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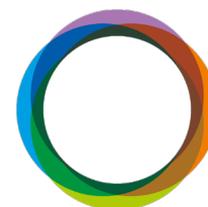
# Quarterly Brief

## **Gender and Energy approaches by BASIC countries: An exploratory analysis through the climate framework**

Alice Amorim & Marco Antonio Teixeira



BRICS Policy Center Centro de Estudos e Pesquisas - BRICS



SOCIO ENVIRONMENTAL  
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### BRICS Policy Center/Centro de Estudos e Pesquisas BRICS

Rua Dona Mariana, 63 - Botafogo - Rio de Janeiro/RJ  
Phone: +55 21 2535-0447 / ZIP CODE: 22280-020  
[www.bricspolicycenter.org](http://www.bricspolicycenter.org) / [bpc@bricspolicycenter.org](mailto:bpc@bricspolicycenter.org)

### BPC Team

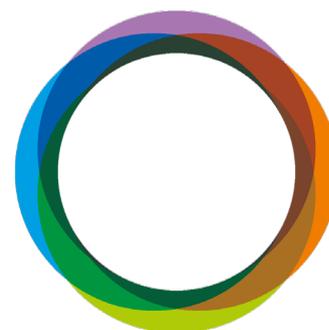
DIRECTOR  
Paulo Esteves

ADMINISTRATIVE COORDINATOR  
Lia Frota e Lopes

ADMINISTRATIVE ASSISTANT  
Bruna Risieri

PROJECTS ANALYST AND COMMUNICATIONS  
Thalyta Ferraz

LAYOUT AND DESIGN  
Vinicius Kede



## SOCIO ENVIRONMENTAL PLATFORM

### The Socio Environmental Platform

COORDINATOR  
Paulo Esteves

RESEARCHERS  
Maureen Santos  
Maria Elena Rodriguez  
Beatriz Mattos  
Geovana Zoccal Gomes  
Diogo Viana G. Velasco  
Carolina Alves

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## **Abstract**

There is a growing and lively debate under the UNFCCC about the relationship between climate change impacts and gender rights, women empowerment and gender equality. Under the Lima Work Program on Gender and the Gender Action Plan, countries committed to support the development and effective implementation of gender-responsive climate policy at the regional, national and local levels. While these obligations were assumed at the UNFCCC, they go to the heart of countries' energy planning mechanisms and national climate and development policies, such as the NDCs. The BASIC countries are leading the renewable energy transition in the developing world, with heavy investments in wind, solar and hydro power plants in their own territories and in other countries of the Global South. This Policy Brief analysis how these countries have incorporated gender and energy issues in their NDCs and assesses some of the interrelations between key energy and gender inequalities of the bloc.

## **Key-words**

Climate Change, Gender, Energy, BASIC, Nationally Determined Contributions.

# Gender and Energy approaches by BASIC countries: An exploratory analysis through the climate framework

Alice Amorim & Marco Antonio Teixeira

## 1. Introduction

There is a growing and lively debate under the United Nations Framework Climate Change Convention (UNFCCC) about the relationship between climate change impacts and gender rights, women empowerment and gender equality. Gender and climate discussions may be framed in several ways, and have been mostly framed as a subset of climate adaptation issues in which women are portrayed as vulnerable groups.

Mitigation actions, in particular the clean energy transition agenda, have important connections with gender inequalities which are often overlooked. The transition from high carbon energy sources to renewable and clean energy matrix may (or may not) benefit and properly incorporate women's needs and demands, depending on how countries incorporate a 'gender responsive'<sup>1</sup> framework in their national climate and energy policies.

The policy space for the gender and climate agenda at the UNFCCC is currently concentrated on implementing decision 18/CP.20<sup>2</sup> (also known as the **Lima work programme on gender - LWPG**), taken by the Conference of the Parties (COP) held in Peru in 2014 (COP20), on the need of developing a joint action plan for the development of the two-year work programme on gender. In 2016, during COP22 in Marrakech, Parties agreed under Decision 21/CP.22<sup>3</sup> to continue and enhance the LWPG for a period of three years and to undertake, at the COP25 (November 2019), a review of the work programme. The Subsidiary Body for Implementation (SBI) has the mandate to advance this work.

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(1) Under Article 11.1 and 2 of the Paris Agreement, Parties agreed that capacity building to take effective climate mitigation and adaptation action, should be "country-driven, based on and responsive to national needs, and foster country ownership of Parties, in particular, for developing country Parties, including at the national, subnational and local levels. (...) it should be an effective, iterative process that is participatory, cross-cutting and **gender-responsive**".

(2) Lima work programme on gender, 2014. See: <[https://unfccc.int/files/meetings/lima\\_dec\\_2014/decisions/application/pdf/auv\\_cop20\\_gender.pdf](https://unfccc.int/files/meetings/lima_dec_2014/decisions/application/pdf/auv_cop20_gender.pdf)>. Access in January, 26, 2018.

(3) Report of the Conference of the Parties on its twenty-second session, 2016. See: <<http://unfccc.int/resource/docs/2016/cop22/eng/10a02.pdf>>. Access in January, 26, 2018.

The agenda has two priority areas: (1) Improving gender balance and increasing the participation of women in all UNFCCC processes<sup>4</sup>, including in delegations and in bodies constituted under the Convention and its Kyoto Protocol, and **(2) Increasing awareness and support for the development and effective implementation of gender-responsive climate policy at the regional, national and local levels.**

In 2017, during COP23 in Bonn (Germany), Parties agreed to adopt the Gender Action Plan (GAP)<sup>5</sup> under the LWPG, which, among other decisions, invited Parties to provide evidence of their efforts in systematically integrating gender-sensitive measures into all mitigation activities implemented under the Convention and the Paris Agreement, including into the implementation of the National Determined Contributions (NDCs), including sex-disaggregated data and gender analysis of their integration of gender considerations into mitigation and finance policies, plans and actions<sup>6</sup>.

While these obligations were assumed at the UNFCCC, they go to the heart of countries' energy planning mechanisms and national climate and development policies. Since the adoption of the Paris Agreement, NDCs became the primary instruments to drive national climate policy design and implementation. In addition, as electricity generation responds to the largest share of GHG emissions<sup>7</sup>, they are the immediate targets of such provisions.

In light of this, and focusing on priority n. 2 highlighted above, the question that motivated this policy brief was: how BASIC countries have been addressing gender and energy issues in their NDCs and implementation plans? Which are the main gender and energy challenges of the BASIC? Last, but not least, are there any evidence of gender responsiveness in the bloc's commitments to renewable energy transition targets?

While this is a first exploratory research, its relevance could not be underestimated for concrete reasons: (a) The BASIC countries<sup>8</sup> are leading the renewable energy transition in the developing world, with heavy investments in wind, solar and hydro power plants in their own territories and in other countries of the Global South; (b) all countries of the bloc are known by severe gender inequalities<sup>9</sup> which poses questions on the ability of their states in dealing with gender rights, let alone the gender dimensions of climate policies; and (c) all BASIC countries are founders of the New Development Bank (NDB) that has been vocal in stating its leadership in financing renewable energy projects<sup>10</sup>.

This policy brief is divided in three parts apart from this introduction. **First**, we analyze each country's Nationally Determined Contributions (NDCs) from a gender and energy perspective. We also cover specific submissions of countries of the bloc to the UNFCCC LWPG, when applicable. **Secondly**, we provide a very brief summary of the energy challenges of each country and some

(4) The Women and Gender Constituency (WGC) - the leading group of organizations and alliances experts on women and gender rights - is one of the nine official constituencies that provide focal points for easier interaction and exchange with the UNFCCC Secretariat, governments and civil society, business and academia. Among BASIC countries, India is by far the country with more civil society groups represented in the group. Although the majority of the groups are global by nature, the absence of groups with primary focus in Latin America or China is noticeable.

(5) <http://unfccc.int/resource/docs/2017/sbi/eng/l29.pdf>

(6) GAP, A.2 (pp.4) and E.1 (pp.6)

(7) <https://www.climatewatchdata.org/ghg-emissions?breakBy=sector&filter=346%2C345%2C348%2C347%2C344&source=28&version=1>

(8) Brazil, South Africa, India and China.

(9) JERABEK, Marketa; DEVIÁ, Veronica. (2015). Desigualdade de gênero nos BRICS: Uma análise longitudinal. São Paulo, USP. See <<http://www.usp.br/iri/documentos/seminariopos/JERABEK&DEVI%C3%81G%C3%AAneroBRICS.pdf>>. Access in January, 26, 2018.

(10) See: <[https://www.ndb.int/president\\_desk/ndb-president-60-funding-will-renewables/](https://www.ndb.int/president_desk/ndb-president-60-funding-will-renewables/)>. Access in January, 26, 2018.

of their linkages with gender rights and inequalities. **Thirdly** and finally, we conclude and provide some recommendations.

## 2. Gender and Energy in BASIC's contributions

Under the UNFCCC and following Decision 1/CP.19 and Decision 1/CP.20, all Parties to the Convention were requested to develop their NDCs before COP21, held in Paris in December 2015. While the NDCs do not replace other existing national policy instruments, such as Energy Planning processes or government yearly planning schemes, since the adoption of the Paris Agreement they became important guidelines that have been driving policy decisions at regional, national and local level. They are also informing company's business plans<sup>11</sup> and multilateral banks investment priorities<sup>12</sup>.

The NDCs vary sharply among countries in the way they present the targets and express the priority areas of action. However, this first round<sup>13</sup> of NDCs are good examples of how countries have been addressing development issues and setting the direction of travel of their climate mitigation and adaptation initiatives. This section analyses how BASIC countries have addressed both gender and energy challenges and commitments in their contributions to the global goal of tackling climate change and dealing with global warming effects and impacts.

**NDCs are good examples of how countries have been addressing development issues and setting the direction of travel of their climate mitigation and adaptation initiatives.**

### BRAZIL

The Brazilian NDC presents at its very beginning the country's commitment to implement the Contribution, "with full respect to human rights, in particular rights of vulnerable communities, indigenous populations, traditional communities and workers in sectors affected by relevant policies and plans, **while promoting gender-responsive measures**". For one hand, there is no addition or narrative of any kind on which processes, principles, indicators and frameworks might be followed by Brazilian policymakers in doing so.

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(11) <http://cebds.org/cop22/implementacao-da-ndc/>

(12) <https://www.iadb.org/en/news/news-releases/2016-10-06/ndc-invest-platform-for-climate-finance%2C11586.html>

(13) Following the Paris Agreement, countries are invited to submit new NDCs once every 5 years, starting in 2020.

On the other hand, the detailed list of energy (both electricity and fuels) targets in the NDC (see box below) show that, as energy planning is a policy field in which the country has long-term tradition and expertise, the debates on possible electricity and fuels pathways for Brazil are much more mature.

“i) increasing the share of sustainable biofuels in the Brazilian energy mix to approximately 18% by 2030, by expanding biofuel consumption, increasing ethanol supply, including by increasing the share of advanced biofuels (second generation), and increasing the share of biodiesel in the diesel mix;

ii) in the energy sector, achieving 45% of renewables in the energy mix by 2030, including: - expanding the use of renewable energy sources other than hydropower in the total energy mix to between 28% and 33% by 2030; - expanding the use of non-fossil fuel energy sources domestically, increasing the share of renewables (other than hydropower) in the power supply to at least 23% by 2030, including by raising the share of wind, biomass and solar; - achieving 10% efficiency gains in the electricity sector by 2030.” (Brazil, 2015)

Unfortunately, as shown at this [IUCN Report](#), while the Brazilian Energy Framework recognizes universal energy access as a human right, it does not include gender or women references as in other countries. Thus, the risk of having policies and strategies to implement the energy targets without any intelligence or incorporation of gender-responsive measures is noteworthy.

It is important to note that Brazil is the only country in the BASIC bloc that is not heavily dependent on coal for energy provision, which puts the country in a very different circumstance of its peers.

## **SOUTH AFRICA**

The South African NDC, along the same lines as the Brazilian document, brings the gender component at the very beginning, in the context of how the country is planning to develop its National Adaptation Plan. More specifically, it states that the Plan shall be informed by multiple sources of knowledge and take into account “local and indigenous knowledge, gender considerations, as well as social, economic and environmental implications”. This is the only reference to gender issues of the whole document.

Differently from Brazil, South Africa did not commit to any specific energy targets in its NDC. The country’s contribution addresses energy related challenges several times, mostly emphasizing the country’s heavy dependence on coal. The document presents the estimated cost and amount needed (See box below) to allow the renewable energy transition and, at the same time, deal with the country’s energy insecurity issue.

“The following estimates are of total incremental costs required:

1. Estimated incremental cost to expand REI4P in next ten years: US\$3 billion per year.
2. Decarbonised electricity by 2050 - estimated total of US\$349 billion from 2010.
3. CCS: 23 Mt CO<sub>2</sub> from the coal-to-liquid plant - US\$0.45 billion.
4. Electric vehicles - US\$513 billion from 2010 till 2050.
5. Hybrid electric vehicles: 20% by 2030 - US\$488 billion

Some technologies that could help South Africa to further reduce emissions that have been identified include: Energy efficient lighting; variable speed drives and efficient motors; energy efficient appliances; solar water heaters; electric and hybrid electric vehicles; solar PV; wind power; carbon capture and sequestration; and advanced bio-energy. (...). (South Africa, 2015)

The renewable energy transition is presented under a strong development umbrella narrative, with a broad reference to positive impacts in the economy. While the South Africa emphasises that “any policy-driven transition to a low carbon and climate resilient society must take into account and emphasise its overriding priority to address poverty and inequality”, there are no direct relation established on gender considerations related to the energy planning and respective mitigation components of the South African plan.

Still within the gender and climate UNFCCC framework, South Africa was the only country that submitted a specific contribution (in fact two submissions) to the gender and climate discussions at the UNFCCC. The **“Submission by South Africa on Views and Challenges to the Full and Equal Participation of Women in Climate-Related Processes and Activities”** brings relevant arguments about how important it is to incorporate the gender perspective in climate discussions given the notorious greater vulnerability of women to climate impacts. It also address the issue of unequal gender representation at the UNFCCC processes.

The submission presents the energy challenge as an issue of energy price volatility and its impact on the poor. While this is a critical aspect of the gender-climate-energy debate that must be considered, there are other potential impacts (both positive and negative) in the clean energy transition itself that go way beyond that, as shown in the box of the next section.

The **“Submission by South Africa on Possible Elements of the Gender Action Plan to be Developed Under the Lima Work Programme on Gender”** brings more concrete suggestions on how the LWPG should look like and actions for the SBI to consider, such as capacity building on negotiation skills for women and gender analysis of budget lines and financial instruments for climate change. The document falls short in helping to ensure that NDC strategies are gender sensitive and in its finance section - provides only broad suggestions on the need to guarantee active participation of women and vulnerable groups in finance decision-making processes. While these are obviously more than welcome, the reality of UNFCCC’s processes and energy investment and planning decisions poses serious questions on how to operationalize meaningful and effective participation for these groups.

**South Africa was the only country that submitted a specific contribution to the gender and climate discussions at the UNFCCC**

## INDIA

The Indian NDC presents one single mention to gender in the introductory section where it expresses the country's view for the Paris Agreement. It adds "gender equality and women empowerment" in a long list of development challenges (including energy) that may hinder India's capacity to have more ambitious contribution to the goals set at the UNFCCC. Again, the gender inequalities or challenges are not linked to any mitigation efforts or somehow directly regarded as a matter to be considered in the clean energy transition such as poverty eradication, health or unemployment.

On the energy side, the Indian NDC is possibly the most detailed contribution among all BASIC countries. The energy related target is conditioned to support, as follows:

"to achieve about 40 percent cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030 with the help of transfer of technology and low cost international finance including from Green Climate Fund (GCF)".

The government presented the energy challenges and pathways to renewable energy transition (see box below), always emphasizing the intertwined nature of development, energy and climate mitigation efforts.

### **The Clean Energy Transition in India (highlights from the NDC)**

1. Between 2002 and 2015, the share of renewable grid capacity has increased from 2% (3.9 GW) to around 13% (36 GW).
2. Wind energy accounts for 23.76 GW (65.2%) of the renewable installed capacity. The goal is to achieve a target of 60 GW of wind power installed capacity by 2022.
3. Solar power installed capacity has increased from only 3.7 MW in 2005 to about 4060 MW in 2015. The ambitious solar expansion programme seeks to enhance the capacity to 100 GW by 2022. A scheme for development of 25 Solar Parks, Ultra Mega Solar Power Projects, canal top solar projects and one hundred thousand solar pumps for farmers is at different stages of implementation. Government of India is also promoting solarization of all the 55,000 petrol pumps across the country out of which about 3,135 petrol pumps have already been solarized.
4. Biomass energy constitutes about 18% of total primary energy use in the country and more than 70% of the country's population depends on it. The focus is on promoting cleaner and more efficient use, including biomass based electricity generation.
5. Hydropower contributes about 46.1 GW to current portfolio of installed capacity, of which 4.1 GW is small hydro (upto 25 MW) and 41.99 GW is large hydro (more than 25 MW). Special programmes to promote small and mini hydel projects, new and efficient design of water mills have been introduced for electrification of remote villages. With a vast potential of more than 100 GW, a number of policy initiatives and actions are being undertaken to aggressively pursue development of country's vast hydro potential.
6. Nuclear Power accounts with a 2.2% share in current installed capacity, total installed capacity of nuclear power in operation is 5780 MW. Additionally six reactors with an installed capacity of 4300 MW are at different stages of commissioning and construction. Further efforts are envisaged to expand capacity.
7. Coal based power as of now accounts for about 60.8%(167.2GW) of India's installed capacity. Rather than phase out, the focus is on improving the efficiency of coal based power plants and reducing its carbon footprint.

There is no indication that the current policy framework to advance the energy transition counts with any gender responsive measure.

## CHINA

The Chinese NDC does not bring any gender considerations. Although the document is the most detailed contribution among the BASIC countries, in terms of priority setting and list of concrete actions to be undertaken, it refers to stakeholders consultations and development challenges without naming any particular group or constituency.

On energy related initiatives, the Chinese NDC has a loose target of increasing “the share of non-fossil fuels in primary energy consumption to around 20%”. It brings a long list of initiatives to promote the renewable energy transition (see box below), mixing concrete targets with broad signals.

### **Building Low-Carbon Energy System (highlights from the Chinese NDC)**

1. To control total coal consumption;
2. To enhance the clean use of coal;
3. To increase the share of concentrated and highly-efficient electricity generation from coal;
4. To lower coal consumption of electricity generation of newly built coal-fired power plants to around 300 grams coal equivalent per kilowatt-hour;
5. To expand the use of natural gas: by 2020, achieving more than 10% share of natural gas consumption in the primary energy consumption and making efforts to reach 30 billion cubic meters of coal-bed methane production;
6. To proactively promote the development of hydropower, on the premise of ecological and environmental protection and inhabitant resettlement;
7. To develop nuclear power in a safe and efficient manner;
8. To scale up the development of wind power;
9. To accelerate the development of solar power;
10. To proactively develop geothermal energy, bio-energy and maritime energy;
11. To achieve the installed capacity of wind power reaching 200 gigawatts, the installed capacity of solar power reaching around 100 gigawatts and the utilization of thermal energy reaching 50 million tons coal equivalent by 2020;
12. To enhance the recovery and utilization of vent gas and oilfield-associated gas;
13. To scale up distributed energy and strengthen the construction of smart grid.

While further investigation of other important energy policy frameworks<sup>14</sup> mentioned in the document would be advisable, there is no indication on any gender responsiveness or other social and economic safeguard conditions related to the implementation of these initiatives.

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(14) Notably, the Comprehensive Work Plan for Energy Conservation and Emission Reduction for the 12th Five Year Plan Period, the 12th Five Year Plan for Energy Conservation and Emission Reduction, and the 2014-2015 Action Plan for Energy Conservation, Emission Reduction and Low-Carbon Development.

Finally, it is interesting to recall one of BASIC’s 2016 Ministerial Meeting Statement in which the bloc incorporated new language on energy-related issues that go way beyond the UNFCCC scope, as follows:

“Ministers also commended the **climate action initiatives** by BASIC members, namely the International Solar Alliance led by India, the Biofuture Platform led by Brazil, which will be launched at COP22, and the China South South Climate Cooperation Fund. Ministers agreed to further strengthen cooperation and solidarity among the BASIC countries” (23rd Meeting Statement).

This is relevant because it confirms the trend of having BASIC countries considering energy initiatives not only as a matter of economic development and growth, but as explicit climate initiatives. Accordingly, in developing their climate-energy related policies the countries should, following the guidelines and principles of the UNFCCC, incorporate and develop effective and gender-responsive frameworks policies at the regional, national and local levels.

### 3. An overview on BASIC’s energy and gender challenges

#### 2.a) GENDER INEQUALITIES

Despite having very different social and economic contexts, all BASIC countries are known for their high levels and multifaceted gender inequalities. Women confront common problems such as domestic and sexual violence, the lack of guarantees of their sexual and reproductive rights, wage gaps between men and women, concentration in the informal labour market and the other forms that the various inequalities, and gender discrimination in particular.

The following chart, developed with data from the latest World Economic Forum Gender Gap Report, provides a useful overview of some of the key aspects:

Country	Overall Rank (out of 144 countries)		Economic participation and opportunity		Educational attainment		Health and Survival		Political Empowerment		Women’s access to land use, control and ownership	Women’s access to non-land assets use, control and ownership
	2006	2017	2006	2017	2006	2017	2006	2017	2006	2017		
Brazil	67	90	63	83	74	1	74	1	86	110	yes	yes
S. Africa	18	19	79	89	42	64	59	1	8	18	part	part
China	63	100	53	86	78	102	114	144	52	77	part	part
India	98	108	110	139	102	112	103	141	20	15	part	part

Source: Elaborated based on WEF 2017.

With the exception of South Africa, which scored high in the overall index, all the other countries have worsened their gender gaps in the last decade, figuring in the lower end of the rank. Except for the political empowerment aspect, India is overall the worst country in terms of gender inequalities and South Africa the overall better.

Other important dimension of gender inequalities is related to employment. Data below show that there is a great gender disparity among women and man in BASIC countries and among BASIC countries themselves. They all confirm a fast and increasing process of transition of women labor from agriculture to services. This migration with the still low level of educational attainment evidenced above suggest that women continue to be at the low spectrum of economic opportunities where lower qualifications are accepted. Considering that most of the poor are women, responsible for homecare, and that in many cases, depend on coal for cooking, the vicious circle of poverty associated with high levels of pollution, poor health and energy in which many women lives in.

**Despite having very different social and economic contexts, all BASIC countries are known for their high levels and multifaceted gender inequalities.**

Country	Agriculture				Industry				Services			
	Male		Female		Male		Female		Male		Female	
Year	2000	2016	2000	2016	2000	2016	2000	2016	2000	2016	2000	2016
Brazil	23.9%	18.3%	11.0%	10.9%	26.8%	29.1%	12.3%	10.9%	49.4%	52.6%	76.6%	78.2%
S. Africa	15.4%	8%	14.4%	3.7%	33.1%	36.7%	10.7%	12.2%	51.5%	53.3%	74.8%	84.1%
China	47.6%	24.3%	53.5%	32.4%	29.9%	28.9%	16.2%	16.3%	31.4%	45.9%	30.4%	51.3%
India	54.2%	40.1%	74.9%	60.6%	17.8%	26.3%	11.4%	18.2%	28.1%	33.6%	13.7%	21.2%

**Source:** Elaborated based on World Development Indicators 2017.

A critical dimension of gender inequalities related to energy transition is to the extent women have the right to own land. This is particularly critical in terms of allowing them to explore the economic use of land for the installation wind and solar plants through tenure schemes or even their capacity to be indemnified in case of displacement for large scale hydro plants construction. The data show that, except for Brazil, this is not fully a reality for women in other BASIC countries.

## 2.b) ENERGY PROFILES

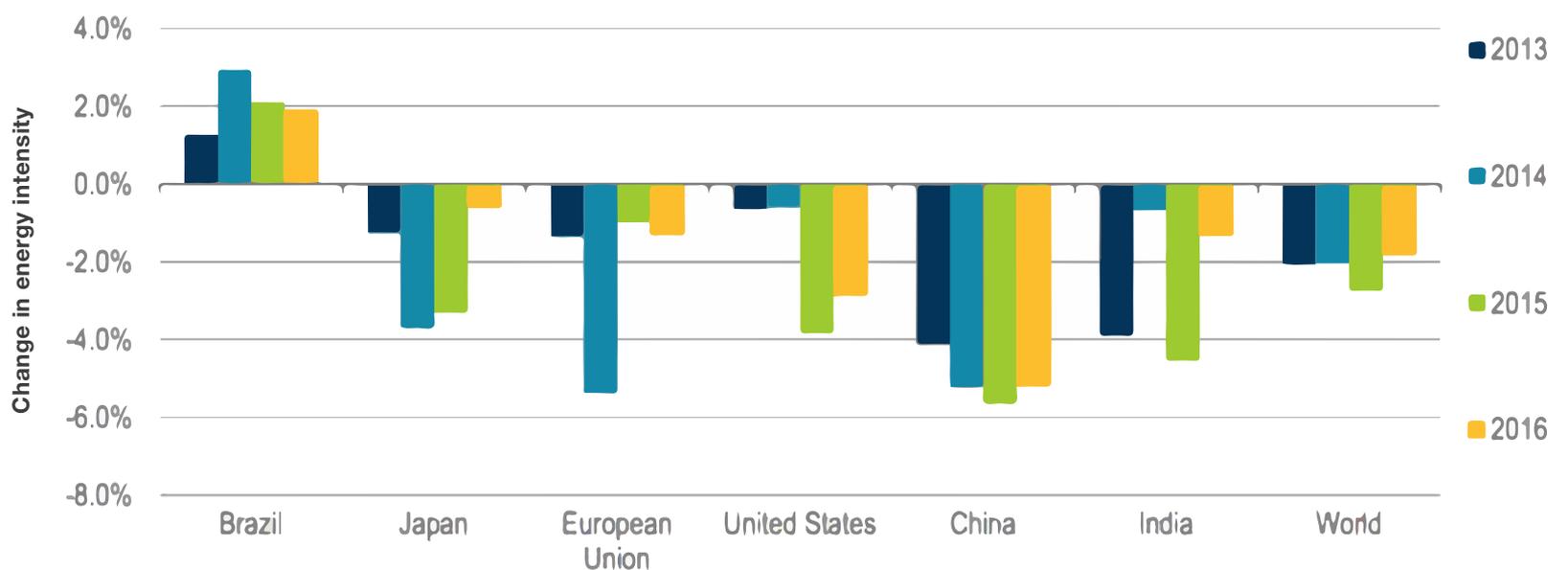
The data below, from International Energy Agency (IEA) Energy Atlas allows an interesting comparative analysis of BASIC countries challenges in several energy related indicators.

Data on total energy production is useful to put in perspective all the four countries in terms of global energy powerhouses. As is can be inferred, China is by far the largest energy producer of the bloc. Considering that most of the country's energy supply still comes from coal (see figures

below), it is critical to put in perspective the level of difficulty of each of the countries in conducting their energy transition actions. The chart also shows that despite India's population of almost 1.4 billion people, its energy production is rather low and comparable to the much smaller Brazil and South Africa. This casts light on two key energy challenges of the country, remarked at their NDC: its high dependency on importing energy and its high level of energy poverty.

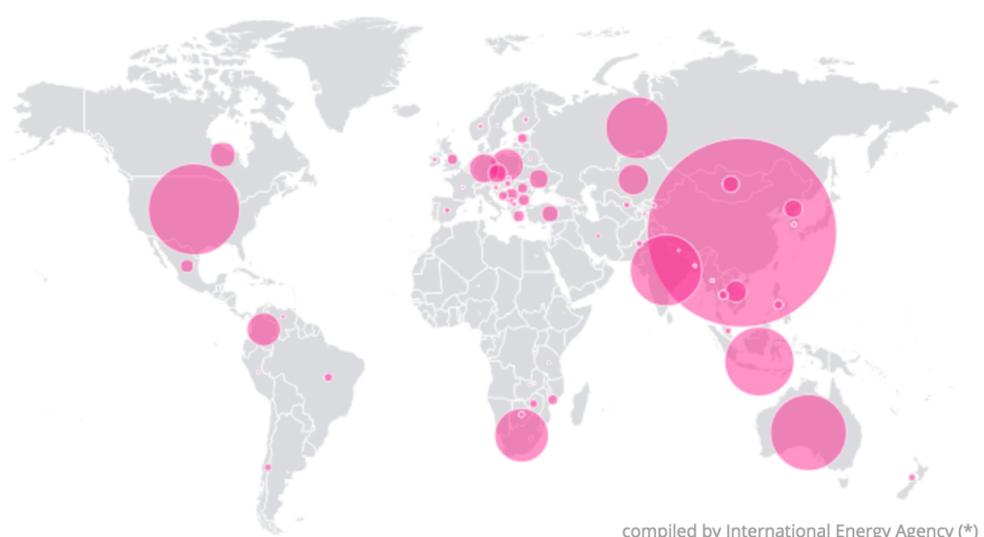
The energy intensity<sup>15</sup> data shows a very different picture, with the worst challenges moving to Brazil and South Africa. In simple terms, the indicator shows how productive is the energy use per unit of GDP produced. In other words, the higher the energy intensity, the more inefficient is the use of energy. The chart above and below show that although China and India have a huge challenge in generating energy enough to guarantee their energy security and economic growth, their efficiency level is growing, while Brazil that has a primarily renewable energy matrix, it has to consume much more energy to produce the same level of wealth.

### Change in primary energy intensity in selected countries and regions



**Sources:** Adapted from IEA (2016a) World Energy Outlook 2016; and IEA (2017a), World Energy Statistics and Balances 2017 (database)

Last but not least, the map shows the coal production around the world in 2015. According to the EIA, 28% of the world's energy supply comes from coal, falling behind only to oil (31%). For electricity production, coal responds to 39% of power generation, in comparison with 23% coming from renewable sources all combined. The map clearly shows the high level of use of coal by China, India and South Africa, and confirms Brazil as the only country of the bloc where coal is not relevant for energy supply measures.



compiled by International Energy Agency (\*)

**Source:** IEA Energy Atlas

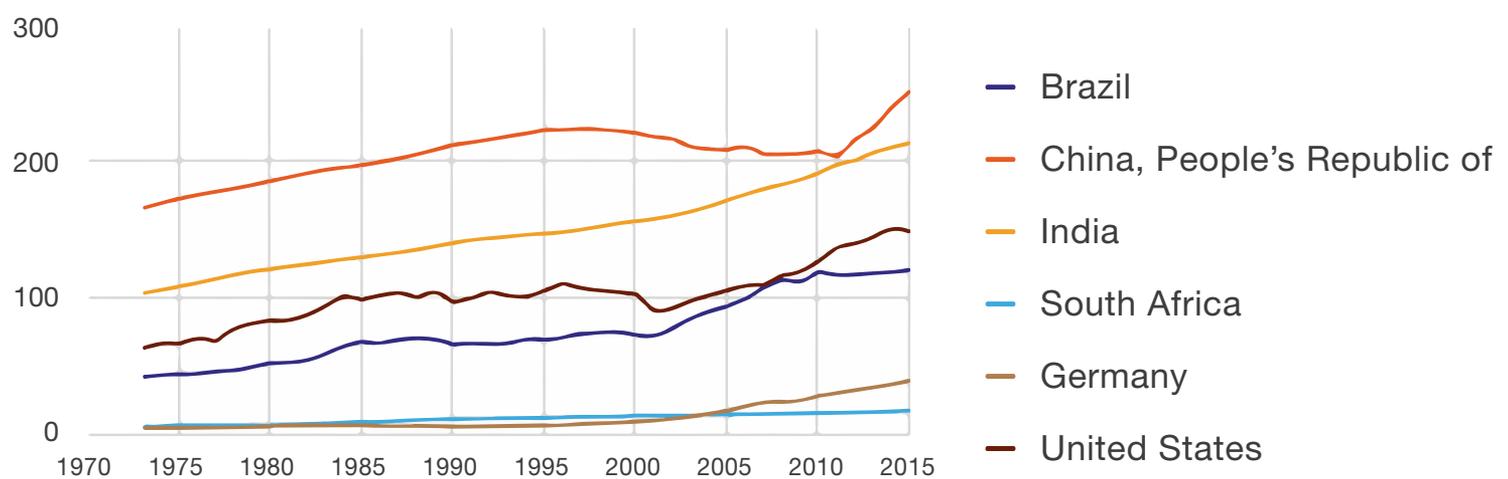
(15) According to the EIA, energy intensity is a measure of the amount of energy used to produce a unit of output. The energy intensity indicator calculates the primary energy demand per unit of global GDP, i.e. the amount of energy needed before it is converted into end-use fuels such as electricity and gasoline. Changes in global primary energy intensity are also influenced by changes in economic structure, such as the movement of economic activity away from energy intensive industry towards less intensive service sectors.

China and India present starking numbers, with respectively 53% and 67% of their coal consumed for power generation.

Moving to the renewable energy data, the charts below provide an useful comparative overview of where the countries are in terms of total renewable energy production and in implementing a clean energy transition.

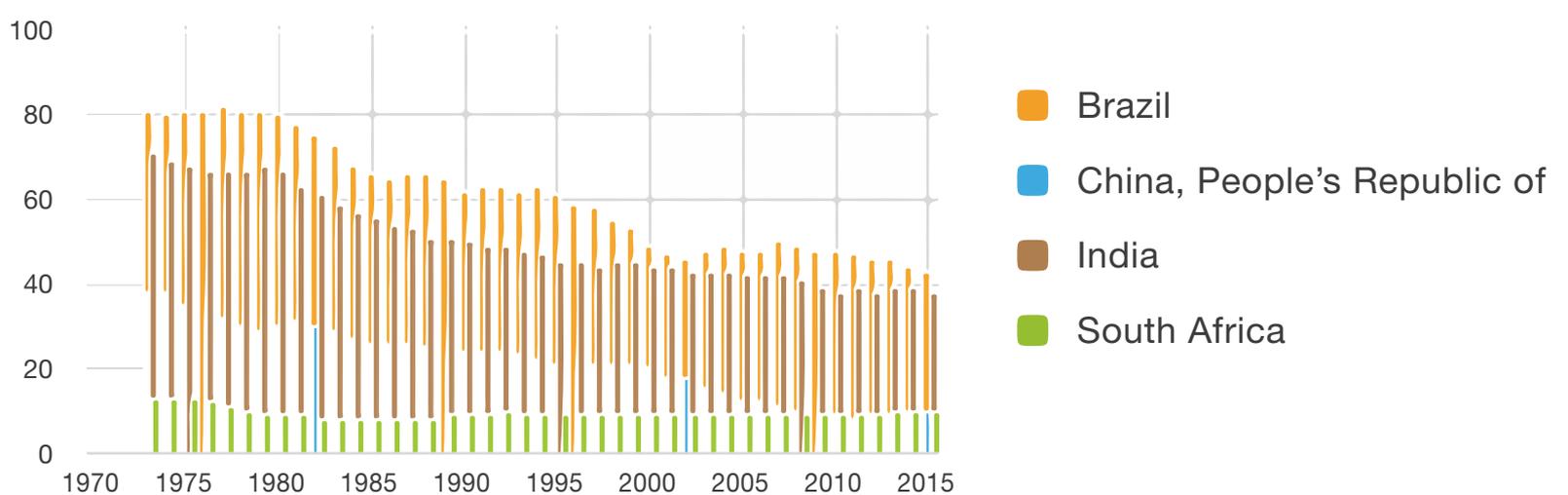
The first chart confirm China and India as heavyweight players in the global renewable sector. It also show a trend of increase in the total Brazilian production, close to the United States level and still substantially larger than Germany, and a somehow stagnated South Africa. The later is consistent with the country’s NDC narrative of lack of capacity and demand for international financial resources to promote further investments in renewables.

### Total Production of Renewables (Mtoe)



Source: IEA Energy Atlas

### Share of renewables in Total Energy Production (%)

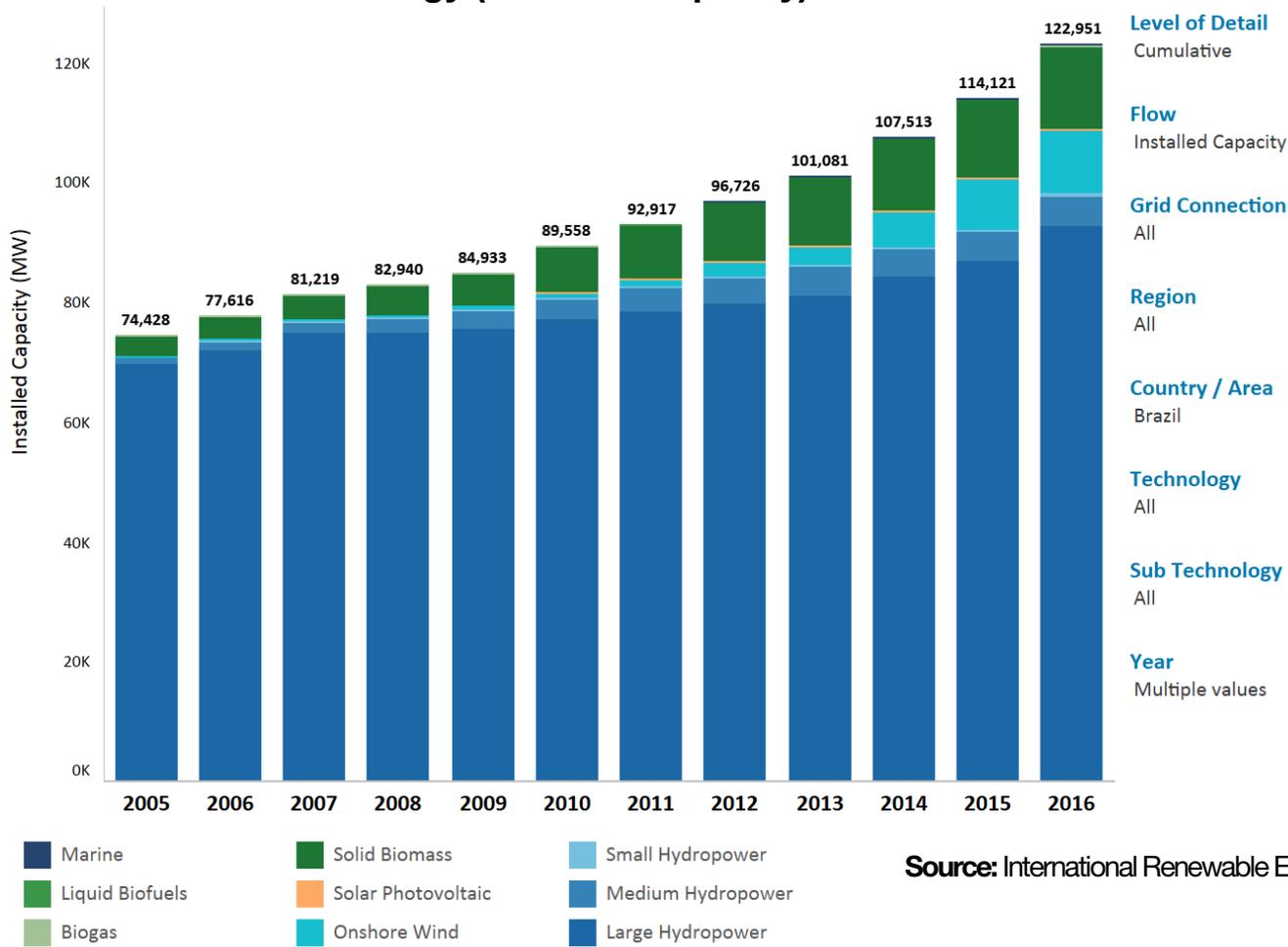


Source: IEA Energy Atlas

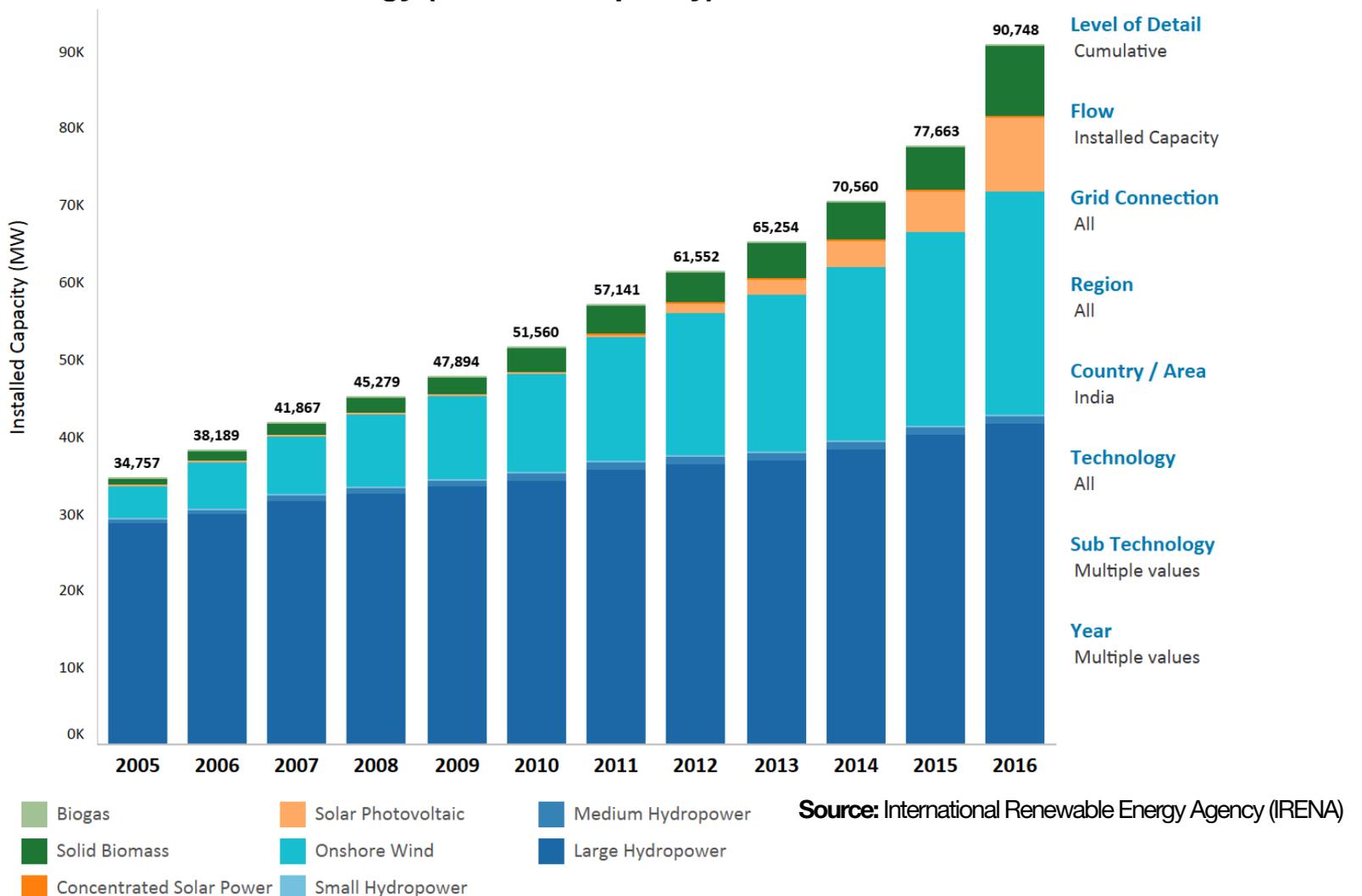
The second chart, while does not bring data from China, is an interesting look to understand and compare the Brazilian and India’s long term trends. Data of Brazil show a consistent reduction of renewables share in total energy production, moving from almost 80% in 1970s to almost 40% in 2015. This is explained by the reduction of hydro power plants participation in overall electricity provision and the fact that the country did not present a strong growth of other renewable sources in the same period. The Indian story is the same in what concerns the reduction of hydro’s participation

in total electricity provision. However, looking at the distribution of each renewable source over time, the substantive increase in solar and wind are the most striking difference between the two countries, as shown below.

### Trends in Renewable Energy (Installed Capacity) / Brazil



### Trends in Renewable Energy (Installed Capacity) / India



All this data is useful to have an overview of some of key BASIC countries energy challenges and trends and gender inequalities. The precise way these climate, energy and gender issues interrelate would require a more substantive research exercise, but the chart below presents a very quick summary of the energy challenges of each country and some of their linkages with gender rights and inequalities.

Country	Key Climate / Energy Challenges	Some gender correlated Challenge
<b>Brazil</b>	<ul style="list-style-type: none"> <li>a) Reduce the dependence of hydro power plants and increase the share of other clean sources in the energy matrix.</li> <li>b) Consolidate the transition to biofuels as alternative sources to gasoline.</li> <li>c) Guarantee energy access in remote areas such as the Amazon.</li> <li>d) Increase energy efficiency standards.</li> </ul>	<ul style="list-style-type: none"> <li>a) Displacement of women and poor groups</li> <li>b) Land grabbing as a result of large investments in wind plants</li> <li>c) Violence against women and no free mobility as a result of lack of public lighting and energy access free mobility as a result of lack of public lighting and energy access</li> </ul>
<b>South Africa</b>	<ul style="list-style-type: none"> <li>a) Reduce the dependence of coal-fired power plants</li> <li>b) Overloaded system, energy insecurity and electricity load shedding.</li> <li>c) High energy price volatility</li> <li>d) Universalize energy access</li> <li>e) Increase energy efficiency standards</li> </ul>	<ul style="list-style-type: none"> <li>a) Unemployment as a result of coal phase out</li> <li>b) Energy poverty</li> <li>c) Health problems related to coal use for cooking</li> <li>d) Violence against women and no free mobility as a result of lack of public lighting and energy access.</li> </ul>
<b>India</b>	<ul style="list-style-type: none"> <li>a) Reduce the dependence of coal-fired power plants and water scarcity</li> <li>b) Replace coal as fuel for cooking (According to the NDC, about 30% of the Indian population rely on solid biomass for cooking).</li> <li>c) Guarantee energy access to all the population (According to the NDC, around 24% of the population without access to electricity (304 million people).</li> <li>d) Increase energy efficiency standards.</li> <li>e) High level of fuel imports and vulnerability to price volatility</li> </ul>	<ul style="list-style-type: none"> <li>a) heavy dependence of women on charcoal and wood as energy sources for cooking</li> <li>b) Health problems associated with air pollution</li> <li>c) informal labor markets</li> <li>d) energy poverty</li> <li>c) Violence against women and no free mobility as a result of lack of public lighting and energy access</li> </ul>
<b>China</b>	<ul style="list-style-type: none"> <li>a) Reduce the dependence of coal-fired power plants</li> <li>b) Poor air quality as a result of extensive coal use</li> <li>c) Increase energy efficiency standards</li> <li>d) High level of fuel imports and vulnerability to price volatility</li> <li>e) Provide enough renewable energy plants to cope with the speed of the country's economic growth</li> </ul>	<ul style="list-style-type: none"> <li>a) Health problems associated with air pollution</li> <li>b) high proportion of traditional biomass use in cooking and heating.</li> <li>c) Displacement of women and poor groups to build renewable energy plants</li> </ul>

## 4. Conclusions and Recommendations

The gender responsiveness of decisions made today by policy-makers, heads of states and investors in implementing the transition to low carbon economies and developing climate policy governance structures can critically shape the present and future of women in BASIC countries and in the Global South. In other words, governments may be well advanced in tackling global warming through massive investments in renewables and continue to leave (or not) women and the poor behind.

This policy brief starting point was the gender and climate discussions at the UNFCCC, in particular as a result of the Lima Working Plan on Gender (LWPG) and the respective Gender Action Plan (GAP) that are underway. The assumption is that the UNFCCC is a policy space that, since the Paris Agreement, has been responsible to drive national and regional policy changes in many sectors and way beyond the specific climate policy agenda. By analyzing the BASIC bloc's approach to gender and energy in their NDCs, the goal was to see if there were any signal of linkages or commitments related to the implementation of gender responsive energy and climate policies. The analysis confirmed the assumption that this is not the case.

Whereas the common gender and climate approach is concentrated in adaptation discussions and on women as vulnerable groups, the importance of developing gender responsive mitigation initiatives, in particular in the energy transition initiatives, could not be underestimated. This dimension of the climate burden on women is often overlooked as evidenced above. The data presented shows that all countries are facing dramatic and quick energy supply shifts toward new renewable sources and that gender inequalities are, with the exception of South Africa, worsening. We bring some primary impacts of these energy challenges and changes on women to show that it should not be taken for granted that the renewable energy transition benefits and include women.

The BASIC countries are providing political signals that they want to be recognized as global champions of the clean energy transition. The New Development Bank (NDB) focus on financing renewables is also a strong evidence of their political will. As champions of the poverty eradication agenda and countries marked by sharp gender inequalities, they have the responsibility to lead by example in supporting the development of effective implementation of gender-responsive climate policies, in particular energy policies and investments at the regional, national and local levels. This requires being more active at the UNFCCC in the discussions on gender and climate, in the LWPG, but far beyond that.

Some concrete opportunities to show this leadership are the next G-20, in which the prioritization of gender has been already stated by the Argentinian presidency. The next New Development Bank Annual meeting, to be held in March, in which the operational policies shall be discussed and possibly amended, is also a good opportunity to include a commitment to have a gender mainstreaming investment policy. And finally, at COP25, that will be hosted by a Latin American country, most probably by Brazil, is also noteworthy.

### **Recommendations:**

1. That BASIC countries develop and publish a joint submission to the LWPG process
2. Each of the BASIC's NDCs strategy implementation should have a gender audit and gender expert civil society groups as watchdogs.
3. BASIC countries development banks should commission evidence based research and studies on impacts of renewable energies on women, with both quantitative and qualitative data.
4. The NDB should develop a strong gender-responsive investment policy, applicable to all investment streams and in particular renewable energy projects.

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## About the Authors

**Alice Amorim:** Msc in Political Economy of Late Development from the London School of Economics and Political Sciences, researcher at BRICS and Climate project and coordinator of projects in Climate Change and Development at Gestão de Interesse Público, Pesquisa e Consultoria - GIP

**Marco Antonio Teixeira:** PhD in Sociology from the Instituto de Estudos Sociais e Políticos (IESP/UERJ), Msc in Social Science from the Programa de Pós-Graduação de Ciências Sociais em Desenvolvimento, Agricultura e Sociedade (CPDA/UFRRJ), researcher at Núcleo de Estudos de Teoria Social e América Latina (Netsal/iesp/Uerj).



**BRICS Policy Center** Centro de Estudos e Pesquisas - BRICS

Rua Dona Mariana, 63 - Botafogo - Rio de Janeiro/RJ

Phone: (21) 2535-0447 / CEP/ZIP CODE: 22280-020

[www.bricspolicycenter.org](http://www.bricspolicycenter.org) / [bpc@bricspolicycenter.org](mailto:bpc@bricspolicycenter.org)

