

Economic statistics: A tool for decision making in energetics



Censuses { Agriculture
Economic

Surveys { Monthly { Manufacturing
Trade
Services
Construction
EMOE
Annual { Manufacturing
Trade
Services
Construction
Special: ENESTyC,
ENESCCOM,
ESIDET, etc.

Administrative registers



GENERAL OBJECTIVE

Obtaining updated and reliable basic statistical data on economic units engaged in manufacturing, commerce and services, to generate economic indicators of the Mexican economy at a very detailed geographical, industrial and thematic level.



The importance of the information

In the **academic and research** sectors, users can know and evaluate the specific characteristics of the national productive system.

In the **public sector**, allows to plan economic policy and to conduct a correct assessment of its application.

It allows to know a wide range of economic aspects and helps **businessmen** to plan business and carry out analysis to better know the market in which they perform their activities.



Decision making and planning:

- ◆ Regional and spacial analysis
- ◆ Sector analysis
- ◆ Emerging activities
- ◆ Most and least dynamic activities
- ◆ Areas of economic influence
- ◆ Technology and training
- ◆ **Environment, production and energetics consumption**
- ◆ Investment decisions
- ◆ Competitive strategy
- ◆ Areas of opportunity



The variables of the Economic Census make these an effective tool to explore multiple aspects of economic nature at very detailed geographic and economic activity levels.

Common topics	Specific topics (examples)
<ul style="list-style-type: none"> Economic unit organization Innovation* Financing Operations period Employees Earnings Expenditures Revenue Inventories Fixed assets Environment* 	<ul style="list-style-type: none"> Water origin and destination Mining reserves Passengers and freight transported Passengers and freight origin and destination Vehicles Construction works executed Construction materials consumed Financial firms resources and liabilities

* Will be applied to Large Establishments and Firms, which generate around 80% of the Total Gross Production.



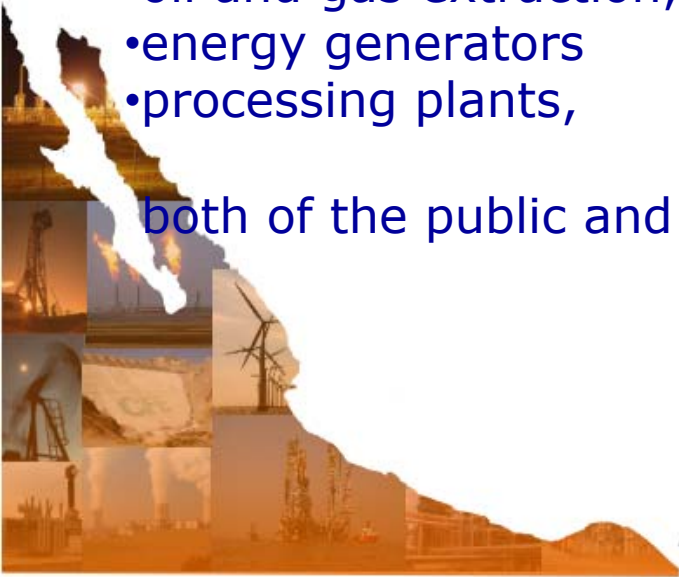
Data is directly collected from the energy generating establishments and units, and from oil, gas and coal producers and processors.

Specific questionnaires that contain general subject matter which allows for comparability with the rest of the country's establishments, but in addition have specific topics in order to capture electricity, oil or mining information, are designed and applied.

The scope of study:

- oil and gas extraction,
- energy generators
- processing plants,

both of the public and private sectors.





Data in the Economic Census is collected using the North American Industrial Classification System (**SCIAN** in Spanish), which allows comparability with Canada and the United States.

SCIAN is also comparable with the United Nations International Standard Industrial Classification (**ISIC**), rev. 3.



211110 Oil and gas extraction

212110 Coal mining

221110 Electric power generation and transmission

221120 Electric power supply

222210 Gas supply to final consumers by pipelines

324110 Petroleum refining

324199 Coke and other petroleum and coal products manufacturing

325110 Petrochemical products manufacturing



2004 Economic Census

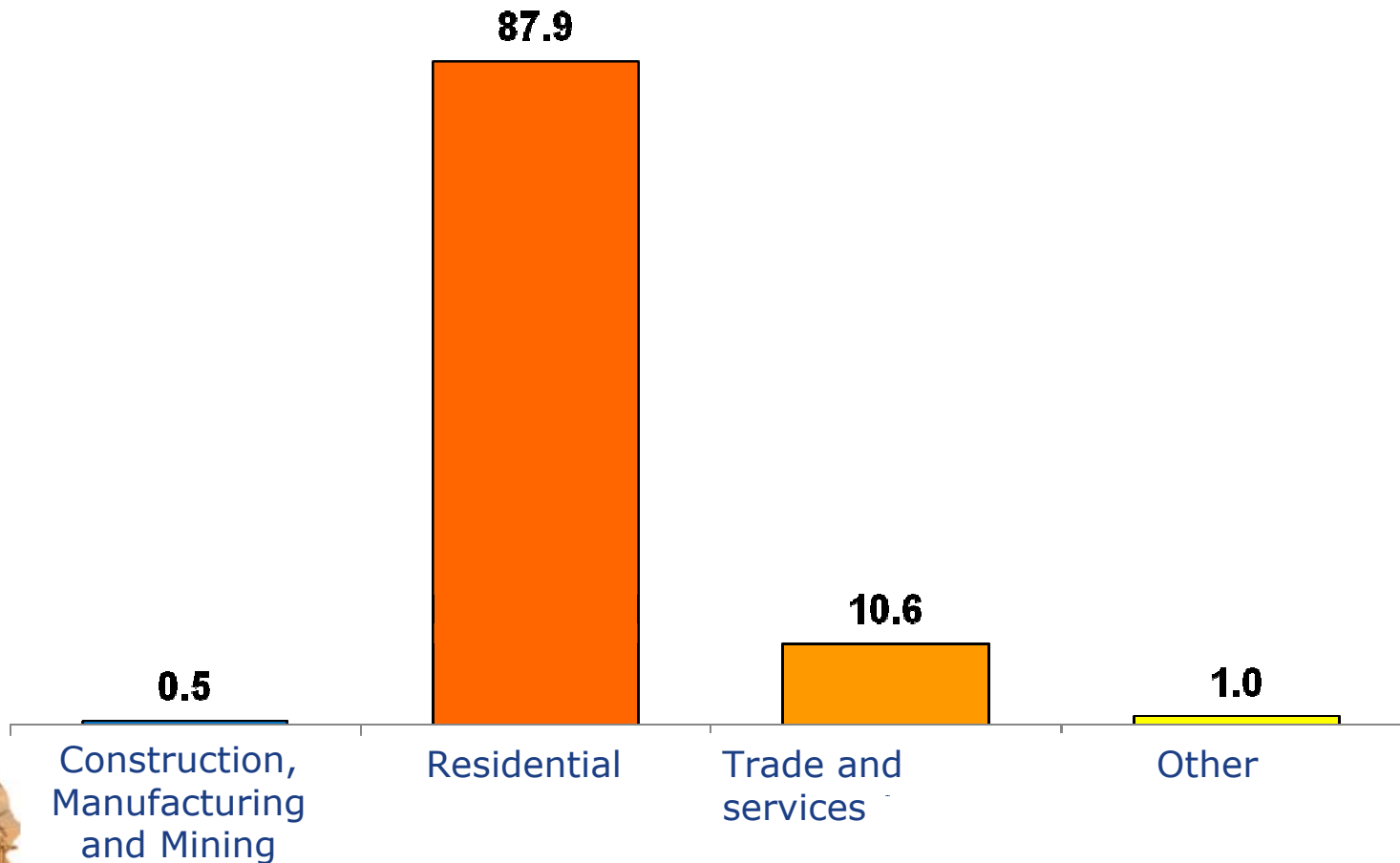
NATIONAL INDUSTRY	ECONOMIC UNITS		EMPLOYEES		EARNINGS	GROSS PRODUCTION	FIXED ASSETS VALUE
	Absolute	%	Absolute	%	(Percentage)		
National total	3,005,157	100.0	16,239,536	100.0	100.0	100.0	100.0
211110 Oil and gas extraction	45	0.001	46,652	0.29	1.4	6.8	4.5
212110 Coal mining	43	0.001	8,230	0.05	0.1	0.1	0.2
221110 Electric power generation and transmission	50	0.002	106,229	0.65	2.5	4.2	17.6
221120 Electric power supply	7	0.000	12,247	0.08	0.4	0.3	0.5
222210 Gas supply to final consumers by pipelines	14	0.000	6,056	0.04	0.0	0.0	0.3
324110 Petroleum refining	89	0.003	37,080	0.23	1.4	3.3	3.5
324199 Coke and other petroleum and coal products manufacturing	4	0.000	533	0.00	0.0	0.0	0.0
325110 Petrochemical products manufacturing	37	0.001	25,649	0.16	0.9	2.3	1.4
Subtotal	289	0.010	242,676	1.5	6.7	17.0	28.0
Remaining activities	3,004,868	99.99	15,996,860	98.5	93.3	83.0	72.0

2004 Economic Census

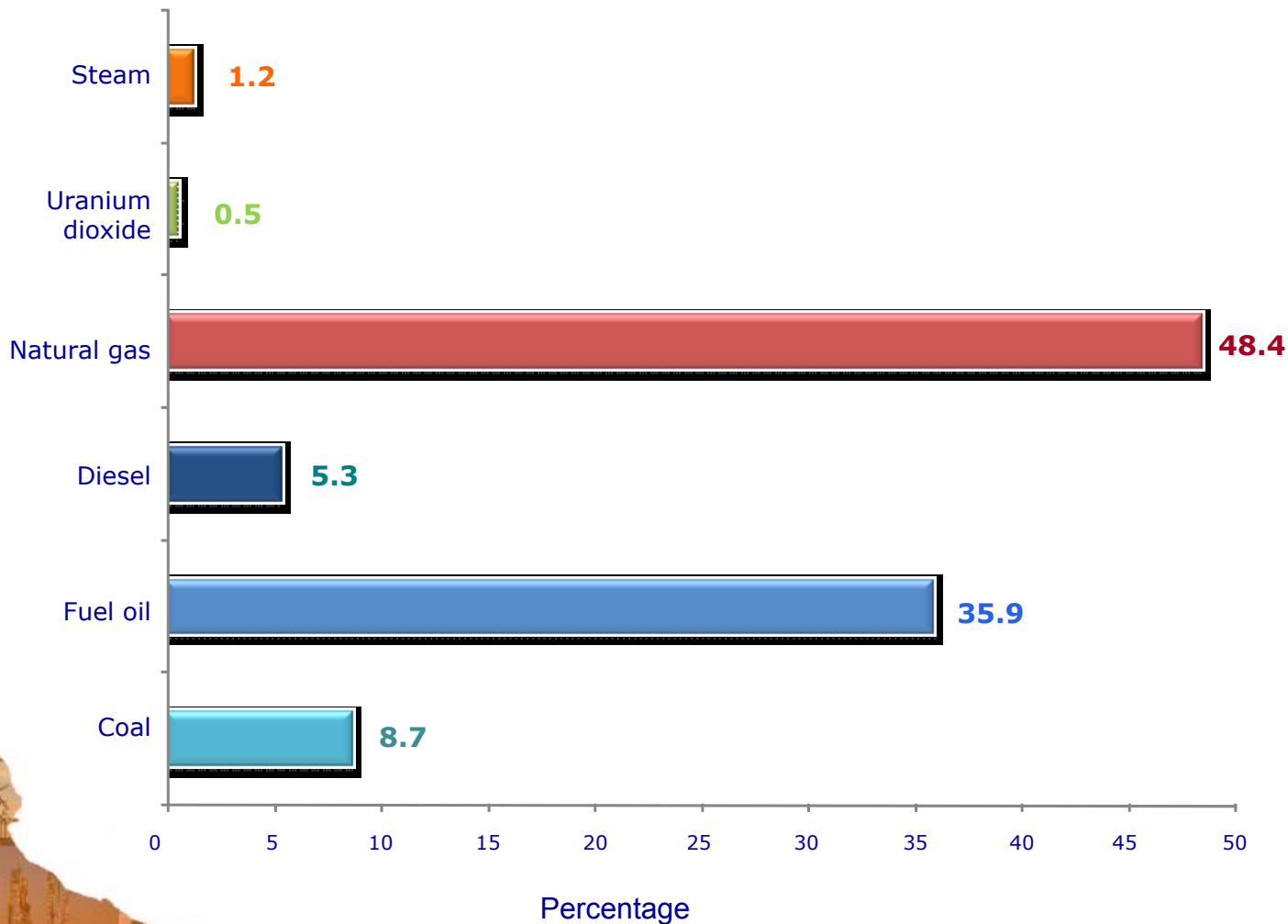
- ▶ ***Sales by class of customer:*** commercial, industrial, residential, agricultural, etc. *in thousands of pesos*
- ▶ ***Fuels consumed:*** *Value and quantity*
- ▶ ***Class of plant:*** hydroelectric, geothermal, nuclear electric, carboelectric, wind electric, thermoelectric
- ▶ ***Installed capacity by plant (MW)***
- ▶ ***Gross energy generated by class of plant (MWH)***
- ▶ ***Infrastructure*** for energy generation, distribution or commercialization services



Electric power users (Percentage)

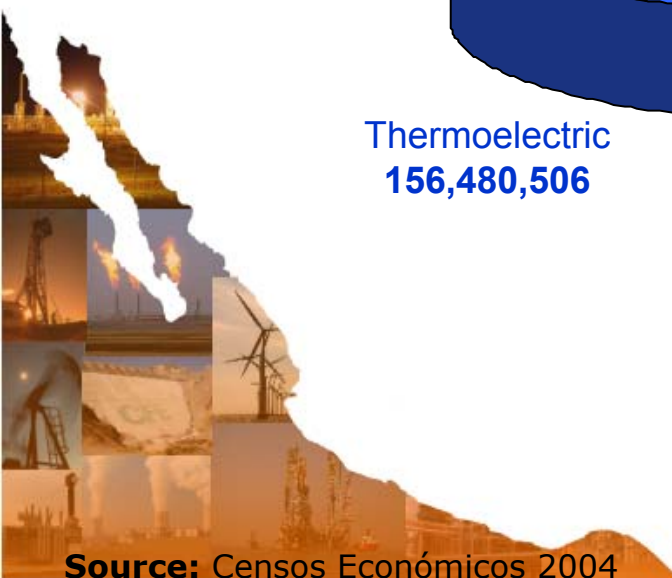
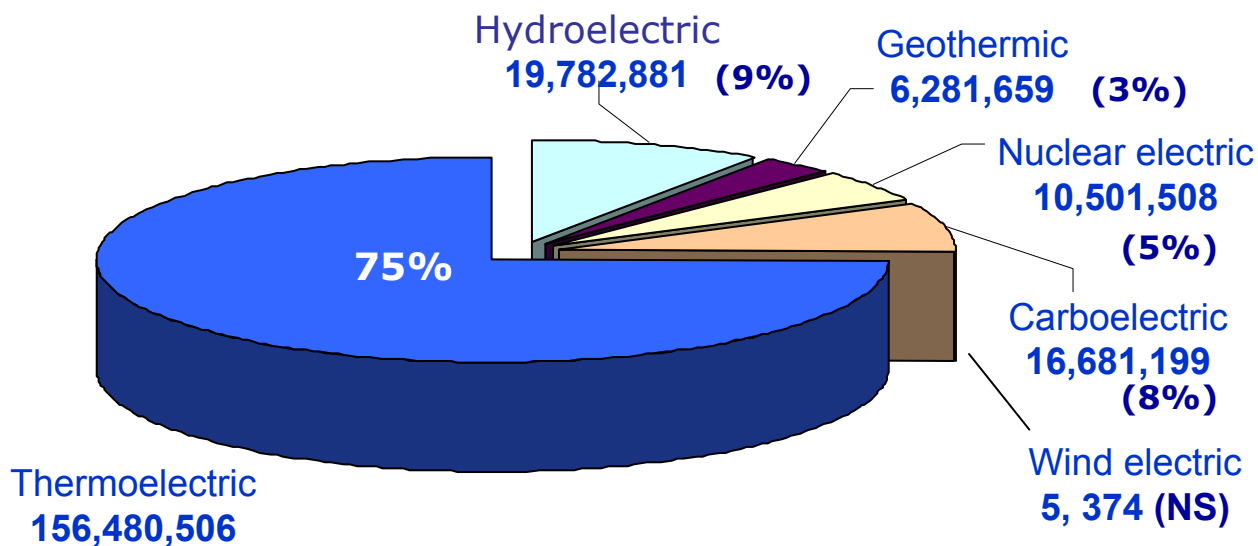


Fuels used in electric power generation



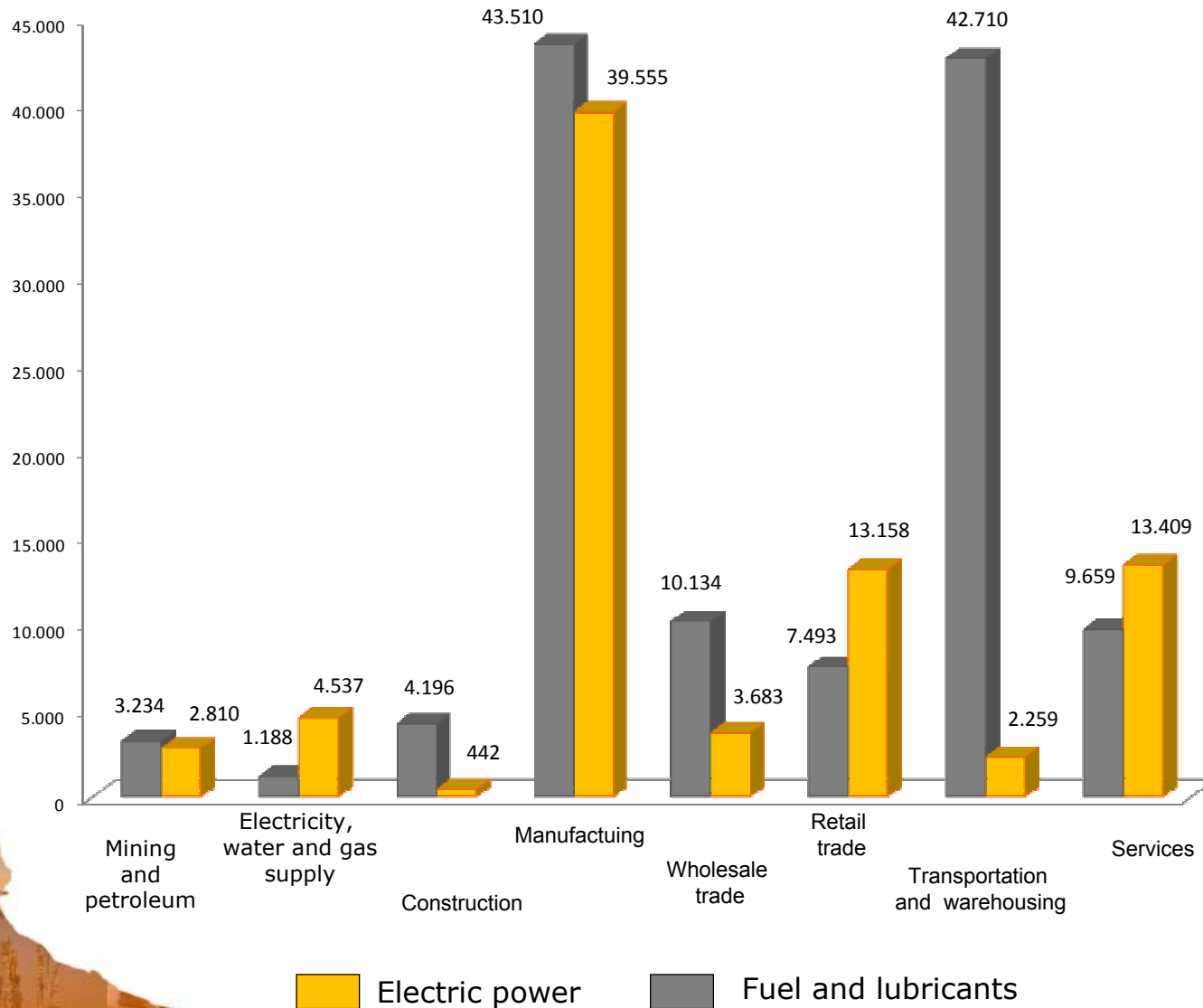
Gross energy generated by class of plant

(Thousands of Watts and percentages)



Electric power, fuel and lubricants consumption by sector

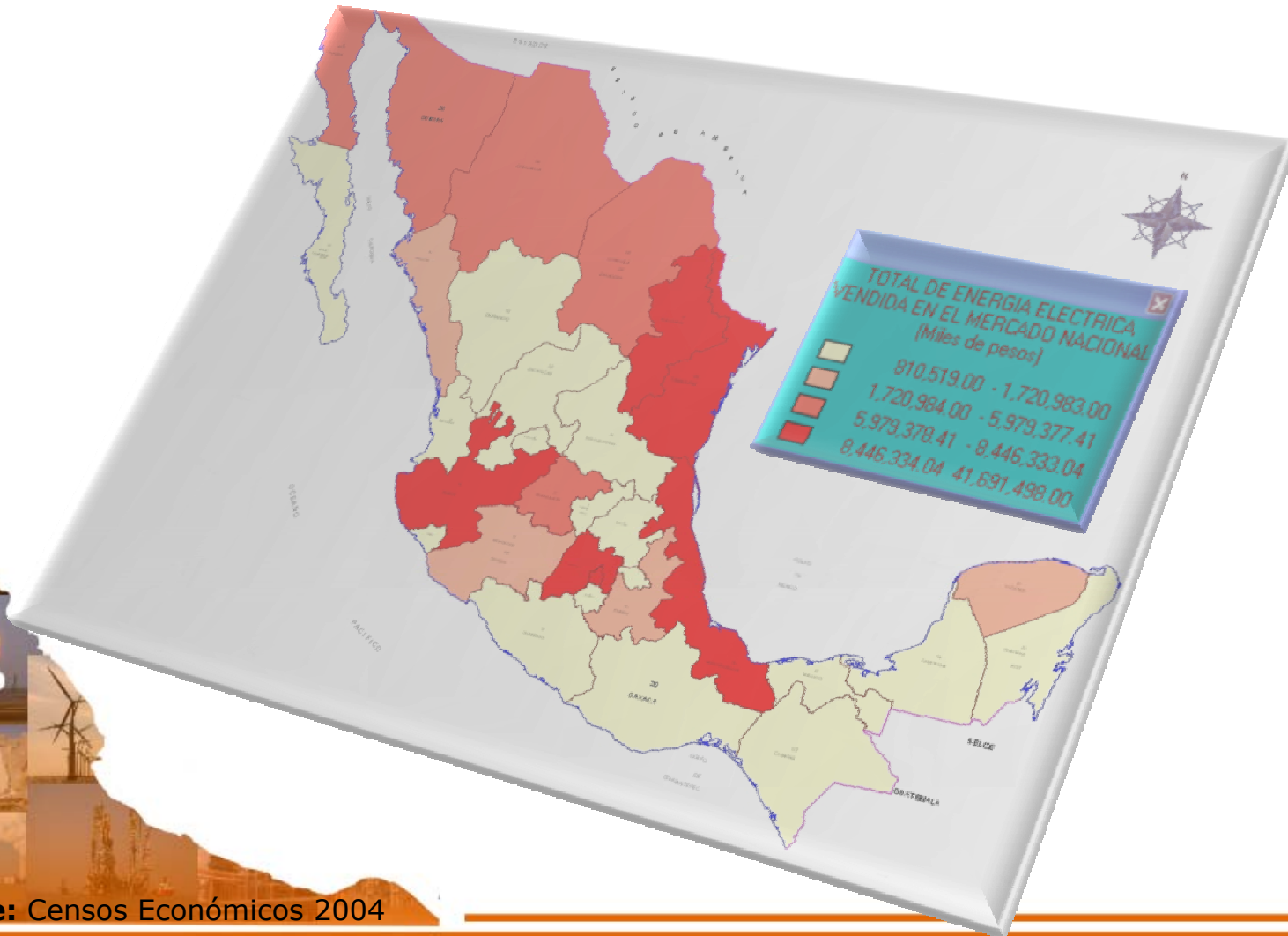
(Millions of pesos)



Source: Censos Económicos 2004



Electric power sold in the domestic market by Federative Entity





New topics in the Electric power questionnaire (2009 EC)

This questionnaire will be applied to concessionaires and public sector generators:

Class of concession:

Independent producer

Groups of enterprises that produce at least part of their electric power requirements (self-sufficiency societies)

Cogeneration society (private economic units which sell their excess production of electricity to the two government electricity companies)

Importer

Exporter

Expenditures in:

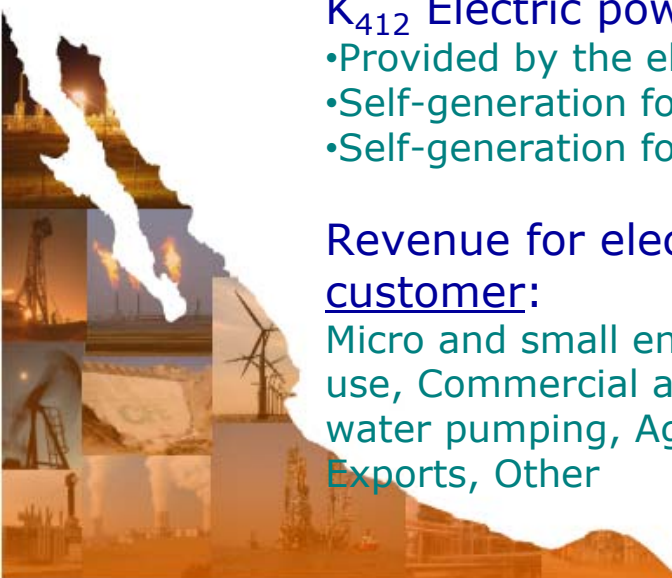
K₄₁₅ Electric power purchased, at cost price

K₄₁₂ Electric power consumption:

- Provided by the electrical sector
- Self-generation for own consumption
- Self-generation for self-sufficiency societies

Revenue for electric power sales at sale price, by class of customer:

Micro and small enterprises , Large industries, Back up service, Residential use, Commercial and services use, Public lightning, Potable and sewage water pumping, Agricultural, Transportation, National electrical system, Exports, Other

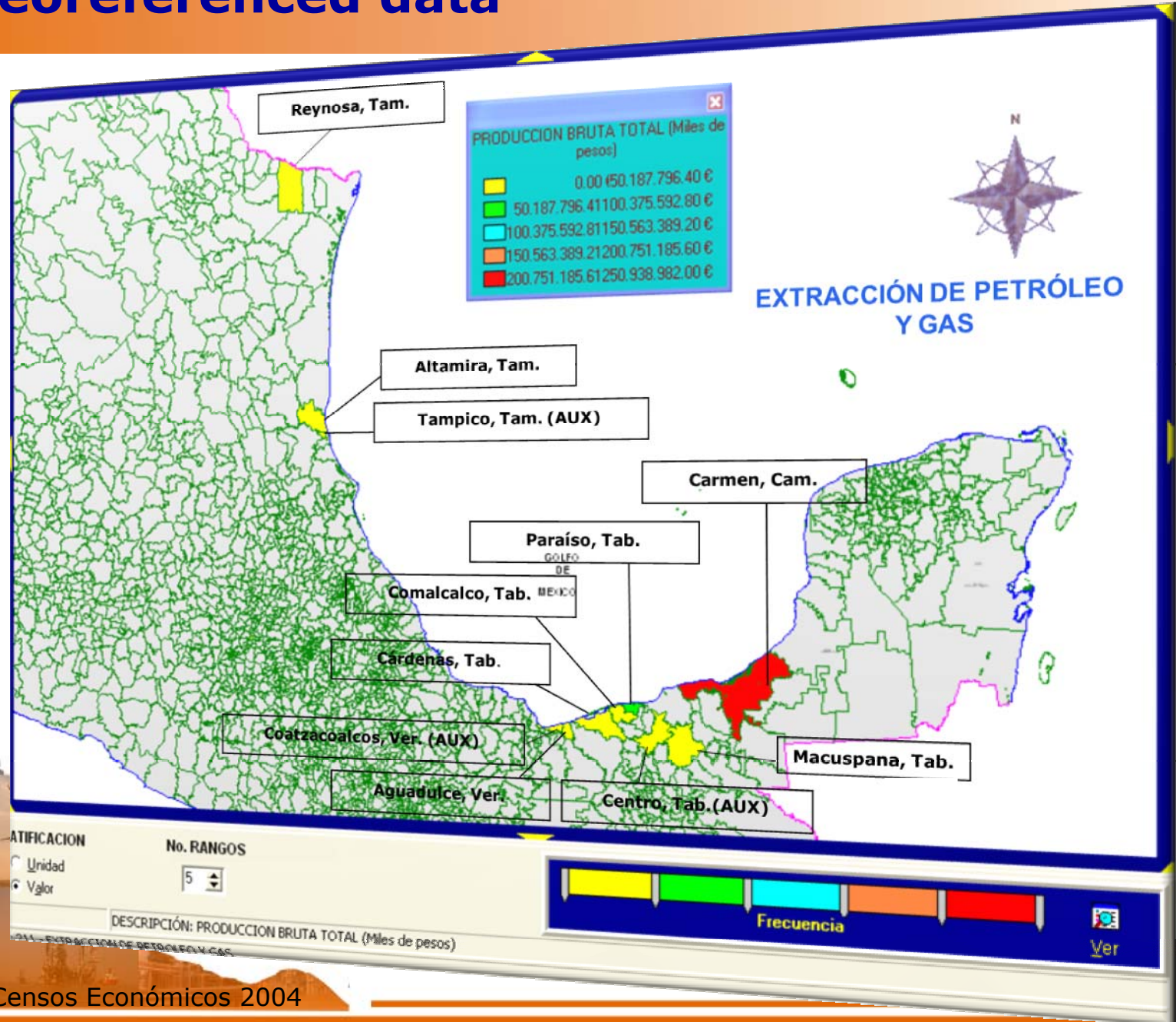


2004 Economic Census

- ◆ Crude petroleum and natural gas extraction
- ◆ Oil sales
- ◆ Gas sales
- ◆ Extraction plants
- ◆ Oil and gas extraction machinery, marine platforms and pipelines

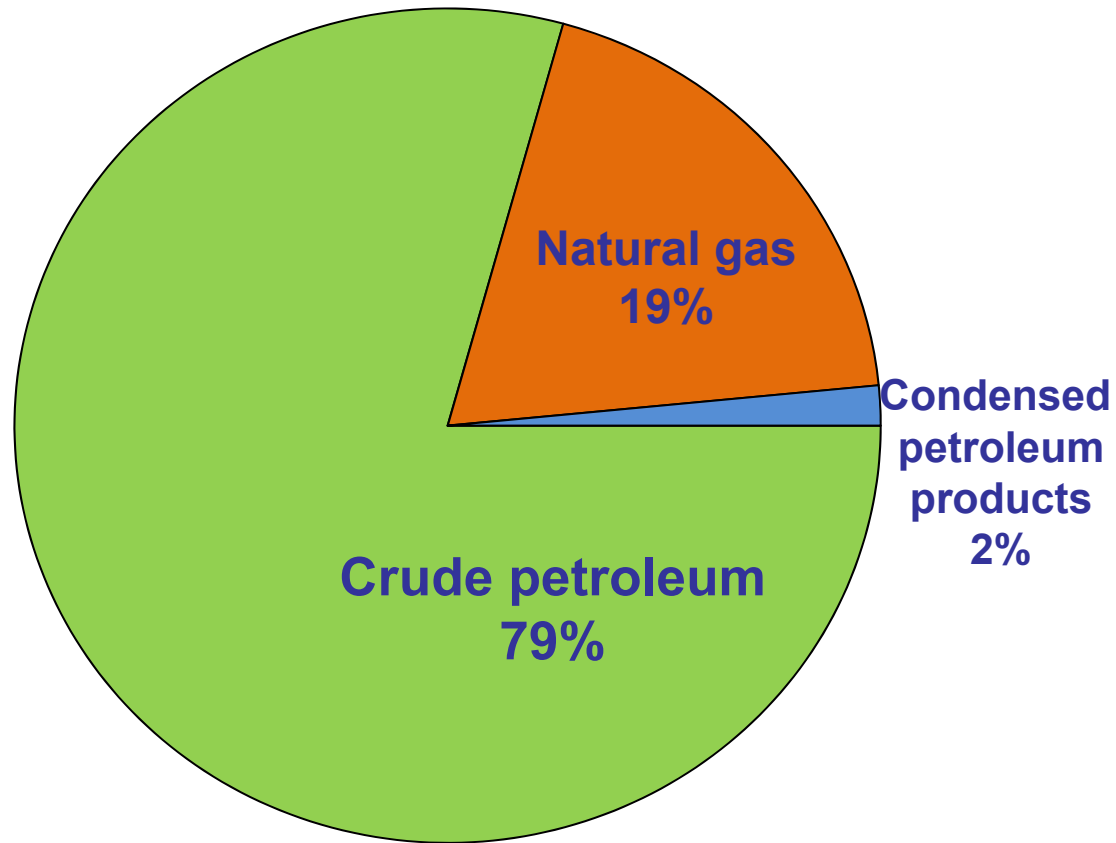


Georeferenced data



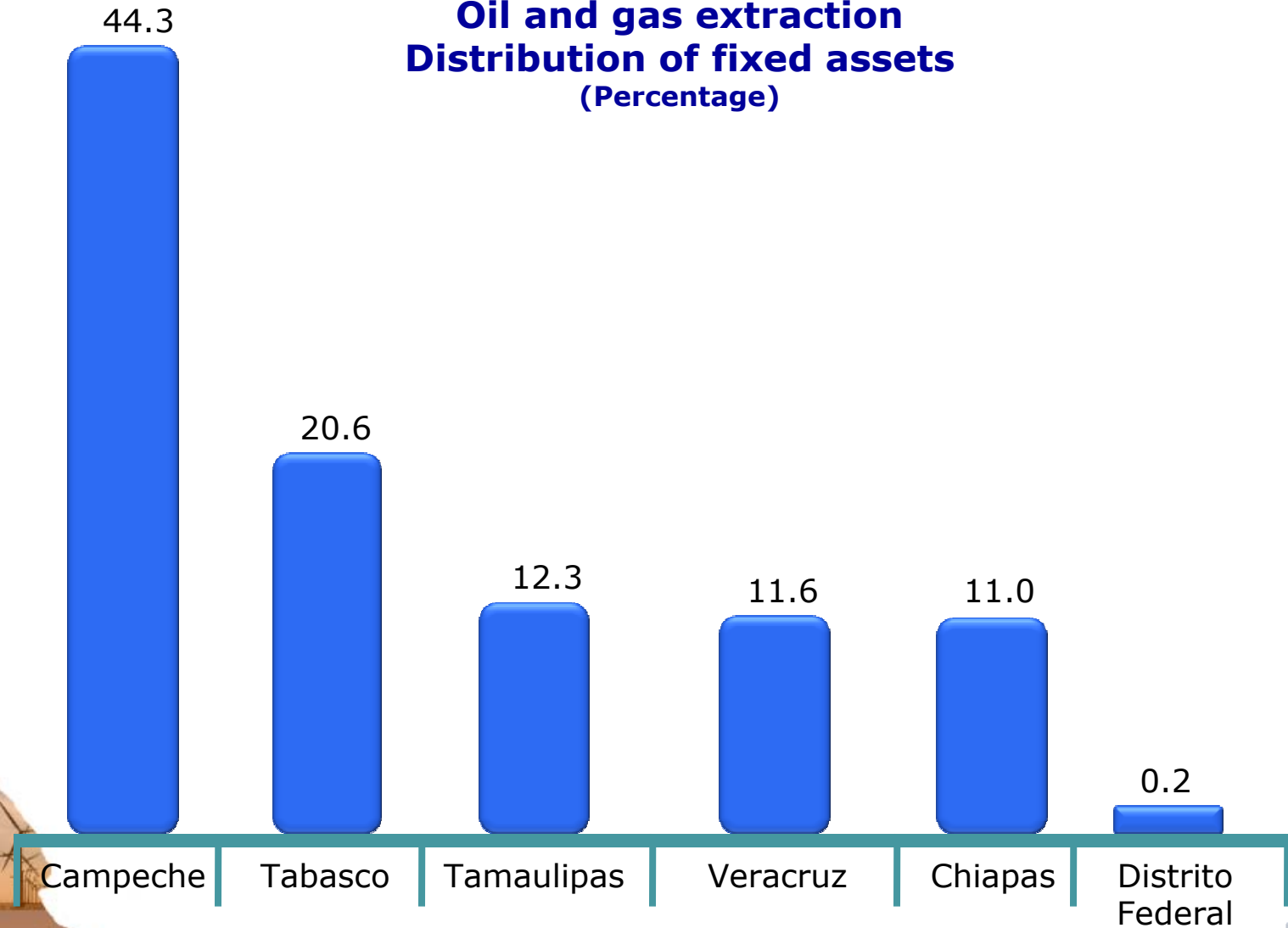
Source: Censos Económicos 2004

Revenue for the sale of petroleum products (Percentage)



Oil and gas extraction

Oil and gas extraction
Distribution of fixed assets
(Percentage)



Source: Censos Económicos 2004

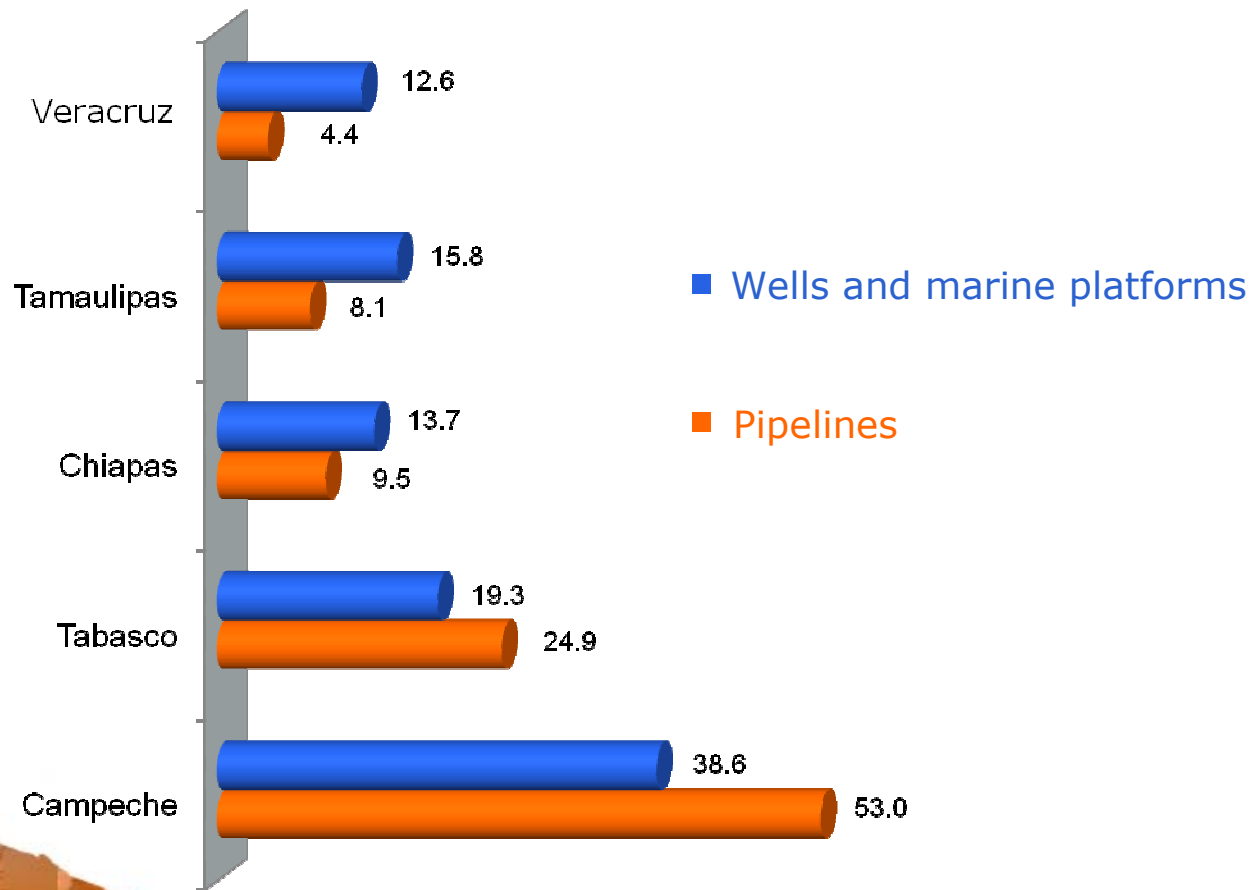


Oil and gas extraction

Oil extraction machinery and equipment (Percentage)



Distribution of pipelines, wells and marine platforms, 2003 (Porcentajes)



Hydrocarbons production and sale:

- Crude petroleum
- Natural gas
- Condensed petroleum products
- Refined petroleum products
- Petrochemical products

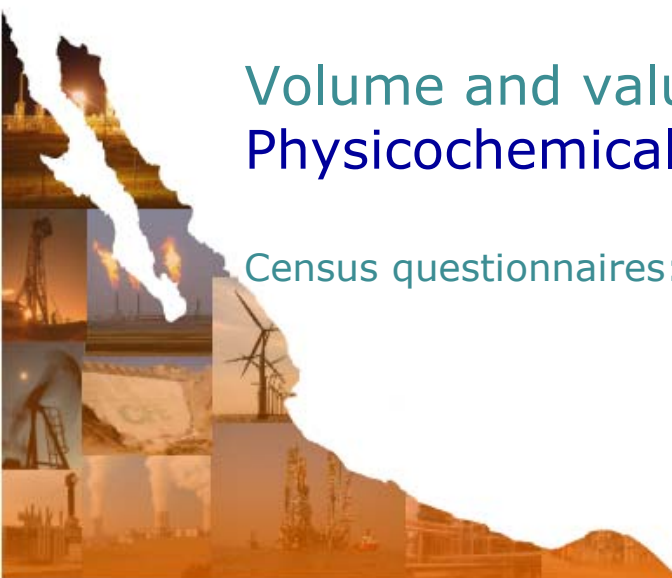
Volume and value:

Hydrocarbons, refined petroleum products, and petrochemical products

Volume and value :

Physicochemical agents, reagents and other supplies

Census questionnaires: Oil extraction, Refining and petrochemical





New subject matter applicable to a sample of large establishments, EC 2009

Expenditures detail:

K421 Fuel and lubricants consumption for transportation equipment

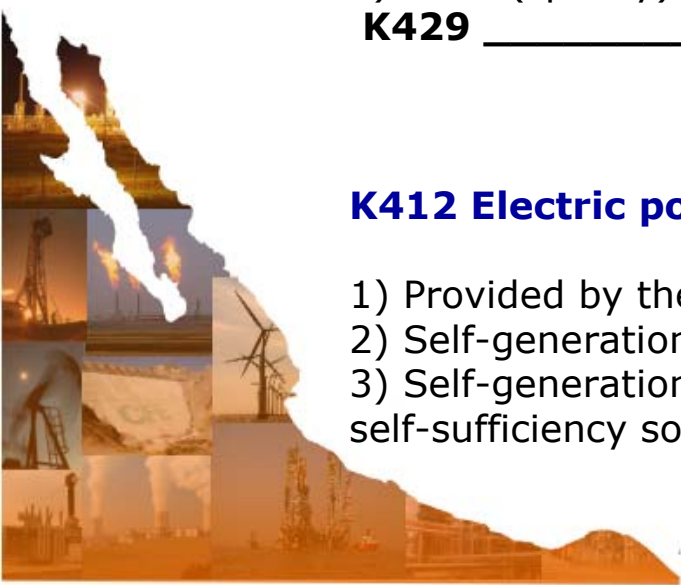
1) Liquefied petroleum gas (LP Gas)	lt	%
2) Natural gas	lt	%
3) Gasoline	lt	%
4) Diesel	lt	%
5) Jet fuel	lt	%
6) Fuel oil	lt	%
7) Lubricants	kg	%
9) Other(specify)		
K429		%

Value thousands of pesos

K412 Electric power consumption

1) Provided by the electrical sector	kw	%
2) Self-generation for own consumption	kw	%
3) Self-generation for self-sufficiency societies	kw	%

Value thousands of pesos





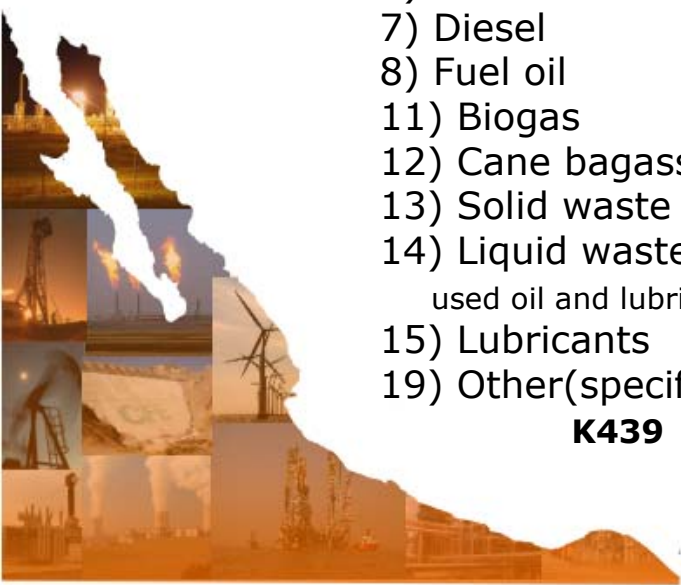
New subject matter applicable to a sample of large establishments, EC 2009

Expenditures detail:

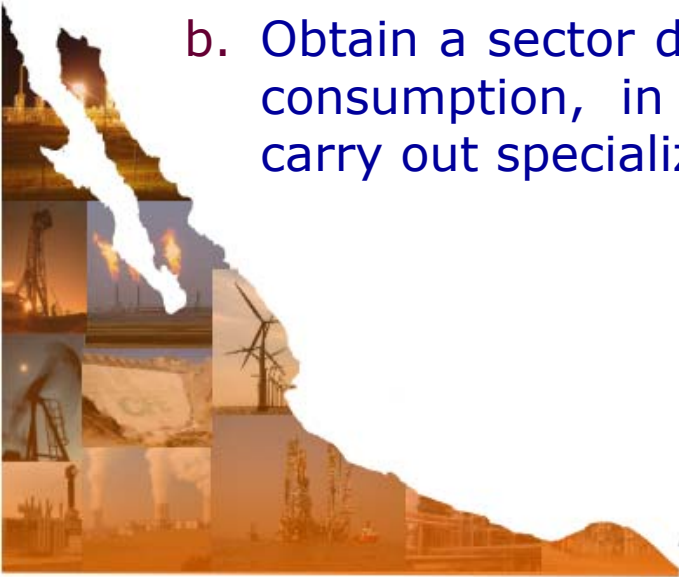
K431 Energetics consumption in the production process

Value
thousands of pesos

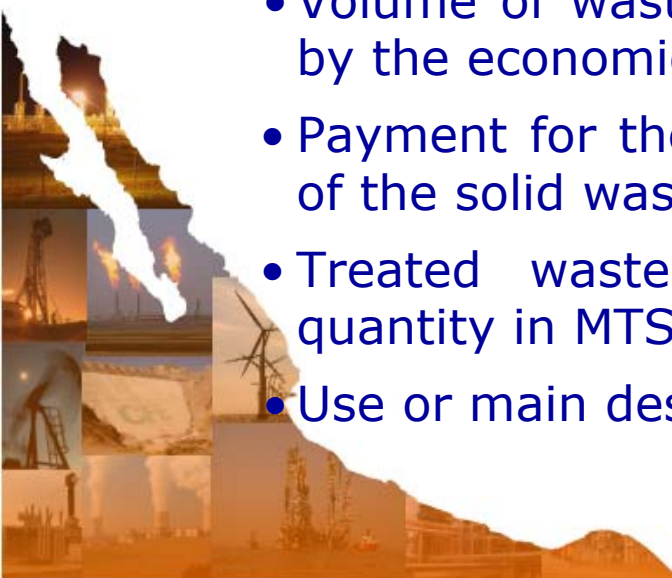
1) Coal	kg	%
2) Coke	kg	%
3) Petroleum coke	kg	%
4) Liquefied petroleum gas (LP Gas)	lt	%
5) Natural gas	lt	%
6) Gasoline	lt	%
7) Diesel	lt	%
8) Fuel oil	lt	%
11) Biogas	m3	%
12) Cane bagasse	kg	%
13) Solid waste	kg	%
14) Liquid waste(include used oil and lubricants)	lt	%
15) Lubricants	kg	%
19) Other(specify)		%
K439		%



- Specific subject matter incorporated in the 2009 census questionnaires for large enterprises.
- A chapter aimed to collect data on the environment.
- The breakdown for expenditures in fuel and lubricants, electric power, as well as energetics consumed, will allow to:
 - a. Develop economic-environmental indicators.
 - b. Obtain a sector directory of respondents with high energetics consumption, in order to generate sample frameworks to carry out specialized surveys.



- Is this unit subject to the fulfillment of environmental standards?
- Personnel *exclusively* devoted to environmental protection activities
- Personnel *partially* devoted to environmental protection activities
- *Investment expenditures* (facilities or equipment) to prevent, reduce or eliminate environmental pollution
- *Current expenditures* for environmental protection activities
- Volume of waste, by type and measurement unit, generated by the economic unit
- Payment for the management, transportation or confinement of the solid waste generated
- Treated waste water generated by the economic unit, quantity in MTS³
- Use or main destination of treated water



Statistics on energy from administrative registers and surveys

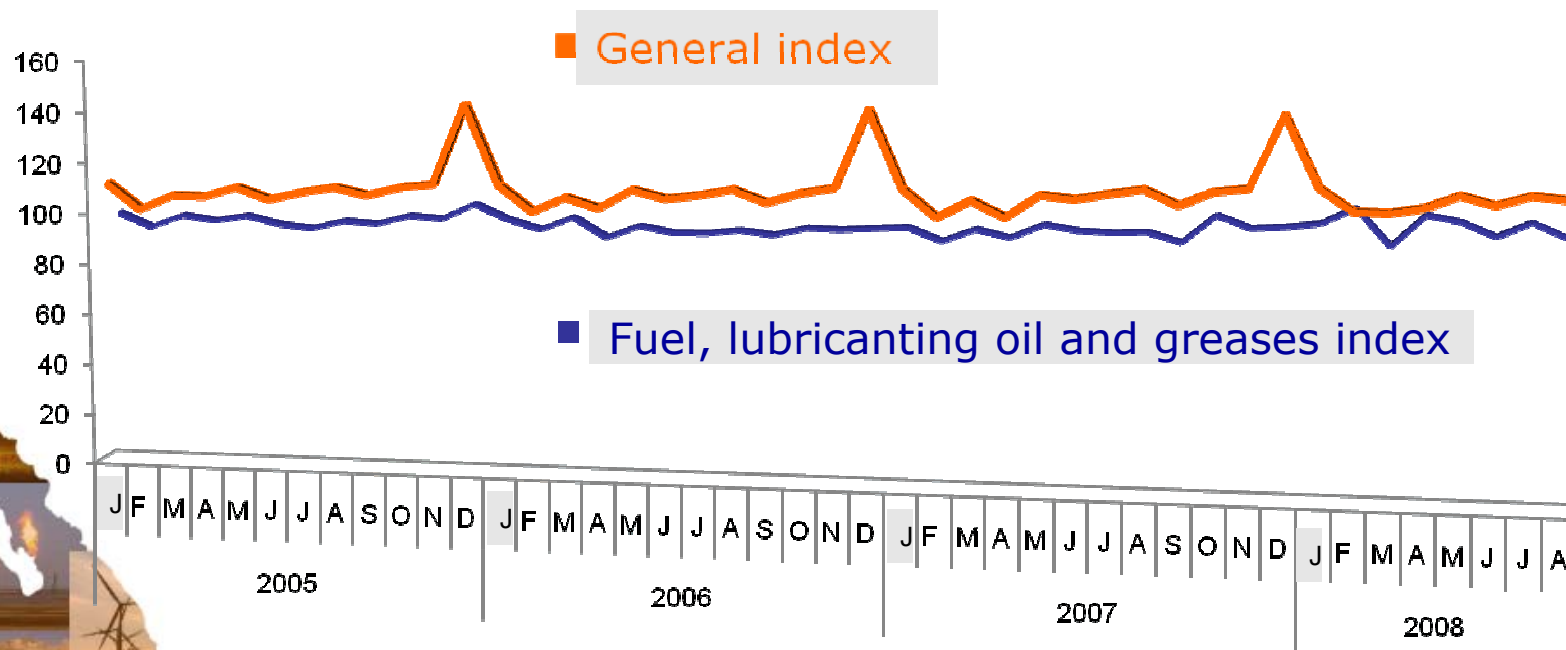


Net retail sales

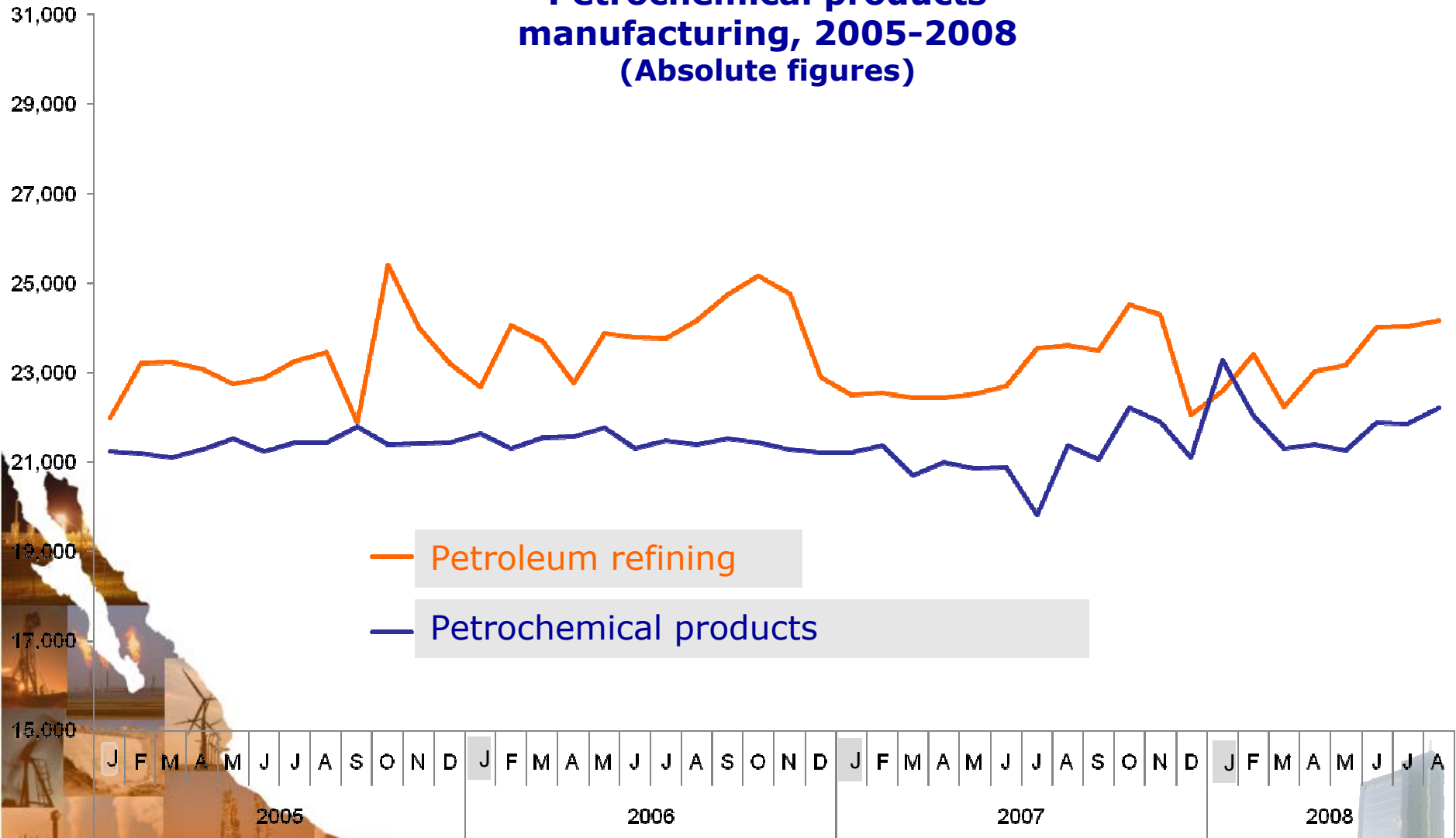
General retail sales index and
Fuel, lubricating oil and greases sales index

2005-2008

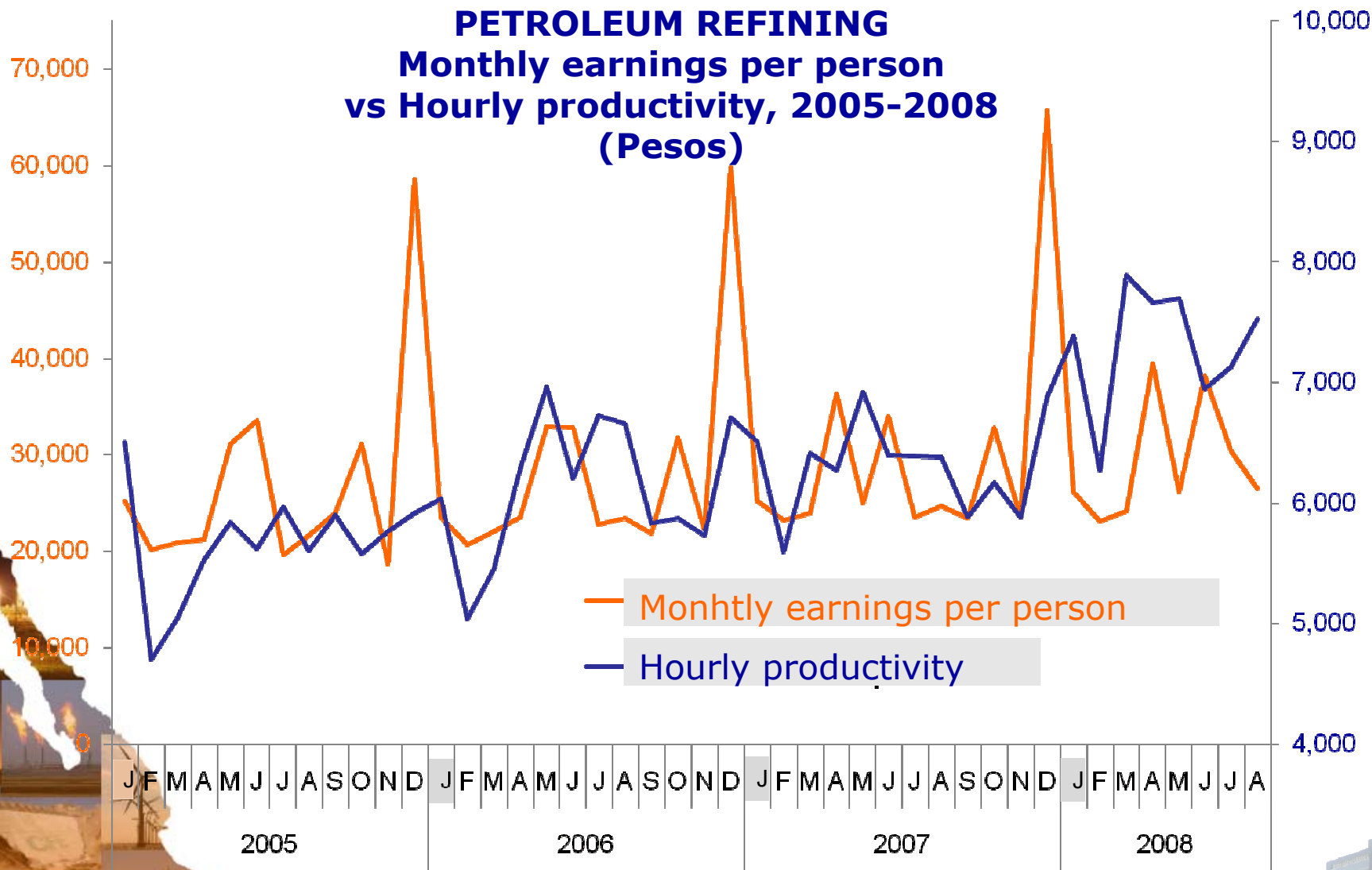
Base 2003 = 100



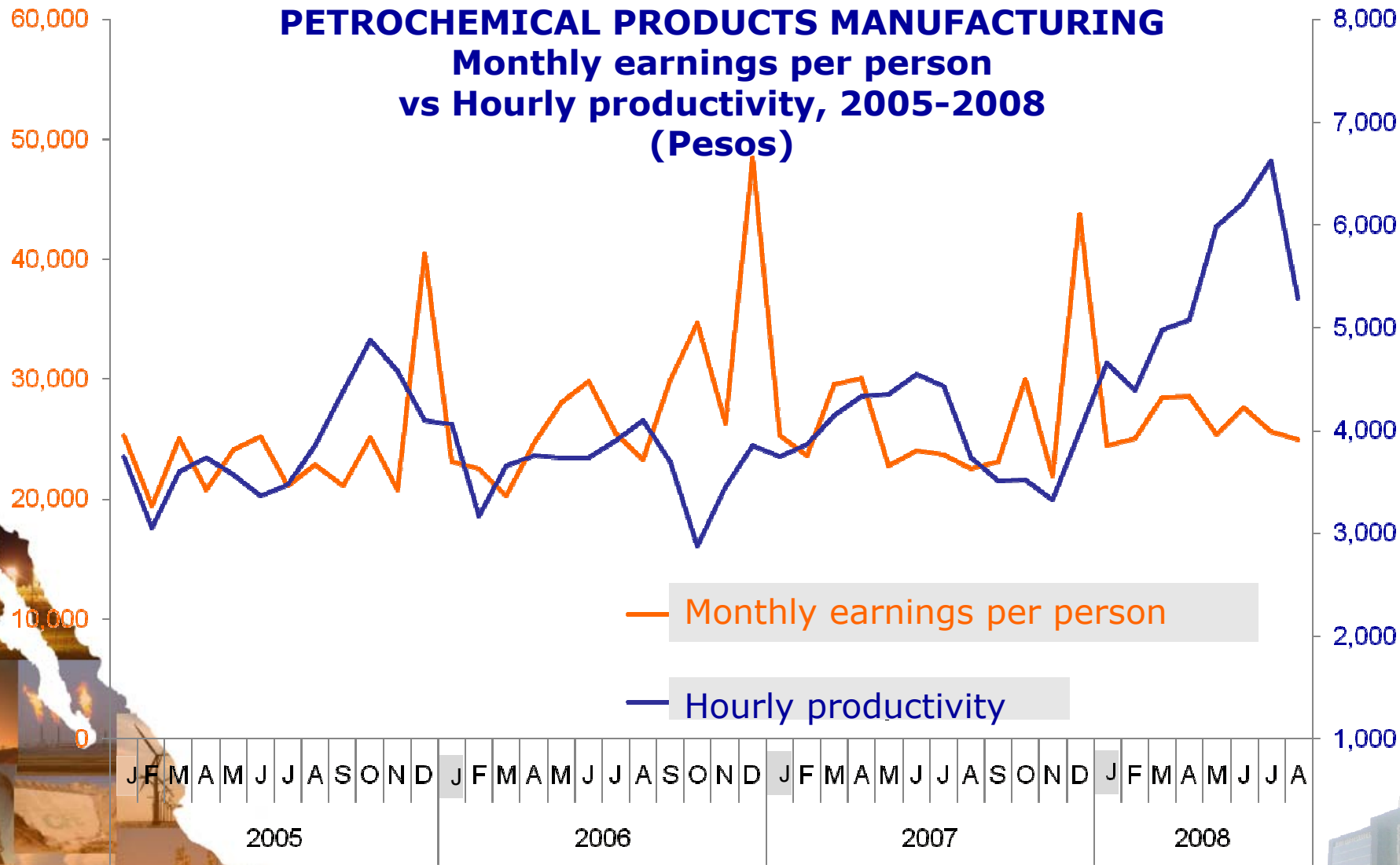
Trend of employees in Petroleum refining and Petrochemical products manufacturing, 2005-2008 (Absolute figures)



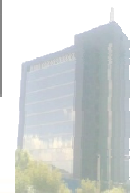
PETROLEUM REFINING Monthly earnings per person vs Hourly productivity, 2005-2008 (Pesos)



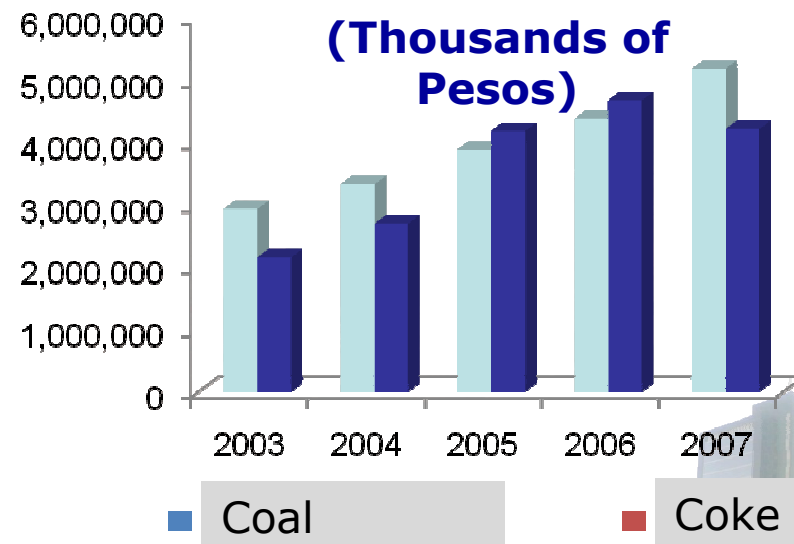
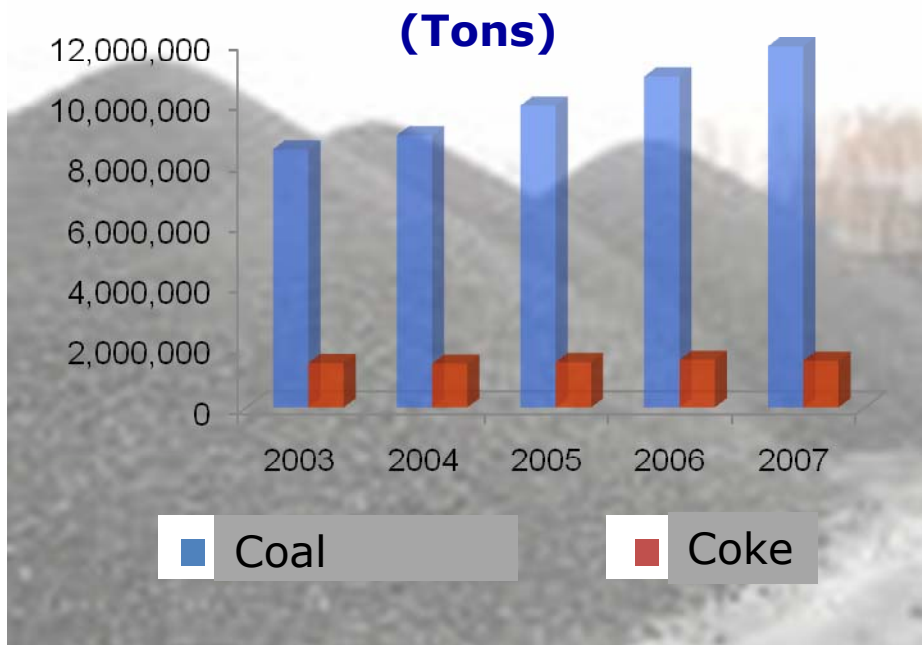
PETROCHEMICAL PRODUCTS MANUFACTURING Monthly earnings per person vs Hourly productivity, 2005-2008 (Pesos)



Source: Encuesta Industrial Mensual

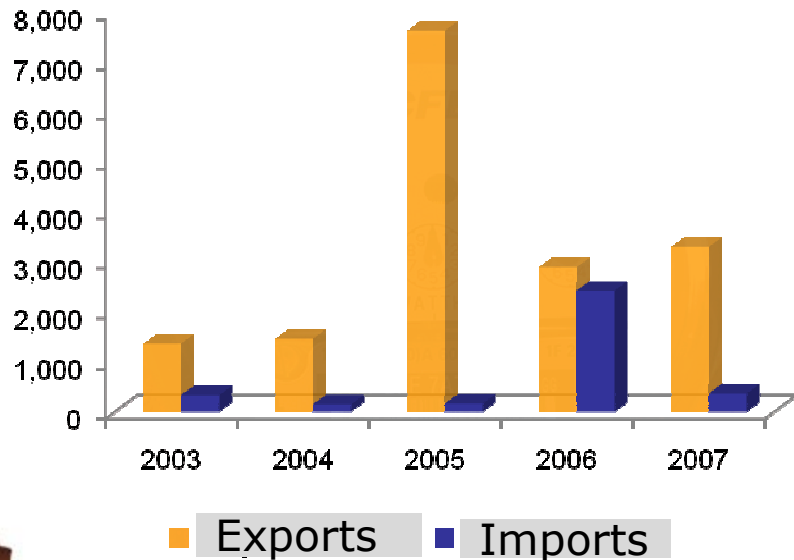


Coal and coke production

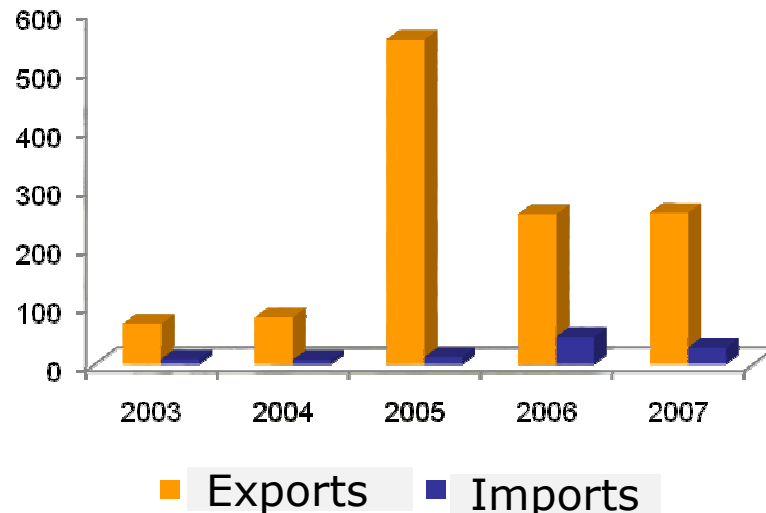


Source: Estadísticas de la Industria Minero-metalúrgica

Millions of Kilowatt-hour



Millions of Dollars





Kilowatt-hour price (Dollar cents)

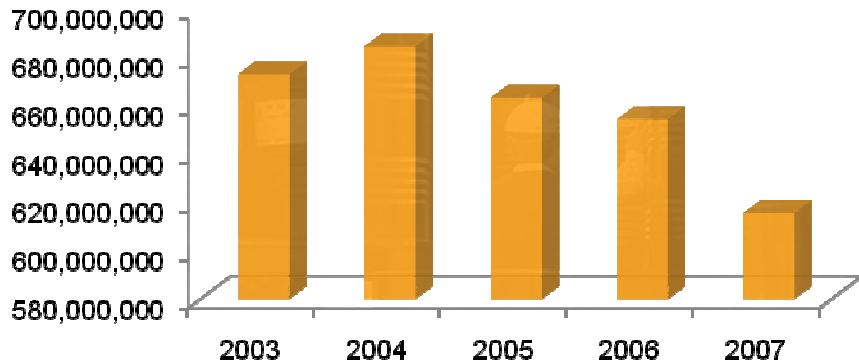




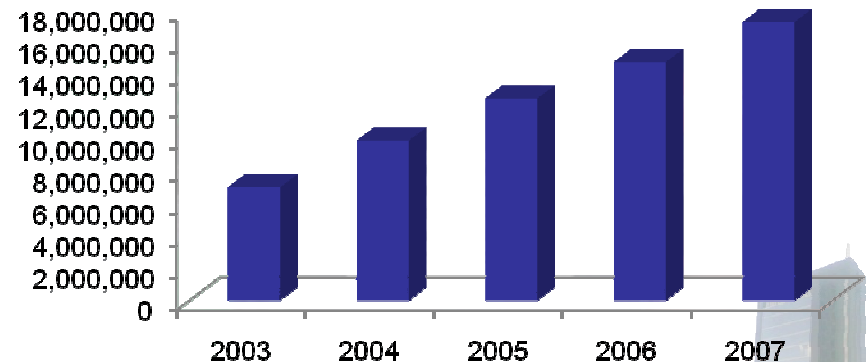
Petroleum crude oil exports and Gasoline imports

Tariff item (27.09.00.01)

Exports Petroleum barrels



Imports Thousands of liters of gasoline



- Standardize methodologies and promote joint strategies for the collection, generation and dissemination of basic statistical data between INEGI and the energetics sector institutions and organizations.
- Link the generation and dissemination of energetic data with educational and research institutions, in order to explore the joint production of working papers (thematic research papers).



Thank you

Gerardo Leyva Parra

Deputy General Director

Economic Statistics

INEGI

gerardo.leyva@inegi.org.mx

