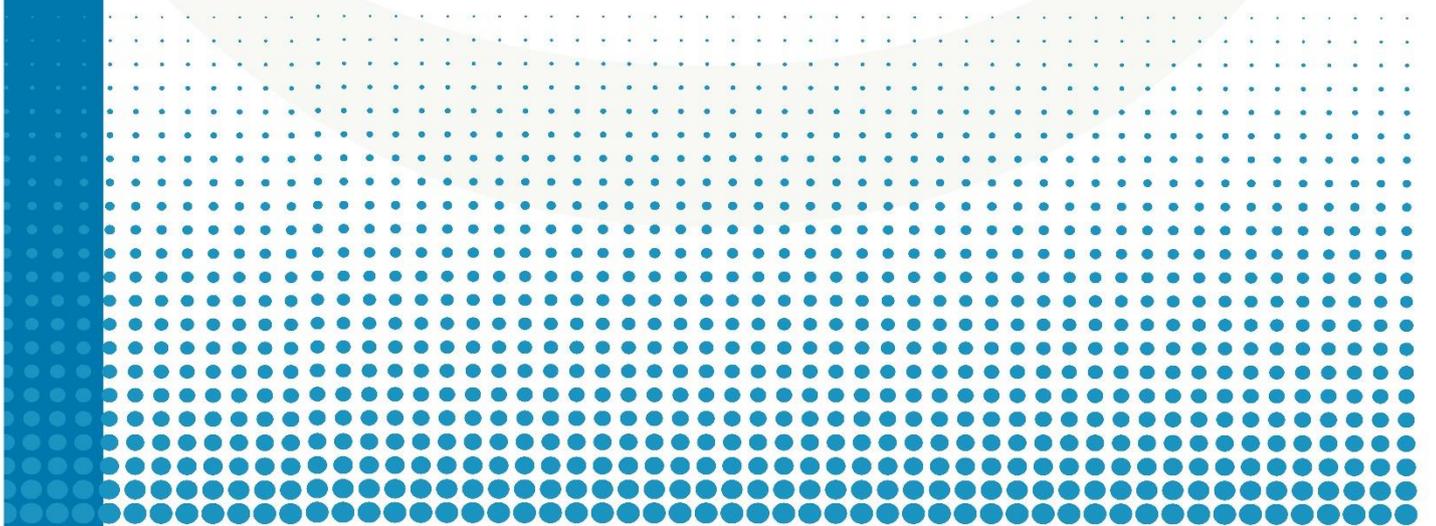


# Renewable Energy Policy Brief

## BOLIVIA

JUNE 2015



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# 1. Policy

In 2009 Bolivia adopted a new Constitution which explicitly states that the state will develop and promote alternative energy in an environmentally sound way<sup>1</sup>. The *Patriotic Agenda (Agenda Patriótica)* to the year 2025 also establishes objectives which are linked to renewable energy development. The generation, transport and distribution of energy is defined as an exclusive faculty of the State, allowing for participation of the private sector. The new Constitution decentralizes many competencies. In the case of renewable energy, competencies are distributed<sup>2</sup> at the federal level (e.g. national grid, hydro resources, bio-resources and public service<sup>3</sup> policies); regional level (e.g. rural electrification, department-level renewable energy projects) and municipal level (e.g. local-level renewable energy projects and permitting). Jurisprudence is still being built on distribution of responsibilities in areas of overlap.

## Electricity

Bolivia has a target to deploy 183 MW of renewable electricity<sup>4</sup> by 2025, as set by the 2014 Bolivia Electric Plan 2020-25. Previously, the 2011 *Policies for Renewable Energy in the Electric Sector (see below)* aimed to increase renewable energy in the electricity mix by 10% in 5 years. The 2007 National Development Plan (*Decree 29272*) aimed at installing 120MW geothermal capacity, although that goal was not pursued.

The framework for electricity generation in Bolivia is the 1994 electricity law (*Law 1604*). It empowers the federal government to set a minimum participation for hydropower in the electricity system. A new electricity law reflecting the 2009 constitutional changes is under development. The 2007 *National Development Plan (Decree 29272)* aims to diversify the energy mix for electricity generation. In 2009 *Decree 29894* defining the Vice-ministry of Electricity and Alternative Energy, mandated to develop policies for the promotion of renewable energy. The *Framework Law for Mother Earth and Integral*

*Development for Better Living (Law 300 of 2012)* aims to gradually increase the share of renewable energy in electricity generation.

In 2011, Bolivia defined the *Policies for Renewable Energy in the Electric Sector*, including action through four programmes: (1) deployment of renewable energy, (2) rural electrification, (3) development of the regulatory framework; and (4) research and development (R&D). The development of the regulatory framework seeks to develop promotion mechanisms, including preferential dispatch, financing mechanisms, and import tax exemptions for renewable energy equipment that cannot be locally manufactured. In 2014 *Decree 2048* established that remuneration prices for renewable energy producers will be set at the nodal level, according to a methodology under development by the Ministry of Energy and expected in 2015. A new renewable energy law is also under development. .

**Fiscal incentives** have been provided on a case-by-case basis or with regional and time-limited scope. For example, *Law 3279* and *Law 3152*<sup>5</sup> of 2005 provided 5 years of Value Added Tax (VAT) and import duty exemptions for renewable energy equipment in the Departments of Beni and Pando respectively. *Decree 280* of 2009 provided import duty exemption for solar and small-scale wind power equipment from the EU *Euro-Solar* cooperation project.

**Concessional loans** from international donors for the development of renewable energy projects are accepted by law on a case-by-case basis. For example: USD 23.7 million<sup>6</sup> from Japan for the development of a 50MW geothermal power plant (Laguna Colorada) were accepted through *Law 568* of 2014; USD 95 million from the Development Bank of LatinAmerica (CAF) for the development of the 124MW San Jose hydropower project were accepted through *Law 507* of 2014; and USD 101 million from the InterAmerican Development Bank (IADB) for the development

<sup>1</sup> Article 379

<sup>2</sup> Articles 298, 299, 300 and 302.

<sup>3</sup> Referred to as "basic services" in the Constitution

<sup>4</sup> Hydropower plants larger than 2MW are considered conventional, and as such do not qualify for this target.

<sup>5</sup> As modified by Law 3524 of 2006

<sup>6</sup> Original amount is ¥2.495 billion. Converted as for exchange rate of the day the law was approved.

of the 80MW Misicuni hydropower project were accepted through [Law 12](#) of 2010.

Support for **feasibility studies** is provided on a case-by-case basis by the government. For example, [Decree 29191](#) of 2007 declared of interest and provided support for the feasibility studies of the 1.6GW El Bala hydropower project. [Decree 29191](#) of 2012 provided support for feasibility studies of a biomass power plant project.

## Transport

There are currently no mandates for liquid biofuels in transport. The 2007 National Development Plan ([Decree 29272](#)) aimed to develop ten biodiesel pilot plants and at least one very small scale biodiesel pilot plant was developed by the government the Department of Santa Cruz.<sup>7</sup>

## Energy Access

In 2008, [Decree 29635](#) created the programme *Electricity for Decent Living*, setting the goals of achieving universal electricity access by 2015 in urban areas and by 2025 in rural areas. Interim goals for rural areas are 70% of electricity access by 2015 and 87% by 2020. To achieve these goals the programme includes grid extension, solar PV, wind power and small

hydro. The *Electricity for Decent Living* programme combined pre-existing rural energy access initiatives and projects, including the *Decentralized Infrastructure for Rural Transformation* project described below.

In 2003, [Law 2481](#) accepted funding from the World Bank for the project *Decentralized Infrastructure for Rural Transformation (IDTR)*, which ran until 2011. The project invested USD 10.15 million in solar PV resulting in 10174 solar PV systems. The project used **auctions** to award 4-year installation and service contracts to concession companies. The auctions were held simultaneously for 14 areas with a given budget per area, and the bids with the largest numbers of users per area were awarded the contracts. In 2014, the second phase of the IDTR project, named *Electricity and Renewable Energy Access* programme was launched with a World Bank loan of USD 21.3 million<sup>8</sup> accepted by Bolivia through [Law 581](#) of 2014.

Regionally-focused initiatives include the 2004 [Law 2820](#) to promote the use of wind and solar energy for water pumping in La Paz department, including through federal subsidies, and [Law 2628](#) of 2004 to promote the use of solar energy for ice-making in the Pando region.

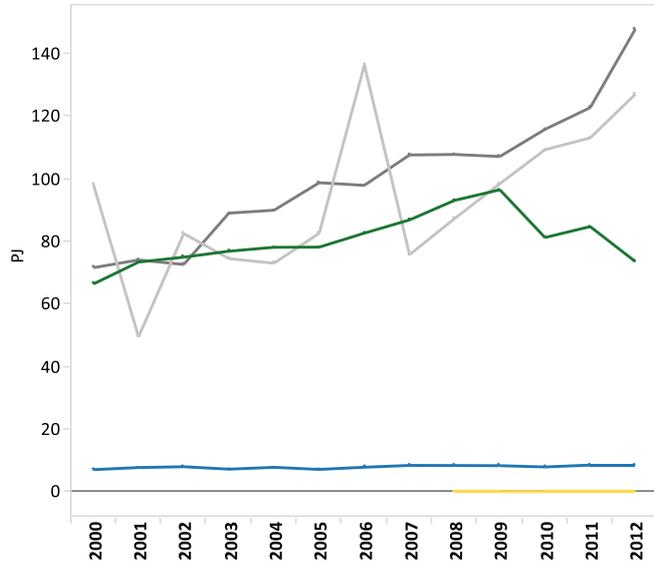
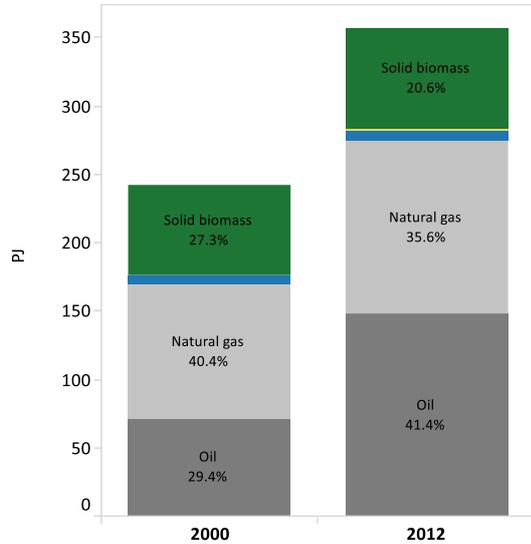
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<sup>7</sup> <http://www.ciatbo.org>

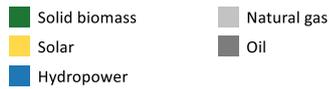
<sup>8</sup> Original amount is 32.4 million SDR (Special Drawing Rights)

## 2. Statistics

### Total Primary Energy Supply



Excludes electricity trade

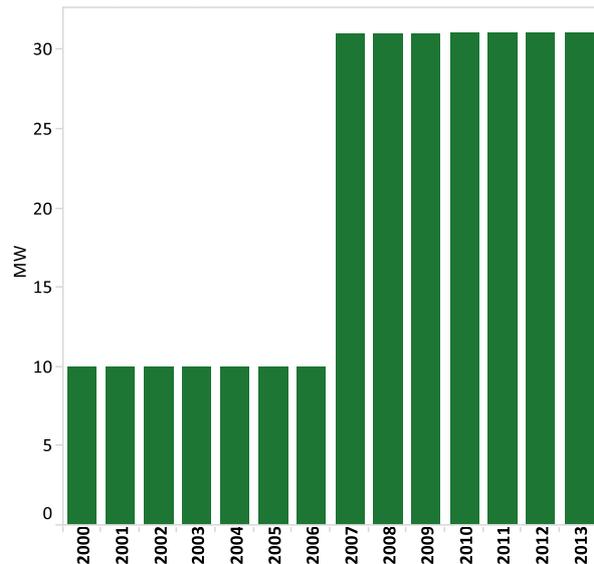
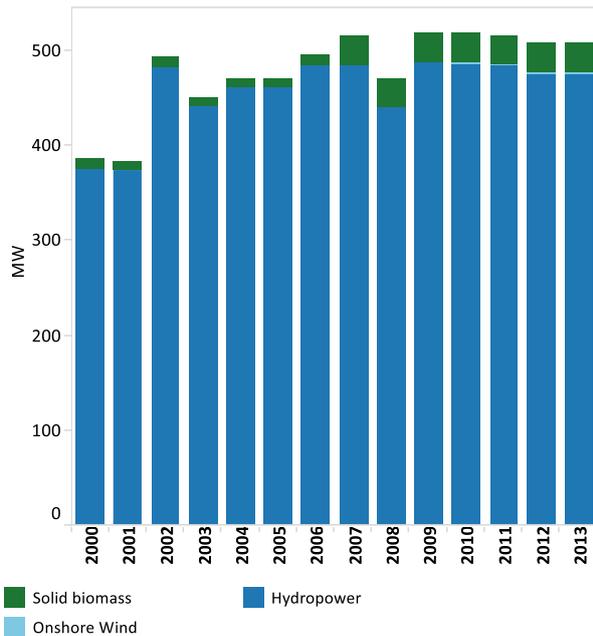


		Total Primary Energy Supply	Share of renewables
2000	Total	242.9 PJ	
	Of which renewables	73.3 PJ	30.2%
2012	Total	356.4 PJ	
	Of which renewables	81.9 PJ	23.0%

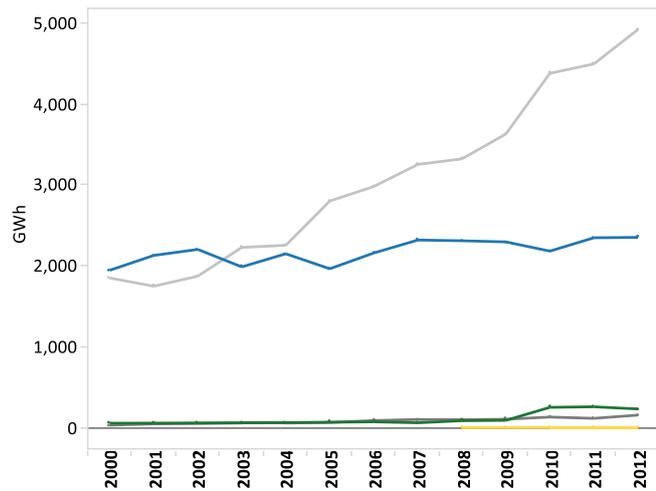
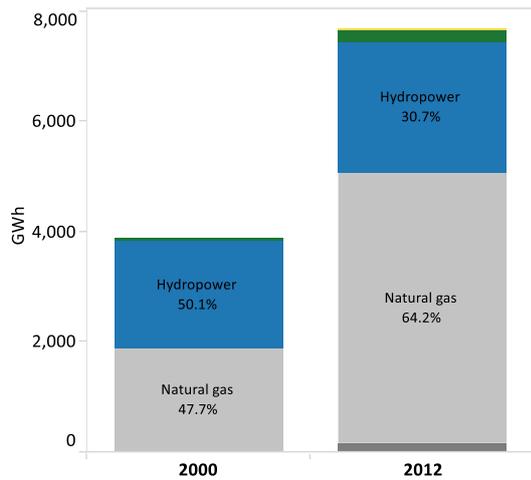
	Total Primary Energy Supply	Share in total renewables
2012 Solar	0.0 PJ	0.0%
2012 Solid biomass	73.4 PJ	89.6%
2012 Hydropower	8.5 PJ	10.3%

Total includes electricity trade

### Renewable Power Capacity



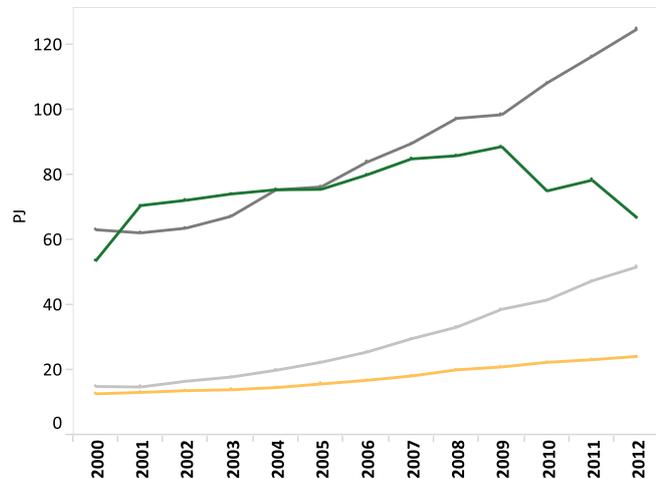
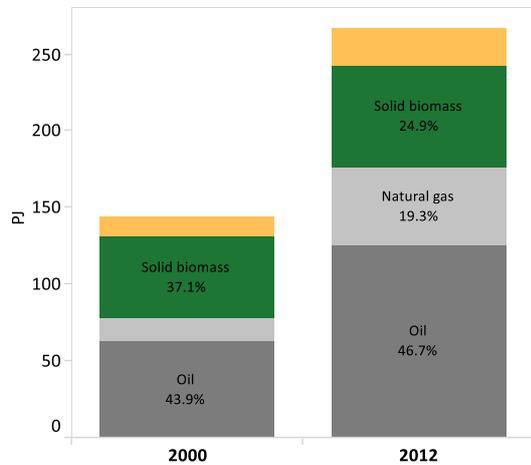
## Electricity Generation



	Electricity generation	Share of renewables
<b>2000</b>	Total	3,880.0 GWh
	Of which renewables	2,000.0 GWh 51.5%
<b>2012</b>	Total	7,661.0 GWh
	Of which renewables	2,586.0 GWh 33.8%

	Electricity generation	Share in total renewables
<b>2012</b>	Solar	3.0 GWh 0.1%
	Solid biomass	231.0 GWh 8.9%
	Hydropower	2,352.0 GWh 91.0%

## Total Final Energy Consumption



	Total Final Energy Consumption	Share of renewables
<b>2000</b>	Total	143.5 PJ
	Of which renewables	53.3 PJ 37.1%
<b>2012</b>	Total	267.0 PJ
	Of which renewables	66.6 PJ 24.9%

	Total Final Energy Consumption	Share in total renewables
<b>2012</b>	Solid biomass	66.6 PJ 100.0%

Sources for these statistics: IRENA, IEA, UN

## Renewable Energy Policy Briefs

This brief is part of an IRENA series providing a comprehensive and timely summary of renewable energy policies in Latin America (including Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela).

The brief brings together the most up-to-date information on renewable energy public policies for the power, heating and transport sectors, and also includes a section on energy access policies. The objective of this brief is not to provide an assessment of the reported policies. The brief is primarily based on the information contained in the [IEA/IRENA Joint Policies and Measures Database](#), complemented with information drawn from: (i) additional existing legislation, (ii) official government sources such as plans, reports and press releases, and (iii) input from country policymakers and experts. While the brief focuses on policies at the national level, sub-national policies are also included where relevant. Specific projects or programmes implemented by actors such as international organisations, development partners and the private sector are beyond the scope of this brief.

The information contained in this document is posted on IRENA's [REsource](#) web portal, will be used to update the [IEA/IRENA Joint Policies and Measures Database](#), and will form the basis of IRENA's future policy work in Latin America.



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