80	1,004.40	631.20	295,161.75	59.76	93,613.35	0.1895
Nov-05	418,097.40	61,917.00	480,014.40	1,041.60	616.80	1,023.60	631.20	185,622.75	38.67	88,406.18	0.1842
Dic-05	447,976.80	58,305.60	506,282.40	1,020.00	566.40	1,030.80	631.20	167,517.45	33.09	90,571.36	0.1789
TOTAL:	5,546,679.05	768,483.44	6,315,162.49					2,186,140.54		1,217,476.98	0.1928

CONSUMOS ELECTRICOS HISTORICOS AÑO 2006

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	REAC/ACT	PAGADO S/.	PRECIO PROM S/./KWH
Ene-06	456,576.00	65,870.40	522,446.40	1,039.20	556.80	1,040.40	631.20	170,239.50	32.59	92,947.19	0.1779
Feb-06	423,876.60	61,260.00	485,136.60	1,003.20	561.60	1,040.40	622.80	162,470.55	33.49	87,453.08	0.1803
Mar-06	444,051.60	67,112.40	511,164.00	1,022.40	573.60	1,040.40	595.20	150,535.65	29.45	89,057.88	0.1742
Abr-06	332,678.40	56,433.60	389,112.00	902.40	604.80	1,040.40	610.80	87,225.75	22.42	75,831.04	0.1949
May-06	299,735.40	43,891.20	343,626.60	926.40	554.40	1,030.80	589.20	67,694.85	19.70	64,125.47	0.1866
Jun-06	443,637.60	65,591.40	509,229.00	933.60	578.40	1,030.80	591.60	92,675.70	18.20	81,465.62	0.1600
Jul-06	441,893.40	61,600.20	503,493.60	945.60	588.00	1,012.80	596.40	98,880.75	19.64	82,484.00	0.1638
Ago-06	381,924.00	57,071.40	438,995.40	919.20	568.80	984.00	596.40	83,353.95	18.99	75,355.01	0.1717
Sep-06	406,787.40	65,815.80	472,603.20	988.80	600.00	967.20	602.40	113,710.95	24.06	79,121.15	0.1674
Oct-06	472,675.80	65,539.20	538,215.00	996.00	600.00	992.40	600.00	131,765.40	24.48	86,248.69	0.1602
Nov-06	424,306.20	58,663.20	482,969.40	984.00	633.60	992.40	616.80	115,039.80	23.82	77,855.65	0.1612
Dic-06	362,344.20	54,001.20	416,345.40	962.40	571.20	992.40	616.80	100,319.40	24.10	70,627.96	0.1696
TOTAL:	4,890,486.60	722,850.00	5,613,336.60					1,373,912.25		962,572.74	0.1715

CONSUMOS ELECTRICOS HISTORICOS AÑO 2007

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	REAC/ACT	PAGO E. RURAL S/.	PAGADO S/.	PRECIO PROM S./KWH
Ene-07	357,659.00	52,591.00	410,250.00	938.40	544.80	992.40	616.80	99,335.00	24.21	-	69,983.82	0.1706
Feb-07	399,970.20	57,237.60	457,207.80	993.60	540.00	994.80	616.80	114,212.50	24.98	-	74,890.52	0.1638
Mar-07	425,911.20	65,985.60	491,896.80	938.40	547.20	994.80	616.80	120,850.20	24.57	-	78,567.75	0.1597
Abr-07	435,676.20	59,677.80	495,354.00	972.00	547.20	988.80	602.40	126,306.90	25.50	-	79,226.34	0.1599
May-07	434,477.40	61,167.60	495,645.00	984.00	542.40	988.80	559.20	128,187.45	25.86	3,419.95	80,708.75	0.1628
Jun-07	427,789.80	59,483.40	487,273.20	988.80	571.20	991.20	559.20	92,693.25	19.02	3,362.19	80,138.62	0.1645
Jul-07	453,468.00	59,849.40	513,317.40	1,008.00	556.80	1,000.80	564.00	115,721.10	22.54	3,541.89	83,245.27	0.1622
Ago-07	471,406.80	66,830.40	538,237.20	991.20	559.20	999.60	565.20	151,015.00	28.06	3,713.84	88,702.97	0.1648
Sep-07	445,877.40	67,080.00	512,957.40	1,005.60	573.60	1,006.80	572.40	144,288.45	28.13	3,539.41	86,443.48	0.1685
Oct-07	474,379.80	65,775.60	540,155.40	988.80	556.80	1,006.80	572.40	141,542.10	26.20	3,727.07	89,490.23	0.1657
Nov-07	371,182.20	48,705.00	419,887.20	996.00	537.60	1,006.80	572.40	110,569.50	26.33	2,897.22	72,366.64	0.1723
Dic-07	428,019.60	50,457.00	478,476.60	955.20	564.00	1,006.80	568.80	139,685.40	29.19	3,301.49	78,206.93	0.1634
TOTAL:	5,125,817.60	714,840.40	5,840,658.00					1,484,406.85			961,971.32	0.1647

CONSUMOS ELECTRICOS HISTORICOS AÑO 2008

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	REAC/ACT	PAGO E. RURAL S/.	PAGADO S/.	PRECIO PROM S./KWH
Ene-08	418,605.60	55,108.20	473,713.80	928.80	487.20	1,006.80	572.40	136,973.25	28.91	3,268.63	75,201.63	0.1587
Feb-08	414,846.00	59,090.40	473,936.40	931.20	520.80	1,000.80	568.80	152,221.50	32.12	3,270.16	71,850.73	0.1516
Mar-08	420,737.40	52,719.60	473,457.00	955.20	504.00	992.40	560.40	143,774.55	30.37	0.00	71,032.88	0.1500
Abr-08	418,833.60	61,026.00	479,859.60	912.00	516.00	975.60	550.80	124,950.15	26.04	3,311.03	73,053.14	0.1522
May-08	448,308.00	61,918.20	510,226.20	936.00	535.20	955.20	549.60	124,410.15	24.38	3,520.56	78,063.38	0.1530
Jun-08	434,711.40	60,485.40	495,196.80	952.80	540.00	954.00	537.60	119,922.30	24.22	3,416.86	76,511.71	0.1545
Jul-08	449,026.80	57,607.20	506,634.00	957.60	535.20	956.40	537.60	128,469.60	25.36	3,495.77	83,570.89	0.1650
Ago-08	448,580.40	60,791.40	509,371.80	981.60	537.60	969.60	538.80	144,622.80	28.39	3,514.67	82,167.35	0.1613
Sep-08	420,430.20	58,488.60	478,918.80	928.80	532.80	969.60	538.80	130,700.70	27.29	3,304.54	83,463.95	0.1743
Oct-08	435,748.20	61,119.00	496,867.20	916.80	540.00	969.60	540.00	132,620.85	26.69	3,428.38	86,717.54	0.1745
Nov-08	434,419.20	58,613.40	493,032.60	924.00	535.20	969.60	540.00	105,587.55	21.42	3,401.92	86,527.46	0.1755
Dic-08	466,464.00	59,982.60	526,446.60	979.20	542.40	980.40	541.20	113,922.45	21.64	3,632.48	86,527.46	0.1644
TOTAL:	5,210,710.80	706,950.00	5,917,660.80					1,558,175.85			954,688.12	0.1613

CONSUMOS ELECTRICOS HISTORICOS AÑO 2009

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA	DEM.LEIDA	kVArHr	REAC/ACT	PAGO E. RURAL	PAGADO	PRECIO PROM
						FP	HP			S/.	S/.	S/./KWH
Ene-09	427,033.80	56,407.20	483,441.00	993.60	516.00	987.60	541.20	141,827.40	29.34	3,335.74	81,771.87	0.1691
Feb-09	421,999.20	58,941.60	480,940.80	998.40	552.00	996.00	547.20	131,151.60	27.27	0.00	77,830.14	0.1618
Mar-09	437,273.40	56,617.20	493,890.60	972.00	552.00	996.00	552.00	76,743.00	15.54	3,506.62	82,882.62	0.1678
Abr-09	440,940.00	58,638.00	499,578.00	948.00	578.40	996.00	565.20	110,793.15	22.18	3,547.00	83,913.87	0.1680
May-09	436,290.00	62,876.40	499,166.40	1,034.40	588.00	1,016.40	570.00	74,789.10	14.98	3,444.25	86,778.90	0.1738
Jun-09	362,715.60	49,863.60	412,579.20	981.60	532.80	1,016.40	583.20	68,715.40	16.66	2,846.80	77,242.92	0.1872
Jul-09	455,217.60	61,210.20	516,427.80	993.60	547.20	1,016.40	583.20	98,545.05	19.08	3,563.35	88,808.72	0.1720
Ago-09	437,147.40	60,930.00	498,077.40	984.00	542.40	1,034.40	588.00	72,652.95	14.59	3,436.73	87,553.82	0.1758
Sep-09	465,288.60	66,320.40	531,609.00	1,000.80	549.60	1,017.60	583.20	102,666.60	19.31	3,668.10	84,353.13	0.1587
Oct-09	481,776.00	67,355.40	549,131.40	993.60	568.80	1,017.60	578.40	110,462.85	20.12	3,789.01	86,508.56	0.1575
Nov-09	487,557.60	64,606.80	552,164.40	1,046.40	568.80	1,023.60	568.80	100,437.30	18.19	3,809.93	86,101.97	0.1559
Dic-09	465,267.00	61,352.40	526,619.40	1,036.80	559.20	1,041.60	568.80	80,041.05	15.20	3,633.67	83,821.77	0.1592
TOTAL:	5,318,506.20	725,119.20	6,043,625.40					1,168,825.45			1,007,568.29	0.1667

CONSUMOS ELECTRICOS HISTORICOS AÑO 2010

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	REAC/ACT	PAGO E. RURAL S/.	PAGADO S/.
Ene-10	437,457.00	62,796.00	500,253.00	1,020.00	578.40	1,041.60	573.60	86,337.00	17.26	3,451.75	80,257.20
Feb-10	423,939.60	61,251.00	485,190.60	1,029.60	552.00	1,041.60	573.60	102,390.30	21.10	3,347.82	78,610.67
Mar-10	431,445.60	60,266.40	491,712.00	1,003.20	535.20	1,041.60	573.60	109,569.15	22.28	3,392.81	85,432.25
Abr-10	445,679.40	58,387.80	504,067.20	1,068.00	561.60	1,057.20	573.60	136,801.35	27.14	3,478.06	86,971.27
May-10	446,611.20	61,042.80	507,654.00	1,068.00	564.00	1,068.00	571.20	148,954.95	29.34	3,655.11	83,028.67
Jun-10	418,815.00	60,342.60	479,157.60	1,209.60	549.60	1,138.80	571.20	77,323.95	16.14	3,449.93	82,288.55
Jul-10	456,426.60	59,815.20	516,241.80	1,286.40	564.00	1,248.00	564.00	80,075.25	15.51	3,562.07	90,411.52
Ago-10	362,750.40	50,213.40	412,963.80	1,288.80	578.40	1,288.40	578.40	76,880.00	18.62	2,973.34	76,801.90
Sep-10	486,242.40	69,954.60	556,197.00	1,303.20	597.60	1,296.00	588.00	108,458.00	19.50	4,004.62	93,722.76
Oct-10	414,960.60	61,105.80	476,066.40	1,399.20	628.80	1,351.20	613.20	105,210.00	22.10	3,427.68	87,631.71
Nov-10	495,873.60	71,441.40	567,315.00	1,327.20	645.60	1,363.20	637.20	133,886.00	23.60	4,084.67	98,419.34
Dic-10	486,014.40	64,499.40	550,513.80	1,348.80	628.80	1,374.00	637.20	148,638.67	27.00	3,963.70	97,364.94
TOTAL:	5,306,215.80	741,116.40	6,047,332.20					1,314,524.62			1,040,940.78

CONSUMOS ELECTRICOS HISTORICOS AÑO 2011

MES	kWhr - FP	kWhr - HP	kWhr-TOTAL	kW - FP	kW- HP	DEM.LEIDA FP	DEM.LEIDA HP	kVArHr	REAC/ACT	PAGO E. RURAL S/.	PAGADO S/.	PRECIO PROM S/./KWH
Ene-11	471,238.20	67,716.00	538,954.20	1,267.20	664.80	1,374.00	655.20	150,907.18	28.00	3,880.47	100,370.82	0.1862
Feb-10	425,040.00	62,700.00	487,740.00	1,278.00	612.00	1,374.00	654.80	136,567.00	28.00	3,511.73	91,656.80	0.1879
Mar-10			0.00						#¡DIV/0!			#¡DIV/0!
Abr-10			0.00						#¡DIV/0!			#¡DIV/0!
May-10			0.00						#¡DIV/0!			#¡DIV/0!
Jun-10			0.00						#¡DIV/0!			#¡DIV/0!
Jul-10			0.00						#¡DIV/0!			#¡DIV/0!
Ago-10			0.00						#¡DIV/0!			#¡DIV/0!
Sep-10			0.00						#¡DIV/0!			#¡DIV/0!
Oct-10			0.00						#¡DIV/0!			#¡DIV/0!
Nov-10			0.00						#¡DIV/0!			#¡DIV/0!
Dic-10			0.00						#¡DIV/0!			#¡DIV/0!
TOTAL:	896,278.20	#####	#####					287,474.18			192,027.62	0.1870

DIAGRAMA DE CONSUMOS DE ENERGIA ACTIVA TOTAL KWH

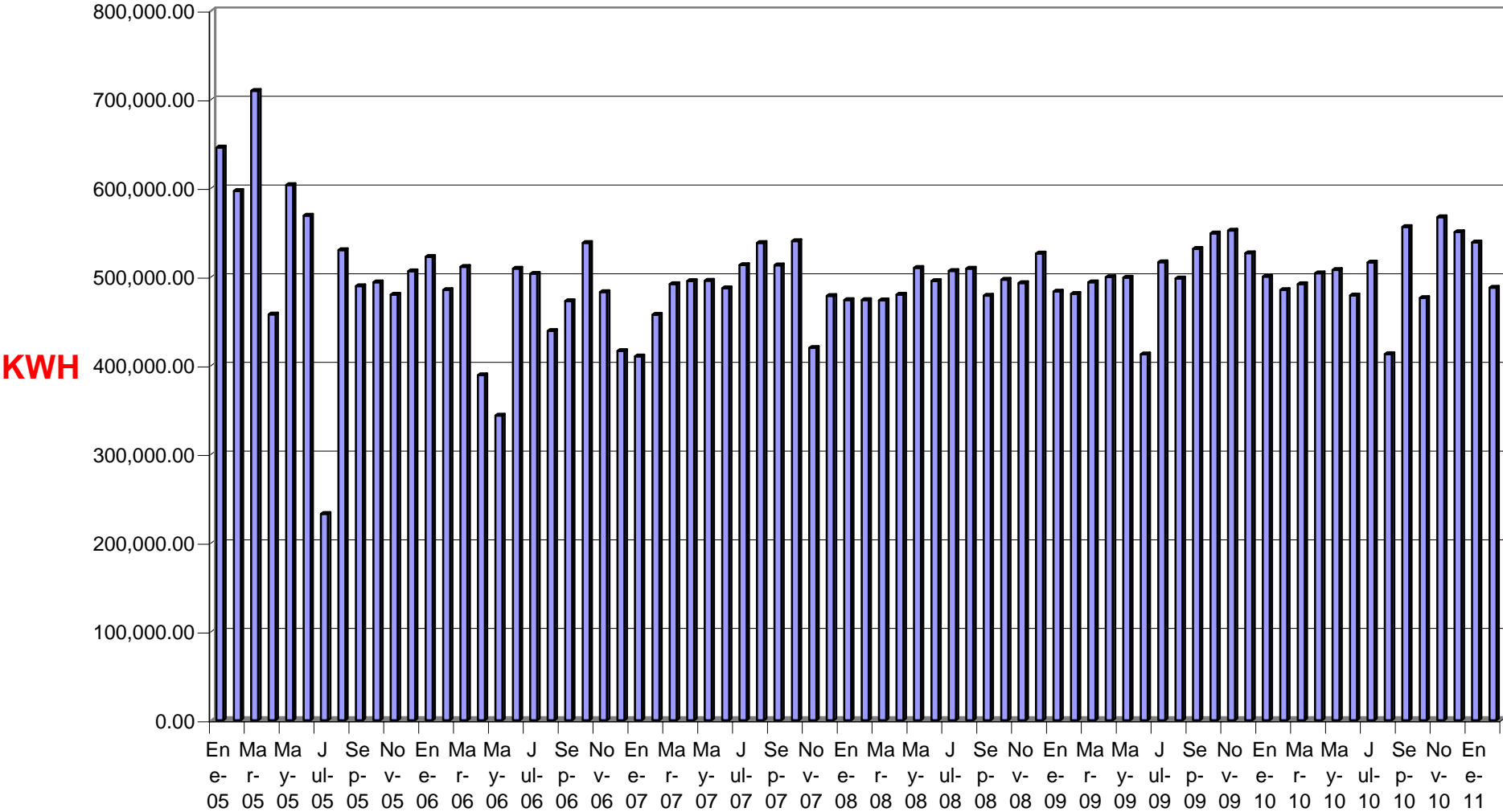


DIAGRAMA DE DEMANDA MAXIMA MENSUAL EN HORAS FUERA DE PUNTA

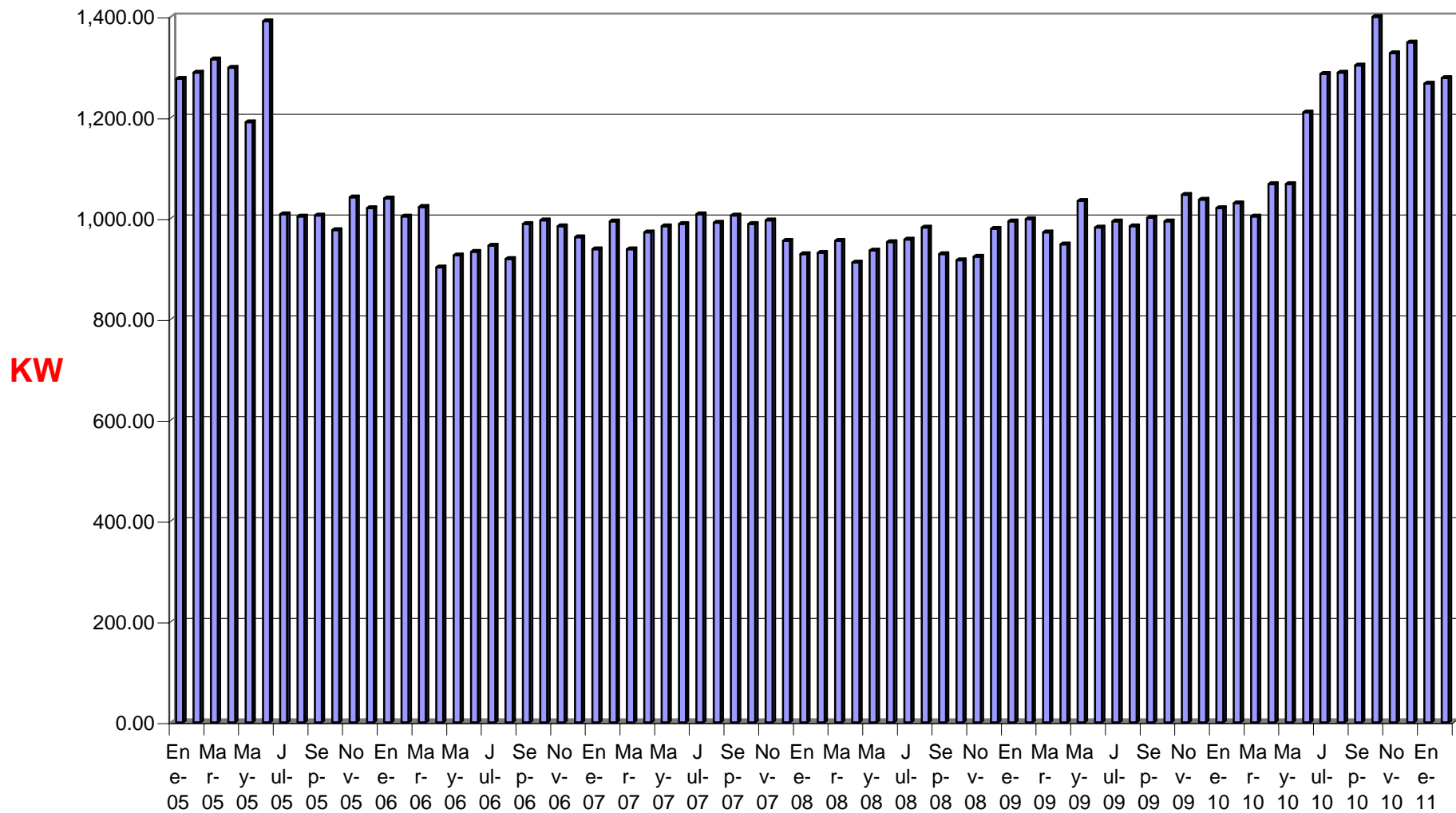


DIAGRAMA DE DEMANDA MAXIMA MENSUAL EN HORAS PUNTA

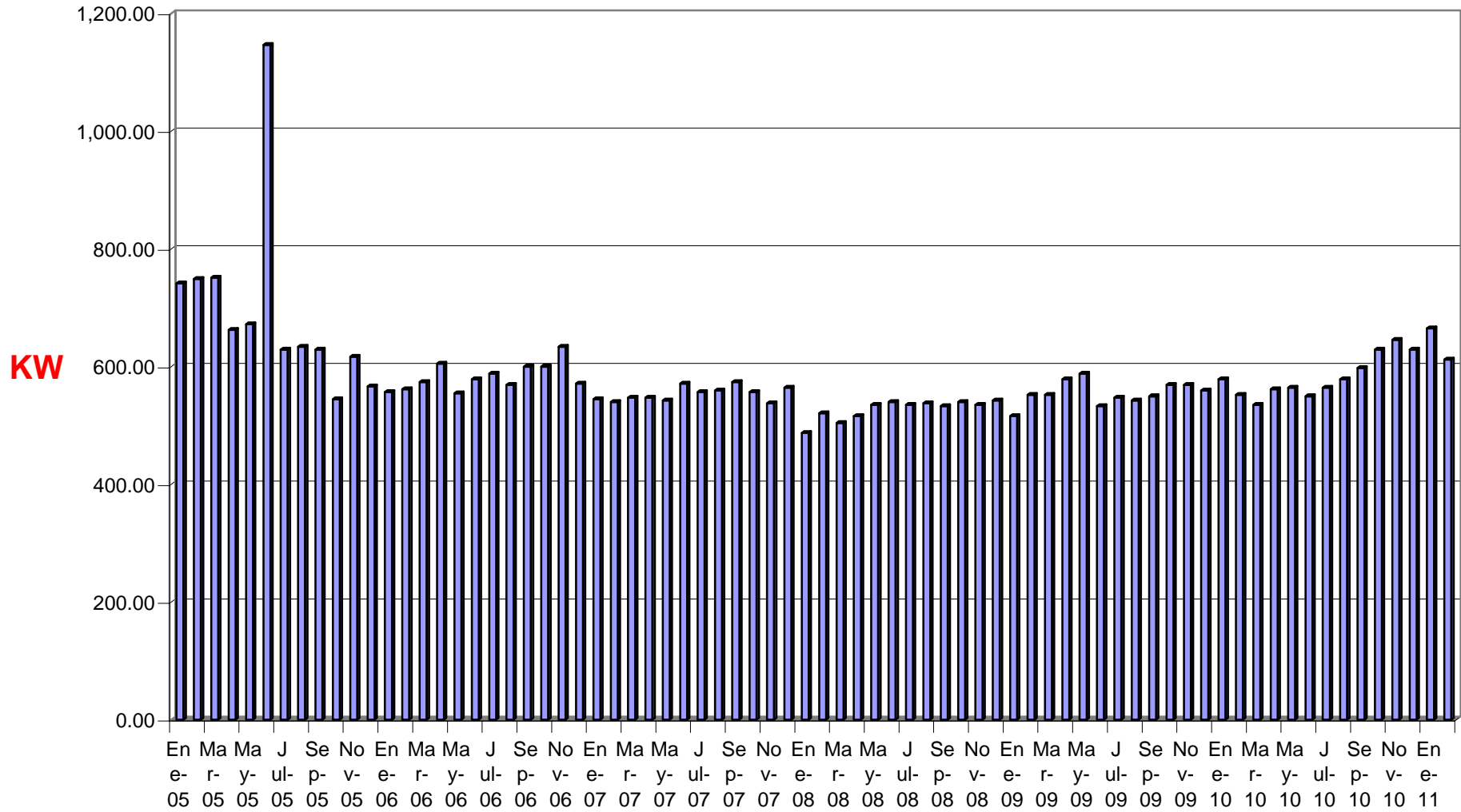
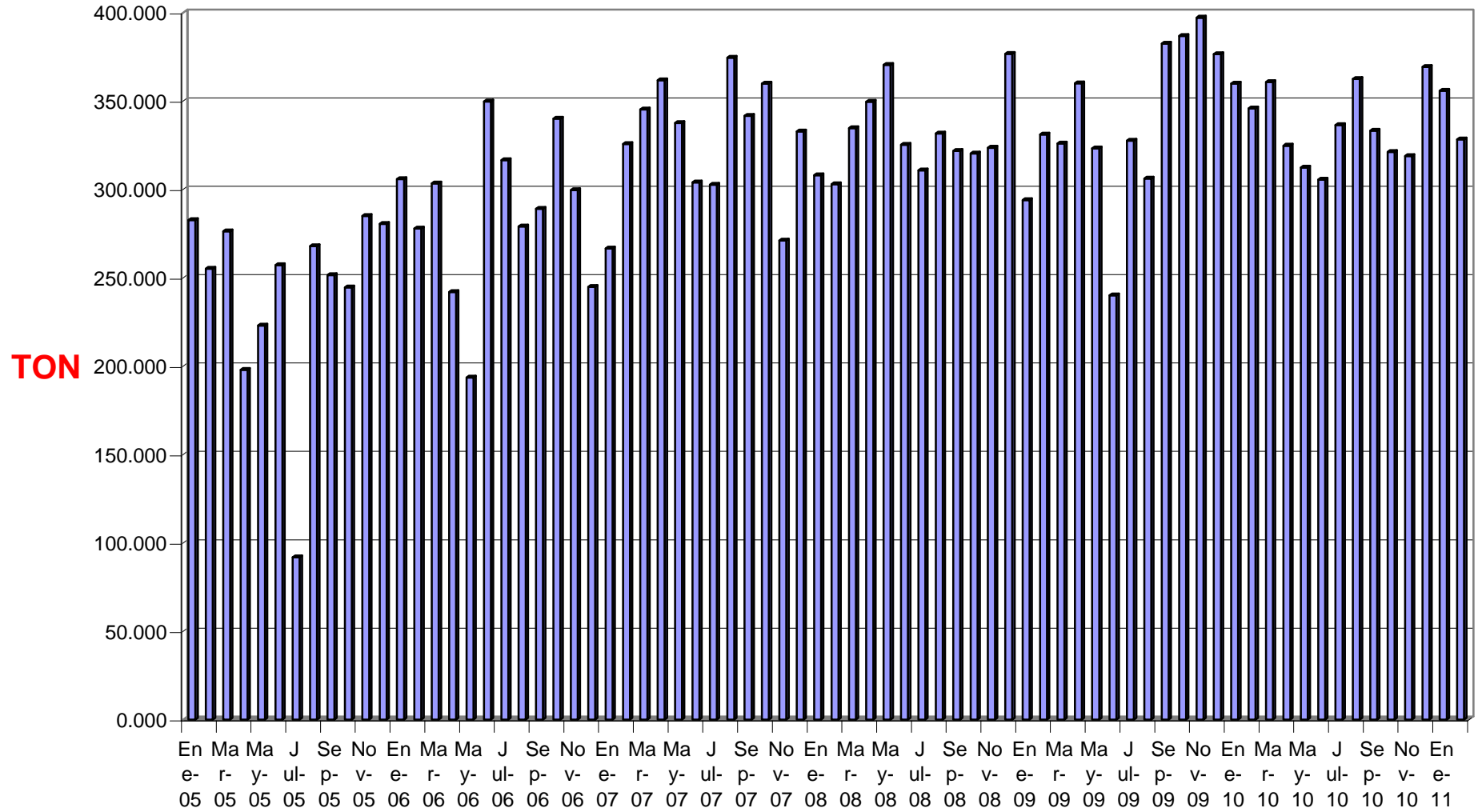
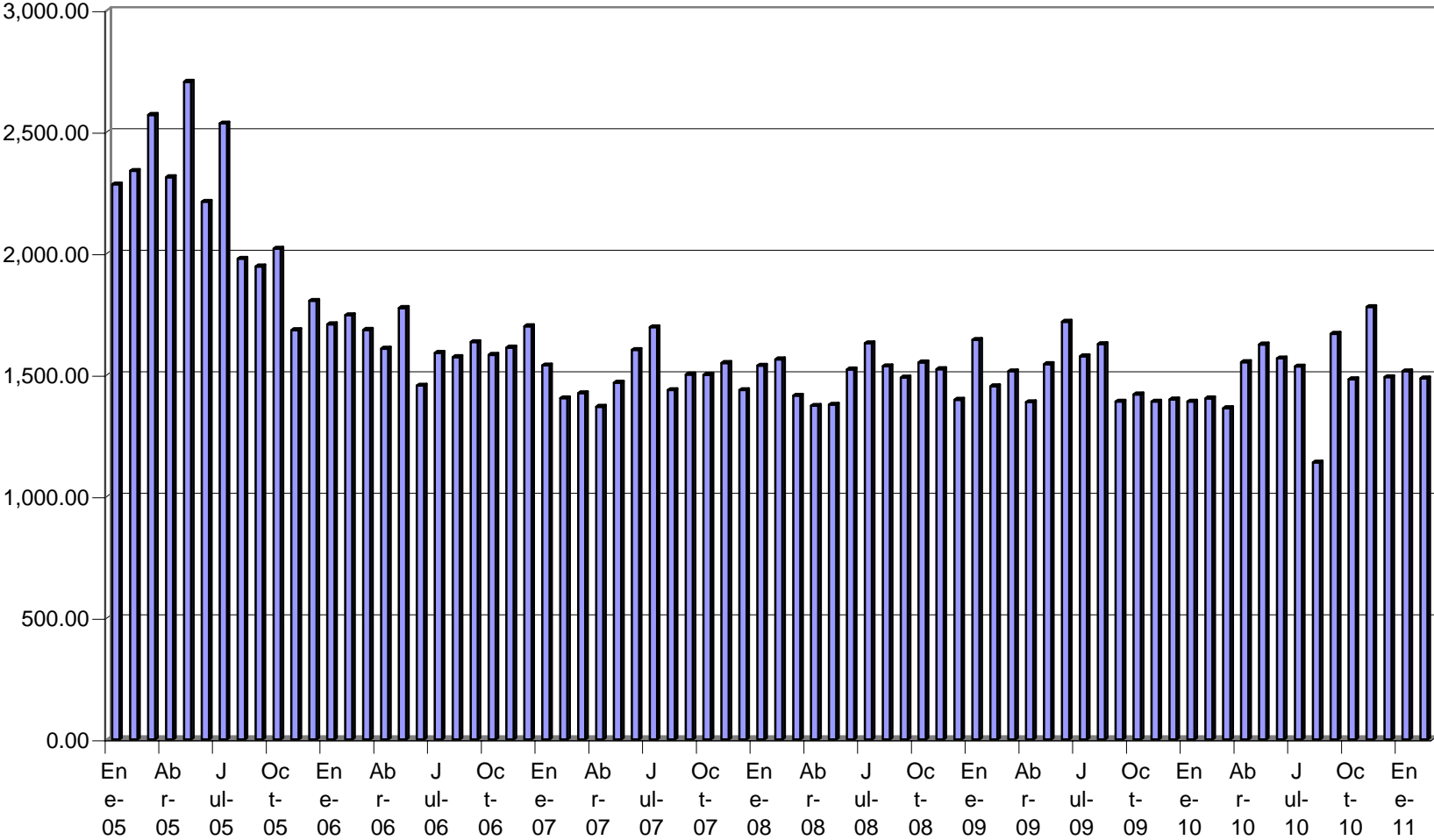


DIAGRAMA DE PRODUCCION MENSUAL TOTAL



INDICADOR ENERGETICO ELECTRICO TOTAL

KWH / TON



PAGOS NETOS POR ENERGIA ELECTRICA

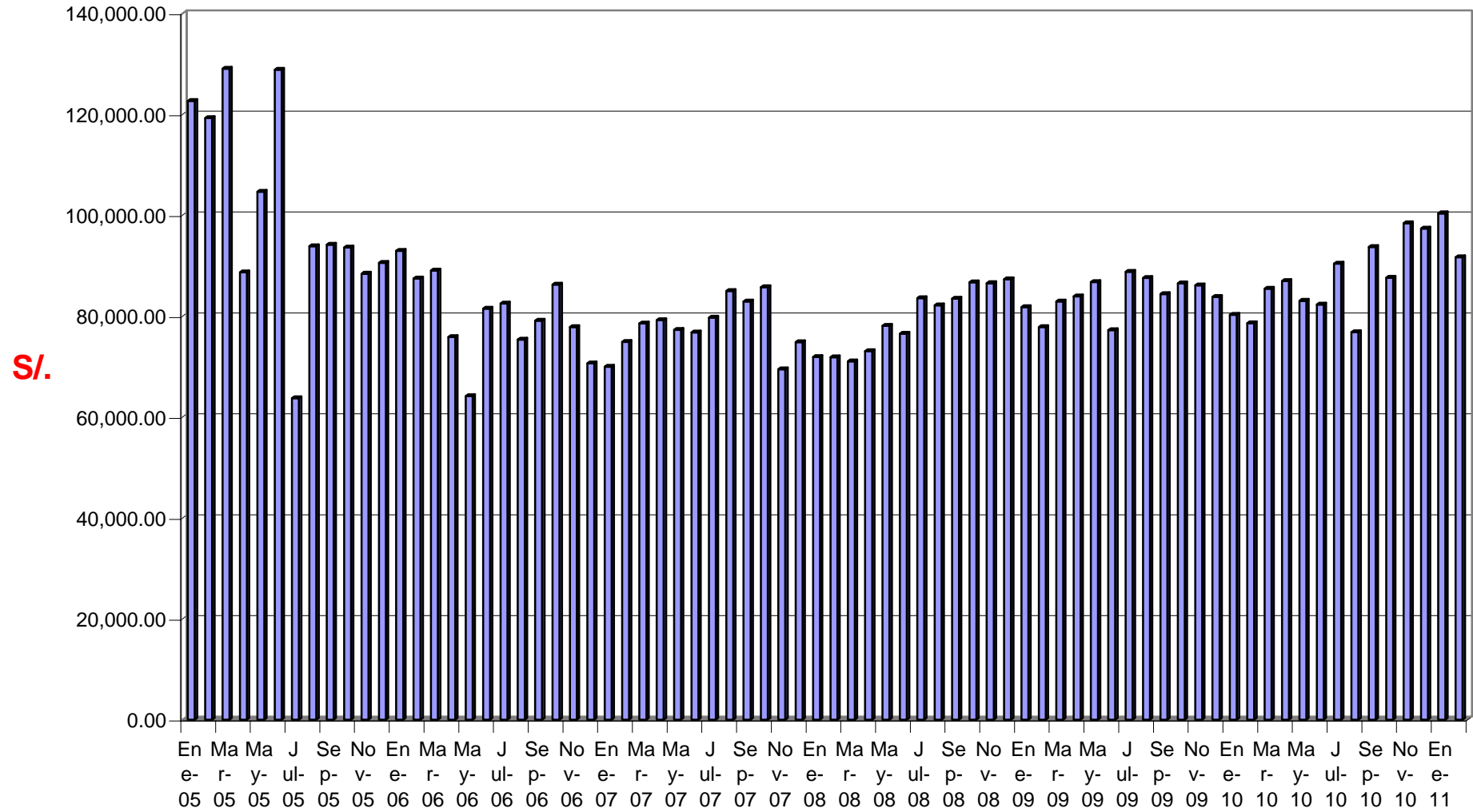


DIAGRAMA DE PRECIO PROMEDIO DEL KWH

