

PetroCaribe

Energy for the Union

*Energy sovereignty mechanism for
unity and development of peoples in
the Caribbean region, based on the
doctrine of solidarity,
complementarity and fair trade*



Venezuelan Oil Policy Doctrine

“Oil so far has been a weapon to dominate peoples. We propose oil as a weapon to liberate them”

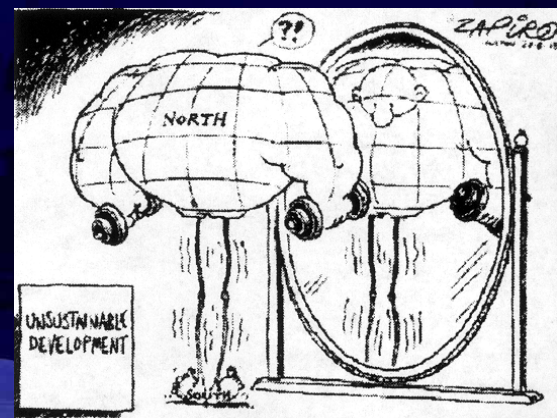
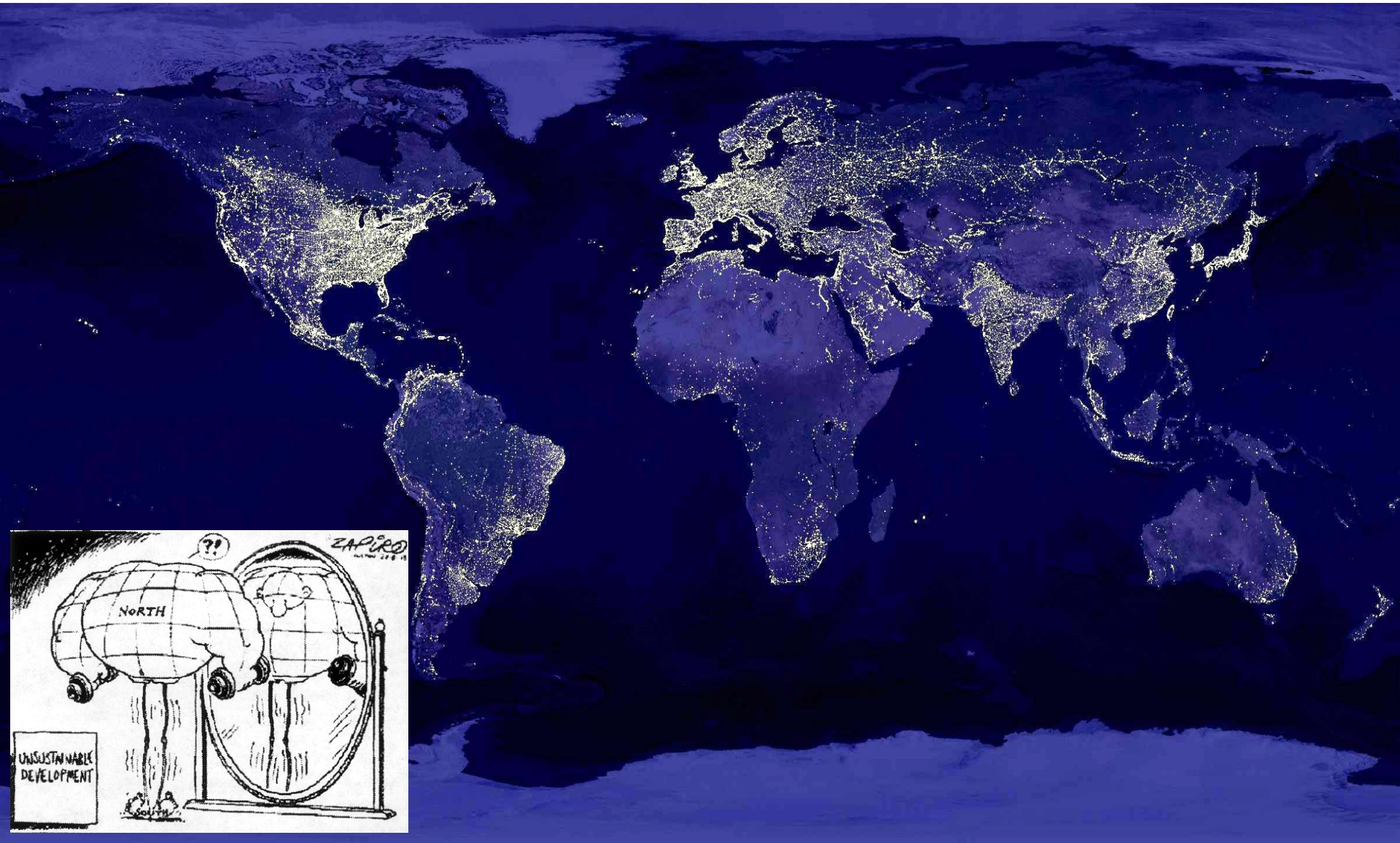
Hugo Chávez Frías



Agenda

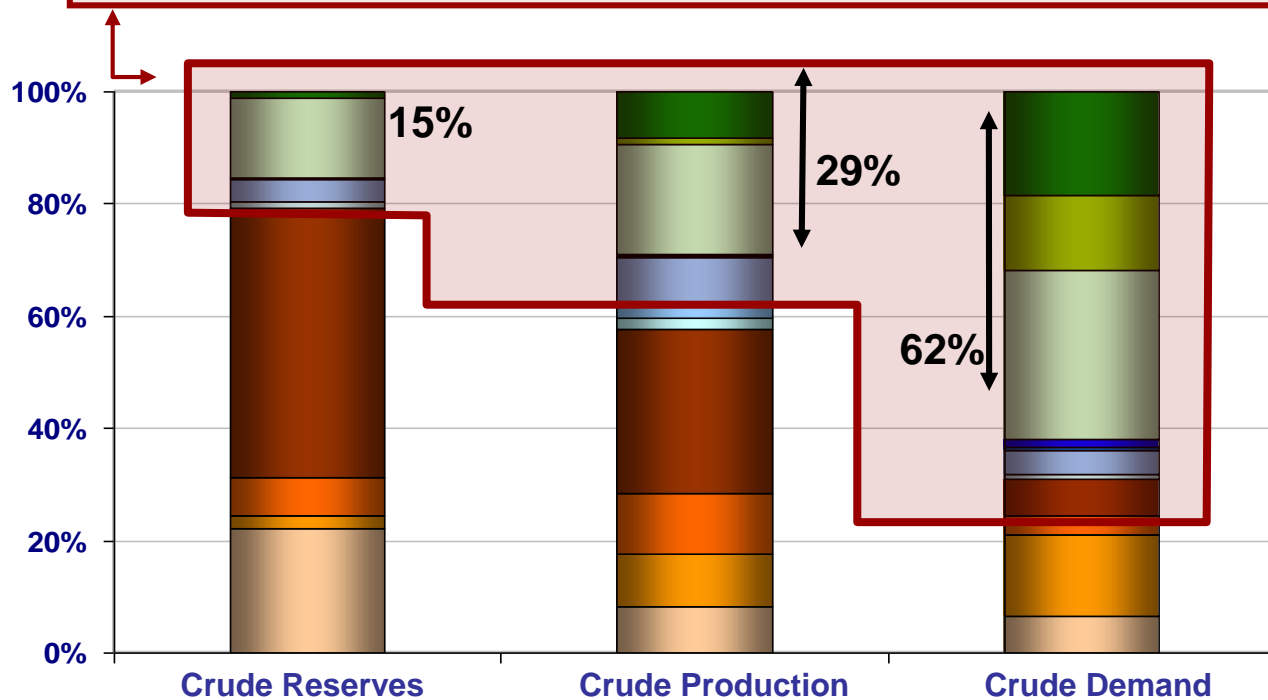
- ❑ International Energy Context
 - Energy Asymmetries
 - Energy Poverty
- ❑ Energy Resources of Venezuela
- ❑ PETROCARIBE: Energy Integration Initiative
 - Background and creation
 - Doctrine
 - Principles, Objectives and Focus Areas
 - Energy Situation in the Caribbean and Central America
 - Supply Scheme: crude oil and refined products
 - Finance Scheme: Fair Trade
 - A Decade of Achievements: Energy and Social Spending
 - Challenges
 - Concluding remarks

International Situation: Energy Asymmetries

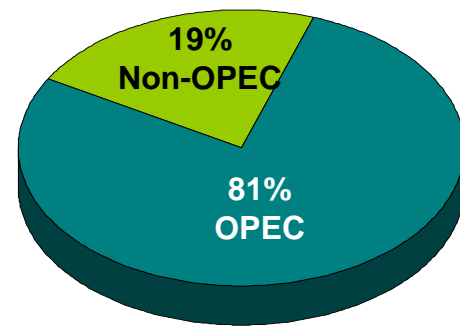


Energy Asymmetries – Crude Oil

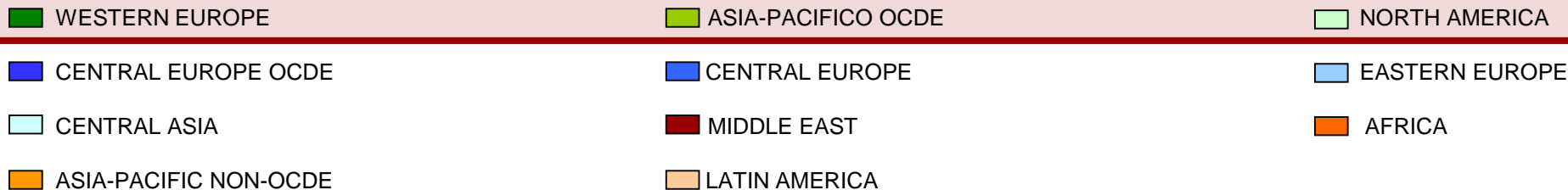
Developed economies own 15% of total reserves, produce only 29%, but consume 62% of total world demand



**Crude Oil
Proven Reserves
2016**

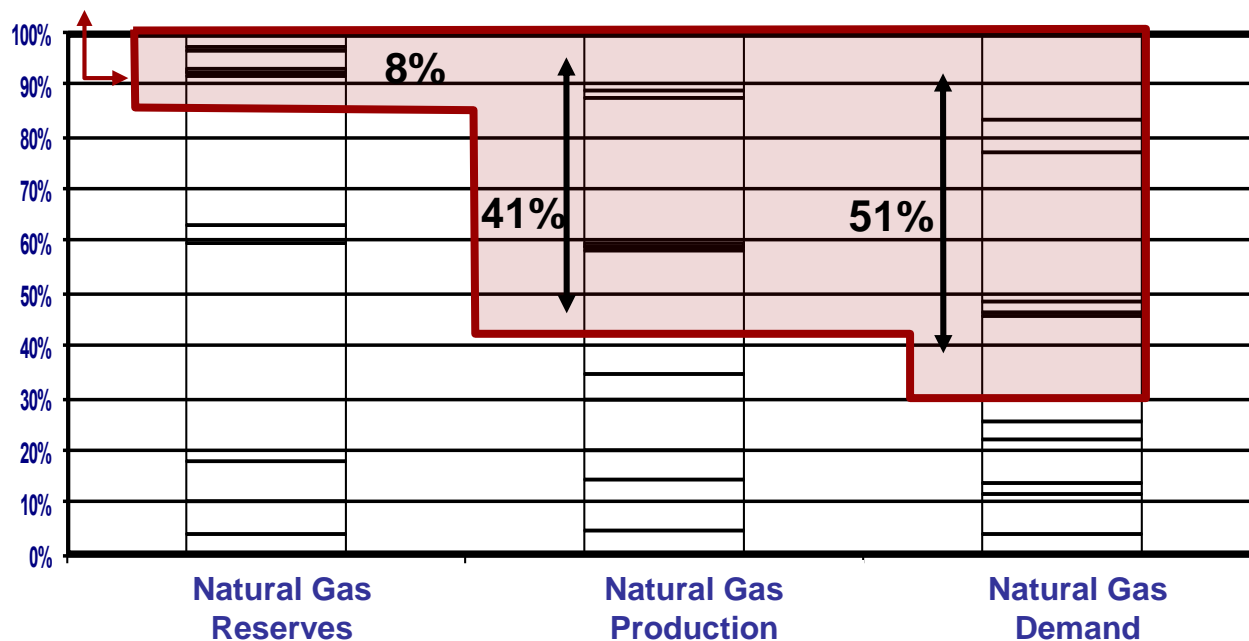


**Total Crude Oil Reserves:
1,490 billion barrels**

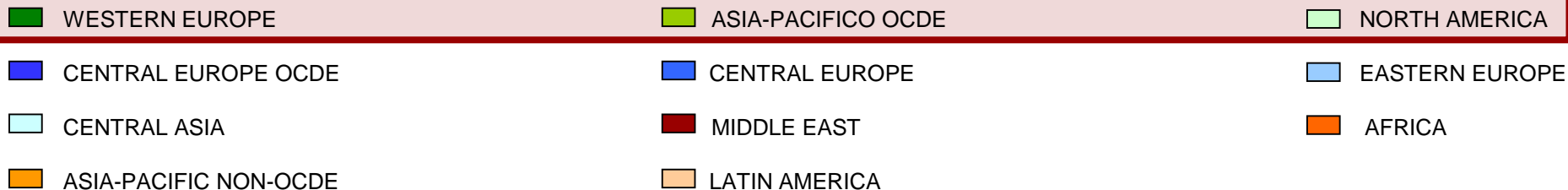
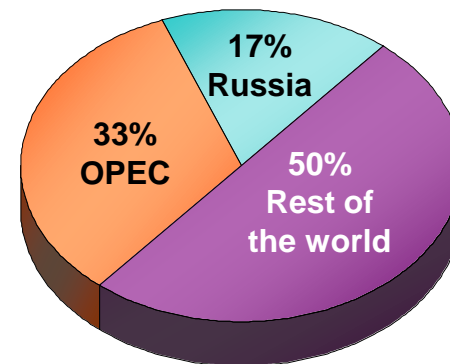


Energy Asymmetries – Natural Gas

Developed economies own 8% of global natural gas reserves, produce only 41%, but they consume 51% of the world demand.



Natural Gas Proven Reserves 2016





Energy Poverty – Other side of poverty

Poverty is the deprivation of material means to satisfy human needs to a minimum extent (UNDP 1997).

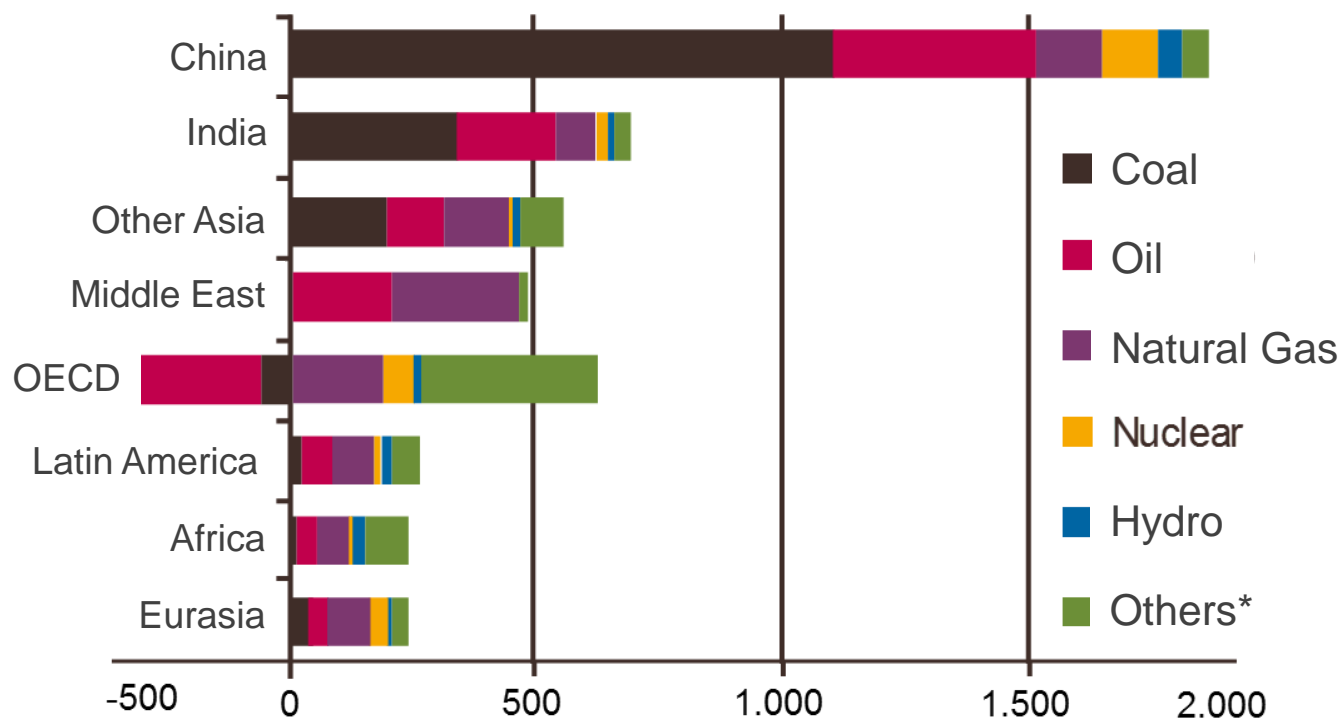
Energy poverty can be defined as the lack of sufficient, accessible and affordable energy to promote economic growth and meet human needs. The lack of energy perpetuates the cycle of poverty and inhibits economic development.

Relief and combat to reduce and minimize energy poverty should be a fundamental pillar of strategies aimed at achieving fair and equitable development



Energy Poverty Dimension

Growth of energy demand by region and type of fuel 2007 - 2030



Source: IEA

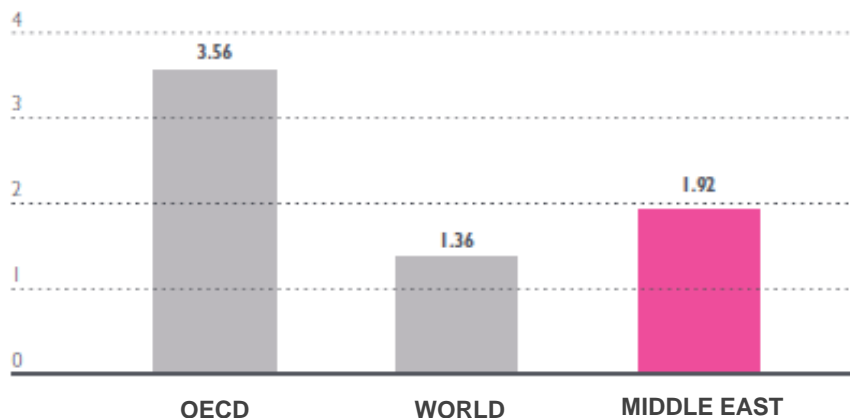
* Including biomass, Eolic, geothermic

Developing countries account for most of the increase in energy demand, where global energy consumption will increase by 42% in the 2007-2030 period. However, the use of energy per capita in these countries will continue to be lower compared to developed nations.

Energy Poverty Dimension

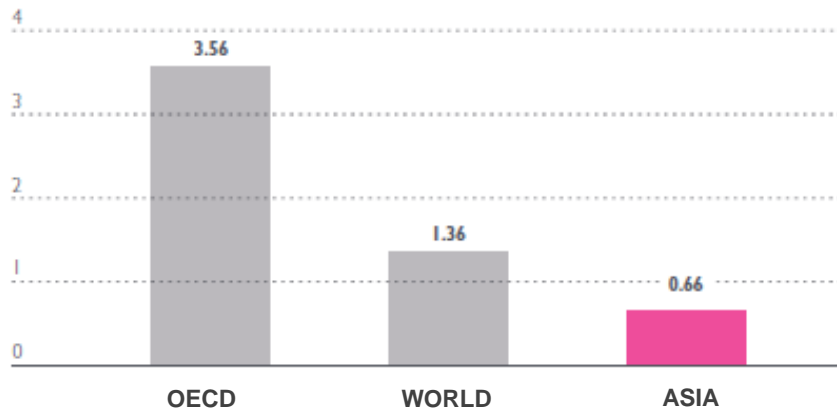
Asymmetries in per capita energy consumption

Energy consumption per capita 2008
(tons of oil equivalent)



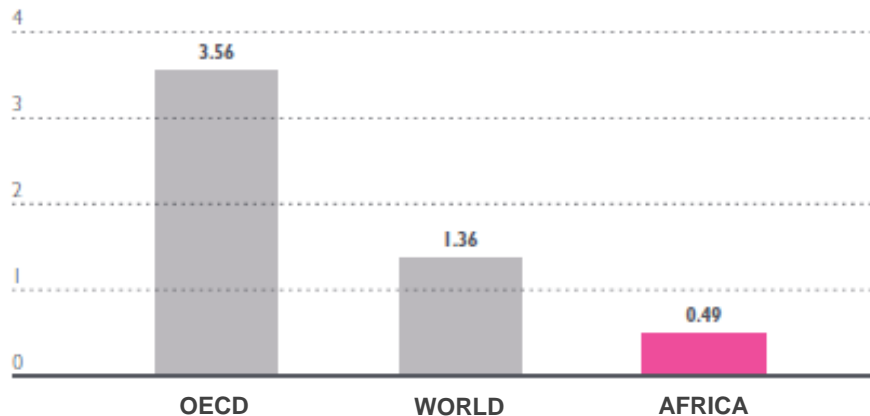
Fuente: datos de la OPEP, BP Statistical Review of World Energy 2009; base de datos de Indicadores del Desarrollo Mundial (WDI), Banco Mundial, 2009

Energy consumption per capita
(tons of oil equivalent)



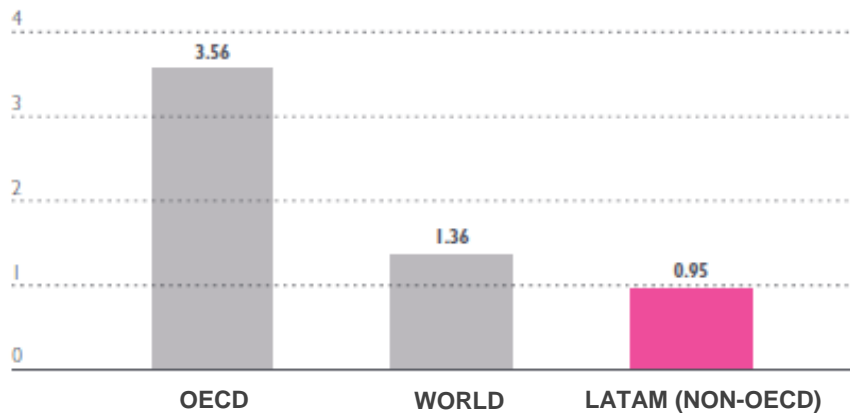
Fuente: OPEP, BP Statistical Review of World Energy 2009; base de datos de Indicadores del Desarrollo Mundial (WDI), Banco Mundial, 2009

Energy consumption per capita
(tons of oil equivalent)



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Energy consumption per capita
(tons of oil equivalent)

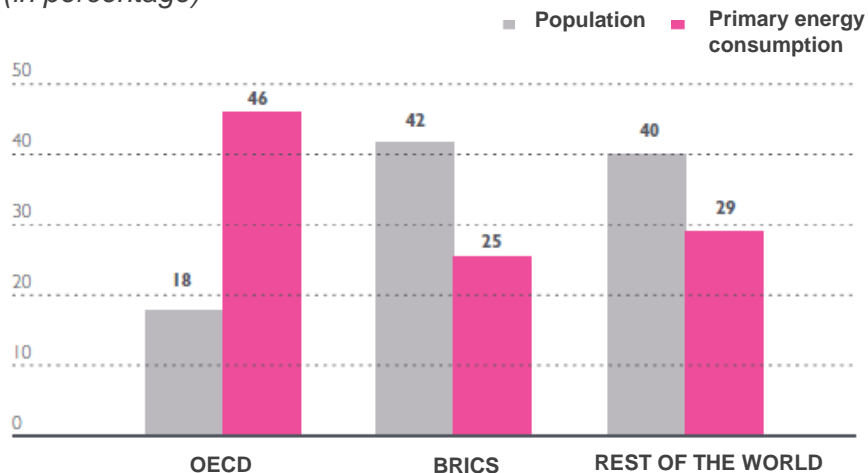


Fuente: OPEP, BP Statistical Review of World Energy 2009; base de datos de Indicadores del Desarrollo Mundial (WDI), Banco Mundial, 2009

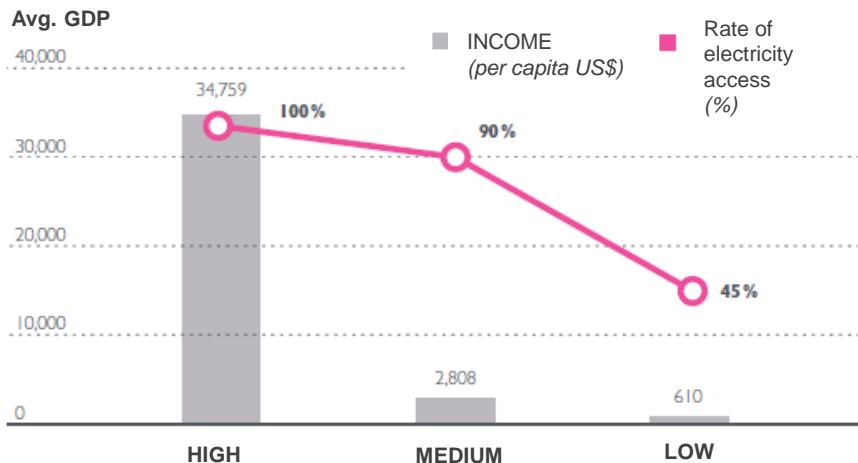
Energy Poverty Dimension

Asymmetries in energy consumption

World primary energy consumption and world population 2008
(in percentage)



Income levels and rate of electricity access



Fuente: Informe sobre el Desarrollo Humano 2007-2008 del PNUD

ENERGY MATRIX IN POOR AND DEVELOPED ECONOMIES

POOR ECONOMIES

(in percentage)

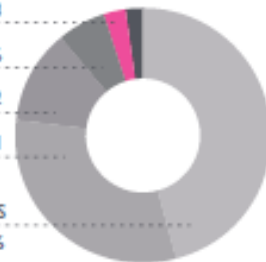
ELECTRICIDAD 5
GAS 7
PRODUCTOS PETROLIFEROS 13
BIOMASA 75



DEVELOPED ECONOMIES

GPL Y QUEROSÉN 2

BIOMASA 3
CARBÓN 6
GAS 12
ELECTRICIDAD 31
OTROS PRODUCTOS PETROLIFEROS 46

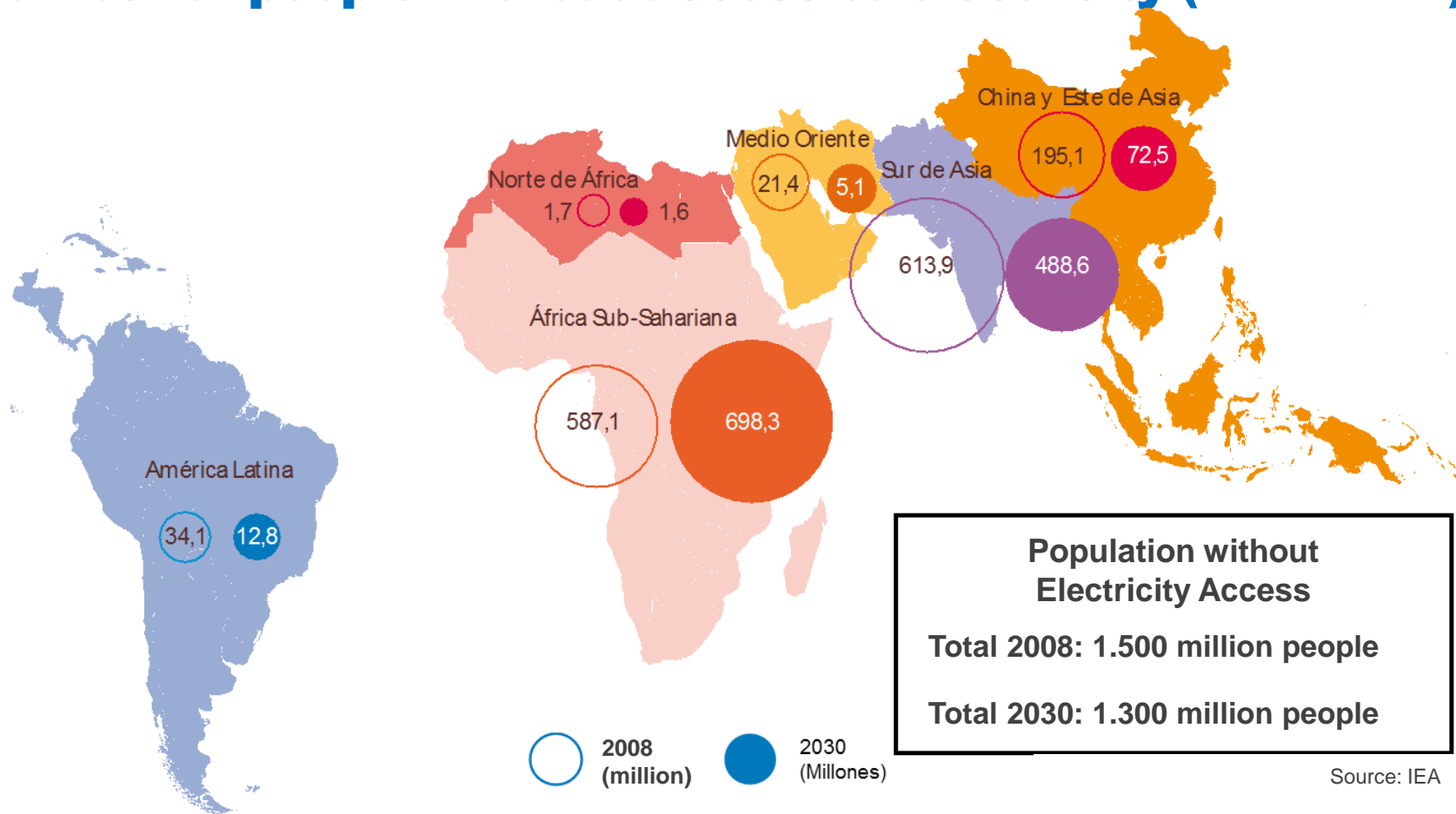


Fuente: Agencia Internacional de Energía

The fight against energy poverty requires a multidimensional vision

Energy Poverty Dimension

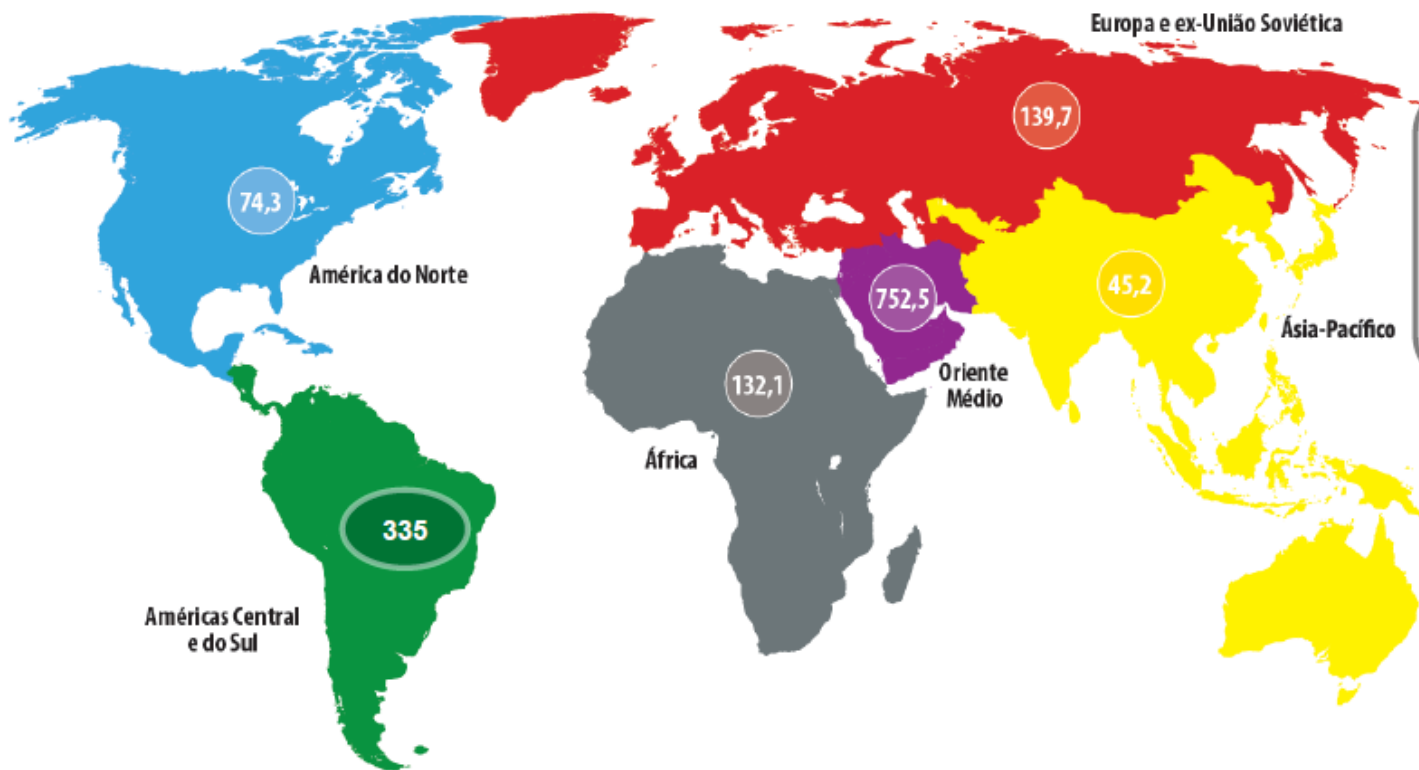
Number of people without access to electricity (2008 -2030)



In 2008, the number of people without access to electricity was 1,500 million. It is expected that this number will remain practically unchanged for the year 2030.

Resources Availability – Crude Oil

Proven Oil Reserves by Geographic Areas (2011)

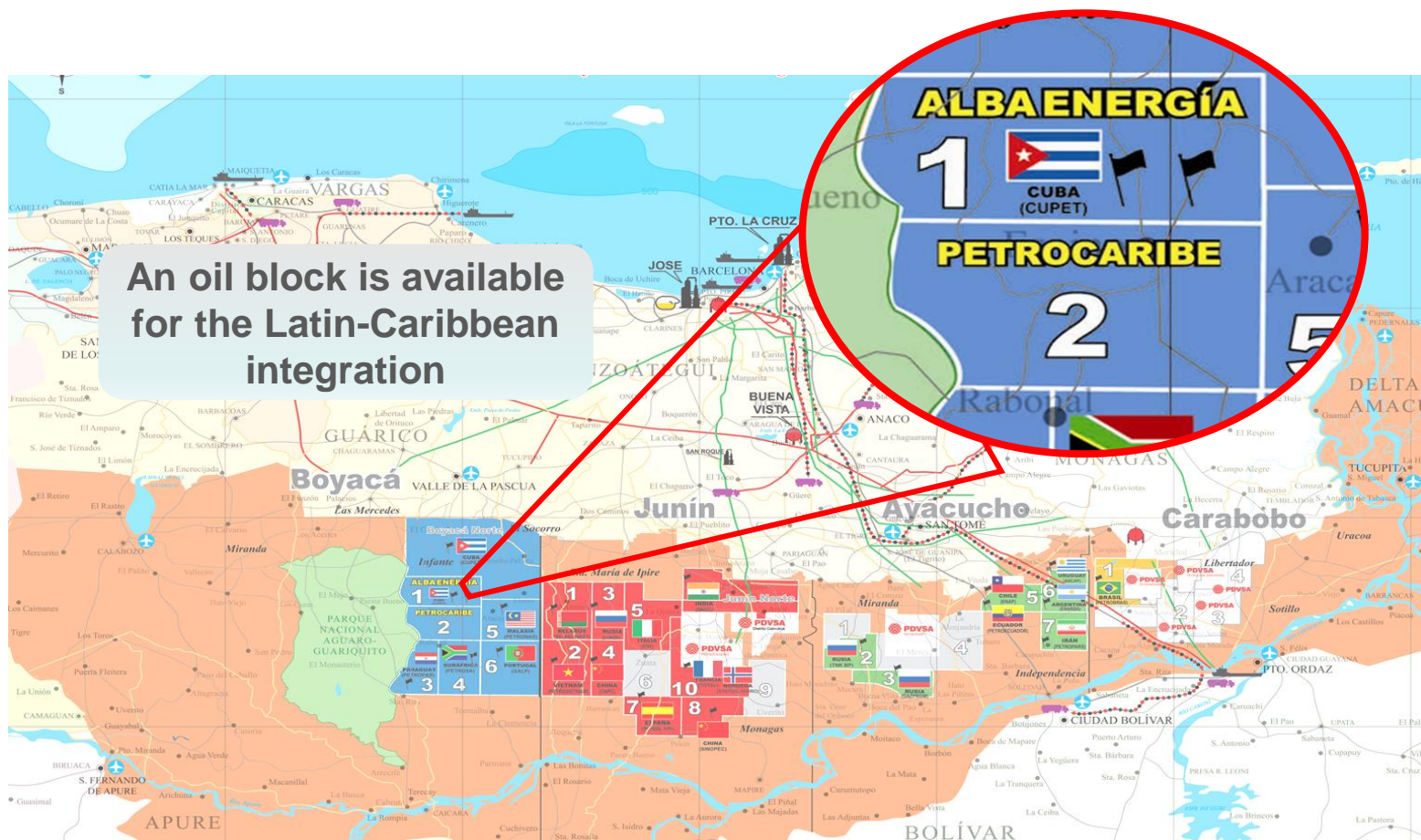


Type of Crude API °

Light Crudes: 30-40°
Medium Crudes: 22-29°
Heavy Crudes: 10-21°
Extra Heavy Crudes: < 10°

The largest proven oil reserves are heavy hydrocarbons, extra-heavy oil and bituminous sands, being the Orinoco Oil Belt the main "oil province" of the world.

Resource Availability - Venezuela Orinoco Oil Belt



PETROCARIBE – Initiative for Energy Integration

The launch of PETROCARIBE took place in June 2005, when Chávez publicly announced the project at the First PETROCARIBE Energy Meeting (Puerto La Cruz, Venezuela).

PETROCARIBE: Initiative of solidary energy cooperation proposal framed in the Bolivarian Alliance for the Peoples of Our America (ALBA), in order to resolve the asymmetries in energy access, through a new scheme of favourable, equitable and fair exchange between the signatory countries (most of them energy consumers and without state control over energy supply).

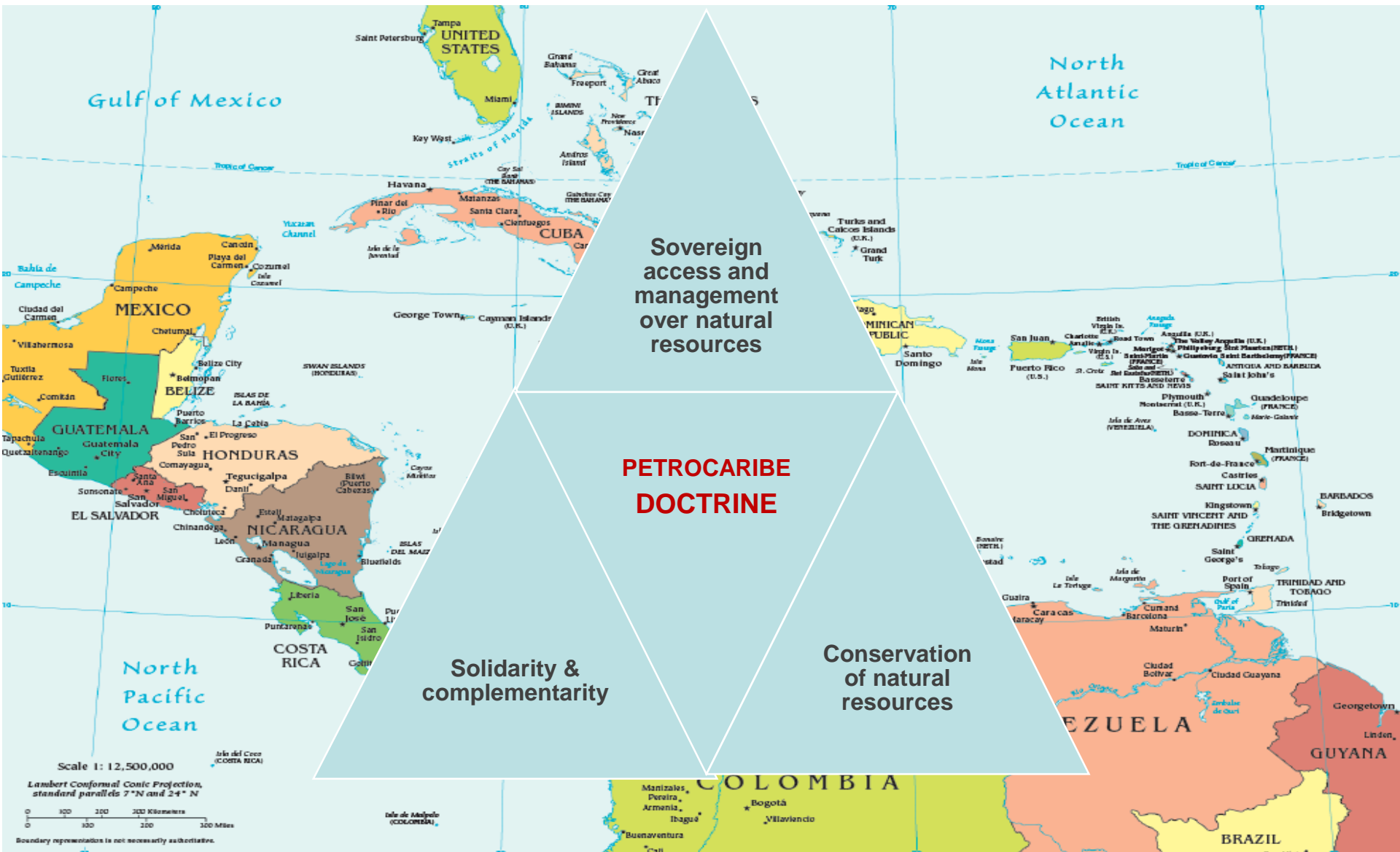


Member Countries

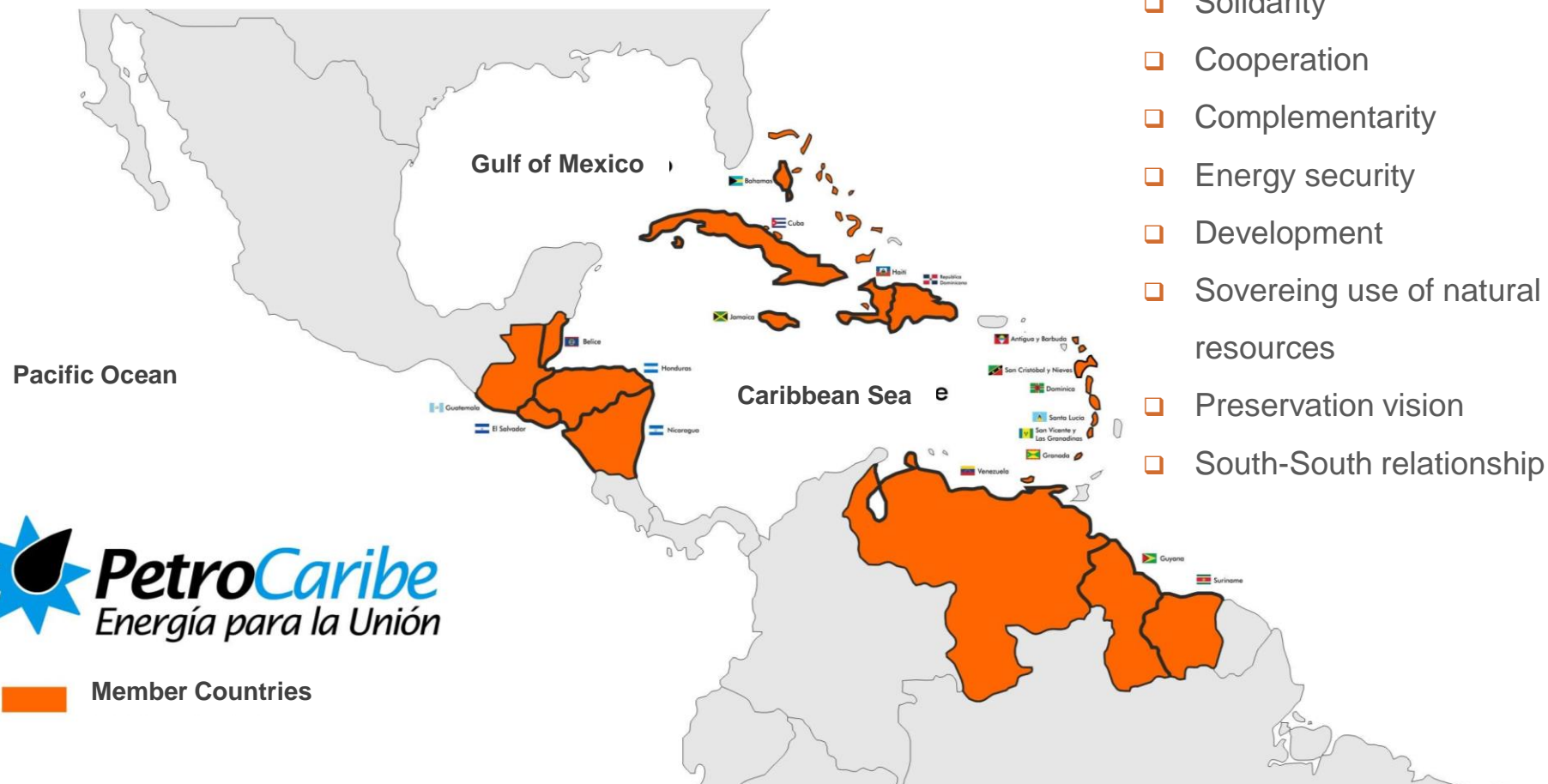


The oil diplomacy of President Chávez began in the Caribbean

PETROCARIBE – Doctrine



PETROCARIBE – Principles



PETROCARIBE – Objectives



Minimize the risk associated with security of energy supply of member countries



Defend the sovereign right to manage exploitation rates of non-renewable and exhaustible natural resources



Minimize energy transaction costs among member countries



Create mechanisms to ensure that the savings of the energy bill contribute for the fight against poverty, unemployment, illiteracy and lack of medical assistance in member countries

Coordination of Public Energy Policies

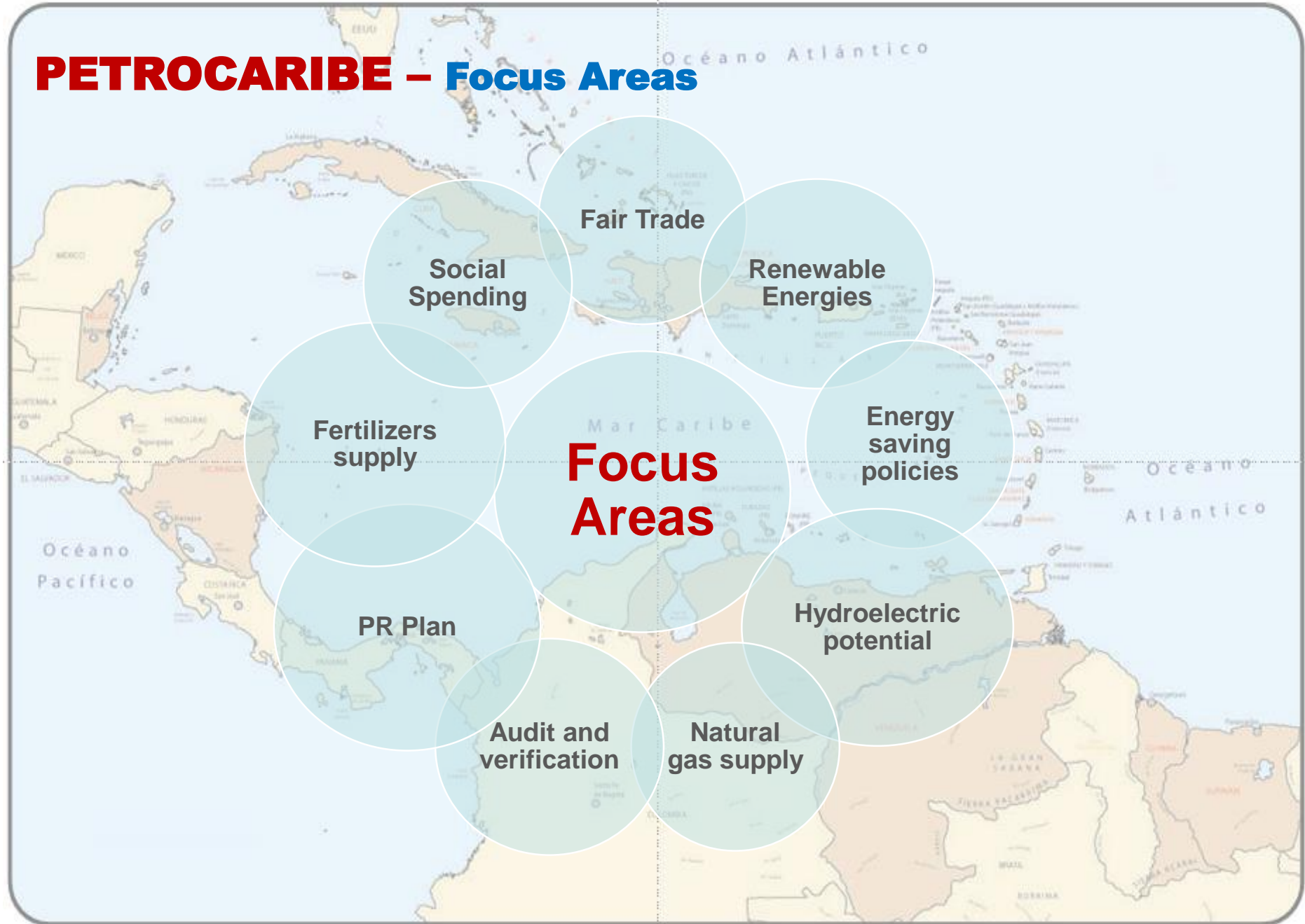
Article 2 of the Constitution Text of PETROCARIBE in its revised version and adopted by the Ministerial Council (September 5, 2005).

Multilateral organization that ensures the coordination and articulation of energy policies - including oil and refined products, gas, electricity - technological cooperation, training, development of energy infrastructure, as well as the use of alternative sources (wind, solar and others).

PETROCARIBE – Strategies

- I. Construction of a refinery network in the Caribbean to process crude from the Orinoco Oil Belt.
- II. Natural gas export through a trans-Caribbean gas pipeline.
- III. Development of the petrochemical industry
- IV. Promotion of alternative energies such as solar, wind and biofuel.
- V. Energy saving policies

PETROCARIBE – Focus Areas



PETROCARIBE – Energy Situation in the Caribbean

Central America and the Caribbean are energy net importer regions (except Trinidad and Tobago - exports crude oil and LNG). Both regions are highly dependent on oil, which is a feedstock for the electricity sector.

- ❑ Central America and the Caribbean have approx. 85 million inhabitants.
- ❑ Consumption of crude oil and refined products is approx. 700,000 barrels.
- ❑ Energy consumption in the Caribbean has grown by more than 36% in the last 10 years, with year-on-year growth rates of 4%.
- ❑ Caribbean economies spend around US\$ 2,540 million in importing crude oil and refined products (17% of their national income).
- ❑ Central America and the Caribbean allocate 11% of their GDP to import crude oil and refined products.
- ❑ Caribbean economies are important oil storage centers due to their proximity to the USA with a total of 100 million barrels. Central America has a capacity of 20 million barrels. As a whole, they have a refining capacity of 750,000 barrels per day.



PETROCARIBE – Who control marketing?

Central American Flow



Flow in Lesser Antilles



Flow in Greater Antilles



Energy consumed by PETROCARIBE countries comes from:

- ☐ **USGC**
- ☐ **Venezuela**
- ☐ **Trinidad & Tobago**
- ☐ **Colombia**
- ☐ **Mexico**
- ☐ **Western Africa**
- ☐ **Others: Brazil, Ecuador, ME**

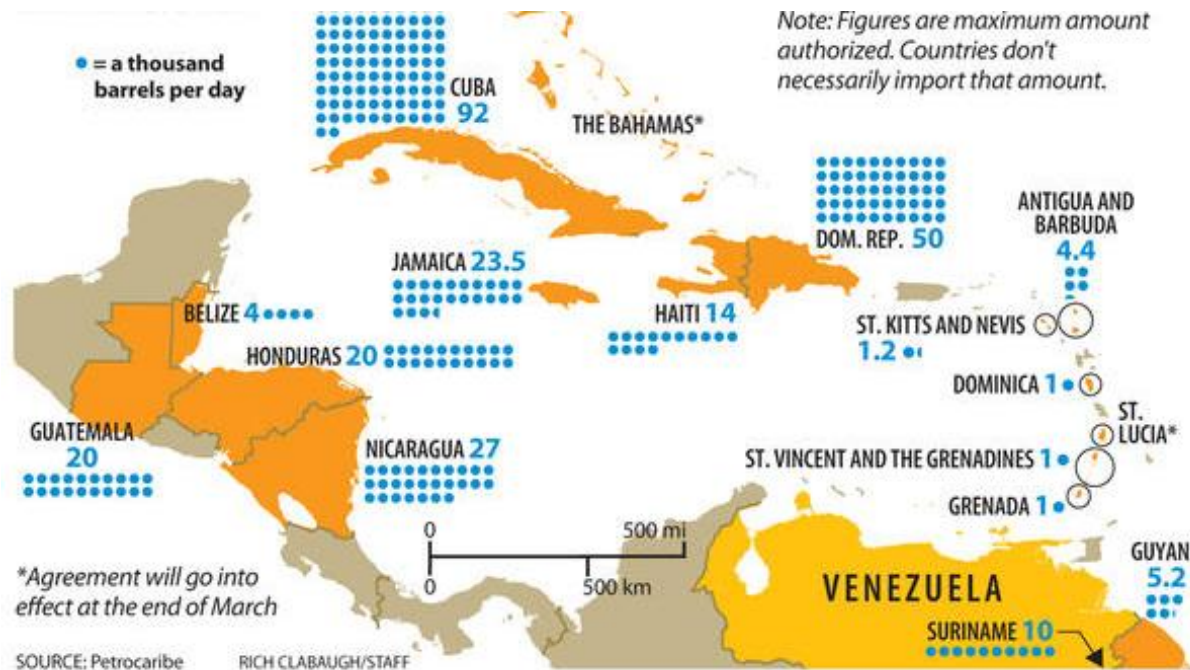
PETROCARIBE – Members Countries Oil Demand



Oil demand of the PETROCARIBE countries will grow 38,000 barreld per day (crude oil) and 77,000 barrels per day (refined products) between 2013-2019. The fastest growing consumption will come from Cuba and the Dominican Republic.

PETROCARIBE – Supply Mechanism

Supply quotas for PETROCARIBE member countries



Países	Cuota asignada (MBPD)**
Antigua y Barbuda	4,4
Bahamas	-
Belice	4
*Cuba	98
Dominica	1
Granada	1
Guatemala	20
Guyana	5,2
Haití	14
Honduras	20
Jamaica	23,5
Nicaragua	27
República Dominicana	30
San Cristóbal y Nieves	1,2
San Vicente y las Granadinas	1
Santa Lucía	-
Surinam	10
Salvador	7
Venezuela	-

(*) Cuba y Venezuela mantienen un Convenio Integral de Cooperación desde el 2000

PETROCARIBE is an energy cooperation initiative aimed at providing financial facilities and guaranteeing direct supply to the member countries, in order to reduce intermediation in the hydrocarbon market.

PETROCARIBE – Fair Trade and Compensation Mechanism of the Energy Bill

Alternative form of exchange approved in 2009, which arises from the voluntary and sovereign decision of the member countries to promote compensation with goods and services as a form of payment of the financing established in the Agreement.

Principles

Sovereignty
Equality
Justice
Solidarity
Complementarity
Conservationism
Human Rights

Fair Trade Objectives

1. Promote Compensation as an alternative to honor commitments.
2. Promote the access of small and medium producers in the commercial exchange.
3. Take advantage of the economic potential of member countries.

Instrument

Compensation Mechanism



PETROCARIBE – A Decade of Achievements



The PETROCARIBE Energy Cooperation Agreement, close to celebrating more than ten years of achievements, has consolidated itself as the only integration mechanism in the world that promotes regional socioeconomic development, by providing energy and financing on favorable terms.

Main achievements: supply of 340 million barrels of oil since its creation; acquire a transportation capacity of 980,000 barrels; build storage capacity of 652,000 barrels per day and refining capacity of 135,000 barrels per day; and install an electric generation capacity of 447 MW. The total investment of total energy infrastructure exceeds US\$ 1,000 million.

The contribution to Social Development in member countries amounts to US\$ 7,500 million, including the financing of the long-term oil bill, the ALBA Caribe Fund (US\$ 90 million), and the social investment from JV Companies

PETROCARIBE – Supply Achievements



The fulfillment of
supply quotas
reaches **80%**.

PETROCARIBE
covers near **40%**
of total oil
demand of
Member Countries.

PETROCARIBE it has managed to supply more than 340 million barrels, that is, an average of 120,000 barrels per day since 2005, which represents a total value of US\$ 30,000 million, of which approximately 50% has a long-term finance mechanism.

PETROCARIBE – Transport Achievements



With the acquisition of the Sandino and Petión vessels, PETROCARIBE reaches a maritime transport capacity of 980,000 barrels, with an investment of US\$ 140 million.

PETROCARIBE – Storage Achievements

PETROCARIBE has managed to install a storage capacity of 652,000 barrels per day, with an investment of US \$ 170 million, in six different countries.



The strategic location of the new storage capacity, together with investments in ports and service stations favor a more flexible supply logistics for **PETROCARIBE** member countries.

PETROCARIBE –Refining Achievements

PETROCARIBE has managed to consolidate a refining capacity of 135,000 barrels per day, reactivating refineries in Cuba, the Dominican Republic and Jamaica, with an investment of US\$ 360 million.



Currently, PETROCARIBE has projects underway in Cuba and Nicaragua to achieve 385 MBD in refining capacity.

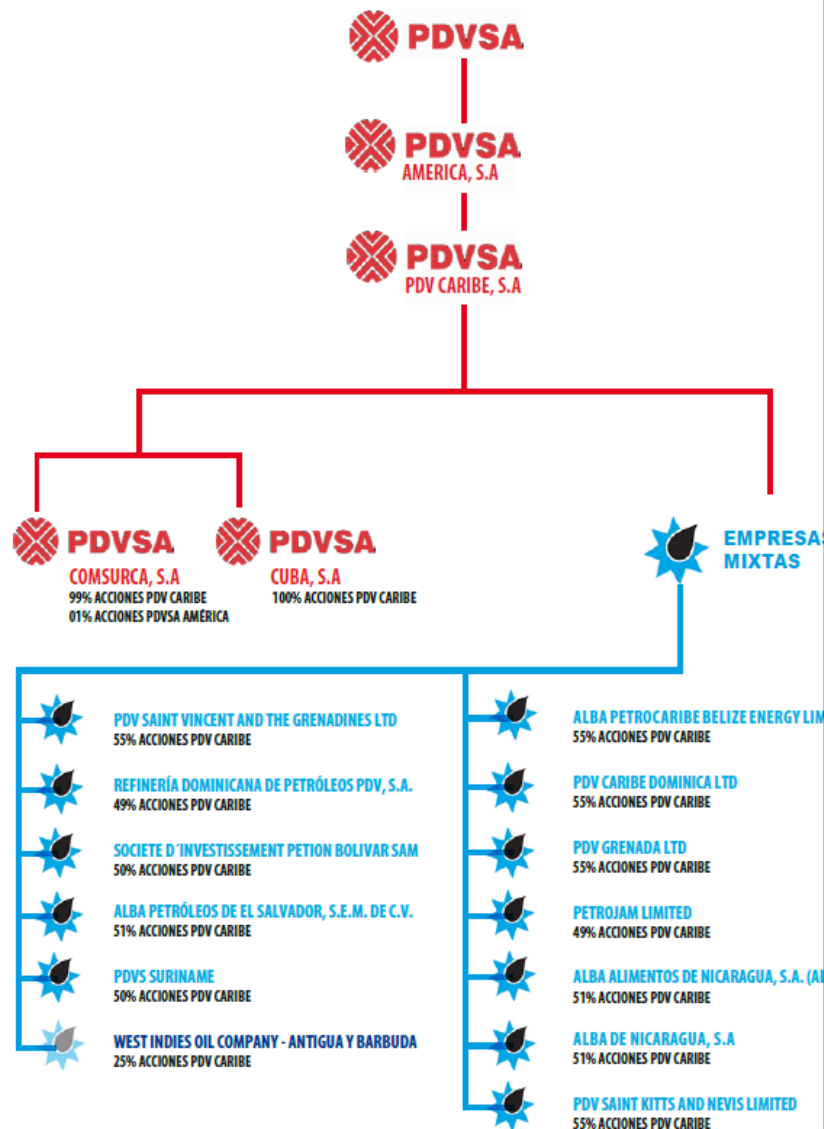
PETROCARIBE – Electrification Achievements

Investment of US\$ 350 million in 16 thermoelectric plants and wind farms.

PETROCARIBE has managed to install 447 megawatts in the 16 thermoelectric plants located in Haiti, Nicaragua, San Cristóbal and Nieves, and Saint Vincent and the Grenadines; as well as in wind farms in Jamaica and Nicaragua.



PETROCARIBE – JV Companies Achievements



The joint ventures were conceived with the purpose of making possible the energy cooperation policy derived from the PETROCARIBE Energy Cooperation Agreement.

These are companies were created by PDV Caribe, a subsidiary of PDVSA, and the state energy companies of each country to enhance the technical and technological capacities of the member countries and to advance in the development of projects that allow the efficient use and management of energy resources available.

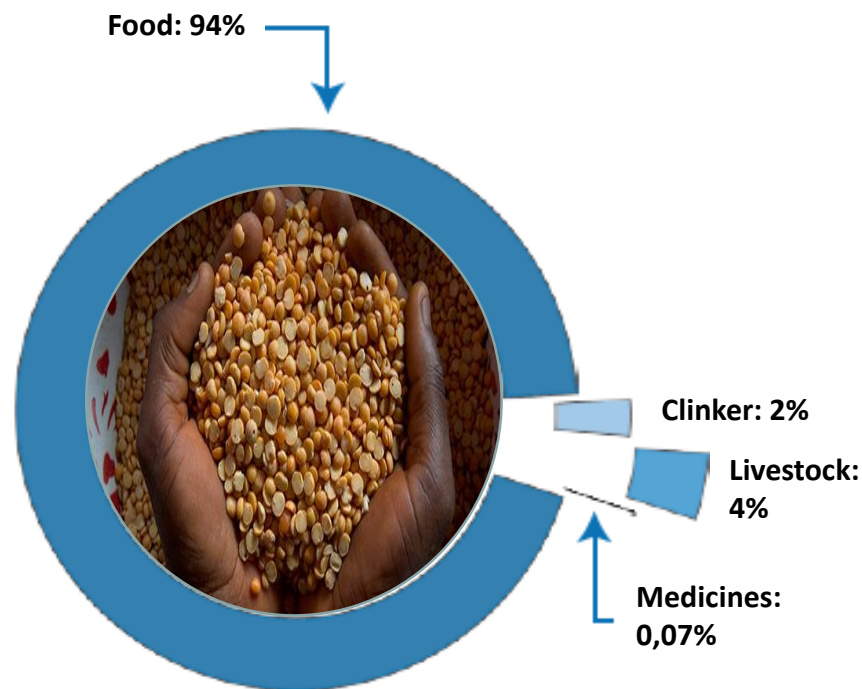
Currently, 12 JV have been created between PDV Caribe and state companies in 12 countries and two subsidiaries. Likewise, the JV of Antigua and Barbuda and Santa Lucia are in the process of being constituted.

PETROCARIBE – Fair Trade Achievements

The PETROCARIBE Compensation Mechanism, approved at the 5th Meeting of the Ministerial Council (2009), provides the possibility of paying part of the financed portion of the oil bill with goods and services. To date it has been implemented by six countries: El Salvador, Guyana, Nicaragua, Jamaica, Dominican Republic and Suriname.

At the end of 2015, a total of US\$ 3,864.3 million was compensated as payment of the oil bill equivalent to 3,356,484 metric tons of products, in addition to medicines and live cattle.

Percentage of Products Compensated in PETROCARIBE



PETROCARIBE – Achievements in Social Projects



Petrocaribe's social investment has been aimed at guaranteeing the protection of the most vulnerable population. The contribution to social development in the member countries amounts to US\$ 7,500 million, which includes the financing of the long-term oil bill, the ALBA Caribe Fund (US\$ 90 million), and the social investment from JV Companies.

Contribution to social development in PETROCARIBE member countries



PETROCARIBE – ALBA Caribe Achievements



FUNDS

**90,70
MMUSD**

Fund created from non-reimbursable contributions of the financed bill (*) of member countries to contribute with social, economic and cultural rights.

INVESTMENTS BY SECTORS



AGRICULTURE AND FOOD
US\$ 14.3 million = 146,700 people



POTABLE WATER
US\$ 16.4 million = 193,500 people



CULTURE & SPORTS
US\$ 5.8 million = 266,750 people



EDUCATION
US\$ 9.4 million = 452,580 people



HEALTH
US\$ 7.3 million = 86,300 people



HOUSING
US\$ 34.3 million = 14,360 people

(*) For each barrel sold by Venezuela above US\$ 100 there is a contribution of US\$ 0.5 to the Fund

PETROCARIBE – ALBA Caribe-Food Fund Achievements



Objective

Guarantee the Food Security and Sovereignty of member countries, through the development of agricultural programs to increase food production in a sustainable way

"We should turn PETROCARIBE into an anti-hunger shield, to protect ourselves from poverty and hunger"
(Hugo Chávez, 2008)

"In the last ten years, PETROCARIBE has become one of the bases of food security in the countries of Central America and the Caribbean"
(FAO, 2015)



PetroCaribe
Energy for the Union

PETROCARIBE
A portion of the financed oil invoice is used by member countries for their own development

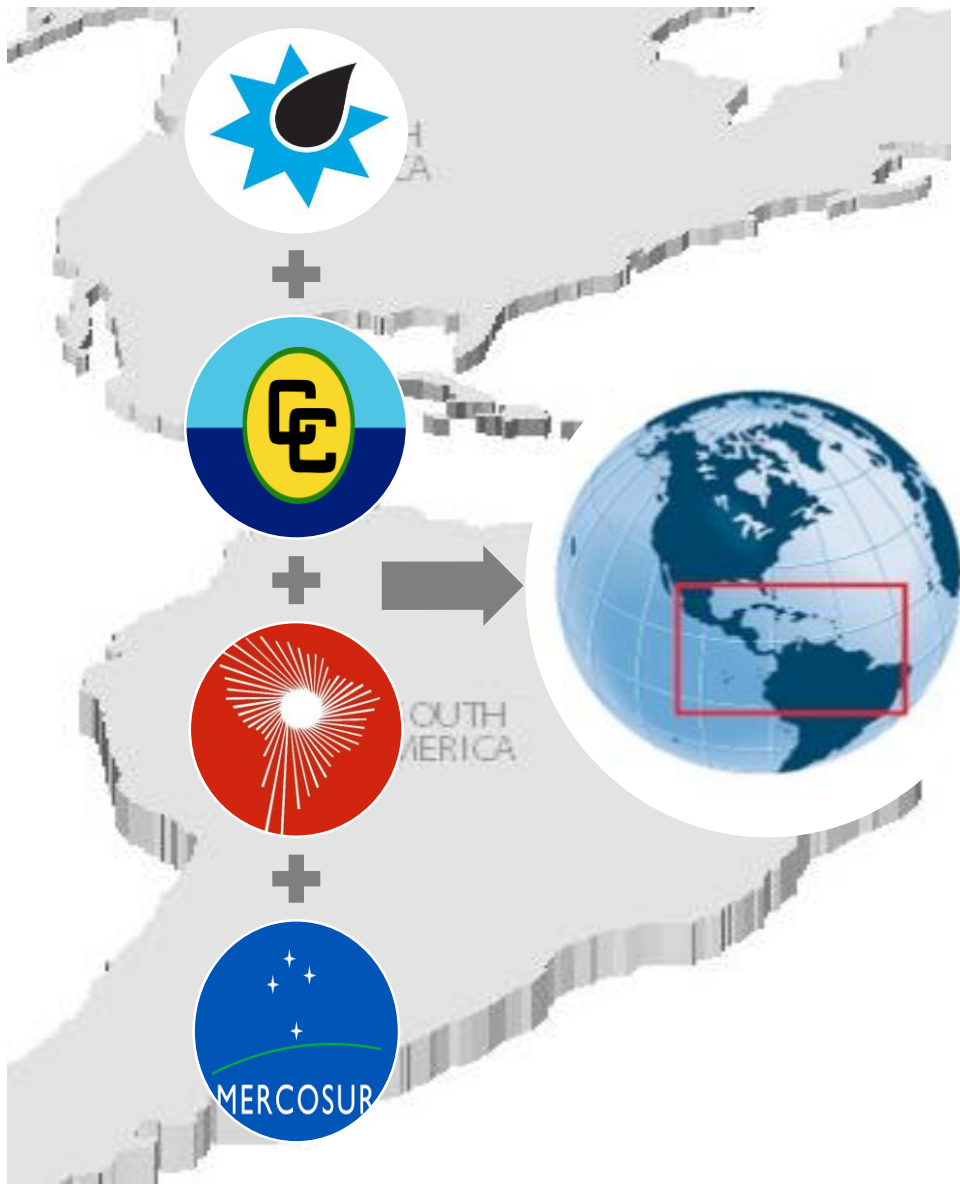
SANA

REGIONAL COOPERATION PROGRAM VENEZUELA-FAO
Contribution from Venezuela to support the countries in the process of formulating, monitoring and evaluating projects



PLAN FOR THE ERADICATION OF HUNGER AND POVERTY
"COMANDANTE HUGO CHAVEZ FRIAS"

PETROCARIBE – Present and Future Challenges



As of 2013, the agreement has been aimed at consolidating the PETROCARIBE Economic Zone, created to increase and diversify commercial and productive exchange among other multilateral mechanisms: ALBA-TCP, CARICOM and MERCOSUR.

Exchange in five areas

Transport



Communications



Value Chain



Social and cultural



Trade

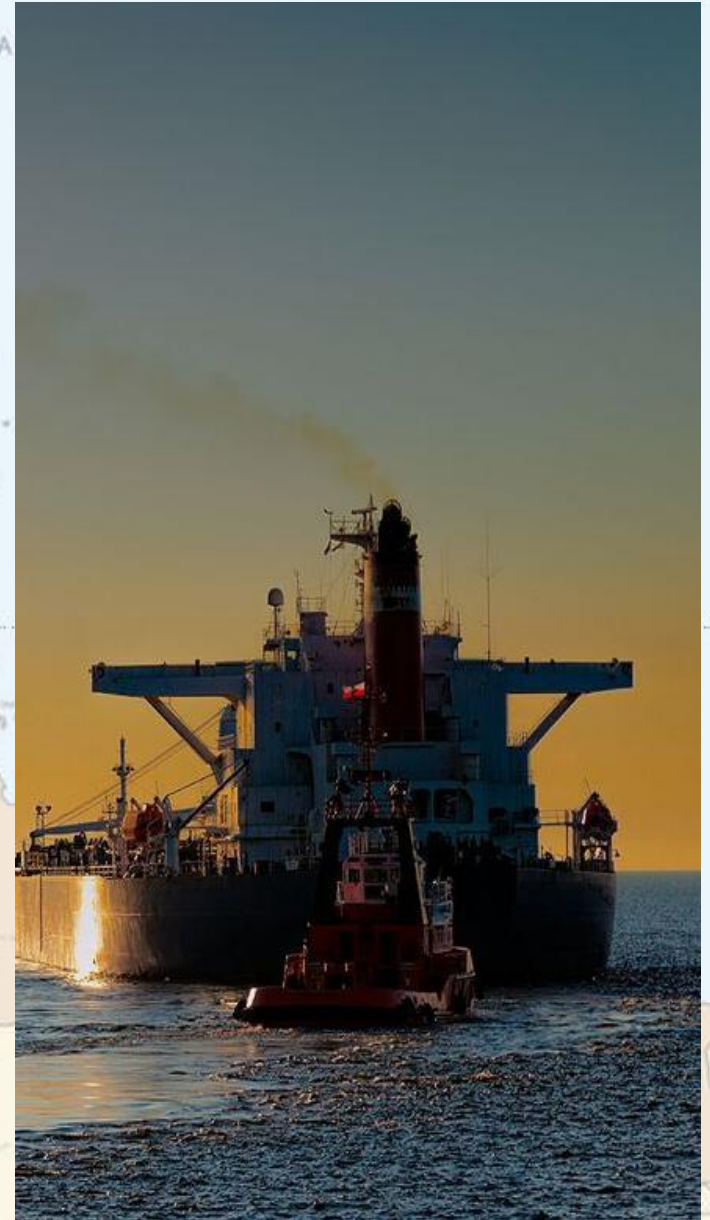


Turism



Concluding Remarks

- ❑ **PETROCARIBE: Successful example**
 - Unprecedented broad cooperation
 - Sustainable Commercial Operation
- ❑ **Lessons learned:**
 - Multidimensional approach: Not only energy
- ❑ **To accelerate cooperation**
 - Build Trust: Increase impact
 - ✓ Maximize what comes to people
 - ✓ Participation of beneficiaries
 - Public Policy Guidance
- ❑ **Institutions and necessary measures**
 - Cooperation with enough political support
- ❑ **Innovative policies**
 - Strong political-legal framework for integration
- ❑ **Regional planning**
- ❑ **Benefits from energy regional integration**
 - Maximize synergies between countries and institutions



"From the point of view of our generation it could be valid to say: 'it is now or never' the time to design a victorious strategy to get out of backwardness, dependency, underdevelopment and misery.

We have a great opportunity in front of us, at our fingertips "

President Hugo Chávez during the
International Seminar of Financial Integration
in Latin America and the Caribbean

March 24, 2006

