REN21 Renewables 2012 Global Status Report

Webinar focusing on **Latin America**

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1.Renewable Energy shares

Renewable's share on Total Primary Supply, relative high position, clear biomass and big Hydro role (Year 2009).

	TPES Mtoe	Renewables Magnitude Mtoe	Renewables share in TPES (%)	Fuel categories, share in total renewable (%)		
				Hydro	Geothermal, Solar, Wind, tide	Biofuels and renewable waste
AFRICA	663.9	321.6	48.4	2.6	0.4	97.0
LATIN AMERICA	**567.9**	**177.1**	**31.2**	**33.7**	**1.9**	**64.4**
ASIA	1449.8	388.6	26.8	5.4	6.9	87.7
CHINA	2272.0	267.9	11.8	19.8	4.2	76.0
OCDE	5237.7	391.5	7.5	29	14.5	56.5
WORLD	**12169.0**	**1589.3**	**13.1**	**17.7**	**6.4**	**75.9**

Source: International Energy Agency. Renewable Information 2011. Part III, Renewable Data Overview.

1. Renewable Energy shares

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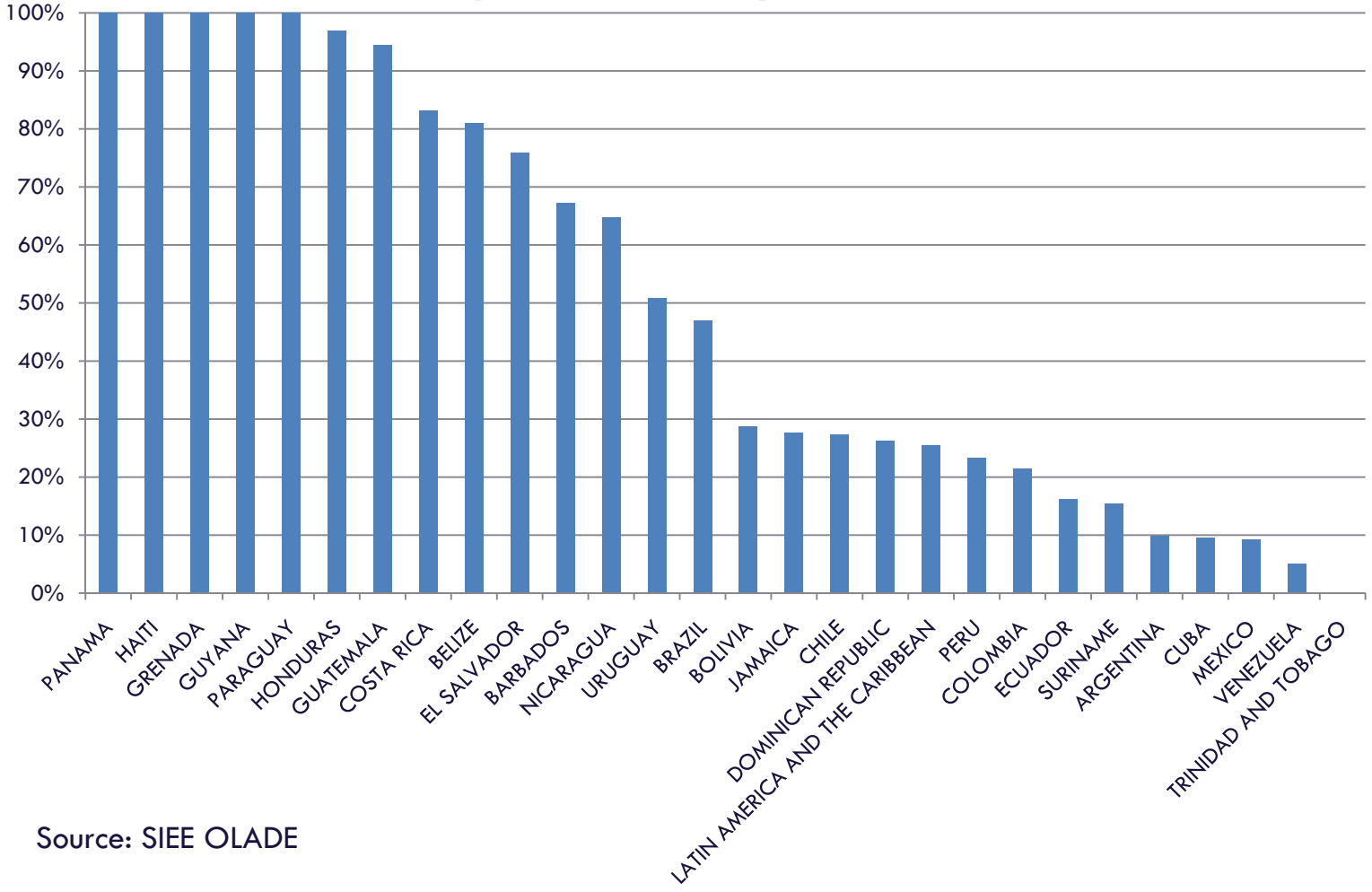
Renewable Energy share on Total Primary Energy Supply (exports out & imports, in)



Source: SIEE OLADE

1. Renewable Energy

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Installed electricity Capacity Regional Top 10, year 2010 (or 2009)

#	Eólica	MW	Geotermia	MW	Solar PV	MW	Biomasa	MW
1	BRASIL	929.0	MEJICO	964.5	BRASIL	86.0	BRASIL	7871.5
2	MEJICO	521.0	EL SALVADOR	204.4	MEJICO	25.0	ARGENTINA	720.0
3	CHILE	170.8	COSTA RICA	165.7	ARGENTINA	11.2	MEJICO	507.0
4	COSTA RICA	119.6	NICARAGUA	87.5	PERU	3.7	GUATEMALA	371.5
5	NICARAGUA	63.0	GUATEMALA	49.0	COLOMBIA	1.0	URUGUAY	240.5
6	ARGENTINA	55.1			ECUADOR	0.02	CHILE	166.0
7	URUGUAY	40.5					COLOMBIA	134.0
8	ARUBA	30.0					NICARAGUA	121.8
9	JAMAICA	23.7					EL SALVADOR	99.0
10	COLOMBIA	20.0					HONDURAS	91.5

Sources: own elaboration from De Martino Jannuzzi, Gilberto 2010, Wind Energy Council online, among others.

1. Renewable Energy shares

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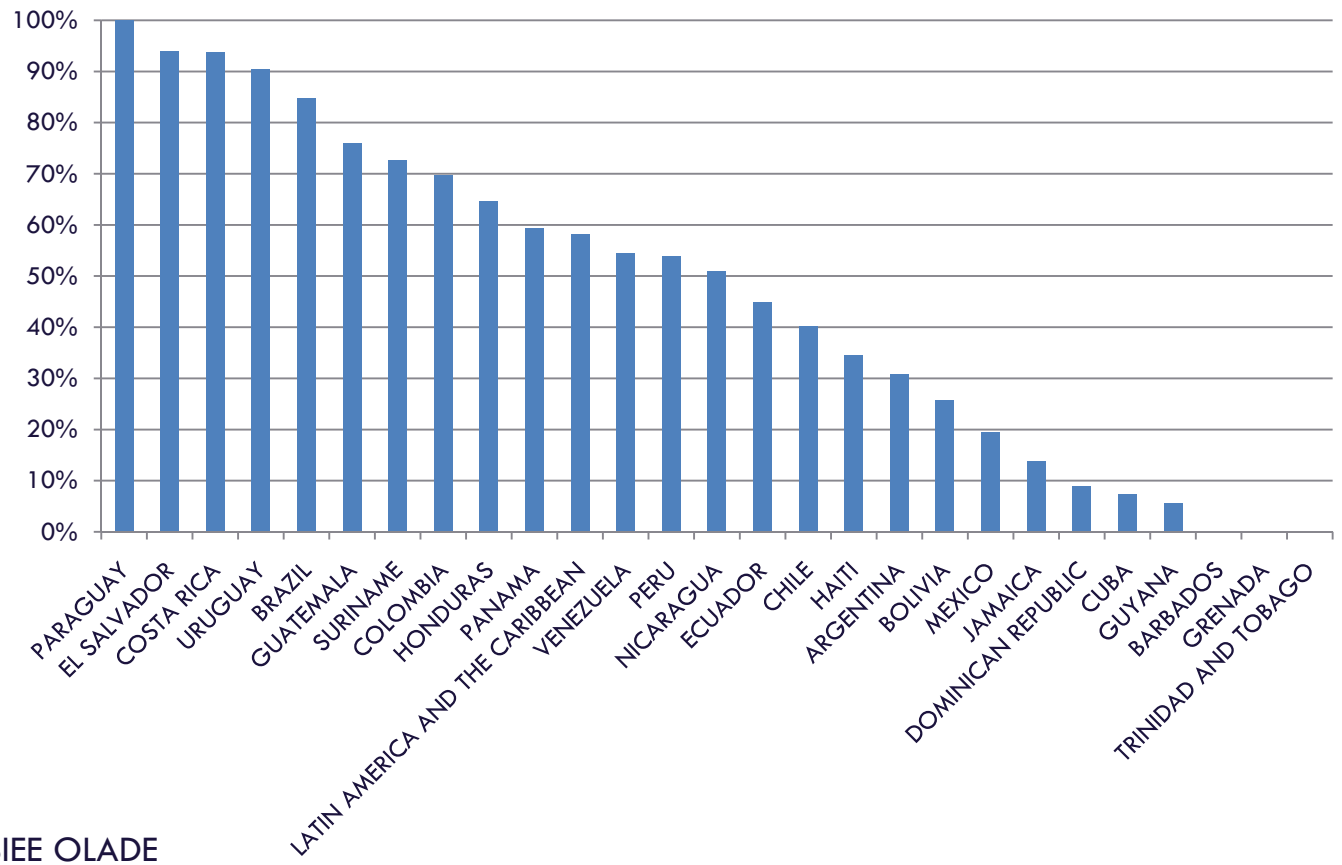
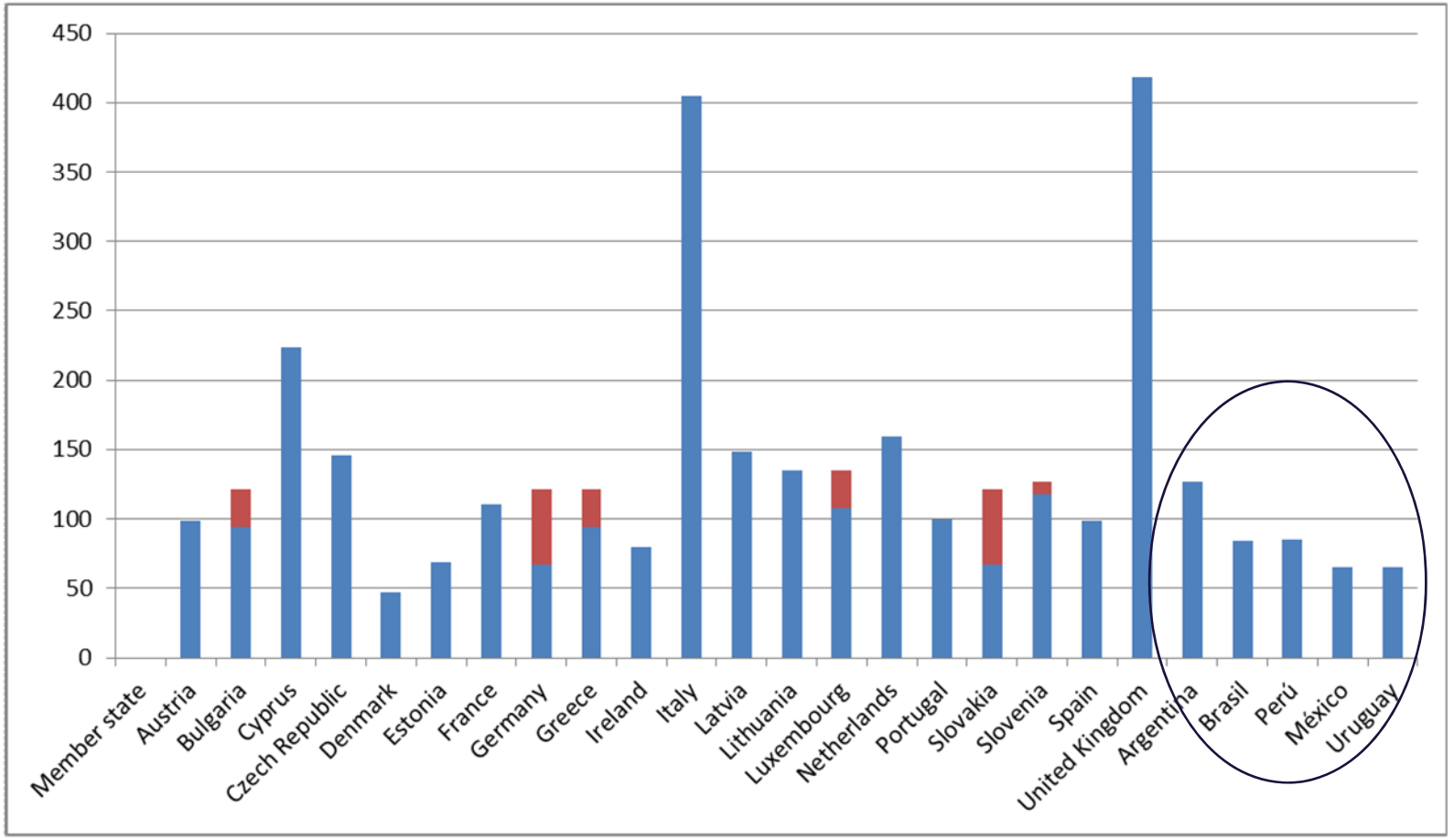
Renewable Energy share of generated Electricity, 2010



Source: SIEE OLADE

1. Renewable Energy

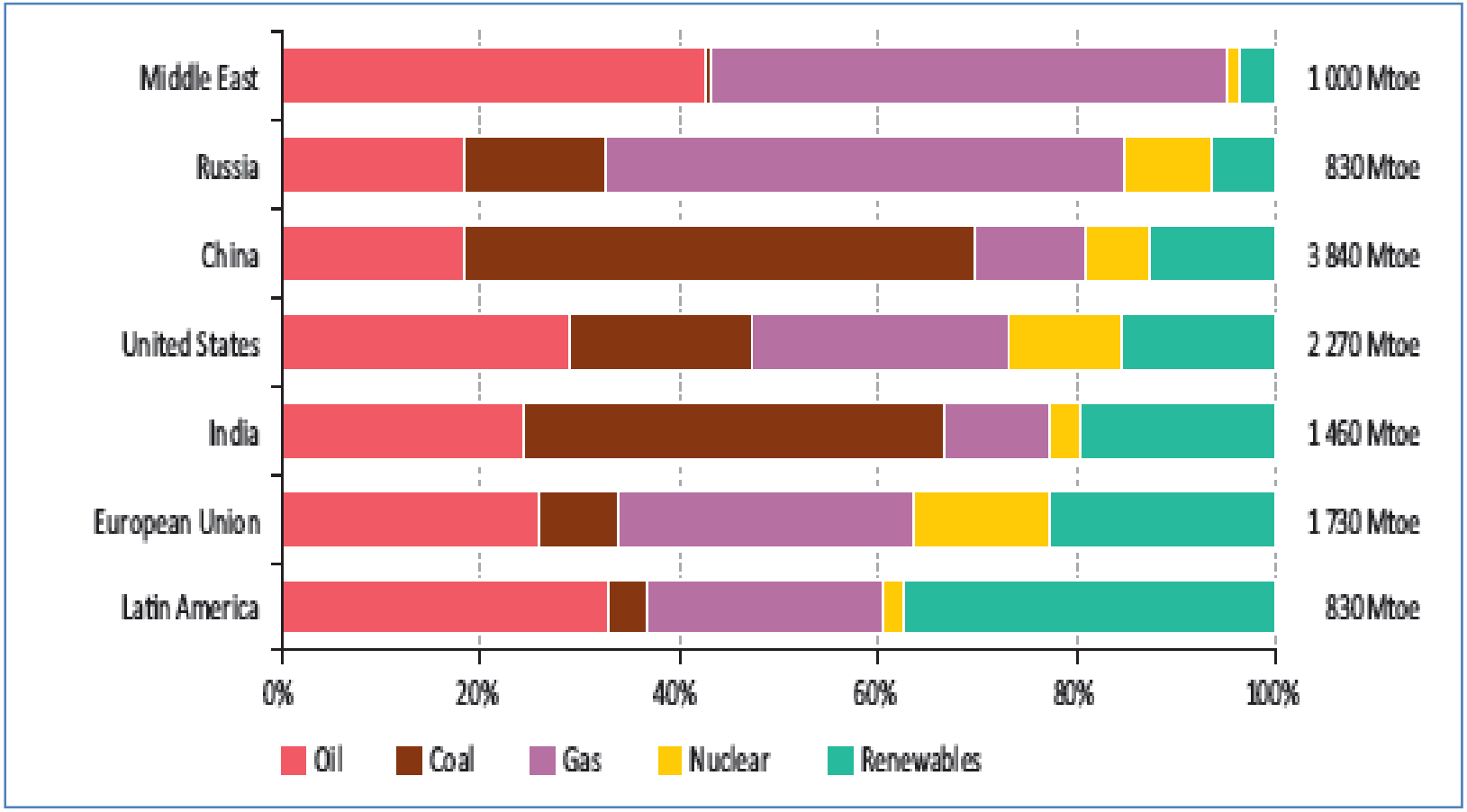
Feed in tariff for onshore wind (USD/MWH)



Source: based on www.energy.eu and Tokman, M. 2010.

1. Renewable Energy shares

Energy mix in Selected Countries and Regions. Latin America has the highest renewables' share on 2035 forecasts. But Big Hidro leads the figures.

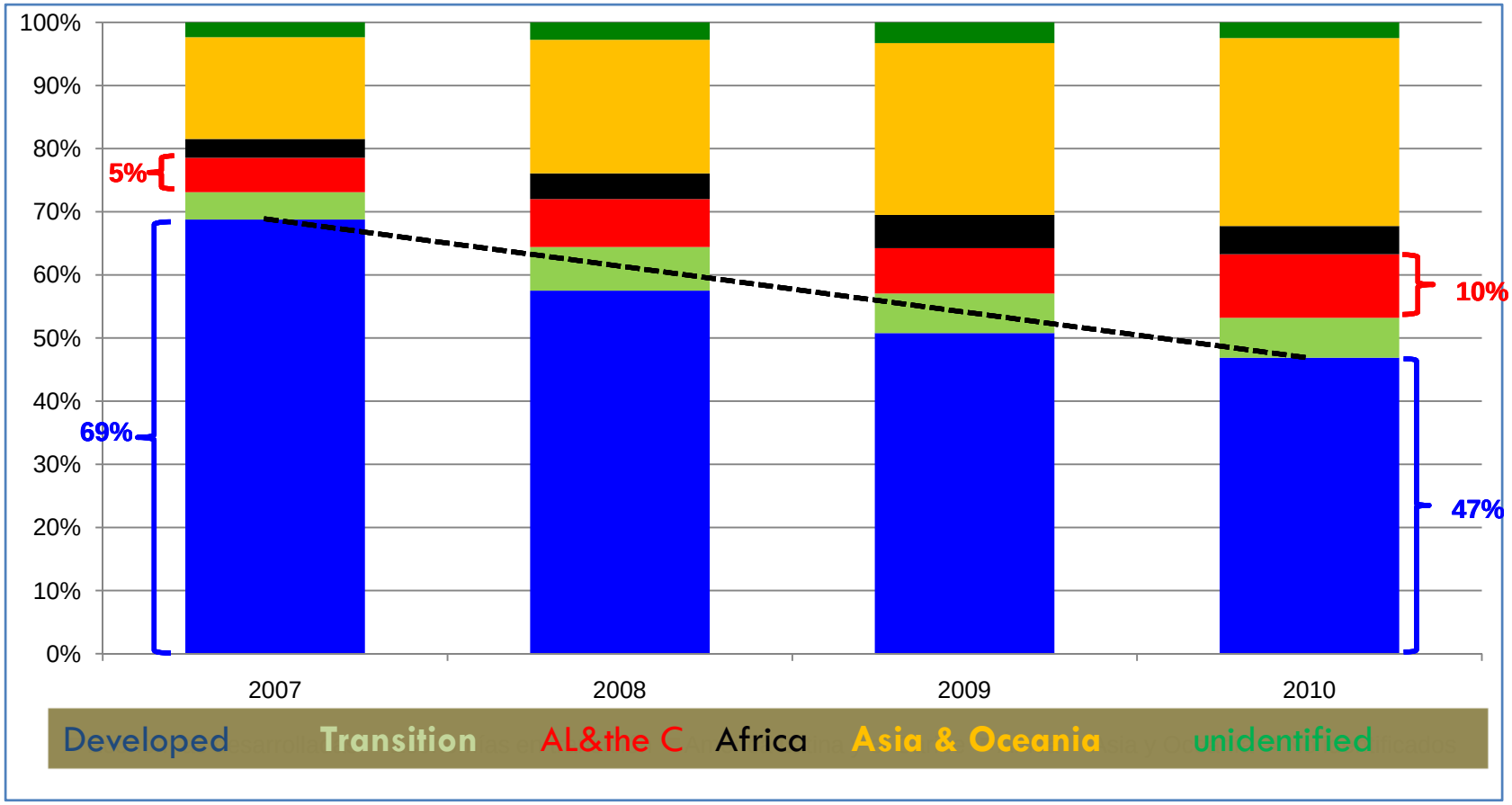


Source: WEO 2011. International Energy Agency. Nov.2011, New Policies Scenario, 2035

2. Investments Flows

Foreing Direct Investments in the world, by regions, 2007-2010

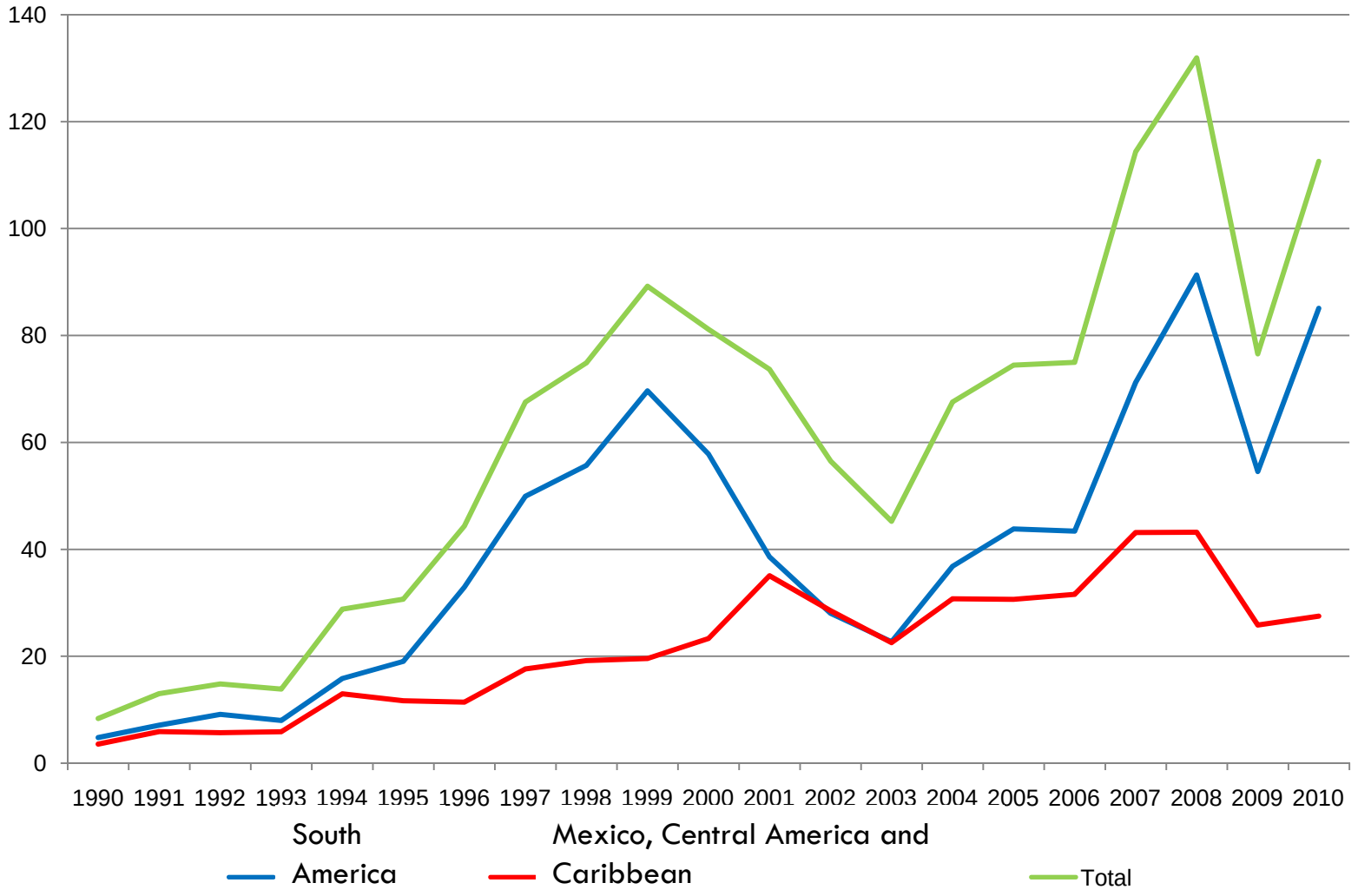
For the first time, developing countries are the main Direct Foreign Investment receptors: 53%



Source: ECLAC, 2011. In 2011 LA&C increased % from 9.4 to 10.2

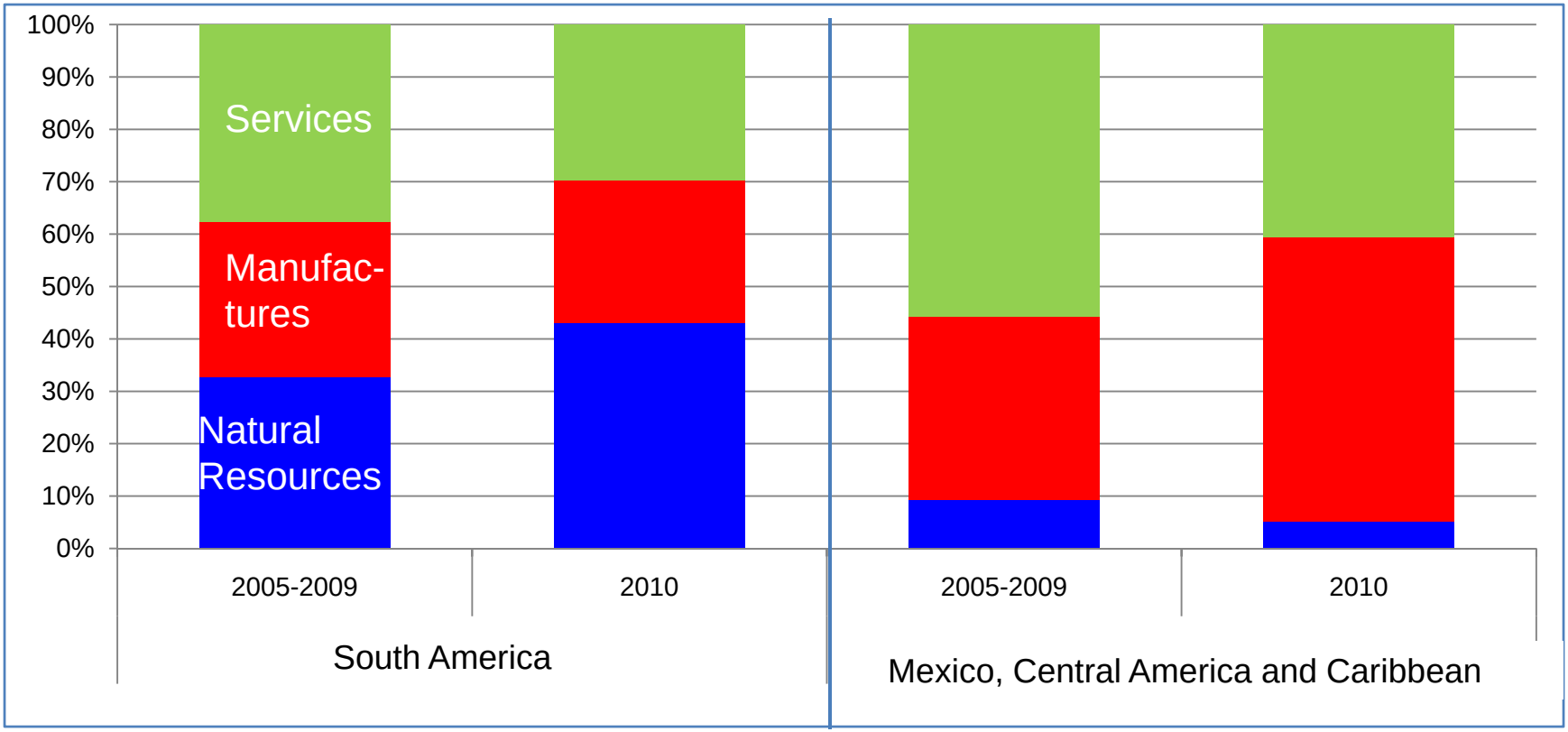
2. Investments Flows

In 2010, incomes from foreign direct investment reached 113 bn dollars, 40% increase



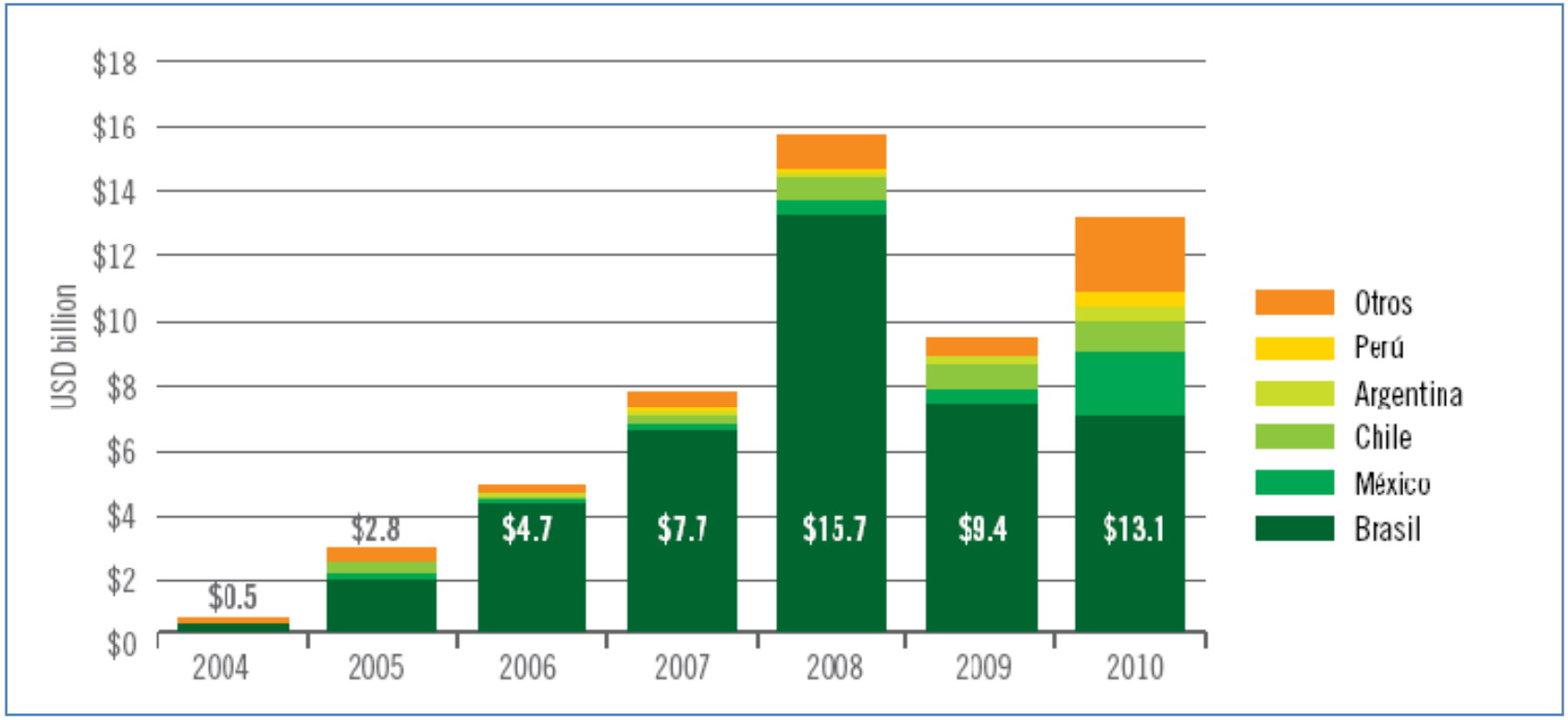
Source: ECLAC, 2011.

Foreign Direct investment stress the productive specialization of Latin America and the Caribbean,
LA&C Investment destiny by sector, by region, 2000-2010 (%)



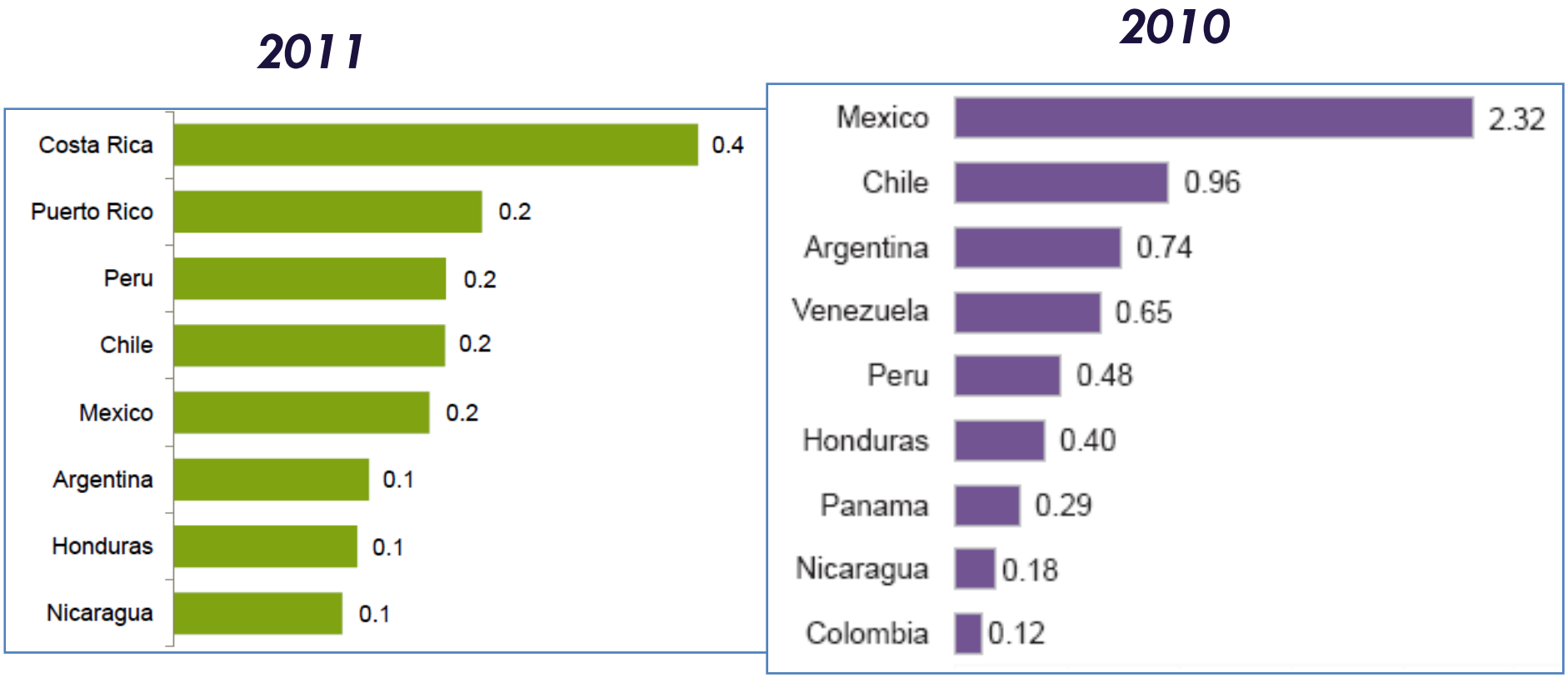
Source: ECLAC, 2011. In year 2011 the trends continued firmly.

Renewable energies Investment in Latin America. 2004-2010.



Source: Bloomberg New Energy Finance

Total Investment in Renewable Energy in Latin America (excluding Brazil), $Bn



Source: Bloomberg New Energy Finance. Omits countries with less than $0.1bn investment..

Renewable energies Investment in Latin America. 2004-2010.

Beyond the short run:

The region still faces the challenge of strengthening its Capacity of benefiting from FDI and attract investments towards high tech branches.

Productive Development policies are needed, focusing on innovation and local capacities & resources strengthening.

Again hydro (not only big), biomass (no only biofuels) present good perspectives of key regional tech developments.

3. The Regional Agenda, background

- 2003 LA&C Initiative for Sustainable Development *(ILACDS)*, 21 countries approved the Brasilia Platform: target of 10% Renew on total consumption 2010 (surpassed: large hydro)
- 2004, ECLAC (Chile) 6 nations met to foster public Policy-making / improving normative and regulatory frameworks for Renewables in South America.
- *Parlatino*: a) To foster both hydro potential and regional energy integration. B) To increase, diversify and make energy supply more efficient by prioritizing development of national resources such as hydro, wind and solar.

1. Sustainable Hidroenergy, an environmental and social revalorization is needed.
2. Renewables for a comprehensive development of rural Communities.
3. Rational Use of Energy and firewood
4. New perspectives for biomass and Biofuels

4. Regional Policy Landscape

	Regulatory policies						Fiscal incentives				Public financing	
	Feed-in tariff	Renewable Portfolio Standard/quota	Net metering	Biofuels Mandate	RE heating/cooling mandates	Tradable RE certificates	Capital subsidies, grants, rebates	Investment or other tax credits	Sales tax, energy tax, excise tax, or VAT reduction	Energy production payments	Public investment, loans, or financing	Public competitive bidding
ARGENTINA	X			X			X	X	X	X	X	X
BRAZIL				X	X			X	X		X	X
COLOMBIA				X		(*)			X			
COSTA RICA	X		pilot									
CHILE		X			X		X		X		X	
DOMINICAN REPUBLIC	X		X		X		X	X	X			X
ECUADOR	X								X		X	
EL SALVADOR								X	X	X	X	X
GRANADA									X			
GUATEMALA			X	X				X	X			X
HONDURAS	X							X	X			X
HAITI											X	
JAMAICA				X				X	X			
MEXICO	X				X			X			X	X
NICARAGUA	X					(*)		X	X	X		X
PANAMA	X		X					X	X	X		X
PARAGUAY				X					X			
PERU	X			X					X			X
URUGUAY	X		X	X	X		X		X		X	X
TRINIDAD & TOBAGO							X	X	X			

4. Regional Policy Landscape

• Fiscal incentives, most employed instrument: 18 out of 20 countries having identified active policies. *Investment or production tax credits* and *tax rebates* (sales, energy, assets, imports, added value).

• Regulatory instruments, *feed-in tariffs* outstand: 10 countries, and recent developments of *net metering*, (5 countries) and *thermal use incentives* water or space heating (4 countries).

• Public Financing, mainly auctions (10 countries) of increasing relevance.

• Argentina, Uruguay, Dominican Rep. and Panama have the largest range of promotion instruments. Brazil, Costa Rica and Uruguay the mayor incorporations.

(NOTE: this comparison is relative, as instruments classification is not evident nor homogeneous).

4. Regional Policy Landscape

- Relevant trend: long term contracts (15 to 25 years) for renewable energy incorporation to Electricity Generation, by means of public auctions (*Brazil, Argentina, Peru, Uruguay, Guatemala and Dominican Republic*, more recently *Panama, El Salvador, Honduras and Mexico*).
- Exception: from 2010, *Chilean* electricity utilities must cover 5% of their supply (quota) with non conventional renewable energy or pay a fine.
- The region has not assumed international commitments of emission reductions yet (climate change). Nevertheless *Colombia and Panamá* provide fiscal incentives or benefits to projects participating on the UNFCCC's Clean Developement Mechanism.

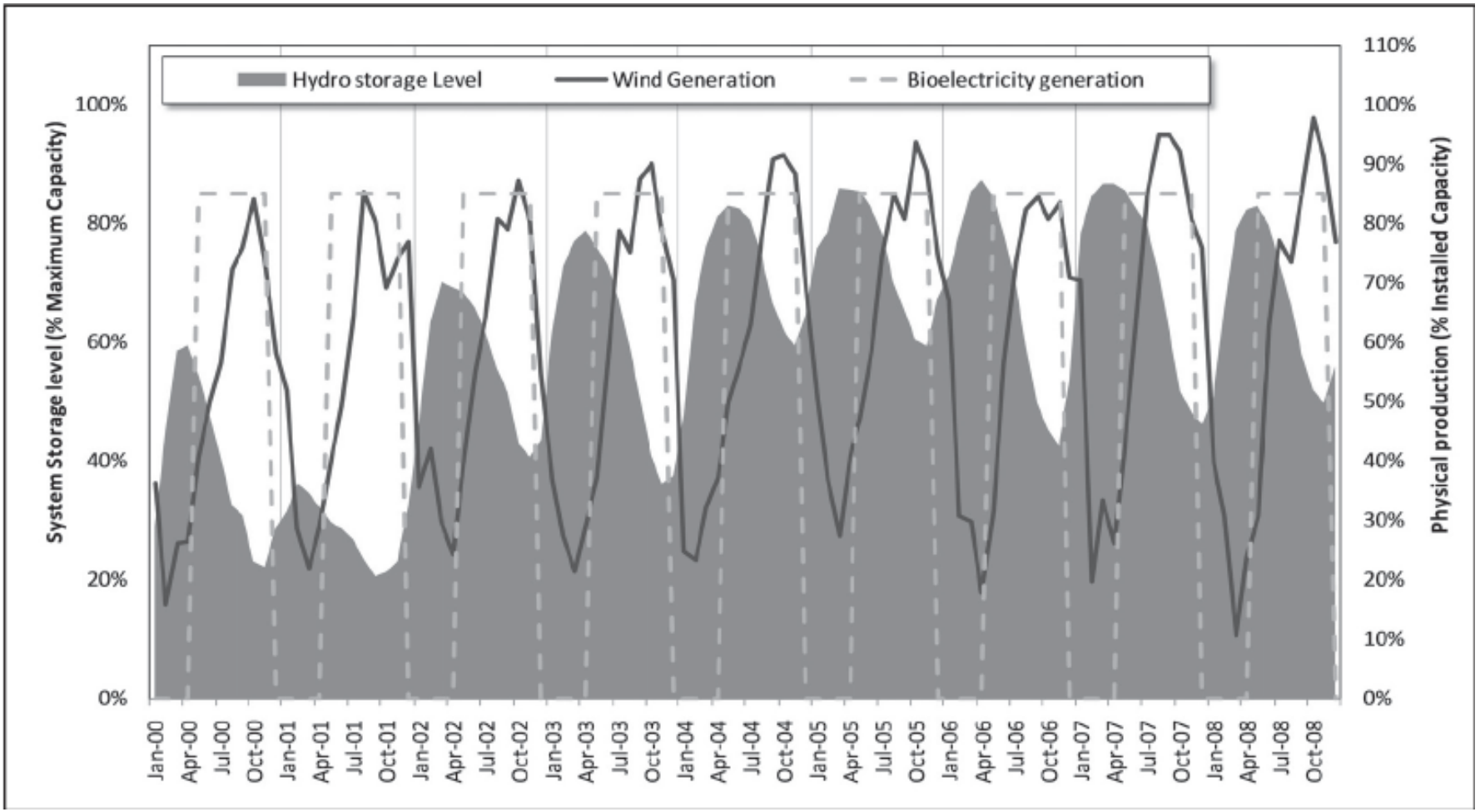
4. Regional Policy Landscape, concerns

•Possible interventionist bias of auctions: high generation costs, while debts exist in terms of access and accessibility: *explicit inclusion within national energy planning frameworks* is required.

• *Political will* must be clearly expressed, preferred options must be clearly defined (wind, biomass, mini hydro) ideally in accordance with agreed established objectives, e.g. energy matrix diversification with clean energy options, regional economic development promotion, job generation, specific technologies encouragement.

• *Possible synergies existence* between generation from hydro and biomass and/or wind resources, complementing water saving capacity (peak electricity) as the Brazilian case must be analyzed.

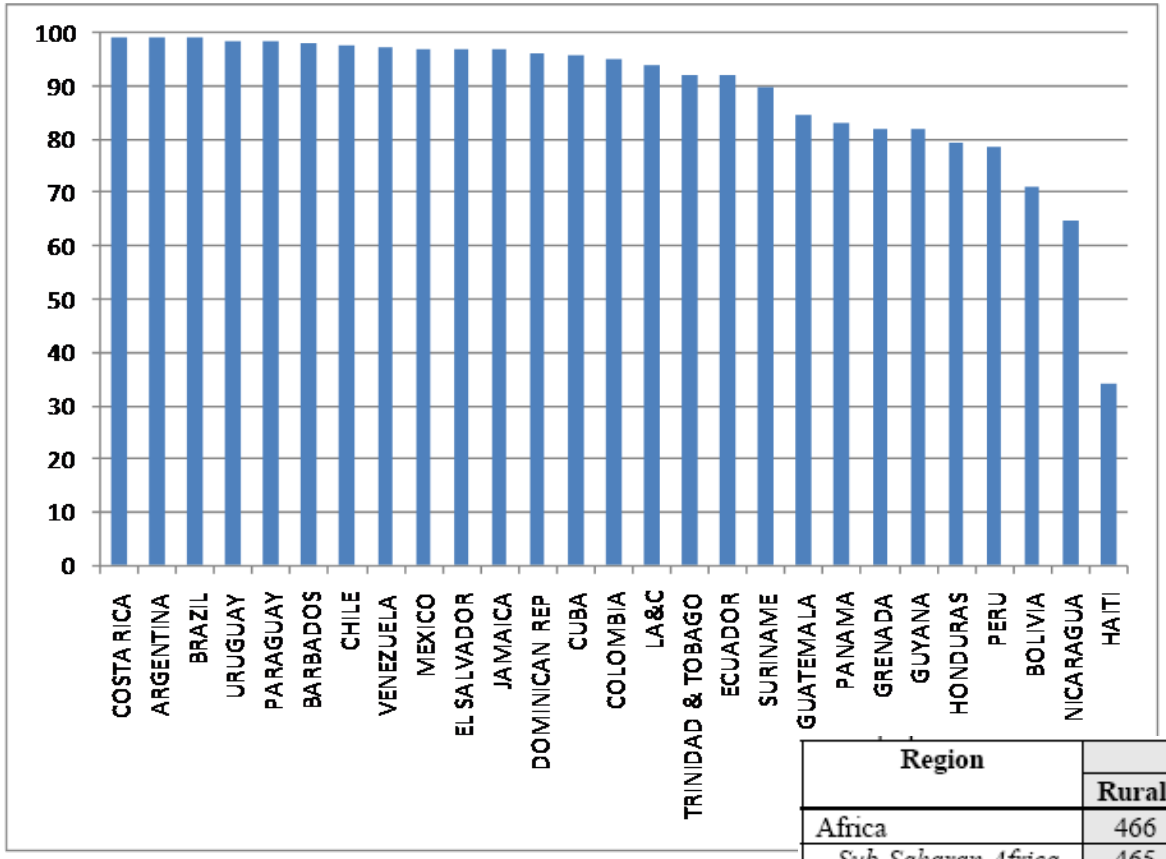
4. Regional Policy Landscape, concerns



Fuente: Maurer, L. y Barroso, L. 2011.

5. Energy Access

Electrification Rate in the region for 2010 and world comparative, 2009



Source: siee OLADE

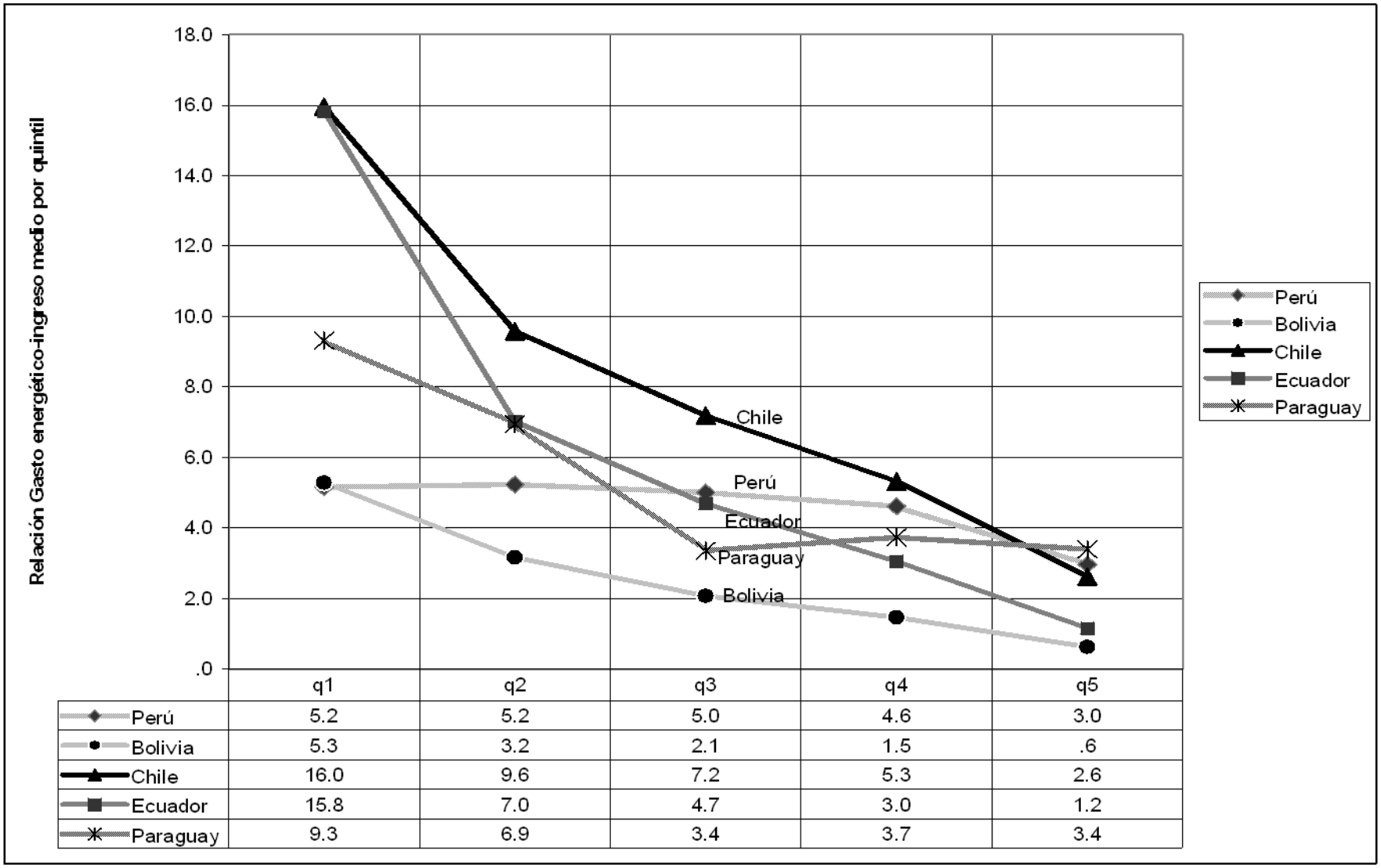
World comparision, 2009, Millions people and %

Region	2009			2015	2030	2009	2015	2030
	Rural	Urban	Total	Total	Total	%	%	%
Africa	466	121	587	636	654	42	45	57
Sub-Saharan Africa	465	120	585	635	652	31	35	50
Developing Asia	716	82	799	725	545	78	81	88
China	8	0	8	5	0	99	100	100
India	380	23	404	389	293	66	70	80
Other Asia	328	59	387	331	252	65	72	82
Latin America	27	4	31	25	10	93	95	98
Developing Country*	1,229	210	1,438	1,404	1213	73	75	81
World**	**1,232**	**210**	**1,441**	**1,406**	**1213**	**79**	**81**	**85**

Source: IPCC Renewables Report 2011

5. Energy Access

Selected countries of the region, Energy Expenditure (% of income) by income quintile



	q1	q2	q3	q4	q5
Perú	5.2	5.2	5.0	4.6	3.0
Bolivia	5.3	3.2	2.1	1.5	.6
Chile	16.0	9.6	7.2	5.3	2.6
Ecuador	15.8	7.0	4.7	3.0	1.2
Paraguay	9.3	6.9	3.4	3.7	3.4

6. Some Difficulties Identified

- Electricity transmision Infraestructures: need adjustments in order to integrate fluctuant renewable energy, matching supply and demand at any hour, planning is needed.
- Restructuring Fossil Fuel based Electricity Systems, incorporating renewables requires the implementation of feasible power purchase agreements.
- Land Availability, wind farms require relatively large spaces. Valid for big solar farms linked to the Electricity grids and transmission systems.
- Estructural and Cultural Problems, perceived risks, might lead to implementation or administrative delays, lack of organization.
- Specific local issues, natural gas low price, can prevent the development of solar thermal applications.
- Uneven quality of equipments and post sale service, poor infrastructure and O&M services, lack of long term technical service.
- Lack of knowledge on technological alternatives reducing required trust, by planners, professionals involved, there is a strong need of demostation and pilot projects as well as training.

6. Some Possible Strategies

- Regional Integration: increasing electricity system size would allow for intermittence effect dilution, avoiding high reserve levels requirements.
- Fill legal vacuues, that prevent taking advantage of potential benefits and cost-effective options for direct use of energy, e.g. biomass in process heat or solar water heating.
- Standards for buildings and homes (Chile and Uruguay for solar water heating) together with specific policies for encouraging renewable energy use for basic non electric uses (cooking and space heating).
- New legal schemes, promotion laws and incentives
- Establishment of targets for renewable energy incorporation, as share of primary energy and generated electricity.
- Public Auctions for specific quotas or amounts of renewable energy, by source. Had positive reception and bidders surpassing expectations (Uruguay, Argentina, Brazil).

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Thanks for your kind attention

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