Energy policy (J13-00604)

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PRESENTED BY **PATRICK YALIS ONGALLA,**
ELECTRICITY MANAGER.
MINISTRY OF OIL, ENERGY AND HYDRAULIC RESSOURCES OF GABON

Introduction (Geographical aspects)

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- Gabon is a country located in the central western region of Africa and shares borders to the northwest with Equatorial Guinea, to the north with Cameroon and to the east and south with the Republic of Congo. The Gulf of Guinea, an arm of the Atlantic Ocean is to the west of the country.

Introduction (geographical aspects)

- The country has an area of about 270,000 km² and counts a population estimated more than 1,500,000 inhabitants (census of 2003). Its capital and bigger city is Libreville.
- Gabon gained its independence from France in 1960 and has vast natural resources who play an important role in GDP formation.

Introduction (Socio-economic aspects)

- Although Gabon is one of the few countries in sub-Saharan Africa to be classified by international institutions (IMF and WB) such as middle-income country, Gabon records a poverty level comparable to that of low-income countries (HDI of 0.656 in 2011 / 187 countries).

Introduction (Socio-economic aspects)

- **Economic situation compared of Gabon and its neighbors (source: IMF, World Economy Outlook, April 2012).**

	Gabon	Cameroon	Congo	Equatorial Guinea
GDP (Constant prices, bilion USD)	13,2	22,5	12	14,5
Real growth rate (%)	6,60%	2,90%	8,80%	-0,80%
Population (million)	1,5	20,4	3,9	1,3
GDP per capita (constant prices, USD)	8 820	1 100	3 113	11 045
Inflation	1,40%	1,30%	23,50%	7,50%
Governement revenues (% of GDP)	28,10%	17,50%	37,50%	30,00%
Governement spending (% of GDP)	25,10%	18,60%	21,40%	35,00%
Net Public debt (% of GDP)	15,70%	12,10%	23,80%	7,50%
Trade balance	9,10%	-2,80%	5,10%	-24,10%

Introduction (Socio-economic aspects)

- An economy mainly concentrated around mining activities accounted for 56.3% of GDP in 2008.
- The weight of oil industry, in particular, is steadily rising. It represents 53% of GDP and 79% of export earnings (in value).
- The forest industry is the second largest economic sector and accounts for 8% of exports (by value).
- Manganese contributes to GDP by 4% and exports up to 8% (in value).

I. Energy policy and measures

- Gabon has a strategy to develop its resources for the development of the country.
- This program resulted in the energy sector with an ambitious program to make Gabon a sustainable energy platform and environment friendly that guarantees universal access to modern energy services, reliable and affordable cost by 2020.
- It also relies on a serie of reforms to improve the business climate and promote private sector development and public-private partnerships.

I. a. Energy policy

To achieve this objective, the Gabonese authorities base on the following key:

- Ensuring energy security and increase access for all;
- Make substantial progress towards clean and renewable energy;
- Measures for rural area and suburban;
- Governance strengthened at the national level.

I.b. Measures

- **Electricicty production:**
  - Based on the 2010-2020 electricity plan;
  - The goal is to make Gabon a sustainable energy platform based on a mix hydro - gas - biomass consistent with pillar "Green Gabon" of "Gabon Emergent" policy;
  - The main projects are, in chronological order:

I.b. Measures

- Thermal gas power plant in Libreville (70 MW): commissioning is scheduled for August 2013;
- The Grand Poubara Hydroelectric power plant in Franceville (South-east) (160 MW): commissioning is scheduled for August 2013;
- Thermal gas power plant in Port Gentil (50 MW can gradually go up to 100 MW): commissioning is scheduled for september 2013;
- Three other hydroelectric power plant (10, 36, 85 and 110 MW): the start of construction is scheduled for the end of 2013.

I.b. Measures

- **Oil and gas:** To strengthen the supply of oil and gas in Gabon for the benefit of all, the Government aims to achieve the following:
  - Develop specific gas exploration, particularly in offshore;
  - Partnerships with gas operators for the supply of gas;
  - Amend legislation on gas and conditions of contracts and promoting the arrival of investors (electricity generation projects with PPP, industrial projects using gas, ie fertilizer metallurgy);

I.b. Measures

- **Transmission and energy distribution and regional cooperation:**
  - Construction of the National transmission network from 2010 to 2018 with a national load dispathing center;
  - By 2020, development of the proposed regional interconnected transmission network via the axis Brazzaville (Congo)-Calabar (Nigeria).

The main objective here is to share energy resources.

I.b. Measures

- Energy efficiency in supply and demand: improving energy efficiency and conservation can:
  - Reduce the need for investement in infrastructures;
  - Reduce fuel costs;
  - Increase competitiveness, environmental benefits and consumers well-being;
  - Lessen the dependance on fossil fuel.

  To achieve this goal, the following activities will be undertaken:

I.b. Measures

- Energy audit (assessment) of the most important admnistrative buildings;
- Develop a plan for energy efficiency in public buildings from recommendations related to audit and implement;
- Implement energy saving solution such as the use of energy efficient lighting solutions, unloaders for the consumption of air conditioners;
- For the public lighting, use a systematic way of lighting low energy (LBC, LED) systems.

II. Energy demand and supply (statistics)

- Statistics are from 2000, year of the last publication of the energy situation in Gabon;
- Aggregate demand is distributed among the following subsectors, in 2000:
  - Oil industry;
  - Other industries (agriculture, fishing, forestry, mine industries, timber, construction,...);
  - Transports;
  - Tertiary;
  - And households.

II. Energy demand and supply (statistics)

- Demand statistics in 2000 (Source: DGERH)

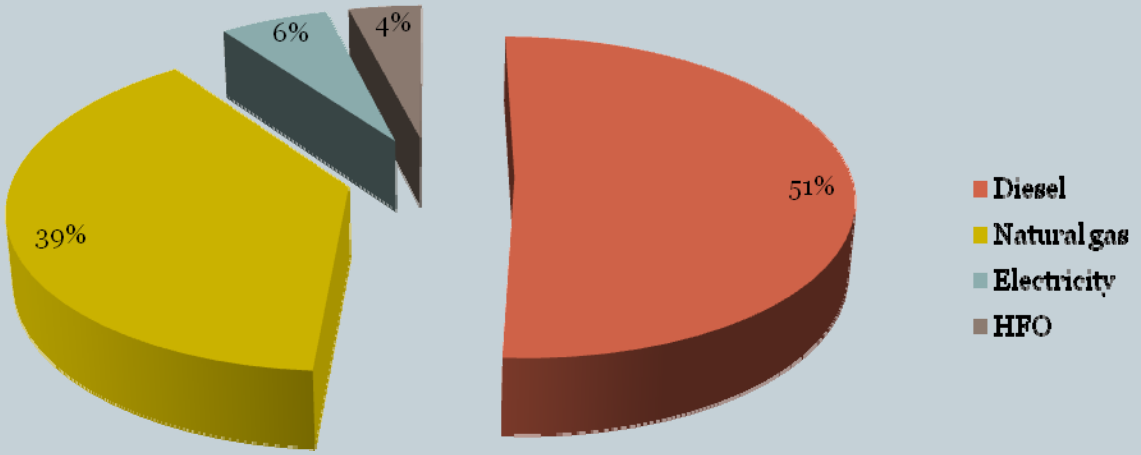
In TOE	1994	1998	1999	2000	Var 00/94 (%)	Var 00/99 (%)
Global Consumption	**505 314**	**661 477**	**619 311**	**589 304**	**0,17**	**0,11**
Oil Industry	74 922	99 280	97 265	101 993	0,36	0,03
Other industries	124 471	179 627	160 662	166 750	0,34	0,07
Transport	164 517	214 517	199 037	166 055	0,01	0,23
Tertiary sector	45 601	46 736	41 200	40 694	0,11	0,13
Households					0,18	0,05
Statistic discrepancy	1043	1131	0	0	1	1

II. Energy demand and supply (statistics)

In %	1994	1998	1999	2000
Global Consumption	**100%**	**100%**	**100%**	**100%**
Oil Industry	15%	15%	16%	17%
Other industries	25%	27%	26%	28%
Transport	33%	32%	32%	28%
Tertiary sector	9%	7%	7%	7%
Households	19%	18%	20%	19%
Statistic discrepancy	0%	0%	0%	0%

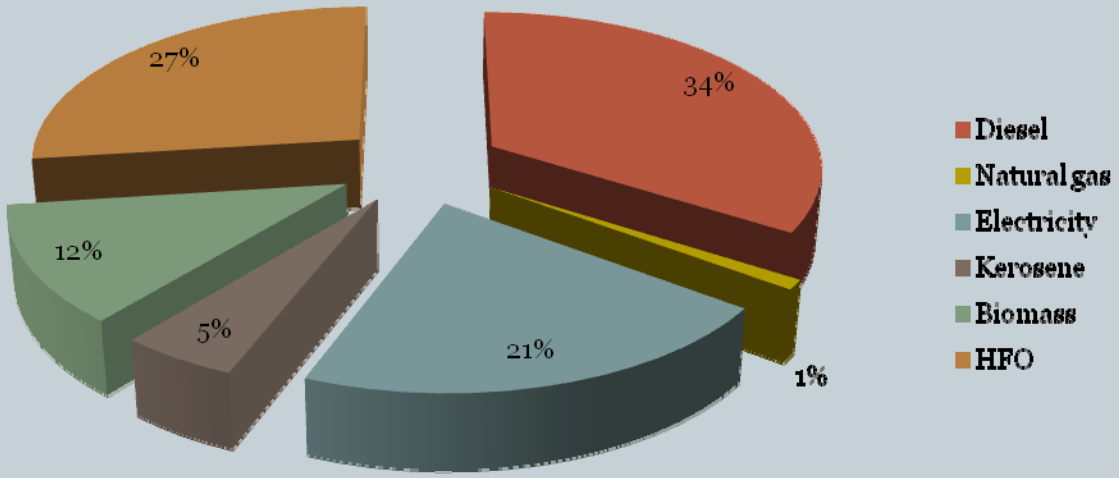
II. Energy demand and supply (statistics)

- Oil industry:



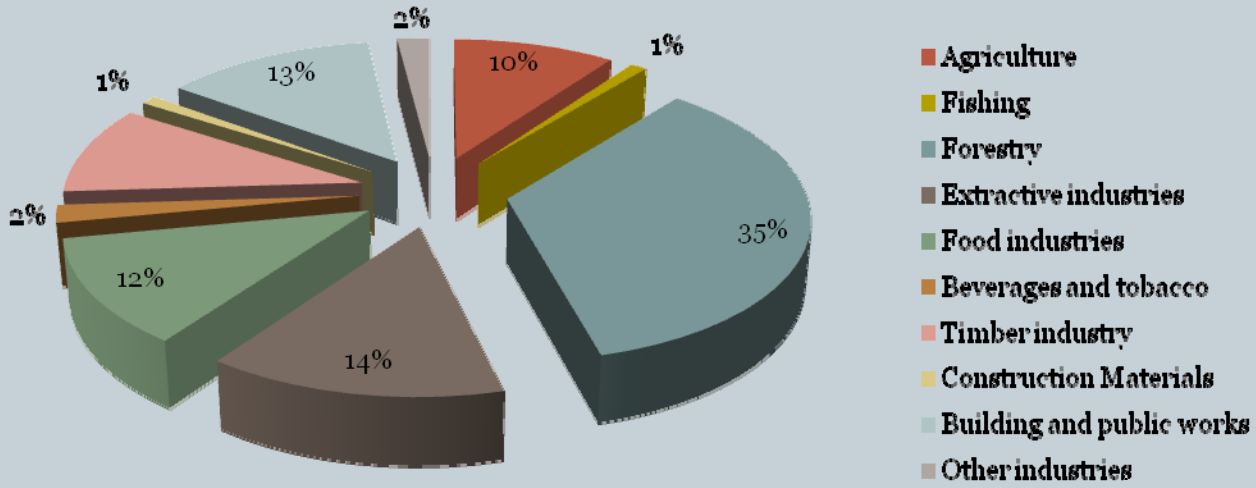
II. Energy demand and supply (statistics)

- Industries:



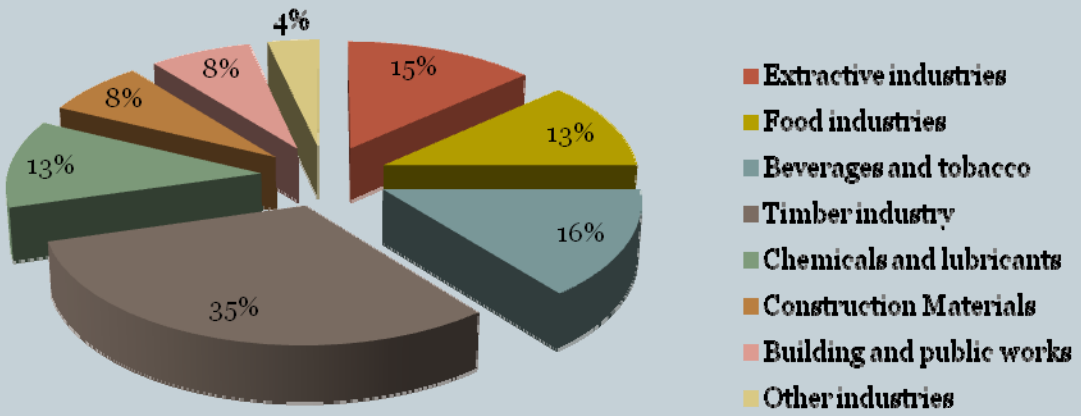
II. Energy demand and supply (statistics)

- Diesel consumption in industries subsector in 2000:



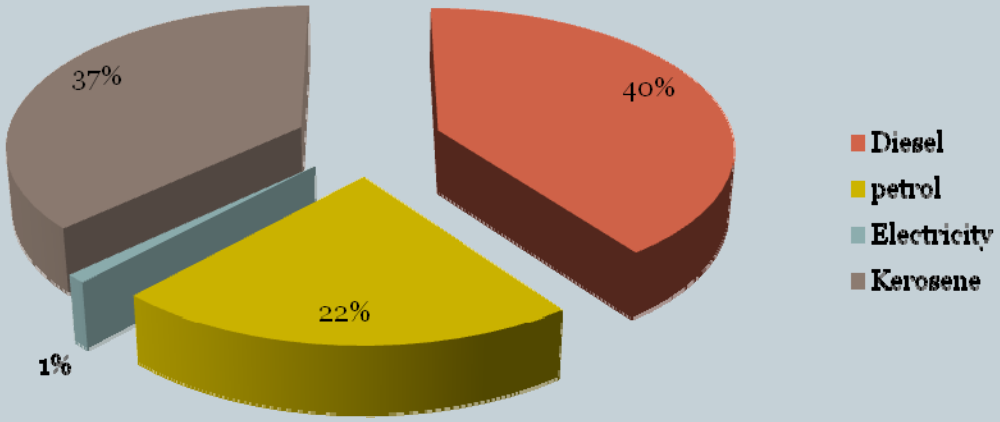
II. Energy demand and supply (statistics)

- Electricity (MV) consumption in industries subsector (2000)



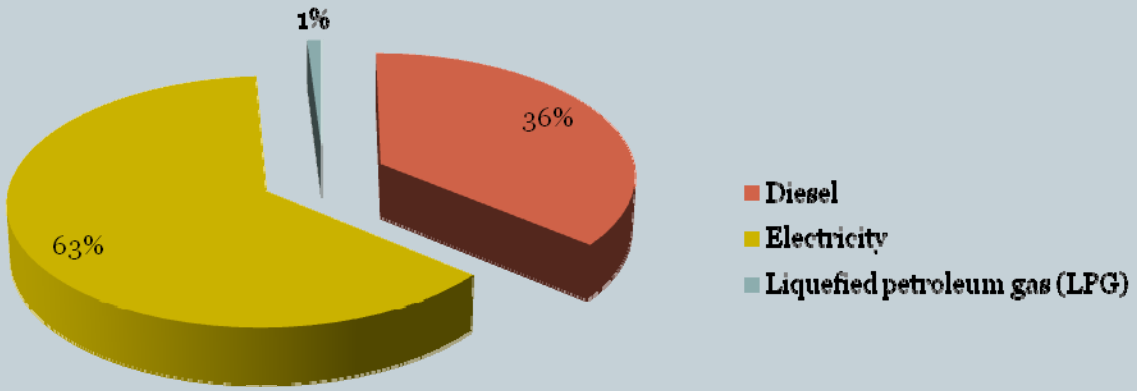
II. Energy demand and supply (statistics)

- Transports subsector:



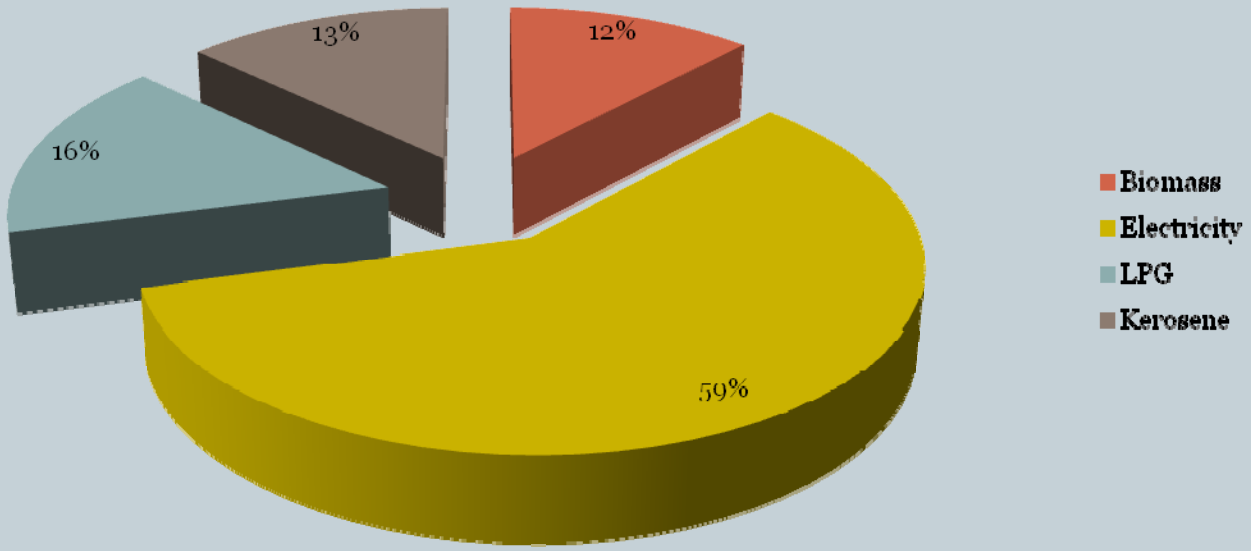
II. Energy demand and supply (statistics)

- Tertiary:



II. Energy demand and supply (statistics)

- Households:



II. Energy demand and supply (statistics)

- Supply statistics in 2000 (Source: DGERH):

		Crude oil	Petrol	Kerosene	Diesel	Heavy oil	Non-energy petrolium products	LPG	Natural gas	Electricity	Biomass
	Common units	Tonne	Tonne	Tonne	Tonne	Tonne	Tonne	Tonne	3 000 m^3	MWh	3 000 th
Production	Energy production	18 462 000							2 713 914	809 104	5 830 098
	Imports (+)		3 040	55 495	60 897	0	1 314	6 232			
	Exports (-)	17 750 783	34 029	23 189	50 746	186 032	0	75			
	Marine bunkers (-)				52 413	70 000					
	Stock variation		3 240	337	2 103	4 774	606	172			
	Primary supply 1a	**711 217**	**27 749**	**31 969**	**44 366**	**260 806**	**709**	**5 985**	**2 713 914**	**809 104**	**5 830 098**
Transformation	Refinery	711 217	70 599	80 307	252 009	278 089	10 073	10 077	10 160	26 126	
	Thermale power plants	4			20 745				72 001	272 480	
	Secondery supply 1b	**711 217**	**70 599**	**80 307**	**231 265**	**278 089**	**10 073**	**10 077**	**82 160**	**246 354**	
	Gross supply 1c=1a+1b	0	42 850	112 276	186 899	17 284	10 781	16 062	2 631 754	1 055 458	5 830 098
	Non-energy uses (-)	5					10 524				63 000
	Losses in the transmission and distribution (-)=1-1c	5	9 545	1 993	43 800	12 415	257	355	2 580 198	137 404	5 266 800
	Domestic market	6	33 305	110 283	251 443	29 699	10 524	15 707	123 556	918 054	500 298
	Net supply	**0**	**33 305**	**110 283**	**230 699**	**29 699**	**0**	**15 707**	**51 555**	**891 928**	**500 298**

III. Outlook of energy demand and supply

- Energy demand:
  - Petreleum: demand for petroleum products is expected to increase rapidly in the next ten years if the number of industrial projects are implemented, but also because of changes in household lifestyle.
  - Gas: gas consumption will follow the same trend because of its use in electricity production, but also in fertilizants industry.
  - Electricity: Since 2000, electricity demand grows with a rate of up to 6% per year. This trend will continue to rise exceeding 12% per year by 2020, due to the implementation of industrial projects, but also changes in household lifestyle.

III. Outlook of energy demand and supply

- Energy supply:
  - Petreleum: proved reserves can ensure energy independence for the 40 years. But it is necessary to increase the refining capacity,
  - Gas: proven reserves are enormous to ensure energy independence for several years. But large investments are needed.
  - Electricity: hydropower potential is expected to face the demand increased. But other Renewable energy sources must be developed

III. Major difficulties and bottlenecks currently faced in formulating energy policies

Many difficulties and barriers hinder the formulation of energy policy in Gabon. Among of them, we have:

- Difficulties in obtaining and monitoring of energy data;
- Institutional and regulatory aspects: there is no institutional or regulatory framework mandating transmission of energy data to the Ministry in charge of Energy;

III. Major difficulties and bottlenecks currently faced in formulating energy policies

- Difficulties in the development of energy balance;
- Financial barriers:
- Political barriers

IV. Subjects to study in order of priority

- Development of energy balance;
- Calculation of indicators;
- Prospective analyzes;
- Development of an energy information system.

Thank you!

Contact : report@tky.ieej.or.jp