



# CLIMATE SCOPE

# 2013

New Frontiers for Low-Carbon Investment  
in Latin America and the Caribbean



Multilateral Investment Fund  
Member of the IDB Group

**Bloomberg**  
NEW ENERGY FINANCE

# THE MULTILATERAL INVESTMENT FUND (MIF)



- ▲ Established in 1993 as a unique laboratory within the Inter-American Development Bank Group for testing, pioneering, innovating, and sharing initial risk to unlock private sector activity at the base of the pyramid.
- ▲ Targets micro and small entrepreneurs, small farmers, and low-income households.
- ▲ Empowers clients through tools to increase their incomes: access to finance, markets and skills, basic services and green growth.
- ▲ Provides grants, early stage equity and loans to project partners—alone or in combination, depending on the nature of the challenge.
- ▲ Helps others take successful models to scale.
- ▲ Is on the ground: Around 1/3 of staff based in the region.
- ▲ Funded by 39 donors, with projects totaling about \$100M per year.



## THE MIF: EXAMPLES OF CLEAN ENERGY ACTIVITIES

- ▲ Partnership with Climate Investment Funds: Business development services and loans for MSMEs in indigenous forest communities in Mexico to increase incomes while conserving CO2 sinks
- ▲ Strengthening of the ADERC Renewable Energy Financing Facility in Honduras
- ▲ Creation of the first ever remittance-driven market for affordable clean energy devices in Haiti
- ▲ Development of the ESCO market and the financing and insurance instruments for SMEs in Colombia
- ▲ EcoMicro: Program for microfinancing institutions to develop green financial products across Latin America and the Caribbean

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1. What is Climatescope?

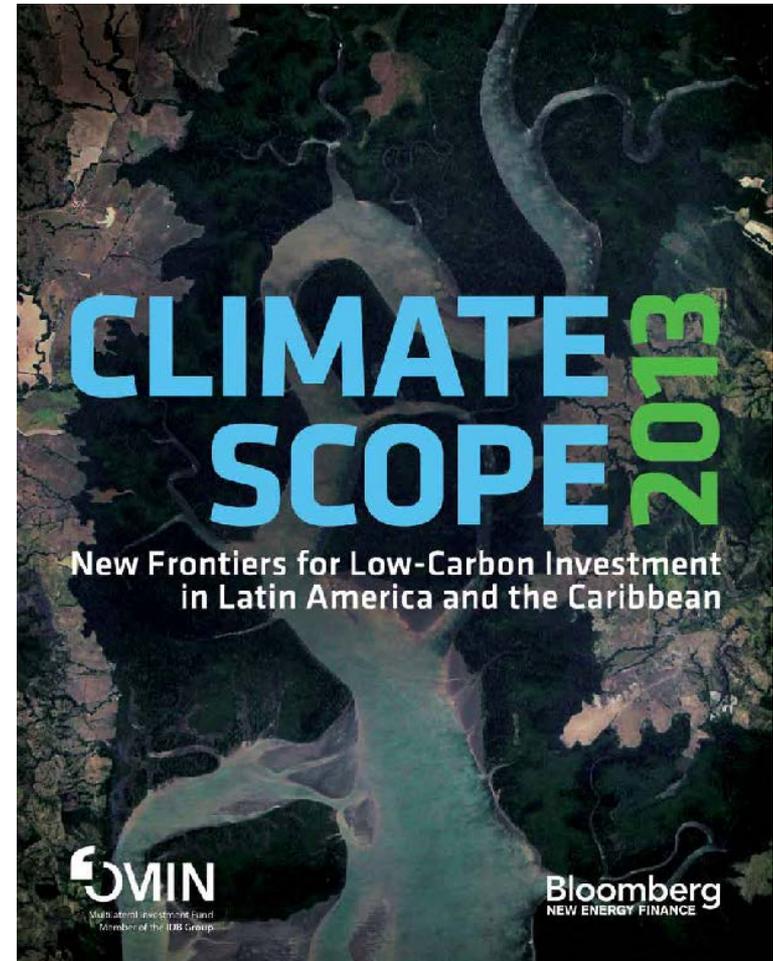
2. Global clean energy investment trends

3. Climatescope methodology and results

4. Climatescope Global 2014/2015

# WHAT IS CLIMATESCOPE?

- ▲ Climatescope: Report, Index and Interactive Online Tool providing comprehensive information for low-carbon clean energy stakeholders across respective value chains
- ▲ Developed by Multilateral Investment Fund (MIF) and Bloomberg New Energy Finance
- ▲ Second edition: top 5 countries in 2012 in LAC: Brazil, Chile, Nicaragua, Peru, Mexico
- ▲ [www.global-climatescope.org](http://www.global-climatescope.org)



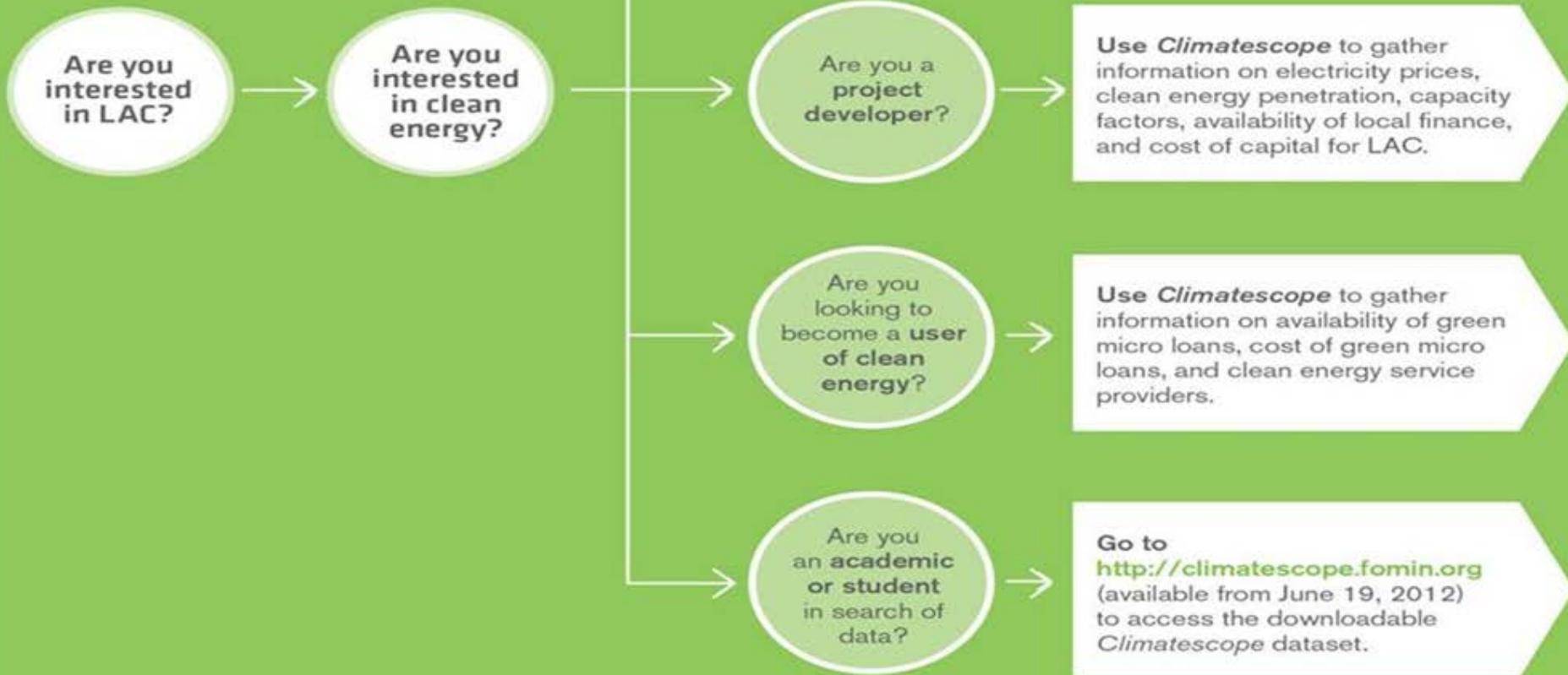


## WHY CLIMATESCOPE?

- ▲ LAC region highly endowed in natural resources:
  - 22% of global forests, 30% of available freshwater
- ▲ Abundant solar, wind, bioenergy and geothermal resources
- ▲ Yet, region only captured ~6% of 2012 global clean energy investment
- ▲ Dynamic and complex nature of clean energy markets = Information gaps for investors, governments, entrepreneurs, businesses = Need for market intelligence (especially MSMEs)
- ▲ Information tool to catalyze clean energy investment

Who uses Climatescope?

# WHAT'S YOUR PERSPECTIVE?



Are you interested in LAC?

Are you interested in clean energy?

Are you a policymaker?

Use *Climatescope* to access a list of all types of clean energy policies in LAC and a rank of clean energy policy framework by country.

Are you an investor or entrepreneur?

Use *Climatescope* to access information on the enabling framework, investment and financing, value chains and greenhouse gas management activities in LAC.

Are you a project developer?

Use *Climatescope* to gather information on electricity prices, clean energy penetration, capacity factors, availability of local finance, and cost of capital for LAC.

Are you looking to become a user of clean energy?

Use *Climatescope* to gather information on availability of green micro loans, cost of green micro loans, and clean energy service providers.

Are you an academic or student in search of data?

Go to <http://climatescope.fomin.org> (available from June 19, 2012) to access the downloadable *Climatescope* dataset.

# WHO USES CLIMATESCOPE

Stakeholders	Use Climatescope to...	Feedback
<b>Policy-makers</b>	Learn about policy best practices in other nations, learn about successes/failures and adjust accordingly.	Post-release of Climatescope 2012, Nicaragua's government convened a committee tasked with boosting the country's score in the survey – and succeeded the following year, by implementing more supportive clean energy policies.
<b>Clean energy industry players</b>	Gather information on electricity prices, clean energy penetration, capacity factors, availability of local finance and cost of capital	<i>"The report really helped us understand the clean energy environment in Latin America. There is little research like Climatescope available because these markets are so young, but it is critical to develop the sector and bring in outside investment."</i> – strategist, Chinese photovoltaic equipment maker Trina Solar
<b>The media</b>	Cites Climatescope for key information clean energy conditions in specific nations	Over 250 news stories published to date on Climatescope 2012 and 2013. Over 35,000 web site visits and 20,000 report downloads
<b>NGOs and academics</b>	Use the online tool to access the latest downloadable Climatescope datasets.	REN21, the Overseas Development Institute, and others have expressed interest in including Climatescope data in other research they are conducting
<b>Clean energy users</b>	Learn about renewable energy policies, gather information on availability of green micro loans, cost of green micro loans, and clean energy service providers	In the Bahamas, the results of the Climatescope prompted a reaction among renewable energy entrepreneurs demanding a more active role from the government in supporting renewables.

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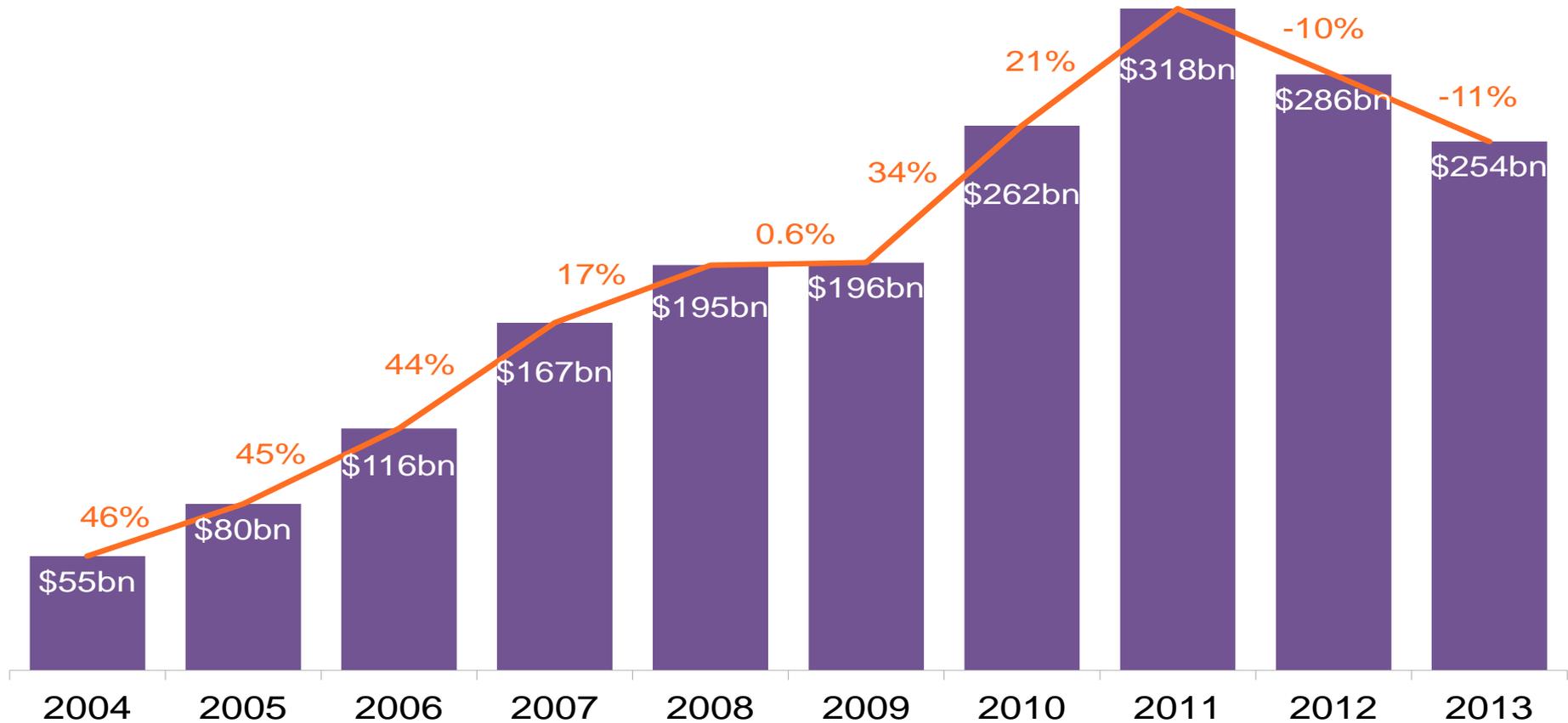
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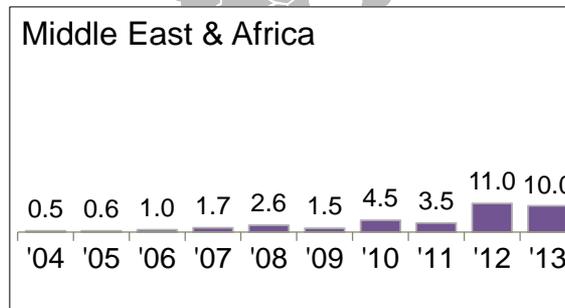
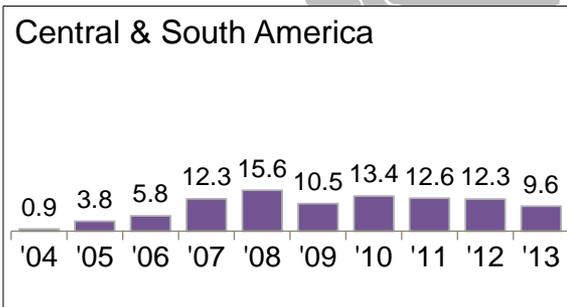
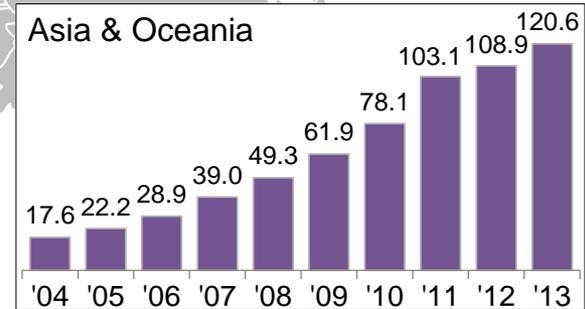
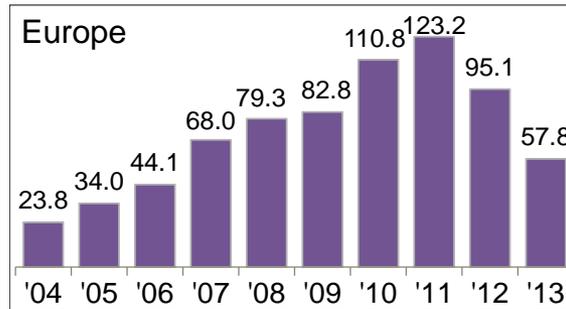
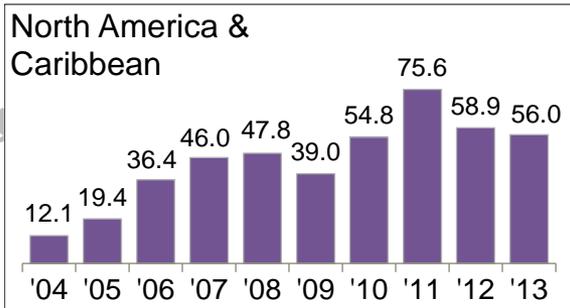
# TOTAL GLOBAL NEW INVESTMENT IN CLEAN ENERGY 2004–13 (\$BN)



Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D. Includes digital energy & energy storage asset investment. [NEW](#)

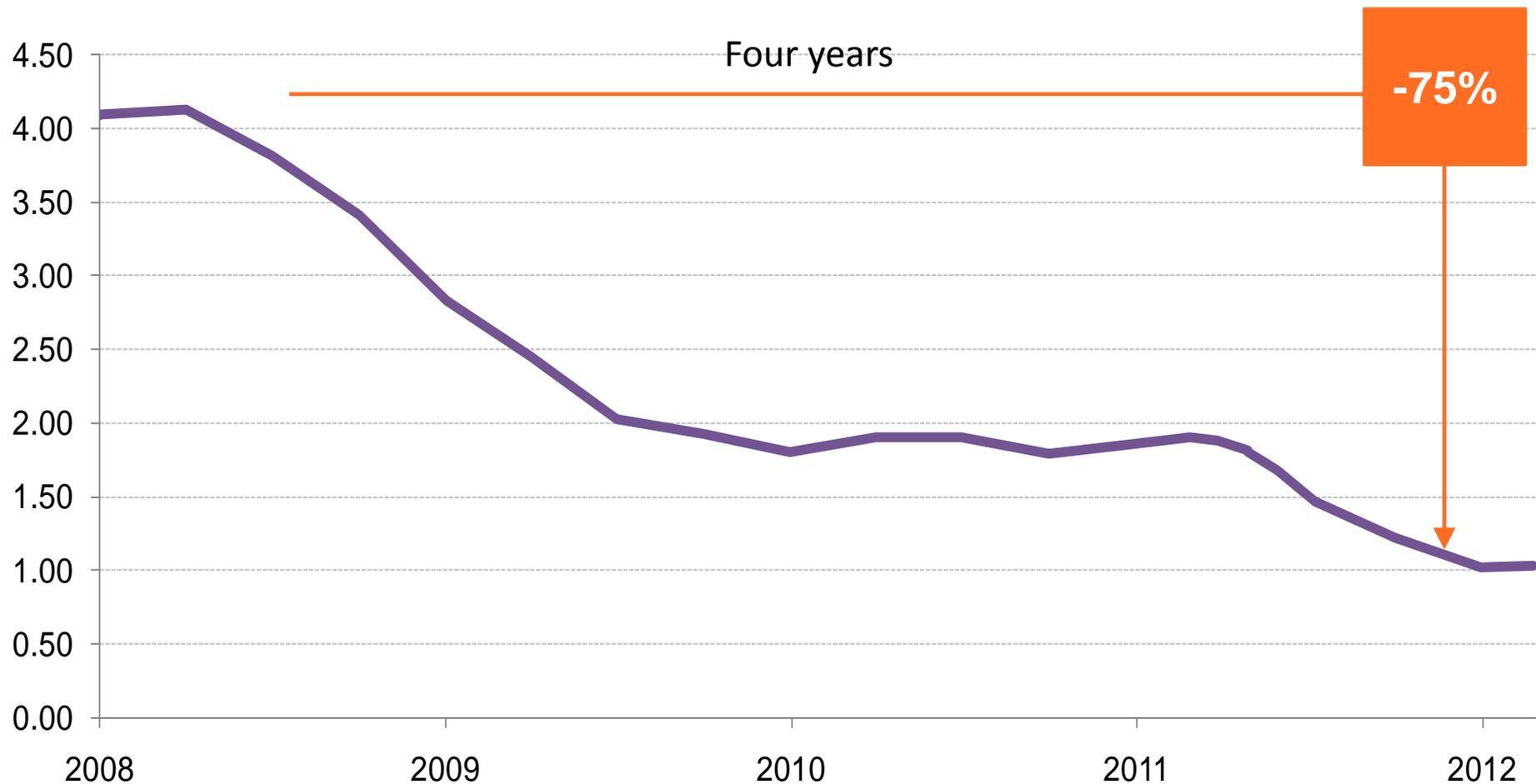
Source: Bloomberg New Energy Finance

# CLEAN ENERGY INVESTMENT, 2004-2013 (\$BN)



Source: Bloomberg New Energy Finance

# CRYSTALLINE SILICON MODULE SPOT PRICE, 2008-2012 (\$/W)

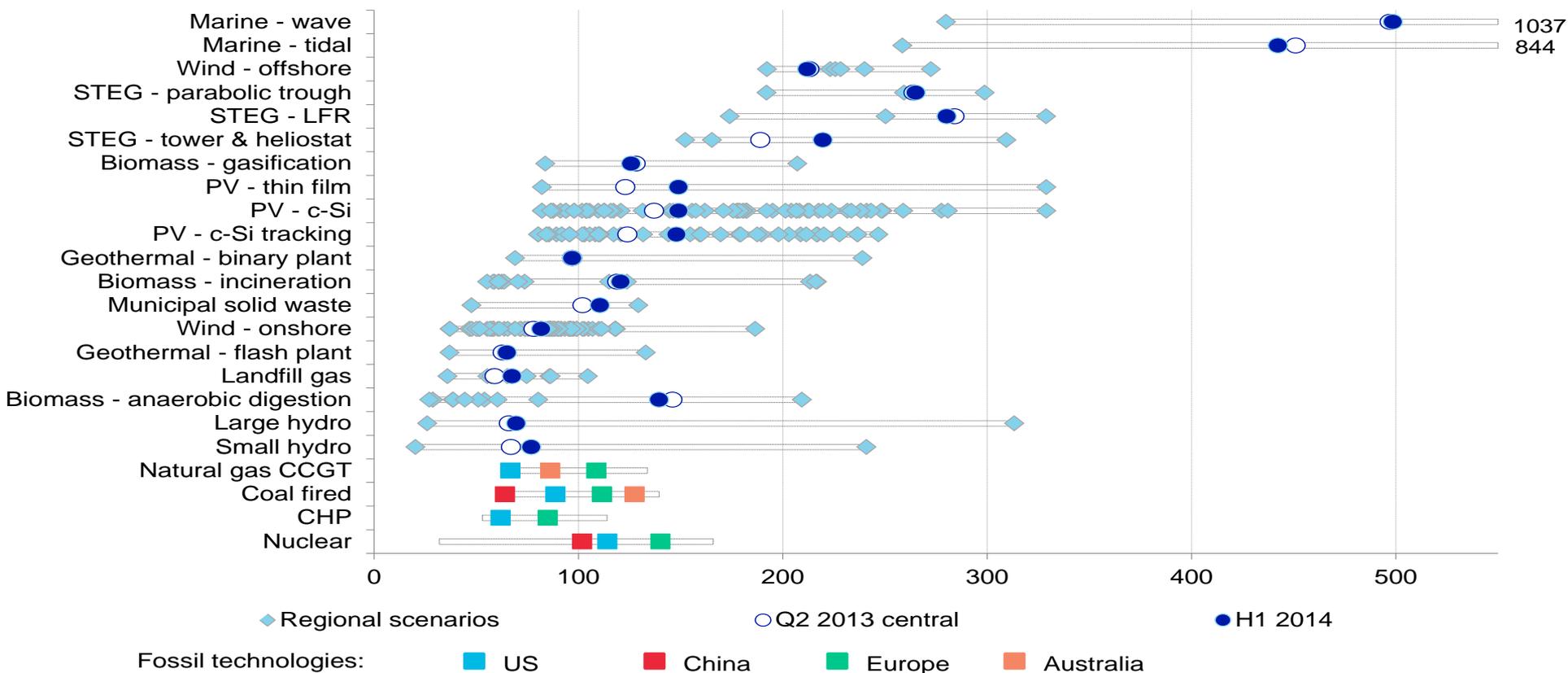


Note: Prior to 11 July 2011 the index collated module prices without differentiating between mono and multi crystalline

Source: Bloomberg New Energy Finance Solar Spot Price Index



# LEVELIZED COST OF ELECTRICITY H1 2014 (\$/MWH)



Note: regional scenarios are shown to demonstrate the richness of the dataset and are discussed further in BNEF research notes.

Source: Bloomberg New Energy Finance

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# CLIMATESCOPE METHODOLOGY

## ENABLING FRAMEWORK

- Policy & regulation
- Clean energy penetration
- Price attractiveness
- Market size expectation

## CLEAN ENERGY INVESTMENT AND CLIMATE FINANCING

- Amount invested
- Fund sources
- Green microfinance
- Cost of debt

## LOW-CARBON BUSINESS AND CLEAN ENERGY VALUE CHAINS

- Clean energy service providers
- Value chains by clean energy sector
- Financial institutions in clean energy

## GREENHOUSE GAS MANAGEMENT ACTIVITIES

- Carbon offsets
- Carbon policy
- Corporate awareness

<http://www.global-climatescope.org>

**COUNTRY PROFILE**

**INDICATOR ANALYSIS**

Country	Brazil						Return to Dashboard		Reset Default Weights	
Score	2.639									
Indicators	35									
PARAMETER	WEIGHT	CATEGORY	EIGHT	REF INDICATOR	EIGHT	T WEIGHT	DATA	UNITS	CORE	PERFORM
<b>Enabling Framework</b>	40%	<b>Policy &amp; Regulation</b>	40%	1.01 Clean energy policies	60%	9.6%	9	Policy Types	0.374	
	40%		40%	1.02 Power sector structure	30%	4.8%	9	Questions	0.216	
	40%		40%	1.03 Clean energy rural electrification	10%	1.6%	1	Program	0.080	
	40%	<b>Clean Energy Penetration</b>	40%	1.04 Clean energy installed capacity	15%	2.4%	13,862	MW	0.024	
	40%		40%	1.05 Growth rate of installed capacity	20%	3.2%	23.28%	%	0.102	
	40%		40%	1.06 Clean energy electricity generation	15%	2.4%	48,276	GWh	0.012	
	40%		40%	1.07 Growth rate of electricity generation	20%	3.2%	0.00%	%	-	
	40%		40%	1.08 Biofuels production	10%	1.6%	24.70	Billion Litres	0.080	
	40%		40%	1.09 Growth rate biofuels production	20%	3.2%	-17.63%	%	-	
	40%	<b>Price Attractiveness</b>	10%	1.10 Average retail electricity prices	50%	2.0%	163.10	USDMWh	0.055	
	40%		10%	1.11 Average electricity spot prices	50%	2.0%	17.16	USDMWh	0.007	
	40%	<b>Market Size Expectations</b>	10%	1.12 Growth rate of power demand	50%	2.0%	5.68%	%	0.049	
	40%		10%	1.13 Electrification rate	50%	2.0%	97.00%	%	0.040	
<b>Clean Energy Investment &amp; Climate Finance</b>	30%	<b>Amount Invested</b>	45%	2.01 Clean energy investments	50%	6.8%	70,054	USDm	0.065	
	30%		45%	2.02 Growth rate of clean energy investments	50%	6.8%	25.69%	%	0.130	
	30%		0%	2.03 Asset finance investments			56,637.5	USDm		
	30%	<b>Investment Type</b>	0%	2.04 Corporate finance investments			10,111.37	USDm		
	30%		0%	2.05 VC/PE investments			3,304.60	USDm		
	30%		0%	2.06 Small Distributed scale			0.02	USDm		
	30%	<b>Fund Sources</b>	20%	2.07 Loans, grants, grant programs	50%	3.0%	1,514.35	USDm	0.006	
	30%		20%	2.08 Local investments	50%	3.0%	7,937.46	USDm	0.150	
	30%	<b>Green Micro Finance</b>	25%	2.09 Number of Green MFI	50%	3.8%	9	Companies	0.036	
	30%		25%	2.10 Green micro-loans	25%	1.9%	71,160,000	USD	0.094	
30%	25%		2.11 Green micro-borrowers	25%	1.9%	33,708	Borrowers	0.027		
30%	<b>Cost of Debt</b>	10%	2.12 Average cost of green micro debt	10%	0.3%	2.60%	%	0.015		
30%		10%	2.13 Sovereign cost of debt	90%	2.7%	4.61%	%	0.101		
<b>Low Carbon Value Chain</b>	10%	<b>Value Chain</b>	100%	3.01 Financial institutions in clean energy	25%	2.5%	4	Companies	0.125	
	10%		100%	3.02 Value chains by clean energy sector	50%	5.0%	28	Value Chains	0.175	
	10%		100%	3.03 Clean energy service providers	25%	2.5%	16	Service Providers	0.125	
<b>Green House Gas Management Activities</b>	20%	<b>GHG's</b>	100%	4.01 Offset project volume	40%	8.0%	77.94	tCO2e/USDm	0.037	
	20%		100%	4.02 CDM risk	15%	3.0%	118	Projects	0.064	
	20%		100%	4.03 CDM validation presence	15%	3.0%	13	Companies	0.150	
	20%		100%	4.04 Companies efforts - emissions	15%	3.0%	57	Companies	0.150	
	20%		100%	4.05 Companies efforts - efficiency	15%	3.0%	57	Companies	0.150	
	20%		100%	4.06 Offset development - costs						
	20%		100%	4.07 Offset development - difficulty						

**FURTHER INDICATOR DETAILS**

1.01 - Clean Energy Policies	9
1.04 - Clean Energy Capacity (MW)	13,862
1.06 - Clean Energy Generation (GWh)	48,276
Clean Energy Capacity Factors (%)	35%
2.01 - Clean Energy Investments (USDm)	All 70,054
2.09 - Green MFI Contacts	9
3.01 - Financial Institutions In Clean Energy	18
3.02 - Clean Energy Value Chains	28
3.03 - Clean Energy Service Providers	16

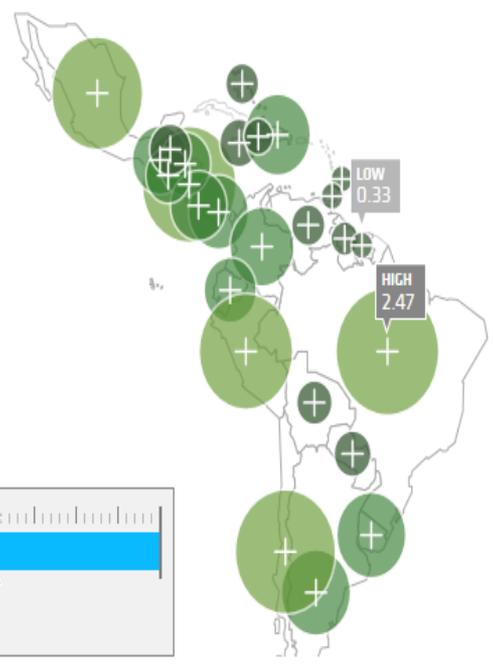
# CLIMATESCOPE 2013

RESET RESULTS  
 SHARE  
 KEY

**PARAMETER WEIGHTS (%)**  
 Customize percentages by number or by scale bar

I. Enabling Framework	40.0
II. Clean Energy Investment & Climate Financing	30.0
III. Low-Carbon Business & Clean Energy Value Chain	10.0
IV. Greenhouse Gas Management Activities	20.0

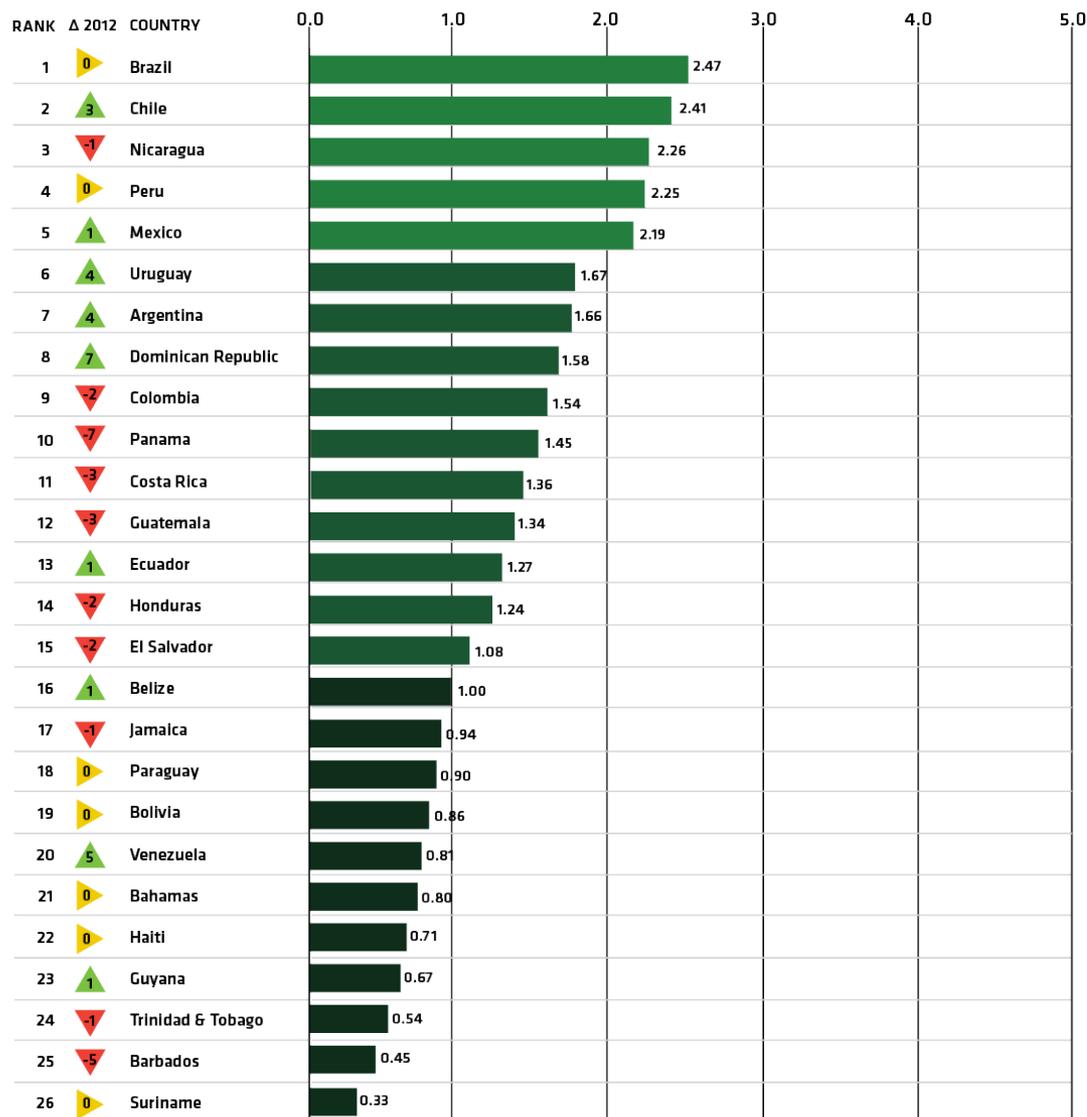
Reset Weights



**RANKING & SCORES**

1	2.47	Brazil
2	2.41	Chile
3	2.26	Nicaragua
4	2.25	Peru
5	2.19	Mexico
6	1.67	Uruguay
7	1.67	Argentina
8	1.58	Dominican Republic
9	1.54	Colombia
10	1.44	Panama
11	1.36	Costa Rica
12	1.34	Guatemala
13	1.27	Ecuador
14	1.23	Honduras
15	1.08	El Salvador
16	1.00	Belize
17	0.94	Jamaica
18	0.90	Paraguay
19	0.86	Bolivia
20	0.81	Venezuela
21	0.80	Bahamas
22	0.71	Haiti
23	0.67	Guyana
24	0.54	Trinidad and Tobago
25	0.45	Barbados
26	0.33	Suriname

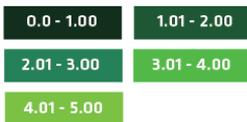
# CLIMATESCOPE 2013: RANKINGS AND SCORES



Green arrow refers to increase, red to decrease and yellow to no change



Colors show range for overall score



Source: 2013 Climatescope

# 3<sup>RD</sup> PLACE: NICARAGUA

2.49

## Parameter I – Enabling Framework

40% renewable installed power capacity; potential for clean rural electrification

3.02

## Parameter II – Clean Energy Investment

\$292m in investment in 2012; highest proportion compared to its \$26.7bn economy

1.06

## Parameter III – Low-Carbon & Clean Energy Value Chains

Strong value chain for small hydro and wind; limited for other sectors

1.24

## Parameter IV – Greenhouse Gas Management Activities

9 CDM projects; potential for more REDD initiatives

# 2<sup>ND</sup> PLACE: CHILE

2.16

## Parameter I – Enabling Framework

Liberalized power market, high power demand and rapid increase in renewable installed capacity and generation

2.05

## Parameter II – Clean Energy Investment

Investment growth of +320%, going from \$0.5bn in 2011 to \$2.1bn in 2012

3.31

## Parameter III – Low-Carbon & Clean Energy Value Chains

Strong value chain for biomass & waste, small hydro and geothermal

3.01

## Parameter IV – Greenhouse Gas Management Activities

Emission reduction target of 20% by 2020

# 1<sup>ST</sup> PLACE: BRAZIL

2.25

## Parameter I – Enabling Framework

Topped the ranking for the clean energy policy indicator and finished second on the power sector openness indicator

1.56

## Parameter II – Clean Energy Investment

Clean energy investment dropped 36% in 2012, reaching \$9.2bn, compared to \$14.5bn in 2011

4.25

## Parameter III – Low-Carbon & Clean Energy Value Chains

Industrial policy in Brazil has driven its clean energy value chain

3.40

## Parameter IV – Greenhouse Gas Management Activities

High activity from large corporations in developing energy efficiency and emission reduction initiatives

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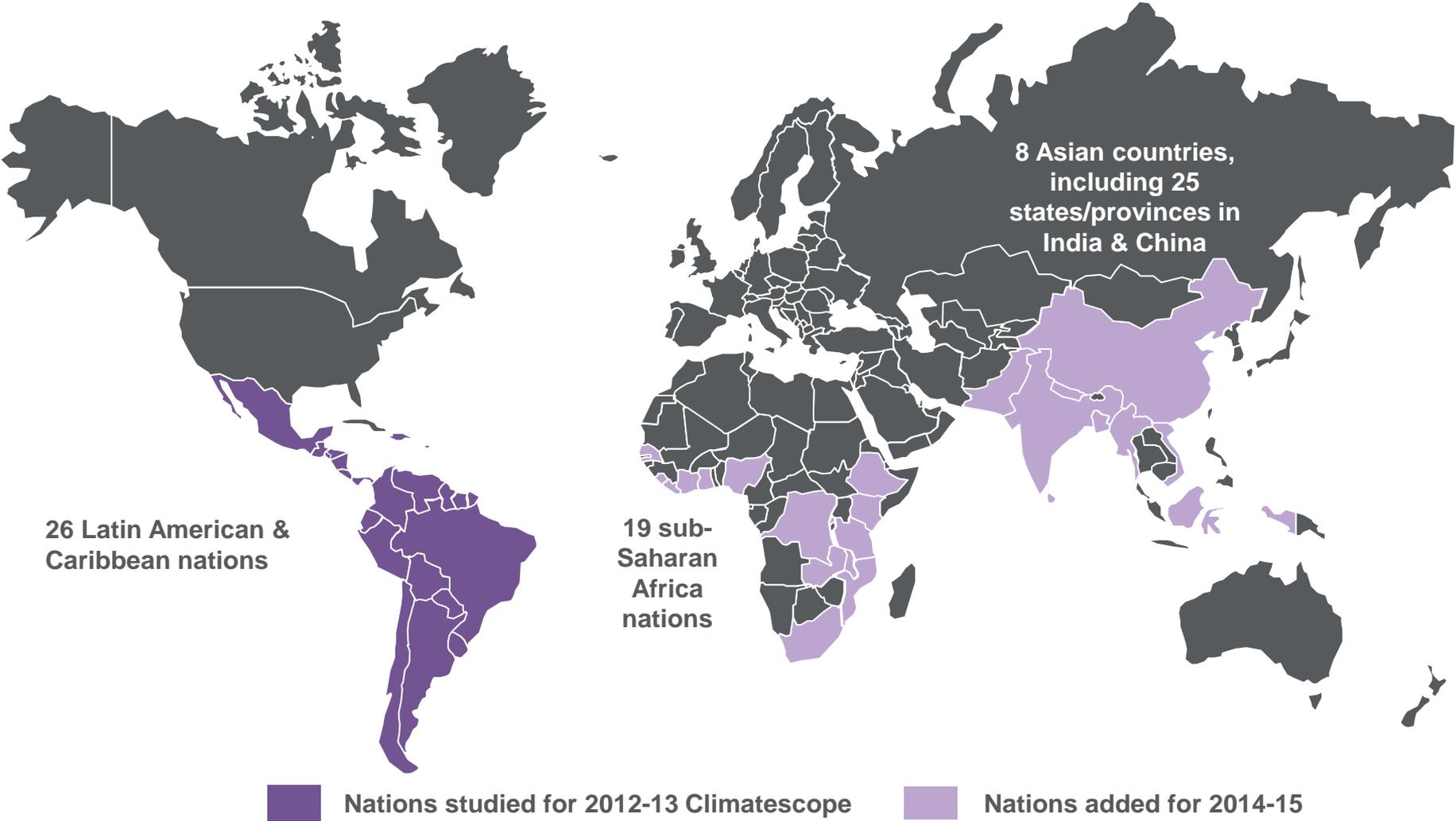
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# CLIMATESCOPE 2014 GOES GLOBAL

- Together with UK’s DFID and USAID, the MIF and BNEF are expanding the Climatescope 2014 to Africa and Asia
- The global index will cover, in addition to the 26 countries in LAC, 27 more countries, thereby expanding the coverage of Climatescope 2014 to a total of 53 countries

Latin America	Africa	Asia
Argentina	Botswana	Bangladesh
Bahamas	Cameroon	China
Barbados	Cote d'Ivoire	15 Chinese provinces
Belize	Democratic Republic of Congo	India + 25 provinces
Bolivia	Ethiopia	Indonesia
Brazil	Ghana	Myanmar
Chile	Kenya	Nepal
Colombia	Liberia	Pakistan
Costa Rica	Malawi	Sri Lanka
Dominican Republic	Mozambique	Tajikistan
Ecuador	Nigeria	Vietnam
El Salvador	Rwanda	
Guatemala	Sierra Leone	
Haiti	South Africa	
Honduras	Tanzania	
Jamaica	Uganda	
Mexico	Zambia	
Nicaragua	Zimbabwe	
Panama	Senegal	
Paraguay		
Peru		
Suriname		
Trinidad and Tobago		
Uruguay		
Venezuela		

# CLIMATESCOPE COVERAGE, 2012-13 AND 2014-15





# CLEAN ENERGY POLICIES, SELECTED LOCATIONS

			Energy target	Feed-in tariff	Auction	Net metering	Utility regulation	Biofuel blending mandate	Debt/equity incentive	Tax incentive
Africa	 Ghana		○	●			●	○	○	●
	 Kenya		●	●		○	●	●	○	●
	 South Africa		●		●		●	○	●	●
	 Zambia								●	●
Asia	 China		●	●			●	●	●	●
	 India		●	●	●	●		●	●	●
	 Pakistan		●	●		●		●	●	●
	 Vietnam		●					●		●
Latin America	 Brazil			●	●	○	●	●	●	●
	 Mexico		●			●			●	●
	 Nicaragua		●							●
	 Uruguay		●		●	●		●		●

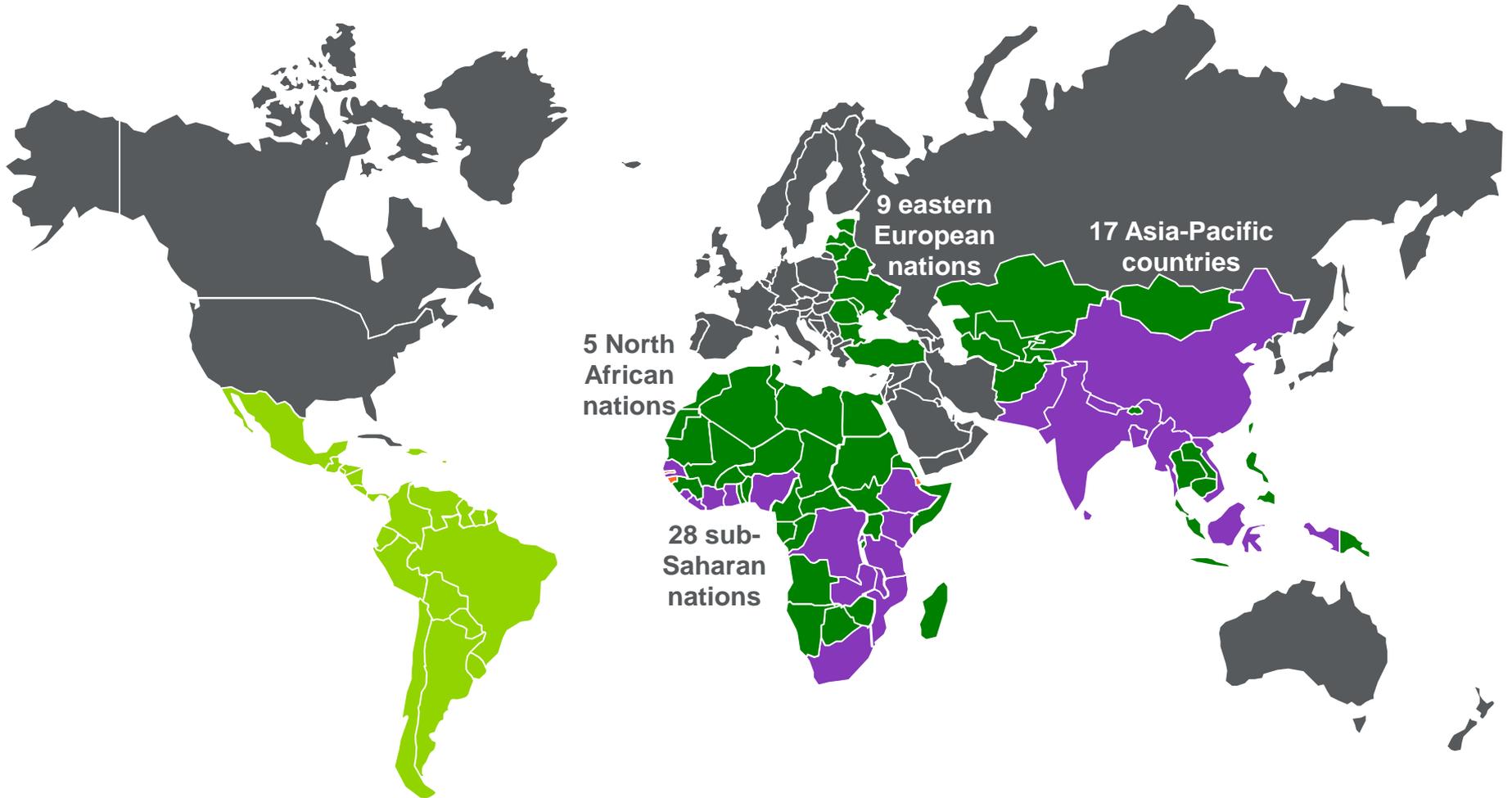
**Key:**

- Proposed
- In force
- Expired

# SOLAR AND WIND VALUE CHAINS, SELECTED LOCATIONS

		Solar								Wind								
		Project development	Engineering	O&M	Polysilicon/ Ingots	Wafers	Cells	Modules	Inverters	Balance of plant	Project development	Engineering	O&M	Turbines	Blades	Gearboxes	Towers	Balance of plant
	Ghana	●	●	●														
	Kenya	●	●	●				●			●	●	●					
	South Africa	●	●	●				●			●	●	●	●	●		●	●
	Zambia																	
	China	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	India	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●
	Pakistan	●	●	●				●			●	●	●					
	Vietnam							●			●							
	Brazil	●	●	●							●	●	●	●	●	●	●	●
	Mexico	●	●	●				●	●	●	●	●	●				●	
	Nicaragua	●									●							
	Uruguay	●									●	●						

# POTENTIAL ADDITIONAL STATES/PROVINCES



# CLIMATE SCOPE 2013

New Frontiers for Low-Carbon Investment  
in Latin America and the Caribbean



Multilateral Investment Fund  
Member of the IDB Group

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