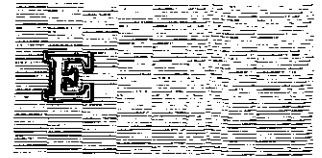


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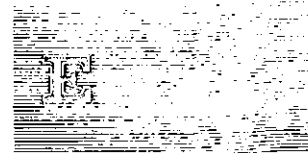
C E P A L

Comisión Económica para América Latina y el Caribe



ISTMO CENTROAMERICANO: ESTADISTICAS SOBRE ENERGIA, 1972-1983

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### Corrigenda

#### Página 5

Párrafo 6, línea 4; léase: "En 1983, 86.4% del consumo final estuvo cubierto por estos productos."...

#### Página 8

- a) Párrafo 3, penúltima línea; léase: "venden en el exterior productos derivados y petróleo crudo, respectivamente."
- b) Último párrafo, última línea, después de "las 430 TCal en 1983", agréguese "(370 GWh)"

#### Páginas 135 a 149

"7. Cuadros de información sobre Panamá (86 a 98)." La información proporcionada en los cuadros de este capítulo no incluye el Area del Canal.



INDICE

|  | <u>Página</u> |
|--|---------------|
| Presentación   | 1             |
| I. Comentarios generales   | 3             |
| 1. La oferta interna bruta de energía  | 3             |
| 2. Consumo de energía  | 4             |
| 3. Producción, importación y exportación de energía por producto final             | 7             |
| II. Cuadros estadísticos   | 9             |
| 1. Cuadros de información sobre el Istmo Centroamericano (1 a 20 y gráfico 1)      | 9             |
| 1 Oferta interna bruta de energía por fuentes                                      | 11            |
| 2 Consumo final de energía por países  | 12            |
| 3 Consumo final de energía comercial y no comercial                                | 13            |
| 4 Consumo final de energía comercial por países                                    | 14            |
| 5 Consumo final de energía no comercial (leña) por países                          | 15            |
| 6 Consumo final de energía por producto  | 16            |
| 7 Consumo final de energía comercial por producto                                  | 17            |
| 8 Consumo final de energía por sectores económicos                                 | 18            |
| 9 Consumo final de energía comercial por sectores económicos                       | 19            |
| 10 Consumo de energía no comercial (leña) por sectores                             | 20            |
| 11 Sector residencial y comercial. Consumo final de energía comercial por producto | 21            |
| 12 Sector transporte. Consumo final de energía comercial por producto              | 22            |
| 13 Sector industrial. Consumo final de energía comercial por producto              | 23            |
| 14 Sector otros. Consumo final de energía comercial por producto                   | 24            |
| 15 Algunos indicadores de consumo energético                                       | 25            |
| 16 Producción de energía por producto final  | 26            |
| 17 Importación de energía por producto   | 27            |
| 18 Exportación de energía por producto   | 28            |
| 19 Balance energético  | 29            |
| 20 Balance energético consolidado  | 30            |
| Gráfico 1: Flujo de energía, 1983  | 32            |

|   | <u>Página</u> |
|---|---------------|
| 2. Cuadros de información sobre Costa Rica (21 a 33)                                  | 33            |
| 21 Oferta interna bruta de energía por fuentes  | 35            |
| 22 Consumo final de energía por producto  | 36            |
| 23 Consumo final de energía comercial por sectores                                    | 37            |
| 24 Consumo final de energía no comercial (leña)<br>por sectores                       | 38            |
| 25 Sector residencial y comercial. Consumo final de<br>energía comercial por producto | 39            |
| 26 Sector transporte. Consumo final de energía<br>comercial por producto              | 41            |
| 27 Sector industrial. Consumo final de energía<br>comercial por producto              | 42            |
| 28 Sector otros. Consumo final de energía comercial<br>por producto                   | 43            |
| 29 Producción de energía por producto final   | 45            |
| 30 Importación de energía por producto  | 46            |
| 31 Exportación de energía por producto  | 47            |
| 32 Balance energético   | 49            |
| 33 Balance energético consolidado   | 50            |
| 3. Cuadros de información sobre El Salvador (34 a 46)                                 | 53            |
| 34 Oferta interna bruta de energía por fuentes  | 55            |
| 35 Consumo final de energía por producto  | 56            |
| 36 Consumo final de energía comercial por sectores                                    | 57            |
| 37 Consumo final de energía no comercial (leña)<br>por sectores                       | 58            |
| 38 Sector residencial y comercial. Consumo final de<br>energía comercial por producto | 59            |
| 39 Sector transporte. Consumo final de energía<br>comercial por producto              | 60            |
| 40 Sector industrial. Consumo final de energía<br>comercial por producto              | 61            |
| 41 Sector otros. Consumo final de energía comercial<br>por producto                   | 63            |
| 42 Producción de energía por producto final   | 65            |
| 43 Importación de energía por producto  | 66            |
| 44 Exportación de energía por producto  | 67            |

|   | <u>Página</u> |
|---|---------------|
| 45 Balance energético   | 69            |
| 46 Balance energético consolidado   | 70            |
| 4. Cuadros de información sobre Guatemala (47 a 59)                                   | 73            |
| 47 Oferta interna bruta de energía por fuentes  | 75            |
| 48 Consumo final de energía por producto  | 77            |
| 49 Consumo final de energía comercial por sectores                                    | 78            |
| 50 Consumo final de energía no comercial (leña)<br>por sectores                       | 79            |
| 51 Sector residencial y comercial. Consumo final de<br>energía comercial por producto | 80            |
| 52 Consumo final de energía comercial por producto                                    | 81            |
| 53 Sector industrial. Consumo final de energía<br>comercial por producto              | 82            |
| 54 Sector otros. Consumo final de energía comercial<br>por producto                   | 83            |
| 55 Producción de energía por producto final   | 85            |
| 56 Importación de energía por producto  | 86            |
| 57 Exportación de energía por producto  | 87            |
| 58 Balance energético   | 89            |
| 59 Balance energético consolidado   | 90            |
| 5. Cuadros de información sobre Honduras (60 a 72)                                    | 93            |
| 60 Oferta interna bruta de energía por fuentes  | 95            |
| 61 Consumo final de energía por producto  | 96            |
| 62 Consumo final de energía comercial por sectores                                    | 97            |
| 63 Consumo final de energía no comercial (leña)<br>por sectores                       | 98            |
| 64 Sector residencial y comercial. Consumo final<br>de energía comercial por producto | 99            |
| 65 Sector transporte. Consumo final de energía<br>comercial por producto              | 100           |
| 66 Sector industrial. Consumo final de energía<br>comercial por producto              | 101           |
| 67 Sector otros. Consumo final de energía comercial<br>por producto                   | 103           |
| 68 Producción de energía por producto final   | 105           |

|   | <u>Página</u> |
|---|---------------|
| 69 Importación de energía por producto  | 106           |
| 70 Exportación de energía por producto  | 107           |
| 71 Balance energético   | 109           |
| 72 Balance energético consolidado   | 110           |
| 6. Cuadros de información sobre Nicaragua (73 a 85)                                   | 113           |
| 73 Oferta interna bruta de energía por fuentes  | 115           |
| 74 Consumo final de energía por producto  | 116           |
| 75 Consumo final de energía comercial por sectores                                    | 117           |
| 76 Consumo final de energía no comercial (leña)<br>por sectores                       | 118           |
| 77 Sector residencial y comercial. Consumo final<br>de energía comercial por producto | 119           |
| 78 Sector transporte. Consumo final de energía<br>comercial por producto              | 120           |
| 79 Sector industrial. Consumo final de energía<br>comercial por producto              | 121           |
| 80 Sector otros. Consumo final de energía comercial<br>por producto                   | 123           |
| 81 Producción de energía por producto final   | 125           |
| 82 Importación de energía por producto  | 126           |
| 83 Exportación de energía por producto  | 127           |
| 84 Balance energético   | 129           |
| 85 Balance energético consolidado   | 130           |
| 7. Cuadros de información sobre Panamá (86 a 98)                                      | 133           |
| 86 Oferta interna bruta de energía por fuentes  | 135           |
| 87 Consumo final de energía por producto  | 136           |
| 88 Consumo final de energía comercial por sectores                                    | 137           |
| 89 Consumo final de energía no comercial (leña)<br>por sectores                       | 138           |
| 90 Sector residencial y comercial. Consumo final<br>de energía comercial por producto | 139           |
| 91 Sector transporte. Consumo final de energía<br>comercial por producto              | 140           |
| 92 Sector industrial. Consumo final de energía<br>comercial por producto              | 141           |



|  | <u>Página</u> |
|--|---------------|
| 93 Sector otros. Consumo final de energía comercial por producto | 142           |
| 94 Producción de energía por producto final                      | 143           |
| 95 Importación de energía por producto                           | 144           |
| 96 Exportación de energía por producto                           | 145           |
| 97 Balance energético  | 147           |
| 98 Balance energético consolidado                                | 148           |
| 99 Istmc Centroamericano: factores de conversión por país        | 150           |



## PRESENTACION

El presente documento constituye un eslabón más de la serie de publicaciones sobre estadísticas energéticas elaboradas por la Subsección en México de la Comisión Económica para América Latina y El Caribe (CEPAL). 1/ Se espera habrá de contribuir al análisis de los diversos aspectos relacionados con los sectores energéticos de los países del Istmo Centroamericano que se encuentran bajo el área de actividades de la Subsección de la CEPAL en México.

El documento contiene series históricas de estadísticas energéticas nacionales y regionales del período 1972-1983 y cubre: oferta interna bruta, consumo, producción, importación, exportación y los balances energéticos consolidados, así como una serie nueva de consumo de leña en Guatemala. Su elaboración se basó principalmente en datos obtenidos de los balances energéticos nacionales.

1/ Véanse, CEPAL, Istmo Centroamericano: Consumo de energía, 1950-1970 (E/CN.12/CCE/SC.5/62); Istmo Centroamericano: Consumo de energía, 1950, 1955 y 1960-1971 (E/CN.12/CCE/SC.5/94); Istmo Centroamericano: Consumo de energía, 1950, 1955, 1960 y 1976 (E/CEPAL/CCE/SC.5/117); Istmo Centroamericano: Consumo de energía 1950, 1955, 1960 y 1965 a 1975 (E/CEPAL/CCE/SC.5/122); Istmo Centroamericano: Consumo de energía, 1960, 1965 y 1970 a 1976 (E/CEPAL/CCE/SC.5/126); Istmo Centroamericano: Estadísticas sobre energía, 1977 (E/CEPAL/CCE/SC.5/129); Istmo Centroamericano: Estadísticas sobre energía, 1978 (E/CEPAL/CCE/SC.5/132/Rev.1); Istmo Centroamericano: Estadísticas sobre energía, 1979 (E/CEPAL/CCE/SC.5/140); Istmo Centroamericano: Estadísticas sobre energía, 1980 (E/CEPAL/CCE/SC.5/L.143), e Istmo Centroamericano: Estadísticas sobre energía, 1981 (E/CEPAL/CCE/SC.5/L.153).



## I. COMENTARIOS GENERALES

### 1. La oferta interna bruta de energía<sup>2/</sup>

La oferta interna bruta de energía del Istmo Centroamericano comprende básicamente leña e hidrocarburos, productos que en 1983 representaron, en conjunto, un 85% (48.9% y 35.8%, respectivamente) de dicha oferta. El 15% restante estuvo constituido por hidroenergía y residuos vegetales (véase el cuadro 1).

Esta estructura demuestra claramente la dependencia del sector energético del Istmo de otros países en lo que concierne a hidrocarburos puesto que, con la sola excepción de algunas reservas petroleras en Guatemala, no se han encontrado aún reservas de combustibles fósiles (petróleo, gas, carbón en la región. Cabe señalar que la producción de hidrocarburos en Guatemala es muy escasa y de ésta sólo una parte reducida (13.6% en 1983) se utiliza en el país y el resto se exporta.

En 1983, el 35.8% de la oferta interna de energía, como ya se mencionó, fue de origen importado. Equivalió a un 64% de autoabastecimiento energético de la región centroamericana, proporción que sólo llega al 30% si se consideran únicamente las energías comerciales (excluyendo la leña).

La hidroenergía (5.7%) y la geoenergía (2.6%) mantuvieron su escasa aportación no obstante el aumento relativo de la ponderación de estas fuentes en el total durante 1972-1983, período en el que, en conjunto, aumentaron de 2.4% a 8.3%. Este crecimiento tuvo lugar pese a la disminución observada en la actividad económica en general durante el lapso aludido cuando las tasas de hidroenergía y geoenergía fueron de 9.9% y 5.4%, respectivamente, que contrastó con el ritmo de los hidrocarburos (-3.0%). (Véase de nuevo el cuadro 1.)

La hidroenergía en la región ha adquirido gradualmente mayor importancia debido a la construcción, en los últimos años, de plantas de gran dimensión como las de San Lorenzo en El Salvador, de Chixoy en Guatemala y Corobici en Costa Rica. La geotermia, que sólo se utilizaba en El Salvador, se extendió a Nicaragua al entrar en operaciones la primera unidad geotérmica de Momotombo, de 35 MW. Cabe mencionar que, a nivel de energía útil, <sup>3/</sup> la contribución de la hidroenergía y geoenergía es mucho mayor, como se explica más adelante.

<sup>2/</sup> Oferta interna bruta es la cantidad de energía que se utiliza en el país para abastecer los consumos finales e incluye la utilizada en los procesos de transformación, transporte y distribución.

<sup>3/</sup> El consumo de energía útil corresponde a la parte del consumo final de energía que se utiliza para hacer el trabajo útil y depende de los rendimientos en cada uso concreto de la energía. Ejemplos de energía útil serían la correspondiente al esfuerzo de tracción para desplazar un peso dado, la realmente utilizada en un proceso industrial y las calorías absorbidas en la cocción de alimentos.

La expansión mencionada en la hidroenergía y la geotermia refleja el esfuerzo realizado por los países para desarrollar sus propios recursos energéticos, principalmente los de carácter renovable. Pese a ello, no ha disminuido significativamente la fuerte dependencia del exterior que en este campo mantiene la región debido, por una parte, a que el sector transporte utiliza solamente hidrocarburos y, por otra, a que la hidro y la geoenergía sustituyen principalmente al combustóleo para generación eléctrica.

El énfasis que se ha puesto en la generación de hidro y geoenergía dio lugar a mayores excedentes de combustóleo que no pudieron ser absorbidos por la demanda interna y tuvieron que colocarse en el exterior, no siempre en condiciones económicamente favorables.

Otra fuente renovable de energía, los residuos vegetales, constituidos principalmente por bagazo de caña de azúcar, ha llegado a representar una proporción importante en la oferta interna bruta (7.2%); su consumo se realiza en los propios ingenios azucareros.

En resumen, a pesar de los incrementos importantes en el uso de energéticos nacionales, los países del Istmo Centroamericano continúan dependiendo en gran medida de la importación de energías comerciales (hidrocarburos), hecho que agrava su dependencia externa, tanto en materia económica como tecnológica.

## 2. Consumo de energía

Al analizar el último decenio se observa que el consumo final de energía<sup>4/</sup> del Istmo creció hasta 1979; entre ese año y 1982 descendió debido a la drástica baja en el consumo de energía comercial<sup>5/</sup> derivada de la aguda crisis económica y acentuada por el segundo gran incremento del precio del petróleo en el mercado internacional, ambos ocurridos en dicho período. En 1983, el consumo final se recuperó hasta alcanzar 120 000 teracalorías (TCal), cifra superior a la de 1979. (Véase el cuadro 2.)

<sup>4/</sup> El consumo final de energía equivale al uso de energía por el consumidor y no sujeto a procesos de transformación posteriores. Los hidrocarburos utilizados en el transporte son ejemplo de consumo final, mientras que los consumidos para producir electricidad constituyen un consumo intermedio.

<sup>5/</sup> El consumo de energía comercial corresponde al consumo de los energéticos sujetos a compra y venta y también al bagazo de caña que utilizan los ingenios como energético. En el caso de América Central incluye todos los energéticos contabilizados, excepto la leña.

Gran parte del aumento en 1983 correspondió a la expansión del consumo de energía no comercial, <sup>6/</sup> destinado al consumo doméstico. En el campo de la energía comercial, el incremento fue más moderado, ya que en este año apenas se inició la recuperación de la economía regional. (Véase el cuadro 3.)

El impacto de la crisis económica se hizo sentir con mayor fuerza en el consumo de hidrocarburos, el cual disminuyó entre 1979 y 1982 y mostró un ligero repunte en 1983. Esto dio por resultado una reducción anual media de 3.3% para el período 1979-1983.

La electricidad también reflejó los efectos de los problemas económicos que contrajeron el consumo industrial pero, debido a su menor elasticidad en relación con el ingreso real y su consecuente efecto marginal sobre el consumo residencial mayoritario, la tasa de crecimiento para el lapso 1979-1983 se mantuvo positiva, si bien resultó inferior a la mitad de la correspondiente al período 1972-1979. Esto último se repitió en el consumo de residuos vegetales. (Véase el cuadro 6.)

Por su parte, al consumo de leña lo afectaron menos los problemas de la crisis económica dado que satisface una necesidad de tipo básico: la cocción de alimentos en el sector doméstico de bajos ingresos, especialmente en las zonas rurales.

En consecuencia, el consumo de energía no comercial mostró una tendencia ascendente estable a lo largo del período en consideración. Puede decirse entonces que la dinámica de alzas y bajas en el consumo total de energéticos depende primordialmente de las variaciones en la demanda de energéticos comerciales.

El análisis del consumo de energía por producto muestra, una vez más, la preponderancia en el balance energético del Istmo Centroamericano de dos fuentes energéticas principales: los derivados del petróleo y la leña. En 1982, 86.4% del consumo final estuvo cubierto por estos productos. (Véase de nuevo el cuadro 6.) Al respecto cabe mencionar que las cifras de consumo final de hidrocarburos no incluyen los productos petroleros (en su mayoría diesel y combustóleo) utilizados en las centrales termoeléctricas, cuya generación representó el 26.8% del total en el Istmo en 1983.

Un hecho sobresaliente fue el predominio de la energía no comercial (leña) en el balance energético de la región, cuya producción en 1983 equivalió a 54.7% del consumo final de energía. Esto se explica por las

<sup>6/</sup> El consumo de energía no comercial es el consumo de los energéticos que no están sujetos a alguna actividad económica organizada ni a procesos de compra y venta. En los países centroamericanos el único energético no comercial contabilizado es la leña.

condiciones socioeconómicas del 60% de la población del Istmo Centroamericano 7/ que vive en situación de pobreza, estrato cuyo consumo energético es esencialmente la leña y que representaba alrededor de 15 millones de personas en 1980. Lo anterior se refleja también en la estructura del consumo de leña. El sector residencial, como se mencionó --en particular los usuarios de menores recursos y en áreas rurales--, absorbió 92.5% del consumo total de este energético. (Véase el cuadro 10.)

Por otro lado, el elevado consumo de leña en la región distorsiona, en alguna medida, el balance energético del Istmo dado que este producto se utiliza principalmente en fogones abiertos con rendimientos de 7% y 8%, que implica una participación relativa en términos de energía mucho menor a la antes mencionada.

Por ejemplo, un motor eléctrico tiene una eficiencia del 98%; uno de combustión interna (hidrocarburos) es del orden del 30% y, en materia de cocción, los rendimientos son de alrededor de 80%-85% para una cocina eléctrica y de 60% para una de gas licuado, lo que pone de manifiesto su mayor eficiencia frente a la leña.

Si bien no se cuenta con balances de energía útil, usando eficiencias medias de cada energético, se puede estimar a grosso modo que las principales fuentes de energía serían los hidrocarburos con 45% a 50% de los requerimientos totales, la electricidad con un 25% a 30% y la leña con un 20% a 25%.

Volviendo a los datos estadísticos disponibles de consumo final de energía comercial por sectores económicos, se puede mencionar que la mayor parte de dicha energía la absorben la industria y el transporte con 38.8% y 37.2% del consumo total, respectivamente. Precisamente estos sectores son los más afectados en tiempos de crisis; así lo demuestran sus consumos energéticos que presentaron tasas de crecimiento negativas en 1979-1983, con una ligera recuperación en 1982-1983. (Véase el cuadro 9.)

En relación con el consumo residencial en 1983, el de electricidad se situó en el primer lugar con el 56.3% del total y con una tasa media de crecimiento superior al 7% para todo el período en consideración. Le siguieron en orden de importancia el gas licuado con 22.2%, el queroseno con 16.7% y el carbón de leña con 4%. (Véase el cuadro 11.)

En el sector transporte, el consumo lo cubren totalmente los derivados del petróleo. En 1983 un 90% correspondió al diesel y la gasolina con consumos de 9 300 y 8 900 TCal, ambos utilizados en forma masiva en el transporte terrestre. El resto, con 1 800 TCal, correspondió a turbo-combustible-queroseno utilizado en el transporte aéreo.

7/ Véase, CEPAL, Satisfacción de las necesidades básicas de la población del Istmo Centroamericano (E/CEPAL/MEX/1983/L.32), 23 de diciembre de 1983.



En el consumo del sector industrial, los hidrocarburos cubrieron el 45% de la demanda. Les siguieron, en orden de importancia, los residuos vegetales con 8 200 TCal (39.2%) y, en proporción menor, la electricidad con 2 500 TCal (12%). (Véase el cuadro 13.)

El hecho de que los sectores económicos de mayor demanda de energía comercial consuman principalmente derivados del petróleo, y en particular los ligeros e intermedios, explica la fuerte dependencia de la economía del Istmo de hidrocarburos importados (básicamente diesel y gasolina). La estructura media de la demanda de hidrocarburos de la región fue en 1982 de 28% de livianos, 42% de intermedios y 29% de pesados. 8/

En materia de cobertura a la población, que comprende consumos de energía total y energía comercial por habitante y porcentajes de población servida con energía eléctrica, el liderazgo histórico les corresponde a Costa Rica y Panamá. En 1983, siguieron a estos países, según los indicadores aludidos, Nicaragua y El Salvador y después Guatemala y Honduras. El hecho muestra cierta correlación entre el nivel alcanzado por los países en el sector energético y su grado de desarrollo socioeconómico. (Véase el cuadro 15.)

La disminución relativa del consumo de energía comercial por habitante se explica por el impacto de la crisis económica y las alzas en los precios internacionales de los hidrocarburos. Por otro lado, la población servida con electricidad creció considerablemente durante el período 1973-1983.

### 3. Producción, importación y exportación de energía por producto final

En 1983, la producción de cada energético utilizado en la región aumentó con respecto al año anterior, y en consecuencia creció también la energía total que se elevó a 118 100 TCal, en comparación con 113 600 TCal en 1982. (Véase el cuadro 16.)

Paralelamente, al inicio de la recuperación económica del Istmo en 1983, los energéticos comerciales mejoraron el ritmo de su crecimiento en relación con el período 1979-1982, llegando su producción a un volumen cercano al de 1981 pero inferior, como se mencionó, al registrado antes de presentarse la crisis.

Por ejemplo, la electricidad y los residuos vegetales evolucionaron durante el lapso 1979-1983 a tasas de 2.9% y 2.6%, respectivamente, mientras que en el período 1972-1979 sus ritmos de expansión fueron de 8.1% y 7%. (Véase de nuevo el cuadro 16.)

8/ Véase, CEPAL, Istmo Centroamericano y República Dominicana: Estadísticas de Hidrocarburos, 1982 (E/CEPAL/MEX/1984/L.25), 18 de julio de 1984.

En materia de refinación, cabe mencionar que los rendimientos de los crudos disponibles para los países centroamericanos se ubican entre 13% a 31% para los livianos, 22% a 29% en los intermedios y 40% a 60% en los pesados; <sup>9/</sup>si se comparan estos últimos con la estructura del consumo antes mencionada, se observa un marcado desequilibrio entre la oferta y la demanda. Este desajuste no lo pueden compensar las refinерías existentes en la región, dado que no cuentan con equipo para conversión secundaria, salvo una pequeña unidad de termocraqueo en Costa Rica.

Al no poder cubrir sus necesidades energéticas sobre la base de la producción de sus refinерías, los países se ven obligados a importar, además del petróleo crudo reconstituido, grandes cantidades de derivados ligeros e intermedios. (Véase el cuadro 17.)

Finalmente, algunos países disponen de excedentes considerables de productos pesados (combustóleo) que se ven obligados a colocar en el exterior. Este hecho explica porqué los países centroamericanos exportan productos petroleros, pese a que dependen totalmente del exterior en materia de hidrocarburos. Por otro lado, Panamá, cuya refinерía está diseñada para la exportación, y Guatemala que dispone de algunos yacimientos, venden en el exterior productos internacionales y petróleo crudo, respectivamente.

El comercio exterior en materia de energía eléctrica sólo ha cobrado importancia relativa en los últimos años con la puesta en operación de la interconexión Costa Rica-Nicaragua-Honduras, llegando los flujos entre países a superar las 430 TCa1 en 1983.

9/ Véase, CEPAL, Alternativas de abastecimiento de hidrocarburos en el Istmo Centroamericano (E/CEPAL/MEX/1984/L.23), 22 de junio de 1984.

## II. CUADROS ESTADISTICOS

1. Cuadros de información sobre el Istmo Centroamericano  
(1 a 20 y gráfico 1)



Cuadro 1

## ISTMO CENTROAMERICANO: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|           | Comerciales                 |       |              |     |               |     |                      |      |                    |     |        |      | No comercial |   |
|-----------|-----------------------------|-------|--------------|-----|---------------|-----|----------------------|------|--------------------|-----|--------|------|--------------|---|
|           | Total                       |       | Hidroenergía |     | Geoenergía a/ |     | Petróleo y derivados |      | Residuos vegetales |     | Leña   |      | TCal         | % |
|           | TCal                        | %     | TCal         | %   | TCal          | %   | TCal                 | %    | TCal               | %   | TCal   | %    |              |   |
| 1972      | 106 470                     | 100.0 | 2 521        | 2.4 | -             | -   | 43 910               | 41.2 | 5 062              | 4.7 | 54 977 | 51.6 |              |   |
| 1973      | 111 794                     | 100.0 | 2 732        | 2.4 | -             | -   | 47 634               | 42.6 | 5 342              | 4.8 | 56 086 | 50.2 |              |   |
| 1974      | 112 675                     | 100.0 | 3 048        | 2.7 | -             | -   | 46 191               | 41.0 | 6 120              | 5.4 | 57 316 | 50.9 |              |   |
| 1975      | 114 382                     | 100.0 | 2 952        | 2.6 | 529           | 0.5 | 45 529               | 39.8 | 6 991              | 6.1 | 58 381 | 51.0 |              |   |
| 1976      | 120 546                     | 100.0 | 3 259        | 2.7 | 1 695         | 1.4 | 48 175               | 40.0 | 8 107              | 6.7 | 59 310 | 49.2 |              |   |
| 1977      | 127 020                     | 100.0 | 3 131        | 2.5 | 2 632         | 2.1 | 53 513               | 42.1 | 8 335              | 6.6 | 59 409 | 46.8 |              |   |
| 1978      | 129 430                     | 100.0 | 4 320        | 3.3 | 2 582         | 2.0 | 53 860               | 41.6 | 8 277              | 6.4 | 60 391 | 46.7 |              |   |
| 1979      | 130 287                     | 100.0 | 5 154        | 4.0 | 2 746         | 2.1 | 53 019               | 40.7 | 8 123              | 6.2 | 61 245 | 47.0 |              |   |
| 1980      | 129 194                     | 100.0 | 5 776        | 4.5 | 2 348         | 1.8 | 51 069               | 39.5 | 7 905              | 6.1 | 62 096 | 48.1 |              |   |
| 1981      | 129 991                     | 100.0 | 6 945        | 5.3 | 4 570         | 3.5 | 46 949               | 36.1 | 8 138              | 6.3 | 63 389 | 48.8 |              |   |
| 1982      | 127 869                     | 100.0 | 6 302        | 4.9 | 3 330         | 2.6 | 45 039               | 35.2 | 9 412              | 7.4 | 63 786 | 49.9 |              |   |
| 1983      | 133 600                     | 100.0 | 7 364        | 5.7 | 3 389         | 2.6 | 47 206               | 35.8 | 9 237              | 7.2 | 66 404 | 49.9 |              |   |
|           | <u>Tasas de crecimiento</u> |       |              |     |               |     |                      |      |                    |     |        |      |              |   |
| 1972-1983 | 2.1                         |       | 10.4         |     | -             |     | 0.6                  |      | 5.6                |     | 1.7    |      |              |   |
| 1972-1979 | 2.9                         |       | 10.8         |     | -             |     | 2.7                  |      | 7.0                |     | 1.6    |      |              |   |
| 1979-1983 | 0.6                         |       | 9.9          |     | 5.4           |     | -3.0                 |      | 3.2                |     | 2.0    |      |              |   |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Se refiere a El Salvador y en 1983 también a Nicaragua.

Cuadro 2

## ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA POR PAISES

|                             | Total   |       | Costa Rica |      | El Salvador |      | Guatemala |      | Honduras |      | Nicaragua |      | Panamá <sup>a/</sup> |      |
|-----------------------------|---------|-------|------------|------|-------------|------|-----------|------|----------|------|-----------|------|----------------------|------|
|                             | TCal    | %     | TCal       | %    | TCal        | %    | TCal      | %    | TCal     | %    | TCal      | %    | TCal                 | %    |
| 1972                        | 94 448  | 100.0 | 11 263     | 11.9 | 17 618      | 18.7 | 30 932    | 32.8 | 13 774   | 14.6 | 10 870    | 11.5 | 9 991                | 10.6 |
| 1973                        | 97 783  | 100.0 | 11 772     | 12.0 | 18 641      | 19.1 | 30 880    | 31.6 | 14 315   | 14.6 | 11 602    | 11.9 | 10 573               | 10.8 |
| 1974                        | 100 086 | 100.0 | 11 554     | 11.5 | 19 121      | 19.1 | 31 206    | 31.2 | 14 537   | 14.5 | 12 455    | 12.4 | 11 214               | 11.2 |
| 1975                        | 104 608 | 100.0 | 12 103     | 17.6 | 19 909      | 19.0 | 31 956    | 30.5 | 15 140   | 14.5 | 12 779    | 12.2 | 12 712               | 12.5 |
| 1976                        | 109 148 | 100.0 | 12 593     | 12.0 | 20 660      | 19.7 | 33 878    | 28.3 | 15 507   | 14.8 | 13 756    | 13.1 | 12 754               | 12.2 |
| 1977                        | 113 742 | 100.0 | 13 442     | 11.8 | 21 389      | 18.8 | 35 486    | 31.2 | 16 209   | 14.3 | 14 250    | 12.5 | 12 966               | 11.4 |
| 1978                        | 117 506 | 100.0 | 14 172     | 12.1 | 22 298      | 19.0 | 36 746    | 31.3 | 16 932   | 14.4 | 13 628    | 11.6 | 13 730               | 11.7 |
| 1979                        | 113 386 | 100.0 | 14 493     | 12.2 | 22 590      | 19.1 | 37 690    | 31.8 | 17 593   | 14.9 | 11 791    | 10.0 | 14 229               | 12.1 |
| 1980                        | 116 851 | 100.0 | 14 504     | 12.4 | 20 801      | 17.8 | 37 188    | 31.8 | 18 088   | 15.5 | 12 607    | 10.8 | 13 663               | 11.7 |
| 1981                        | 116 711 | 100.0 | 14 331     | 12.3 | 20 464      | 17.5 | 38 193    | 32.7 | 17 911   | 15.3 | 13 189    | 11.3 | 12 623               | 10.8 |
| 1982                        | 115 753 | 100.0 | 13 095     | 11.3 | 20 567      | 17.8 | 38 005    | 32.8 | 18 027   | 15.6 | 13 460    | 11.6 | 12 664               | 10.9 |
| 1983                        | 119 683 | 100.0 | 13 237     | 11.1 | 21 310      | 17.8 | 38 461    | 32.1 | 19 064   | 15.9 | 14 289    | 11.9 | 13 322               | 11.2 |
| <u>Tasas de crecimiento</u> |         |       |            |      |             |      |           |      |          |      |           |      |                      |      |
| 1972-                       |         |       |            |      |             |      |           |      |          |      |           |      |                      |      |
| 1983                        | 1.9     |       | 1.5        |      | 1.8         |      | 2.0       |      | 3.0      |      | 2.5       |      | 2.7                  |      |
| 1972-                       |         |       |            |      |             |      |           |      |          |      |           |      |                      |      |
| 1979                        | 3.4     |       | 3.7        |      | 4.3         |      | 2.8       |      | 3.6      |      | 1.2       |      | 5.2                  |      |
| 1973-                       |         |       |            |      |             |      |           |      |          |      |           |      |                      |      |
| 1983                        | 0.3     |       | -2.2       |      | -1.4        |      | 0.5       |      | 2.1      |      | 4.9       |      | -1.6                 |      |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ A partir de 1975 se incluye el consumo a bordo de turbocombustible.

Cuadro 3

ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA COMERCIAL Y NO COMERCIAL

|           | Total                       |       | Comercial |      | No comercial <sup>a/</sup> |      |
|-----------|-----------------------------|-------|-----------|------|----------------------------|------|
|           | TCal                        | %     | TCal      | %    | TCal                       | %    |
| 1972      | 94 448                      | 100.0 | 40 214    | 42.6 | 54 234                     | 57.4 |
| 1973      | 97 783                      | 100.0 | 42 467    | 43.4 | 55 316                     | 56.6 |
| 1974      | 100 026                     | 100.0 | 43 540    | 43.5 | 56 546                     | 56.5 |
| 1975      | 104 608                     | 100.0 | 47 012    | 44.9 | 57 596                     | 55.1 |
| 1976      | 109 148                     | 100.0 | 50 636    | 46.4 | 58 512                     | 53.6 |
| 1977      | 113 742                     | 100.0 | 54 838    | 48.2 | 58 904                     | 51.8 |
| 1978      | 117 506                     | 100.0 | 57 933    | 49.3 | 59 573                     | 50.7 |
| 1979      | 118 386                     | 100.0 | 57 948    | 48.9 | 60 438                     | 51.1 |
| 1980      | 116 851                     | 100.0 | 55 579    | 47.6 | 61 272                     | 52.4 |
| 1981      | 116 695                     | 100.0 | 54 652    | 46.8 | 62 043                     | 53.2 |
| 1982      | 115 758                     | 100.0 | 52 776    | 45.6 | 62 982                     | 54.4 |
| 1983      | 119 683                     | 100.0 | 54 158    | 45.3 | 65 526                     | 54.7 |
|           | <u>Tasas de crecimiento</u> |       |           |      |                            |      |
| 1972-1983 | 1.9                         |       | 2.8       |      | 1.8                        |      |
| 1972-1979 | 3.4                         |       | 5.4       |      | 1.6                        |      |
| 1979-1983 | 0.3                         |       | -1.7      |      | 2.1                        |      |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye sólo leña.

Cuadro 4

## ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA COMERCIAL POR PAISES

|      | Total  |       | Costa Rica |      | El Salvador |      | Guatemala |      | Honduras |      | Nicaragua |      | Panamá |      |
|------|--------|-------|------------|------|-------------|------|-----------|------|----------|------|-----------|------|--------|------|
|      | TCal   | %     | TCal       | %    | TCal        | %    | TCal      | %    | TCal     | %    | TCal      | %    | TCal   | %    |
| 1972 | 40 214 | 100.0 | 6 713      | 16.7 | 6 121       | 15.2 | 10 440    | 26.0 | 4 184    | 10.4 | 5 598     | 13.9 | 7 158  | 17.8 |
| 1973 | 42 467 | 100.0 | 7 244      | 17.0 | 6 329       | 16.1 | 9 930     | 24.9 | 4 551    | 10.7 | 6 191     | 14.6 | 7 722  | 18.2 |
| 1974 | 43 540 | 100.0 | 7 007      | 16.1 | 7 013       | 16.1 | 9 720     | 22.5 | 4 590    | 10.6 | 6 804     | 15.6 | 8 346  | 19.2 |
| 1975 | 47 912 | 100.0 | 7 566      | 16.1 | 7 423       | 15.8 | 10 068    | 21.4 | 5 017    | 10.7 | 7 108     | 15.2 | 9 829  | 20.9 |
| 1976 | 50 636 | 100.0 | 8 030      | 15.9 | 7 989       | 15.8 | 11 540    | 22.8 | 5 200    | 10.3 | 8 023     | 15.8 | 9 854  | 19.5 |
| 1977 | 54 856 | 100.0 | 9 115      | 16.6 | 8 696       | 15.9 | 12 690    | 23.1 | 5 714    | 10.4 | 8 573     | 15.6 | 10 049 | 18.3 |
| 1978 | 57 933 | 100.0 | 9 826      | 17.0 | 9 592       | 16.6 | 13 490    | 23.3 | 6 246    | 10.8 | 7 982     | 13.8 | 10 796 | 18.6 |
| 1979 | 57 940 | 100.0 | 10 141     | 17.5 | 9 700       | 16.7 | 13 970    | 24.1 | 6 713    | 11.6 | 6 154     | 10.6 | 11 270 | 19.4 |
| 1980 | 55 579 | 100.0 | 10 186     | 18.3 | 7 858       | 14.1 | 12 986    | 23.4 | 7 010    | 12.6 | 6 860     | 12.3 | 10 639 | 19.1 |
| 1981 | 54 652 | 100.0 | 10 013     | 18.3 | 7 329       | 13.4 | 13 482    | 24.7 | 6 631    | 12.1 | 7 266     | 13.3 | 9 931  | 18.2 |
| 1982 | 52 776 | 100.0 | 8 763      | 16.6 | 7 242       | 13.7 | 12 814    | 24.2 | 6 546    | 12.6 | 7 420     | 14.0 | 9 991  | 18.9 |
| 1983 | 54 158 | 100.0 | 8 911      | 16.4 | 7 640       | 14.1 | 12 760    | 23.5 | 7 374    | 13.6 | 7 342     | 13.6 | 10 131 | 18.8 |

Tasas de crecimiento

|       |      |  |      |  |      |  |      |  |     |  |     |  |      |  |
|-------|------|--|------|--|------|--|------|--|-----|--|-----|--|------|--|
| 1972- |      |  |      |  |      |  |      |  |     |  |     |  |      |  |
| 1983  | 2.3  |  | 2.5  |  | 2.0  |  | 1.8  |  | 5.3 |  | 2.5 |  | 3.2  |  |
| 1982- |      |  |      |  |      |  |      |  |     |  |     |  |      |  |
| 1979  | 5.4  |  | 6.1  |  | 6.8  |  | 4.3  |  | 7.0 |  | 1.4 |  | 6.7  |  |
| 1979- |      |  |      |  |      |  |      |  |     |  |     |  |      |  |
| 1983  | -1.7 |  | -3.2 |  | -5.8 |  | -2.2 |  | 2.4 |  | 4.5 |  | -2.6 |  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 5

## ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA NO COMERCIAL (LEÑA) POR PAISES

|      | Total  |       | Costa Rica |     | El Salvador |      | Guatemala |      | Honduras |      | Nicaragua |      | Panamá |     |
|------|--------|-------|------------|-----|-------------|------|-----------|------|----------|------|-----------|------|--------|-----|
|      | TCal   | %     | TCal       | %   | TCal        | %    | TCal      | %    | TCal     | %    | TCal      | %    | TCal   | %   |
| 1972 | 54 234 | 100.0 | 4 550      | 8.4 | 11 497      | 21.2 | 20 492    | 37.8 | 9 590    | 17.7 | 5 272     | 9.7  | 2 833  | 5.2 |
| 1973 | 55 316 | 100.0 | 4 528      | 8.2 | 11 812      | 21.4 | 20 950    | 37.9 | 9 764    | 17.7 | 5 411     | 9.8  | 2 851  | 5.2 |
| 1974 | 56 546 | 100.0 | 4 547      | 8.0 | 12 108      | 21.4 | 21 426    | 37.9 | 9 942    | 17.6 | 5 651     | 10.0 | 2 868  | 5.1 |
| 1975 | 57 596 | 100.0 | 4 537      | 7.9 | 12 486      | 21.7 | 21 896    | 38.0 | 10 123   | 17.6 | 5 671     | 9.8  | 2 883  | 5.0 |
| 1976 | 53 512 | 100.0 | 4 563      | 7.8 | 12 671      | 21.7 | 22 338    | 38.2 | 10 307   | 17.6 | 5 733     | 9.8  | 2 900  | 5.0 |
| 1977 | 58 904 | 100.0 | 4 327      | 7.3 | 12 693      | 21.5 | 22 796    | 38.7 | 10 495   | 17.8 | 5 677     | 9.6  | 2 917  | 5.0 |
| 1978 | 59 373 | 100.0 | 4 346      | 7.3 | 12 706      | 21.3 | 23 256    | 39.0 | 10 686   | 17.9 | 5 646     | 9.5  | 2 934  | 4.9 |
| 1979 | 60 438 | 100.0 | 4 352      | 7.2 | 12 890      | 21.3 | 23 720    | 39.2 | 10 880   | 18.0 | 5 637     | 9.3  | 2 959  | 4.9 |
| 1980 | 61 272 | 100.0 | 4 318      | 7.0 | 12 943      | 21.1 | 24 202    | 39.5 | 11 078   | 18.1 | 5 747     | 9.4  | 2 984  | 4.9 |
| 1981 | 62 059 | 100.0 | 4 318      | 6.9 | 13 135      | 21.2 | 24 711    | 39.8 | 11 280   | 18.2 | 5 923     | 9.5  | 2 692  | 4.3 |
| 1982 | 62 982 | 100.0 | 4 332      | 6.9 | 13 235      | 21.5 | 25 191    | 40.0 | 11 481   | 18.2 | 5 980     | 9.5  | 2 673  | 4.2 |
| 1983 | 65 526 | 100.0 | 4 326      | 6.6 | 13 670      | 20.9 | 25 702    | 39.2 | 11 690   | 17.8 | 6 947     | 10.6 | 3 191  | 4.9 |

Tasas de crecimiento

|       |     |  |      |  |     |  |     |  |     |  |     |  |      |  |
|-------|-----|--|------|--|-----|--|-----|--|-----|--|-----|--|------|--|
| 1972- |     |  |      |  |     |  |     |  |     |  |     |  |      |  |
| 1982  | 1.8 |  | -0.5 |  | 1.6 |  | 2.1 |  | 1.8 |  | 2.5 |  | -1.1 |  |
| 1972- |     |  |      |  |     |  |     |  |     |  |     |  |      |  |
| 1979  | 1.6 |  | -0.6 |  | 1.6 |  | 2.1 |  | 1.8 |  | 1.0 |  | 0.6  |  |
| 1979- |     |  |      |  |     |  |     |  |     |  |     |  |      |  |
| 1982  | 2.1 |  | -0.1 |  | 1.5 |  | 2.0 |  | 1.8 |  | 5.9 |  | 1.9  |  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 6

## ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA POR PRODUCTO.

|                             | Total   |       | Electricidad |     | Hidrocarburos <sup>a/</sup> |      | Residuos vegetales |     | Carbón de leña |     | Leña   |      |
|-----------------------------|---------|-------|--------------|-----|-----------------------------|------|--------------------|-----|----------------|-----|--------|------|
|                             | TCal    | %     | TCal         | %   | TCal                        | %    | TCal               | %   | TCal           | %   | TCal   | %    |
| 1972                        | 94 448  | 100.0 | 3 964        | 4.2 | 31 295                      | 33.1 | 4 697              | 5.0 | 258            | 0.3 | 54 234 | 57.4 |
| 1973                        | 97 783  | 100.0 | 4 253        | 4.3 | 32 956                      | 33.7 | 4 998              | 5.1 | 260            | 0.3 | 55 316 | 56.6 |
| 1974                        | 100 086 | 100.0 | 4 655        | 4.7 | 32 943                      | 32.9 | 5 684              | 5.7 | 262            | 0.3 | 56 546 | 56.5 |
| 1975                        | 104 608 | 100.0 | 5 015        | 4.8 | 35 253                      | 33.7 | 6 469              | 6.2 | 266            | 0.3 | 57 596 | 55.1 |
| 1976                        | 109 148 | 100.0 | 5 438        | 4.9 | 37 574                      | 39.4 | 7 355              | 6.7 | 269            | 0.2 | 58 512 | 53.6 |
| 1977                        | 113 742 | 100.0 | 6 060        | 5.3 | 40 831                      | 35.9 | 7 674              | 6.7 | 273            | 0.2 | 59 904 | 51.9 |
| 1978                        | 117 506 | 100.0 | 6 468        | 5.5 | 43 487                      | 37.0 | 7 701              | 6.6 | 276            | 0.2 | 59 573 | 50.7 |
| 1979                        | 118 306 | 100.0 | 6 751        | 5.7 | 43 381                      | 36.6 | 7 543              | 6.4 | 273            | 0.2 | 60 438 | 51.1 |
| 1980                        | 116 851 | 100.0 | 7 157        | 6.1 | 41 114                      | 35.2 | 7 030              | 5.9 | 278            | 0.2 | 61 272 | 52.4 |
| 1981                        | 116 711 | 100.0 | 7 146        | 6.1 | 39 625                      | 34.0 | 7 601              | 6.5 | 280            | 0.2 | 62 059 | 53.2 |
| 1982                        | 115 758 | 100.0 | 7 179        | 6.2 | 37 289                      | 32.2 | 8 035              | 6.9 | 270            | 0.2 | 62 982 | 54.7 |
| 1983                        | 119 683 | 100.0 | 7 669        | 6.4 | 37 969                      | 31.7 | 8 211              | 6.9 | 300            | 0.3 | 65 526 | 54.7 |
| <u>Tasas de crecimiento</u> |         |       |              |     |                             |      |                    |     |                |     |        |      |
| 1972-1983                   | 1.9     |       | 6.2          |     | 1.8                         |      | 5.0                |     | 0.4            |     | 1.8    |      |
| 1972-1979                   | 3.4     |       | 7.9          |     | 4.8                         |      | 7.0                |     | 0.3            |     | 1.6    |      |
| 1979-1983                   | 0.3     |       | 3.2          |     | -3.3                        |      | 2.3                |     | -0.5           |     | 2.1    |      |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Incluye carbón mineral y coque. Excluye combustibles utilizados en generación de electricidad.

Cuadro 7

ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA  
COMERCIAL POR PRODUCTO

|                             | Total  |       | Electricidad |      | Hidrocarburos <sup>a/</sup> |      | Residuos<br>vegetales |      | Carbón<br>de leña |     |
|-----------------------------|--------|-------|--------------|------|-----------------------------|------|-----------------------|------|-------------------|-----|
|                             | TCal   | %     | TCal         | %    | TCal                        | %    | TCal                  | %    | TCal              | %   |
| 1972                        | 40 214 | 100.0 | 3 964        | 9.9  | 31 295                      | 77.8 | 4 697                 | 11.7 | 258               | 0.6 |
| 1973                        | 42 467 | 100.0 | 4 253        | 10.0 | 32 956                      | 77.6 | 4 998                 | 11.8 | 260               | 0.6 |
| 1974                        | 43 540 | 100.0 | 4 655        | 10.7 | 32 943                      | 75.7 | 5 684                 | 13.0 | 262               | 0.6 |
| 1975                        | 47 012 | 100.0 | 5 015        | 10.7 | 35 253                      | 75.0 | 6 469                 | 13.8 | 266               | 0.5 |
| 1976                        | 50 636 | 100.0 | 5 438        | 10.8 | 37 574                      | 74.2 | 7 355                 | 14.5 | 269               | 0.5 |
| 1977                        | 54 838 | 100.0 | 5 060        | 11.1 | 40 831                      | 74.5 | 7 674                 | 14.0 | 273               | 0.5 |
| 1978                        | 57 933 | 100.0 | 6 468        | 11.2 | 43 817                      | 75.6 | 7 701                 | 13.2 | 276               | 0.5 |
| 1979                        | 57 948 | 100.0 | 6 751        | 11.7 | 43 381                      | 74.9 | 7 543                 | 13.0 | 273               | 0.4 |
| 1980                        | 55 579 | 100.0 | 7 157        | 12.9 | 41 114                      | 74.0 | 7 030                 | 12.6 | 278               | 0.5 |
| 1981                        | 54 652 | 100.0 | 7 146        | 13.1 | 39 625                      | 72.5 | 7 601                 | 13.9 | 280               | 0.5 |
| 1982                        | 52 776 | 100.0 | 7 179        | 13.6 | 37 289                      | 70.5 | 8 038                 | 15.2 | 270               | 0.5 |
| 1983                        | 54 158 | 100.0 | 7 669        | 14.2 | 37 969                      | 70.1 | 8 211                 | 15.1 | 300               | 0.5 |
| <u>Tasas de crecimiento</u> |        |       |              |      |                             |      |                       |      |                   |     |
| 1972-1983                   | 2.8    |       | 6.2          |      | 1.8                         |      | 5.0                   |      | 0.4               |     |
| 1972-1979                   | 5.4    |       | 7.9          |      | 4.8                         |      | 7.0                   |      | 0.8               |     |
| 1979-1983                   | -1.7   |       | 3.2          |      | -3.3                        |      | 2.3                   |      | -0.5              |     |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

Cuadro 8

ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA POR SECTORES ECONOMICOS

|                             | Total   |       | Residencial y comercial |      | Transporte |      | Industrial <sup>a/</sup> |      | Otros <sup>b/</sup> |     |
|-----------------------------|---------|-------|-------------------------|------|------------|------|--------------------------|------|---------------------|-----|
|                             | TCal    | %     | TCal                    | %    | TCal       | %    | TCal                     | %    | TCal                | %   |
| 1972                        | 94 448  | 100.0 | 54 702                  | 57.9 | 14 683     | 15.5 | 19 814                   | 21.0 | 5 249               | 5.6 |
| 1973                        | 97 783  | 100.0 | 55 837                  | 57.1 | 16 241     | 16.6 | 20 441                   | 20.9 | 5 264               | 5.4 |
| 1974                        | 100 086 | 100.0 | 56 846                  | 56.8 | 16 599     | 16.6 | 21 473                   | 21.5 | 5 168               | 5.2 |
| 1975                        | 104 608 | 100.0 | 58 090                  | 55.5 | 18 607     | 17.8 | 22 406                   | 21.4 | 5 505               | 5.3 |
| 1976                        | 109 148 | 100.0 | 59 249                  | 54.3 | 20 431     | 18.7 | 24 262                   | 22.2 | 5 206               | 4.8 |
| 1977                        | 113 742 | 100.0 | 60 332                  | 53.0 | 21 923     | 19.3 | 25 913                   | 23.0 | 5 574               | 4.7 |
| 1978                        | 117 506 | 100.0 | 61 422                  | 52.3 | 23 431     | 19.9 | 26 565                   | 22.6 | 6 088               | 5.2 |
| 1979                        | 118 386 | 100.0 | 62 416                  | 52.7 | 23 563     | 19.9 | 26 648                   | 22.5 | 5 759               | 4.9 |
| 1980                        | 116 851 | 100.0 | 63 424                  | 54.3 | 22 087     | 18.9 | 26 090                   | 22.3 | 5 340               | 4.6 |
| 1981                        | 116 711 | 100.0 | 64 223                  | 55.0 | 20 928     | 17.9 | 26 656                   | 23.0 | 4 904               | 4.2 |
| 1982                        | 115 758 | 100.0 | 64 945                  | 56.1 | 20 511     | 17.7 | 24 976                   | 21.6 | 5 326               | 4.6 |
| 1983                        | 119 683 | 100.0 | 68 099                  | 56.9 | 20 109     | 16.8 | 25 893                   | 21.6 | 5 582               | 4.7 |
| <u>Tasas de crecimiento</u> |         |       |                         |      |            |      |                          |      |                     |     |
| 1972-1983                   | 1.9     |       | 2.1                     |      | 3.4        |      | 2.5                      |      | -0.4                |     |
| 1972-1979                   | 3.4     |       | 1.9                     |      | 7.0        |      | 4.4                      |      | 1.3                 |     |
| 1979-1983                   | 0.3     |       | 2.2                     |      | -4.5       |      | -0.7                     |      | -4.2                |     |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye sector agropecuario y pesca.

b/ Comprende sector público y no identificado.

Cuadro 9

## ISTMO CENTROAMERICANO: CONSUMO FINAL DE ENERGIA COMERCIAL, POR SECTORES ECONOMICOS

|                             | Total  |       | Residencial<br>y comercial |      | Transporte |      | Industrial |      | Otros <sup>a/</sup> |      |
|-----------------------------|--------|-------|----------------------------|------|------------|------|------------|------|---------------------|------|
|                             | TCal   | %     | TCal                       | %    | TCal       | %    | TCal       | %    | TCal                | %    |
| 1972                        | 40 214 | 100.0 | 4 680                      | 11.6 | 14 683     | 36.5 | 15 602     | 38.8 | 5 249               | 13.1 |
| 1973                        | 42 467 | 100.0 | 4 856                      | 11.4 | 16 241     | 38.2 | 16 105     | 37.9 | 5 264               | 12.5 |
| 1974                        | 43 540 | 100.0 | 4 875                      | 11.2 | 16 599     | 38.1 | 16 902     | 38.8 | 5 163               | 11.9 |
| 1975                        | 47 012 | 100.0 | 5 120                      | 11.1 | 18 607     | 39.3 | 17 782     | 37.7 | 5 494               | 11.9 |
| 1976                        | 50 636 | 100.0 | 5 459                      | 11.0 | 20 431     | 39.1 | 19 539     | 39.4 | 5 206               | 10.5 |
| 1977                        | 54 838 | 100.0 | 5 881                      | 10.7 | 21 923     | 40.0 | 21 460     | 39.1 | 5 574               | 10.2 |
| 1978                        | 57 933 | 100.0 | 6 304                      | 10.9 | 23 431     | 40.4 | 22 110     | 38.2 | 6 088               | 10.5 |
| 1979                        | 57 948 | 100.0 | 6 453                      | 11.1 | 23 563     | 40.7 | 21 273     | 36.3 | 5 759               | 9.9  |
| 1980                        | 55 579 | 100.0 | 6 751                      | 12.1 | 22 087     | 39.7 | 21 401     | 38.5 | 5 340               | 9.6  |
| 1981                        | 54 652 | 100.0 | 7 074                      | 12.9 | 20 928     | 38.3 | 21 746     | 39.8 | 4 904               | 9.0  |
| 1982                        | 52 773 | 100.0 | 7 027                      | 13.3 | 20 511     | 38.9 | 19 912     | 37.7 | 5 326               | 10.1 |
| 1983                        | 54 158 | 100.0 | 7 456                      | 13.8 | 20 109     | 37.2 | 21 010     | 38.8 | 5 582               | 10.3 |
| <u>Tasas de crecimiento</u> |        |       |                            |      |            |      |            |      |                     |      |
| 1972-1983                   | 2.8    |       | 4.4                        |      | 3.4        |      | 2.7        |      | -0.4                |      |
| 1972-1979                   | 5.4    |       | 4.7                        |      | 7.0        |      | 5.2        |      | 1.3                 |      |
| 1979-1983                   | -1.7   |       | 3.7                        |      | -4.5       |      | -1.3       |      | -4.2                |      |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Se refiere al sector público, consumo propio y no identificado.

Cuadro 10

ISTMO CENTROAMERICANO: CONSUMO DE ENERGIA NO COMERCIAL (LEÑA)  
POR SECTORES

|           | Total                       |       | Residencial |      | Industrial |     |
|-----------|-----------------------------|-------|-------------|------|------------|-----|
|           | TCal                        | %     | TCal        | %    | TCal       | %   |
| 1972      | 54 234                      | 100.0 | 50 022      | 92.2 | 4 212      | 7.8 |
| 1973      | 55 316                      | 100.0 | 50 981      | 92.2 | 4 335      | 7.8 |
| 1974      | 56 546                      | 100.0 | 51 971      | 91.9 | 4 577      | 8.1 |
| 1975      | 57 596                      | 100.0 | 52 970      | 92.0 | 4 626      | 8.0 |
| 1976      | 58 512                      | 100.0 | 53 790      | 91.9 | 4 722      | 8.1 |
| 1977      | 58 904                      | 100.0 | 54 451      | 92.4 | 4 453      | 7.6 |
| 1978      | 59 573                      | 100.0 | 55 118      | 92.5 | 4 455      | 7.5 |
| 1979      | 60 438                      | 100.0 | 55 963      | 92.6 | 4 475      | 7.4 |
| 1980      | 61 272                      | 100.0 | 56 673      | 92.5 | 4 599      | 7.5 |
| 1981      | 62 059                      | 100.0 | 57 149      | 92.1 | 4 910      | 7.9 |
| 1982      | 62 982                      | 100.0 | 57 918      | 92.0 | 5 064      | 8.0 |
| 1983      | 65 526                      | 100.0 | 60 643      | 92.5 | 4 883      | 7.5 |
|           | <u>Tasas de crecimiento</u> |       |             |      |            |     |
| 1972-1983 | 1.8                         |       | 1.8         |      | 1.4        |     |
| 1972-1979 | 1.6                         |       | 1.6         |      | 0.9        |     |
| 1979-1983 | 2.1                         |       | 2.0         |      | 2.2        |     |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 11

ISTMO CENTROAMERICANO: SECTOR RESIDENCIAL Y COMERCIAL, CONSUMO FINAL  
DE ENERGIA COMERCIAL POR PRODUCTO

|                             | Total |       | Electricidad |      | Gas licuado |      | Queroseno y turbocombustible |      | Carbón de leña |     | Otros |     |
|-----------------------------|-------|-------|--------------|------|-------------|------|------------------------------|------|----------------|-----|-------|-----|
|                             | TCal  | %     | Total        | %    | TCal        | %    | TCal                         | %    | TCal           | %   | TCal  | %   |
| 1972                        | 4 680 | 100.0 | 1 963        | 41.9 | 937         | 20.0 | 1 542                        | 33.0 | 238            | 5.1 | -     | -   |
| 1973                        | 4 856 | 100.0 | 2 076        | 42.8 | 930         | 19.2 | 1 611                        | 33.2 | 239            | 4.9 | -     | -   |
| 1974                        | 4 875 | 100.0 | 2 277        | 46.7 | 1 015       | 20.8 | 1 344                        | 27.6 | 239            | 4.9 | -     | -   |
| 1975                        | 5 120 | 100.0 | 2 467        | 48.2 | 1 080       | 21.1 | 1 332                        | 26.0 | 241            | 4.7 | -     | -   |
| 1976                        | 5 459 | 100.0 | 2 669        | 48.9 | 1 180       | 21.6 | 1 368                        | 25.7 | 243            | 4.5 | -     | -   |
| 1977                        | 5 881 | 100.0 | 1 906        | 49.4 | 1 285       | 21.9 | 1 445                        | 24.6 | 246            | 4.2 | -     | -   |
| 1978                        | 6 304 | 100.0 | 3 123        | 49.5 | 1 373       | 21.8 | 1 560                        | 24.8 | 248            | 3.9 | -     | -   |
| 1979                        | 6 453 | 100.0 | 3 205        | 49.7 | 1 458       | 22.6 | 1 540                        | 23.9 | 250            | 3.9 | -     | -   |
| 1980                        | 6 751 | 100.0 | 3 477        | 51.7 | 1 517       | 22.5 | 1 494                        | 22.0 | 263            | 3.8 | -     | -   |
| 1981                        | 7 074 | 100.0 | 3 975        | 55.6 | 1 515       | 21.3 | 1 410                        | 19.7 | 174            | 3.5 | -     | -   |
| 1982                        | 7 027 | 100.0 | 3 950        | 56.2 | 1 542       | 21.9 | 1 258                        | 17.9 | 277            | 3.9 | -     | -   |
| 1983                        | 7 456 | 100.0 | 4 201        | 56.3 | 1 657       | 22.2 | 1 238                        | 16.7 | 298            | 4.0 | 62    | 0.8 |
| <u>Tasas de crecimiento</u> |       |       |              |      |             |      |                              |      |                |     |       |     |
| 1972-1983                   | 4.4   |       | 7.2          |      | 5.3         |      | -2.0                         |      | 2.1            |     | -     |     |
| 1972-1979                   | 4.7   |       | 7.3          |      | 6.5         |      | ...                          |      | 0.7            |     | -     |     |
| 1979-1983                   | 3.7   |       | 7.0          |      | 3.3         |      | -5.3                         |      | 4.5            |     | -     |     |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 12

ISTMO CENTROAMERICANO: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA  
COMERCIAL POR PRODUCTO

|           | Total  |       | Gasolina |      | Queroseno y<br>turbocombustible |      | Diesel |      | Otros a/ |     |
|-----------|--------|-------|----------|------|---------------------------------|------|--------|------|----------|-----|
|           | TCal   | %     | TCal     | %    | TCal                            | %    | TCal   | %    | TCal     | %   |
| 1972      | 14 683 | 100.0 | 8 282    | 56.4 | 762                             | 6.6  | 5 312  | 36.2 | 127      | 0.9 |
| 1973      | 16 241 | 100.0 | 9 168    | 56.5 | 1 066                           | 6.6  | 5 911  | 36.4 | 96       | 0.5 |
| 1974      | 16 599 | 100.0 | 9 091    | 54.8 | 995                             | 6.0  | 6 434  | 38.8 | 79       | 0.5 |
| 1975      | 18 607 | 100.0 | 9 533    | 51.2 | 2 010                           | 10.8 | 7 030  | 37.8 | 34       | 0.2 |
| 1976      | 20 431 | 100.0 | 10 308   | 50.5 | 2 229                           | 10.9 | 7 765  | 38.0 | 129      | 0.6 |
| 1977      | 21 923 | 100.0 | 10 998   | 50.2 | 2 324                           | 10.6 | 8 463  | 38.6 | 138      | 0.6 |
| 1978      | 23 432 | 100.0 | 11 472   | 49.0 | 2 510                           | 10.7 | 9 315  | 39.8 | 134      | 0.6 |
| 1979      | 23 563 | 100.0 | 10 857   | 46.1 | 2 700                           | 11.5 | 9 863  | 41.9 | 138      | 0.6 |
| 1980      | 22 087 | 100.0 | 9 891    | 44.8 | 2 401                           | 10.9 | 9 727  | 44.0 | 68       | 0.3 |
| 1981      | 20 928 | 100.0 | 9 166    | 43.6 | 1 264                           | 9.9  | 9 720  | 46.2 | 78       | 0.4 |
| 1982      | 20 511 | 100.0 | 8 851    | 43.2 | 1 983                           | 9.7  | 9 611  | 46.9 | 66       | 0.3 |
| 1983      | 20 109 | 100.0 | 8 954    | 44.5 | 1 819                           | 9.0  | 9 300  | 46.2 | 36       | 0.2 |
|           |        |       |          |      | <u>Tasas de crecimiento</u>     |      |        |      |          |     |
| 1972-1983 | 3.4    |       | 0.7      |      | 8.2                             |      | 5.2    |      | -10.8    |     |
| 1972-1979 | 7.0    |       | 3.9      |      | 19.8                            |      | 9.3    |      | -17.5    |     |
| 1979-1983 | -4.5   |       | -4.7     |      | -9.4                            |      | -1.5   |      | -28.5    |     |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Combustóleo y electricidad.



Cuadro 13

## ISTMO CENTROAMERICANO: SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|      | Total  |       | Electricidad |      | Diesel |      | Combustóleo |      | Residuos vegetales |      | Otros <sup>a/</sup> |     |
|------|--------|-------|--------------|------|--------|------|-------------|------|--------------------|------|---------------------|-----|
|      | TCal   | %     | TCal         | %    | TCal   | %    | TCal        | %    | TCal               | %    | TCal                | %   |
| 1972 | 15 602 | 100.0 | 1 522        | 9.8  | 2 830  | 18.1 | 5 825       | 37.3 | 4 697              | 30.1 | 728                 | 4.7 |
| 1973 | 16 105 | 100.0 | 1 689        | 10.5 | 3 189  | 19.9 | 5 362       | 33.4 | 4 997              | 31.2 | 798                 | 5.0 |
| 1974 | 16 902 | 100.0 | 1 848        | 10.9 | 3 150  | 18.5 | 5 459       | 32.1 | 5 684              | 33.4 | 861                 | 5.1 |
| 1975 | 17 782 | 100.0 | 1 977        | 11.1 | 3 185  | 17.8 | 5 435       | 30.4 | 6 469              | 36.2 | 816                 | 4.6 |
| 1976 | 19 539 | 100.0 | 2 107        | 10.8 | 3 561  | 18.2 | 5 776       | 29.6 | 7 255              | 37.6 | 740                 | 3.8 |
| 1977 | 21 460 | 100.0 | 2 443        | 11.4 | 4 238  | 19.7 | 6 316       | 29.4 | 7 674              | 35.8 | 789                 | 3.7 |
| 1978 | 22 110 | 100.0 | 2 608        | 11.7 | 4 643  | 21.0 | 6 053       | 27.4 | 7 791              | 34.8 | 1 105               | 4.5 |
| 1979 | 22 173 | 100.0 | 2 737        | 12.3 | 4 262  | 19.2 | 6 539       | 29.5 | 7 543              | 34.0 | 1 092               | 4.9 |
| 1980 | 21 401 | 100.0 | 2 907        | 13.6 | 4 743  | 22.2 | 5 669       | 26.5 | 7 030              | 32.8 | 1 052               | 4.9 |
| 1981 | 21 746 | 100.0 | 2 674        | 12.3 | 4 930  | 22.7 | 6 127       | 28.2 | 7 601              | 35.0 | 415                 | 1.9 |
| 1982 | 19 912 | 100.0 | 2 341        | 11.8 | 4 255  | 21.4 | 4 602       | 23.1 | 8 038              | 40.9 | 676                 | 3.3 |
| 1983 | 21 010 | 100.0 | 2 525        | 12.0 | 4 254  | 20.2 | 5 216       | 24.8 | 8 211              | 39.2 | 804                 | 3.8 |

## Tasas de crecimiento

|           |      |      |      |      |     |      |
|-----------|------|------|------|------|-----|------|
| 1972-1983 | 2.7  | 4.7  | 3.8  | 1.0  | 5.0 | 2.5  |
| 1972-1979 | 5.2  | 8.8  | 6.0  | 1.6  | 7.0 | 5.9  |
| 1979-1983 | -1.3 | -2.0 | -0.1 | -6.5 | 2.3 | -7.4 |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón vegetal consumido por Nicaragua.

Cuadro 14

ISTMO CENTROAMERICANO: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO<sup>a/</sup>

|      | Total |       | Electricidad |      | Gasolina |     | Diesel |      | Combustible |      | Otros <sup>b/</sup> |      |
|------|-------|-------|--------------|------|----------|-----|--------|------|-------------|------|---------------------|------|
|      | TCal  | %     | TCal         | %    | TCal     | %   | TCal   | %    | TCal        | %    | TCal                | %    |
| 1972 | 5 249 | 100.0 | 486          | 9.3  | 185      | 3.5 | 451    | 8.6  | 1 511       | 28.8 | 2 616               | 49.8 |
| 1973 | 5 264 | 100.0 | 468          | 8.9  | 203      | 3.9 | 665    | 12.6 | 1 357       | 25.8 | 2 571               | 48.8 |
| 1974 | 5 168 | 100.0 | 521          | 10.1 | 201      | 3.9 | 522    | 10.1 | 1 497       | 29.0 | 2 427               | 47.0 |
| 1975 | 5 494 | 100.0 | 564          | 10.3 | 209      | 3.8 | 458    | 8.3  | 1 462       | 26.6 | 2 801               | 51.0 |
| 1976 | 5 206 | 100.0 | 654          | 12.6 | 220      | 4.2 | 890    | 17.1 | 1 313       | 25.2 | 2 129               | 40.9 |
| 1977 | 5 573 | 100.0 | 703          | 12.6 | 252      | 4.5 | 810    | 14.5 | 1 329       | 23.8 | 2 479               | 44.5 |
| 1978 | 6 087 | 100.0 | 749          | 12.3 | 266      | 4.4 | 883    | 14.5 | 1 535       | 25.2 | 2 654               | 43.6 |
| 1979 | 5 759 | 100.0 | 750          | 13.0 | 257      | 4.5 | 877    | 15.2 | 1 361       | 23.6 | 2 514               | 43.7 |
| 1980 | 5 340 | 100.0 | 752          | 14.1 | 265      | 5.3 | 989    | 18.5 | 1 343       | 25.2 | 1 969               | 36.9 |
| 1981 | 4 904 | 100.0 | 819          | 16.7 | 275      | 5.6 | 987    | 20.1 | 1 206       | 24.6 | 1 617               | 33.0 |
| 1982 | 5 326 | 100.0 | 835          | 15.7 | 287      | 5.4 | 978    | 18.4 | 1 271       | 23.9 | 1 695               | 31.8 |
| 1983 | 5 582 | 100.0 | 934          | 16.7 | 331      | 5.9 | 1 216  | 21.8 | 1 235       | 22.1 | 1 867               | 33.5 |

Tasas de crecimiento

|           |      |     |     |      |      |      |
|-----------|------|-----|-----|------|------|------|
| 1972-1983 | -0.4 | 6.4 | 5.4 | 9.4  | -1.3 | -3.0 |
| 1972-1979 | 1.3  | 6.4 | 4.8 | 10.0 | -1.4 | -0.6 |
| 1979-1983 | -4.2 | 5.7 | 6.5 | 8.3  | -2.4 | -7.2 |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Comprende público, no identificado y consumo propio.<sup>b/</sup> Comprende queroseno, gas licuado, no energéticos y gas de refinación.

Cuadro 15

## ISTMO CENTROAMERICANO: ALGUNOS INDICADORES DE CONSUMO ENERGETICO

|             | 1973                                |                   |              |   |  | 1983                                |                   |              |   |  |
|-------------|-------------------------------------|-------------------|--------------|---|--|-------------------------------------|-------------------|--------------|---|--|
|             | Consumo por habitante <sup>a/</sup> |                   |              | Población consumidora de leña <sup>b/</sup> (%) | Población servida con electricidad <sup>b/</sup> (%) | Consumo por habitante <sup>a/</sup> |                   |              | Población consumidora de leña <sup>b/</sup> (%) | Población servida con electricidad <sup>b/</sup> (%) |
|             | Energía total                       | Energía comercial | Electricidad |   |  | Energía total                       | Energía comercial | Electricidad |   |  |
| Total       | 534                                 | 228               | 23           | 68.9  | 27.0   | 463                                 | 202               | 30           | 60.0  | 39.4   |
| Costa Rica  | 611                                 | 371               | 53           | 46.0  | 55.2   | 527                                 | 352               | 76           | 34.6  | 75.0   |
| El Salvador | 485                                 | 175               | 18           | 72.9  | 23.7   | 405                                 | 144               | 23           | 61.4  | 34.6   |
| Guatemala   | 511                                 | 147               | 12           | 80.5  | 20.7   | 449                                 | 125               | 13           | 71.6  | 32.9   |
| Honduras    | 500                                 | 159               | 13           | 73.4  | 13.1   | 450                                 | 163               | 20           | 61.5  | 23.5   |
| Nicaragua   | 518                                 | 274               | 24           | 65.9  | 29.9   | 445                                 | 245               | 28           | 65.2  | 46.0   |
| Panamá      | 732                                 | 547               | 61           | 40.3  | 46.1   | 633                                 | 480               | 85           | 31.6  | 55.0   |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> En kcp por habitante por año.<sup>b/</sup> Sobre la población total.

Cuadro 16

ISTMO CENTROAMERICANO: PRODUCCION DE ENERGIA  
POR PRODUCTO FINAL

(Teracalorías)

|           | Total                       | Hidrocarburos <sup>a/b/</sup> | Electricidad | Residuos<br>vegetales <sup>a/</sup> | Carbón<br>de leña | Leña <sup>c/</sup> |
|-----------|-----------------------------|-------------------------------|--------------|-------------------------------------|-------------------|--------------------|
| 1972      | 124 339                     | 60 443                        | 4 457        | 4 947                               | 258               | 54 234             |
| 1973      | 124 842                     | 59 118                        | 4 842        | 5 306                               | 260               | 55 316             |
| 1974      | 125 129                     | 57 035                        | 5 256        | 6 034                               | 262               | 56 546             |
| 1975      | 129 894                     | 59 509                        | 5 604        | 6 919                               | 266               | 57 596             |
| 1976      | 119 211                     | 46 341                        | 6 154        | 7 935                               | 269               | 58 512             |
| 1977      | 119 377                     | 45 212                        | 6 774        | 8 214                               | 273               | 58 904             |
| 1978      | 117 557                     | 42 365                        | 7 203        | 8 140                               | 276               | 59 573             |
| 1979      | 117 148                     | 40 804                        | 7 678        | 7 955                               | 273               | 60 438             |
| 1980      | 117 132                     | 40 064                        | 8 236        | 7 282                               | 278               | 61 272             |
| 1981      | 113 909                     | 35 177                        | 8 210        | 8 199                               | 280               | 62 043             |
| 1982      | 113 649                     | 33 282                        | 8 407        | 8 708                               | 270               | 62 982             |
| 1983      | 118 077                     | 34 822                        | 8 609        | 8 811                               | 309               | 65 526             |
|           | <u>Tasas de crecimiento</u> |                               |              |                                     |                   |                    |
| 1972-1983 | -0.5                        | -4.9                          | 6.2          | 5.4                                 | 0.4               | 1.6                |
| 1972-1979 | -0.8                        | -5.5                          | 8.1          | 7.0                                 | 0.3               | 1.5                |
| 1979-1983 | 0.2                         | -3.9                          | 2.9          | 2.6                                 | -0.5              | 1.7                |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye energéticos utilizados en centrales eléctricas.

b/ Incluye carbón mineral y coque.

c/ Excluye leña utilizada en carboneras para producir carbón de leña.

Cuadro 17

ISTMO CENTRALAMERICANO: IMPORTACION DE ENERGIA POR PRODUCTO  
(Teracalorías)

|                             | Total  | Petróleo | Derivados de<br>petróleo <u>a/</u> | Electricidad <u>b/</u> |
|-----------------------------|--------|----------|------------------------------------|------------------------|
| 1972                        | 74 903 | 69 211   | 5 673                              | 19                     |
| 1973                        | 75 505 | 69 511   | 5 977                              | 17                     |
| 1974                        | 73 386 | 67 479   | 5 892                              | 15                     |
| 1975                        | 80 747 | 72 414   | 8 307                              | 26                     |
| 1976                        | 71 117 | 57 722   | 13 378                             | 17                     |
| 1977                        | 73 362 | 59 426   | 13 896                             | 40                     |
| 1978                        | 68 738 | 54 629   | 14 087                             | 22                     |
| 1979                        | 64 439 | 50 680   | 13 729                             | 30                     |
| 1980                        | 62 127 | 49 501   | 12 603                             | 23                     |
| 1981                        | 54 454 | 42 218   | 12 205                             | 31                     |
| 1982                        | 52 624 | 39 562   | 12 946                             | 116                    |
| 1983                        | 55 303 | 41 112   | 13 754                             | 437                    |
| <u>Tasas de crecimiento</u> |        |          |                                    |                        |
| 1972-1983                   | -2.7   | -4.6     | 8.4                                | 33.0                   |
| 1972-1979                   | -2.1   | -4.3     | 13.5                               | 6.7                    |
| 1979-1983                   | -3.8   | -5.1     | -                                  | 95.0                   |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

b/ Incluye compras al Area del Canal de Panamá.

Cuadro 18

ISTMO CENTROAMERICANO: EXPORTACION DE ENERGIA POR PRODUCTO

(Teracalorías)

|                             | Total  | Petróleo | Derivados del<br>petróleo | Electricidad <sup>a/</sup> |
|-----------------------------|--------|----------|---------------------------|----------------------------|
| 1972                        | 30 906 | -        | 30 872                    | 34                         |
| 1973                        | 27 364 | -        | 27 304                    | 60                         |
| 1974                        | 26 545 | -        | 26 529                    | 16                         |
| 1975                        | 32 241 | -        | 32 228                    | 13                         |
| 1976                        | 21 873 | -        | 21 827                    | 46                         |
| 1977                        | 18 492 | -        | 18 388                    | 104                        |
| 1978                        | 14 357 | -        | 14 324                    | 33                         |
| 1979                        | 9 743  | -        | 9 620                     | 123                        |
| 1980                        | 12 899 | 1 084    | 11 763                    | 52                         |
| 1981                        | 10 158 | 913      | 9 199                     | 46                         |
| 1982                        | 10 342 | 2 133    | 8 106                     | 103                        |
| 1983                        | 10 134 | 3 066    | 6 637                     | 431                        |
| <u>Tasas de crecimiento</u> |        |          |                           |                            |
| 1972-1983                   | -10.4  | -        | -12.5                     | 11.7                       |
| 1972-1979                   | -15.2  | -        | -15.3                     | 20.0                       |
| 1979-1983                   | 0.6    | -        | -5.5                      | -5.7                       |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.  
a/ Incluye ventas al Area del Canal de Panamá.

Cuadro 19

ISTMO CENTROAMERICANO: BALANCE ENERGETICO  
(Teracalorías)

|      | Producción<br>(1) | Importación <sup>a/</sup><br>(2) | Exportación<br>(3) | Consumo<br>(1+2-3+5+6)<br>(4) | Variación de<br>existencias<br>(5) | Cierre<br>(6) |
|------|-------------------|----------------------------------|--------------------|-------------------------------|------------------------------------|---------------|
| 1972 | 124 339           | 5 692                            | 30 906             | 94 448                        | -275                               | -4 402        |
| 1973 | 124 842           | 5 994                            | 27 364             | 97 783                        | 150                                | -5 769        |
| 1974 | 125 129           | 5 907                            | 26 545             | 100 086                       | -787                               | -3 618        |
| 1975 | 129 894           | 8 333                            | 32 241             | 104 608                       | -1 195                             | -192          |
| 1976 | 119 211           | 13 395                           | 21 873             | 109 148                       | -985                               | -600          |
| 1977 | 119 377           | 13 936                           | 18 492             | 113 742                       | -380                               | -699          |
| 1978 | 117 557           | 14 109                           | 14 357             | 117 506                       | 54                                 | 143           |
| 1979 | 117 148           | 13 759                           | 9 743              | 118 386                       | -1 653                             | -1 125        |
| 1980 | 117 132           | 12 626                           | 12 899             | 116 851                       | 160                                | 168           |
| 1981 | 113 909           | 12 236                           | 10 158             | 116 711                       | 1 430                              | -706          |
| 1982 | 113 649           | 13 062                           | 10 342             | 115 758                       | 697                                | -1 308        |
| 1983 | 118 077           | 14 191                           | 10 134             | 119 683                       | -1 152                             | -1 299        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ No incluye petróleo crudo ni reconstituido.

|                                      |                           | BALANCE                        |                          |                           |                |                   |              |              |        |       |
|--------------------------------------|---------------------------|--------------------------------|--------------------------|---------------------------|----------------|-------------------|--------------|--------------|--------|-------|
| UNIDADES: <sup>a/</sup> Teracalorías |                           | ENERGIA PRIMARIA               |                          |                           |                |                   |              |              |        |       |
| REPUBLICA DE: ISTMO CENTROAMERICANO  |                           | 1                              | 2                        | 3                         | 4              | 5                 | 6            | 7            |        |       |
| ELABORADO POR: CEPAL                 |                           | Carbón mineral                 | Leña                     | Otros comb. veg. y animal | Petróleo crudo | Gas natural libre | Gas asociado | Hidroenergía |        |       |
| LUGAR: MEXICO                        |                           |                                |                          |                           |                |                   |              |              |        |       |
| SECTOR ENERGETICO                    | OFERTA                    | 1.                             | Producción               |                           | 66 404         | 10 028            | 3 546        |              | 282    | 8 126 |
|                                      |                           | 2.                             | Importación              | 3                         |                |                   | 41 112       |              |        |       |
|                                      |                           | 3.                             | Variación de inventarios |                           |                |                   | -516         |              |        | 23    |
|                                      |                           | 4.                             | OFERTA TOTAL             | 3                         | 66 404         | 10 028            | 44 142       |              | 282    | 8 149 |
|                                      |                           | 5.                             | Exportación              |                           |                |                   | -3 066       |              |        |       |
|                                      |                           | 6.                             | No aprovechada           |                           |                | -791              |              |              | -282   | -785  |
|                                      |                           | 7.                             | OFERTA INTERNA BRUTA     | 3                         | 66 404         | 9 237             | 41 076       |              |        | 7 364 |
|                                      | Centros de transformación | 8.                             | TOTAL TRANSFORMACION     |                           | -878           | -1 026            | -41 105      |              |        | 7 364 |
|                                      |                           | 8.1                            | Coquerías, Altos Hornos  |                           |                |                   |              |              |        |       |
|                                      |                           | 8.2                            | Carboneras               |                           | -878           |                   |              |              |        |       |
| 8.3                                  |                           | Biomasa                        |                          |                           |                |                   |              |              |        |       |
| 8.4                                  |                           | Refinerías                     |                          |                           |                | -40 670           |              |              |        |       |
| 8.5                                  |                           | Plantas de gas                 |                          |                           |                |                   |              |              |        |       |
| 8.6                                  |                           | Centrales Elect. Serv. Públ.   |                          |                           |                | -435              |              |              | -7 350 |       |
|                                      | 8.7                       | Centrales Eléct. Autop.        |                          |                           | -1 026         |                   |              |              | -14    |       |
|                                      | 9.                        | Consumo propio sec. energét.   |                          |                           |                |                   |              |              |        |       |
|                                      | 10.                       | Pérdidas (trans. dist. almac.) |                          |                           |                | -64               |              |              |        |       |
|                                      | 11.                       | AJUSTES                        |                          |                           |                | 182               |              |              |        |       |
| CONSUMO FINAL                        | 12.                       | CONSUMO FINAL TOTAL            | 3                        | 65 526                    | 8 211          | 89                |              |              |        |       |
|                                      | 12.1                      | Consumo final no energético    |                          |                           |                |                   |              |              |        |       |
|                                      | 12.2                      | Consumo final energético       | 3                        | 65 526                    | 8 211          | 89                |              |              |        |       |
|                                      | 12.2.1                    | Residenc. comerc. público      |                          | 60 643                    |                |                   |              |              |        |       |
|                                      | 12.2.2                    | Transporte                     |                          |                           |                |                   |              |              |        |       |
|                                      | 12.2.3                    | Agropecuario                   |                          |                           |                |                   |              |              |        |       |
|                                      | 12.2.4                    | Industrial                     | 3                        | 4 883                     | 8 211          | 89                |              |              |        |       |
|                                      | 12.2.5                    | Consumo no identificado        |                          |                           |                |                   |              |              |        |       |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

<sup>a/</sup> Teracalorías o miles de toneladas equivalentes de petróleo.



ENERGETICO CONSOLIDADO

AÑO: 1983

ENERGIA SECUNDARIA

| 8         | 9                      | 10                     | 11    | 12             | 13          | 14                 | 15                     | 16               | 17                   | 18                      | 19                       | 20   | 21           | 22                       | 23      |
|-----------|------------------------|------------------------|-------|----------------|-------------|--------------------|------------------------|------------------|----------------------|-------------------------|--------------------------|------|--------------|--------------------------|---------|
| Geenergía | Combustible fisionable | TOTAL ENERGIA PRIMARIA | Coque | Carbón vegetal | Gas licuado | Gasolinas y naftas | Queroseno y turbocomb. | Diesel y gasóleo | Combustibles pesados | Otros comb. energéticos | Productos no energéticos | Gas  | Electricidad | TOTAL ENERGIA SECUNDARIA | TOTAL   |
| 5 381     |                        | 93 747                 |       |                |             |                    |                        |                  |                      |                         |                          |      |              |                          | 93 747  |
|           |                        | 41 115                 | 3     |                | 1 190       | 3 369              | 878                    | 7 272            | 596                  |                         | 4 445                    |      |              | 13 753                   | 54 868  |
|           |                        | -493                   |       |                | -19         | -202               | -100                   | -488             | -172                 |                         | 0                        |      |              | -988                     | -1 481  |
| 5 381     |                        | 136 369                | 3     |                | 1 171       | 3 167              | 778                    | 6 786            | 424                  |                         | 436                      |      |              | 12 765                   | 147 134 |
|           |                        | -3 066                 |       |                |             | -82                |                        | -1 125           | -5316                |                         | -112                     |      |              | -6 635                   | -8 701  |
| -1 972    |                        | -3 830                 |       |                |             |                    |                        |                  |                      |                         |                          |      |              |                          | -3 830  |
| 3 389     |                        | 127 473                | 3     |                | 1 171       | 3 085              | 778                    | 5 681            | -4892                |                         | 324                      |      |              | 6 130                    | 33 603  |
| -3 389    |                        | -63 762                |       | 309            | 683         | 6 332              | 2 719                  | 9 204            | 11462                | 117                     | 401                      | 761  | 8 816        | 40 804                   | 12 958  |
|           |                        | -878                   |       | 309            |             |                    |                        |                  |                      |                         |                          |      |              | 309                      | -569    |
|           |                        | -40 670                |       |                | 683         | 6 332              | 2 719                  | 11 720           | 17 206               | 117                     | 401                      | 761  |              | 39 939                   | -731    |
| 3 389     |                        | -11 174                |       |                |             |                    |                        | -2 191           | -5 715               |                         |                          |      | 8 576        | 668                      | -10 506 |
|           |                        | -1 040                 |       |                |             |                    |                        | -324             | -28                  |                         |                          |      | 240          | -112                     | -1 152  |
|           |                        |                        |       |                | -19         | -1                 | -1                     | -47              | -915                 | -117                    |                          | -761 | -207         | -2 068                   | -2 068  |
|           |                        | -64                    |       |                |             |                    |                        |                  |                      |                         |                          |      | -501         | -501                     | -565    |
|           |                        | 182                    |       |                | 35          | 51                 | 25                     | 27               | -24                  |                         | 48                       |      | -645         | -483                     | -301    |
|           |                        | 73 829                 | 3     | 309            | 1 870       | 9 468              | 3 522                  | 14 845           | 5 535                |                         | 773                      |      | 7 463        | 43 786                   | 117 615 |
|           |                        |                        |       |                |             |                    |                        |                  |                      |                         | 773                      |      |              | 773                      | 773     |
|           |                        | 73 829                 | 3     | 309            | 1 870       | 9 468              | 3 522                  | 14 845           | 5 535                |                         |                          |      | 7 463        | 43 013                   | 116 842 |
|           |                        | 60 643                 |       | 294            | 1 662       | 304                | 1 349                  | 193              | 11                   |                         |                          |      | 4 863        | 8 676                    | 69 319  |
|           |                        |                        |       |                | 31          | 8 955              | 1 818                  | 9 299            | 2                    |                         |                          |      | 10           | 20 115                   | 20 115  |
|           |                        |                        |       | 10             | 8           | 71                 | 105                    | 835              | 251                  |                         |                          |      | 192          | 1 476                    | 1 476   |
|           |                        | 13 186                 | 3     | 5              | 169         | 93                 | 247                    | 3 415            | 4 964                |                         |                          |      | 2 334        | 11 230                   | 24 416  |
|           |                        |                        |       |                |             | 44                 | 2                      | 1 099            | 307                  |                         |                          |      | 64           | 1 516                    | 1 516   |

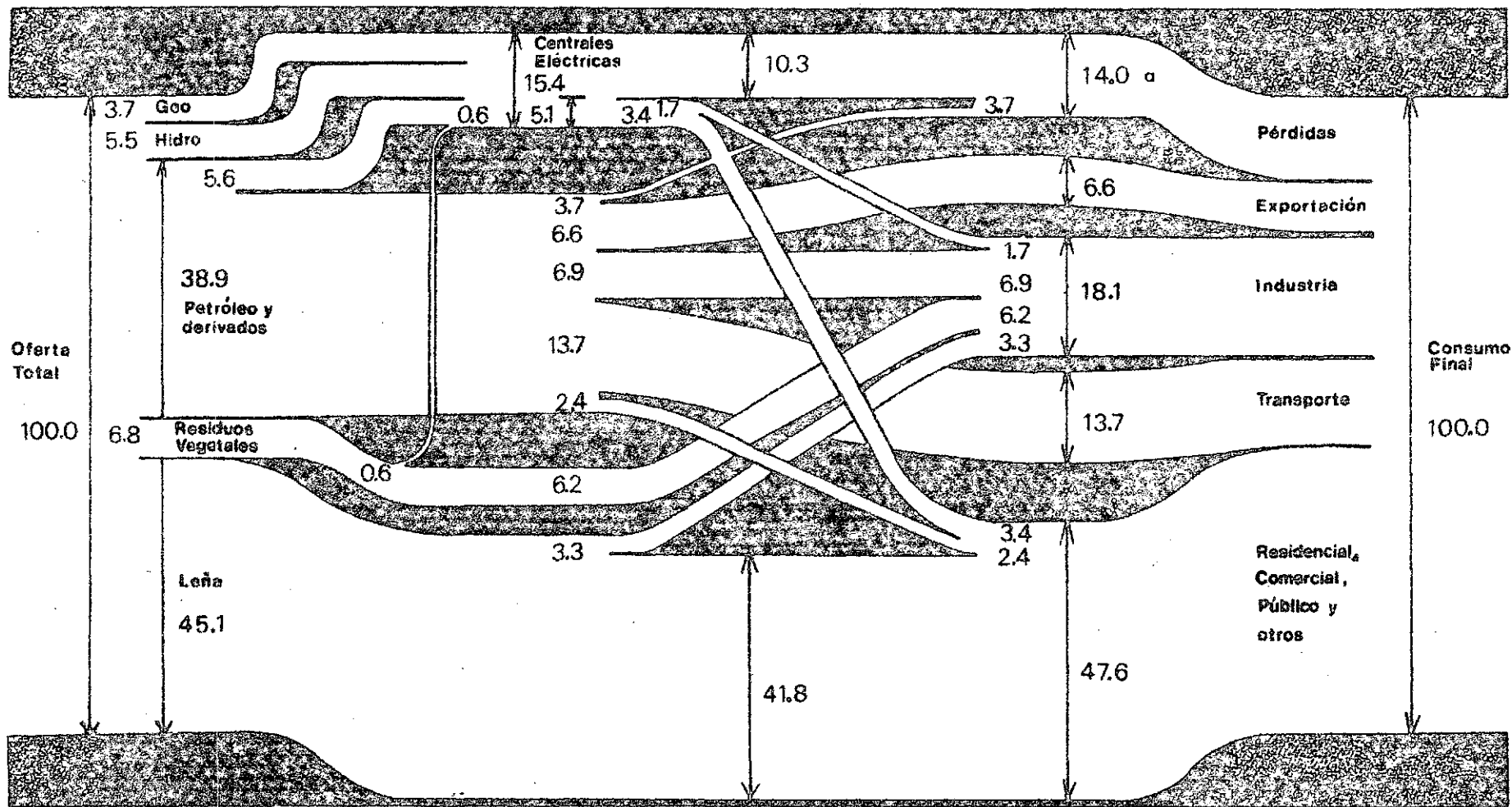
Pérdidas de transformación

|  |  |  |  |     |     |       |       |        |        |     |     |     |       |        |  |
|--|--|--|--|-----|-----|-------|-------|--------|--------|-----|-----|-----|-------|--------|--|
|  |  |  |  | 309 | 683 | 6 332 | 2 719 | 11 720 | 17 206 | 117 | 401 | 769 | 8 816 | 49 052 |  |
|--|--|--|--|-----|-----|-------|-------|--------|--------|-----|-----|-----|-------|--------|--|

# DIAGRAMA 1

## ISTMO CENTROAMERICANO : Flujo de energía , 1983

### (Porcentajes)



α INCLUYE ENERGIA NO APROVECHADA Y AJUSTES

2. Cuadros de información sobre Costa Rica (21 a 33)



## COSTA RICA: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|                             | Total         |              | Hidroenergía  |              | Geoenergía    |              | Petróleo y derivados a/ |              | Leña          |              | Residuos vegetales |              |
|-----------------------------|---------------|--------------|---------------|--------------|---------------|--------------|-------------------------|--------------|---------------|--------------|--------------------|--------------|
|                             | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías           | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes |
| 1972                        | 12 116        | 100.0        | 1 228         | 10.2         | -             | -            | 5 020                   | 41.4         | 4 729         | 39.0         | 1 139              | 9.4          |
| 1973                        | 12 804        | 100.0        | 1 231         | 9.6          | -             | -            | 5 693                   | 44.5         | 4 731         | 36.9         | 1 149              | 9.0          |
| 1974                        | 12 603        | 100.0        | 1 357         | 10.8         | -             | -            | 5 399                   | 42.8         | 4 754         | 37.7         | 1 093              | 8.7          |
| 1975                        | 13 317        | 100.0        | 1 387         | 10.4         | -             | -            | 6 046                   | 45.4         | 4 748         | 35.7         | 1 136              | 8.5          |
| 1976                        | 13 481        | 100.0        | 1 571         | 11.7         | -             | -            | 5 970                   | 44.3         | 4 778         | 35.4         | 1 162              | 8.6          |
| 1977                        | 14 754        | 100.0        | 1 444         | 9.8          | -             | -            | 7 522                   | 51.0         | 4 546         | 30.8         | 1 242              | 8.4          |
| 1978                        | 15 780        | 100.0        | 1 607         | 10.2         | -             | -            | 8 268                   | 52.4         | 4 570         | 29.0         | 1 335              | 8.4          |
| 1979                        | 15 991        | 100.0        | 1 758         | 11.0         | -             | -            | 8 264                   | 51.7         | 4 580         | 28.6         | 1 389              | 8.7          |
| 1980                        | 15 479        | 100.0        | 2 061         | 13.3         | -             | -            | 7 570                   | 48.9         | 4 550         | 29.4         | 1 298              | 8.4          |
| 1981                        | 15 908        | 100.0        | 3 041         | 19.1         | -             | -            | 6 990                   | 43.9         | 4 559         | 28.7         | 1 318              | 8.3          |
| 1982                        | 14 779        | 100.0        | 2 982         | 20.2         | -             | -            | 5 950                   | 40.3         | 4 574         | 30.9         | 1 273              | 8.5          |
| 1983                        | 14 627        | 100.0        | 3 279         | 22.4         | -             | -            | 5 426                   | 37.1         | 4 573         | 31.3         | 1 349              | 9.2          |
| <u>Tasas de crecimiento</u> |               |              |               |              |               |              |                         |              |               |              |                    |              |
| 1972-1983                   | 1.7           |              | 9.4           |              | -             |              | 0.7                     |              | -0.3          |              | 1.5                |              |
| 1972-1979                   | 4.0           |              | 4.1           |              | -             |              | 7.4                     |              | -0.5          |              | 2.9                |              |
| 1979-1983                   | -2.2          |              | 16.9          |              | -             |              | 10.0                    |              | -0.1          |              | -0.2               |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

## COSTA RICA: CONSUMO FINAL DE ENERGIA POR PRODUCTO

|                             | Total             |                  | Subtotal          |                  | Electricidad      |                  | Comercial         |                  | Residuos vegetales |                  | Carbón de leña    |                  | No comercial      |                  |
|-----------------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|--------------------|------------------|-------------------|------------------|-------------------|------------------|
|                             | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Hidrocarburos a/  |                  | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Leña              |                  |
|                             |                   |                  |                   |                  |                   |                  | Tera-<br>calorías | Porcen-<br>tajes |                    |                  |                   |                  | Tera-<br>calorías | Porcen-<br>tajes |
| 1972                        | 11 263            | 100.0            | 6 713             | 59.6             | 947               | 8.4              | 4 575             | 40.6             | 1 116              | 9.9              | 75                | 0.7              | 4 550             | 40.4             |
| 1973                        | 11 772            | 100.0            | 7 244             | 61.5             | 1 001             | 8.5              | 5 041             | 42.8             | 1 125              | 9.6              | 77                | 0.7              | 4 528             | 38.5             |
| 1974                        | 11 554            | 100.0            | 7 007             | 60.6             | 1 090             | 9.4              | 4 771             | 41.3             | 1 068              | 9.2              | 78                | 0.7              | 4 547             | 39.4             |
| 1975                        | 12 103            | 100.0            | 7 566             | 62.5             | 1 138             | 9.4              | 5 238             | 43.3             | 1 110              | 9.2              | 80                | 0.7              | 4 537             | 37.5             |
| 1976                        | 12 593            | 100.0            | 8 030             | 63.8             | 1 228             | 9.8              | 5 587             | 44.4             | 1 134              | 9.0              | 81                | 0.6              | 4 563             | 36.2             |
| 1977                        | 13 442            | 100.0            | 9 115             | 67.2             | 1 312             | 9.8              | 6 513             | 48.5             | 1 207              | 9.0              | 83                | 0.6              | 4 327             | 32.2             |
| 1978                        | 14 172            | 100.0            | 9 826             | 69.3             | 1 451             | 10.2             | 6 984             | 49.3             | 1 306              | 9.2              | 85                | 0.6              | 4 346             | 30.7             |
| 1979                        | 14 493            | 100.0            | 10 141            | 70.0             | 1 541             | 10.6             | 7 164             | 49.4             | 1 350              | 9.3              | 86                | 0.6              | 4 352             | 30.0             |
| 1980                        | 14 504            | 100.0            | 10 186            | 70.2             | 1 689             | 11.6             | 7 145             | 49.3             | 1 263              | 8.8              | 89                | 0.6              | 4 318             | 29.8             |
| 1981                        | 14 331            | 100.0            | 10 013            | 69.9             | 1 822             | 12.7             | 6 817             | 47.6             | 1 283              | 9.0              | 91                | 0.6              | 4 318             | 30.1             |
| 1982                        | 13 095            | 100.0            | 8 763             | 66.9             | 1 781             | 13.6             | 5 652             | 43.2             | 1 238              | 9.4              | 92                | 0.7              | 4 332             | 33.1             |
| 1983                        | 13 237            | 100.0            | 8 911             | 67.3             | 1 876             | 14.2             | 5 628             | 42.5             | 1 314              | 9.9              | 93                | 0.7              | 4 326             | 32.7             |
| <u>Tasas de crecimiento</u> |                   |                  |                   |                  |                   |                  |                   |                  |                    |                  |                   |                  |                   |                  |
| 1972-1983                   |                   | 1.4              |                   | 2.5              |                   | 6.4              |                   | 1.9              |                    | 1.5              |                   | 1.9              |                   | -0.5             |
| 1972-1979                   |                   | 3.7              |                   | 6.1              |                   | 7.2              |                   | 6.6              |                    | 2.7              |                   | 2.0              |                   | -0.6             |
| 1979-1983                   |                   | -2.2             |                   | -3.2             |                   | 4.9              |                   | -5.9             |                    | 0.7              |                   | 2.9              |                   | -0.1             |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y alcohol carburante.

Cuadro 23

## COSTA RICA: CONSUMO FINAL DE ENERGIA COMERCIAL POR SECTORES

|           | <u>Total</u>  |              | <u>Residencial y comercial</u> |              | <u>Transporte</u>           |              | <u>Industrial</u> |              | <u>Otros</u>  |              |
|-----------|---------------|--------------|--------------------------------|--------------|-----------------------------|--------------|-------------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías                  | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías     | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 6 713         | 100.0        | 987                            | 14.7         | 2 597                       | 38.7         | 2 465             | 36.7         | 664           | 9.9          |
| 1973      | 7 244         | 100.0        | 1 042                          | 14.4         | 2 879                       | 39.7         | 2 759             | 38.1         | 564           | 7.8          |
| 1974      | 7 007         | 100.0        | 1 069                          | 13.3         | 3 098                       | 44.2         | 2 402             | 34.3         | 438           | 6.2          |
| 1975      | 7 566         | 100.0        | 1 133                          | 15.0         | 3 361                       | 44.4         | 2 656             | 35.1         | 416           | 5.5          |
| 1976      | 8 030         | 100.0        | 1 246                          | 15.5         | 3 698                       | 46.1         | 2 678             | 33.3         | 408           | 5.1          |
| 1977      | 9 115         | 100.0        | 1 277                          | 14.0         | 4 046                       | 44.4         | 3 296             | 36.2         | 496           | 5.4          |
| 1978      | 9 826         | 100.0        | 1 381                          | 14.1         | 4 505                       | 45.8         | 3 534             | 36.0         | 406           | 4.1          |
| 1979      | 10 141        | 100.0        | 1 383                          | 13.6         | 4 622                       | 45.6         | 3 655             | 36.1         | 481           | 4.7          |
| 1980      | 10 186        | 100.0        | 1 517                          | 14.9         | 4 587                       | 45.0         | 3 624             | 35.6         | 458           | 4.5          |
| 1981      | 10 013        | 100.0        | 1 501                          | 15.0         | 4 032                       | 40.3         | 4 038             | 40.3         | 442           | 4.4          |
| 1982      | 8 763         | 100.0        | 1 518                          | 17.3         | 3 611                       | 41.2         | 2 978             | 34.0         | 656           | 7.5          |
| 1983      | 8 911         | 100.0        | 1 598                          | 17.9         | 3 282                       | 36.9         | 3 195             | 35.8         | 836           | 9.4          |
|           |               |              |                                |              | <u>Tasas de crecimiento</u> |              |                   |              |               |              |
| 1972-1983 | 2.5           |              | 4.4                            |              | 2.1                         |              | 2.4               |              | 2.2           |              |
| 1972-1979 | 6.1           |              | 4.9                            |              | 8.6                         |              | 2.9               |              | -4.5          |              |
| 1979-1983 | -3.2          |              | 3.7                            |              | -8.5                        |              | -3.3              |              | 14.8          |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 24

COSTA RICA: CONSUMO FINAL DE ENERGIA NO COMERCIAL (LEÑA)  
POR SECTORES

|           | Total                       | Residencial<br>y comercial | Industrial |
|-----------|-----------------------------|----------------------------|------------|
|           | <u>Teracalorías</u>         |                            |            |
| 1972      | 4 550                       | 4 215                      | 335        |
| 1973      | 4 528                       | 4 207                      | 321        |
| 1974      | 4 547                       | 4 200                      | 347        |
| 1975      | 4 537                       | 4 193                      | 344        |
| 1976      | 4 563                       | 4 185                      | 378        |
| 1977      | 4 327                       | 4 172                      | 155        |
| 1978      | 4 346                       | 4 170                      | 176        |
| 1979      | 4 352                       | 4 163                      | 189        |
| 1980      | 4 318                       | 4 156                      | 162        |
| 1981      | 4 318                       | 4 156                      | 162        |
| 1982      | 4 332                       | 4 148                      | 184        |
| 1983      | 4 326                       | 4 133                      | 193        |
|           | <u>Tasas de crecimiento</u> |                            |            |
| 1972-1983 | -0.5                        | -0.1                       | -4.9       |
| 1972-1979 | -0.6                        | -0.3                       | -5.5       |
| 1979-1983 | -0.1                        | -0.2                       | 0.5        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 25

COSTA RICA: SECTOR RESIDENCIAL Y COMERCIAL. CONSUMO FINAL  
DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total             |                  | Electricidad      |                  | Gas licuado                 |                  | Queroseno         |                  | Carbón de leña    |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes |
| 1972      | 987               | 100.0            | 622               | 63.0             | 75                          | 7.6              | 215               | 21.8             | 75                | 7.6              |
| 1973      | 1 042             | 100.0            | 656               | 63.0             | 88                          | 8.4              | 221               | 21.2             | 77                | 7.4              |
| 1974      | 1 069             | 100.0            | 715               | 66.9             | 88                          | 8.2              | 188               | 17.6             | 78                | 7.3              |
| 1975      | 1 133             | 100.0            | 764               | 67.4             | 99                          | 8.7              | 190               | 16.8             | 80                | 7.1              |
| 1976      | 1 246             | 100.0            | 835               | 67.0             | 116                         | 9.3              | 214               | 17.2             | 81                | 6.5              |
| 1977      | 1 277             | 100.0            | 846               | 66.3             | 138                         | 10.8             | 210               | 16.4             | 83                | 6.5              |
| 1978      | 1 381             | 100.0            | 917               | 66.4             | 159                         | 11.5             | 220               | 15.9             | 85                | 6.2              |
| 1979      | 1 383             | 100.0            | 888               | 64.2             | 207                         | 15.0             | 202               | 14.6             | 86                | 6.2              |
| 1980      | 1 517             | 100.0            | 1 043             | 68.7             | 218                         | 14.4             | 167               | 11.0             | 89                | 5.9              |
| 1981      | 1 501             | 100.0            | 1 130             | 75.3             | 195                         | 13.0             | 85                | 5.7              | 91                | 6.0              |
| 1982      | 1 518             | 100.0            | 1 250             | 82.3             | 108                         | 7.1              | 68                | 4.5              | 92                | 6.1              |
| 1983      | 1 598             | 100.0            | 1 276             | 79.8             | 137                         | 8.6              | 92                | 5.8              | 93                | 5.8              |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                   |                  |                   |                  |
| 1972-1983 | 4.4               |                  | 8.5               |                  | 5.6                         |                  | -7.5              |                  | 2.0               |                  |
| 1972-1979 | 4.9               |                  | 5.2               |                  | 15.6                        |                  | -0.8              |                  | 2.0               |                  |
| 1979-1983 | 3.7               |                  | 9.5               |                  | -9.8                        |                  | 17.9              |                  | 2.0               |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions.

2. It is essential to ensure that all data is entered correctly and consistently.

3. Regular audits should be conducted to verify the accuracy of the records.

4. The second part of the document outlines the procedures for handling discrepancies.

5. Any errors identified during the audit process should be reported immediately.

6. It is also important to maintain a clear and organized filing system for all documents.

7. The final section discusses the role of management in ensuring compliance.

8. Management should provide the necessary resources and support for the accounting department.

9. The document concludes with a summary of the key points discussed.

10. It is hoped that this document will be helpful in understanding the requirements.

11. The document is prepared in accordance with the relevant regulations.

## COSTA RICA: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | <u>Total</u>                |              | <u>Gasolina</u> |              | <u>Queroseno y turbocombustible</u> |              | <u>Diesel</u> |              | <u>Combustible</u> |              | <u>Alcohol</u> |              | <u>Electricidad</u> |              |
|-----------|-----------------------------|--------------|-----------------|--------------|-------------------------------------|--------------|---------------|--------------|--------------------|--------------|----------------|--------------|---------------------|--------------|
|           | Tera-calorías               | Porcen-tajes | Tera-calorías   | Porcen-tajes | Tera-calorías                       | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes | Tera-calorías  | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972      | 2 597                       | 100.0        | 1 151           | 44.3         | 55                                  | 2.1          | 1 381         | 53.2         | -                  | -            | -              | -            | 10                  | 0.4          |
| 1973      | 2 879                       | 100.0        | 1 332           | 46.3         | 95                                  | 3.3          | 1 443         | 50.2         | -                  | -            | -              | -            | 9                   | 0.3          |
| 1974      | 3 098                       | 100.0        | 1 279           | 41.3         | 98                                  | 3.1          | 1 713         | 55.3         | -                  | -            | -              | -            | 8                   | 0.3          |
| 1975      | 3 361                       | 100.0        | 1 339           | 39.8         | 106                                 | 3.2          | 1 908         | 56.8         | -                  | -            | -              | -            | 8                   | 0.2          |
| 1976      | 3 698                       | 100.0        | 1 431           | 38.7         | 133                                 | 3.6          | 2 125         | 57.5         | -                  | -            | -              | -            | 9                   | 0.2          |
| 1977      | 4 046                       | 100.0        | 1 501           | 37.1         | 168                                 | 4.2          | 2 368         | 58.5         | -                  | -            | -              | -            | 9                   | 0.2          |
| 1978      | 4 505                       | 100.0        | 1 639           | 36.4         | 194                                 | 4.3          | 2 664         | 59.1         | -                  | -            | -              | -            | 8                   | 0.2          |
| 1979      | 4 622                       | 100.0        | 1 538           | 33.3         | 220                                 | 4.7          | 2 855         | 61.8         | -                  | -            | -              | -            | 9                   | 0.2          |
| 1980      | 4 587                       | 100.0        | 1 368           | 30.2         | 224                                 | 4.9          | 2 970         | 64.7         | -                  | -            | -              | -            | 7                   | 0.2          |
| 1981      | 4 032                       | 100.0        | 1 207           | 29.9         | 169                                 | 4.2          | 2 638         | 65.4         | -                  | -            | 8              | 0.2          | 10                  | 0.3          |
| 1982      | 3 611                       | 100.0        | 1 165           | 32.3         | 161                                 | 4.5          | 2 270         | 62.9         | 2                  | -            | 7              | 0.2          | 6                   | 0.2          |
| 1983      | 3 282                       | 100.0        | 1 162           | 35.4         | 132                                 | 4.0          | 1 973         | 60.1         | 2                  | -            | 3              | 0.1          | 10                  | 0.3          |
|           | <u>Tasas de crecimiento</u> |              |                 |              |                                     |              |               |              |                    |              |                |              |                     |              |
| 1972-1983 | 2.1                         |              | 0.1             |              | 8.3                                 |              | 3.3           |              | -                  |              | -              |              | -                   |              |
| 1972-1979 | 8.6                         |              | 4.2             |              | 21.9                                |              | 11.6          |              | -                  |              | -              |              | -1.5                |              |
| 1979-1983 | -8.5                        |              | -6.8            |              | -4.5                                |              | -3.8          |              | -                  |              | -              |              | 2.6                 |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

/Cuadro 27

## COSTA RICA: SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total                       |              | Electricidad  |              | Diesel        |              | Combustóleo   |              | Residuos vegetales |              | Gas licuado   |              | Queroseno     |              | Carbón mineral y coque |              |
|-----------|-----------------------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|--------------------|--------------|---------------|--------------|---------------|--------------|------------------------|--------------|
|           | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías          | Porcen-tajes |
| 1972      | 2 465                       | 100.0        | 295           | 12.0         | 453           | 18.4         | 581           | 23.5         | 1 116              | 45.3         | 18            | 0.7          | -             | -            | 2                      | 0.1          |
| 1973      | 2 759                       | 100.0        | 314           | 11.4         | 572           | 20.7         | 723           | 26.2         | 1 125              | 40.8         | 22            | 0.8          | -             | -            | 3                      | 0.1          |
| 1974      | 2 402                       | 100.0        | 344           | 14.3         | 231           | 9.6          | 730           | 30.4         | 1 068              | 44.5         | 27            | 1.1          | -             | -            | 2                      | 0.1          |
| 1975      | 2 656                       | 100.0        | 338           | 12.7         | 321           | 12.1         | 856           | 32.2         | 1 110              | 41.8         | 28            | 1.1          | -             | -            | 3                      | 0.1          |
| 1976      | 2 678                       | 100.0        | 355           | 13.3         | 313           | 11.7         | 847           | 31.6         | 1 134              | 42.3         | 26            | 1.0          | -             | -            | 3                      | 0.1          |
| 1977      | 3 296                       | 100.0        | 425           | 12.9         | 543           | 16.5         | 1 087         | 33.0         | 1 207              | 36.6         | 31            | 0.9          | -             | -            | 3                      | 0.1          |
| 1978      | 3 534                       | 100.0        | 488           | 13.8         | 528           | 14.9         | 1 137         | 32.2         | 1 306              | 37.0         | 28            | 0.8          | 44            | 1.2          | 3                      | 0.1          |
| 1979      | 3 655                       | 100.0        | 604           | 16.5         | 390           | 10.7         | 1 240         | 33.9         | 1 350              | 36.9         | 22            | 0.6          | 46            | 1.3          | 3                      | 0.1          |
| 1980      | 3 624                       | 100.0        | 602           | 16.6         | 390           | 10.8         | 1 299         | 35.8         | 1 263              | 34.8         | 25            | 0.7          | 42            | 1.2          | 3                      | 0.1          |
| 1981      | 4 038                       | 100.0        | 649           | 16.1         | 477           | 11.8         | 1 538         | 38.1         | 1 283              | 31.8         | 44            | 1.1          | 44            | 1.0          | 3                      | 0.1          |
| 1982      | 2 978                       | 100.0        | 462           | 15.5         | 318           | 10.7         | 876           | 29.4         | 1 238              | 41.5         | 44            | 1.5          | 38            | 1.3          | 2                      | 0.1          |
| 1983      | 3 195                       | 100.0        | 526           | 16.5         | 310           | 9.7          | 988           | 30.9         | 1 314              | 41.1         | 13            | 0.4          | 41            | 1.3          | 3                      | 0.1          |
|           | <u>Tasas de crecimiento</u> |              |               |              |               |              |               |              |                    |              |               |              |               |              |                        |              |
| 1972-1983 | 2.4                         |              | 5.4           |              | -3.4          |              | 5.0           |              | 1.5                |              | -2.9          |              | -             |              | -                      |              |
| 1972-1979 | 5.8                         |              | 10.8          |              | -2.1          |              | 11.4          |              | 2.8                |              | 2.9           |              | -             |              | 6.0                    |              |
| 1979-1983 | -3.3                        |              | -3.4          |              | -5.6          |              | -5.5          |              | -0.7               |              | -12.3         |              | -4.6          |              | -                      |              |

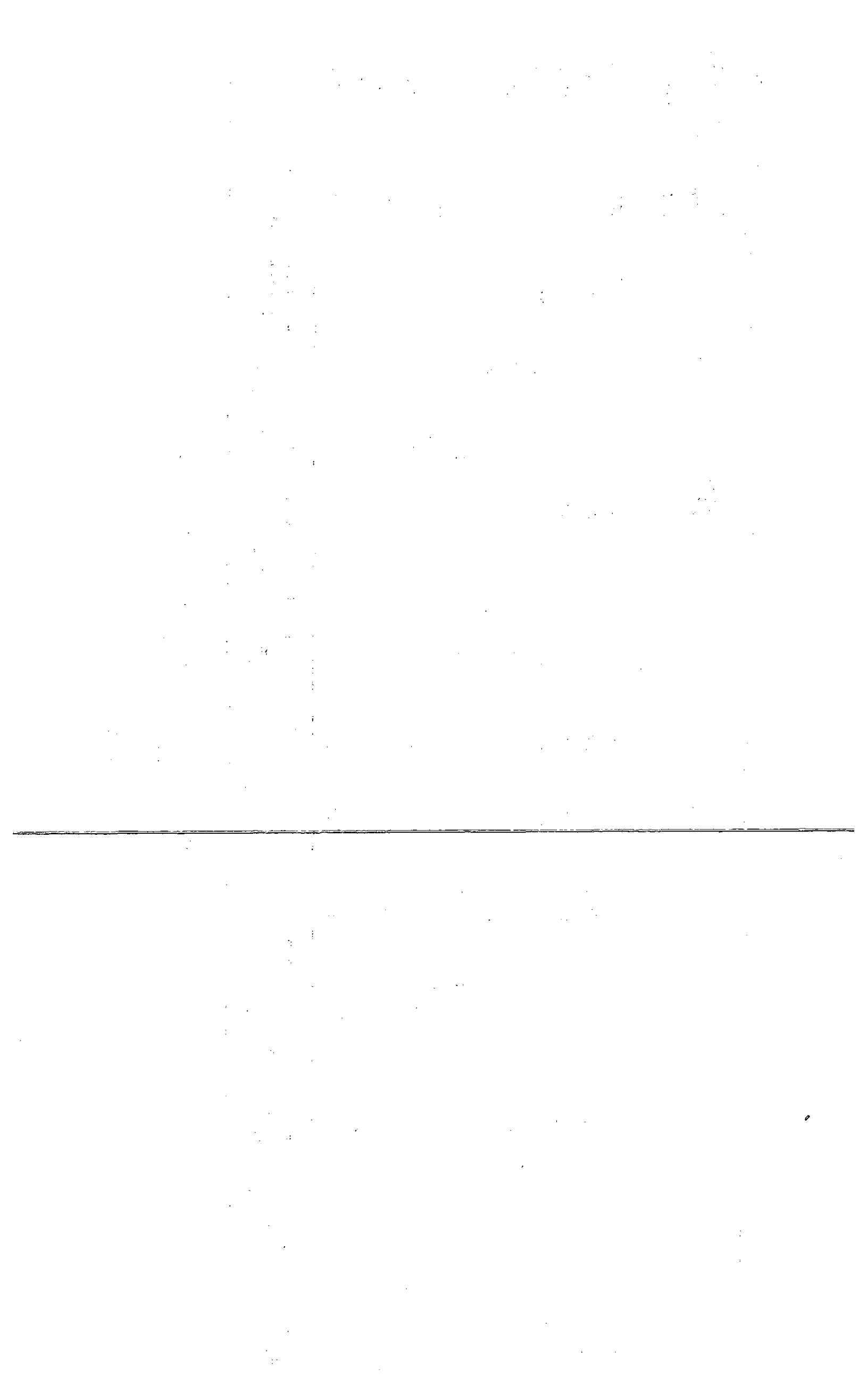
Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 28

COSTA RICA: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |             | Electricidad  |             | Diesel        |             | Combustóleo                 |             | Lubricantes, grasas y asfaltos |             | Gasolina      |             | Gas licuado   |             | Queroseno     |             |
|-----------|---------------|-------------|---------------|-------------|---------------|-------------|-----------------------------|-------------|--------------------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
|           | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías               | Porcentajes | Tera-calorías                  | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes |
| 1972      | 664           | 100.0       | 20            | 3.0         | 15            | 2.3         | 292                         | 44.0        | 336                            | 50.6        | 1             | 0.1         | -             | -           | -             | -           |
| 1973      | 564           | 100.0       | 22            | 3.9         | 13            | 2.3         | 283                         | 50.2        | 246                            | 43.6        | -             | -           | -             | -           | -             | -           |
| 1974      | 438           | 100.0       | 23            | 5.2         | 14            | 3.2         | 246                         | 56.2        | 155                            | 35.4        | -             | -           | -             | -           | -             | -           |
| 1975      | 416           | 100.0       | 28            | 6.7         | 13            | 3.2         | 199                         | 47.8        | 175                            | 42.1        | 1             | 0.2         | -             | -           | -             | -           |
| 1976      | 408           | 100.0       | 29            | 7.1         | 13            | 3.2         | 208                         | 51.0        | 158                            | 38.7        | -             | -           | -             | -           | -             | -           |
| 1977      | 496           | 100.0       | 32            | 6.5         | 16            | 3.2         | 211                         | 42.5        | 236                            | 47.6        | 1             | 0.2         | -             | -           | -             | -           |
| 1978      | 406           | 100.0       | 38            | 9.4         | 13            | 3.2         | 147                         | 36.2        | 208                            | 51.2        | -             | -           | -             | -           | -             | -           |
| 1979      | 481           | 100.0       | 40            | 8.3         | 12            | 2.5         | 248                         | 51.6        | 181                            | 37.6        | -             | -           | -             | -           | -             | -           |
| 1980      | 458           | 100.0       | 37            | 8.1         | 25            | 5.5         | 235                         | 51.3        | 142                            | 31.0        | 2             | 0.4         | 17            | 3.7         | -             | -           |
| 1981      | 442           | 100.0       | 33            | 7.4         | 14            | 3.2         | 228                         | 51.6        | 156                            | 35.3        | -             | -           | 11            | 2.5         | -             | -           |
| 1982      | 656           | 100.0       | 63            | 9.6         | 67            | 10.2        | 395                         | 60.2        | 112                            | 17.1        | -             | -           | 16            | 2.4         | 3             | 0.5         |
| 1983      | 836           | 100.0       | 64            | 7.7         | 323           | 38.6        | 248                         | 29.7        | 154                            | 18.4        | 44            | 5.2         | -             | -           | 3             | 0.4         |
|           |               |             |               |             |               |             | <u>Tasas de crecimiento</u> |             |                                |             |               |             |               |             |               |             |
| 1972-1983 | 2.2           |             | 11.2          |             | 32.5          |             | -1.5                        |             | -6.8                           |             | -             |             | -             |             | -             |             |
| 1972-1979 | -4.5          |             | 10.4          |             | -3.1          |             | -2.3                        |             | -8.5                           |             | -             |             | -             |             | -             |             |
| 1979-1983 | 14.8          |             | 12.5          |             | 180.0         |             | -                           |             | -3.9                           |             | 41.0          |             | -             |             | -             |             |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 29

COSTA RICA: PRODUCCION DE ENERGIA POR PRODUCTO FINAL

|           | Total                       | Hidrocar-<br>buros <u>a/b/</u> | Electrici-<br>dad | Residuos<br>vegetales <u>a/</u> | Carbón de<br>leña | Leña  |
|-----------|-----------------------------|--------------------------------|-------------------|---------------------------------|-------------------|-------|
|           | <u>Teracalorías</u>         |                                |                   |                                 |                   |       |
| 1972      | 10 404                      | 3 574                          | 1 089             | 1 116                           | 75                | 4 550 |
| 1973      | 10 197                      | 3 309                          | 1 158             | 1 125                           | 77                | 4 528 |
| 1974      | 10 268                      | 3 313                          | 1 262             | 1 068                           | 78                | 4 547 |
| 1975      | 9 027                       | 1 984                          | 1 316             | 1 110                           | 80                | 4 537 |
| 1976      | 9 161                       | 1 967                          | 1 416             | 1 134                           | 81                | 4 563 |
| 1977      | 9 442                       | 2 312                          | 1 513             | 1 207                           | 83                | 4 327 |
| 1978      | 10 227                      | 2 835                          | 1 655             | 1 306                           | 85                | 4 346 |
| 1979      | 10 480                      | 2 966                          | 1 717             | 1 359                           | 86                | 4 352 |
| 1980      | 12 486                      | 4 902                          | 1 914             | 1 263                           | 89                | 4 318 |
| 1981      | 12 559                      | 4 842                          | 2 025             | 1 283                           | 91                | 4 318 |
| 1982      | 11 837                      | 4 056                          | 2 119             | 1 238                           | 92                | 4 332 |
| 1983      | 11 283                      | 3 082                          | 2 468             | 1 314                           | 93                | 4 326 |
|           | <u>Tasas de crecimiento</u> |                                |                   |                                 |                   |       |
| 1972-1983 | 0.7                         | -1.3                           | 7.6               | 1.5                             | 1.9               | -0.5  |
| 1972-1979 | 0.1                         | -2.6                           | 6.7               | 2.7                             | 2.0               | -0.6  |
| 1979-1983 | 1.9                         | 1.0                            | 9.5               | -0.8                            | 2.0               | -0.1  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye energéticos utilizados en centrales eléctricas.

b/ Incluye alcohol utilizado como combustible.

Cuadro 30

COSTA RICA: IMPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo a/ | Electri-<br>cidad |
|-----------|-----------------------------|----------|------------------------------|-------------------|
|           | <u>Teracalorías</u>         |          |                              |                   |
| 1972      | 5 131                       | 4 089    | 1 042                        | -                 |
| 1973      | 5 865                       | 4 229    | 1 636                        | -                 |
| 1974      | 5 358                       | 3 994    | 1 364                        | -                 |
| 1975      | 6 385                       | 2 792    | 3 593                        | -                 |
| 1976      | 6 153                       | 2 545    | 3 608                        | -                 |
| 1977      | 7 202                       | 3 546    | 3 656                        | -                 |
| 1978      | 8 821                       | 4 660    | 4 161                        | -                 |
| 1979      | 7 777                       | 4 039    | 3 738                        | -                 |
| 1980      | 8 107                       | 5 203    | 2 904                        | -                 |
| 1981      | 6 736                       | 4 815    | 1 921                        | -                 |
| 1982      | 6 786                       | 4 652    | 2 134                        | -                 |
| 1983      | 6 679                       | 3 469    | 3 210                        | -                 |
|           | <u>Tasas de crecimiento</u> |          |                              |                   |
| 1972-1983 | 2.4                         | 1.5      | 10.8                         |                   |
| 1972-1979 | 6.1                         | -0.2     | 20.0                         |                   |
| 1979-1983 | -3.8                        | -3.9     | -3.8                         |                   |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque; promedio por año, 3 TCal.



Cuadro 31

COSTA RICA: EXPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo a/ | Electri-<br>cidad |
|-----------|-----------------------------|----------|------------------------------|-------------------|
|           | <u>Teracalorías</u>         |          |                              |                   |
| 1972      | 79                          | -        | 79                           | -                 |
| 1973      | -                           | -        | -                            | -                 |
| 1974      | -                           | -        | -                            | -                 |
| 1975      | -                           | -        | -                            | -                 |
| 1976      | -                           | -        | -                            | -                 |
| 1977      | -                           | -        | -                            | -                 |
| 1978      | -                           | -        | -                            | -                 |
| 1979      | -                           | -        | -                            | -                 |
| 1980      | 402                         | -        | 402                          | -                 |
| 1981      | 540                         | -        | 540                          | -                 |
| 1982      | 397                         | -        | 304                          | 93                |
| 1983      | 831                         | -        | 411                          | 420               |
|           | <u>Tasas de crecimiento</u> |          |                              |                   |
| 1972-1983 | 24.0                        | -        | 16.2                         | -                 |
| 1972-1979 | -                           | -        | -                            | -                 |
| 1979-1983 | -                           | -        | -                            | -                 |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.  
a/ En su mayoría combustóleo.



Cuadro 32

COSTA RICA: BALANCE ENERGETICO

(Teracalorías)

|      | Producción<br>(1) | Importación <sup>a/</sup><br>(2) | Exportación<br>(3) | Consumo<br>(1+2-3+5+6)<br>(4) | Variación de<br>existencias<br>(5) | Cierre <sup>b/</sup><br>(6) |
|------|-------------------|----------------------------------|--------------------|-------------------------------|------------------------------------|-----------------------------|
| 1972 | 10 404            | 1 042                            | 79                 | 11 263                        | -89                                | -15                         |
| 1973 | 10 197            | 1 636                            | -                  | 11 772                        | 10                                 | -71                         |
| 1974 | 10 268            | 1 364                            | -                  | 11 554                        | 31                                 | -109                        |
| 1975 | 9 027             | 3 593                            | -                  | 12 103                        | -299                               | -218                        |
| 1976 | 9 161             | 3 608                            | -                  | 12 593                        | -262                               | 82                          |
| 1977 | 9 442             | 3 656                            | -                  | 13 442                        | 200                                | 144                         |
| 1978 | 10 227            | 4 161                            | -                  | 14 172                        | -228                               | 12                          |
| 1979 | 10 480            | 3 738                            | -                  | 14 492                        | 321                                | -47                         |
| 1980 | 12 486            | 2 904                            | 402                | 14 504                        | -150                               | -334                        |
| 1981 | 12 559            | 1 921                            | 540                | 14 331                        | 373                                | -18                         |
| 1982 | 11 837            | 2 134                            | 397                | 13 095                        | -154                               | -325                        |
| 1983 | 11 283            | 3 210                            | 831                | 13 237                        | -151                               | -274                        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye petróleo crudo.

b/ Incluye pérdidas y ajustes estadísticos.

|                                      |                           | BALANCE                        |                          |                            |                |                   |              |              |        |
|--------------------------------------|---------------------------|--------------------------------|--------------------------|----------------------------|----------------|-------------------|--------------|--------------|--------|
| UNIDADES: <sup>a/</sup> Teracalorías |                           | ENERGIA PRIMARIA               |                          |                            |                |                   |              |              |        |
| REPUBLICA DE: COSTA RICA             |                           | 1                              | 2                        | 3                          | 4              | 5                 | 6            | 7            |        |
| ELABORADO POR: CEPAL                 |                           | Carbón mineral                 | Leña                     | Otros comb. veg. y animal. | Petróleo crudo | Gas natural libre | Gas asociado | Hydroenergía |        |
| LUGAR: MEXICO                        |                           |                                |                          |                            |                |                   |              |              |        |
| SECTOR ENERGETICO                    | OFERTA                    | 1.                             | Producción               |                            | 4 573          | 1 349             |              |              | 3 668  |
|                                      |                           | 2.                             | Importación              | 3                          |                |                   | 3 469        |              |        |
|                                      |                           | 3.                             | Variación de inventarios |                            |                |                   | -301         |              | 55     |
|                                      |                           | 4.                             | OFERTA TOTAL             | 3                          | 4 573          | 1 349             | 3 168        |              | 3 723  |
|                                      |                           | 5.                             | Exportación              |                            |                |                   |              |              |        |
|                                      |                           | 6.                             | No aprovechada           |                            |                |                   |              |              | -444   |
|                                      |                           | 7.                             | OFERTA INTERNA BRUTA     | 3                          | 4 573          | 1 349             | 3 168        |              | 3 279  |
|                                      | Centros de transformación | 8.                             | TOTAL TRANSFORMACION     |                            | -247           | -35               | -3 303       |              | -3 279 |
|                                      |                           | 8.1                            | Coquerías, Altos Hornos  |                            |                |                   |              |              |        |
|                                      |                           | 8.2                            | Carboneras               |                            | -247           |                   |              |              |        |
| 8.3                                  |                           | Biomasa                        |                          |                            |                |                   |              |              |        |
| 8.4                                  |                           | Refinerías                     |                          |                            |                | -3 303            |              |              |        |
| 8.5                                  |                           | Plantas de gas                 |                          |                            |                |                   |              |              |        |
| 8.6                                  |                           | Centrales Elect. Serv. Públ.   |                          |                            |                |                   |              | -3 279       |        |
|                                      | 8.7                       | Centrales Eléct. Autop.        |                          |                            | -35            |                   |              |              |        |
|                                      | 9.                        | Consumo propio sec. energét.   |                          |                            |                |                   |              |              |        |
|                                      | 10.                       | Pérdidas (trans. dist. almac.) |                          |                            |                |                   |              |              |        |
|                                      | 11.                       | AJUSTES                        |                          |                            |                | 135               |              |              |        |
| CONSUMO FINAL                        | 12.                       | CONSUMO FINAL TOTAL            | 3                        | 4 326                      | 1 314          | -                 |              |              |        |
|                                      | 12.1                      | Consumo final no energético    |                          |                            |                |                   |              |              |        |
|                                      | 12.2                      | Consumo final energético       | 3                        | 4 326                      | 1 314          | -                 |              |              |        |
|                                      | 12.2.1                    | Residenc. comerc. público      |                          | 4 133                      |                |                   |              |              |        |
|                                      | 12.2.2                    | Transporte                     |                          |                            |                |                   |              |              |        |
|                                      | 12.2.3                    | Agropecuario                   |                          |                            |                |                   |              |              |        |
|                                      | 12.2.4                    | Industrial                     | 3                        | 193                        | 1 314          |                   |              |              |        |
|                                      | 12.2.5                    | Consumo no identificado        |                          |                            |                |                   |              |              |        |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

a/ Teracalorías o miles de toneladas equivalentes de petróleo.

ENERGETICO CONSOLIDADO AÑO: 1983

|            |                        |                        | ENERGIA SECUNDARIA |                |             |                    |                        |                  |                      |                         |                          |     |              |                          |        |
|------------|------------------------|------------------------|--------------------|----------------|-------------|--------------------|------------------------|------------------|----------------------|-------------------------|--------------------------|-----|--------------|--------------------------|--------|
| e          | 9                      | 10                     | 11                 | 12             | 13          | 14                 | 15                     | 16               | 17                   | 18                      | 19                       | 20  | 21           | 22                       | 23     |
| Geoenergía | Combustible fisionable | TOTAL ENERGIA PRIMARIA | Coque              | Carbón vegetal | Gas licuado | Gasolinas y naftas | Queroseno y turbocomb. | Diesel y gasóleo | Combustibles pesados | Otros comb. energéticos | Productos no energéticos | Gas | Electricidad | TOTAL ENERGIA SECUNDARIA | TOTAL  |
|            |                        | 9 590                  |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | 9 590  |
|            |                        | 3 472                  |                    |                | 151         | 714                | 102                    | 2 125            | 89                   |                         | 28                       |     |              | 3 209                    | 6 681  |
|            |                        | -246                   |                    |                | -25         | -67                | -31                    | -129             | 102                  |                         | -6                       |     |              | -156                     | -402   |
|            |                        | 12 816                 |                    |                | 126         | 647                | 71                     | 1 996            | 191                  |                         | 22                       |     |              | 3 053                    | 15 869 |
|            |                        |                        |                    |                |             | -58                |                        |                  | -355                 |                         |                          |     | -420         | -831                     | -831   |
|            |                        | -444                   |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | -444   |
|            |                        | 12 372                 |                    |                | 126         | 591                | 71                     | 1 996            | -164                 |                         | 22                       |     | -420         | 2 222                    | 14 594 |
|            |                        | -6 864                 |                    | 93             | 28          | 621                | 221                    | 672              | 1 421                |                         | 118                      |     | 2 468        | 5 642                    | -1 222 |
|            |                        | -247                   |                    | 93             |             |                    |                        |                  |                      |                         |                          |     |              | 93                       | -154   |
|            |                        | -3 303                 |                    |                | 28          | 621                | 221                    | 775              | 1 422                |                         | 118                      |     |              | 3 185                    | -118   |
|            |                        | -3 279                 |                    |                |             |                    |                        | -103             | -1                   |                         |                          |     | 2 468        | 2 364                    | -915   |
|            |                        | -35                    |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | -35    |
|            |                        | 135                    |                    |                | -4          | -6                 | -24                    | -62              | -19                  |                         | 14                       |     | -172         | -273                     | -138   |
|            |                        | 5 643                  |                    | 93             | 150         | 1 206              | 268                    | 2 606            | 1 238                |                         | 154                      |     | 1 876        | 7 591                    | 13 234 |
|            |                        |                        |                    |                |             |                    |                        |                  |                      |                         | 154                      |     |              | 154                      | 154    |
|            |                        | 5 643                  |                    | 93             | 150         | 1 206              | 268                    | 2 606            | 1 238                |                         |                          |     | 1 876        | 7 437                    | 13 080 |
|            |                        | 4 133                  |                    | 93             | 137         |                    | 92                     |                  |                      |                         |                          |     | 1 276        | 1 598                    | 5 731  |
|            |                        |                        |                    |                |             | 1 162              | 132                    | 1 973            | 2                    |                         |                          |     | 10           | 3 279                    | 3 279  |
|            |                        | 1 510                  |                    |                | 13          |                    | 41                     | 310              | 988                  |                         |                          |     | 526          | 1 878                    | 3 388  |
|            |                        |                        |                    |                |             | 44                 | 3                      | 323              | 248                  |                         |                          |     | 64           | 682                      | 682    |

Pérdidas de transformación

|  |  |  |  |    |    |     |     |     |       |  |     |  |       |       |
|--|--|--|--|----|----|-----|-----|-----|-------|--|-----|--|-------|-------|
|  |  |  |  | 93 | 28 | 621 | 221 | 775 | 1 422 |  | 118 |  | 2 468 | 3 185 |
|--|--|--|--|----|----|-----|-----|-----|-------|--|-----|--|-------|-------|



3. Cuadros de información sobre El Salvador (34 a 46)





EL SALVADOR: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|                             | Total         |              | Hidroenergía  |              | Geoenergía    |              | Petróleo y derivados a/ |              | Leña          |              | Residuos vegetales |              |
|-----------------------------|---------------|--------------|---------------|--------------|---------------|--------------|-------------------------|--------------|---------------|--------------|--------------------|--------------|
|                             | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías           | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes |
| 1972                        | 18 622        | 100.0        | 334           | 1.8          | -             | -            | 5 617                   | 30.2         | 11 545        | 62.0         | 1 126              | 6.0          |
| 1973                        | 19 682        | 100.0        | 409           | 2.1          | -             | -            | 6 277                   | 31.9         | 11 855        | 60.2         | 1 141              | 5.8          |
| 1974                        | 20 184        | 100.0        | 499           | 2.5          | -             | -            | 6 134                   | 30.4         | 12 148        | 60.2         | 1 403              | 6.9          |
| 1975                        | 21 781        | 100.0        | 374           | 1.7          | 529           | 2.4          | 6 828                   | 31.3         | 12 524        | 57.5         | 1 526              | 7.0          |
| 1976                        | 23 549        | 100.0        | 413           | 1.7          | 1 695         | 7.2          | 6 967                   | 29.6         | 12 875        | 54.7         | 1 599              | 6.8          |
| 1977                        | 25 365        | 100.0        | 511           | 2.0          | 2 632         | 10.4         | 7 291                   | 28.8         | 13 246        | 52.2         | 1 685              | 6.6          |
| 1978                        | 26 057        | 100.0        | 899           | 3.5          | 2 582         | 9.9          | 7 195                   | 27.6         | 13 628        | 52.3         | 1 753              | 6.7          |
| 1979                        | 26 677        | 100.0        | 1 187         | 4.4          | 2 746         | 10.3         | 7 016                   | 26.3         | 14 011        | 52.5         | 1 717              | 6.4          |
| 1980                        | 23 465        | 100.0        | 1 116         | 4.8          | 2 348         | 10.0         | 5 817                   | 24.8         | 12 977        | 55.3         | 1 207              | 5.1          |
| 1981                        | 25 053        | 100.0        | 795           | 3.2          | 4 570         | 18.2         | 5 440                   | 21.7         | 13 169        | 52.6         | 1 079              | 4.3          |
| 1982                        | 23 985        | 100.0        | 588           | 2.5          | 3 333         | 13.9         | 5 522                   | 23.0         | 13 359        | 55.7         | 1 183              | 4.9          |
| 1983                        | 24 860        | 100.0        | 1 080         | 4.3          | 3 210         | 12.9         | 5 540                   | 22.3         | 13 700        | 55.1         | 1 330              | 5.4          |
| <u>Tasas de crecimiento</u> |               |              |               |              |               |              |                         |              |               |              |                    |              |
| 1972-1983                   | 2.7           |              | 11.3          |              | -             |              | -0.1                    |              | 1.6           |              | 1.5                |              |
| 1972-1979                   | 5.3           |              | 19.9          |              | -             |              | 3.2                     |              | 2.8           |              | 6.2                |              |
| 1979-1983                   | -1.7          |              | -2.3          |              | 29.0          |              | -5.7                    |              | -0.6          |              | -6.2               |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye coque y carbón mineral.

Cuadro 35

EL SALVADOR: CONSUMO FINAL DE ENERGIA POR PRODUCTO

|           | Total             |                  | Comercial         |                  |                   |                  |                             |                  |                    |                  |                   |                  | No comercial      |                  |  |
|-----------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|--------------------|------------------|-------------------|------------------|-------------------|------------------|--|
|           | Tera-<br>calorías | Porcen-<br>tajes | Subtotal          |                  | Electricidad      |                  | Hidrocarburos a/            |                  | Residuos vegetales |                  | Carbón de leña    |                  | Leña              |                  |  |
|           |                   |                  | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes |  |
| 1972      | 17 618            | 100.0            | 6 121             | 34.7             | 628               | 3.6              | 4 469                       | 25.5             | 1 004              | 5.7              | 20                | 0.1              | 11 497            | 65.3             |  |
| 1973      | 18 641            | 100.0            | 6 829             | 36.6             | 690               | 3.7              | 5 050                       | 27.1             | 1 071              | 57.4             | 18                | 0.1              | 11 812            | 63.4             |  |
| 1974      | 19 121            | 100.0            | 7 013             | 36.7             | 748               | 3.9              | 4 920                       | 25.7             | 1 328              | 6.9              | 17                | 0.1              | 12 108            | 63.3             |  |
| 1975      | 19 909            | 100.0            | 7 423             | 37.3             | 809               | 4.1              | 5 150                       | 25.9             | 1 448              | 7.3              | 16                | 0.1              | 12 486            | 62.7             |  |
| 1976      | 20 660            | 100.0            | 7 989             | 38.7             | 911               | 4.4              | 5 675                       | 27.5             | 1 388              | 6.7              | 15                | 0.1              | 12 671            | 61.3             |  |
| 1977      | 21 389            | 100.0            | 8 696             | 40.7             | 1 024             | 4.8              | 6 104                       | 28.5             | 1 553              | 7.3              | 15                | 0.1              | 12 693            | 59.3             |  |
| 1978      | 22 298            | 100.0            | 9 592             | 43.0             | 1 129             | 5.1              | 6 796                       | 30.5             | 1 652              | 7.4              | 15                | 0.1              | 12 706            | 57.0             |  |
| 1979      | 22 590            | 100.0            | 9 700             | 42.9             | 1 188             | 5.3              | 6 881                       | 30.5             | 1 616              | 7.2              | 15                | 0.1              | 12 890            | 57.1             |  |
| 1980      | 20 801            | 100.0            | 7 858             | 37.8             | 1 183             | 5.7              | 5 543                       | 26.6             | 1 118              | 5.4              | 14                | 0.1              | 12 943            | 62.2             |  |
| 1981      | 20 464            | 100.0            | 7 329             | 35.8             | 1 127             | 5.5              | 5 162                       | 25.2             | 1 026              | 5.0              | 14                | 0.1              | 13 135            | 64.2             |  |
| 1982      | 20 567            | 100.0            | 7 242             | 35.2             | 1 125             | 5.4              | 4 973                       | 24.2             | 1 130              | 5.5              | 14                | 0.1              | 13 325            | 64.8             |  |
| 1983      | 21 310            | 100.0            | 7 640             | 35.9             | 1 210             | 5.6              | 5 170                       | 24.3             | 1 250              | 5.9              | 10                | -                | 13 670            | 64.1             |  |
|           |                   |                  |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                    |                  |                   |                  |                   |                  |  |
| 1972-1983 | 1.6               |                  | 2.1               |                  | 6.1               |                  | 1.0                         |                  | 2.1                |                  | -6.1              |                  | 1.6               |                  |  |
| 1972-1979 | 6.6               |                  | 8.0               |                  | 9.5               |                  | 6.3                         |                  | 7.0                |                  | -2.8              |                  | 1.6               |                  |  |
| 1979-1983 | -1.4              |                  | -5.8              |                  | 0.5               |                  | -6.9                        |                  | -6.2               |                  | -9.6              |                  | 1.5               |                  |  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

Cuadro 36

## EL SALVADOR: CONSUMO FINAL DE ENERGIA COMERCIAL POR SECTORES

|           | Total         |              | Residencial y comercial     |              | Transporte    |              | Industrial    |              | Otros <sup>a/</sup> |              |
|-----------|---------------|--------------|-----------------------------|--------------|---------------|--------------|---------------|--------------|---------------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972      | 6 121         | 100.0        | 668                         | 10.9         | 2 200         | 35.9         | 2 586         | 42.3         | 667                 | 10.9         |
| 1973      | 6 829         | 100.0        | 731                         | 10.7         | 2 357         | 34.5         | 2 960         | 43.4         | 781                 | 11.4         |
| 1974      | 7 013         | 100.0        | 660                         | 9.4          | 2 407         | 34.3         | 3 206         | 45.7         | 740                 | 10.6         |
| 1975      | 7 423         | 100.0        | 723                         | 9.7          | 2 646         | 35.7         | 3 284         | 44.2         | 770                 | 10.4         |
| 1976      | 7 989         | 100.0        | 780                         | 9.8          | 3 032         | 37.9         | 3 323         | 41.6         | 854                 | 10.7         |
| 1977      | 8 696         | 100.0        | 892                         | 10.3         | 3 299         | 37.9         | 3 674         | 42.2         | 831                 | 9.6          |
| 1978      | 9 592         | 100.0        | 987                         | 10.3         | 3 706         | 38.6         | 3 952         | 41.2         | 948                 | 9.9          |
| 1979      | 9 700         | 100.0        | 1 070                       | 11.0         | 3 783         | 39.0         | 3 911         | 40.3         | 936                 | 9.7          |
| 1980      | 7 858         | 100.0        | 1 023                       | 13.0         | 2 978         | 37.9         | 3 212         | 40.9         | 645                 | 8.2          |
| 1981      | 7 329         | 100.0        | 950                         | 13.0         | 2 820         | 38.5         | 2 957         | 40.3         | 602                 | 8.2          |
| 1982      | 7 242         | 100.0        | 955                         | 13.2         | 2 924         | 40.4         | 2 792         | 38.5         | 571                 | 7.9          |
| 1983      | 7 640         | 100.0        | 990                         | 13.0         | 3 000         | 39.3         | 3 080         | 40.3         | 570                 | 7.4          |
|           |               |              | <u>Tasas de crecimiento</u> |              |               |              |               |              |                     |              |
| 1972-1983 | 2.0           |              | 3.7                         |              | 2.9           |              | 1.6           |              | 1.4                 |              |
| 1972-1979 | 6.8           |              | 7.0                         |              | 8.1           |              | 6.1           |              | 5.0                 |              |
| 1979-1983 | -5.8          |              | -1.9                        |              | -5.6          |              | -5.8          |              | -11.6               |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Comprende sector público, consumo propio y no energéticos (lubricantes, grasas y asfaltos).

Cuadro 37

EL SALVADOR: CONSUMO FINAL DE ENERGIA NO COMERCIAL (LEÑA)  
POR SECTORES

|           | Total                       | Residencial<br>y comercial | Industrial |
|-----------|-----------------------------|----------------------------|------------|
|           | <u>Teracalorías</u>         |                            |            |
| 1972      | 11 497                      | 11 172                     | 325        |
| 1973      | 11 812                      | 11 499                     | 313        |
| 1974      | 12 108                      | 11 836                     | 272        |
| 1975      | 12 486                      | 12 184                     | 302        |
| 1976      | 12 671 <sup>a/</sup>        | 12 377                     | 294        |
| 1977      | 12 693 <sup>a/</sup>        | 12 398                     | 295        |
| 1978      | 12 706 <sup>a/</sup>        | 12 411                     | 295        |
| 1979      | 12 890 <sup>a/</sup>        | 12 596                     | 294        |
| 1980      | 12 943                      | 12 628                     | 315        |
| 1981      | 13 135                      | 12 798                     | 337        |
| 1982      | 13 325                      | 12 964                     | 361        |
| 1983      | 13 670                      | 13 310                     | 360        |
|           | <u>Tasas de crecimiento</u> |                            |            |
| 1972-1983 | 1.6                         | 1.6                        | 1.0        |
| 1972-1979 | 1.6                         | 1.7                        | -1.4       |
| 1979-1983 | 1.5                         | 1.4                        | 5.2        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Datos revisados sobre la base de información oficial.

Cuadro 38

EL SALVADOR: SECTOR RESIDENCIAL Y COMERCIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | <u>Total</u>  |              | <u>Electricidad</u>         |              | <u>Gas licuado</u> |              | <u>Queroseno</u> |              | <u>Carbón de leña</u> |              |
|-----------|---------------|--------------|-----------------------------|--------------|--------------------|--------------|------------------|--------------|-----------------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías      | Porcen-tajes | Tera-calorías    | Porcen-tajes | Tera-calorías         | Porcen-tajes |
| 1972      | 668           | 100.0        | 245                         | 36.7         | 105                | 15.7         | 298              | 44.6         | 20                    | 3.0          |
| 1973      | 731           | 100.0        | 269                         | 36.8         | 121                | 16.6         | 323              | 44.2         | 18                    | 2.4          |
| 1974      | 660           | 100.0        | 289                         | 43.8         | 131                | 19.9         | 223              | 33.8         | 17                    | 2.5          |
| 1975      | 723           | 100.0        | 315                         | 43.6         | 152                | 21.0         | 240              | 33.2         | 16                    | 2.2          |
| 1976      | 780           | 100.0        | 345                         | 44.2         | 186                | 23.8         | 234              | 30.0         | 15                    | 2.0          |
| 1977      | 892           | 100.0        | 385                         | 43.2         | 226                | 25.3         | 266              | 29.8         | 15                    | 1.7          |
| 1978      | 987           | 100.0        | 334                         | 44.0         | 268                | 27.1         | 270              | 27.4         | 15                    | 1.5          |
| 1979      | 1 070         | 100.0        | 475                         | 44.5         | 310                | 29.0         | 270              | 25.2         | 15                    | 1.3          |
| 1980      | 1 023         | 100.0        | 483                         | 47.2         | 272                | 26.6         | 254              | 24.8         | 14                    | 1.4          |
| 1981      | 950           | 100.0        | 475                         | 50.0         | 253                | 26.6         | 208              | 21.9         | 14                    | 1.5          |
| 1982      | 955           | 100.0        | 494                         | 51.8         | 259                | 27.1         | 188              | 19.6         | 14                    | 1.5          |
| 1983      | 990           | 100.0        | 541                         | 54.6         | 267                | 27.0         | 168              | 17.0         | 14                    | 1.4          |
|           |               |              | <u>Tasas de crecimiento</u> |              |                    |              |                  |              |                       |              |
| 1972-1983 | 3.7           |              | 7.5                         |              | 8.9                |              | -5.1             |              | -3.2                  |              |
| 1972-1979 | 7.0           |              | 9.9                         |              | 16.7               |              | -1.4             |              | -2.8                  |              |
| 1979-1983 | -1.9          |              | 3.3                         |              | -3.6               |              | -11.2            |              | -1.7                  |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 39

## EL SALVADOR: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Gasolina      |              | Queroseno y turbocombustible |              | Diesel        |              | Combustóleo   |              |
|-----------|---------------|--------------|---------------|--------------|------------------------------|--------------|---------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías                | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 2 200         | 100.0        | 1 130         | 51.3         | 105                          | 4.8          | 908           | 41.3         | 57            | 2.6          |
| 1973      | 2 357         | 100.0        | 1 190         | 50.5         | 153                          | 6.5          | 957           | 40.6         | 57            | 2.4          |
| 1974      | 2 407         | 100.0        | 1 152         | 47.9         | 133                          | 5.5          | 1 081         | 44.9         | 41            | 1.7          |
| 1975      | 2 646         | 100.0        | 1 267         | 47.9         | 152                          | 5.7          | 1 211         | 45.8         | 16            | 0.6          |
| 1976      | 3 032         | 100.0        | 1 396         | 46.0         | 194                          | 6.4          | 14 422        | 46.9         | 20            | 0.7          |
| 1977      | 3 299         | 100.0        | 1 496         | 45.3         | 188                          | 5.7          | 1 596         | 48.4         | 19            | 0.6          |
| 1978      | 3 706         | 100.0        | 1 662         | 44.9         | 214                          | 5.8          | 1 814         | 48.9         | 16            | 0.4          |
| 1979      | 3 783         | 100.0        | 1 635         | 43.2         | 239                          | 6.3          | 1 880         | 49.7         | 29            | 0.8          |
| 1980      | 2 978         | 100.0        | 1 403         | 47.1         | 171                          | 5.7          | 1 402         | 47.1         | 2             | 0.1          |
| 1981      | 2 820         | 100.0        | 1 269         | 45.0         | 173                          | 6.1          | 1 378         | 48.8         | 2             | 0.1          |
| 1982      | 2 924         | 100.0        | 1 303         | 44.6         | 186                          | 6.4          | 1 434         | 49.0         | 1             | -            |
| 1983      | 3 000         | 100.0        | 1 370         | 45.7         | 220                          | 7.3          | 1 410         | 47.0         | -             | -            |
|           |               |              |               |              | <u>Tasas de crecimiento</u>  |              |               |              |               |              |
| 1972-1983 | 2.9           |              | 1.8           |              | 7.0                          |              | 4.1           |              | -             |              |
| 1972-1979 | 8.1           |              | 5.4           |              | 12.5                         |              | 10.9          |              | 9.2           |              |
| 1979-1983 | -8.0          |              | -4.4          |              | -2.0                         |              | -6.9          |              | -             |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 40

## EL SALVADOR: SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

- 19 -

|           | Total         |              | Electricidad  |              | Diesel                      |              | Combustóleo   |              | Residuos vegetales |              | Otros <sup>a/</sup> |              |
|-----------|---------------|--------------|---------------|--------------|-----------------------------|--------------|---------------|--------------|--------------------|--------------|---------------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972      | 2 586         | 100.0        | 271           | 10.5         | 384                         | 14.8         | 821           | 31.7         | 1 004              | 38.9         | 106                 | 4.1          |
| 1973      | 2 960         | 100.0        | 303           | 10.3         | 400                         | 13.5         | 1 102         | 37.2         | 1 072              | 36.2         | 83                  | 2.8          |
| 1974      | 3 206         | 100.0        | 333           | 10.4         | 420                         | 13.1         | 1 024         | 31.9         | 1 328              | 41.4         | 101                 | 3.2          |
| 1975      | 3 284         | 100.0        | 353           | 10.8         | 365                         | 11.1         | 1 019         | 31.0         | 1 448              | 44.1         | 99                  | 3.0          |
| 1976      | 3 323         | 100.0        | 394           | 11.8         | 353                         | 10.6         | 1 092         | 32.9         | 1 388              | 41.8         | 96                  | 2.9          |
| 1977      | 3 674         | 100.0        | 457           | 12.4         | 313                         | 8.5          | 1 276         | 34.7         | 1 553              | 42.3         | 75                  | 2.1          |
| 1978      | 3 952         | 100.0        | 507           | 12.8         | 291                         | 7.4          | 1 417         | 35.9         | 1 652              | 41.8         | 85                  | 2.1          |
| 1979      | 3 911         | 100.0        | 526           | 13.5         | 278                         | 7.1          | 1 407         | 36.0         | 1 616              | 41.3         | 84                  | 2.1          |
| 1980      | 3 212         | 100.0        | 512           | 15.9         | 375                         | 11.7         | 1 139         | 35.5         | 1 118              | 34.8         | 68                  | 2.1          |
| 1981      | 2 957         | 100.0        | 449           | 15.2         | 341                         | 11.6         | 1 060         | 35.8         | 1 026              | 34.7         | 81                  | 2.7          |
| 1982      | 2 792         | 100.0        | 425           | 15.2         | 228                         | 8.2          | 948           | 33.9         | 1 130              | 40.5         | 61                  | 2.2          |
| 1983      | 3 080         | 100.0        | 440           | 14.4         | 340                         | 11.0         | 990           | 32.1         | 1 250              | 40.6         | 60                  | 1.9          |
|           |               |              |               |              | <u>Tasas de crecimiento</u> |              |               |              |                    |              |                     |              |
| 1972-1983 | 1.6           |              | 4.5           |              | -1.1                        |              | 1.7           |              | 2.0                |              | -5.1                |              |
| 1972-1979 | 6.1           |              | 9.9           |              | -4.5                        |              | 8.0           |              | 7.0                |              | -3.3                |              |
| 1979-1983 | -5.3          |              | -4.4          |              | 5.1                         |              | -8.1          |              | -6.2               |              | -8.1                |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Comprende gas licuado, gasolina, queroseno, carbón mineral y coque.

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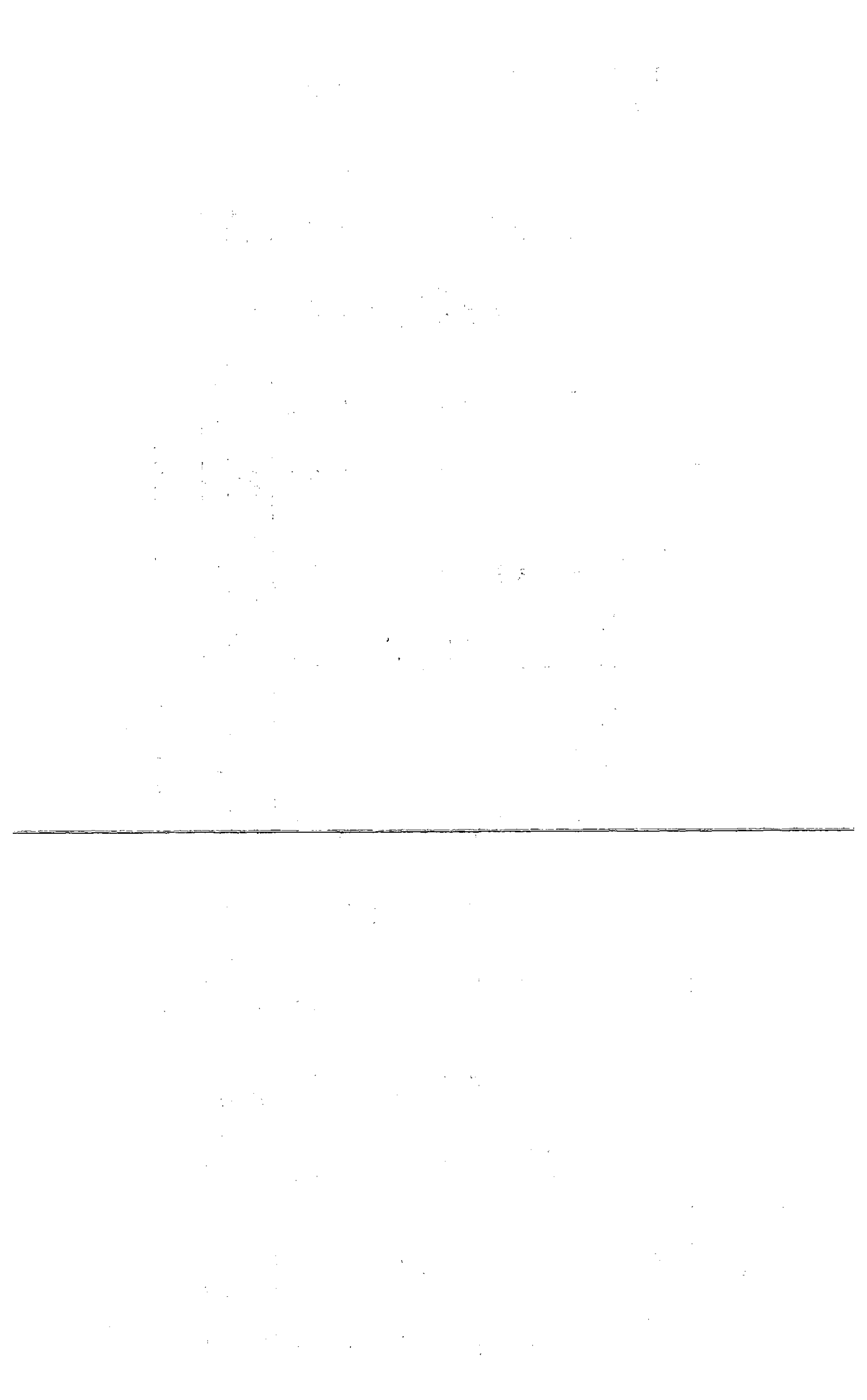


Cuadro 41

EL SALVADOR: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Electricidad  |              | Gas de refinería            |              | Diesel        |              | Combustóleo   |              | No energéticos |              | Otros         |              |
|-----------|---------------|--------------|---------------|--------------|-----------------------------|--------------|---------------|--------------|---------------|--------------|----------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías  | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 667           | 100.0        | 112           | 16.8         | 152                         | 22.8         | 87            | 13.1         | 129           | 19.3         | 163            | 24.4         | 24            | 3.6          |
| 1973      | 781           | 100.0        | 118           | 15.1         | 153                         | 19.6         | 231           | 29.6         | 100           | 12.8         | 147            | 18.8         | 32            | 3.1          |
| 1974      | 740           | 100.0        | 126           | 17.0         | 93                          | 12.6         | 139           | 18.8         | 215           | 29.0         | 114            | 15.4         | 53            | 7.2          |
| 1975      | 770           | 100.0        | 141           | 18.3         | 96                          | 12.5         | 134           | 17.4         | 237           | 30.8         | 137            | 17.8         | 25            | 3.2          |
| 1976      | 854           | 100.0        | 172           | 20.1         | 94                          | 11.0         | 163           | 19.1         | 211           | 24.7         | 192            | 22.5         | 22            | 2.6          |
| 1977      | 831           | 100.0        | 182           | 21.9         | 94                          | 11.3         | 146           | 17.6         | 184           | 22.1         | 200            | 24.1         | 25            | 3.0          |
| 1978      | 948           | 100.0        | 188           | 19.8         | 127                         | 13.4         | 151           | 15.9         | 238           | 25.1         | 225            | 23.8         | 19            | 2.0          |
| 1979      | 936           | 100.0        | 187           | 20.0         | 156                         | 16.7         | 144           | 15.4         | 206           | 22.0         | 223            | 23.8         | 20            | 2.1          |
| 1980      | 645           | 100.0        | 188           | 29.1         | 105                         | 16.3         | 30            | 4.7          | 159           | 24.7         | 157            | 24.3         | 6             | 0.9          |
| 1981      | 602           | 100.0        | 203           | 33.7         | 69                          | 11.5         | 37            | 6.1          | 152           | 25.3         | 136            | 22.6         | 5             | 0.8          |
| 1982      | 571           | 100.0        | 206           | 36.1         | 61                          | 10.7         | 13            | 2.3          | 170           | 29.8         | 115            | 20.1         | 6             | 1.0          |
| 1983      | 570           | 100.0        | 229           | 40.2         | 80                          | 14.0         | 20            | 3.5          | 120           | 21.1         | 110            | 19.3         | 11            | 1.9          |
|           |               |              |               |              | <u>Tasas de crecimiento</u> |              |               |              |               |              |                |              |               |              |
| 1972-1983 | -1.4          |              | 6.7           |              | -5.7                        |              | -12.5         |              | -0.7          |              | -3.5           |              | -6.9          |              |
| 1972-1979 | 5.0           |              | 7.6           |              | 0.4                         |              | 7.5           |              | 6.9           |              | 4.6            |              | -2.5          |              |
| 1979-1983 | -11.7         |              | 5.2           |              | -15.4                       |              | -30.0         |              | -12.6         |              | -16.2          |              | -13.8         |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 42

EL SALVADOR: PRODUCCION DE ENERGIA POR PRODUCTO FINAL

|           | Total                       | Hidrocarburos <u>a/</u> <u>b/</u> | Electricidad | Residuos vegetales <u>a/</u> | Carbón de leña | Leña   |
|-----------|-----------------------------|-----------------------------------|--------------|------------------------------|----------------|--------|
|           | <u>Teracalorías</u>         |                                   |              |                              |                |        |
| 1972      | 16 854                      | 3 614                             | 719          | 1 004                        | 20             | 11 497 |
| 1973      | 18 424                      | 4 741                             | 784          | 1 071                        | 18             | 11 812 |
| 1974      | 19 162                      | 4 861                             | 848          | 1 323                        | 17             | 12 108 |
| 1975      | 19 800                      | 4 939                             | 911          | 1 448                        | 16             | 12 486 |
| 1976      | 20 710                      | 5 605                             | 1 031        | 1 388                        | 15             | 12 671 |
| 1977      | 21 564                      | 6 139                             | 1 164        | 1 553                        | 15             | 12 693 |
| 1978      | 22 174                      | 6 523                             | 1 279        | 1 652                        | 15             | 12 706 |
| 1979      | 22 845                      | 6 956                             | 1 368        | 1 616                        | 15             | 12 890 |
| 1980      | 21 358                      | 5 926                             | 1 357        | 1 118                        | 14             | 12 943 |
| 1981      | 20 955                      | 5 504                             | 1 275        | 1 027                        | 14             | 13 135 |
| 1982      | 20 846                      | 5 086                             | 1 290        | 1 131                        | 14             | 13 325 |
| 1983      | 21 810                      | 5 550                             | 1 330        | 1 250                        | 10             | 13 670 |
|           | <u>Tasas de crecimiento</u> |                                   |              |                              |                |        |
| 1972-1983 | 2.4                         | 4.0                               | 6.8          | 2.0                          | -2.3           | 1.6    |
| 1972-1979 | 4.4                         | 9.3                               | 9.7          | 7.0                          | -2.8           | 1.6    |
| 1979-1983 | -1.1                        | -5.5                              | -0.7         | -6.2                         | -9.6           | 1.5    |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye energéticos utilizados en centrales eléctricas.

b/ Incluye carbón mineral y coque.

Cuadro 43

EL SALVADOR: IMPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo a/ |
|-----------|-----------------------------|----------|------------------------------|
|           | <u>Teracalorías</u>         |          |                              |
| 1972      | 5 572                       | 4 574    | 998                          |
| 1973      | 6 709                       | 6 472    | 237                          |
| 1974      | 6 185                       | 6 053    | 132                          |
| 1975      | 7 440                       | 6 908    | 532                          |
| 1976      | 7 567                       | 7 057    | 510                          |
| 1977      | 7 930                       | 7 231    | 699                          |
| 1978      | 7 900                       | 7 498    | 402                          |
| 1979      | 7 285                       | 6 995    | 290                          |
| 1980      | 6 436                       | 6 251    | 185                          |
| 1981      | 6 218                       | 6 092    | 126                          |
| 1982      | 5 776                       | 5 456    | 320                          |
| 1983      | 6 490                       | 6 190    | 300                          |
|           | <u>Tasas de crecimiento</u> |          |                              |
| 1972-1983 | 1.4                         | 2.8      | -10.3                        |
| 1972-1979 | 3.9                         | 6.3      | -16.2                        |
| 1979-1983 | -2.8                        | -3.0     | 0.8                          |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

Cuadro 44

EL SALVADOR: EXPORTACION DE ENERGIA POR PRODUCTO

|           | Total | Petróleo                    | Derivados del<br>petróleo | Electricidad |
|-----------|-------|-----------------------------|---------------------------|--------------|
|           |       | <u>Teracalorías</u>         |                           |              |
| 1972      | 63    | -                           | 63                        | -            |
| 1973      | 134   | -                           | 134                       | -            |
| 1974      | 137   | -                           | 137                       | -            |
| 1975      | 349   | -                           | 349                       | -            |
| 1976      | 513   | -                           | 513                       | -            |
| 1977      | 756   | -                           | 756                       | -            |
| 1978      | 450   | -                           | 450                       | -            |
| 1979      | 385   | -                           | 385                       | -            |
| 1980      | 664   | -                           | 664                       | -            |
| 1981      | 649   | -                           | 649                       | -            |
| 1982      | 434   | -                           | 434                       | -            |
| 1983      | 690   | -                           | 690                       | -            |
|           |       | <u>Tasas de crecimiento</u> |                           |              |
| 1972-1983 | 24.3  | -                           | 24.3                      | -            |
| 1972-1979 | 30.0  | -                           | 30.0                      | -            |
| 1979-1983 | 15.7  | -                           | 15.7                      | -            |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

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Cuadro 45

EL SALVADOR: BALANCE ENERGETICO

(Teracalorías)

|      | Consumo<br>(2+3-4+5+6)<br>(1) | Producción<br>(2) | Importación <sup>a/</sup><br>(3) | Exportación<br>(4) | Variación de<br>existencias<br>(5) | Cierre <sup>b/</sup><br>(6) |
|------|-------------------------------|-------------------|----------------------------------|--------------------|------------------------------------|-----------------------------|
| 1972 | 17 618                        | 16 854            | 998                              | 63                 | -72                                | 99                          |
| 1973 | 18 641                        | 18 424            | 237                              | 134                | 136                                | -22                         |
| 1974 | 19 121                        | 19 162            | 132                              | 137                | 18                                 | -54                         |
| 1975 | 19 909                        | 19 800            | 532                              | 349                | -89                                | 15                          |
| 1976 | 20 660                        | 20 710            | 510                              | 513                | -10                                | -37                         |
| 1977 | 21 383                        | 21 564            | 699                              | 756                | -9                                 | -115                        |
| 1978 | 22 298                        | 22 174            | 402                              | 450                | 126                                | 46                          |
| 1979 | 22 590                        | 22 845            | 290                              | 385                | -79                                | 81                          |
| 1980 | 20 801                        | 21 358            | 185                              | 664                | 43                                 | -121                        |
| 1981 | 20 464                        | 20 955            | 126                              | 649                | 98                                 | -66                         |
| 1982 | 20 567                        | 20 846            | 320                              | 434                | -3                                 | -162                        |
| 1983 | 21 310                        | 21 810            | 300                              | 690                | -20                                | -90                         |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye petróleo crudo.

b/ Incluye pérdidas y ajustes estadísticos.

|                                  |                           |                             | BALANCE                        |        |                           |                |                   |              |              |        |
|----------------------------------|---------------------------|-----------------------------|--------------------------------|--------|---------------------------|----------------|-------------------|--------------|--------------|--------|
| UNIDADES: <u>a/</u> Teracalorías |                           |                             | ENERGIA PRIMARIA               |        |                           |                |                   |              |              |        |
| REPUBLICA DE: EL SALVADOR        |                           |                             | 1                              | 2      | 3                         | 4              | 5                 | 6            | 7            |        |
| ELABORADO POR: CEPAL             |                           |                             | Carbón mineral                 | Leña   | Otros comb. veg. y animal | Petróleo crudo | Gas natural libre | Gas asociado | Hydroenergía |        |
| LUGAR: MEXICO                    |                           |                             |                                |        |                           |                |                   |              |              |        |
| SECTOR ENERGETICO                | OFERTA                    | 1.                          | Producción                     |        | 13 700                    | 1 640          |                   |              |              | 1 290  |
|                                  |                           | 2.                          | Importación                    |        |                           |                | 6 190             |              |              |        |
|                                  |                           | 3.                          | Variación de inventarios       |        |                           |                | -230              |              |              | -30    |
|                                  |                           | 4.                          | OFERTA TOTAL                   |        | 13 700                    | 1 640          | 5 960             |              |              | 1 260  |
|                                  |                           | 5.                          | Exportación                    |        |                           |                |                   |              |              |        |
|                                  |                           | 6.                          | No aprovechada                 |        |                           |                | -310              |              |              | -180   |
|                                  |                           | 7.                          | OFERTA INTERNA BRUTA           |        | 13 700                    | 1 330          | 5 960             |              |              | 1 080  |
|                                  | Centros de transformación | 8.                          | TOTAL TRANSFORMACION           |        | -30                       | -80            | 5 950             |              |              | -1 080 |
|                                  |                           | 8.1                         | Coquerías, Altos Hornos        |        |                           |                |                   |              |              |        |
|                                  |                           | 8.2                         | Carboneras                     |        | -30                       |                |                   |              |              |        |
|                                  |                           | 8.3                         | Biomasa                        |        |                           |                |                   |              |              |        |
|                                  |                           | 8.4                         | Refinerías                     |        |                           |                | 5 950             |              |              |        |
|                                  |                           | 8.5                         | Plantas de gas                 |        |                           |                |                   |              |              |        |
|                                  |                           | 8.6                         | Centrales Elect. Serv. Públ.   |        |                           |                |                   |              |              | -1 080 |
|                                  |                           | 8.7                         | Centrales Eléct. Autop.        |        |                           | -80            |                   |              |              |        |
|                                  |                           | 9.                          | Consumo propio sec. energét.   |        |                           |                |                   |              |              |        |
|                                  |                           | 10.                         | Pérdidas (trans. dist. almac.) |        |                           |                |                   |              |              |        |
|                                  |                           | 11.                         | AJUSTES                        |        |                           |                | -10               |              |              |        |
| CONSUMO FINAL                    | 12.                       | CONSUMO FINAL TOTAL         |                                | 13 670 | 1 250                     |                |                   |              |              |        |
|                                  | 12.1                      | Consumo final no energético |                                |        |                           |                |                   |              |              |        |
|                                  | 12.2                      | Consumo final energético    |                                | 13 670 | 1 250                     |                |                   |              |              |        |
|                                  | 12.2.1                    | Residenc. comerc. público   |                                | 13 310 |                           |                |                   |              |              |        |
|                                  | 12.2.2                    | Transporte                  |                                |        |                           |                |                   |              |              |        |
|                                  | 12.2.3                    | Agropecuario                |                                |        |                           |                |                   |              |              |        |
|                                  | 12.2.4                    | Industrial                  |                                | 360    | 1 250                     |                |                   |              |              |        |
| 12.2.5                           | Consumo no identificado   |                             |                                |        |                           |                |                   |              |              |        |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

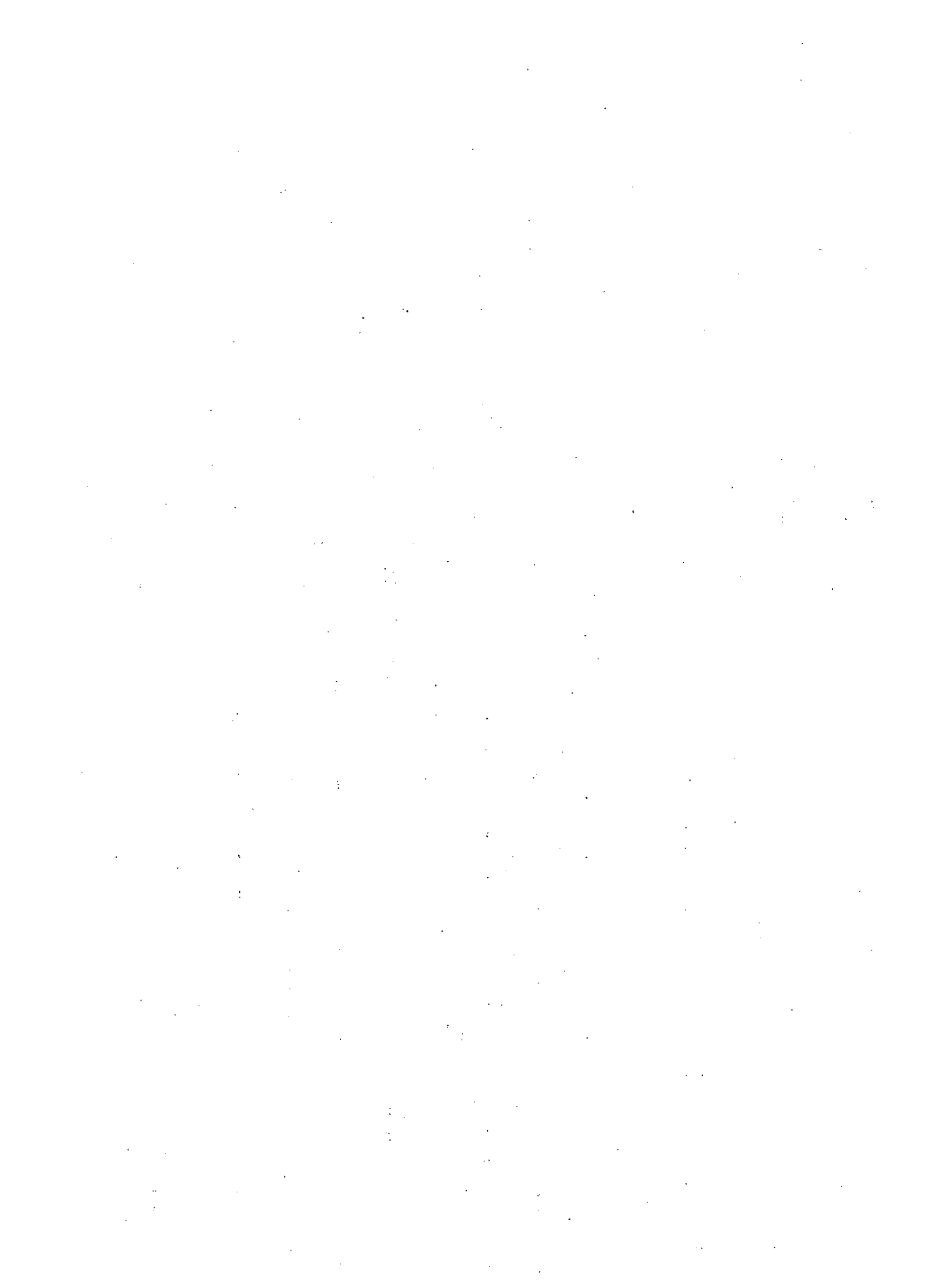
a/ Teracalorías o miles de toneladas equivalentes de petróleo.



| ENERGETICO CONSOLIDADO |                        |                        |                    |                |             |                    |                        |                  |                      |                         |                          |     | AÑO: 1983    |                          |        |  |
|------------------------|------------------------|------------------------|--------------------|----------------|-------------|--------------------|------------------------|------------------|----------------------|-------------------------|--------------------------|-----|--------------|--------------------------|--------|--|
|                        |                        |                        | ENERGIA SECUNDARIA |                |             |                    |                        |                  |                      |                         |                          |     |              |                          |        |  |
| 8                      | 9                      | 10                     | 11                 | 12             | 13          | 14                 | 15                     | 16               | 17                   | 18                      | 19                       | 20  | 21           | 22                       | 23     |  |
| Geenergía              | Combustible fisionable | TOTAL ENERGIA PRIMARIA | Coque              | Carbón vegetal | Gas licuado | Gasolinas y naftas | Queroseno y turbocomb. | Diesel y gasóleo | Combustibles pesados | Otros comb. energéticos | Productos no energéticos | Gas | Electricidad | TOTAL ENERGIA SECUNDARIA | TOTAL  |  |
| 4 630                  |                        | 21 260                 |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | 21 260 |  |
|                        |                        | 6 190                  |                    |                | 10          | 120                | 30                     | 70               |                      |                         | 70                       |     |              | 300                      | 6 490  |  |
|                        |                        | -260                   |                    |                |             | 20                 |                        | -80              | 40                   |                         | -20                      |     |              | -20                      | -280   |  |
| 4 630                  |                        | 27 190                 |                    |                | 10          | 140                | 30                     | 10               | 40                   |                         | 50                       |     |              | 280                      | 27 470 |  |
|                        |                        |                        |                    |                |             |                    |                        |                  | -590                 |                         | -100                     |     |              | -690                     | -690   |  |
| -1 420                 |                        | -1 910                 |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | -1 910 |  |
| 3 210                  |                        | 25 280                 |                    |                | 10          | 140                | 30                     | 10               | -550                 |                         | -50                      |     |              | -10                      | 24 870 |  |
| -3 210                 |                        | -10 530                |                    | 10             | 280         | 1 230              | 370                    | 1 760            | 1 640                |                         | 160                      | 80  | 1 380        | 6 910                    | -3 440 |  |
|                        |                        | -30                    |                    | 10             |             |                    |                        |                  |                      |                         |                          |     |              | 10                       | -20    |  |
|                        |                        | -5 950                 |                    |                | 280         | 1 230              | 370                    | 1 840            | 1 810                |                         | 160                      | 80  |              | 5 770                    | -180   |  |
| -3 210                 |                        | -4 290                 |                    |                |             |                    |                        | -40              | -170                 |                         |                          |     | 1 350        | 1 140                    | -3 150 |  |
|                        |                        | -80                    |                    |                |             |                    |                        | -40              |                      |                         |                          |     | 30           | -10                      | -90    |  |
|                        |                        |                        |                    |                |             |                    |                        | -20              | -120                 |                         |                          | -80 | -50          | -270                     | -270   |  |
|                        |                        |                        |                    |                |             |                    |                        |                  |                      |                         |                          |     | -170         | -170                     | -170   |  |
|                        |                        | -10                    |                    |                | 10          |                    | 20                     | 10               | 20                   |                         |                          |     |              | 60                       | 50     |  |
|                        |                        | 14 920                 |                    | 10             | 300         | 1 370              | 420                    | 1 760            | 990                  |                         | 110                      |     | 1 160        | 6 120                    | 21 040 |  |
|                        |                        |                        |                    |                |             |                    |                        |                  |                      |                         | 110                      |     |              | 110                      | 110    |  |
|                        |                        | 14 920                 |                    | 10             | 300         | 1 370              | 420                    | 1 760            | 990                  |                         |                          |     | 1 160        | 6 010                    | 20 930 |  |
|                        |                        | 13 310                 |                    | 10             | 270         |                    | 170                    |                  |                      |                         |                          |     | 720          | 1 170                    | 14 480 |  |
|                        |                        |                        |                    |                |             | 1 370              | 220                    | 1 410            |                      |                         |                          |     |              | 3 000                    | 3 000  |  |
|                        |                        |                        |                    |                |             |                    |                        | 200              | 90                   |                         |                          |     |              | 290                      | 290    |  |
|                        |                        | 1 810                  |                    |                | 30          |                    | 30                     | 140              | 800                  |                         |                          |     | 440          | 1 540                    | 3 150  |  |
|                        |                        |                        |                    |                |             |                    |                        | 10               |                      |                         |                          |     |              | 10                       | 10     |  |

Pérdidas de transformación

|  |  |  |  |    |     |       |     |       |       |  |     |    |       |       |
|--|--|--|--|----|-----|-------|-----|-------|-------|--|-----|----|-------|-------|
|  |  |  |  | 10 | 280 | 1 230 | 370 | 1 840 | 1 810 |  | 160 | 80 | 1 380 | 7 160 |
|--|--|--|--|----|-----|-------|-----|-------|-------|--|-----|----|-------|-------|



4. Cuadros de información sobre Guatemala (47 a 59)



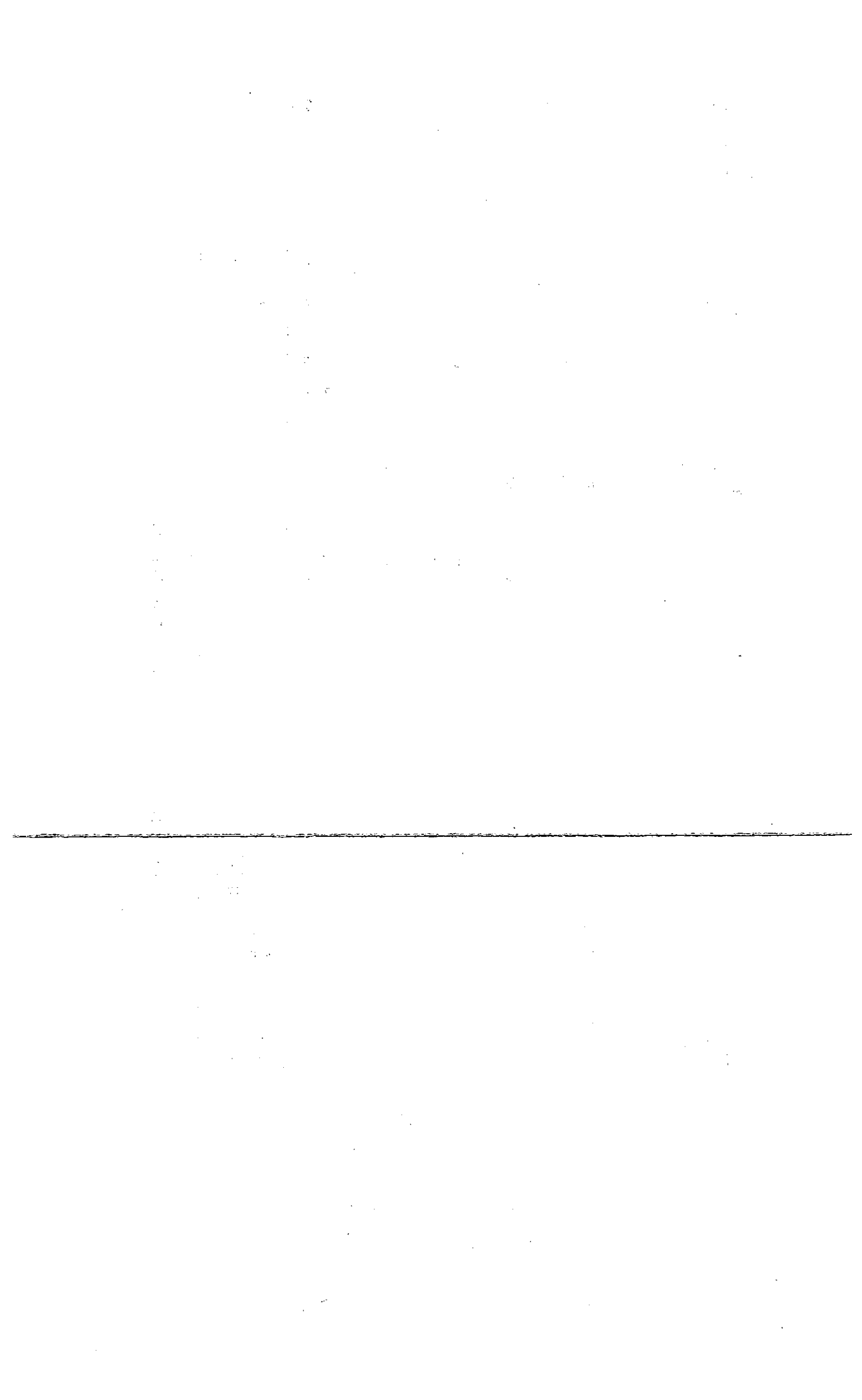
Cuadro 47

GUATEMALA: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|           | <u>Total</u>              |                          | <u>Hidroenergía</u>       |                          | <u>Geoenergía</u>           |                          | <u>Petróleo y derivados a/</u> |                          | <u>Leña</u>               |                          | <u>Residuos vegetales</u> |                          |
|-----------|---------------------------|--------------------------|---------------------------|--------------------------|-----------------------------|--------------------------|--------------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|
|           | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u>   | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u>      | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> |
| 1972      | 32 582                    | 100.0                    | 240                       | 0.7                      | -                           | -                        | 10 740                         | 33.0                     | 20 492                    | 62.9                     | 1 110                     | 3.4                      |
| 1973      | 32 460                    | 100.0                    | 250                       | 0.8                      | -                           | -                        | 9 920                          | 30.6                     | 20 950                    | 64.5                     | 1 340                     | 4.1                      |
| 1974      | 33 056                    | 100.0                    | 270                       | 0.8                      | -                           | -                        | 9 800                          | 29.6                     | 21 426                    | 64.8                     | 1 560                     | 4.7                      |
| 1975      | 34 176                    | 100.0                    | 250                       | 0.7                      | -                           | -                        | 10 060                         | 29.4                     | 21 896                    | 64.1                     | 1 970                     | 5.8                      |
| 1976      | 36 518                    | 100.0                    | 270                       | 0.7                      | -                           | -                        | 11 350                         | 31.1                     | 22 338                    | 61.2                     | 2 560                     | 7.0                      |
| 1977      | 38 836                    | 100.0                    | 200                       | 0.5                      | -                           | -                        | 13 450                         | 34.6                     | 22 796                    | 58.7                     | 2 390                     | 6.2                      |
| 1978      | 39 956                    | 100.0                    | 250                       | 0.6                      | -                           | -                        | 14 510                         | 36.3                     | 23 256                    | 58.2                     | 1 940                     | 4.9                      |
| 1979      | 41 410                    | 100.0                    | 230                       | 0.5                      | -                           | -                        | 15 690                         | 37.9                     | 23 720                    | 57.3                     | 1 770                     | 4.3                      |
| 1980      | 41 992                    | 100.0                    | 240                       | 0.6                      | -                           | -                        | 15 608                         | 37.2                     | 24 202                    | 57.6                     | 1 936                     | 4.6                      |
| 1981      | 41 041                    | 100.0                    | 296                       | 0.7                      | -                           | -                        | 13 805                         | 33.6                     | 24 711                    | 60.2                     | 2 229                     | 5.4                      |
| 1982      | 39 896                    | 100.0                    | 414                       | 1.0                      | -                           | -                        | 11 601                         | 29.1                     | 25 191                    | 63.1                     | 2 690                     | 6.7                      |
| 1983      | 43 618                    | 100.0                    | 872                       | 2.0                      | -                           | -                        | 11 014                         | 25.3                     | 25 702                    | 58.9                     | 2 870                     | 6.6                      |
|           |                           |                          |                           |                          | <u>Tasas de crecimiento</u> |                          |                                |                          |                           |                          |                           |                          |
| 1972-1983 | 2.7                       |                          | 12.5                      |                          | -                           |                          | 0.2                            |                          | 2.1                       |                          | 9.0                       |                          |
| 1972-1979 | 3.5                       |                          | -0.6                      |                          | -                           |                          | 5.6                            |                          | 2.1                       |                          | 6.9                       |                          |
| 1979-1983 | 1.3                       |                          | 39.0                      |                          | -                           |                          | -8.6                           |                          | 2.0                       |                          | 12.9                      |                          |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.



Cuadro 48

## GUATEMALA: CONSUMO FINAL DE ENERGÍA POR PRODUCTO

|           | Total             |                  | Comercial         |                  |                             |                  |                             |                  | No comercial        |                  |                   |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|---------------------|------------------|-------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Subtotal          |                  | Electricidad                |                  | Hidrocarburos <sup>a/</sup> |                  | Residuos vegetales  |                  | Leña              |                  |
|           |                   |                  | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías   | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes |
| 1972      | 30 932            | 100.0            | 10 440            | 33.8             | 640                         | 2.1              | 8 840                       | 28.5             | 960                 | 3.1              | 20 492            | 66.2             |
| 1973      | 30 880            | 100.0            | 9 930             | 32.2             | 720                         | 2.3              | 8 060                       | 26.1             | 1 150               | 3.7              | 20 950            | 67.8             |
| 1974      | 31 206            | 100.0            | 9 780             | 31.3             | 771                         | 2.5              | 7 670                       | 24.6             | 1 340               | 4.3              | 21 426            | 68.7             |
| 1975      | 31 956            | 100.0            | 10 060            | 31.5             | 890                         | 2.8              | 7 480                       | 23.4             | 1 690               | 5.3              | 21 896            | 68.5             |
| 1976      | 33 878            | 100.0            | 11 540            | 34.1             | 950                         | 2.8              | 8 390                       | 24.8             | 2 200               | 6.5              | 22 338            | 65.9             |
| 1977      | 35 486            | 100.0            | 12 690            | 35.8             | 1 170                       | 3.3              | 9 460                       | 26.7             | 2 060               | 5.8              | 22 796            | 64.2             |
| 1978      | 36 746            | 100.0            | 13 490            | 36.7             | 1 260                       | 3.4              | 10 560                      | 28.7             | 1 670               | 4.5              | 23 256            | 63.3             |
| 1979      | 37 690            | 100.0            | 13 970            | 37.1             | 1 340                       | 3.6              | 11 110                      | 29.5             | 1 520               | 4.0              | 23 720            | 62.9             |
| 1980      | 37 188            | 100.0            | 12 986            | 34.9             | 1 357                       | 3.6              | 10 215                      | 27.5             | 1 416               | 3.8              | 24 202            | 65.1             |
| 1981      | 38 193            | 100.0            | 13 482            | 35.3             | 1 170                       | 3.1              | 10 114                      | 26.5             | 2 198               | 5.8              | 24 711            | 64.7             |
| 1982      | 38 005            | 100.0            | 12 814            | 33.7             | 1 040                       | 2.7              | 9 454                       | 24.9             | 2 320               | 6.1              | 25 191            | 66.3             |
| 1983      | 38 461            | 100.0            | 12 760            | 35.6             | 1 027                       | 2.9              | 9 233                       | 25.7             | 2 500 <sup>b/</sup> | 7.0              | 25 702            | 64.4             |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                             |                  |                     |                  |                   |                  |
| 1972-1983 | 2.0               |                  | 1.8               |                  | 4.4                         |                  | 1.1                         |                  | 9.3                 |                  | 2.1               |                  |
| 1972-1979 | 2.8               |                  | 1.9               |                  | 11.1                        |                  | 1.7                         |                  | 6.8                 |                  | 2.1               |                  |
| 1979-1983 | -0.5              |                  | -2.2              |                  | -6.4                        |                  | -4.5                        |                  | 13.2                |                  | 2.0               |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Incluye petróleo crudo utilizado como combustible en el sector industrial.<sup>b/</sup> Sobre la base de la producción de caña de azúcar.

Cuadro 49

## GUATEMALA: CONSUMO FINAL DE ENERGIA COMERCIAL POR SECTORES

|           | Total                       |                  | Residencial<br>y comercial |                  | Transporte        |                  | Industrial        |                  | Otros <sup>a/</sup> |                  |
|-----------|-----------------------------|------------------|----------------------------|------------------|-------------------|------------------|-------------------|------------------|---------------------|------------------|
|           | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías          | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías   | Porcen-<br>tajes |
| 1972      | 10 440                      | 100.0            | 920                        | 8.8              | 3 710             | 35.5             | 4 730             | 45.3             | 1 080               | 10.3             |
| 1973      | 10 000                      | 100.0            | 990                        | 9.9              | 4 160             | 41.6             | 3 740             | 37.4             | 1 110               | 11.1             |
| 1974      | 9 780                       | 100.0            | 990                        | 10.1             | 3 970             | 40.6             | 3 780             | 38.7             | 1 040               | 10.6             |
| 1975      | 10 060                      | 100.0            | 1 000                      | 9.9              | 4 080             | 40.6             | 4 020             | 40.0             | 960                 | 9.5              |
| 1976      | 11 540                      | 100.0            | 1 020                      | 8.8              | 4 550             | 39.4             | 5 090             | 44.1             | 880                 | 7.6              |
| 1977      | 12 690                      | 100.0            | 1 150                      | 9.1              | 5 230             | 41.2             | 5 350             | 42.1             | 960                 | 7.6              |
| 1978      | 13 490                      | 100.0            | 1 220                      | 9.0              | 5 600             | 41.5             | 5 450             | 40.4             | 1 220               | 9.1              |
| 1979      | 13 970                      | 100.0            | 1 300                      | 9.3              | 5 830             | 41.7             | 5 750             | 41.2             | 1 090               | 7.8              |
| 1980      | 12 986                      | 100.0            | 1 380                      | 10.6             | 5 430             | 41.8             | 5 296             | 40.8             | 880                 | 6.8              |
| 1981      | 13 482                      | 100.0            | 1 710                      | 12.7             | 5 137             | 38.1             | 5 860             | 43.5             | 775                 | 5.7              |
| 1982      | 12 814                      | 100.0            | 1 582                      | 12.4             | 5 080             | 39.1             | 5 318             | 41.5             | 834                 | 6.5              |
| 1983      | 12 760                      | 100.0            | 1 678                      | 13.2             | 5 027             | 39.4             | 5 388             | 42.2             | 667                 | 5.2              |
|           | <u>Tasas de crecimiento</u> |                  |                            |                  |                   |                  |                   |                  |                     |                  |
| 1972-1983 | 1.8                         |                  | 5.6                        |                  | 2.8               |                  | 1.2               |                  | -4.3                |                  |
| 1972-1979 | 4.3                         |                  | 5.1                        |                  | 6.7               |                  | 2.8               |                  | 0.1                 |                  |
| 1979-1983 | -2.2                        |                  | 6.6                        |                  | -3.6              |                  | -1.6              |                  | -11.5               |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Comprende sector público, consumo propio y no energéticos (lubricantes, grasas y alfaltos).



Cuadro 50

GUATEMALA: CONSUMO FINAL DE ENERGIA NO  
COMERCIAL (LEÑA) POR SECTORES

|           | Total                       | Residencial y<br>comercial | Industrial |
|-----------|-----------------------------|----------------------------|------------|
|           | <u>Teracalorías</u>         |                            |            |
| 1972      | 20 492                      | 18 443                     | 2 049      |
| 1973      | 20 950                      | 18 855                     | 2 095      |
| 1974      | 21 426                      | 19 283                     | 2 143      |
| 1975      | 21 896                      | 19 706                     | 2 190      |
| 1976      | 22 338                      | 20 104                     | 2 234      |
| 1977      | 22 796                      | 20 516                     | 2 280      |
| 1978      | 23 256                      | 20 930                     | 2 326      |
| 1979      | 23 720                      | 21 348                     | 2 372      |
| 1980      | 24 202                      | 21 782                     | 2 420      |
| 1981      | 24 711                      | 22 240                     | 2 471      |
| 1982      | 25 191                      | 22 672                     | 2 519      |
| 1983      | 25 702                      | 23 132                     | 2 570      |
|           | <u>Tasas de crecimiento</u> |                            |            |
| 1972-1983 | 2.1                         | 2.1                        | 2.1        |
| 1972-1979 | 2.1                         | 2.1                        | 2.1        |
| 1979-1983 | 2.0                         | 2.0                        | 2.0        |

Fuente: CEPAL, sobre la base de los Balances  
Energéticos Nacionales.

Cuadro 51

GUATEMALA: SECTOR RESIDENCIAL Y COMERCIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Electricidad                |              | Gas licuado   |              | Queroseno     |              |
|-----------|---------------|--------------|-----------------------------|--------------|---------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 920           | 100.0        | 280                         | 30.4         | 190           | 20.7         | 450           | 48.9         |
| 1973      | 990           | 100.0        | 300                         | 30.3         | 210           | 21.2         | 480           | 48.5         |
| 1974      | 990           | 100.0        | 330                         | 33.3         | 250           | 20.7         | 410           | 41.4         |
| 1975      | 1 000         | 100.0        | 380                         | 38.0         | 240           | 24.0         | 380           | 38.0         |
| 1976      | 1 020         | 100.0        | 390                         | 38.2         | 260           | 25.5         | 370           | 38.2         |
| 1977      | 1 150         | 100.0        | 470                         | 40.9         | 280           | 24.3         | 400           | 34.8         |
| 1978      | 1 220         | 100.0        | 510                         | 41.8         | 280           | 23.0         | 430           | 35.2         |
| 1979      | 1 300         | 100.0        | 540                         | 41.5         | 310           | 23.8         | 450           | 34.6         |
| 1980      | 1 380         | 100.0        | 550                         | 39.7         | 370           | 26.8         | 460           | 33.3         |
| 1981      | 1 710         | 100.0        | 640                         | 37.3         | 470           | 27.8         | 600           | 34.9         |
| 1982      | 1 582         | 100.0        | 652                         | 41.2         | 500           | 31.6         | 430           | 27.2         |
| 1983      | 1 678         | 100.0        | 697                         | 41.5         | 560           | 33.4         | 421           | 25.1         |
|           |               |              | <u>Tasas de crecimiento</u> |              |               |              |               |              |
| 1972-1983 | 5.6           |              | 8.7                         |              | 10.3          |              | -0.6          |              |
| 1972-1979 | 5.1           |              | 9.9                         |              | 7.2           |              | -             |              |
| 1979-1983 | 6.6           |              | 6.6                         |              | 15.9          |              | -1.7          |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 52

GUATEMALA: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Gasolina      |              | Queroseno y turbocombustible |              | Diesel        |              | Combustóleo   |              | Gas licuado   |              |
|-----------|---------------|--------------|---------------|--------------|------------------------------|--------------|---------------|--------------|---------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen tajes | Tera-calorías | Porcen tajes | Tera-calorías                | Porcen tajes | Tera-calorías | Porcen tajes | Tera-calorías | Porcen tajes | Tera-calorías | Porcen tajes |
| 1972      | 3 710         | 100.0        | 2 010         | 54.2         | 460                          | 12.4         | 1 180         | 31.8         | 60            | 1.6          | -             | -            |
| 1973      | 4 160         | 100.0        | 2 220         | 53.4         | 490                          | 11.8         | 1 420         | 34.1         | 30            | 0.7          | -             | -            |
| 1974      | 3 970         | 100.0        | 2 240         | 56.4         | 460                          | 11.6         | 1 240         | 31.2         | 30            | 0.8          | -             | -            |
| 1975      | 4 080         | 100.0        | 2 420         | 59.3         | 390                          | 9.6          | 1 260         | 30.9         | 10            | 0.2          | -             | -            |
| 1976      | 4 550         | 100.0        | 2 670         | 58.7         | 390                          | 8.6          | 1 390         | 30.5         | 100           | 2.2          | -             | -            |
| 1977      | 5 230         | 100.0        | 3 060         | 58.5         | 450                          | 8.6          | 1 610         | 30.8         | 110           | 2.1          | -             | -            |
| 1978      | 5 600         | 100.0        | 3 170         | 56.6         | 470                          | 8.4          | 1 850         | 33.0         | 110           | 2.0          | -             | -            |
| 1979      | 5 830         | 100.0        | 3 170         | 54.4         | 500                          | 8.6          | 2 060         | 35.3         | 100           | 1.7          | -             | -            |
| 1980      | 5 430         | 100.0        | 2 770         | 51.0         | 330                          | 6.1          | 2 270         | 41.8         | 60            | 1.1          | -             | -            |
| 1981      | 5 137         | 100.0        | 2 349         | 45.7         | 221                          | 4.3          | 2 532         | 49.3         | 20            | 1.4          | 15            | 0.3          |
| 1982      | 5 080         | 100.0        | 2 380         | 46.9         | 240                          | 4.7          | 2 410         | 47.5         | 25            | 0.4          | 25            | 0.5          |
| 1983      | 5 027         | 100.0        | 2 466         | 49.1         | 236                          | 4.7          | 2 295         | 45.7         | -             | -            | 30            | 0.5          |
|           |               |              |               |              | <u>Tasas de crecimiento</u>  |              |               |              |               |              |               |              |
| 1972-1983 | 2.8           |              | 1.9           |              | -5.9                         |              | 6.2           |              | -             |              | -             |              |
| 1972-1979 | 6.7           |              | 6.7           |              | 1.2                          |              | 8.3           |              | 7.6           |              | -             |              |
| 1979-1983 | -3.6          |              | -6.1          |              | -17.1                        |              | 2.7           |              | -             |              | -             |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 53

## GUATEMALA. SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

- 82 -

|           | Total             |                  | Electricidad      |                  | Diesel                      |                  | Combustóleo       |                  | Residuos vegetales |                  | Otros <sup>a/</sup> |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-------------------|------------------|--------------------|------------------|---------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías   | Porcen-<br>tajes |
| 1972      | 4 730             | 100.0            | 260               | 5.5              | 530                         | 11.2             | 2 750             | 58.1             | 960                | 20.3             | 230                 | 4.9              |
| 1973      | 3 740             | 100.0            | 310               | 8.3              | 520                         | 13.9             | 1 490             | 39.8             | 1 150              | 30.7             | 270                 | 7.2              |
| 1974      | 3 780             | 100.0            | 330               | 8.7              | 500                         | 13.4             | 1 360             | 36.0             | 1 340              | 35.4             | 250                 | 6.6              |
| 1975      | 4 020             | 100.0            | 410               | 10.2             | 530                         | 13.2             | 1 150             | 28.6             | 1 690              | 42.0             | 240                 | 6.0              |
| 1976      | 5 090             | 100.0            | 450               | 8.8              | 630                         | 12.4             | 1 570             | 30.8             | 2 200              | 43.2             | 240                 | 4.7              |
| 1977      | 5 350             | 100.0            | 590               | 11.0             | 750                         | 14.0             | 1 670             | 31.2             | 2 060              | 38.5             | 280                 | 5.2              |
| 1978      | 5 450             | 100.0            | 650               | 11.9             | 1 110                       | 20.4             | 1 460             | 26.8             | 1 670              | 30.6             | 560                 | 9.9              |
| 1979      | 5 750             | 100.0            | 700               | 12.2             | 1 200                       | 20.9             | 1 760             | 30.6             | 1 520              | 24.2             | 570                 | 9.1              |
| 1980      | 5 296             | 100.0            | 760               | 14.4             | 1 350                       | 25.5             | 1 170             | 22.1             | 1 416              | 26.7             | 600                 | 11.3             |
| 1981      | 5 860             | 100.0            | 480               | 8.2              | 1 480                       | 25.3             | 999               | 17.0             | 2 198              | 37.5             | 403                 | 6.9              |
| 1982      | 5 318             | 100.0            | 348               | 6.5              | 1 150                       | 21.6             | 940               | 16.8             | 2 320              | 43.6             | 560                 | 10.5             |
| 1983      | 5 388             | 100.0            | 300               | 5.6              | 1 090                       | 20.2             | 1 106             | 20.5             | 2 500              | 46.4             | 392                 | 7.3              |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                   |                  |                    |                  |                     |                  |
| 1972-1983 | 1.2               |                  | 1.3               |                  | 6.8                         |                  | -7.9              |                  | 9.1                |                  | 5.0                 |                  |
| 1972-1979 | 2.8               |                  | 15.2              |                  | 12.7                        |                  | -6.2              |                  | 6.8                |                  | 13.8                |                  |
| 1979-1983 | -1.6              |                  | -19.1             |                  | -2.4                        |                  | -11.0             |                  | 13.3               |                  | -8.9                |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Comprende gas licuado, queroseno y petróleo crudo.

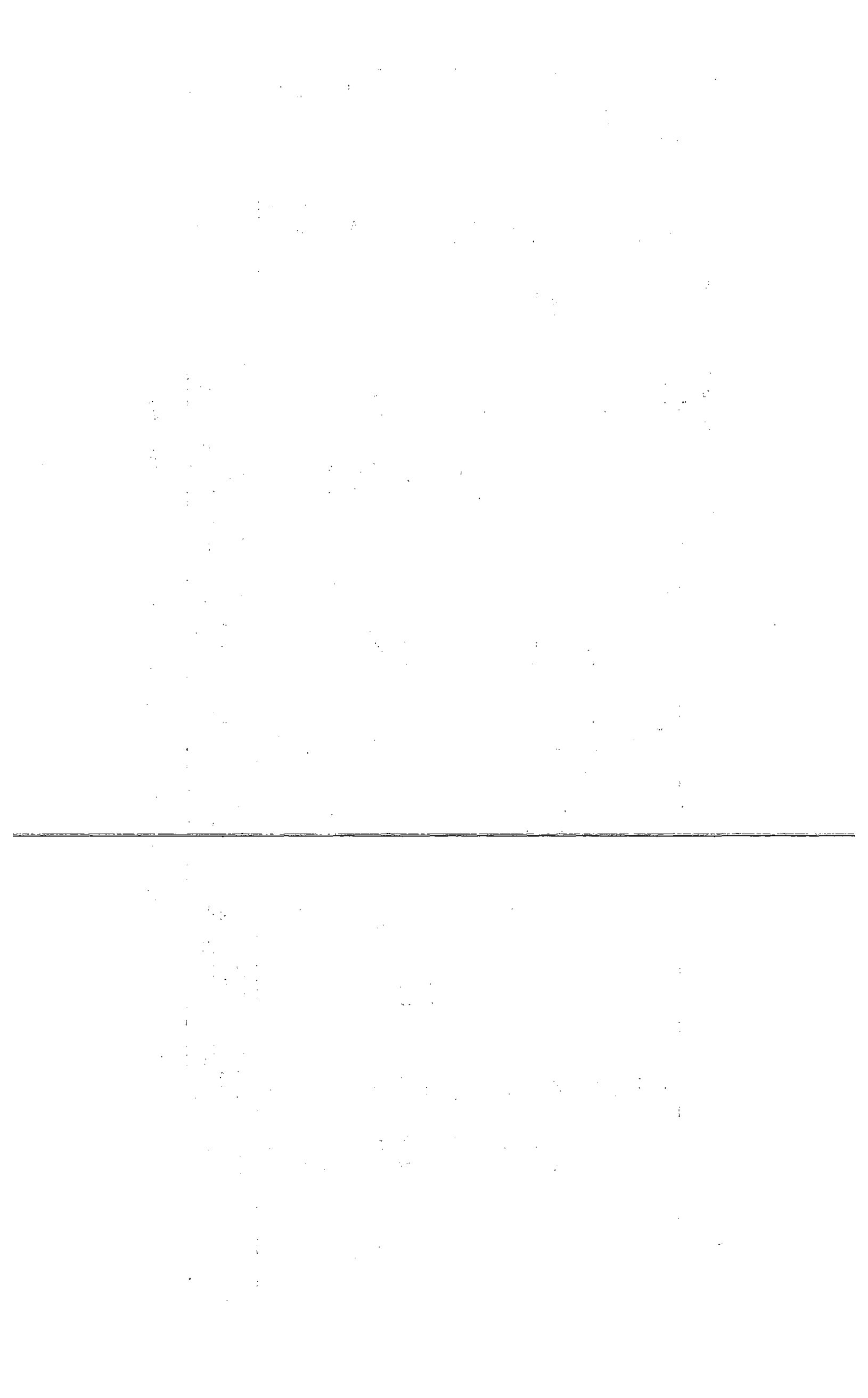
Cuadro 54

GUATEMALA: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO<sup>a/</sup>

|           | <u>Total</u>              |                          | <u>Electricidad</u>       |                          | <u>Gas de refinería</u>   |                          | <u>Diesel</u>               |                          | <u>Combustóleo</u>        |                          | <u>No energéticos</u>     |                          | <u>Otros</u>              |                          |
|-----------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|-----------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|---------------------------|--------------------------|
|           | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u>   | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> | <u>Tera-<br/>calorías</u> | <u>Porcen-<br/>tajes</u> |
| 1972      | 1 080                     | 100.0                    | 100                       | 9.3                      | 290                       | 26.9                     | 210                         | 19.4                     | 180                       | 16.7                     | 300                       | 27.8                     | -                         | -                        |
| 1973      | 1 110                     | 100.0                    | 110                       | 9.9                      | 270                       | 24.3                     | 270                         | 24.3                     | 110                       | 9.9                      | 350                       | 31.5                     | -                         | -                        |
| 1974      | 1 040                     | 100.0                    | 110                       | 10.6                     | 300                       | 28.8                     | 200                         | 19.2                     | 100                       | 9.6                      | 330                       | 31.7                     | -                         | -                        |
| 1975      | 960                       | 100.0                    | 100                       | 10.4                     | 190                       | 19.8                     | 110                         | 11.5                     | 90                        | 9.4                      | 370                       | 38.5                     | -                         | -                        |
| 1976      | 880                       | 100.0                    | 110                       | 12.5                     | 60                        | 6.8                      | 240                         | 27.3                     | 60                        | 6.8                      | 410                       | 46.6                     | -                         | -                        |
| 1977      | 960                       | 100.0                    | 110                       | 11.5                     | 60                        | 6.3                      | 320                         | 33.3                     | 50                        | 5.2                      | 410                       | 42.7                     | -                         | -                        |
| 1978      | 1 220                     | 100.0                    | 120                       | 9.8                      | 70                        | 5.7                      | 440                         | 36.1                     | 50                        | 4.1                      | 540                       | 44.3                     | -                         | -                        |
| 1979      | 1 090                     | 100.0                    | 100                       | 9.2                      | 60                        | 5.5                      | 340                         | 31.2                     | 100                       | 9.2                      | 490                       | 45.0                     | -                         | -                        |
| 1980      | 880                       | 100.0                    | 50                        | 5.7                      | 21                        | 2.4                      | 360                         | 40.9                     | 140                       | 15.9                     | 304                       | 34.5                     | 5                         | 0.1                      |
| 1981      | 775                       | 100.0                    | 47                        | 5.9                      | 60                        | 7.6                      | 155                         | 19.6                     | 166                       | 21.0                     | 299                       | 37.8                     | 63                        | 8.0                      |
| 1982      | 834                       | 100.0                    | 40                        | 4.8                      | 100                       | 12.0                     | 300                         | 36.0                     | 100                       | 12.0                     | 294                       | 35.3                     | -                         | -                        |
| 1983      | 667                       | 100.0                    | 30                        | 4.5                      | 80                        | 12.0                     | 185                         | 27.7                     | 130                       | 19.5                     | 242                       | 36.3                     | -                         | -                        |
|           |                           |                          |                           |                          |                           |                          | <u>Tasas de crecimiento</u> |                          |                           |                          |                           |                          |                           |                          |
| 1972-1983 | -4.3                      |                          | 10.4                      |                          | 11.1                      |                          | 1.2                         |                          | -2.9                      |                          | -2.0                      |                          | -                         |                          |
| 1972-1979 | 0.1                       |                          | -                         |                          | -20.0                     |                          | 7.1                         |                          | 8.0                       |                          | 7.3                       |                          | -                         |                          |
| 1979-1983 | -11.5                     |                          | 26.0                      |                          | 7.5                       |                          | -14.1                       |                          | 6.8                       |                          | -16.2                     |                          | -                         |                          |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Comprende el sector público, consumo propio y no energéticos.



Cuadro 55

GUATEMALA: PRODUCCION DE ENERGIA POR PRODUCTO FINAL

|           | Total  | Hidrocarburos | Electricidad                | Residuos<br>vegetales | Carbón de<br>leña | Leña   |
|-----------|--------|---------------|-----------------------------|-----------------------|-------------------|--------|
|           |        |               | <u>Teracalorías</u>         |                       |                   |        |
| 1972      | 29 392 | 7 020         | 670                         | 1 210                 | -                 | 20 492 |
| 1973      | 31 040 | 7 880         | 750                         | 1 460                 | -                 | 20 950 |
| 1974      | 31 236 | 7 320         | 800                         | 1 690                 | -                 | 21 426 |
| 1975      | 30 046 | 5 120         | 890                         | 2 140                 | -                 | 21 896 |
| 1976      | 30 418 | 4 330         | 970                         | 2 780                 | -                 | 22 338 |
| 1977      | 29 976 | 3 470         | 1 110                       | 2 600                 | -                 | 22 796 |
| 1978      | 31 176 | 4 600         | 1 210                       | 2 110                 | -                 | 23 256 |
| 1979      | 31 450 | 4 530         | 1 280                       | 1 920                 | -                 | 23 720 |
| 1980      | 31 265 | 3 848         | 1 549                       | 1 666                 | -                 | 24 202 |
| 1981      | 34 076 | 5 260         | 1 326                       | 2 779                 | -                 | 24 711 |
| 1982      | 35 461 | 6 108         | 1 232                       | 2 930                 | -                 | 25 191 |
| 1983      | 37 564 | 7 543         | 1 219                       | 3 100                 | -                 | 25 702 |
|           |        |               | <u>Tasas de crecimiento</u> |                       |                   |        |
| 1972-1983 | 2.3    | 0.7           | 5.6                         | 8.9                   | -                 | 2.1    |
| 1972-1979 | 1.0    | 6.1           | 9.7                         | 6.8                   | -                 | 2.1    |
| 1979-1983 | 4.6    | 13.6          | 1.2                         | 12.8                  | -                 | 2.0    |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 56

GUATEMALA: IMPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo | Electricidad |
|-----------|-----------------------------|----------|---------------------------|--------------|
|           | <u>Teracalorías</u>         |          |                           |              |
| 1972      | 10 790                      | 8 960    | 1 830                     | -            |
| 1973      | 10 160                      | 9 490    | 670                       | -            |
| 1974      | 10 370                      | 9 630    | 740                       | -            |
| 1975      | 10 490                      | 7 700    | 2 790                     | -            |
| 1976      | 12 010                      | 7 250    | 4 760                     | -            |
| 1977      | 13 620                      | 7 360    | 6 260                     | -            |
| 1978      | 14 110                      | 8 110    | 6 000                     | -            |
| 1979      | 15 490                      | 7 960    | 7 530                     | -            |
| 1980      | 14 670                      | 7 555    | 7 115                     | -            |
| 1981      | 12 469                      | 7 347    | 5 122                     | -            |
| 1982      | 10 944                      | 5 930    | 5 014                     | -            |
| 1983      | 10 586                      | 6 080    | 4 506                     | -            |
|           | <u>Tasas de crecimiento</u> |          |                           |              |
| 1972-1983 | -0.2                        | -3.5     | 8.6                       | -            |
| 1972-1979 | 5.3                         | -1.7     | 23.0                      | -            |
| 1979-1983 | -9.0                        | -6.5     | -12.0                     | -            |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 57

GUATEMALA: EXPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo | Electricidad |
|-----------|-----------------------------|----------|---------------------------|--------------|
|           | <u>Teracalorías</u>         |          |                           |              |
| 1972      | -                           | -        | -                         | -            |
| 1973      | -                           | -        | -                         | -            |
| 1974      | -                           | -        | -                         | -            |
| 1975      | -                           | -        | -                         | -            |
| 1976      | -                           | -        | -                         | -            |
| 1977      | 50                          | -        | 50                        | -            |
| 1978      | 60                          | -        | 60                        | -            |
| 1979      | 80                          | -        | 80                        | -            |
| 1980      | 1 563                       | 1 084    | 179                       | -            |
| 1981      | 1 015                       | 913      | 102                       | -            |
| 1982      | 2 394                       | 2 133    | 261                       | -            |
| 1983      | 3 066                       | 3 066    | -                         | -            |
|           | <u>Tasas de crecimiento</u> |          |                           |              |
| 1972-1983 | -                           | -        | -                         | -            |
| 1972-1979 | -                           | -        | -                         | -            |
| 1979-1983 | 210.5                       | -        | -                         | -            |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent data collection procedures and the use of advanced analytical techniques to derive meaningful insights from the data.

3. The third part of the document focuses on the implementation of data-driven decision-making processes. It provides a detailed overview of the steps involved in identifying key performance indicators (KPIs) and using data to inform strategic decisions.

4. The fourth part of the document addresses the challenges and risks associated with data management and analysis. It discusses the importance of data security, privacy, and the potential for bias in data analysis, and offers strategies to mitigate these risks.

5. The fifth part of the document concludes by summarizing the key findings and recommendations. It emphasizes the need for a continuous and iterative process of data collection, analysis, and decision-making to ensure the organization remains competitive and successful in the long term.

6. The sixth part of the document provides a detailed overview of the data collection and analysis process. It includes a list of the various data sources used, the methods employed for data collection, and the specific analytical techniques used to process and interpret the data.

7. The seventh part of the document discusses the results of the data analysis. It presents a series of charts and graphs that illustrate the key findings, including trends over time, comparisons between different groups, and the impact of various factors on the organization's performance.

8. The eighth part of the document provides a detailed overview of the data collection and analysis process. It includes a list of the various data sources used, the methods employed for data collection, and the specific analytical techniques used to process and interpret the data.

9. The ninth part of the document discusses the results of the data analysis. It presents a series of charts and graphs that illustrate the key findings, including trends over time, comparisons between different groups, and the impact of various factors on the organization's performance.

10. The tenth part of the document provides a detailed overview of the data collection and analysis process. It includes a list of the various data sources used, the methods employed for data collection, and the specific analytical techniques used to process and interpret the data.

Cuadro 58

GUATEMALA: BALANCE ENERGETICO  
(Teracalorías)

|      | Producción<br>(1) | Importación <sup>a/</sup><br>(2) | Exportación<br>(3) | Consumo<br>(1+2-3+5+6)<br>(4) | Variación de<br>existencias<br>(5) | Cierre <sup>b/</sup><br>(6) |
|------|-------------------|----------------------------------|--------------------|-------------------------------|------------------------------------|-----------------------------|
| 1972 | 29 392            | 1 830                            | -                  | 30 932                        | -50                                | -240                        |
| 1973 | 31 040            | 670                              | -                  | 30 880                        | -240                               | -590                        |
| 1974 | 31 236            | 740                              | -                  | 31 206                        | -570                               | -200                        |
| 1975 | 30 046            | 2 790                            | -                  | 31 956                        | -470                               | -410                        |
| 1976 | 30 418            | 4 760                            | -                  | 33 878                        | -790                               | -510                        |
| 1977 | 29 976            | 6 260                            | 50                 | 35 486                        | -180                               | -520                        |
| 1978 | 31 176            | 6 000                            | 60                 | 36 746                        | 150                                | 520                         |
| 1979 | 31 450            | 7 530                            | 80                 | 37 690                        | -510                               | -700                        |
| 1980 | 31 265            | 7 115                            | 1 563              | 37 188                        | 267                                | -104                        |
| 1981 | 34 076            | 5 122                            | 1 015              | 38 193                        | 51                                 | -41                         |
| 1982 | 35 461            | 5 014                            | 2 394              | 38 005                        | -105                               | 29                          |
| 1983 | 37 564            | 4 506                            | 3 066              | 38 461                        | -51                                | -491                        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye petróleo crudo.

b/ Incluye pérdidas.

|                                      |                           | BALANCE                        |                          |                           |                |                   |              |              |      |
|--------------------------------------|---------------------------|--------------------------------|--------------------------|---------------------------|----------------|-------------------|--------------|--------------|------|
| UNIDADES: <sup>a/</sup> Teracalorías |                           | ENERGIA PRIMARIA               |                          |                           |                |                   |              |              |      |
| REPUBLICA DE: GUATEMALA              |                           | 1                              | 2                        | 3                         | 4              | 5                 | 6            | 7            |      |
| ELABORADO POR: CEPAL                 |                           | Carbón mineral                 | Leña                     | Otros comb. veg. y animal | Petróleo crudo | Gas natural libre | Gas asociado | Hidroenergía |      |
| LUGAR: MEXICO                        |                           |                                |                          |                           |                |                   |              |              |      |
| SECTOR ENERGETICO                    | OFERTA                    | 1.                             | Producción               | 25 702                    | 3 150          | 3 546             |              | 282          | 876  |
|                                      |                           | 2.                             | Importación              |                           |                | 6 080             |              |              |      |
|                                      |                           | 3.                             | Variación de inventarios |                           |                | 12                |              |              |      |
|                                      |                           | 4.                             | OFERTA TOTAL             | 25 702                    | 3 150          | 9 638             |              | 282          | 876  |
|                                      |                           | 5.                             | Exportación              |                           |                | 3 066             |              |              |      |
|                                      |                           | 6.                             | No aprovechada           |                           |                | -280              |              | 282          | -4   |
|                                      |                           | 7.                             | OFERTA INTERNA BRUTA     | 25 702                    | 2 870          | 6 572             |              |              | 872  |
|                                      | Centros de transformación | 8.                             | TOTAL TRANSFORMACION     |                           |                | -370              | -6 419       |              | -872 |
|                                      |                           | 8.1                            | Coquerías, Altos Hornos  |                           |                |                   |              |              |      |
|                                      |                           | 8.2                            | Carboneras               |                           |                |                   |              |              |      |
| 8.3                                  |                           | Biomasa                        |                          |                           |                |                   |              |              |      |
| 8.4                                  |                           | Refinerías                     |                          |                           |                | -5 984            |              |              |      |
| 8.5                                  |                           | Plantas de gas                 |                          |                           |                |                   |              |              |      |
| 8.6                                  |                           | Centrales Elect. Serv. Públ.   |                          |                           |                | -435              |              | -872         |      |
|                                      | 8.7                       | Centrales Eléct. Autop.        |                          |                           | -370           |                   |              |              |      |
|                                      | 9.                        | Consumo propio sec. energét.   |                          |                           |                |                   |              |              |      |
|                                      | 10.                       | Pérdidas (trans. dist. almac.) |                          |                           |                | -64               |              |              |      |
|                                      | 11.                       | AJUSTES                        |                          |                           |                |                   |              |              |      |
| CONSUMO FINAL                        | 12.                       | CONSUMO FINAL TOTAL            | 25 702                   | 2 500                     | 89             |                   |              |              |      |
|                                      | 12.1                      | Consumo final no energético    |                          |                           |                |                   |              |              |      |
|                                      | 12.2                      | Consumo final energético       | 25 702                   | 2 500                     | 89             |                   |              |              |      |
|                                      | 12.2.1                    | Residenc. comerc. público      | 23 132                   |                           |                |                   |              |              |      |
|                                      | 12.2.2                    | Transporte                     |                          |                           |                |                   |              |              |      |
|                                      | 12.2.3                    | Agropecuario                   |                          |                           |                |                   |              |              |      |
|                                      | 12.2.4                    | Industrial                     | 2 570                    | 2 500                     | 89             |                   |              |              |      |
|                                      | 12.2.5                    | Consumo no identificado        |                          |                           |                |                   |              |              |      |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

a/ Teracalorías o miles de toneladas equivalentes de petróleo.





5. Cuadros de información sobre Honduras (69 a 72)





Cuadro 60

HONDURAS: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|           | <u>Total</u>      |                  | <u>Hidroenergía</u> |                  | <u>Geoenergía</u>           |                  | <u>Petróleo y derivados</u> |                  | <u>Leña</u>       |                  | <u>Residuos vegetales</u> |                  |
|-----------|-------------------|------------------|---------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|-------------------|------------------|---------------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías   | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías         | Porcen-<br>tajes |
| 1972      | 14 401            | 100.0            | 323                 | 2.2              | -                           | -                | 4 015                       | 27.9             | 9 728             | 67.6             | 335                       | 2.3              |
| 1973      | 14 990            | 100.0            | 381                 | 2.5              | -                           | -                | 4 390                       | 29.3             | 9 905             | 66.1             | 314                       | 2.1              |
| 1974      | 15 119            | 100.0            | 423                 | 2.8              | -                           | -                | 4 222                       | 27.9             | 10 085            | 66.7             | 389                       | 2.6              |
| 1975      | 15 741            | 100.0            | 445                 | 2.8              | -                           | -                | 4 614                       | 29.3             | 10 268            | 65.2             | 414                       | 2.6              |
| 1976      | 16 195            | 100.0            | 458                 | 2.8              | -                           | -                | 4 836                       | 29.9             | 10 455            | 64.6             | 446                       | 2.7              |
| 1977      | 17 071            | 100.0            | 497                 | 2.9              | -                           | -                | 5 382                       | 31.5             | 10 645            | 62.4             | 547                       | 3.2              |
| 1978      | 17 708            | 100.0            | 685                 | 3.9              | -                           | -                | 5 593                       | 31.6             | 10 839            | 61.2             | 591                       | 3.3              |
| 1979      | 18 230            | 100.0            | 784                 | 4.3              | -                           | -                | 5 755                       | 31.6             | 11 036            | 60.5             | 655                       | 3.6              |
| 1980      | 18 790            | 100.0            | 813                 | 4.3              | -                           | -                | 5 707                       | 30.4             | 11 237            | 59.8             | 1 033                     | 5.5              |
| 1981      | 18 681            | 100.0            | 868                 | 4.6              | -                           | -                | 5 382                       | 28.8             | 11 442            | 61.3             | 989                       | 5.3              |
| 1982      | 18 870            | 100.0            | 890                 | 4.8              | -                           | -                | 5 240                       | 27.5             | 11 650            | 61.9             | 1 090                     | 5.8              |
| 1983      | 19 712            | 100.0            | 880                 | 4.5              | -                           | -                | 5 873                       | 29.8             | 11 858            | 60.2             | 1 101                     | 5.6              |
|           |                   |                  |                     |                  | <u>Tasas de crecimiento</u> |                  |                             |                  |                   |                  |                           |                  |
| 1972-1983 | 2.9               |                  | 9.6                 |                  | -                           |                  | 3.5                         |                  | 1.8               |                  | 11.4                      |                  |
| 1972-1979 | 3.4               |                  | 13.5                |                  | -                           |                  | 5.2                         |                  | 1.8               |                  | 10.1                      |                  |
| 1979-1983 | 2.0               |                  | 2.9                 |                  | -                           |                  | 0.5                         |                  | 1.8               |                  | 14.0                      |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 61

HONDURAS: CONSUMO FINAL DE ENERGIA POR PRODUCTO.

|           | Total             |                  | Subtotal          |                  | Electricidad                |                  | Comercial                   |                  | Residuos vegetales |                  | Carbón de leña    |                  | No comercial      |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-----------------------------|------------------|--------------------|------------------|-------------------|------------------|-------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Hidrocarburos <sup>a/</sup> |                  | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Leña              |                  |
|           |                   |                  |                   |                  |                             |                  | Tera-<br>calorías           | Porcen-<br>tajes |                    |                  |                   |                  | Tera-<br>calorías | Porcen-<br>tajes |
| 1972      | 13 774            | 100.0            | 4 184             | 30.4             | 316                         | 2.3              | 3 492                       | 25.4             | 335                | 2.4              | 41                | 0.3              | 9 590             | 69.6             |
| 1973      | 14 315            | 100.0            | 4 551             | 31.8             | 357                         | 2.6              | 3 828                       | 26.7             | 314                | 2.2              | 42                | 0.3              | 9 764             | 68.2             |
| 1974      | 14 536            | 100.0            | 4 590             | 31.6             | 390                         | 2.7              | 3 772                       | 25.9             | 325                | 2.7              | 43                | 0.3              | 9 942             | 68.4             |
| 1975      | 15 140            | 100.0            | 5 017             | 33.1             | 421                         | 2.8              | 4 138                       | 27.3             | 414                | 2.7              | 44                | 0.3              | 10 123            | 66.9             |
| 1976      | 15 507            | 100.0            | 5 200             | 33.5             | 455                         | 2.9              | 4 255                       | 27.4             | 446                | 2.9              | 44                | 0.3              | 10 307            | 66.5             |
| 1977      | 16 209            | 100.0            | 5 714             | 35.3             | 523                         | 3.2              | 4 600                       | 28.4             | 546                | 3.4              | 45                | 0.3              | 10 495            | 64.7             |
| 1978      | 16 932            | 100.0            | 6 246             | 36.9             | 541                         | 3.2              | 5 068                       | 29.9             | 591                | 3.5              | 46                | 0.3              | 10 686            | 63.1             |
| 1979      | 17 593            | 100.0            | 6 713             | 38.2             | 632                         | 3.6              | 5 379                       | 30.6             | 655                | 3.7              | 47                | 0.3              | 10 880            | 61.8             |
| 1980      | 18 088            | 100.0            | 7 010             | 38.8             | 692                         | 3.8              | 5 237                       | 29.0             | 1 033              | 5.7              | 48                | 0.3              | 11 078            | 61.2             |
| 1981      | 17 911            | 100.0            | 6 631             | 37.0             | 747                         | 4.2              | 4 846                       | 27.1             | 989                | 5.5              | 49                | 0.3              | 11 280            | 63.0             |
| 1982      | 18 027            | 100.0            | 6 546             | 36.3             | 753                         | 4.2              | 4 644                       | 25.8             | 1 089              | 6.0              | 50                | 0.3              | 11 481            | 63.7             |
| 1983      | 19 064            | 100.0            | 7 374             | 38.7             | 832                         | 4.4              | 5 390                       | 28.3             | 1 101              | 5.8              | 51                | 0.2              | 11 690            | 61.3             |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                             |                  |                    |                  |                   |                  |                   |                  |
| 1972-1983 | 3.0               |                  | 5.3               |                  | 9.2                         |                  | 4.1                         |                  | 11.4               |                  | 2.0               |                  | 1.8               |                  |
| 1972-1979 | 3.6               |                  | 7.0               |                  | 10.4                        |                  | 2.6                         |                  | 10.1               |                  | 2.0               |                  | 1.8               |                  |
| 1979-1983 | 2.1               |                  | 2.4               |                  | 7.1                         |                  | 0.1                         |                  | 13.9               |                  | 2.1               |                  | 1.8               |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

Cuadro 62

## HONDURAS: CONSUMO FINAL DE ENERGIA COMERCIAL POR SECTORES

|           | Total         |              | Residencial y comercial |                             | Transporte    |              | Industrial    |              | Otros         |              |
|-----------|---------------|--------------|-------------------------|-----------------------------|---------------|--------------|---------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías           | Porcen-tajes                | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 4 184         | 100.0        | 521                     | 12.5                        | 1 582         | 37.8         | 1 709         | 40.8         | 372           | 8.9          |
| 1973      | 4 551         | 100.0        | 558                     | 12.3                        | 1 756         | 38.6         | 1 839         | 40.4         | 398           | 8.7          |
| 1974      | 4 590         | 100.0        | 541                     | 11.8                        | 1 660         | 36.1         | 2 009         | 43.8         | 380           | 8.3          |
| 1975      | 5 017         | 100.0        | 570                     | 11.4                        | 1 730         | 34.5         | 2 315         | 46.1         | 402           | 8.0          |
| 1976      | 5 200         | 100.0        | 620                     | 11.9                        | 1 817         | 34.9         | 2 231         | 42.9         | 532           | 10.2         |
| 1977      | 5 714         | 100.0        | 686                     | 12.0                        | 1 941         | 34.0         | 2 481         | 43.4         | 606           | 10.6         |
| 1978      | 6 246         | 100.0        | 761                     | 12.2                        | 2 112         | 33.8         | 2 697         | 43.2         | 676           | 10.8         |
| 1979      | 6 713         | 100.0        | 829                     | 12.3                        | 2 234         | 33.3         | 3 007         | 44.8         | 643           | 9.6          |
| 1980      | 7 010         | 100.0        | 858                     | 12.2                        | 2 160         | 30.8         | 3 353         | 47.8         | 639           | 9.1          |
| 1981      | 6 631         | 100.0        | 845                     | 12.7                        | 2 186         | 33.0         | 3 099         | 46.7         | 501           | 7.6          |
| 1982      | 6 546         | 100.0        | 838                     | 12.8                        | 2 244         | 34.3         | 3 099         | 47.3         | 365           | 5.6          |
| 1983      | 7 374         | 100.0        | 897                     | 12.2                        | 2 554         | 34.6         | 3 399         | 46.1         | 524           | 7.1          |
|           |               |              |                         | <u>Tasas de crecimiento</u> |               |              |               |              |               |              |
| 1972-1983 | 5.3           |              | 5.0                     |                             | 4.5           |              | 6.5           |              | 3.2           |              |
| 1972-1979 | 7.0           |              | 6.9                     |                             | 5.1           |              | 8.4           |              | 8.1           |              |
| 1979-1983 | 2.4           |              | 2.0                     |                             | 3.4           |              | 3.2           |              | 5.0           |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 63

HONDURAS: CONSUMO FINAL DE ENERGIA NO  
COMERCIAL (LEÑA), POR SECTORES

|           | Total                       | Residencial y<br>comercial | Industrial |
|-----------|-----------------------------|----------------------------|------------|
|           | <u>Teracalorías</u>         |                            |            |
| 1972      | 9 590                       | 8 670                      | 920        |
| 1973      | 9 764                       | 8 830                      | 940        |
| 1974      | 9 942                       | 8 990                      | 950        |
| 1975      | 10 123                      | 9 160                      | 970        |
| 1976      | 10 307                      | 9 320                      | 990        |
| 1977      | 10 495                      | 9 490                      | 1 010      |
| 1978      | 10 686                      | 9 660                      | 1 020      |
| 1979      | 10 880                      | 9 840                      | 1 040      |
| 1980      | 11 078                      | 10 016                     | 1 062      |
| 1981      | 11 280                      | 10 199                     | 1 081      |
| 1982      | 11 481                      | 10 384                     | 1 097      |
| 1983      | 11 690                      | 10 573                     | 1 117      |
|           | <u>Tasas de crecimiento</u> |                            |            |
| 1972-1983 | 1.8                         | 1.8                        | 1.8        |
| 1972-1979 | 1.8                         | 1.3                        | 1.8        |
| 1979-1983 | 1.8                         | 1.8                        | 1.8        |

Fuente: CEPAL, sobre la base de los Balances  
Energéticos Nacionales.

Cuadro 64

HONDURAS: SECTOR RESIDENCIAL Y COMERCIAL. CONSUMO FINAL  
DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total             |                  | Electricidad      |                  | Gas licuado                 |                  | Queroseno         |                  | Carbón de leña    |                  | Otros             |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes |
| 1972      | 521               | 100.0            | 110               | 21.2             | 56                          | 10.8             | 313               | 60.1             | 41                | 7.9              |                   |                  |
| 1973      | 558               | 100.0            | 123               | 22.0             | 65                          | 11.7             | 328               | 58.7             | 42                | 7.6              |                   |                  |
| 1974      | 541               | 100.0            | 131               | 24.2             | 66                          | 12.2             | 301               | 55.6             | 43                | 8.0              |                   |                  |
| 1975      | 570               | 100.0            | 144               | 25.3             | 73                          | 12.8             | 309               | 54.2             | 44                | 7.7              |                   |                  |
| 1976      | 620               | 100.0            | 164               | 26.4             | 83                          | 13.4             | 329               | 53.0             | 44                | 7.2              |                   |                  |
| 1977      | 686               | 100.0            | 199               | 29.1             | 94                          | 13.6             | 348               | 50.7             | 45                | 6.6              |                   |                  |
| 1978      | 761               | 100.0            | 215               | 28.3             | 92                          | 12.1             | 408               | 53.5             | 46                | 6.1              |                   |                  |
| 1979      | 829               | 100.0            | 258               | 31.1             | 97                          | 11.7             | 427               | 51.5             | 47                | 5.7              |                   |                  |
| 1980      | 858               | 100.0            | 283               | 32.9             | 98                          | 11.5             | 429               | 50.0             | 48                | 5.6              |                   |                  |
| 1981      | 845               | 100.0            | 314               | 37.1             | 92                          | 10.9             | 390               | 46.2             | 49                | 5.8              |                   |                  |
| 1982      | 838               | 100.0            | 340               | 40.6             | 77                          | 9.2              | 376               | 44.9             | 50                | 6.0              |                   |                  |
| 1983      | 897               | 100.0            | 360               | 40.1             | 80                          | 8.9              | 344               | 38.4             | 51                | 5.7              | 62                | 6.9              |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                   |                  |                   |                  |                   |                  |
| 1972-1983 | 5.0               |                  | 11.4              |                  | 3.3                         |                  | 0.9               |                  | 2.0               |                  | -                 |                  |
| 1972-1979 | 6.9               |                  | 13.0              |                  | 8.2                         |                  | 4.5               |                  | 2.0               |                  | -                 |                  |
| 1979-1983 | 2.0               |                  | 8.7               |                  | -4.7                        |                  | -5.3              |                  | 2.1               |                  | -                 |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 65

## HONDURAS: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Gasolina                    |              | Queroseno y turbocombustible |              | Diesel        |              |
|-----------|---------------|--------------|-----------------------------|--------------|------------------------------|--------------|---------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías                | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 1 582         | 100.0        | 831                         | 52.5         | 76                           | 4.8          | 675           | 42.7         |
| 1973      | 1 756         | 100.0        | 890                         | 50.7         | 88                           | 5.0          | 778           | 44.3         |
| 1974      | 1 660         | 100.0        | 814                         | 49.0         | 91                           | 5.5          | 755           | 45.5         |
| 1975      | 1 730         | 100.0        | 787                         | 45.5         | 111                          | 6.4          | 832           | 48.1         |
| 1976      | 1 817         | 100.0        | 819                         | 45.1         | 121                          | 6.7          | 877           | 48.2         |
| 1977      | 1 941         | 100.0        | 871                         | 44.9         | 138                          | 7.1          | 932           | 48.0         |
| 1978      | 2 112         | 100.0        | 937                         | 44.3         | 176                          | 8.3          | 1 000         | 47.4         |
| 1979      | 2 234         | 100.0        | 962                         | 43.1         | 193                          | 8.6          | 1 079         | 48.3         |
| 1980      | 2 160         | 100.0        | 897                         | 41.5         | 208                          | 9.6          | 1 055         | 48.9         |
| 1981      | 2 186         | 100.0        | 866                         | 39.6         | 191                          | 8.7          | 1 129         | 51.7         |
| 1982      | 2 244         | 100.0        | 839                         | 37.4         | 205                          | 9.1          | 1 199         | 53.4         |
| 1983      | 2 554         | 100.0        | 899                         | 35.2         | 295                          | 11.6         | 1 360         | 53.2         |
|           |               |              | <u>Tasas de crecimiento</u> |              |                              |              |               |              |
| 1972-1983 | 4.5           |              | 0.8                         |              | 13.1                         |              | 6.6           |              |
| 1972-1979 | 5.1           |              | 2.1                         |              | 14.2                         |              | 6.9           |              |
| 1979-1983 | 3.4           |              | -1.7                        |              | 11.2                         |              | 6.0           |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 66

## HONDURAS: SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Electricidad  |              | Diesel                      |              | Combustóleo   |              | Residuos vegetales |              | Otros <sup>a/</sup> |              |
|-----------|---------------|--------------|---------------|--------------|-----------------------------|--------------|---------------|--------------|--------------------|--------------|---------------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972      | 1 709         | 100.0        | 187           | 10.9         | 499                         | 29.2         | 603           | 35.3         | 335                | 19.6         | 85                  | 5.0          |
| 1973      | 1 839         | 100.0        | 227           | 12.3         | 585                         | 31.8         | 622           | 33.8         | 314                | 17.1         | 91                  | 5.0          |
| 1974      | 2 014         | 100.0        | 236           | 11.7         | 569                         | 28.2         | 729           | 36.2         | 389                | 19.4         | 91                  | 4.5          |
| 1975      | 2 315         | 100.0        | 253           | 10.9         | 610                         | 26.4         | 948           | 40.9         | 415                | 17.9         | 89                  | 3.9          |
| 1976      | 2 231         | 100.0        | 264           | 11.8         | 678                         | 30.4         | 753           | 33.8         | 446                | 20.0         | 90                  | 4.0          |
| 1977      | 2 481         | 100.0        | 294           | 11.9         | 829                         | 33.4         | 711           | 28.6         | 546                | 22.0         | 101                 | 4.1          |
| 1978      | 2 697         | 100.0        | 292           | 10.8         | 943                         | 35.0         | 747           | 27.7         | 591                | 21.9         | 124                 | 4.6          |
| 1979      | 3 007         | 100.0        | 335           | 11.2         | 982                         | 32.6         | 909           | 30.2         | 655                | 21.8         | 126                 | 4.2          |
| 1980      | 3 353         | 100.0        | 364           | 10.9         | 964                         | 28.7         | 885           | 26.4         | 1 033              | 30.8         | 107                 | 3.2          |
| 1981      | 3 099         | 100.0        | 383           | 12.4         | 856                         | 27.6         | 765           | 24.7         | 989                | 31.9         | 106                 | 3.4          |
| 1982      | 3 099         | 100.0        | 380           | 12.6         | 911                         | 29.4         | 613           | 19.8         | 1 089              | 35.1         | 106                 | 3.4          |
| 1983      | 3 399         | 100.0        | 411           | 12.1         | 1 106                       | 32.5         | 692           | 20.4         | 1 101              | 32.4         | 89                  | 2.6          |
|           |               |              |               |              | <u>Tasas de crecimiento</u> |              |               |              |                    |              |                     |              |
| 1972-1983 | 6.5           |              | 7.4           |              | 7.5                         |              | 1.3           |              | 11.5               |              | 0.4                 |              |
| 1972-1979 | 8.4           |              | 8.7           |              | 10.1                        |              | 6.0           |              | 10.1               |              | 5.8                 |              |
| 1979-1983 | 3.2           |              | 5.3           |              | 3.0                         |              | -6.6          |              | 13.9               |              | -8.0                |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Comprende gas licuado, gasolina, carbón mineral y coque.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. This section also touches upon the legal implications of failing to maintain such records, including potential penalties and the difficulty of defending oneself in court.

2. The second part of the document provides a detailed overview of the various types of records that should be maintained. This includes financial records such as invoices, receipts, and bank statements, as well as operational records like contracts, correspondence, and internal communications. It also mentions the importance of keeping track of personnel records and compliance documents.

3. The third part of the document focuses on the methods and tools used for record-keeping. It discusses the benefits of using digital record-keeping systems, such as increased efficiency, ease of access, and the ability to search through large volumes of data. It also mentions the importance of ensuring that digital records are secure and backed up regularly to prevent data loss.

4. The fourth part of the document addresses the challenges of record-keeping and offers practical solutions. It discusses the issue of data volume and the need for effective archiving strategies. It also touches upon the importance of training staff on proper record-keeping procedures and the need for regular audits to ensure the accuracy and completeness of the records.

5. The fifth and final part of the document provides a summary of the key points discussed and offers some concluding thoughts on the importance of record-keeping. It reiterates that maintaining accurate records is not just a legal requirement, but a fundamental aspect of good business practice that can help organizations make better decisions and avoid potential legal pitfalls.



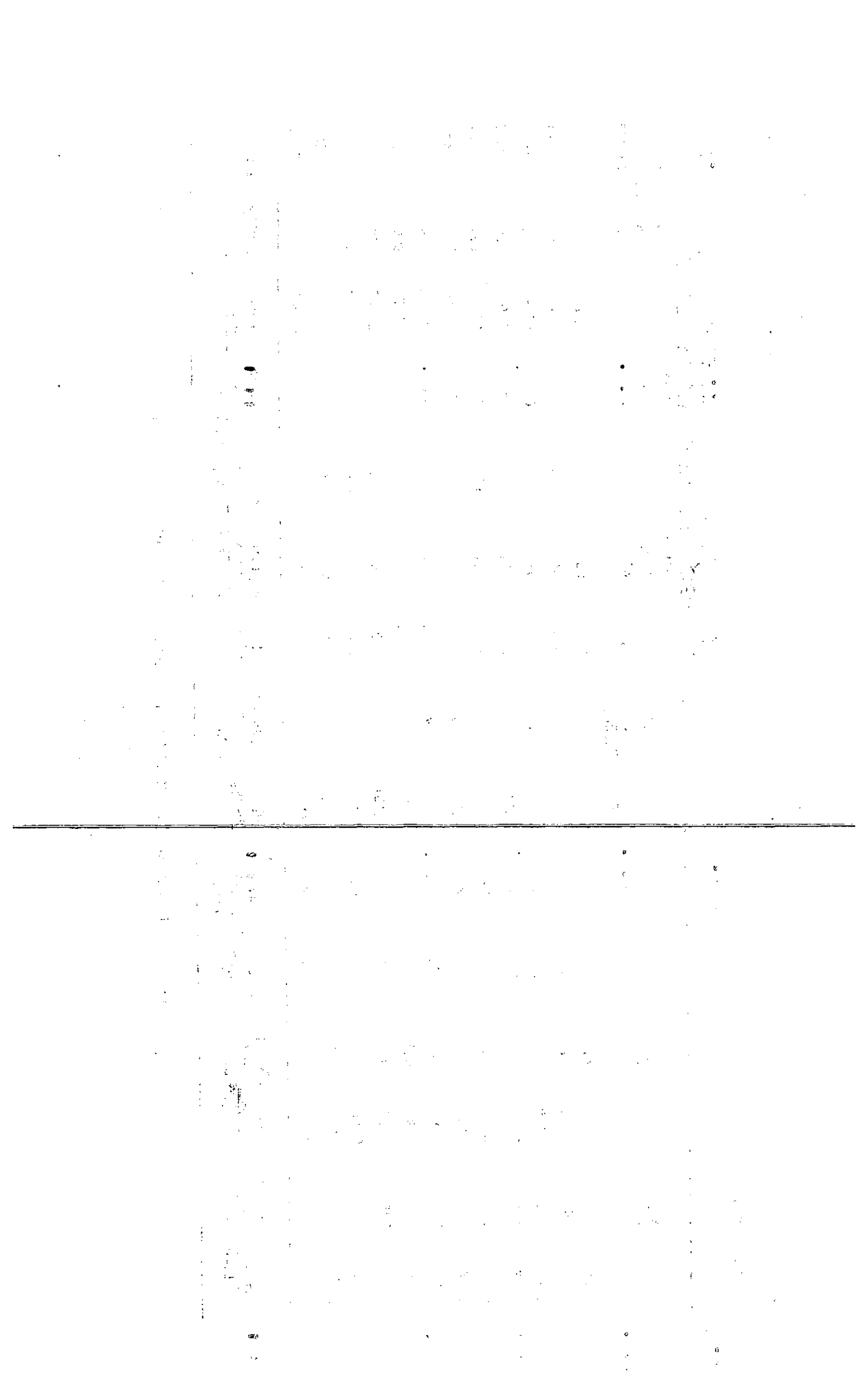
Cuadro 67

HONDURAS: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO<sup>a/</sup>

|           | Total         |             | Electricidad  |             | Gas de refinera |             | Gasolina             |             | Queroseno y turbocombustible |             | Diesel        |             | Combustoleo   |             |
|-----------|---------------|-------------|---------------|-------------|-----------------|-------------|----------------------|-------------|------------------------------|-------------|---------------|-------------|---------------|-------------|
|           | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías   | Porcentajes | Tera-calorías        | Porcentajes | Tera-calorías                | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes |
| 1972      | 372           | 100.0       | 19            | 5.1         | 22              | 5.9         | 38                   | 10.2        | 24                           | 6.5         | 84            | 22.6        | 185           | 49.7        |
| 1973      | 398           | 100.0       | 17            | 4.3         | 24              | 6.0         | 39                   | 9.8         | 25                           | 6.3         | 100           | 25.1        | 193           | 48.5        |
| 1974      | 380           | 100.0       | 23            | 6.1         | 24              | 6.3         | 38                   | 10.0        | 24                           | 6.3         | 93            | 24.5        | 178           | 46.8        |
| 1975      | 402           | 100.0       | 24            | 6.0         | 24              | 6.0         | 43                   | 10.7        | 24                           | 6.0         | 104           | 25.9        | 183           | 45.5        |
| 1976      | 532           | 100.0       | 27            | 5.1         | 130             | 24.4        | 43                   | 8.1         | 26                           | 4.9         | 129           | 24.2        | 177           | 33.3        |
| 1977      | 606           | 100.0       | 30            | 4.4         | 117             | 19.3        | 44                   | 7.3         | 27                           | 4.5         | 206           | 34.0        | 182           | 30.0        |
| 1978      | 676           | 100.0       | 34            | 5.0         | 131             | 19.4        | 45                   | 6.7         | 32                           | 4.7         | 241           | 35.7        | 193           | 28.6        |
| 1979      | 643           | 100.0       | 39            | 6.1         | 129             | 20.1        | 44                   | 6.8         | 33                           | 5.1         | 250           | 38.9        | 146           | 22.7        |
| 1980      | 639           | 100.0       | 45            | 7.0         | 115             | 18.0        | 45                   | 7.0         | 33                           | 5.2         | 244           | 38.2        | 157           | 24.6        |
| 1981      | 501           | 100.0       | 50            | 10.0        | 64              | 12.8        | 44                   | 8.8         | 26                           | 5.2         | 205           | 40.9        | 112           | 22.4        |
| 1982      | 365           | 100.0       | 43            | 11.8        | 20              | 5.5         | 42                   | 11.5        | 25                           | 6.8         | 179           | 49.0        | 56            | 15.3        |
| 1983      | 524           | 100.0       | 61            | 11.6        | 58              | 11.1        | 52                   | 9.9         | 82                           | 15.6        | 147           | 28.1        | 124           | 23.7        |
|           |               |             |               |             |                 |             | Tasas de crecimiento |             |                              |             |               |             |               |             |
| 1972-1983 | 3.2           |             | 11.2          |             | 9.2             |             | 2.9                  |             | 11.8                         |             | 5.2           |             | -3.5          |             |
| 1972-1979 | 8.1           |             | 10.8          |             | 28.5            |             | 2.1                  |             | 4.7                          |             | 16.9          |             | 3.4           |             |
| 1979-1983 | 5.0           |             | 11.8          |             | -18.9           |             | 4.3                  |             | 25.5                         |             | -12.4         |             | -4.0          |             |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Comprende el sector público y el consumo propio.



Cuadro 68

HONDURAS: PRODUCCION DE ENERGIA POR PRODUCTO FINAL

|           | Total                       | Hidrocarburos | Electricidad | Residuos<br>vegetales | Carbón de<br>leña | Leña   |
|-----------|-----------------------------|---------------|--------------|-----------------------|-------------------|--------|
|           | <u>Teracalorías</u>         |               |              |                       |                   |        |
| 1972      | 15 876                      | 5 550         | 360          | 335                   | 41                | 9 590  |
| 1973      | 16 348                      | 5 809         | 418          | 314                   | 42                | 9 765  |
| 1974      | 16 429                      | 5 605         | 450          | 389                   | 43                | 9 942  |
| 1975      | 16 905                      | 5 838         | 487          | 414                   | 44                | 10 123 |
| 1976      | 15 556                      | 4 238         | 520          | 446                   | 45                | 10 307 |
| 1977      | 15 535                      | 3 855         | 592          | 547                   | 46                | 10 495 |
| 1978      | 15 984                      | 4 008         | 653          | 591                   | 46                | 10 686 |
| 1979      | 16 742                      | 4 428         | 732          | 655                   | 47                | 10 880 |
| 1980      | 17 950                      | 4 990         | 801          | 1 033                 | 48                | 11 078 |
| 1981      | 15 292                      | 2 102         | 871          | 990                   | 49                | 11 280 |
| 1982      | 13 853                      | 312           | 921          | 1 089                 | 50                | 11 481 |
| 1983      | 16 424                      | 2 700         | 882          | 1 101                 | 51                | 11 690 |
|           | <u>Tasas de crecimiento</u> |               |              |                       |                   |        |
| 1972-1983 | 0.3                         | -6.3          | 8.5          | 11.4                  | 2.0               | 1.8    |
| 1972-1979 | 0.8                         | -7.3          | 10.7         | 10.0                  | 2.0               | 1.8    |
| 1979-1983 | -0.5                        | -11.7         | 4.8          | 13.9                  | 2.1               | 1.8    |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 69

HONDURAS: IMPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo <u>a/</u> | Electricidad |
|-----------|-----------------------------|----------|-------------------------------------|--------------|
|           | <u>Teracalorías</u>         |          |                                     |              |
| 1972      | 6 318                       | 6 219    | 99                                  | -            |
| 1973      | 6 327                       | 6 236    | 91                                  | -            |
| 1974      | 6 335                       | 6 236    | 99                                  | -            |
| 1975      | 6 453                       | 6 418    | 35                                  | -            |
| 1976      | 4 927                       | 4 835    | 92                                  | -            |
| 1977      | 5 774                       | 4 795    | 970                                 | 9            |
| 1978      | 5 369                       | 4 348    | 1 014                               | 7            |
| 1979      | 5 831                       | 4 911    | 908                                 | 12           |
| 1980      | 5 972                       | 5 103    | 856                                 | 13           |
| 1981      | 5 124                       | 2 400    | 2 715                               | 9            |
| 1982      | 5 274                       | 988      | 4 273                               | 13           |
| 1983      | 6 210                       | 3 298    | 2 784                               | 128          |
|           | <u>Tasas de crecimiento</u> |          |                                     |              |
| 1972-1983 | 0.2                         | -5.6     | 35.5                                | -            |
| 1972-1979 | -1.0                        | -3.4     | 37.0                                | -            |
| 1979-1983 | 1.6                         | -9.4     | 32.3                                | 80.0         |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.  
a/ Incluye coque.

Cuadro 70

HONDURAS: EXPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo | Electricidad |
|-----------|-----------------------------|----------|---------------------------|--------------|
|           | <u>Teracalorías</u>         |          |                           |              |
| 1972      | 2 156                       | -        | 2 156                     | -            |
| 1973      | 2 131                       | -        | 2 131                     | -            |
| 1974      | 1 963                       | -        | 1 963                     | -            |
| 1975      | 1 757                       | -        | 1 757                     | -            |
| 1976      | 209                         | -        | 199                       | 10           |
| 1977      | 90                          | -        | 74                        | 16           |
| 1978      | 11                          | -        | 5                         | 6            |
| 1979      | 27                          | -        | 27                        | -            |
| 1980      | 232                         | -        | 222                       | 10           |
| 1981      | 111                         | -        | 96                        | 15           |
| 1982      | 4                           | -        | -                         | 4            |
| 1983      | 183                         | -        | 182                       | 1            |
|           | <u>Tasas de crecimiento</u> |          |                           |              |
| 1972-1983 | -35.0                       | -        | -35.0                     | -            |
| 1972-1979 | -46.5                       | -        | -46.5                     | -            |
| 1979-1983 | 60.2                        | -        | 60.2                      | -            |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

QUESTION

1. The following table shows the number of people who attended a concert in each of the five years from 2000 to 2004.

Year: 2000, 2001, 2002, 2003, 2004  
Number of people: 1200, 1500, 1800, 2100, 2400

Find

- (a) the mean number of people who attended the concert in each of the five years,
- (b) the standard deviation of the number of people who attended the concert in each of the five years,
- (c) the variance of the number of people who attended the concert in each of the five years,
- (d) the coefficient of variation of the number of people who attended the concert in each of the five years.

SOLUTION

Let  $X$  be the number of people who attended the concert in each of the five years. Then the probability distribution of  $X$  is as follows:

Cuadro 71

HONDURAS: BALANCE ENERGETICO

(Teracalorías)

|      | Producción<br>(1) | Importación <sup>a/</sup><br>(2) | Exportación<br>(3) | Consumo<br>(1+2-3+5+6)<br>(4) | Variación de<br>existencias<br>(5) | Cierre<br>(6) |
|------|-------------------|----------------------------------|--------------------|-------------------------------|------------------------------------|---------------|
| 1972 | 15 876            | 99                               | 2 156              | 13 774                        | -147                               | 102           |
| 1973 | 16 348            | 91                               | 2 131              | 14 315                        | 195                                | -188          |
| 1974 | 16 429            | 99                               | 1 963              | 14 536                        | -150                               | 121           |
| 1975 | 16 905            | 35                               | 1 757              | 15 140                        | -83                                | 40            |
| 1976 | 15 556            | 92                               | 209                | 15 507                        | 110                                | -42           |
| 1977 | 15 535            | 979                              | 90                 | 16 209                        | -309                               | 94            |
| 1978 | 15 984            | 1 021                            | 11                 | 16 932                        | 235                                | -297          |
| 1979 | 16 742            | 920                              | 27                 | 17 593                        | -50                                | 8             |
| 1980 | 17 950            | 869                              | 232                | 18 088                        | -61                                | 438           |
| 1981 | 15 292            | 2 724                            | 111                | 17 911                        | 364                                | 358           |
| 1982 | 13 853            | 4 286                            | 4                  | 18 027                        | 14                                 | -122          |
| 1983 | 16 424            | 2 912                            | 183                | 19 064                        | -24                                | -65           |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye petróleo crudo.

|                                      |                           |                             | BALANCE                        |         |                           |                |                   |              |              |        |
|--------------------------------------|---------------------------|-----------------------------|--------------------------------|---------|---------------------------|----------------|-------------------|--------------|--------------|--------|
| UNIDADES: <sup>a/</sup> Teracalorías |                           |                             | ENERGIA PRIMARIA               |         |                           |                |                   |              |              |        |
| REPUBLICA DE: HONDURAS               |                           |                             | 1                              | 2       | 3                         | 4              | 5                 | 6            | 7            |        |
| ELABORADO POR: CEPAL                 |                           |                             | Carbón mineral                 | Leña    | Otros comb. veg. y animal | Petróleo crudo | Gas natural libre | Gas asociado | Hydroenergía |        |
| LUGAR: MEXICO                        |                           |                             |                                |         |                           |                |                   |              |              |        |
| SECTOR ENERGETICO                    | OFERTA                    | 1.                          | Producción                     |         | 11858.1                   | 1101.3         |                   |              |              | 879.5  |
|                                      |                           | 2.                          | Importación                    |         |                           |                | 3297.8            |              |              |        |
|                                      |                           | 3.                          | Variación de inventarios       |         |                           |                | -27.6             |              |              |        |
|                                      |                           | 4.                          | OFERTA TOTAL                   |         | 11858.1                   | 1101.3         | 3270.2            |              |              | 879.5  |
|                                      |                           | 5.                          | Exportación                    |         |                           |                |                   |              |              |        |
|                                      |                           | 6.                          | No aprovechada                 |         |                           |                |                   |              |              |        |
|                                      |                           | 7.                          | OFERTA INTERNA BRUTA           |         | 11858.1                   | 1101.3         | 3270.2            |              |              | 879.5  |
|                                      | Centros de transformación | 8.                          | TOTAL TRANSFORMACION           |         | -168.2                    |                | -3255.0           |              |              | -879.5 |
|                                      |                           | 8.1                         | Coquerías, Altos Hornos        |         |                           |                |                   |              |              |        |
|                                      |                           | 8.2                         | Carboneras                     |         | -168.2                    |                |                   |              |              |        |
|                                      |                           | 8.3                         | Biomasa                        |         |                           |                |                   |              |              |        |
|                                      |                           | 8.4                         | Refinerías                     |         |                           |                | -3255.0           |              |              |        |
|                                      |                           | 8.5                         | Plantas de gas                 |         |                           |                |                   |              |              |        |
|                                      |                           | 8.6                         | Centrales Elect. Serv. Públ.   |         |                           |                |                   |              |              | -879.5 |
|                                      |                           | 8.7                         | Centrales Eléct. Autop.        |         |                           |                |                   |              |              |        |
|                                      |                           | 9.                          | Consumo propio sec. energét.   |         |                           |                |                   |              |              |        |
|                                      |                           | 10.                         | Pérdidas (trans. dist. almac.) |         |                           |                |                   |              |              |        |
|                                      | 11.                       | AJUSTES                     |                                |         |                           | -15.2          |                   |              |              |        |
| CONSUMO FINAL                        | 12.                       | CONSUMO FINAL TOTAL         |                                | 11689.9 | 1101.3                    |                |                   |              |              |        |
|                                      | 12.1                      | Consumo final no energético |                                |         |                           |                |                   |              |              |        |
|                                      | 12.2                      | Consumo final energético    |                                | 11689.9 | 1101.3                    |                |                   |              |              |        |
|                                      | 12.2.1                    | Residenc. comerc. público   |                                | 10573.4 |                           |                |                   |              |              |        |
|                                      | 12.2.2                    | Transporte                  |                                |         |                           |                |                   |              |              |        |
|                                      | 12.2.3                    | Agropecuario                |                                |         |                           |                |                   |              |              |        |
|                                      | 12.2.4                    | Industrial                  |                                | 1116.5  | 1101.3                    |                |                   |              |              |        |
|                                      | 12.2.5                    | Consumo no identificado     |                                |         |                           |                |                   |              |              |        |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

<sup>a/</sup> Teracalorías o miles de toneladas equivalentes de petróleo.



ENERGETICO CONSOLIDADO

AÑO: 1983

|            |                        |                        | ENERGIA SECUNDARIA |                |             |                    |                        |                  |                      |                         |                          |       |              |                          |         |
|------------|------------------------|------------------------|--------------------|----------------|-------------|--------------------|------------------------|------------------|----------------------|-------------------------|--------------------------|-------|--------------|--------------------------|---------|
| 8          | 9                      | 10                     | 11                 | 12             | 13          | 14                 | 15                     | 16               | 17                   | 18                      | 19                       | 20    | 21           | 22                       | 23      |
| Geoenergía | Combustible fisionable | TOTAL ENERGIA PRIMARIA | Coque              | Carbón vegetal | Gas licuado | Gasolinas y naftas | Queroseno y turbocomb. | Diesel y gasóleo | Combustibles pesados | Otros comb. energéticos | Productos no energéticos | Gas   | Electricidad | TOTAL ENERGIA SECUNDARIA | TOTAL   |
|            |                        | 13838.9                |                    |                |             |                    |                        |                  |                      |                         |                          |       |              |                          | 13838.9 |
|            |                        | 3297.8                 | 3.4                |                | 81.8        | 624.6              | 416.0                  | 1657.8           |                      |                         |                          |       | 127.9        | 2911.5                   | 6209.3  |
|            |                        | -27.6                  |                    |                | 0.4         | -11.2              | 9.5                    | -34.0            | 39.4                 |                         |                          |       |              | 4.1                      | -23.5   |
|            |                        | 17109.1                | 3.4                |                | 82.2        | 613.4              | 425.5                  | 1623.8           | 39.4                 |                         |                          |       | 127.9        | 2915.6                   | 20024.7 |
|            |                        |                        |                    |                |             |                    |                        |                  | -181.7               |                         |                          |       | -1.4         | -183.1                   | -183.1  |
|            |                        | 17109.1                | 3.4                |                | 82.2        | 613.4              | 425.5                  | 1623.8           | -142.3               |                         |                          |       | 126.5        | 2732.5                   | 19841.6 |
|            |                        | -4302.7                |                    | 50.7           | 17.8        | 388.1              | 316.0                  | 977.3            | 942.9                |                         |                          | 57.8  | 881.8        | 3632.4                   | -670.3  |
|            |                        | -168.2                 |                    | 50.7           |             |                    |                        |                  |                      |                         |                          |       |              | 50.7                     | -117.5  |
|            |                        | -3255.0                |                    |                | 17.8        | 388.1              | 316.0                  | 1319.0           | 1129.6               |                         |                          | 57.8  |              | 3228.3                   | -26.7   |
|            |                        | -879.5                 |                    |                |             |                    |                        | -341.7           | -186.7               |                         |                          |       | 881.8        | 353.4                    | -526.1  |
|            |                        |                        |                    |                |             |                    |                        |                  | -113.2               |                         |                          | -57.8 | -7.0         | -178.0                   | -178.0  |
|            |                        | -15.2                  |                    |                | -0.9        | 33.9               | -20.7                  | 56.3             | 15.3                 |                         |                          |       | -176.6       | -92.7                    | -407.9  |
|            |                        | 12791.2                | 3.4                | 50.7           | 99.1        | 1035.4             | 720.8                  | 2657.4           | 702.7                |                         |                          |       | 824.7        | 6094.2                   | 8885.4  |
|            |                        | 12791.2                | 3.4                | 50.7           | 99.1        | 1035.4             | 720.8                  | 2657.4           | 702.7                |                         |                          |       | 824.7        | 6094.2                   | 8885.4  |
|            |                        | 10573.4                |                    | 50.7           | 80.0        | 68.6               | 426.7                  | 192.6            | 10.8                 |                         |                          |       | 413.5        | 1242.9                   | 1816.3  |
|            |                        |                        |                    |                | 1.0         | 899.1              | 294.1                  | 1359.3           |                      |                         |                          |       |              | 2553.5                   | 2553.5  |
|            |                        |                        |                    |                | 5.6         | 2.4                |                        | 173.6            | 9.5                  |                         |                          |       | 54.6         | 245.7                    | 265.7   |
|            |                        | 2217.8                 | 3.4                |                | 12.5        | 65.3               |                        | 931.9            | 682.4                |                         |                          |       | 356.6        | 2052.1                   | 4269.9  |

Pérdidas de transformación

|  |  |  |  |      |      |       |       |       |  |  |  |  |      |       |        |
|--|--|--|--|------|------|-------|-------|-------|--|--|--|--|------|-------|--------|
|  |  |  |  | 50.7 | 17.8 | 388.1 | 316.0 | 977.3 |  |  |  |  | 57.8 | 881.8 | 3632.4 |
|--|--|--|--|------|------|-------|-------|-------|--|--|--|--|------|-------|--------|



6. Cuadros de información sobre Nicaragua (73 a 85)



Cuadro 73

NICARAGUA: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|                             | Total         |              | Hidroenergía  |              | Geoenergía    |              | Petróleo y derivados a/ |              | Leña          |              | Residuos vegetales |              |
|-----------------------------|---------------|--------------|---------------|--------------|---------------|--------------|-------------------------|--------------|---------------|--------------|--------------------|--------------|
|                             | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías           | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes |
| 1972                        | 12 174        | 100.0        | 308           | 2.5          | -             | -            | 5 280                   | 43.4         | 5 624         | 46.2         | 962                | 7.9          |
| 1973                        | 13 106        | 100.0        | 327           | 2.5          | -             | -            | 6 002                   | 45.8         | 5 770         | 44.0         | 1 007              | 7.7          |
| 1974                        | 13 839        | 100.0        | 381           | 2.8          | -             | -            | 6 376                   | 46.1         | 6 013         | 43.4         | 1 069              | 7.7          |
| 1975                        | 14 278        | 100.0        | 387           | 2.7          | -             | -            | 6 621                   | 46.4         | 6 040         | 42.3         | 1 230              | 8.6          |
| 1976                        | 15 362        | 100.0        | 414           | 2.7          | -             | -            | 7 396                   | 48.1         | 6 111         | 39.8         | 1 441              | 9.4          |
| 1977                        | 16 561        | 100.0        | 142           | 0.9          | -             | -            | 8 907                   | 53.8         | 6 061         | 36.6         | 1 451              | 8.7          |
| 1978                        | 15 899        | 100.0        | 200           | 1.3          | -             | -            | 8 126                   | 51.1         | 6 032         | 37.9         | 1 541              | 9.7          |
| 1979                        | 13 255        | 100.0        | 395           | 3.0          | -             | -            | 5 443                   | 41.1         | 6 008         | 45.3         | 1 409              | 10.6         |
| 1980                        | 14 271        | 100.0        | 532           | 3.7          | -             | -            | 6 345                   | 44.5         | 6 125         | 42.9         | 1 269              | 8.9          |
| 1981                        | 14 956        | 100.0        | 513           | 3.4          | -             | -            | 6 719                   | 45.0         | 6 299         | 42.1         | 1 413              | 9.5          |
| 1982                        | 14 910        | 100.0        | 250           | 1.7          | -             | -            | 6 700                   | 44.9         | 6 330         | 42.5         | 1 630              | 10.9         |
| 1983                        | 15 971        | 100.0        | 262           | 1.6          | 179           | 1.1          | 6 846                   | 42.9         | 7 366         | 46.1         | 1 318              | 8.3          |
| <u>Tasas de crecimiento</u> |               |              |               |              |               |              |                         |              |               |              |                    |              |
| 1972-1983                   | 2.5           |              | 1.4           |              | -             |              | 2.4                     |              | 2.5           |              | 2.9                |              |
| 1972-1979                   | 1.2           |              | 3.6           |              | -             |              | 0.4                     |              | 0.9           |              | 5.6                |              |
| 1979-1983                   | 4.8           |              | 9.7           |              | -             |              | 3.0                     |              | 3.0           |              | 1.6                |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye coque.

## NICARAGUA: CONSUMO FINAL DE ENERGIA POR PRODUCTO

|           | Total             |                  | Subtotal          |                  | Electricidad                |                  | Comercial         |                  | Residuos vegetales |                  | Carbón de leña    |                  | No comercial<br>Leña |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-------------------|------------------|--------------------|------------------|-------------------|------------------|----------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías    | Porcen-<br>tajes |
| 1972      | 10 870            | 100.0            | 5 598             | 51.5             | 578                         | 5.3              | 4 001             | 36.8             | 905                | 8.3              | 114               | 1.0              | 5 272                | 48.5             |
| 1973      | 11 602            | 100.0            | 6 191             | 53.4             | 534                         | 4.6              | 4 558             | 39.5             | 959                | 8.3              | 116               | 0.9              | 5 411                | 46.6             |
| 1974      | 12 455            | 100.0            | 6 804             | 54.6             | 656                         | 5.3              | 5 030             | 40.4             | 1 000              | 8.0              | 118               | 0.9              | 5 651                | 45.4             |
| 1975      | 12 779            | 100.0            | 7 108             | 55.6             | 694                         | 5.4              | 5 146             | 40.3             | 1 148              | 9.0              | 120               | 0.9              | 5 671                | 44.4             |
| 1976      | 13 756            | 100.0            | 8 623             | 58.3             | 788                         | 5.7              | 5 766             | 41.9             | 1 347              | 9.8              | 122               | 0.9              | 5 733                | 41.7             |
| 1977      | 14 250            | 100.0            | 8 573             | 60.2             | 883                         | 6.2              | 6 204             | 43.5             | 1 361              | 9.6              | 125               | 0.9              | 5 677                | 39.8             |
| 1978      | 13 628            | 100.0            | 7 982             | 58.6             | 880                         | 6.5              | 5 529             | 40.6             | 1 448              | 10.6             | 125               | 0.9              | 5 646                | 41.4             |
| 1979      | 11 791            | 100.0            | 6 154             | 52.2             | 713                         | 6.5              | 3 995             | 33.9             | 1 326              | 11.2             | 120               | 1.0              | 5 637                | 47.8             |
| 1980      | 12 607            | 100.0            | 6 860             | 54.4             | 792                         | 6.3              | 4 780             | 37.9             | 1 165              | 9.2              | 123               | 1.0              | 5 747                | 45.6             |
| 1981      | 13 189            | 100.0            | 7 266             | 55.1             | 834                         | 6.3              | 4 994             | 37.9             | 1 316              | 10.0             | 122               | 0.9              | 5 923                | 44.9             |
| 1982      | 13 400            | 100.0            | 7 420             | 55.4             | 873                         | 6.5              | 4 907             | 36.6             | 1 530              | 11.4             | 110               | 0.8              | 5 980                | 44.6             |
| 1983      | 14 289            | 100.0            | 7 342             | 51.4             | 943                         | 6.6              | 5 043             | 35.3             | 1 205              | 8.4              | 151               | 1.1              | 6 947                | 48.6             |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                   |                  |                    |                  |                   |                  |                      |                  |
| 1972-1983 | 2.5               |                  | 2.5               |                  | 4.5                         |                  | 2.1               |                  | 2.6                |                  | 2.6               |                  | 2.5                  |                  |
| 1972-1979 | 1.2               |                  | 1.4               |                  | 3.1                         |                  | -0.1              |                  | 5.6                |                  | 0.7               |                  | 1.0                  |                  |
| 1979-1983 | 4.9               |                  | 4.5               |                  | 7.2                         |                  | 6.0               |                  | 2.4                |                  | 5.9               |                  | 5.4                  |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

Cuadro 75

## NICARAGUA: CONSUMO FINAL DE ENERGIA COMERCIAL POR SECTORES

|           | Total                       |              | Residencial y comercial |              | Transporte    |              | Industrial    |              | Otros <sup>a/</sup> |              |
|-----------|-----------------------------|--------------|-------------------------|--------------|---------------|--------------|---------------|--------------|---------------------|--------------|
|           | Tera-calorías               | Porcen-tajes | Tera-calorías           | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972      | 5 598                       | 100.0        | 599                     | 10.7         | 1 784         | 31.9         | 2 586         | 46.2         | 629                 | 11.2         |
| 1973      | 6 191                       | 100.0        | 536                     | 8.7          | 2 025         | 32.7         | 2 960         | 47.8         | 670                 | 10.8         |
| 1974      | 6 804                       | 100.0        | 591                     | 8.7          | 2 089         | 30.7         | 3 394         | 49.9         | 730                 | 10.7         |
| 1975      | 7 108                       | 100.0        | 627                     | 8.8          | 2 268         | 31.9         | 3 352         | 47.2         | 861                 | 12.1         |
| 1976      | 8 023                       | 100.0        | 665                     | 8.3          | 2 576         | 32.1         | 3 892         | 48.5         | 890                 | 11.1         |
| 1977      | 8 573                       | 100.0        | 714                     | 8.3          | 2 761         | 32.2         | 4 114         | 48.0         | 984                 | 11.5         |
| 1978      | 7 982                       | 100.0        | 739                     | 9.3          | 2 482         | 31.1         | 3 778         | 47.3         | 983                 | 12.3         |
| 1979      | 6 154                       | 100.0        | 623                     | 10.1         | 1 963         | 31.9         | 2 836         | 46.1         | 732                 | 11.9         |
| 1980      | 6 860                       | 100.0        | 689                     | 10.0         | 2 338         | 34.1         | 2 737         | 39.9         | 1 096               | 16.0         |
| 1981      | 7 266                       | 100.0        | 718                     | 9.9          | 2 229         | 30.7         | 3 051         | 42.0         | 1 268               | 17.5         |
| 1982      | 7 420                       | 100.0        | 734                     | 9.9          | 2 280         | 30.7         | 3 180         | 42.9         | 1 226               | 16.5         |
| 1983      | 7 342                       | 100.0        | 828                     | 11.3         | 2 150         | 29.3         | 2 990         | 40.7         | 1 374               | 18.7         |
|           | <u>Tasas de crecimiento</u> |              |                         |              |               |              |               |              |                     |              |
| 1972-1983 | 2.5                         |              | 3.0                     |              | 1.7           |              | 1.4           |              | 7.4                 |              |
| 1972-1979 | 1.4                         |              | 0.5                     |              | 1.4           |              | 1.3           |              | 2.2                 |              |
| 1979-1983 | 4.5                         |              | 7.4                     |              | 2.3           |              | 1.4           |              | 17.0                |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye sector público, consumo propio y no energéticos.

Cuadro 76

NICARAGUA: CONSUMO FINAL DE ENERGIA NO  
COMERCIAL (LEÑA) POR SECTORES

|           | Total                       | Residencial y<br>comercial | Industrial |
|-----------|-----------------------------|----------------------------|------------|
|           | <u>Teracalorías</u>         |                            |            |
| 1972      | 5 272                       | 4 779                      | 493        |
| 1973      | 5 411                       | 4 828                      | 583        |
| 1974      | 5 651                       | 4 878                      | 773        |
| 1975      | 5 671                       | 4 928                      | 743        |
| 1976      | 5 733                       | 4 978                      | 755        |
| 1977      | 5 677                       | 5 028                      | 649        |
| 1978      | 5 646                       | 5 078                      | 568        |
| 1979      | 5 637                       | 5 129                      | 508        |
| 1980      | 5 747                       | 5 179                      | 568        |
| 1981      | 5 923                       | 5 338                      | 585        |
| 1982      | 5 980                       | 5 340                      | 640        |
| 1983      | 6 947                       | 6 571                      | 376        |
|           | <u>Tasas de crecimiento</u> |                            |            |
| 1972-1983 | 2.5                         | 2.9                        | 2.4        |
| 1972-1979 | 1.0                         | 1.0                        | 0.5        |
| 1979-1983 | 5.4                         | 6.4                        | -7.2       |

Fuente: CEPAL, sobre la base de los Balances  
Energéticos Nacionales.



Cuadro 77

NICARAGUA: SECTOR RESIDENCIAL Y COMERCIAL. CONSUMO FINAL  
DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total         |              | Electricidad                |              | Gas licuado   |              | Queroseno y turbocombustible |              | Carbón de leña |              |
|-----------|---------------|--------------|-----------------------------|--------------|---------------|--------------|------------------------------|--------------|----------------|--------------|
|           | Tera-calorías | Porcen-tajes | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías                | Porcen-tajes | Tera-calorías  | Porcen-tajes |
| 1972      | 599           | 100.0        | 212                         | 35.4         | 107           | 17.8         | 186                          | 31.1         | 94             | 15.7         |
| 1973      | 536           | 100.0        | 174                         | 32.5         | 81            | 15.2         | 186                          | 34.7         | 95             | 17.6         |
| 1974      | 591           | 100.0        | 224                         | 37.8         | 105           | 17.8         | 168                          | 28.4         | 94             | 16.0         |
| 1975      | 627           | 100.0        | 251                         | 39.9         | 109           | 17.4         | 172                          | 27.5         | 95             | 15.2         |
| 1976      | 665           | 100.0        | 283                         | 42.6         | 123           | 18.5         | 163                          | 24.5         | 96             | 14.4         |
| 1977      | 714           | 100.0        | 318                         | 44.5         | 136           | 19.1         | 163                          | 22.9         | 97             | 13.5         |
| 1978      | 739           | 100.0        | 331                         | 44.8         | 141           | 19.1         | 170                          | 22.9         | 97             | 13.2         |
| 1979      | 623           | 100.0        | 279                         | 44.7         | 112           | 18.1         | 134                          | 21.5         | 98             | 15.7         |
| 1980      | 689           | 100.0        | 325                         | 47.1         | 137           | 20.0         | 128                          | 18.6         | 99             | 14.3         |
| 1981      | 718           | 100.0        | 332                         | 46.3         | 156           | 21.7         | 134                          | 18.6         | 96             | 13.4         |
| 1982      | 734           | 100.0        | 341                         | 46.5         | 150           | 20.4         | 143                          | 19.5         | 100            | 13.6         |
| 1983      | 828           | 100.0        | 372                         | 44.9         | 154           | 18.6         | 166                          | 20.1         | 136            | 16.4         |
|           |               |              | <u>Tasas de crecimiento</u> |              |               |              |                              |              |                |              |
| 1972-1983 | 3.0           |              | 5.2                         |              | 3.4           |              | -1.0                         |              | 3.4            |              |
| 1972-1979 | 0.5           |              | 4.0                         |              | 0.6           |              | -4.6                         |              | 0.6            |              |
| 1979-1983 | 7.4           |              | 7.5                         |              | 8.4           |              | 5.5                          |              | 8.5            |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 78

## NICARAGUA: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total                       |              | Gasolina      |              | Queroseno y turbocombustible |              | Diesel        |              |
|-----------|-----------------------------|--------------|---------------|--------------|------------------------------|--------------|---------------|--------------|
|           | Tera-calorías               | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías                | Porcen-tajes | Tera-calorías | Porcen-tajes |
| 1972      | 1 784                       | 100.0        | 1 061         | 59.5         | 168                          | 9.4          | 555           | 31.1         |
| 1973      | 2 025                       | 100.0        | 1 243         | 61.4         | 156                          | 7.7          | 626           | 30.9         |
| 1974      | 2 089                       | 100.0        | 1 250         | 59.8         | 144                          | 6.9          | 695           | 33.3         |
| 1975      | 2 268                       | 100.0        | 1 362         | 60.0         | 199                          | 8.8          | 707           | 31.2         |
| 1976      | 2 576                       | 100.0        | 1 526         | 59.2         | 275                          | 10.7         | 775           | 30.1         |
| 1977      | 2 761                       | 100.0        | 1 612         | 58.4         | 236                          | 8.5          | 913           | 33.1         |
| 1978      | 2 482                       | 100.0        | 1 482         | 59.7         | 187                          | 7.5          | 813           | 32.8         |
| 1979      | 1 963                       | 100.0        | 1 136         | 57.9         | 135                          | 6.9          | 692           | 35.2         |
| 1980      | 2 338                       | 100.0        | 1 206         | 51.6         | 183                          | 7.8          | 949           | 40.6         |
| 1981      | 2 229                       | 100.0        | 1 082         | 48.5         | 160                          | 7.2          | 987           | 44.3         |
| 1982      | 2 280                       | 100.0        | 1 030         | 45.2         | 210                          | 9.2          | 1 040         | 45.6         |
| 1983      | 2 150                       | 100.0        | 938           | 43.6         | 159                          | 7.4          | 1 053         | 49.0         |
|           | <u>Tasas de crecimiento</u> |              |               |              |                              |              |               |              |
| 1972-1983 | 1.7                         |              | 1.1           |              | -0.5                         |              | 6.0           |              |
| 1972-1979 | 1.4                         |              | 1.0           |              | -3.1                         |              | 3.2           |              |
| 1979-1983 | 2.3                         |              | -4.7          |              | 4.2                          |              | 11.1          |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 79

## NICARAGUA: SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | Total             |                  | Electricidad      |                  | Diesel                      |                  | Combustible       |                  | Residuos vegetales |                  | Otros <sup>a/</sup> |                  |
|-----------|-------------------|------------------|-------------------|------------------|-----------------------------|------------------|-------------------|------------------|--------------------|------------------|---------------------|------------------|
|           | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías           | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías   | Porcen-<br>tajes |
| 1972      | 2 586             | 100.0            | 311               | 12.1             | 671                         | 25.9             | 486               | 18.8             | 905                | 35.0             | 213                 | 8.2              |
| 1973      | 2 960             | 100.0            | 321               | 10.8             | 745                         | 25.2             | 714               | 24.1             | 959                | 32.4             | 221                 | 7.5              |
| 1974      | 3 394             | 100.0            | 383               | 11.3             | 985                         | 29.0             | 790               | 23.3             | 1 000              | 24.5             | 236                 | 6.9              |
| 1975      | 3 352             | 100.0            | 385               | 11.5             | 917                         | 27.4             | 671               | 20.0             | 1 148              | 34.2             | 231                 | 6.9              |
| 1976      | 3 892             | 100.0            | 435               | 11.2             | 1 036                       | 26.6             | 812               | 20.9             | 1 347              | 34.6             | 262                 | 6.7              |
| 1977      | 4 114             | 100.0            | 468               | 11.4             | 1 182                       | 28.7             | 832               | 20.2             | 1 361              | 33.1             | 271                 | 6.6              |
| 1978      | 3 778             | 100.0            | 449               | 11.9             | 1 059                       | 28.0             | 592               | 15.7             | 1 448              | 38.3             | 230                 | 6.1              |
| 1979      | 2 836             | 100.0            | 358               | 12.6             | 599                         | 21.1             | 413               | 14.6             | 1 326              | 46.8             | 140                 | 4.9              |
| 1980      | 2 737             | 100.0            | 373               | 13.6             | 471                         | 17.2             | 596               | 21.8             | 1 165              | 42.6             | 132                 | 4.8              |
| 1981      | 3 051             | 100.0            | 386               | 12.7             | 581                         | 19.0             | 602               | 19.7             | 1 316              | 43.2             | 166                 | 5.4              |
| 1982      | 3 180             | 100.0            | 390               | 12.3             | 560                         | 17.6             | 570               | 17.9             | 1 530              | 48.1             | 130                 | 4.1              |
| 1983      | 2 990             | 100.0            | 435               | 14.5             | 456                         | 15.3             | 751               | 25.1             | 1 205              | 40.3             | 143                 | 4.8              |
|           |                   |                  |                   |                  | <u>Tasas de crecimiento</u> |                  |                   |                  |                    |                  |                     |                  |
| 1972-1983 | 1.4               |                  | 3.1               |                  | -3.5                        |                  | 4.1               |                  | 2.7                |                  | -3.5                |                  |
| 1972-1979 | 1.3               |                  | 2.0               |                  | -1.6                        |                  | -2.4              |                  | 5.6                |                  | -5.8                |                  |
| 1979-1983 | 1.4               |                  | 5.0               |                  | -6.6                        |                  | 16.1              |                  | 2.4                |                  | 0.5                 |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> Comprende gas licuado, gasolina, queroseno, turbocombustible, carbón mineral y coque y carbón de leña.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in financial operations. This section also highlights the role of internal controls in preventing fraud and errors.

2. The second part of the document focuses on the implementation of robust risk management strategies. It outlines various risk assessment techniques and provides guidance on how to identify, measure, and mitigate potential risks. The text stresses the need for a proactive approach to risk management to protect the organization's assets and reputation.

3. The third part of the document addresses the importance of effective communication and reporting. It discusses the need for clear and concise communication channels and the role of regular reporting in keeping stakeholders informed. This section also touches upon the importance of data security and the need for strong cybersecurity measures to protect sensitive information.

4. The fourth part of the document discusses the importance of continuous improvement and monitoring. It emphasizes that organizations should regularly review their processes and procedures to identify areas for improvement. This section also highlights the role of key performance indicators (KPIs) in measuring organizational success and the need for a culture of continuous learning and development.

5. The fifth and final part of the document provides a summary of the key points discussed and offers concluding remarks. It reiterates the importance of the discussed topics and encourages organizations to take proactive steps to implement the recommended practices. The text concludes by expressing confidence in the organization's ability to achieve its goals through the implementation of these strategies.

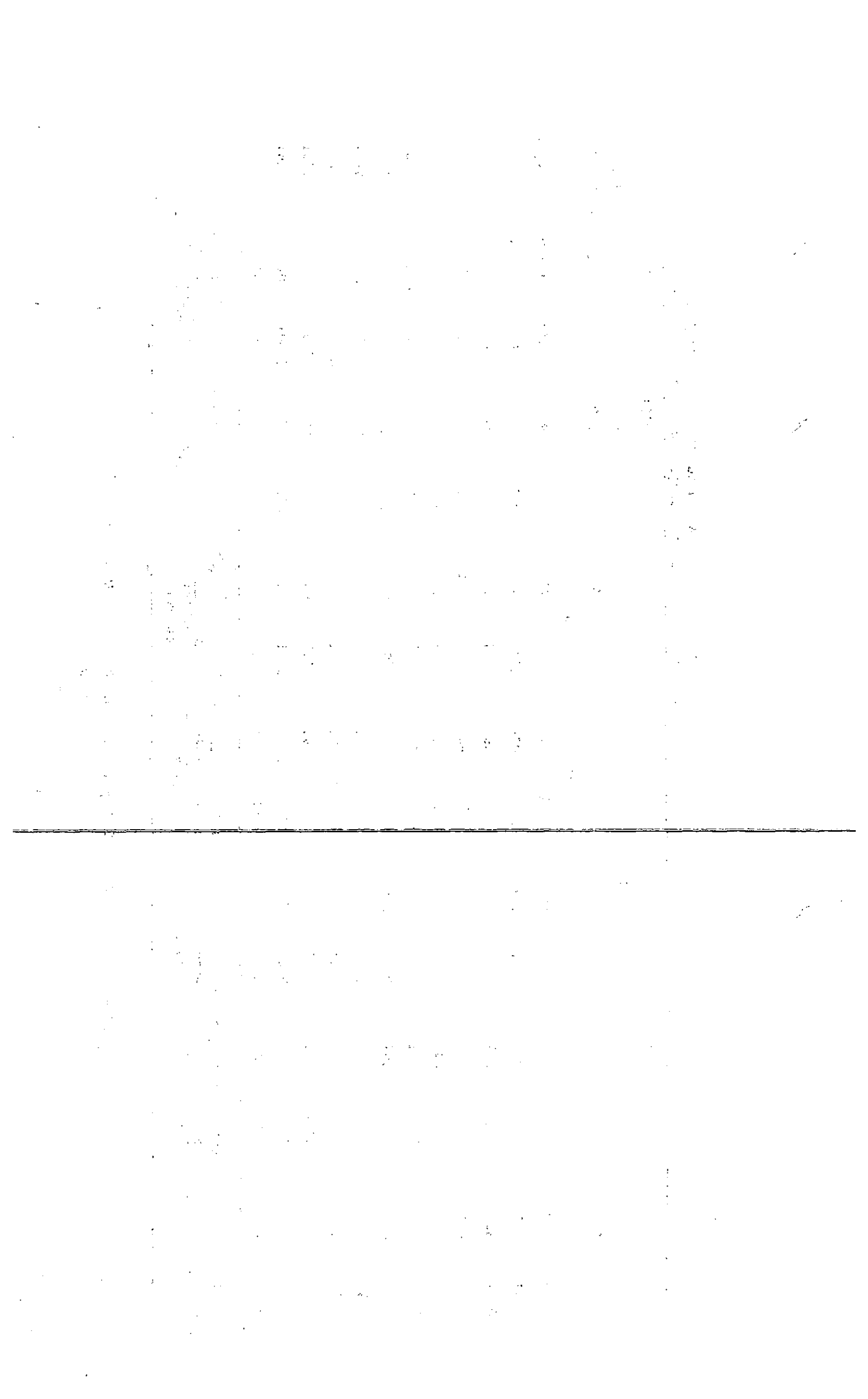
Cuadro 80

NICARAGUA: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO<sup>a/</sup>

|           | Total         |             | Electricidad  |             | Gas de refinera             |             | Gasolina      |             | Diesel        |             | Combustible   |             | Otros         |             |
|-----------|---------------|-------------|---------------|-------------|-----------------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
|           | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías               | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes | Tera-calorías | Porcentajes |
| 1972      | 629           | 100.0       | 55            | 8.7         | 95                          | 15.1        | 146           | 23.2        | 55            | 8.7         | 180           | 28.6        | 98            | 15.6        |
| 1973      | 670           | 100.0       | 39            | 5.8         | 94                          | 14.0        | 164           | 24.5        | 51            | 7.6         | 221           | 33.0        | 101           | 15.1        |
| 1974      | 730           | 100.0       | 49            | 6.7         | 86                          | 11.8        | 163           | 22.3        | 76            | 10.4        | 209           | 28.6        | 145           | 19.9        |
| 1975      | 861           | 100.0       | 58            | 6.7         | 109                         | 12.7        | 165           | 19.2        | 97            | 11.3        | 195           | 22.6        | 237           | 27.5        |
| 1976      | 890           | 100.0       | 70            | 7.9         | 144                         | 16.2        | 177           | 19.9        | 102           | 11.5        | 166           | 18.7        | 231           | 26.0        |
| 1977      | 984           | 100.0       | 97            | 9.9         | 180                         | 18.3        | 207           | 21.0        | 122           | 12.4        | 159           | 16.2        | 220           | 22.4        |
| 1978      | 983           | 100.0       | 100           | 10.2        | 176                         | 17.9        | 221           | 22.5        | 203           | 20.7        | 111           | 11.3        | 172           | 17.5        |
| 1979      | 732           | 100.0       | 76            | 10.4        | 103                         | 14.1        | 212           | 29.0        | 131           | 17.9        | 107           | 14.6        | 103           | 14.1        |
| 1980      | 1 096         | 100.0       | 94            | 8.6         | 156                         | 14.2        | 238           | 21.7        | 330           | 30.1        | 118           | 10.8        | 160           | 14.6        |
| 1981      | 1 268         | 100.0       | 116           | 9.1         | 179                         | 14.1        | 230           | 18.1        | 446           | 35.2        | 119           | 9.4         | 178           | 14.0        |
| 1982      | 1 226         | 100.0       | 142           | 11.6        | 150                         | 12.2        | 220           | 17.9        | 430           | 35.1        | 100           | 8.2         | 184           | 15.0        |
| 1983      | 1 374         | 100.0       | 136           | 9.9         | 117                         | 8.5         | 235           | 17.1        | 541           | 39.4        | 133           | 9.7         | 212           | 15.4        |
|           |               |             |               |             | <u>Tasas de crecimiento</u> |             |               |             |               |             |               |             |               |             |
| 1972-1983 | 7.3           |             | 8.7           |             | 1.9                         |             | 4.4           |             | 23.0          |             | -2.7          |             | 7.3           |             |
| 1972-1979 | 2.2           |             | 4.7           |             | 1.2                         |             | 5.5           |             | 13.2          |             | -7.1          |             | 0.7           |             |
| 1979-1983 | 17.1          |             | 15.6          |             | 3.2                         |             | 2.6           |             | 43.0          |             | -5.6          |             | 19.8          |             |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Comprende sector público, consumo propio y no energéticos.



Cuadro 81

NICARAGUA: PRODUCCION DE ENERGIA POR PRODUCTO FINAL

|           | Total                       | Hidro-<br>carburos <sup>a/b/</sup> | Electricidad | Residuos<br>vegetales | Carbón de<br>leña | Leña  |
|-----------|-----------------------------|------------------------------------|--------------|-----------------------|-------------------|-------|
|           | <u>Teracalorías</u>         |                                    |              |                       |                   |       |
| 1972      | 10 493                      | 3 554                              | 648          | 905                   | 114               | 5 272 |
| 1973      | 11 628                      | 4 528                              | 614          | 959                   | 116               | 5 411 |
| 1974      | 11 939                      | 4 420                              | 750          | 1 000                 | 118               | 5 651 |
| 1975      | 12 203                      | 4 462                              | 802          | 1 148                 | 120               | 5 671 |
| 1976      | 13 010                      | 4 899                              | 909          | 1 347                 | 122               | 5 733 |
| 1977      | 12 542                      | 4 364                              | 1 015        | 1 361                 | 125               | 5 677 |
| 1978      | 11 512                      | 3 278                              | 1 015        | 1 448                 | 125               | 5 646 |
| 1979      | 10 966                      | 2 948                              | 931          | 1 327                 | 123               | 5 637 |
| 1980      | 11 908                      | 3 942                              | 931          | 1 165                 | 123               | 5 747 |
| 1981      | 12 957                      | 4 645                              | 951          | 1 316                 | 122               | 5 923 |
| 1982      | 12 650                      | 4 060                              | 910          | 1 590                 | 110               | 5 980 |
| 1983      | 12 823                      | 3 712                              | 808          | 1 205                 | 151               | 6 947 |
|           | <u>Tasas de crecimiento</u> |                                    |              |                       |                   |       |
| 1972-1983 | 1.6                         | 0.4                                | 2.0          | 2.6                   | 2.6               | 2.5   |
| 1972-1979 | 0.6                         | -2.6                               | 5.3          | 1.2                   | 0.7               | 1.0   |
| 1979-1983 | 4.0                         | 5.9                                | -3.6         | 2.4                   | -5.9              | 5.4   |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye energéticos utilizados en centrales eléctricas.

b/ Incluye carbón mineral y coque.

Cuadro 82

NICARAGUA: IMPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo | Electricidad |
|-----------|-----------------------------|----------|---------------------------|--------------|
|           | <u>Teracalorías</u>         |          |                           |              |
| 1972      | 5 491                       | 5 015    | 476                       | -            |
| 1973      | 6 573                       | 5 918    | 655                       | -            |
| 1974      | 6 235                       | 5 672    | 563                       | -            |
| 1975      | 7 110                       | 6 462    | 648                       | -            |
| 1976      | 7 756                       | 6 907    | 840                       | 9            |
| 1977      | 9 244                       | 7 282    | 1 946                     | 16           |
| 1978      | 8 531                       | 6 195    | 2 330                     | 6            |
| 1979      | 5 669                       | 4 603    | 1 053                     | 13           |
| 1980      | 6 582                       | 5 657    | 917                       | 8            |
| 1981      | 6 851                       | 6 335    | 501                       | 15           |
| 1982      | 6 440                       | 5 790    | 550                       | 100          |
| 1983      | 7 298                       | 5 308    | 1 700                     | 290          |
|           | <u>Tasas de crecimiento</u> |          |                           |              |
| 1972-1983 | 2.6                         | 0.5      | 12.5                      | -            |
| 1972-1979 | 0.4                         | -1.2     | 12.0                      | -            |
| 1979-1983 | 6.6                         | 3.6      | 12.7                      | 110.0        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 83

NICARAGUA: EXPORTACION DE ENERGIA POR PRODUCTO

|           | Total | Petróleo                    | Derivados del<br>petróleo | Electricidad |
|-----------|-------|-----------------------------|---------------------------|--------------|
|           |       | <u>Teracalorías</u>         |                           |              |
| 1972      | 302   | -                           | 302                       | -            |
| 1973      | 278   | -                           | 278                       | -            |
| 1974      | 204   | -                           | 204                       | -            |
| 1975      | 235   | -                           | 235                       | -            |
| 1976      | 290   | -                           | 287                       | 3            |
| 1977      | 248   | -                           | 239                       | 9            |
| 1978      | 178   | -                           | 171                       | 7            |
| 1979      | 202   | -                           | 189                       | 13           |
| 1980      | 251   | -                           | 235                       | 16           |
| 1981      | 177   | -                           | 168                       | 9            |
| 1982      | 10    | -                           | -                         | 10           |
| 1983      | 15    | -                           | 8                         | 7            |
|           |       | <u>Tasas de crecimiento</u> |                           |              |
| 1972-1983 | -24.0 | -                           | -20.0                     | -            |
| 1972-1979 | -5.6  | -                           | -6.5                      | -            |
| 1979-1983 | -36.0 | -                           | -53.0                     | -14.3        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.



Cuadro 84

NICARAGUA: BALANCE ENERGETICO

(Teracalorías)

|      | Producción<br>(1) | Importación <sup>a/</sup><br>(2) | Exportación<br>(3) | Consumo<br>(1+2-3+5+6)<br>(4) | Variación de<br>existencias<br>(5) | Cierre<br>(6) |
|------|-------------------|----------------------------------|--------------------|-------------------------------|------------------------------------|---------------|
| 1972 | 10 493            | 476                              | 302                | 10 870                        | 91                                 | 112           |
| 1973 | 11 628            | 655                              | 278                | 11 602                        | -295                               | -108          |
| 1974 | 11 939            | 563                              | 204                | 12 455                        | 334                                | -177          |
| 1975 | 12 203            | 648                              | 235                | 12 779                        | -254                               | 417           |
| 1976 | 13 010            | 849                              | 290                | 13 756                        | -63                                | 250           |
| 1977 | 12 542            | 1 962                            | 248                | 14 250                        | -82                                | 76            |
| 1978 | 11 512            | 2 336                            | 178                | 13 628                        | -229                               | 187           |
| 1979 | 10 966            | 1 066                            | 202                | 11 791                        | 6                                  | -45           |
| 1980 | 11 908            | 925                              | 251                | 12 607                        | 61                                 | -36           |
| 1981 | 12 957            | 516                              | 177                | 13 189                        | 83                                 | 190           |
| 1982 | 12 650            | 650                              | 10                 | 13 400                        | 380                                | -270          |
| 1983 | 12 823            | 1 990                            | 15                 | 14 289                        | -227                               | -282          |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye petróleo crudo.

|                                      |                           |                                | BALANCE                  |       |                           |                |                   |              |              |      |
|--------------------------------------|---------------------------|--------------------------------|--------------------------|-------|---------------------------|----------------|-------------------|--------------|--------------|------|
| UNIDADES: <sup>a/</sup> Teracalorías |                           |                                | ENERGIA PRIMARIA         |       |                           |                |                   |              |              |      |
| REPUBLICA DE: NICARAGUA              |                           |                                | 1                        | 2     | 3                         | 4              | 5                 | 6            | 7            |      |
| ELABORADO POR: CEPAL                 |                           |                                | Carbón mineral           | Leña  | Otros comb. veg. y animal | Petróleo crudo | Gas natural libre | Gas asociado | Hidroenergía |      |
| LUGAR: MEXICO                        |                           |                                |                          |       |                           |                |                   |              |              |      |
| SECTOR ENERGETICO                    | OFERTA                    | 1.                             | Producción               |       | 7 366                     | 1 360          |                   |              |              | 292  |
|                                      |                           | 2.                             | Importación              |       |                           |                | 5 308             |              |              |      |
|                                      |                           | 3.                             | Variación de inventarios |       |                           |                | 47                |              |              | -1   |
|                                      |                           | 4.                             | OFERTA TOTAL             |       | 7 366                     | 1 360          | 5 355             |              |              | 291  |
|                                      |                           | 5.                             | Exportación              |       |                           |                |                   |              |              |      |
|                                      |                           | 6.                             | No aprovechada           |       |                           | -42            |                   |              |              | -29  |
|                                      |                           | 7.                             | OFERTA INTERNA BRUTA     |       | 7 366                     | 1 318          | 5 355             |              |              | 262  |
|                                      | Centros de transformación | 8.                             | TOTAL TRANSFORMACION     |       | -419                      | -113           | -5 428            |              |              | -262 |
|                                      |                           | 8.1                            | Coquerías, Altos Hornos  |       |                           |                |                   |              |              |      |
|                                      |                           | 8.2                            | Carboneras               |       | -419                      |                |                   |              |              |      |
| 8.3                                  |                           | Biomasa                        |                          |       |                           |                |                   |              |              |      |
| 8.4                                  |                           | Refinerías                     |                          |       |                           | -5 428         |                   |              |              |      |
| 8.5                                  |                           | Plantas de gas                 |                          |       |                           |                |                   |              |              |      |
| 8.6                                  |                           | Centrales Elect. Serv. Públ.   |                          |       |                           |                |                   |              | -248         |      |
| 8.7                                  |                           | Centrales Eléct. Autop.        |                          |       | -113                      |                |                   |              | -24          |      |
|                                      | 9.                        | Consumo propio sec. energét.   |                          |       |                           |                |                   |              |              |      |
|                                      | 10.                       | Pérdidas (trans. dist. almac.) |                          |       |                           |                |                   |              |              |      |
|                                      | 11.                       | AJUSTES                        |                          |       |                           | 73             |                   |              |              |      |
| CONSUMO FINAL                        | 12.                       | CONSUMO FINAL TOTAL            |                          | 6 947 | 1 205                     |                |                   |              |              |      |
|                                      | 12.1                      | Consumo final no energético    |                          |       |                           |                |                   |              |              |      |
|                                      | 12.2                      | Consumo final energético       |                          | 6 947 | 1 205                     |                |                   |              |              |      |
|                                      | 12.2.1                    | Residenc. comerc. público      |                          | 6 571 |                           |                |                   |              |              |      |
|                                      | 12.2.2                    | Transporte                     |                          |       |                           |                |                   |              |              |      |
|                                      | 12.2.3                    | Agropecuario                   |                          |       |                           |                |                   |              |              |      |
|                                      | 12.2.4                    | Industrial                     |                          | 376   | 1 205                     |                |                   |              |              |      |
|                                      | 12.2.5                    | Consumo no identificado        |                          |       |                           |                |                   |              |              |      |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

<sup>a/</sup> Teracalorías o miles de toneladas equivalentes de petróleo.

ENERGETICO CONSOLIDADO

AÑO: 1983

|            |                        |                        | ENERGIA SECUNDARIA |                |             |                    |                        |                  |                      |                         |                          |     |              |                          |        |
|------------|------------------------|------------------------|--------------------|----------------|-------------|--------------------|------------------------|------------------|----------------------|-------------------------|--------------------------|-----|--------------|--------------------------|--------|
| 8          | 9                      | 10                     | 11                 | 12             | 13          | 14                 | 15                     | 16               | 17                   | 18                      | 19                       | 20  | 21           | 22                       | 23     |
| Geoenergía | Combustible fisionable | TOTAL ENERGIA PRIMARIA | Coque              | Carbón vegetal | Gas licuado | Casolinas y naftas | Queroseno y turbocomb. | Diesel y gasóleo | Combustibles pesados | Otros comb. energéticos | Productos no energéticos | Gas | Electricidad | TOTAL ENERGIA SECUNDARIA | TOTAL  |
| 731        |                        | 9 749                  |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | 9 749  |
|            |                        | 5 308                  |                    |                | 49          | 409                | 21                     | 797              | 307                  |                         | 117                      |     | 290          | 1 990                    | 7 298  |
|            |                        | 46                     |                    |                | 2           | 47                 | 6                      | 131              | 90                   |                         | 4                        |     |              | 274                      | -228   |
| 731        |                        | 15 103                 |                    |                | 45          | 362                | 15                     | 666              | 217                  |                         | 121                      |     | 290          | 1 716                    | 16 829 |
|            |                        |                        |                    |                |             |                    |                        |                  |                      |                         | 8                        |     | 7            | 15                       | 15     |
| -552       |                        | -623                   |                    |                |             |                    |                        |                  |                      |                         |                          |     |              |                          | -623   |
| 179        |                        | 14 480                 |                    |                | 45          | 362                | 15                     | 666              | 217                  |                         | 113                      |     | 283          | 1 701                    | 16 189 |
| -179       |                        | -6 401                 |                    | 151            | 157         | 899                | 349                    | 1 489            | 666                  | 117                     | 35                       |     | 898          | 4 671                    | -1 730 |
|            |                        | -119                   |                    | 151            |             |                    |                        |                  |                      |                         |                          |     |              | 151                      | -268   |
|            |                        | -5 428                 |                    |                | 157         | 899                | 349                    | 1 607            | 2 206                | 117                     | 35                       |     |              | 5 370                    | -58    |
| -179       |                        | -427                   |                    |                |             |                    |                        | 32               | 1 512                |                         |                          |     | 733          | 811                      | -1 238 |
|            |                        | -127                   |                    |                |             |                    |                        | 86               | 28                   |                         |                          |     | 75           | 39                       | -166   |
|            |                        |                        |                    |                | 19          |                    |                        | 7                | 122                  | 117                     |                          |     | 34           | 299                      | 299    |
|            |                        |                        |                    |                |             |                    |                        |                  |                      |                         |                          |     | 148          | 148                      | 148    |
|            |                        | 73                     |                    |                | 2           | 4                  | 2                      | 105              | 1                    |                         | 18                       |     |              | 87                       | 14     |
|            |                        | 8 152                  |                    | 151            | 185         | 1 260              | 362                    | 2 043            | 762                  |                         | 166                      |     | 909          | 5 838                    | 13 990 |
|            |                        |                        |                    |                |             |                    |                        |                  |                      |                         | 166                      |     |              | 166                      | 166    |
|            |                        | 8 152                  |                    | 151            | 185         | 1 260              | 362                    | 2 043            | 762                  |                         |                          |     | 909          | 5 672                    | 13 824 |
|            |                        | 6 571                  |                    | 136            | 155         | 235                | 192                    |                  |                      |                         |                          |     | 474          | 1 737                    | 8 308  |
|            |                        |                        |                    |                |             | 938                | 159                    | 1 053            |                      |                         |                          |     |              | 2 150                    | 2 150  |
|            |                        |                        |                    | 10             | 2           | 59                 | 1                      | 285              | 66                   |                         |                          |     | 135          | 558                      | 558    |
|            |                        | 1 581                  |                    | 5              | 28          | 28                 | 10                     | 171              | 685                  |                         |                          |     | 300          | 1 227                    | 2 808  |
|            |                        |                        |                    |                |             |                    |                        | 534              | 11                   |                         |                          |     |              | 545                      | 545    |

Pérdidas de transformación

|  |  |  |  |     |     |     |     |       |       |     |    |  |  |       |  |
|--|--|--|--|-----|-----|-----|-----|-------|-------|-----|----|--|--|-------|--|
|  |  |  |  | 419 | 157 | 899 | 349 | 1 607 | 2 206 | 117 | 35 |  |  | 5 789 |  |
|--|--|--|--|-----|-----|-----|-----|-------|-------|-----|----|--|--|-------|--|



7. Cuadros de información sobre Panamá (86 a 98)





Cuadro 86

PANAMA: OFERTA INTERNA BRUTA DE ENERGIA POR FUENTES

|                             | Total         |              | Hidroenergía  |              | Geoenergía    |              | Petróleo y derivados a/ |              | Leña          |              | Residuos vegetales |              |
|-----------------------------|---------------|--------------|---------------|--------------|---------------|--------------|-------------------------|--------------|---------------|--------------|--------------------|--------------|
|                             | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías           | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías      | Porcen-tajes |
| 1972                        | 16 575        | 100.0        | 88            | 0.5          | -             | -            | 13 238                  | 79.9         | 2 859         | 17.2         | 390                | 2.4          |
| 1973                        | 18 752        | 100.0        | 134           | 0.7          | -             | -            | 15 352                  | 81.9         | 2 875         | 15.3         | 391                | 2.1          |
| 1974                        | 17 874        | 100.0        | 118           | 0.6          | -             | -            | 14 260                  | 79.8         | 2 890         | 16.2         | 606                | 3.4          |
| 1975                        | 15 089        | 100.0        | 109           | 0.7          | -             | -            | 11 360                  | 75.3         | 2 905         | 19.3         | 715                | 4.7          |
| 1976                        | 15 608        | 100.0        | 133           | 0.9          | -             | -            | 11 656                  | 74.7         | 2 920         | 18.7         | 899                | 5.7          |
| 1977                        | 15 254        | 100.0        | 337           | 2.2          | -             | -            | 10 961                  | 71.9         | 2 936         | 19.2         | 1 020              | 6.7          |
| 1978                        | 14 916        | 100.0        | 679           | 4.5          | -             | -            | 10 168                  | 68.2         | 2 952         | 19.8         | 1 117              | 7.5          |
| 1979                        | 15 810        | 100.0        | 800           | 5.1          | -             | -            | 10 851                  | 68.6         | 2 976         | 18.8         | 1 183              | 7.5          |
| 1980                        | 15 197        | 100.0        | 1 014         | 6.7          | -             | -            | 10 022                  | 66.0         | 2 999         | 19.7         | 1 162              | 7.6          |
| 1981                        | 14 364        | 100.0        | 1 432         | 10.0         | -             | -            | 8 613                   | 60.0         | 3 209         | 22.3         | 1 110              | 7.7          |
| 1982                        | 15 434        | 100.0        | 1 178         | 7.6          | -             | -            | 10 023                  | 64.9         | 2 686         | 17.5         | 1 547              | 10.0         |
| 1983                        | 17 773        | 100.0        | 1 119         | 6.3          | -             | -            | 12 180                  | 68.5         | 3 205         | 18.0         | 1 269              | 7.2          |
| <u>Tasas de crecimiento</u> |               |              |               |              |               |              |                         |              |               |              |                    |              |
| 1972-1983                   | 0.7           |              | 26.0          |              | -             |              | -0.7                    |              | 1.0           |              | 11.3               |              |
| 1972-1979                   | -1.0          |              | 37.1          |              | -             |              | -18.0                   |              | 0.6           |              | 17.2               |              |
| 1979-1983                   | 3.0           |              | 8.7           |              | -             |              | 5.0                     |              | 0.7           |              | 1.8                |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

## PANAMA: CONSUMO FINAL DE ENERGIA POR PRODUCTO

|           | Total             |                  | Comercial         |                  |                   |                             |                   |                  |                    |                  |                   |                  | No comercial      |                  |  |
|-----------|-------------------|------------------|-------------------|------------------|-------------------|-----------------------------|-------------------|------------------|--------------------|------------------|-------------------|------------------|-------------------|------------------|--|
|           | Tera-<br>calorías | Porcen-<br>tajes | Subtotal          |                  | Electricidad      |                             | Hidrocarburos a/  |                  | Residuos vegetales |                  | Carbón de leña    |                  | Leña              |                  |  |
|           |                   |                  | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes            | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes |  |
| 1972      | 9 991             | 100.0            | 7 158             | 71.6             | 855               | 8.6                         | 5 919             | 59.2             | 377                | 3.8              | 8                 | 0.1              | 2 833             | 28.4             |  |
| 1973      | 10 573            | 100.0            | 7 722             | 73.0             | 991               | 8.9                         | 6 396             | 60.5             | 378                | 3.6              | 7                 | 0.1              | 2 851             | 27.0             |  |
| 1974      | 11 214            | 100.0            | 8 346             | 74.4             | 1 000             | 8.9                         | 6 780             | 60.5             | 559                | 5.0              | 7                 | 0.1              | 2 868             | 25.6             |  |
| 1975      | 12 712            | 100.0            | 9 829             | 77.3             | 1 063             | 8.4                         | 7 113             | 56.0             | 659                | 5.2              | 7                 | 0.1              | 2 883             | 22.7             |  |
| 1976      | 12 754            | 100.0            | 9 854             | 77.3             | 1 106             | 8.7                         | 7 902             | 62.0             | 840                | 6.6              | 6                 | -                | 2 900             | 22.7             |  |
| 1977      | 12 966            | 100.0            | 10 049            | 77.5             | 1 148             | 8.9                         | 7 949             | 61.3             | 946                | 7.3              | 6                 | -                | 2 917             | 22.5             |  |
| 1978      | 13 730            | 100.0            | 10 796            | 78.6             | 1 207             | 8.8                         | 8 551             | 62.3             | 1 033              | 7.5              | 5                 | -                | 2 934             | 21.4             |  |
| 1979      | 14 229            | 100.0            | 11 270            | 79.2             | 1 336             | 9.4                         | 8 854             | 62.2             | 1 075              | 7.6              | 5                 | -                | 2 959             | 20.8             |  |
| 1980      | 13 663            | 100.0            | 10 679            | 78.2             | 1 444             | 10.6                        | 8 194             | 60.1             | 1 037              | 7.6              | 4                 | -                | 2 984             | 21.8             |  |
| 1981      | 12 623            | 100.0            | 9 931             | 78.7             | 1 477             | 11.7                        | 7 662             | 60.7             | 788                | 6.2              | 4                 | -                | 2 692             | 21.3             |  |
| 1982      | 12 664            | 100.0            | 9 991             | 78.9             | 1 615             | 12.7                        | 7 642             | 60.3             | 730                | 5.8              | 4                 | -                | 2 673             | 21.1             |  |
| 1983      | 13 322            | 100.0            | 10 131            | 76.1             | 1 781             | 13.4                        | 7 505             | 56.4             | 841                | 6.3              | 4                 | -                | 3 191             | 23.9             |  |
|           |                   |                  |                   |                  |                   | <u>Tasas de crecimiento</u> |                   |                  |                    |                  |                   |                  |                   |                  |  |
| 1972-1983 | 2.7               |                  | 3.2               |                  | 6.9               |                             | 2.2               |                  | 7.6                |                  | -6.1              |                  | 1.1               |                  |  |
| 1972-1979 | 5.2               |                  | 6.7               |                  | 6.6               |                             | 5.9               |                  | 8.7                |                  | -6.5              |                  | 0.6               |                  |  |
| 1979-1983 | -1.6              |                  | -2.6              |                  | 7.5               |                             | -3.9              |                  | -6.0               |                  | -5.4              |                  | 1.9               |                  |  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ A partir de 1975 incluye el consumo de turbocombustible a bordo de aviones de tránsito internacional.

Cuadro 88

## PANAMA: CONSUMO FINAL DE ENERGIA COMERCIAL POR SECTORES

|      | Total         |              | Residencial y comercial |              | Transporte <sup>a/</sup> |              | Industrial    |              | Otros <sup>b/</sup> |              |
|------|---------------|--------------|-------------------------|--------------|--------------------------|--------------|---------------|--------------|---------------------|--------------|
|      | Tera-calorías | Porcen-tajes | Tera-calorías           | Porcen-tajes | Tera-calorías            | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972 | 7 158         | 100.0        | 985                     | 13.8         | 2 811                    | 39.3         | 1 526         | 21.3         | 1 836               | 25.6         |
| 1973 | 7 722         | 100.0        | 999                     | 12.9         | 3 064                    | 39.7         | 1 848         | 23.9         | 1 811               | 23.5         |
| 1974 | 8 346         | 100.0        | 1 024                   | 12.3         | 3 375                    | 40.4         | 2 106         | 25.2         | 1 841               | 22.1         |
| 1975 | 9 829         | 100.0        | 1 067                   | 10.9         | 4 522                    | 46.0         | 2 155         | 21.9         | 2 085               | 21.2         |
| 1976 | 9 854         | 100.0        | 1 128                   | 11.4         | 4 759                    | 48.3         | 2 325         | 23.6         | 1 642               | 16.7         |
| 1977 | 10 049        | 100.0        | 1 162                   | 11.6         | 4 647                    | 46.2         | 2 545         | 25.3         | 1 695               | 16.9         |
| 1978 | 10 796        | 100.0        | 1 216                   | 11.3         | 5 025                    | 46.5         | 2 700         | 25.0         | 1 855               | 17.2         |
| 1979 | 11 270        | 100.0        | 1 249                   | 11.1         | 5 131                    | 45.5         | 3 012         | 26.7         | 1 878               | 16.7         |
| 1980 | 10 679        | 100.0        | 1 284                   | 12.0         | 4 595                    | 43.0         | 3 178         | 29.8         | 1 622               | 15.2         |
| 1981 | 9 931         | 100.0        | 1 340                   | 13.5         | 4 525                    | 45.6         | 2 741         | 27.6         | 1 325               | 13.3         |
| 1982 | 9 991         | 100.0        | 1 400                   | 14.0         | 4 373                    | 43.8         | 2 791         | 27.9         | 1 427               | 14.3         |
| 1983 | 10 131        | 100.0        | 1 465                   | 14.4         | 4 105                    | 40.7         | 2 958         | 29.1         | 1 603               | 15.8         |

## Tasas de crecimiento

|           |      |     |      |      |      |
|-----------|------|-----|------|------|------|
| 1972-1983 | 3.2  | 3.7 | 3.6  | 6.2  | -1.2 |
| 1972-1979 | 6.7  | 3.5 | 9.0  | 10.2 | 0.3  |
| 1979-1983 | -2.6 | 4.1 | -5.2 | -0.5 | -3.9 |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

<sup>a/</sup> A partir de 1975 incluye el consumo de turbocombustible a bordo de aviones de tránsito internacional.<sup>b/</sup> Incluye público, consumo propio y no energéticos.

Cuadro 89

PANAMA: CONSUMO FINAL DE ENERGIA NO  
COMERCIAL (LEÑA) POR SECTORES

|                             | Total | Residencial y<br>comercial | Industrial |
|-----------------------------|-------|----------------------------|------------|
| <u>Teracalorías</u>         |       |                            |            |
| 1972                        | 2 833 | 2 742                      | 91         |
| 1973                        | 2 851 | 2 764                      | 87         |
| 1974                        | 2 868 | 2 785                      | 83         |
| 1975                        | 2 883 | 2 806                      | 77         |
| 1976                        | 2 900 | 2 827                      | 73         |
| 1977                        | 2 917 | 2 848                      | 69         |
| 1978                        | 2 934 | 2 869                      | 65         |
| 1979                        | 2 959 | 2 890                      | 69         |
| 1980                        | 2 984 | 2 912                      | 72         |
| 1981                        | 2 692 | 2 432                      | 260        |
| 1982                        | 2 673 | 2 409                      | 264        |
| 1983                        | 3 191 | 2 924                      | 267        |
| <u>Tasas de crecimiento</u> |       |                            |            |
| 1972-1983                   | 1.1   | 0.6                        | 10.3       |
| 1972-1979                   | 0.6   | 0.8                        | -3.9       |
| 1979-1983                   | 1.9   | 0.3                        | 40.0       |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

Cuadro 90

PANAMA: SECTOR RESIDENCIAL Y COMERCIAL. CONSUMO FINAL  
DE ENERGIA COMERCIAL POR PRODUCTO

|                             | Total             |                  | Electricidad      |                  | Gas licuado <sup>a/</sup> |                  | Queroseno         |                  | Carbón de leña    |                  |
|-----------------------------|-------------------|------------------|-------------------|------------------|---------------------------|------------------|-------------------|------------------|-------------------|------------------|
|                             | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías         | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes |
| 1972                        | 985               | 100.0            | 494               | 50.1             | 404                       | 41.0             | 80                | 8.1              | 7                 | 0.8              |
| 1973                        | 999               | 100.0            | 555               | 55.5             | 364                       | 36.5             | 73                | 7.3              | 7                 | 0.7              |
| 1974                        | 1 024             | 100.0            | 588               | 57.4             | 375                       | 36.6             | 54                | 5.3              | 7                 | 0.7              |
| 1975                        | 1 067             | 100.0            | 613               | 57.4             | 407                       | 38.2             | 40                | 3.7              | 7                 | 0.6              |
| 1976                        | 1 128             | 100.0            | 652               | 57.8             | 412                       | 36.5             | 58                | 5.2              | 6                 | 0.5              |
| 1977                        | 1 162             | 100.0            | 687               | 59.1             | 411                       | 35.4             | 58                | 5.0              | 6                 | 0.5              |
| 1978                        | 1 216             | 100.0            | 716               | 58.8             | 432                       | 35.6             | 63                | 5.2              | 5                 | 0.4              |
| 1979                        | 1 249             | 100.0            | 765               | 61.3             | 421                       | 33.7             | 58                | 4.6              | 5                 | 0.4              |
| 1980                        | 1 284             | 100.0            | 805               | 62.7             | 425                       | 33.1             | 50                | 3.9              | 4                 | 0.3              |
| 1981                        | 1 340             | 100.0            | 849               | 63.4             | 431                       | 32.2             | 56                | 4.1              | 4                 | 0.3              |
| 1982                        | 1 400             | 100.0            | 899               | 64.2             | 444                       | 31.7             | 53                | 3.8              | 4                 | 0.3              |
| 1983                        | 1 465             | 100.0            | 955               | 65.2             | 459                       | 31.3             | 47                | 3.2              | 4                 | 0.3              |
| <u>Tasas de crecimiento</u> |                   |                  |                   |                  |                           |                  |                   |                  |                   |                  |
| 1972-1983                   | 3.7               |                  | 6.2               |                  | 1.1                       |                  | -4.7              |                  | -5.0              |                  |
| 1972-1979                   | 3.5               |                  | 6.4               |                  | 0.6                       |                  | -4.5              |                  | -6.5              |                  |
| 1979-1983                   | 4.1               |                  | 5.7               |                  | 2.2                       |                  | -5.2              |                  | -5.5              |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye gas distribuido.

Cuadro 91

## PANAMA: SECTOR TRANSPORTE. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|           | <u>Total</u>         |                     | <u>Gasolina</u>             |                     | <u>Queroseno y turbocombustible<sup>a/</sup></u> |                     | <u>Diesel</u>        |                     |  |
|-----------|----------------------|---------------------|-----------------------------|---------------------|--|---------------------|----------------------|---------------------|--|
|           | <u>Tera-calorías</u> | <u>Porcen-tajes</u> | <u>Tera-calorías</u>        | <u>Porcen-tajes</u> | <u>Tera-calorías</u>                             | <u>Porcen-tajes</u> | <u>Tera-calorías</u> | <u>Porcen-tajes</u> |  |
| 1972      | 2 811                | 100.0               | 2 100                       | 74.7                | 98   | 3.5                 | 613                  | 21.8                |  |
| 1973      | 3 064                | 100.0               | 2 292                       | 74.8                | 84   | 2.8                 | 688                  | 22.4                |  |
| 1974      | 3 375                | 100.0               | 2 356                       | 69.8                | 69   | 2.1                 | 950                  | 28.1                |  |
| 1975      | 4 522                | 100.0               | 2 357                       | 52.1                | 1 058  | 23.4                | 1 107                | 24.5                |  |
| 1976      | 4 759                | 100.0               | 2 466                       | 51.8                | 1 119  | 23.5                | 1 174                | 24.7                |  |
| 1977      | 4 647                | 100.0               | 2 458                       | 52.9                | 1 136  | 24.4                | 1 053                | 22.7                |  |
| 1978      | 5 025                | 100.0               | 2 583                       | 51.4                | 1 269  | 25.3                | 1 173                | 23.3                |  |
| 1979      | 5 131                | 100.0               | 2 415                       | 47.1                | 1 413  | 27.5                | 1 203                | 23.4                |  |
| 1980      | 4 595                | 100.0               | 2 321                       | 50.5                | 1 247  | 27.1                | 1 027                | 22.4                |  |
| 1981      | 4 525                | 100.0               | 2 176                       | 48.1                | 1 102  | 24.4                | 1 247                | 27.5                |  |
| 1982      | 4 373                | 100.0               | 2 134                       | 48.8                | 981  | 22.4                | 1 258                | 28.8                |  |
| 1983      | 4 105                | 100.0               | 2 119                       | 51.6                | 777  | 18.9                | 1 209                | 29.5                |  |
|           |                      |                     | <u>Tasas de crecimiento</u> |                     |  |                     |                      |                     |  |
| 1972-1983 | 3.6                  |                     | 0.1                         |                     | 20.0   |                     | 6.4                  |                     |  |
| 1972-1979 | 9.0                  |                     | 2.0                         |                     | 46.5   |                     | 10.1                 |                     |  |
| 1979-1983 | -5.3                 |                     | -1.2                        |                     | -13.5  |                     | 0.1                  |                     |  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ A partir de 1975 incluye el consumo de turbocombustible a bordo de aviones de tránsito internacional que para 1983 constituye 758 TCal.

Cuadro 92

PANAMA: SECTOR INDUSTRIAL. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|                             | Total             |                  | Electricidad      |                  | Diesel            |                  | Combustóleo       |                  | Residuos vegetales |                  | Otros <sup>a/</sup> |                  |
|-----------------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|--------------------|------------------|---------------------|------------------|
|                             | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías | Porcen-<br>tajes | Tera-<br>calorías  | Porcen-<br>tajes | Tera-<br>calorías   | Porcen-<br>tajes |
| 1972                        | 1 526             | 100.0            | 197               | 12.9             | 293               | 19.2             | 584               | 38.3             | 377                | 24.7             | 75                  | 4.9              |
| 1973                        | 1 848             | 100.0            | 214               | 11.6             | 368               | 19.9             | 781               | 42.2             | 378                | 20.5             | 107                 | 5.8              |
| 1974                        | 2 106             | 100.0            | 222               | 10.6             | 445               | 21.1             | 826               | 39.2             | 559                | 26.5             | 54                  | 2.6              |
| 1975                        | 2 155             | 100.0            | 237               | 11.0             | 442               | 20.5             | 791               | 36.7             | 659                | 30.6             | 26                  | 1.2              |
| 1976                        | 2 325             | 100.0            | 208               | 9.0              | 552               | 23.7             | 701               | 30.2             | 840                | 36.1             | 24                  | 1.0              |
| 1977                        | 2 545             | 100.0            | 209               | 8.2              | 621               | 24.4             | 740               | 29.1             | 946                | 37.2             | 29                  | 1.1              |
| 1978                        | 2 700             | 100.0            | 222               | 8.2              | 713               | 26.4             | 700               | 25.9             | 1 033              | 38.3             | 32                  | 1.2              |
| 1979                        | 3 012             | 100.0            | 263               | 8.7              | 813               | 27.0             | 811               | 26.9             | 1 075              | 35.7             | 50                  | 1.7              |
| 1980                        | 3 178             | 100.0            | 301               | 9.5              | 1 170             | 36.8             | 614               | 19.3             | 1 037              | 32.6             | 56                  | 1.8              |
| 1981                        | 2 741             | 100.0            | 288               | 9.4              | 959               | 32.4             | 645               | 25.2             | 788                | 31.0             | 61                  | 2.0              |
| 1982                        | 2 791             | 100.0            | 336               | 12.0             | 1 008             | 36.1             | 655               | 23.5             | 730                | 26.2             | 62                  | 2.2              |
| 1983                        | 2 958             | 100.0            | 413               | 14.0             | 952               | 32.2             | 689               | 23.3             | 841                | 28.4             | 63                  | 2.1              |
| <u>Tasas de crecimiento</u> |                   |                  |                   |                  |                   |                  |                   |                  |                    |                  |                     |                  |
| 1972-1983                   | 6.2               |                  | 7.0               |                  | 11.3              |                  | 1.5               |                  | 7.6                |                  | -1.6                |                  |
| 1972-1979                   | 10.2              |                  | 4.2               |                  | 15.7              |                  | 4.8               |                  | 16.1               |                  | -5.6                |                  |
| 1979-1983                   | -0.5              |                  | 11.9              |                  | 4.1               |                  | 4.0               |                  | -6.0               |                  | 5.9                 |                  |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Comprende gas licuado y gas distribuido.

Cuadro 93

PANAMA: SECTOR OTROS. CONSUMO FINAL DE ENERGIA COMERCIAL POR PRODUCTO

|                             | Total         |              | Electricidad  |              | Gas de refinería |              | Combustóleo   |              | No energéticos <sup>a/</sup> |              | Otros <sup>b/</sup> |              |
|-----------------------------|---------------|--------------|---------------|--------------|------------------|--------------|---------------|--------------|------------------------------|--------------|---------------------|--------------|
|                             | Tera-calorías | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías    | Porcen-tajes | Tera-calorías | Porcen-tajes | Tera-calorías                | Porcen-tajes | Tera-calorías       | Porcen-tajes |
| 1972                        | 1 836         | 100.0        | 164           | 8.9          | 942              | 51.3         | 545           | 29.7         | 136                          | 7.4          | 49                  | 2.7          |
| 1973                        | 1 811         | 100.0        | 172           | 9.5          | 989              | 54.6         | 450           | 24.8         | 149                          | 8.2          | 51                  | 2.8          |
| 1974                        | 1 841         | 100.0        | 190           | 10.3         | 906              | 49.2         | 549           | 29.8         | 143                          | 7.8          | 53                  | 2.9          |
| 1975                        | 2 085         | 100.0        | 213           | 10.2         | 1 148            | 55.1         | 558           | 26.8         | 107                          | 5.1          | 59                  | 2.8          |
| 1976                        | 1 642         | 100.0        | 246           | 15.0         | 667              | 40.6         | 491           | 29.9         | 166                          | 10.1         | 72                  | 4.4          |
| 1977                        | 1 695         | 100.0        | 252           | 14.9         | 728              | 42.9         | 543           | 32.0         | 102                          | 6.0          | 70                  | 4.1          |
| 1978                        | 1 855         | 100.0        | 269           | 14.5         | 623              | 33.6         | 796           | 42.9         | 89                           | 4.8          | 78                  | 4.2          |
| 1979                        | 1 878         | 100.0        | 308           | 16.4         | 651              | 34.7         | 734           | 39.1         | 86                           | 4.0          | 99                  | 5.3          |
| 1980                        | 1 622         | 100.0        | 338           | 20.8         | 603              | 36.9         | 536           | 33.0         | 95                           | 5.9          | 50                  | 3.1          |
| 1981                        | 1 325         | 100.0        | 340           | 25.7         | 400              | 30.2         | 429           | 32.4         | 78                           | 5.9          | 78                  | 5.9          |
| 1982                        | 1 427         | 100.0        | 380           | 26.6         | 401              | 28.1         | 459           | 32.2         | 105                          | 7.4          | 82                  | 5.0          |
| 1983                        | 1 603         | 100.0        | 414           | 25.8         | 536              | 33.4         | 480           | 29.9         | 101                          | 6.3          | 72                  | 4.6          |
| <u>Tasas de crecimiento</u> |               |              |               |              |                  |              |               |              |                              |              |                     |              |
| 1972-1983                   | -1.7          |              | 8.8           |              | -5.0             |              | -1.2          |              | -2.7                         |              | 3.5                 |              |
| 1972-1979                   | 0.3           |              | 9.4           |              | -5.1             |              | -4.3          |              | -6.3                         |              | 10.6                |              |
| 1979-1983                   | -3.9          |              | 7.7           |              | -4.8             |              | -10.1         |              | 4.1                          |              | -7.6                |              |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Se refiere a lubricantes, grasas y asfaltos.

b/ Comprende diesel, gasolina y gas distribuido.



Cuadro 94

PANAMA: PRODUCCION DE ENERGIA POR PRODUCTO FINAL

|           | Total                       | Hidrocarburos <u>a/</u> <u>b/</u> | Electricidad | Residuos vegetales <u>a/</u> | Carbón de leña | Leña <u>c/</u> |
|-----------|-----------------------------|-----------------------------------|--------------|------------------------------|----------------|----------------|
|           | <u>Teracalorías</u>         |                                   |              |                              |                |                |
| 1972      | 41 320                      | 37 128                            | 965          | 377                          | 8              | 2 833          |
| 1973      | 37 205                      | 32 851                            | 1 118        | 378                          | 7              | 2 851          |
| 1974      | 36 095                      | 31 515                            | 1 146        | 559                          | 7              | 2 868          |
| 1975      | 41 913                      | 37 166                            | 1 198        | 659                          | 7              | 2 883          |
| 1976      | 30 356                      | 25 302                            | 1 308        | 840                          | 6              | 2 900          |
| 1977      | 30 318                      | 25 072                            | 1 377        | 946                          | 6              | 2 917          |
| 1978      | 26 485                      | 21 122                            | 1 391        | 1 033                        | 5              | 2 934          |
| 1979      | 24 665                      | 18 976                            | 1 650        | 1 075                        | 5              | 2 959          |
| 1980      | 22 165                      | 16 456                            | 1 684        | 1 037                        | 4              | 2 984          |
| 1981      | 18 070                      | 12 824                            | 1 762        | 788                          | 4              | 2 692          |
| 1982      | 19 002                      | 13 660                            | 1 935        | 730                          | 4              | 2 673          |
| 1983      | 18 211                      | 12 116                            | 2 059        | 841                          | 4              | 3 191          |
|           | <u>Tasas de crecimiento</u> |                                   |              |                              |                |                |
| 1972-1983 | -7.2                        | -9.7                              | 7.1          | 7.6                          | -6.1           | 1.1            |
| 1972-1979 | -7.1                        | -9.1                              | 8.0          | 8.7                          | -6.5           | 0.6            |
| 1979-1983 | -7.3                        | -10.6                             | 5.7          | -5.9                         | -5.4           | 1.9            |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye energéticos utilizados en centrales eléctricas.

b/ Incluye carbón mineral y coque.

c/ Excluye leña utilizada en carboneras para producir carbón de leña.

Cuadro 95

PANAMA: IMPORTACION DE ENERGIA POR PRODUCTO

|           | Total  | Petróleo                    | Derivados del<br>petróleo a/ | Electricidad |
|-----------|--------|-----------------------------|------------------------------|--------------|
|           |        | <u>Teracalorías</u>         |                              |              |
| 1972      | 41 601 | 40 354                      | 1 228                        | 19           |
| 1973      | 39 871 | 37 166                      | 2 688                        | 17           |
| 1974      | 38 903 | 35 894                      | 2 994                        | 15           |
| 1975      | 42 869 | 42 134                      | 709                          | 26           |
| 1976      | 32 704 | 29 128                      | 3 568                        | 8            |
| 1977      | 29 592 | 29 212                      | 365                          | 15           |
| 1978      | 24 007 | 23 818                      | 180                          | 9            |
| 1979      | 22 387 | 22 172                      | 210                          | 5            |
| 1980      | 20 360 | 19 732                      | 626                          | 2            |
| 1981      | 17 056 | 15 229                      | 1 820                        | 7            |
| 1982      | 17 404 | 16 746                      | 655                          | 3            |
| 1983      | 18 040 | 16 767                      | 1 254                        | 19           |
|           |        | <u>Tasas de crecimiento</u> |                              |              |
| 1972-1983 | -7.3   | -7.7                        | 0.2                          | -            |
| 1972-1979 | -8.5   | -8.2                        | -20.0                        | -17.3        |
| 1979-1983 | -5.3   | -6.8                        | 55.0                         | 40.0         |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Incluye carbón mineral y coque.

Cuadro 96

PANAMA: EXPORTACION DE ENERGIA POR PRODUCTO

|           | Total                       | Petróleo | Derivados del<br>petróleo <u>a/</u> | Electricidad |
|-----------|-----------------------------|----------|-------------------------------------|--------------|
|           | <u>Teracalorías</u>         |          |                                     |              |
| 1972      | 28 306                      | -        | 28 272                              | 34           |
| 1973      | 24 821                      | -        | 24 761                              | 60           |
| 1974      | 24 241                      | -        | 24 225                              | 16           |
| 1975      | 29 900                      | -        | 29 887                              | 13           |
| 1976      | 20 861                      | -        | 20 828                              | 33           |
| 1977      | 17 350                      | -        | 17 269                              | 81           |
| 1978      | 13 658                      | -        | 13 638                              | 20           |
| 1979      | 9 049                       | -        | 8 939                               | 110          |
| 1980      | 9 787                       | -        | 9 761                               | 26           |
| 1981      | 7 666                       | -        | 7 644                               | 22           |
| 1982      | 7 113                       | -        | 7 107                               | 6            |
| 1983      | 5 349                       | -        | 5 346                               | 3            |
|           | <u>Tasas de crecimiento</u> |          |                                     |              |
| 1972-1983 | -14.1                       | -        | -14.1                               | -19.8        |
| 1972-1979 | -15.1                       | -        | -15.2                               | 18.2         |
| 1979-1983 | -12.1                       | -        | -12.1                               | -59.0        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ Excluye consumo de turbocombustible a bordo de aviones de tránsito internacional a partir de 1975.

TABLE I

Summary of the main results of the paper

| Section | Result                                   |
|---------|--|
| 2.1     | Definition of the model                  |
| 2.2     | Existence and uniqueness of the solution |
| 2.3     | Regularity properties of the solution    |
| 2.4     | Asymptotic behavior of the solution      |
| 2.5     | Stability analysis of the solution       |
| 2.6     | Numerical simulation results             |
| 2.7     | Conclusions and future work              |

Cuadro 97

PANAMA: BALANCE ENERGETICO

(Teracalorías)

|      | Producción<br>(1) | Importación <sup>a/</sup><br>(2) | Exportación<br>(3) | Consumo<br>(1+2-3+5+6)<br>(4) | Variación de<br>existencias<br>(5) | Cierre <sup>b/</sup><br>(6) |
|------|-------------------|----------------------------------|--------------------|-------------------------------|------------------------------------|-----------------------------|
| 1972 | 41 320            | 1 247                            | 28 306             | 9 991                         | -8                                 | -4 262                      |
| 1973 | 37 205            | 2 705                            | 24 821             | 10 573                        | 344                                | -4 860                      |
| 1974 | 36 095            | 3 009                            | 24 241             | 11 214                        | -450                               | -3 199                      |
| 1975 | 41 913            | 735                              | 29 900             | 12 712                        | 136                                | 172                         |
| 1976 | 30 356            | 3 576                            | 20 861             | 12 754                        | -163                               | -154                        |
| 1977 | 30 318            | 380                              | 17 350             | 12 966                        | -191                               | -191                        |
| 1978 | 26 485            | 189                              | 13 658             | 13 730                        | 748                                | -34                         |
| 1979 | 24 665            | 215                              | 9 049              | 14 229                        | -1 341                             | -261                        |
| 1980 | 22 165            | 628                              | 9 787              | 13 663                        | 640                                | 17                          |
| 1981 | 18 070            | 1 827                            | 7 666              | 12 623                        | 461                                | -69                         |
| 1982 | 19 002            | 658                              | 7 113              | 12 664                        | 565                                | -448                        |
| 1983 | 18 211            | 1 273                            | 5 349              | 13 322                        | -478                               | -335                        |

Fuente: CEPAL, sobre la base de los Balances Energéticos Nacionales.

a/ No incluye petróleo crudo.

b/ Incluye pérdidas y ajustes estadísticos.

|                                      |                           | BALANCE                     |                                |                           |                |                   |              |              |        |
|--------------------------------------|---------------------------|-----------------------------|--------------------------------|---------------------------|----------------|-------------------|--------------|--------------|--------|
| UNIDADES: <sup>a/</sup> Teracalorías |                           | ENERGIA PRIMARIA            |                                |                           |                |                   |              |              |        |
| REPUBLICA DE: PANAMA                 |                           | 1                           | 2                              | 3                         | 4              | 5                 | 6            | 7            |        |
| ELABORADO POR: CEPAL                 |                           | Carbón mineral              | Leña                           | Otros comb. veg. y animal | Petróleo crudo | Gas natural libre | Gas asociado | Hydroenergía |        |
| LUGAR: MEXICO                        |                           |                             |                                |                           |                |                   |              |              |        |
| SECTOR ENERGETICO                    | OFERTA                    | 1.                          | Producción                     |                           | 3205.1         | 1427.5            |              |              | 1120.6 |
|                                      |                           | 2.                          | Importación                    |                           |                |                   | 16767.1      |              |        |
|                                      |                           | 3.                          | Variación de inventarios       |                           |                |                   | -16.9        |              | -0.7   |
|                                      |                           | 4.                          | OFERTA TOTAL                   |                           | 3205.1         | 1427.5            | 16750.2      |              | 1119.9 |
|                                      |                           | 5.                          | Exportación                    |                           |                |                   |              |              |        |
|                                      |                           | 6.                          | No aprovechada                 |                           |                | -158.7            |              |              | -128.7 |
|                                      |                           | 7.                          | OFERTA INTERNA BRUTA           |                           | 3205.1         | 1268.8            | 16750.2      |              | 991.2  |
|                                      | Centros de transformación | 8.                          | TOTAL TRANSFORMACION           |                           | -13.7          | -428.1            | -16750.2     |              | -991.2 |
|                                      |                           | 8.1                         | Coquerías, Altos Hornos        |                           |                |                   |              |              |        |
|                                      |                           | 8.2                         | Carboneras                     |                           | -13.7          |                   |              |              |        |
|                                      |                           | 8.3                         | Biomasa                        |                           |                |                   |              |              |        |
|                                      |                           | 8.4                         | Refinerías                     |                           |                |                   | -16750.2     |              |        |
|                                      |                           | 8.5                         | Plantas de gas                 |                           |                |                   |              |              |        |
|                                      |                           | 8.6                         | Centrales Elect. Serv. Públ.   |                           |                |                   |              |              | -991.2 |
|                                      |                           | 8.7                         | Centrales Eléct. Autop.        |                           |                | -428.1            |              |              |        |
|                                      |                           | 9.                          | Consumo propio sec. energét.   |                           |                |                   |              |              |        |
|                                      |                           | 10.                         | Pérdidas (trans. dist. almac.) |                           |                |                   |              |              |        |
|                                      | 11.                       | AJUSTES                     |                                |                           |                |                   |              |              |        |
| CONSUMO FINAL                        | 12.                       | CONSUMO FINAL TOTAL         |                                | 3919.4                    | 840.7          |                   |              |              |        |
|                                      | 12.1                      | Consumo final no energético |                                |                           |                |                   |              |              |        |
|                                      | 12.2                      | Consumo final energético    |                                | 3919.4                    | 840.7          |                   |              |              |        |
|                                      | 12.2.1                    | Residenc. comerc. público   |                                | 2923.9                    |                |                   |              |              |        |
|                                      | 12.2.2                    | Transporte                  |                                |                           |                |                   |              |              |        |
|                                      | 12.2.3                    | Agropecuario                |                                |                           |                |                   |              |              |        |
|                                      | 12.2.4                    | Industrial                  |                                | 267.5                     | 840.7          |                   |              |              |        |
|                                      | 12.2.5                    | Consumo no identificado     |                                |                           |                |                   |              |              |        |

OBSERVACIONES:

PRODUCCION ENERGIA SECUNDARIA BRUTA

OTRAS:

a/ Teracalorías o miles de toneladas equivalentes de petróleo.

ENERGETICO CONSOLIDADO

AÑO: 1989

|            |                        |                        | ENERGIA SECUNDARIA |                |             |                    |                        |                  |                      |                         |                          |       |              |                          |         |
|------------|------------------------|------------------------|--------------------|----------------|-------------|--------------------|------------------------|------------------|----------------------|-------------------------|--------------------------|-------|--------------|--------------------------|---------|
| 8          | 9                      | 10                     | 11                 | 12             | 13          | 14                 | 15                     | 16               | 17                   | 18                      | 19                       | 20    | 21           | 22                       | 23      |
| Geoenergía | Combustible fisionable | TOTAL ENERGIA PRIMARIA | Coque              | Carbón vegetal | Gas licuado | Casolinas y naftas | Queroseno y turbocomb. | Diesel y gasóleo | Combustibles pesados | Otros comb. energéticos | Productos no energéticos | Gas   | Electricidad | TOTAL ENERGIA SECUNDARIA | TOTAL   |
|            |                        | 5753.2                 |                    |                |             |                    |                        |                  |                      |                         |                          |       |              |                          | 5753.2  |
|            |                        | 16767.8                |                    |                | 310.5       | 122.9              | 39.3                   | 781.6            |                      |                         |                          |       | 19.3         | 1273.6                   | 18040.7 |
|            |                        | -17.6                  |                    |                | 9.6         | -87.6              | -51.3                  | -71.0            | -299.0               |                         | 21.2                     |       |              | -478.1                   | -495.7  |
|            |                        | 22502.7                |                    |                | 320.1       | 35.3               | -12.0                  | 710.6            | -299.0               |                         | 21.2                     |       | 19.3         | 795.5                    | 3298.2  |
|            |                        |                        |                    |                |             | -25.7              |                        | -1124.6          | -4188.6              |                         | -4.5                     |       |              | -2.8                     | 5346.2  |
|            |                        | -287.4                 |                    |                |             |                    |                        |                  |                      |                         |                          |       |              |                          | -287.4  |
|            |                        | 2215.3                 |                    |                | 320.1       | 9.6                | -12.0                  | -414.0           | -4487.6              |                         | 16.7                     |       | 16.5         | 4550.7                   | 17664.6 |
|            |                        | -3183.2                |                    | 4.0            | 171.0       | 100.3              | 839.5                  | 2647.5           | 5833.6               |                         | 84.0                     | 536.1 | 2059.1       | 4275.1                   | 3908.1  |
|            |                        | -13.7                  |                    | 4.0            |             |                    |                        |                  |                      |                         |                          |       |              | 4.0                      | -9.7    |
|            |                        | -16750.2               |                    |                | 171.0       | 100.3              | 839.5                  | 4169.2           | 8657.9               |                         | 84.0                     | 536.1 |              | 6558.0                   | -192.2  |
|            |                        | -991.2                 |                    |                |             |                    |                        | -1323.5          | -2824.3              |                         |                          |       | 1924.5       | 2223.3                   | 3214.5  |
|            |                        | -428.1                 |                    |                |             |                    |                        | -198.2           |                      |                         |                          |       | 134.6        | -63.6                    | -491.7  |
|            |                        |                        |                    |                |             |                    | -1.2                   | -1.5             | -10.8                | -472.8                  |                          | 536.1 | -85.0        | 1106.8                   | 1106.8  |
|            |                        |                        |                    |                | 26.6        | 10.7               | 1.8                    | -3.2             | -177.6               |                         |                          |       | -294.5       | -435.7                   | -435.7  |
|            |                        | 4032.1                 |                    | 4.0            | 517.7       | 119.4              | 827.8                  | 2219.5           | 696.7                |                         | 100.7                    |       | 1696.1       | 8181.9                   | 12214.0 |
|            |                        |                        |                    |                |             |                    |                        |                  |                      |                         | 100.7                    |       |              | 100.7                    | 100.7   |
|            |                        | 4032.1                 |                    | 4.0            | 517.7       | 119.4              | 827.8                  | 2219.5           | 696.7                |                         |                          |       | 1696.1       | 8081.2                   | 12113.3 |
|            |                        | 2923.9                 |                    | 4.0            | 459.9       |                    | 45.8                   |                  |                      |                         |                          |       | 1283.5       | 1793.2                   | 4717.1  |
|            |                        |                        |                    |                | 2119.4      | 776.5              | 1208.6                 |                  |                      |                         |                          |       |              | 4104.5                   | 4104.5  |
|            |                        | 1108.2                 |                    |                | 57.8        |                    | 5.5                    | 952.4            | 688.7                |                         |                          |       | 412.6        | 2117.0                   | 3225.2  |
|            |                        |                        |                    |                |             |                    |                        | 58.5             | 8.0                  |                         |                          |       |              | 66.5                     | 66.5    |

Pérdidas de transformación

|  |  |  |     |       |       |       |        |        |  |      |       |        |        |
|--|--|--|-----|-------|-------|-------|--------|--------|--|------|-------|--------|--------|
|  |  |  | 4.0 | 171.0 | 100.3 | 839.5 | 4169.2 | 8657.9 |  | 84.0 | 536.1 | 2059.1 | 6621.1 |
|--|--|--|-----|-------|-------|-------|--------|--------|--|------|-------|--------|--------|

Cuadro 99

ISTMO CENTROAMERICANO: FACTORES DE CONVERSION POR PAIS

| Productos energéticos            | Unidades                 | Factor de conversión |                      |                    |                     |                     |                     |
|----------------------------------|--------------------------|----------------------|----------------------|--------------------|---------------------|---------------------|---------------------|
|                                  |                          | Costa Rica           | El Salvador          | Guatemala          | Honduras            | Nicaragua           | Panamá              |
| Energía hidráulica               | TCal/GWh                 | 0.860 <sup>a/</sup>  | 0.8600 <sup>a/</sup> | 0.86 <sup>a/</sup> | 1.049 <sup>b/</sup> | 1.058 <sup>b/</sup> | 0.860 <sup>a/</sup> |
| Energía eléctrica                | TCal/GWh                 | 0.860                | 0.8600               | 0.86               | 0.860               | 0.860               | 0.860               |
| Petróleo                         | TCal/10 <sup>3</sup> bts | 1.380                | 1.3627               | 1.39               | 1.407               | 1.364 <sup>d/</sup> | 1.380               |
| Gas de refinería                 | TCal/10 <sup>3</sup> bts | ...                  | 0.1829 <sup>c/</sup> | 1.75               | 1.660               | 1.725 <sup>d/</sup> | 1.676               |
| Gas distribuido                  | TCal/10 <sup>3</sup> bts | ...                  | ...                  | 0.64               | ...                 | ...                 | 0.234               |
| Gas natural                      | TCal/10 <sup>3</sup> bts | ...                  | ...                  | 1.32               | ...                 | ...                 | ...                 |
| Gas asociado                     | TCal/10 <sup>3</sup> bts | ...                  | ...                  | 1.42               | ...                 | ...                 | ...                 |
| Gas licuado                      | TCal/10 <sup>3</sup> bts | 0.970                | 0.9724               | 0.93               | 0.935               | 0.968               | 0.950               |
| Gasolina de motor                | TCal/10 <sup>3</sup> bts | 1.240                | 1.2250               | 1.24               | 1.209               | 1.236               | 1.220               |
| Gasolina de aviación             | TCal/10 <sup>3</sup> bts | 1.240                | 1.2250               | 1.19               | 1.209               | 1.236               | 1.220               |
| Queroseno                        | TCal/10 <sup>3</sup> bts | 1.310                | 1.3164               | 1.33               | 1.323               | 1.324               | 1.330               |
| Turbocombustible                 | TCal/10 <sup>3</sup> bts | 1.310                | 1.3164               | 1.36               | 1.323               | 1.324               | 1.330               |
| Diesel                           | TCal/10 <sup>3</sup> bts | 1.380                | 1.3756               | 1.39               | 1.400               | 1.368               | 1.380               |
| Combustibles                     | TCal/10 <sup>3</sup> bts | 1.480                | 1.4866               | 1.43               | 1.452               | 1.482               | 1.470               |
| Derivados no energéticos         | TCal/10 <sup>3</sup> bts | 1.380                | 1.3627               | 1.39               | 1.407               | 1.364               | 1.380               |
| Carbón mineral                   | TCal/10 <sup>3</sup> t   | 7.300                | ...                  | ...                | ...                 | 7.000               | 7.300               |
| Leña                             | TCal/10 <sup>3</sup> t   | 4.300                | 3.6                  | 3.60               | 3.600               | 3.600               | 3.733               |
| Carbón de leña                   | TCal/10 <sup>3</sup> t   | 6.500                | 6.5                  | 6.90               | 5.000               | 7.000               | 6.790               |
| Coque                            | TCal/10 <sup>3</sup> t   | 6.400                | 7.0                  | 6.80               | 7.000               | 6.400               | ...                 |
| Bagazo de caña                   | TCal/10 <sup>3</sup> t   | 1.825                | 2.0                  | 1.92               | 1.500               | 1.500               | 1.380               |
| Cascarilla de café               | TCal/10 <sup>3</sup> t   | 4.250                | ...                  | ...                | ...                 | 3.885               | ...                 |
| Cascarilla de semilla de algodón | TCal/10 <sup>3</sup> t   | ...                  | ...                  | ...                | ...                 | 3.050               | ...                 |
| Alcohol etílico                  | TCal/10 <sup>3</sup> bts | ...                  | ...                  | 0.83               | ...                 | ...                 | ...                 |

Fuente: Balances energéticos nacionales de los países del Istmo Centroamericano.

a/ A base de electricidad generada.

b/ A base de caudal turbinado.

c/ TCal/10<sup>6</sup> pie<sup>3</sup>.

d/ TCal/10<sup>3</sup> Bop.





