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

Total Crude Oil Reserves: 1,490 billion barrels

Crude Oil Proven Reserves 2016

- 81% OPEC
- 19% Non-OPEC

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

Source: BP Statistical Bulletin, OPEC Annual Statistical Bulletin
Energy Asymmetries – Natural Gas

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

Source: BP Statistical Bulletin
Geopolitics Situation – Conflicts for Natural Resources

Source: PDVSA
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.
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)

<table>
<thead>
<tr>
<th>Region</th>
<th>Value (tons of oil equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD</td>
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Energy consumption per capita
(tons of oil equivalent)

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<tr>
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<tr>
<td>AFRICA</td>
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<tr>
<td>LATAM (NON-OECD)</td>
<td>0.95</td>
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</table>

Fuente: OPS, BP Statistical Review of World Energy 2009; base de datos de Indicadores del Desarrollo Mundial (WDD), Banco Mundial, 2009
The fight against energy poverty requires a multidimensional vision.

**Energy Poverty Dimension**

**Asymmetries in energy consumption**

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

- **Population**
- **Primary energy consumption**

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**Energy Matrix in Poor and Developed Economies**

### Poor Economies

- **Electricidad**: 5%
- **Gas**: 7%
- **Productos Petrolíferos**: 13%

### Developed Economies

- **Biomasa**: 3%
- ** Carbón**: 6%
- **Gas**: 12%
- **Electricidad**: 31%

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**Income levels and rate of electricity access**

- **Avg. GDP**
  - **Income** (per capita US$)
  - **Rate of electricity access (%)**

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*Fuente: Agencia Internacional de Energía*
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.
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

An oil block is available for the Latin-Caribbean integration.

Source: PDVSA
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**

- Antigua y Barbuda
- Bahamas
- Belice
- Cuba
- Dominica
- Granada
- Guatemala
- Guyana
- Haití
- Honduras
- Jamaica
- Nicaragua
- República Dominicana
- San Cristóbal y Nieves
- San Vicente y las Granadinas
- Santa Lucía
- Surinam
- Venezuela

*The oil diplomacy of President Chávez began in the Caribbean*
PETROCARIBE – Doctrine

- Sovereign access and management over natural resources
- Solidarity & complementarity
- Conservation of natural resources

PetroCaribe
Energy for the Union

Map showing the countries involved in PetroCaribe: Cuba, Brazil, Colombia, Ecuador, Guyana, Peru, the Dominican Republic, Haiti, Panama, Trinidad and Tobago, and Venezuela.
PETROCARIBE – Principles

- Union
- Solidarity
- Cooperation
- Complementarity
- Energy security
- Development
- Sovereign use of natural resources
- Preservation vision
- South-South relationship
PETROCARIBÉ – 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 PETROCARIBÉ 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

- Fair Trade
- Renewable Energies
- Energy saving policies
- Hydroelectric potential
- Natural gas supply
- Audit and verification
- PR Plan
- Fertilizers supply
- Social Spending
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 Greater Antilles

Flow in Lesser Antilles

Energy consumed by PETROCARIBE countries comes from:

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

Oil demand of the PETROCARIBE countries will grow 38,000 barrel 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.

Source: Purving & Gertz
PETROCARIBE – Supply Mechanism

Supply quotas for PETROCARIBE member countries

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<table>
<thead>
<tr>
<th>Paises</th>
<th>Cuota asignada (MBPD)**</th>
</tr>
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<tbody>
<tr>
<td>Antigua y Barbuda</td>
<td>4,4</td>
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<tr>
<td>Bahamas</td>
<td>-</td>
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<tr>
<td>Belice</td>
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<tr>
<td>*Cuba</td>
<td>98</td>
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<td>Dominica</td>
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<tr>
<td>Granada</td>
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<td>San Cristóbal y nieves</td>
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<td>Salvador</td>
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<tr>
<td>Venezuela</td>
<td>-</td>
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</tbody>
</table>
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(*) 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
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 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.

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 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.

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.

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.
PETROCARIBE – ALBA Caribe Achievements

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

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

(*) 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)

Source: FAO “Petrocaribe Report 10 years of struggle against hunger and poverty 2015”
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