



Sustainable Energy for All

**Sustainable
Development
The role of the oil and
gas industry in Latin
America and the
Caribbean**

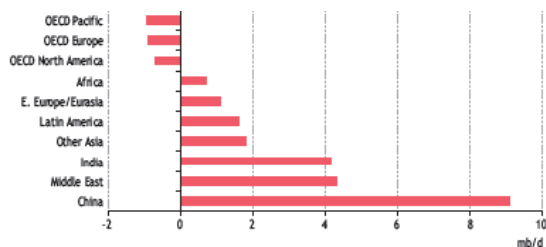
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Global Outlook

Oil Demand (mb/d)

According to IEA, in a scenario by 2030, the global oil demand, increases 1% per year. The increase occurs in Non-OECD countries.



2. The price elasticity of demand for oil products based on final prices is significantly higher and more homogeneous, as the impact of differences in tax and subsidy policies is stripped out. The final price elasticity of road-transport fuels, for example, is estimated at -0.15 in the short run (after one year) and -0.44 in the long run (IEA, 2006).



Source: IEA, World Energy Outlook, 2008.

Global Outlook

Oil Production (mb/d)

There is a projected increase in global oil production of 84 mb/d in 2007 to 106 mb/d in 2030. LAC's share in this growth is 1.2% (excluding Venezuela).

| | 1980 | 2000 | 2007* | 2015 | 2030 | 2007-2030** |
|----------------------|------|------|-------|------|-------|-------------|
| Non-OPEC | 35.5 | 42.9 | 46.1 | 47.6 | 52.9 | 6.8% |
| OECD | 17.5 | 21.8 | 19.1 | 18.6 | 18.8 | 0.5% |
| North America | 14.2 | 14.1 | 13.2 | 14.6 | 17.9 | 1.1% |
| Europe | 2.4 | 4.8 | 4.9 | 3.4 | 2.2 | -3.5% |
| Asia/Pac | 3.5 | 8.9 | 8.4 | 8.6 | 8.7 | 0.6% |
| E. Europe/Russia | 11.1 | 8.1 | 12.9 | 14.1 | 16.6 | 1.1% |
| Africa | 13.8 | 8.3 | 10.7 | 10.4 | 9.7 | -0.2% |
| Asia | 0.9 | 5.6 | 6.4 | 6.1 | 5.8 | 0.6% |
| China | 2.9 | 3.2 | 3.7 | 3.4 | 4.1 | 0.5% |
| India | 1.2 | 2.7 | 2.2 | 2.8 | 2.3 | -1.0% |
| Middle East | 3.6 | 2.1 | 1.7 | 1.4 | 1.1 | -1.0% |
| Africa | 1.1 | 2.1 | 2.3 | 2.1 | 1.9 | -1.1% |
| Latin America | 0.6 | 1.2 | 1.1 | 1.1 | 1.4 | 1.2% |
| OECD** | 28.1 | 32.1 | 35.9 | 44.4 | 52.9 | 9.7% |
| Middle East | 19.2 | 21.1 | 21.7 | 20.7 | 17.9 | 2.1% |
| Processing gas | 1.7 | 1.7 | 2.1 | 2.1 | 2.6 | 1.0% |
| World | 48.2 | 75.8 | 84.2 | 94.4 | 106.4 | 3.0% |
| Conventional*** | 41.9 | 73.8 | 80.7 | 87.4 | 95.9 | 0.7% |
| Non-conventional**** | 3.4 | 1.2 | 1.4 | 4.6 | 8.8 | 7.7% |

* Average annual rate of growth.

** includes Algeria, which joined OPEC at the beginning of 2007.

*** includes conventional crude oil, condensates, natural gas liquids (NGL) and extra-heavy oil from Venezuela.

****extra-heavy oil (excluding Venezuela), oil sands, chemical additives, gas-to-liquid and coal-to-liquid. Biofuels are not included.



Source: IEA, World Energy Outlook, 2008.

Global Outlook

Inter-regional oil trade (mb/d)

The difference between demand growth and production sources (main increases in OECD countries) makes the projected inter-regional trade increase significantly to 55mb/d in 2030, more than half of the projected production for that year, and more than 35% of the current production. Brazil would be the most significant net exporter in LAC.



Global Outlook

Net importing and exporting countries in inter-regional oil trade (mb/d)

| | 1980 | 2000 | 2007 | 2015 | 2030 |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| Net importers | | | | | |
| OECD | -24.4 | -24.2 | -27.1 | -27.1 | -23.1 |
| North America | -6.7 | -9.2 | -10.7 | -9.3 | -5.9 |
| United States | -7.2 | -11.3 | -13.2 | -12.3 | -11.9 |
| Europe | -12.6 | -7.5 | -9.1 | -10.6 | -11.0 |
| Pacific | -5.4 | -7.5 | -7.2 | -7.2 | -6.2 |
| Japan | -4.5 | -5.4 | -4.8 | -4.4 | -3.5 |
| Non-OECD Asia | 0.0 | -4.6 | -8.4 | -14.1 | -24.7 |
| China | 0.2 | -1.4 | -3.8 | -7.7 | -12.5 |
| India | -0.5 | -1.6 | -2.1 | -3.3 | -6.5 |
| Net exporters | | | | | |
| Middle East | 17.7 | 18.9 | 19.9 | 23.5 | 28.3 |
| Africa | 4.5 | 5.6 | 7.5 | 8.7 | 9.1 |
| Latin America | 0.3 | 2.3 | 1.5 | 2.3 | 1.7 |
| Brazil | -1.1 | -0.7 | -0.2 | 1.2 | 0.5 |
| E. Europe/Eurasia | 2.4 | 4.0 | 8.1 | 8.4 | 10.7 |
| Russia | n.a. | 3.8 | 7.2 | 7.0 | 6.3 |
| Total trade | 27.6 | 34.7 | 40.7 | 46.4 | 55.1 |
| European Union (Imports) | n.a. | -10.1 | -11.0 | -11.8 | -11.5 |

Note: Trade between WEO regions only. Positive figures denote exports; negative figures imports.



Source: IEA, World Energy Outlook, 2008.

Latin American Outlook

According to ECLAC*, between 2007 and 2030, LAC will need to invest US\$1.27 trillion (US\$55 billion/year) in the Energy Sector

Projected investments until 2030

Electricity:

- Generation: US\$324 billion
- Transmission: US\$124 billion
- Distribution: US\$271 billion

Oil:

- Exploration /Exploitation: US\$270 billion
- Refining: US\$42 billion
- Processing: US\$66 billion

Natural Gas:

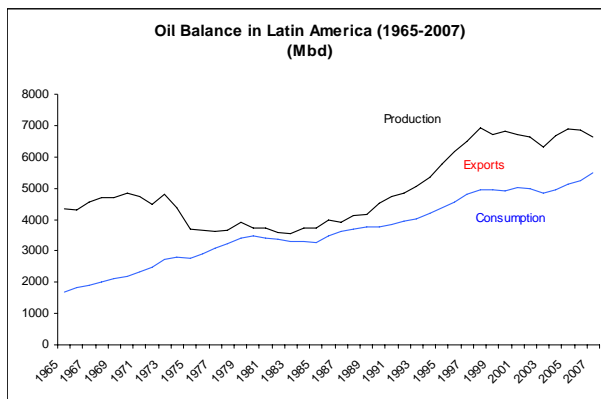
- Exploration /Production: US\$148 billion
- Transportation: US\$54 billion
- LNG: US\$22 billion



*Economic Commission for Latin America and the Caribbean

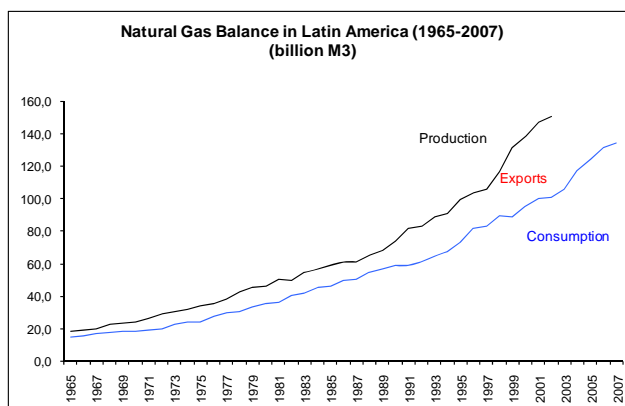
Latin American Outlook

- The region is a net exporter of oil



Latin American Outlook

- The region is a net exporter of natural gas



Latin American Outlook

- Although the region is a net exporter of oil and gas, the differences of resource ownership and consumption among net importing and exporting countries in the region create a very favorable outlook for intra-regional trade, which may generate prospects of greater energy integration.



IDB support to integration initiatives

- Iniciativa para la Integración en Infraestructura Regional en Sudamérica – IIRSA (initiative for Integration in Regional Infrastructure in South America)
 - Modernize and integrate regional infrastructure creating a platform for sustainable development in energy, transportation and communications
 - Energy: Study of regulatory aspects for the integration of regional energy markets
- Proyecto Mesoamérica (Middle America Project) - PM (formerly PPP)
 - Coordinates efforts of cooperation in the development and integration of countries of this region.
 - Energy: Sistema de Interconexión Eléctrica para América Central (Electric Interconnection System for Central America) (SIEPAC)
- OLADE – Technical cooperation under way.
 - Support for regional energy information systems, platform for the development of public and /or private energy infrastructure expansion programs at regional and national levels.



Energy integration projects financed by IDB-SouthernCone

- Camisea Gas Pipeline (Perú, 2003)
 - Type A IDB loan: US\$75 Million
 - Type B IDB loan: US\$60 Million
- Bolivia – Brazil Gas Pipeline (1999)
 - IDB loan: US\$30 Million
- NOA – NEA line (Argentina, 2006)
 - IDB loan: US\$580 Million
- Salto Grande Hydroelectric Plant (Argentina – Uruguay)
- Yacyretá Hydroelectric Plant (Argentina – Paraguay)
- Argentina – Brazil electric Interconnection- (Loans without government guarantee)
- Technical cooperation: Feasibility study of Regasification Plant in Uruguay: Brazil – Argentina-Uruguay Integration * With the results presented to the Binational Committee.



Challenges for the Region Energy Integration – Oil and Gas

- Regulatory Aspects:
 - Prioritization local market vs international market
 - Dispute settlement
 - International structuring processes of the Sector (nationalization/privatization)
- Coordination of numerous stakeholders involved
- Project design: To minimize political risks
- Financial engineering and attracting private capitals



Conclusions

- Intra-regional trade will be necessary to cover the growing demand for oil and gas as compared to the distribution of these resources in the region.
- LAC may strengthen its sustainable development through infrastructure integration processes for the energy sector, including the oil and gas sector.
- The design of integration projects should take associated political and economic implications into account.
- The IDB provides support to integration initiatives by financing loans with or without government guarantee, financial guarantees and technical cooperation for regional and national support.



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