

The Political Economy of Energy Policy in South Africa: From a Gender Agenda to a Class Project

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Introduction

The development of South Africa's energy policies and programmes, like many aspects of South African society, are largely shaped by the racial segregation policy and practice of the past—apartheid. Accordingly, the post-apartheid South African government has been developing policies and programmes aimed at redressing the injustices perpetrated by the apartheid and colonial establishments. This is acknowledged in many policy documents, including the *Energy White Paper* (DME, 1998; p.21), which observes that the establishment of majority rule in 1994

has resulted in a profound reshaping of the country's political economy as the material interests of the majority find expression through new social and economic policies. These new policies were first expressed in the ANC's [African National Congress] comprehensive Reconstruction and Development Programme (RDP) which was subsequently further developed into white papers....

The energy policies and programmes adopted after 1994 have reiterated the urgent need to address racially-based injustices of the past. For example, the *Energy White Paper* (ibid.: 6) goes on to state that the development of the energy policy was informed, among other things, 'by the need to redress economic and social power imbalances'. This is the broader national political economy context in which the energy policy of South Africa should be situated.

However, while a great deal of attention has been directed at the racial question in the transformation of post-apartheid South African society, not much attention has been paid to gender as a transformation agenda, especially in the energy sector[†]. As illustrated in this paper, the gender transformation agenda has largely been reduced to increasing the number of

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[†] Significant progress with regard to gender transformation has been made in the political sphere where more than 40 per cent of members of parliament and ministers are women. However, it is not clear if these impressive numbers translate into gender equality in terms of policy, legislation and programmes in concrete terms.

businesses owned or managed by women in the energy sector. While this is an important gender issue, it is a narrow interpretation of gender equality principles as far as energy is concerned. A gender-sensitive policy on energy would adopt a much broader approach that takes into account the different energy needs and challenges that men and women face.

Drawing mainly from secondary data, this paper examines political economy of the development of South Africa's energy policy, focusing on the post-apartheid period, with particular attention to issues of gender equity and poverty in the energy sector. This includes international and domestic factors which have influenced the development of energy policy over the years and the gender issues that arise from this. The specific objective is to investigate if the energy policy has mainstreamed gender equity; whether the policies and programmes implemented reflect a strong commitment to gender equality and justice; and whether this impacts positively on women's access to energy services in South Africa. In addition, it examines whether women's perspectives and aspirations with respect to energy have influenced the development of the energy policy and programmes which prevail today.

The analysis of current literature, policies and programmes suggests that while South Africa's energy policy, especially after 1994, has been gender-aware, with a strong commitment to gender equity at policy level (Feenstra 2002; Annecke 2003b; Balmer 2007), there is little evidence to suggest that women's energy perspectives and interests have had a significant influence on energy policy and programmes, especially the views and inputs of poor women in rural areas who struggle to meet their daily energy needs. In analyzing the role of women, it is evident that while a more radical agenda on gender equity was proposed during the 1990s, with initiatives such as the Women in Energy Group (WEG) playing a significant role in bringing broader gender concerns onto the national energy policy platform (Annecke 2003a), in later years we have witnessed a shift towards a narrow agenda focusing on increasing the number of women participating in running business ventures in the energy sector. While this is a positive step towards redressing gender imbalance in energy sector, the top-heavy approach has not resulted in concrete measures which directly respond to energy concerns of poor women in rural and urban areas, where many women still face serious challenges when it comes to accessing energy services. In this regard, what is needed is a gender agenda and framework to integrate the broader perspectives of gender in energy policies and services, and to respond to challenges that most poor people, chiefly women face. The broader strategy of mobilizing women and men to push for gender-sensitive and gender-balanced energy policies/services has been sidelined, perhaps by strong business interests which have overshadowed social concerns.

OUTLINE OF THE PAPER

The paper begins with a profile of the energy sector, highlighting both the supply as well as demand sides, and focusing on the post-apartheid period. This is followed by a brief analysis of the development of the energy policy, including the main actors in its formulation. The next section looks at the four phases in the development of the energy policy from 1994 to the present. Following this is a brief discussion of how the South African energy policy is influenced by international factors and players, including international agreements on climate change and donors. A section on gender and energy within this policy context is then presented, highlighting earlier efforts to promote gender-sensitive energy policies and services. Next is an analysis of the *Free Basic Energy* (FBE) and the *Free Basic Alternative Energy* (FBAE) policies, focusing on how these policies are implemented, their impact on the poor, especially women. This section also discusses the existing challenges in implementing pro-poor energy policy interventions. Finally, the conclusion emphasizes the importance of not just formulating gender-sensitive energy policies, but also concrete strategies which would ensure that women's voices and concerns, as energy users and citizens, are given equal attention.

Background

To understand the political economy of energy policy development in South Africa, the discussion needs to be situated in the broader global and domestic political economy context, both past and present, in both apartheid and post-apartheid eras, as policy directions taken at the national level have been partly influenced by the global political economy. This includes the dynamics surrounding the integration of gender equity into the energy policy. The 1973 oil crisis, for instance, raised awareness around the concept of *sovereign energy security*, leading to many countries (including South Africa) developing elaborate and strategic policies and institutions to ensure a steady supply of energy (Marquard, 2006). Similarly, growing global concerns around climate change are pushing many governments to adopt energy policies that respond to the challenges posed by the use of conventional energy carriers such as coal and liquid fuels. Most countries are now adopting policies that promote renewable energy as a response to climate change (UNDP, 2011).

Likewise, the incorporation of gender principles in the design and implementation of energy policies and services in South Africa has been influenced by international trends and practices, arising from important events such as the 1995 Beijing Conference on Women, international legal instruments such as the 1979 Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), and women movements including Women in

Development (WID) and Gender and Development (GAD). However, international influence was adapted to the local context. As Annecke (2003b) notes, the post-apartheid South African policy environment was dominated by a justifiable concern around deracialization of many sectors of society, and such concerns around gender equity remained secondary in the debates and policy.

Recent policy documents on energy in South Africa, especially the *White Paper on Renewable Energy* (WPRE, 2003), *The National Energy Efficiency Strategy* (NEES, 2005) and the *National Climate Change Response White Paper* (NCCRWP, 2011), all highlight the need for South Africa to respond to international commitments to reduce carbon emissions, while at the same time promote economic growth and development and address the gender imbalances in the energy sector (DoE, 2015). International influence on energy policy development in South Africa is clearly acknowledged in the *Energy White Paper*:

International relations had a profound effect on South Africa's energy sector during apartheid. South Africa's energy sector is still influenced by international pressures, but in very different ways. As the economy opens up to global competition, energy sector policy and investment decisions need to ensure the availability of abundant, easily sourced and competitively priced oil and nuclear fuel supplies. Other more subtle international influences are also being experienced as local policy developments inevitably acknowledge international trends in trade relations, foreign investment criteria, knowledge and information flows, and political and economic ideologies (DME, 1998: 20).

With specific reference to incorporating gender equity principles in energy policies and services, there is a widely accepted view that the energy needs and roles of women and men are usually not the same, and therefore a gender-sensitive energy policy has to take this into account when formulating and implementing policy (Tait 2015; Matinga 2012; Balmer 2007). What this implies is that a gender-sensitive energy policy has to take women's interest into account, especially in the way services are delivered. The *Energy White Paper* is clear on this, affirming that the only way to ensure that women's interests influence energy services and policies is to make sure that women representatives on the various policy and research forums are prioritized. Unfortunately, this 'initial commitment to a gender-mainstreaming of energy policy has been progressively watered down in succeeding energy policy documents' (Newmarch 2011: 4). In the first years of the women's movement set up to promote the interests of women with regard to energy (WEG), the focus was on mobilizing a large section of society (men and women, not just among policy makers, but society in general) to raise gender awareness (Annecke 2003a). But in recent years the emphasis has shifted from broader energy concerns and women's interests to a much narrower focus on increasing the number of women owning business ventures in the energy sector. The vision of the Women in Oil and Energy in South Africa (WOESA, which is the

successor of WEG) is defined in terms of facilitating ‘the participation of women in business ventures in the oil, gas and renewable energy sectors (WOESA (2017)). The critical issue here is whether the women participating in the energy sector champion the interests of larger number women, or are they simply seeking to advance their business interests.

From the available evidence, there is no clear indication that these women-owned companies actually support the energy interests and well-being of all women in South Africa, especially the poorest women. Their primary interest is to succeed in business, and they may not have anything to do with promoting principles of gender equity and a gender-sensitive energy service framework. With regard to energy services, these companies, in a way, pursue a set of objectives not significantly different from male-owned energy business ventures. This represents a shift from a genuine gender agenda to a fundamentally class project in the energy sector. This is especially evident in a move which has focused primarily on encouraging a small group of elite women to take advantage of business opportunities in the energy sector, with less attention given to energy challenges which many women, especially the poorest in both rural and urban areas, continue to face. If the initial objectives of WEG as ‘a multilayered organization intended to link women working in the energy sector with those affected by it’ (Annecke 2003a: 188) was adhered to, we would see a deliberate link between technical women working in the energy sector and the mass of poor women throughout the country. What is apparent at the moment is the shift from a commitment to raise gender equity concerns in energy policies and services to a more business-oriented approach with an evident business class agenda. Of course any woman is encouraged to take advantage of the opportunities in the energy sector, but it is only a few well-resourced women who are able to meaningfully participate in the energy sector, while the majority of women in energy are on the periphery, either as vendors of various energy services or as consumers. This, in some way, reflects the shifts in post-apartheid South African society generally, where more emphasis is now placed on promoting the growth of an elite class of African people (women and men) through state-sponsored programmes such as Broad Based Black Economic Empowerment (BBBEE), with little attention paid to the plight of the majority who continue to struggle with the triple burden of high unemployment, poverty and persistent inequality.

To appreciate the gender dynamics in the energy sector, it is vital that we situate this discussion in the broader political economy of the energy sector in South Africa, starting with the changing profile of the energy mix in the country over time.

A PROFILE OF SOUTH AFRICA'S ENERGY SECTOR

Energy Supply Mix

The energy sector in South Africa can be divided into two parts: the supply and demand components. This section focuses on the supply side of the energy sector. Despite recent efforts aimed at diversifying the energy sources in the country (DoE 2015), the South African energy sector still remains dominated by two primary sources of energy: coal and liquefied fuels. Table 1 shows that coal and liquid fuels (mainly crude oil) have been the dominant energy carriers, consistently accounting for over 80 per cent of the total primary energy supply since 1995. Other energy sources such as hydro, nuclear and renewables have accounted for a relatively small share of the total primary energy mix, although the share of renewables and nuclear energy have been rising since 1995 and are expected to constitute a significant share in the future.

Table 1: Primary Energy Supply[‡] (1995–2030) (%)

	1995	2004	2014	2030*
Coal	68.0	68	67	29.7
Crude Oil	24.3	19	20	0
Gas	1.2	2	2.9	12.9
Hydro	0.01	0.8	0.1	7.2
Nuclear	1.5	3	5	17
Renewables	5.0	7	5	33.3

Source: Author's own, based on data from DoE (2009, 2014); StatsSA (2005) Note: [*]= projected energy mix for 2030 (DoE, 2014)

The gender implications for this structure of energy revolves around the question of whether this energy profile presents different challenges for women and men, and a gender-sensitive policy would focus on addressing the differential impact (Kohlin *et al.* 2011). Unfortunately, this has not gone far, especially in terms of the development of technology as well as a gender-smart service delivery mechanism.

Aware of the environmental challenges that heavy reliance on fossil fuels (coal and crude oil) pose, the South African government has developed a strategy to drastically reduce this dependence by promoting the diversification of energy supply sources (IEPR, 2013). The

[‡] Primary energy carrier refers to a source of energy that is not used for final consumption, but by converting it into another energy carrier which is finally consumed (i.e., coal used for production of electricity, or gas used in gas turbines to generate electricity). Final energy carriers are consumed directly by the consumers and are not converted into another energy carrier; i.e., coal used directly in producing heat for cooking, or electricity used for lighting (Marquard, 2006: 64).

main objective of this strategy is to promote the development of renewable energy sources mainly solar, wind and nuclear through the development of renewable energy technologies. According to the Integrated Energy Plan (IEP) 2010–2030, the share of coal in the total primary energy supply will be reduced from the current two-thirds to just one-third by 2030. This reduction is expected to be achieved by significantly increasing the generation capacity of other energy sources, especially nuclear, biofuel, solar, wind and hydro (DoE 2014). According to this plan, the vision is to ‘contribute towards affordable energy for all, and to minimize the negative effects of the energy usage upon human health and the environment. This will be achieved by encouraging sustainable energy development and energy use through efficient practices’ (DoE, 2009: ii).

But Greenpeace, the non-governmental organization (NGO) for clean energy, has argued that although there is growing awareness within South African policy circles to reduce the heavy reliance on fossil energy sources, the shift towards clean and sustainable sources of energy is hampered by a number of factors, including vested political interests in maintaining a fossil fuel based energy system (Greenpeace, 20015; Morris and Martin, 2015). Other factors include the lack of capacity, administrative constraints, red tape, and sheer lack of political will. Within the proposed framework, there is at least mention in the policy to ensure that women play an important role in influencing research, technology development, and innovations around the modes of delivering energy service, given that women constitute a higher ratio of domestic energy end-users. The policy on renewable energy, for example, has stated that the design of renewable technologies should pay more attention to women users in both rural and urban areas (DoE, 2015). Whether this is being implemented in the various renewable energy projects steadily growing is an interesting topic to explore.

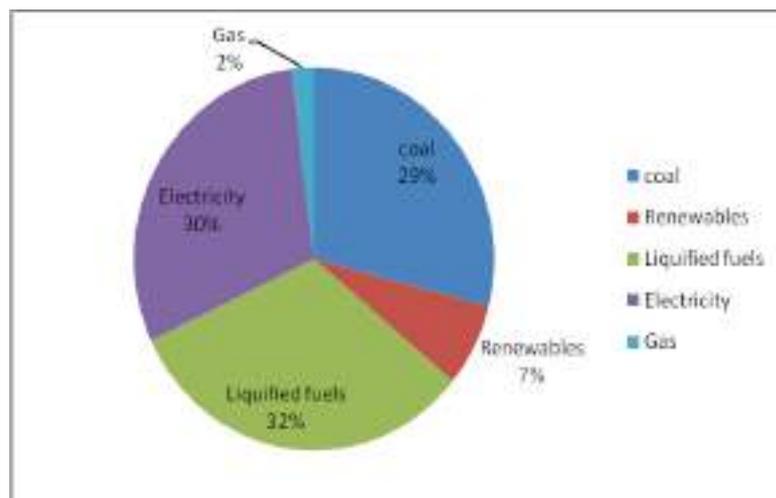
The dominance of coal in the energy supply sector in South Africa has been attributed to the fact that the country is endowed with abundant coal reserves (SEA, 2014). In 2013, South Africa was reported to be the sixth largest coal producer in the world, and the largest in Africa (IEPR, 2013: 61). This has been cited as one of the reasons why the country developed an energy-intensive economy (Davidson, 2006; Winkler, 2006a; SEA, 2014), but is also a disincentive to diversify energy sources (Winkler, 2006). However, the pressure to adopt and promote renewable energy is building from both international as well as domestic fronts, and it is mainly connected with the environmental concerns around global warming. Consequently, new policy, institutions and legal frameworks are being developed to create conditions, which support the development and growth of renewable energy. The White Paper on Renewable Energy, which was adopted in 2003, identifies five key strategic areas which will facilitate the

adoption and growth of renewable energy, namely: technology development; governance; raising consumer awareness; innovative financial investment mechanism; and supportive legal instruments (DoE, 2015).

The Coal–Oil Mix

The bulk of the coal produced in South Africa is used mainly to produce electricity and petroleum products, including liquid fuels, while about 30 per cent of the total coal produced in the country is exported (Winkler, 2006a). The other major energy carrier, which is crude oil, is used as a source of energy mainly in the transport sector, but also in the production of liquid fuels and other by-products such as bitumen, lubricants, solvents, synthetic and petro-chemical products. The larger proportion of liquid fuels (about 70 per cent) is imported, while the remaining 30 per cent is produced locally, mainly from coal (DoE, 2013). The final energy supply is presented in Figure 1, which shows that the primary energy carriers (mainly coal and liquid fuels) are used as final energy sources in the form of electricity, liquid fuels and coal. Renewable energy as a final energy source constitutes only a minute share, although the technologies for renewable energy generation are growing steadily and are expected to pick up as the efforts to diversify the primary energy production base intensify (DoE, 2015). Critics have argued that while the potential for renewable energy is massive, vested political interests among role players will put brakes on the progress in increasing the renewable energy component in the sector (Morris and Martin, 2015)

Figure 1: Final Energy Use By Energy Carriers



Source: Author’s own, based on data from DoE (2013)

As noted above, the energy mix for South Africa, although slowly diversifying away from fossil fuels, is dominated by the two major primary energy carriers (coal and crude oil) which influence the composition of the final energy delivery. As evident from Table 1, coal

and crude oil account for more than 90 per cent of the primary energy supply in the country. It is also important to note that 93 per cent of the electricity consumed is generated from coal (DoE, 2014). When compared to other countries, South Africa ‘emits more than its share of carbon dioxide and contributes disproportionately to climate change’ (DoE, 2013: 62).

Energy Security Concern

The heavy reliance on coal is not just about the abundance of coal in the country; it has also to do with the history of the political economy of the energy sector in South Africa. The dominance of coal can largely be attributed to the energy policies pursued during apartheid, especially when international sanctions from the 1960s pushed the government to adopt *energy security* as one of the priority areas of the energy policy, with emphasis placed squarely on achieving energy self-reliance and sovereignty. This was partly as a consequence of the political isolation that the country found itself in, forcing the apartheid government to develop an energy system based on domestically available resources (coal) to reduce the risk of supply insecurity associated with imported primary energy carriers (Davidson, 2006).

With the re-admission of South Africa into the international community in the 1990s, there was pressure on the country to participate in international agreements that promote the adoption of sustainable energy sources. As a result, the current energy policy is dominated by a strategy of promoting alternative energy sources such as wind, solar and hydro energy. Recent reports suggest that the renewable energy industry is growing gradually, driven mainly by private sector investments in both the production of energy and also in the development of renewable energy technologies (DoE, 2015).

Final Energy Consumption

In terms of final energy consumption, industry, transport and residential sectors account for more than three-quarters of the final energy consumed in the country. As Table 2 shows, consumption in other sectors such as mining, agriculture and commercial use, are less than a quarter of the total final energy supplied. This, in part, reflects the energy intensity of South Africa’s industrial sector which has consistently consumed more than a third of the total final energy in the country⁵. Not surprisingly, final energy consumption in the residential sector has been growing steadily over the past 20 years, due mainly to the aggressive electrification programme embarked on by the government following introduction of majority rule in 1994. Among final energy carriers,

⁵ Energy intensity refers to the amount of energy used per unit of gross domestic product (GDP), with a high- energy intensity economy being one which uses larger quantities of energy per unit of GDP

electricity is one of the most dominant. As Table 3 shows, electricity is produced mainly from coal, which accounts for over 90 per cent of the electricity produced.

Table 2: Final Energy Consumption by Sector

	1994	2004	2009	2014*
Agriculture	1.4	2.9	2.7	2.1
Commerce	2.0	6.7	8	9.4
Industry	43.9	36.2	34.3	35.2
Mining	2.5	7	6.5	5
Residential	15.4	17.9	20	21
Transport	35.8	25.7	27.7	26.2
Other	0.2	2.9	0.8	1.1

Source: Author’s own, based on data from DoE (2009, 2014), StatsSA (2005); City of Cape Town (2011) Note: [*]= estimates based on DoE (2014)

The second largest portion of electricity is produced from nuclear power sources and there are plans to significantly expand electricity production capacity from this source, with a huge nuclear deal being negotiated between the South African and the Russian governments^{**}. As in the case of the total primary energy supply, the dominance of coal in the generation of electricity is obvious and there are signs that this is likely to remain for some time (Fofana, 2012).

Table 3: Electricity Production by Source and Consumption by Sector (2014)

Electricity Production by Source (%)		Electricity Consumption by Sector (%)	
Coal	92.6	Commercial	11.4
Nuclear	5.7	Industry	40.9
Gas Turbines	0.1	Residential	36.8
Hydro	0.5	Transport	2.7
Pumped Storage	1.2	Other	8.1

Source: Author’s own, based on data from DoE (2014)

Energy Supply Constraints

Although South Africa has the largest energy production and supply capacity on the continent, it is important to note that its energy production capacity, relative to energy demand, has declined as manifested in the nation-wide load-shedding experienced in 2008 and also in 2015. It has been

^{**} A number of civil society groups in South Africa have opposed the development of nuclear energy, and are urging the government to concentrate on developing clean and safe energy such as wind, solar and hydro (Greenpeace, 2015).

suggested that the massive investment in the energy sector during the 1960s and 1970s by the apartheid government as it embarked on implementing an *energy security* strategy resulted in excess energy capacity in the 1980s and 1990 (Winkler, 2006), with accumulated reserve margins of up to 40 per cent of the total electricity demand (Trollip, *et al.*, 2014: 9). However, due to growing demand as a result of economic and population growth, coupled with lack of investment in new power generation infrastructure, the reserve margins have been declining since the late 1990s, such that by 2007, load-shedding energy supply, particularly electricity, became necessary to maintain the integrity of the grid (*ibid.*). The low reserve margins under which the national grid system has been operating since 2005 is often referred to in the media as the ‘energy crisis’, which is manifested in cutting supply to certain customers to maintain the essential reserve margins. The nation-wide blackout experienced in 2015 generated a lot of public anger and loss of trust in the state-owned power utility, Eskom. This has been used by some of the private sector actors interested in the production of renewable energy to lobby for the development of policy that encourages private sector participation in the energy sector, especially the independent power producers (IPPs). A number of women, as already noted, have also recognized the opportunities in the renewable energy subsector and are now competing for a share of the industry. It is not clear whether participation of women in this subsector makes any difference in terms of promoting a gender-sensitive policy, technologies and services. The argument has always been that when women participate in the energy sector, they are more likely to steer policy and technology in a direction that ensures that women’s interests in energy are not subordinated to those of men (Balmer, 2007). But whether or not this happens remains unclear, and a critical gender approach needs to interrogate these claims.

Energy Demand

Energy demand in the country has grown significantly since 1994, and this can be attributed to the growth in population and also the expanding economic activities. In particular, the ANC’s policy to provide access to electricity for the previously excluded sections of the population has led to a steady rise in demand for energy. If we specifically focus on domestic energy use, it is clear from Table 4 that the number of households connected to the national grid almost tripled between 1994 and 2014.

The massive electrification campaign initiated in 1994 largely accounts for the rapid progress made in connections between 1994 and 2002, when over 42 per cent of households were added to the grid. While the rate of electrification has slowed down considerably since 2004, the achievement of the electrification programme in South Africa has been remarkable, with a

national electrification of 85 per cent between 2002 and 2012 (Table 5).

Table 4: Household Electrification Trends 1994–2014

	Total Households ('000)	Electrified ('000)	% Electrified	Household Growth (%)	Electrification rate (%)	Non-Electrified Households (%)
1994	8 770	4 521	51.6			48.4
2000	10 247	6 763	66.0	16.8	28	34.0
2002	10 813	8 320	76.9	5.5	16.6	23.1
2004	11 451	9 226	80.6	5.9	4.7	19.4
2006	12 107	9 742	80.5	5.7	-0.1	19.5
2008	12 885	10 507	81.5	6.4	1.3	18.5
2010	13 730	11 386	82.9	6.6	1.7	17.1
2012	14 631	12 383	84.6	6.7	2.1	15.4
2014	15 538	13 207	85.3	6.2	0.4	15.0

Source: Author's own, based on Data from StatsSA (2013 and CSS, 1998)

Note: Number of households for 1994 is from *October Household Survey 1995*, and the Figure for 2014 is estimated based on the annual rate of growth of households.

However, there are disparities between provinces, with the Eastern Cape and KwaZulu-Natal having the lowest electrification rates, due mainly to the large rural population, most of which was formerly excluded from the grid.

Table 5: Households' Access to Mains Electricity by Province 2002–2012

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Mean 2002-2012
Western Cape	88.5	89.1	90.9	92.5	93.4	96.2	93.6	89.6	87.1	86.6	90.5	82.3
Eastern Cape	55.3	57.8	60.4	68	69	69.8	66.8	69.7	72.8	76.4	80.4	67.9
Northern Cape	81.8	79.4	8	88.5	87.7	88.7	87.6	89.6	88.6	91.4	91.9	87.1
Free State	85.1	84.3	8	88.5	88.3	87.9	89.7	91.9	92.8	93.8	91.5	89.3
KwaZulu-Natal	68.9	70.6	7	72.6	74.8	75.8	73.5	75.9	76.9	78.2	79.3	74.5
North West	81.9	85.4	88.9	84.8	85.5	84.9	80.5	80.9	83.7	86.3	85.3	84.4
Gauteng	87.1	87.2	88.3	83.4	79	80.4	87.2	86.1	83.6	82.2	84.6	84.5
Mpumalanga	75.9	8	83.6	81.6	83.2	85.3	82.5	85.8	87	87.6	88.4	83.8
Limpopo	72.5	75.3	7	82.6	83.4	86.5	81.8	84.3	88	91	90.5	83.0
RSA	77.1	78.7	80.9	80.9	80.7	82	81.9	82.7	82.9	83.8	85.3	81.5

Source: Author's own, based on data from StatsSA (2013)

Interestingly, there are less disparities in terms of access to electricity between male- and female-headed households (Table 6). In fact, urban female-headed households in all the provinces, except in the Eastern Cape and Limpopo provinces, had higher access to electricity than male-headed households. We get a similar picture when we look at the rural households. This raises several issues. The higher ratio access in female-headed households is a common observation not just in

South Africa, but in many parts of the world. In the literature on gender and energy, there is wide agreement that this can be explained by the fact that when women have the power of decision making in the home, they are likely to prioritize access to energy because, in most cases, they are responsible for household activities which require energy, whereas male-headed households may have different priorities (Balmer, 2007).

Table 6: Household Access to Electricity by Gender of Household Head, Location and Province 2012

	Urban(%)		Rural (%)		Total (%)	
	Male	Female	Male	Female	Male	Female
Western Cape	82.2	92.1	93.3	92.9	89.5	92.1
Eastern Cape	88.3	88.2	74	71	81.9	78.8
Northern Cape	93.2	95.3	82.8	88.6	90.5	93.8
Free State	93.1	94.3	76.5	89.1	90	93
KwaZulu-Natal	86	86.1	72.7	68.2	81.6	76.9
Gauteng	84.7	86.5	63.1	65.5	83.9	86.1
Mpumalanga	91.7	93	80.1	91.5	85.8	92.1
Limpopo	86.7	83.7	89.9	93	89.2	91.7
South Africa	86.9	88.9	79.4	81.2	84.9	85.9

Source: Author's own, based on data from Statistics SA (2013)

It has thus been observed that 'male household heads who control cash accounts may decide which appliances to buy, without considering the preferences or well-being of the women in the household' (Kohlin, *et al.*, 2011). For example, Matinga's (2012) study of Cutwini and Tsilitwa settlements in the Eastern Cape shows that men prefer to buy a TV over cooking stoves if they are in charge of funds. In general, even if the earnings of female-headed households are less than male-headed households (Fofana, 2012; Statistics SA, 2013), female-headed households spend, on average, a higher proportion of household income on energy (Table 7).

Table7: Access to Electricity and Percentage of Income Spent on Electricity by Gender and Location

Access to Electricity by Gender of Household-head and Geographical Location				% of income Spent on Electricity by		
	Connected to mains(%)	Not connected to mains (%)	Number (million)	Expenditure Range	Male	Female
Male	84.9	15.1	8.54			
Female	85.9	14.1	5.97	0-5%	54	45.8
Rural Formal	66.5	33.5	0.68	5-9%	23.3	24.8
Low income	59.3	40.7	9.14	10-14%	11.1	13
Urban Formal	92.4	7.6	8.47	15-19%	4	6
Urban Informal	59.6	40.4	1.43	>19%	7.6	10.4
Tribal Areas	82.7	17.3	3.93			

Source: Author’s own, based on data from Statistics SA(2013)

Similar gender preferences are also evident in the way women allocate time to household duties, spending a substantially greater amount of time on collecting firewood (Kohlin *et al.*, 2011; Matinga, 2012). Any serious gender analysis and appropriate policy intervention has to take this into account.

However, as argued later, there is a big difference between having a connection to the grid and being able to use the electricity the household is connected to. The bigger issue here is the ability to afford the electricity. A study by the Department of Energy (DoE, 2012) reveals that even if there are higher connection ratios, not all the connected households can afford to pay for electricity, especially in the case of pre-paid metres where a household can only consume the units of electricity it can afford to buy at a particular time. Table 10 also suggests that only 45 per cent of households use electricity for heating. Where household have multiple sources of energy, we cannot assume that being connected to the grid translates into having electricity. Available estimates suggest that among poor households with access to electricity, up to 46 per cent use solid fuels (biomass, i.e., firewood, coal, animal dung, etc.) for cooking and heating water and spaces (Table 8).

Table8: Households Using Solid Fuels for Cooking and Heating

	Cooking	Heating Space	Heating Water
Urban rich with electricity	0.8	3.6	1.2
Urban rich without electricity	6.5	20.6	11.8
Urban Poor with electricity	3	9.1	4.4
Urban Poor without electricity	14.3	26.6	18.2
Rural Rich with electricity	14.5	23.5	14.4
Rural Rich without electricity	52.1	57	53.8
Rural Poor with electricity	39.3	46.2	35.7
Rural Poor without electricity	77.6	77.3	75.2

Source: Author’s own, based on data from Statistics SA (2013)

Thus, while female-headed households may have greater access ratio to the grid, this does not necessarily mean that they use the electricity they are connected to more than male-headed households. The key determinant is affordability which is linked to income; and we know that on average, female-headed households have lower incomes when compared to male-headed households. So, an analysis of gendered access to electricity has to go beyond the aggregate connection figures to disentangle the intricate gender issues around income and preferences. Unfortunately, often times the data collected does not allow for more disaggregated analysis.

Development of South Africa's Energy Policy

Energy policy in South Africa has evolved over time from a largely fragmented approach during the last half of the 20th century to a more integrated policy framework at the beginning of the 21st century. Prior to the adoption of an integrated approach, the policy on energy was characterized by policies tailored to a specific energy-carrier, with separate policies on coal, electricity, crude oil, natural gas, hydro, etc. These sectors were largely seen as independent industries, such that it was common to speak about the oil industry, the nuclear industry, coal and gas industry (Marquard, 2006: 43). In fact, it has been argued that prior to the 1950s, the concept of an 'energy policy had not yet emerged', and it was only after World War II that an integrated energy policy approach emerged at the international level (ibid.: 48). Moreover, issues of gender equity in terms of the number of women and men working in the sector, the responsiveness of policy to gender issues, and taking into account women's preferences, rarely featured in the policy debates and the final documents. As Annecke (2003a), notes, the integration of gender issues in the policy is a new trend which emerged during the 1990s with the advent of the democratic dispensation.

Key Actors in the Formulation of the Energy Policy

Historically, the process of formulating energy policy was dominated by state institutions which sought to steer the energy system in a particular direction. The policy formulation prior to 1994 was characterized by lack of transparency, accountability, and participation of the public. During apartheid, policy formulation was tightly controlled to fit in with the wider set-up, including the racially segregated development of infrastructure and institutions (Marquard, 2006). In post-apartheid South Africa, energy policy formulation has shifted from being a state secret to one that encourages participation from the wider public, including women, through various processes including the publication of draft policies for public comment, which is a constitutional requirement. The *Energy White Paper* outlines the process of policy formulation, emphasizing that transparency, inclusiveness and accountability, are the core principles of the process: 'the process has ... attempted to make government approach more transparent; to build public confidence; to clarify organizational roles; to communicate policy effectively; and to integrate policy processes' (DME, 1998: 5). As noted later in this paper, in the earlier years of policy reformulation during the early 1990s, women's organizations, particularly WEG, played an important role in ensuring that gender issues were given attention in the formulation of new policies.

Apart from the state, other institutions have played important roles in shaping the energy policy

in South Africa. One example is the Energy and Development Research Centre (EDRC) at the University of Cape Town, which has been actively involved in the different dimensions of the policy making process (Bekker *et al.*, 2008). The main role of the EDRC (now ERC) has been to provide policy advice drawn mainly from the research conducted by the Centre. The EDRC has also been instrumental in providing technical training for personnel deployed and support to the various arms of the energy sector (Winkler, 2006b). Although the EDRC is not a state institution, it has partnered with the state to provide technical support and policy guidance on different aspects of the energy policy. In this, the EDRC differs from the conventional actors in the energy sector. The other important actors in the energy policy development arena, especially during the transition phase (from 1994 to 2002), are Nedcor and Old Mutual^{††}. These two institutions were influential players in the formulation of energy policy, particularly the electrification programme. In the case of Nedcor and Old Mutual, influence was exerted through the loans and advice which they provided Eskom (Becker et al, 2008).

Their role is also unique in that lending institutions often do not involve themselves in policy development processes; most of the institutions that provide loans to the state or state-owned energy companies do not traditionally play a role beyond providing capital expenditure funding. While it is common for the funding institutions to give advice to the borrowing client, policy development is often seen as the ambit of the state. Part of what explains the central role played by Nedcor and Old Mutual is the close connection that existed between these institutions and the apartheid government, to the point that they were regarded as extensions of the state. In post-apartheid South Africa, the role of these institutions in policy development and implementation has been significantly reduced, partly because the policy process has become more inclusive through the participation of the wider public.

The other key institution which has played a role in the formulation of the energy policy is Eskom itself as the national power utility. For example, the national electrification programme and policy is said to have been influenced by Eskom in conjunction with ANC government officials. As a state-owned energy supply utility, Eskom has played the traditional role of bringing together the different stakeholders, including private shareholders, the state (through the ruling party) and other actors such as trade unions and professional associations. In the new renewable energy drive, the donors are reported to be playing an important role in infrastructure development and technology transfer, particularly DANIDA and the German Technical

^{††} Nedcor and Old Mutual are financial service providers, and during apartheid they were the main government pension fund investment agencies. They have continued as investment bank and pension fund, respectively, both specializing in management of pension funds, but now with a lot of competition from other players on the market. They provide capex loans to the state even today.

Cooperation (GTZ) with regard to solar stoves, and the UNDP and World on Global Village Energy Partnerships (DoE, 2015). Previously, the donors did not play an important role in the development of policy, apart from providing technical assistance.

In addition to these, there have been a number of civil society organizations (CSOs) which have been trying to influence energy policy through campaigns to create awareness around the need for clean energy, gender sensitivity, and against the drive to expand nuclear energy. There are a number of environmentally conscious CSOs which have been opposing the planned expansion of nuclear power plants by the government. One example is Greenpeace Africa, which is based in Johannesburg, but operates in the Democratic Republic of the Congo (DRC) and Senegal. Other CSOs have focused on campaigns which highlight the harmful effects to the environment arising from the current use of coal by SASOL and other companies.

In addition, there are organizations and professional associations have focused on lobbying for particular interests in the energy sector. These include the South African Oil and Gas Alliance (SAOGA), the Women in Energy Group (WEG), the Southern African Alternative Energy Association (SAAEA), South African Association for Energy Efficiency (SAAEE), Gender and Energy Network of South Africa (GENSA), Women in Oil and Energy in South Africa (WOESA), and Women in Nuclear Energy South Africa (WINESA). With regard to policy development, GENSA, WOESA and WINESA have all focused on promoting women's participation in energy-related business ventures, particularly oil, gas, nuclear and renewable energy. Their advocacy focuses on encouraging women to participate in the energy business, as also energy research and technological development. There has been less engagement with women at the grassroots level. While some of the women who participate in energy businesses and research also participate in the energy policy development processes, there is little evidence to show that they actually speak on behalf of the poor women who face various challenges in meeting their daily energy needs. Further, it is not clear if the women participating in the policy processes have ensured that gender perspectives and analysis are integrated in the policy and programmes.

PHASES IN ENERGY POLICY DEVELOPMENT

Phase 1: Energy Policy Under Sanctions

South Africa's energy policy development can be divided into four phases. The first phase of a holistic approach to energy policy was during the 1970s in the aftermath of the 1973 oil crisis, when the country's energy security concerns became a priority. At that time, the government became aware of the risks of relying on imported energy sources (mainly crude oil). This concern was reinforced by international embargos imposed by the international community, especially the embargo on oil export to South Africa. As a result, the state focused on developing 'an energy capacity in government, and attempted to develop an integrated energy policy framework... by the creation of a separate Department of Minerals and Energy Affairs in 1980' (Marquard, 2006: 70).

The main focus of the energy policy during this phase was on developing internal capacities to improve the energy security of the country, given the risks posed not just by international embargos, but also by the instabilities surrounding global oil supply during the 1970s due to geopolitical tensions (MAPS, 2014). The main objective of the government, at that time, was to create uninterrupted domestic supply of energy by relying mostly on local sources of energy, particularly coal and its derivatives; hence the overwhelming dependence on coal as the main energy carrier to the point where the country is said to be addicted to fossil fuels (Greenpeace, 2015). Marquard (2006), for instance, argues that as the country sought to reduce dependence on imported fuels during apartheid, it turned to coal as a major alternative source of energy which was domestically available.

To a large extent the apartheid government succeeded in reducing dependence on imported fuels by creating the capacity to harness locally available coal and its by-products. This success was underpinned by massive investments in infrastructure and development of the necessary technologies, such that by the 1980s, the country was reported to have created excess capacity in energy generation (Winkler, 2006b: 23). Lack of sustained investments, coupled with growing demand for energy, has seen much of this capacity being eroded, leading to the current situation where the demand for energy (especially electricity) has surpassed existing capacity to supply energy on a sustainable basis. According to some analysts, the 'situation has moved from one of general over-capacity and low priced reliable supply to under-capacity and unreliable supply of coal, electricity and liquid fuels, with coal and electricity prices rising significantly' (MAPS, 2014: 8).

Phase 2: Energy Policy in Transition

The second phase of the development of energy policy is widely referred to as the transition phase (Davidson, 2006; Marquard, 2006; Bekker *et al.*, 2008), and covers the period from 1994 to about 2000. The main focus of the policy during this period was to reform (not entirely dismantle) the apartheid energy policies and institutions to ensure equitable access to energy, with a strong focus on improving access for the majority of the people who were largely excluded from energy services prior to 1994 (Tait, 2015). The space of plural politics and the democratic process of formulating policy opened up the spaces to allow different voices, including gender equity, into the energy policy processes. Thus, the period between 1994 and 2000 constitutes a period in which new policies, institutions and programmes were established to meet the objective of the majority government led by the ANC. The ANC articulated its broad social transformation agenda which included the transformation of the energy sector policy (Davidson, 2006). The RDP, for instance, set the target of providing access to electricity to 2.5 million households in the first five-year period between 1994 and 1999 (Bekker, *et al.*, 2008). This objective was to be realized through the national electrification programme which started in 1994. As Table 9 shows, this target was met during the first five years of implementing the electrification programme (StatsSA, 2013).

The Electrification Programme

This programme should be ‘seen as one (and probably the most important) of a range of coordinated interventions to ameliorate energy poverty, and thus electrification policy was a subset of the energy policy, and should be integrated into a complete energy policy framework’ (Bekker, *et al.*, 2008:3117). At the beginning of the electrification programme, the emphasis was on connecting households to the national grid, with little attention to off-grid sources of energy such as wind and solar (Tait, 2015). But in recent years, there is a shift in policy towards promoting off-grid sources, especially for communities in remote rural areas, far from the national grid. The renewable energy policy, for example, is promoting the provision of energy to rural households through off-grid renewable energy connections (DoE, 2015).

The electrification programme has been widely acclaimed a huge success, especially in the initial stages, when the rate of electrification was high, at roughly 10 per cent per annum (Table 4). In the first five-year period, the programme is reported to have exceeded its target of connecting 2.5 million households (StatsSA, 2013: 5). This was remarkable progress by any standard, though there are concerns that the momentum has slowed since 2002 and non-

electrified households are increasing rapidly, particularly in urban informal settlements (Tait, 2015).

The success of the electrification programme has been attributed to several factors, including the fact that the idea of providing basic energy to everyone found strong resonance within the ANC-led government and the tripartite alliance.⁶ The ANC saw the electrification programme as a practical demonstration of its vision of building an equitable society through redressing past inequalities. Because of its social appeal, the programme has been widely supported by trade union affiliations, Eskom's leadership, local municipalities, academic researchers, policy analysts, even politicians from opposition parties (Bekker, *et al.*, 2008).

Apart from this strong social *buy-in*, the success of the electrification programme, especially in the initial stages, can also be attributed to the fact that the country had huge power reserves which made it possible to expand the network without worrying about supply constraints. As noted earlier, the country had built substantive reserve margins during the 1980s and 1990s, which made rapid electrification of households in urban areas and small rural towns, particularly, possible. Expanding energy services to unserved populations has proved to be more difficult now since the reserve margins have virtually disappeared, leading to a situation where 'new connection rates have fallen to a level where they are not keeping up with household formation and, as a result, the number of households not connected to the grid is increasing' (MAPS, 2014: 8). This is evident in Table 9, which shows that the rate at which households have been growing is much higher than the rate of electrification. Thus, although the percentage of households without electricity has fallen consistently since 1994, the actual number of households without access to electricity is actually rising, making it difficult to realize the goal of universal access to electricity set by the government (even at 97 per cent as envisioned by the DoE).⁷ This is a challenge which has been acknowledged by the ⁶ This refers to the alliance between the ANC, the South African Communist Party (SACP) and the South African Congress of Trade Unions (COSATU)^{††}.

Department of Energy in its recent report (DoE, 2015).

One of the reasons why the electrification programme seems to have slowed down is the fact that most of the easily connectable households in urban areas and nearby rural settlements have

^{††} The DoE has set universal electrification at 97 per cent due to the fact that households are growing at an average rate of 3 per cent per annum and so there will always be households not supplied with electricity (DoE, 2014)

all been serviced. The remaining unserved households are in rural areas, often scattered and at a distance from the national grid, thus making it expensive to extend the network to these settlements (StatsSA, 2013; Winkler, 2006; Bekker *et al.*, 2008; MAPS, 2014). This challenge is more acute especially due to the emphasis, in the past, on grid connection as the main form of electrification, although there is now a move to promote off-grid electrification in areas that are far away from the national grid (DoE, 2014; 2015).

Thus, while the electrification programme has been widely applauded as a great success, the general success story needs to be read cautiously. First of all, the emphasis on connecting households may distract attention from post-connection issues, which is a challenge for many people, particularly the poor in both urban and rural areas (Balmer, 2007; Madubansi and Shackleton, 2006). It is one thing to be connected to the network, but it is another thing to be able to pay for the use of electricity that one is connected to. Although the ANC government has Free Basic Energy (FBE) and Free Basic Alternative Energy (FBAE) policies in place to address the demand side of the equation, the issue of access and affordability has remained a challenge for many households. As noted later, the implementation of these pro-poor energy policies and programmes faces many challenges. Apart from the small FBE subsidy, there are still a large number of energy-poor households in some of the provinces which are not receiving any support.

Further, one of the main challenges of the electrification programme in South Africa is that greater emphasis has been placed on counting the number of households connected to the grid, with less attention given to the actual usage of the energy in the home. Consequently, this, 'single metric of the electrification programme does not enable a more holistic interrogation of programme performance and outcomes. In reality, a wide range of factors can constrain optimal energy use at the user level despite having an electricity connection' (Tait, 2015: 6). While it makes political sense to brandish the electrification rates as a sign of improved service delivery and therefore a high score on government performance, the narrow focus on the number of connections and not whether the connected households are actually using electricity can be misleading. The electrification process did not have a precise focus on gender equity, and for this reason, it can be safely argued that the programme was largely gender-neutral in its conception, though it may have a different impact on gender equity by focusing on the poor, unserved rural communities, many of whom are women. This was despite the fact that the 1990s were the period of heightened gender activism, as evident in

the work of WEG profiled later in this paper.

Phase 3: The Integration Phase

The third phase of energy policy development in South Africa, which is also referred to in the literature as the 'business as usual' phase, covers the period from 2001 up to about 2006 (Bekker *et al.*, 2008; Davidson, 2006). One of the outstanding policy measures in this phase was the drive towards integrating energy policy with the broader national policy framework, which includes not just the energy system, but other sectors such as public enterprise, spatial development, economic growth, local governance, capacity issues, sustainable development, urban renewal, etc. (*ibid.*). In order to coordinate the different sectors and integrate the energy policy in the broader social and political context, planning has become an important tool for policy development in all sectors, including the energy sector. The Integrated Development Plan (IDP) which was introduced in 2001 has acted as the vehicle for promoting inter-sectoral linkages and synergies. But again, the retrogression in terms of developing a gender-aware energy policy is more evident during this phase, mainly because access to energy is reduced to counting the number of connections (Newmarch, 2011), and this includes the focus on counting the number of business ventures in the energy sector owned by women as a measure of success.

The Integrate Energy Plan (IEP) was introduced in 2003 to promote an integrated approach to the development of various components of the energy policy and associated technologies. Unlike in the past when energy development policies were sector-specific, during the integration phase, emphasis was placed on planning and coordinating the development of the entire energy system, which includes renewable and non-renewable sources. The IEP has emphasized the planning of energy policy development based on the existing knowledge of total energy reserves, and energy needs (current and projected demand), using multiple scenario analysis (Davidson, 2006).

Other than the thrust on planning and integrating the energy system with the broader national development framework, this period is also marked by the introduction of other policy initiatives such as the FBE for the poor, energy efficiency programmes, sustainability of the energy system, impact of energy generation on climate change, the growing emphasis on renewable energy and the call to diversify South Africa's energy portfolio, which remains overwhelmingly dependent on coal (Marquard, 2006).

In terms of delivery of energy services, the third phase has been marked by, as noted earlier, a slowing down in the momentum created in the earlier phase, particularly the electrification rate. This is what has led some analysts to refer to this phase as the ‘business as usual’ phase. In the current context, planning the energy system has been a priority, given the energy supply constraints which have emerged over the past decade. It is now widely agreed that the energy supply constraints being experienced in the country is a result of short-term planning and lack of investment during the 1990s and early 2000s (Davidson, 2006). Consequently, policy is now putting emphasis on long-term planning and investment in the sector, as evident in the Integrated Resource Plan 2010–2030. Again, here too gender equity was watered down, perhaps because of the focus on promoting a class of business women in the energy sector as an equivalent to a gender equity agenda.

Phase 4: The Independent Power Producer (IPP) Phase

Literature on energy policy development in South Africa talks about three phases, namely, the apartheid, transition, and business as usual phases. But new developments in the energy sector point to an emergence of a new era in the generation, distribution and management of energy in the country. Given these new developments over the last five years, it is probably justifiable to talk about a new (fourth) phase which, in this paper, is referred to as the independent power producer (IPP), or the multiple energy producer phase.

Although the idea of independent power producers was hinted at in the *Energy White Paper* in 1998, it is only after 2010 that this initiative received serious policy attention. Since then, however, the policy has become muddled and highly contested between the different interest groups, including some politicians (Moris and Martin, 2015). What distinguishes this phase from the integration phase is the attention given to renewable sources of energy and private energy producers other than the conventional energy producers, i.e., Eskom, SASOL and Petrol SA. In this phase, there is a growing realization that more role players are needed in order to achieve the twin goals of sustainable energy and equitable access. This phase is also characterized by a growing sense of the need to move away from the coal-dominated energy system to a system relying on renewable sources of energy by promoting renewable technologies. This is particularly evident in the efforts aimed at diversifying the energy mix in the country. The Integrated Energy Planning Report notes that over the ‘last few years’, various policies have been developed by the Department of Energy (DoE) in an effort to increase diversification of primary energy as well as to reduce over-reliance on fossil fuels for the supply of energy’ (DoE, 2013). In this new policy framework, the role of IPPs is seen as critical to

realizing the set goals.

As noted above, while IPPs were envisioned as playing an important role in the generation of energy in South Africa during the 1990s, IPPs only started to play a noticeable role in the energy sector in 2011, with the introduction of the New Generation Capacity Regulation under the Energy Regulation Act of 2006. Official reports from the Department of Energy show that in 2011, 28 IPPs were commissioned to produce energy independently and feed into the national grid (DoE, 2015). This number increased to 38 in 2013 and 92 in 2015, with a total production capacity of 6, 327 MW in 2014. Most of the IPP producers generate electricity through wind and solar energy, and this is why they are seen as key role players in the new drive to diversify away from fossil fuels. However, not everyone sees the IPPs as a positive development.

There has been resistance to IPPs, even within the ANC and Eskom, particularly because their coming on board is largely seen as a form of privatizing the energy sector and this does not sit well with some constituencies of the ANC who have an anti-private sector ideology (MAPS, 2014; Moris and Martin, 2015). This is one of the reasons why it took 10 years between the adoption of the policy and the commissioning of IPPs (2001 to 2011), and there are still dissenting voices which see these initiatives as efforts to disempower the national energy utility, Eskom (Moris and Martin, 2015). Because of the high initial capital investment required to start power production, critics have also noted that this policy process has mainly been dominated by foreign private investors at the expense of local small producers (Greenpeace, 2015). In terms of the gender dynamics, it has been observed that while in the earlier period leading to 1994 there were robust discussions about gender politics, ‘gender struggles in South Africa became institutionalized and quite quickly women’s issues became depoliticized’ (Annecke, 2003b: 7).

As things stand, the generation capacity of IPPs is still small and the technology is still elementary, though there are indications that these initiatives could be scaled up in the next 10 to 15 years so that by 2030, renewable energy can contribute more to the energy mix than the fossil fuels put together. It is not possible to predict how the IPPs will develop, but there seems to be strong policy support for promoting these initiatives, especially after the 2015 national blackouts.

International Influence on South African Energy Policy

As already noted, South Africa’s energy policy is not insulated from international energy

trends and practices. In the energy policy area, there are two levels of international influence on South Africa's policy. As has been observed, 'South Africa's energy policy is ... not only shaped by internal policies but also by international policies and agreements... (Balmer, 2007: 8). At one level, international trends have influenced the development of the energy policy in South Africa on a more voluntary basis with the South African policy makers seeking to emulate international energy trends, ideas and practice. One example of this is the introduction of renewable policies and initiatives (the renewable energy feed-in-tariff: REFIT) which is said to have been 'informed by international experience, where feed-in-tariff were successfully used in countries such as Germany to encourage RET [renewable energy technology] uptake' (DoE, 2015: 4). This sort of influence is more voluntary, such that the country can choose what international trends it wishes to adopt.

Similarly, the incorporation of gender principles in the formulation of policy and service delivery programmes also has drawn largely from the international experience, with much of the gender and energy debates reflecting the international mood. For example, the United Nations Decade for Women (1976–1985), which led to the Women in Development (WID) movement and later Gender and Development (GAD), both of which influenced the debates and policies on gender in South Africa (Feenstra, 2002). This influence was mediated through several channels, especially through the work of international non-governmental organizations (INGOs) and the donor agencies, particularly from the North. These organizations deliberately sought to transform policy from being gender-neutral to being gender-sensitive. International donors and development agencies such as Danish International Development Agency (DANIDA) and the United Nations Development Programme (UNDP), though not so prominent in South Africa, have played a central role in channelling the global trends in energy and gender (DoE, 2015: 2). Different organizations adopted different approaches to influencing policy, with some taking a policy-oriented approach while others, especially NGOs, focused on changing the views of ordinary men and women as an effective way to change gender dynamics in society.

At another level, domestic policy has been influenced by international trends through formal multilateral agreements related to climate change and the need for clean energy. An example of this is the adoption of the Kyoto Protocol in 1997, which South Africa acceded to in 2002 (DME, 2003: 17). It is clear that the concerns raised at the international level around the need for clean energy has played an important role in shaping South Africa's energy policy in the White

Paper itself, and in subsequent energy policy documents. Further, in 1997, South Africa ratified the United Nations Framework Convention on Climate Change which made South Africa eligible to apply for climate change support from the Global Environmental Facility. Similarly, the White Paper on Renewable Energy which was adopted in 2003 draws a lot from the global debates and concerns around climate change and the need for cleaner energy. One example of this is the renewable energy policy which focuses on creating an investment climate attractive to international investors by adopting clean energy strategies. This approach was in response to international investors looking for investment opportunities and destinations in countries where policy commitments to clean energy policies prevail. This type of influence is less voluntary, in that once a country signs the international agreements, the obligations have to be complied with, and there might be little room for choosing among the options.

The other example of how the international political economy has impacted South Africa's energy policy, especially during apartheid, is the instability in international oil supply and prices. Oil price volatility and the geopolitical tension during the 1970s led the apartheid government to develop energy policies that emphasized national energy security, relying on local energy sources (Davidson, 2006). One of the policy responses to the risks posed by the volatility in international oil prices was to diversify liquid fuel sources from crude oil to alternative sources such as biodiesel and other biofuels. This saw the creation of state-owned enterprises tasked with producing liquid oil, mainly from coal—for example, SASOL. In post-apartheid South Africa, the policy concerns have continued to be influenced by fluctuations in international oil prices which impact on the local economic situation, mainly through the transport sector which imports 75 per cent of liquid fuel.

In more recent times, the domestic energy policy has been influenced by international commitments around the Millennium Development Goals (MDGs) and, starting from 2015, the Sustainable Development Goals (SDGs). In terms of SDGs, South Africa's commitment is integrated in the national policy that aims at achieving universal access to clean energy by 2025^{§§}. South Africa successfully exceeded the MDG target of halving the number of people without access to energy by 2015, but now the focus is on achieving universal access to energy within the SDG framework. Having subscribed to the United Nations initiative of Sustainable Energy for All (SE4All), the country has committed itself to realizing three main goals: achieving universal access, promoting efficiency in energy production, and increasing the production and usage of renewable energy. The South African strategy for realizing these goals

^{§§} The target through the electrification programme was 2012, but this has now been shifted to 2025

is outlined in the key policy documents on renewable energy and energy for all. However, the programmes for achieving these objectives are still being piloted, and it remains to be seen if active implementation will be carried out with the same strong commitment evident in the policy documents.

Energy policy in South Africa is also influenced by regional energy concerns within the continent, but mainly in Southern Africa. The creation of the Southern Africa Power Pool (SAPP) which started operating in 2002 is one example of regional initiatives which shape South African energy policy. With regard to SAPP, the policy has mainly focused on promoting the sharing of energy resources with neighbouring countries instead of pursuing self-reliance approaches, as was the case during apartheid (Davidson, 2006). According to a Southern African Development Community (SADC, 2015: 21) report on energy, the region has a strategic plan 'to harness energy resources ... through national and regional action'. Within this context, the emphasis of the energy policy has been 'placed on the pursuit of cooperation among African countries and the need for a Pan-African energy strategy' (DME, 1998: 6). The larger part of the SAPP initiative comes from hydro-power potentials in the region, mainly in Mozambique and the Grand Inga project in the DRC.

While this initiative has not really taken off in any meaningful way, there is great potential for the region to create a shared power pool, and South Africa is particularly focusing on harnessing the power potential in the region (DoE, 2013). Because of its energy-intensive economy and low potential for hydropower sources, South Africa stands to gain more from this initiative and has been pushing for a more coordinated approach to regional energy policy and strategy.

FROM A GENDER AGENDA TO A CLASS PROJECT

It is apparent now from the earlier discussion that South Africa still has to resolve gender issues in the energy sector at various levels. The crucial question to answer in the first place is: what are these gender issues and how do they relate to the energy sector? It is important emphasize and highlight what gender issues in the energy sector are. The starting point in discussing gender issues in the energy sector is that women and men interact with energy differently, in terms of preferences, roles, welfare impact, supply of labour and well-being. For example, it is widely known that ‘women and girls are often primarily responsible for collecting fuel and water’, and as result they relate to energy differently from men (UNDP, 2012). In other words, the ‘fact that men and women have different roles, different access and control over resources in the household, community and society in general’ means that they ‘have different energy needs, interest and responsibilities on the basis of gender’ (Feenstra, 2002: 30). So a gender-sensitive energy policy has to address and respond to these differences in the ways in which energy services affect women and men. An energy policy, indeed any policy, that disregards this difference can be said to be gender-blind or gender-neutral.

But for a policy to be genuinely gender-sensitive, women have to participate in the debates and the formulation of the policy precisely because they are most likely to articulate their experience better than men who try to represent women. Thus, a gender-aware policy in the energy sector would ensure those women’s interests and perceptions are given as much attention as those of men. But traditionally, policy formulation and the research that feeds into the policy processes have been dominated by men, who, among other things, decide on the type of technology and the mode of delivering the services (Anneck, 2003b).

Given that men and women have different roles, interests, perceptions and preferences when it comes to the way they interact with energy, can men articulate women’s energy interests and aspirations? Most gender activists argue that it is a matter of social justice to give women space to participate in all the processes that impact on the way energy services are structured, including research and policy formulation (Balmer, 2007; UNDP, 2012). Since the energy sector (from policy formulation, through research and service delivery) has in the past (and even now) been dominated by men, women have to mobilize (both women and men) to carve out their own space in the energy sector; they have to advocate for equal participation at various critical nodes in the energy supply chain. Here mobilization should not be taken in the narrow sense of just getting educated, well-connected women and men on board; it should ensure that all men and women are made aware of the need for and the benefits that accrue from equal participation of men and women in the energy sector. In South Africa, the first organization to articulate this agenda was the WEG.

From Women in Energy to Business Women in Energy

During the transition to a democratic dispensation in South Africa (from 1990 to 1994), spaces began

to open up to allow different voices and aspirations to feed into and shape the new policies. With regard to energy policies, the National Electrification Forum (NELF) which was tasked with formulating a new electrification policy was one of the most important policy spaces. However, like many others at that time, NELF was dominated by middle-aged white men with an engineering or science background. As such, there 'were no channels through which women could articulate their energy policy preferences' (cited in Annecke, 2003a: 186). Aware of this situation, a group of women affiliated to the ANC-Women's League decided to come together to participate in the NELF discussion, with the aim of ensuring that women's energy preferences got into the energy policy and subsequent programmes. Under the guidance of Rita Mfenyana (who was herself a trained electronics engineer), the women participating in NELF decided to form a non-political organization called Women in Energy (WEG) to advance the interests of all women in the energy sector. According to Mfenyana, the women 'were clear that membership should span a wide spectrum of women from poor urban and rural societies, community based organizations, business, academics and politicians'(in Annecke, 2003a: 188). It has been observed that this 'broad association represented a first attempt to bring together women with low incomes suffering from energy poverty with those involved in research, technology development, policy and governance, and facilitate co-operation among them'(ibid.).

At this stage it was clear that this was a mass movement involving women and men from all walks of life, with a single agenda of ensuring that gender concerns, particularly those of women, were given adequate attention in the new policies. The founders of this movement were well aware that to make an impact on the energy policy, to challenge the old guard, they needed to lobby all women and men of 'good will', realizing that a few elite women with technical training in engineering would make little impact. Thus, WEG's objective was to promote social and gender equity with a specific focus on poor African women, through advocacy and training for women to acquire technical skills.

In this regard, WEG achieved relative success in the beginning by raising women's awareness that they needed to articulate their energy interests and also by raising the gender agenda in energy in the public policy forums (Annecke, 1998). However, WEG's influence on the energy policy landscape remained limited mainly because of its short life-span, as also because it focused primarily on the practical issues without much reflection on the theoretical and political implications of the agenda it was pursuing. Further, the limited success recorded by WEG can be attributed to the fact that most of the leading women 'had technology rather than gender expertise, and were interested in implementation rather than theoretical discussions' (Annecke, 2003a: 190). Nonetheless, WEG had set a gender-sensitive agenda in the energy sector as its point of departure.

In 2002, WEG was transformed into a new organization with the name, Women in Oil and Energy in South Africa (WOESA). While WEG had a broader agenda, which was to make the South African

energy sector more gender-sensitive, WOESA adopted a specific project of increasing the number of women owned/run businesses in the energy sector. Although the objective of influencing policy by encouraging women to participate in the policy making process is still being pursued, there is a clear bias towards promoting women's business ventures in the energy sector (WOESA, 2017 a and WOESA, 2017b).

The rationale for adopting the strategy to advance women's businesses is that if women participate in business ventures in the energy sector, they will be leaders of research and technology development which can feed into policies, and through this, support women's interests (WOESA, 2017). Apart from this, WOESA seeks to promote a gender-sensitive energy sector by training women in technical and business skills in the hope that, equipped with these skills, women would be empowered to highlight and articulate the gender equity gaps in policy and service delivery. Thus, the training initiatives are meant to promote participation of women in policy processes and research. Through such initiatives, a number of women have been trained and some of them have since taken up leadership positions in government and private sector institutions (Annecke, 2003a).

But it is not clear if these women are actually advancing the interests of poor women in both rural and urban areas. For instance, in its 2016 Newsletter, WOESA reports that it now has a membership of 300 businesses in the energy sector owned by women. It will be interesting to find out in what way these business ventures promote the interests and aspirations of women in the energy sector, differently from the businesses owned run by men. For example, one of the companies profiled in the 2017 Newsletter supplies welding safety and cutting equipment to mining companies, and mechanical maintenance to locomotive companies (WOESA, 2017 b). It is not clear how a company like this advances the interests of women apart from making the owner a successful business woman. Thus, the strategy of integrating gender dimensions into policy by promoting the participation of women in business and research needs to be evaluated to assess its impact on the energy needs and concerns of a majority of women. It is not enough to say that we now have so many women-owned companies in the energy sector; the larger question is how these companies are contributing to promoting a gender-sensitive energy policy in particular. Further research may be needed to understand the broader gender impact which these firms have. This is clearly a shift from the agenda initiated by WEG of mobilizing women and men to promote a gender- sensitive energy policy in South Africa.

Unfortunately, officials within government, both men and women, have continued to follow the strategy of increasing the number of high-profile women in energy businesses as a way to mainstream gender. For example, in a press statement, the current Deputy Minister of Energy (who is a woman)^{***}

^{***} The current Minister is also a woman. In fact, the department of energy has been, for most of the time, headed by a woman since 1999 when Phumzile Mlambo Ngcuka was appointed Minister of Minerals and Energy in 1999

encouraged other business women to make their mark by taking advantage of the existing opportunities in the energy sector:

South African women can make their mark by becoming entrepreneurs, investors, professionals and leaders within the energy field. There is abundance of business opportunities for women in renewables nuclear, hydrocarbons, electricity, energy efficiency and special projects such as solar water heating (Majola, 2015).

It is not clear if the wider interests of women are being promoted through this strategy. With such an elitist approach to gender, it is not surprising that the gender principles that would advance the plight of poor women have always remained in policy documents, with very little to show in terms of concrete programmes.

While these efforts have certainly made a difference, they have not promoted a more inclusive approach to the energy policy in the country. Instead, the strategy of promoting women-owned businesses has created a class of women entrepreneurs in the energy sector, and their role in promoting the broader gender equality agenda remains unclear. It is doubtful if the experiences and voices of many poor rural and urban women get any meaningful attention from the women who are running these business ventures.

No doubt, the participation of women at various levels of the energy service sector cannot be over emphasized, as UNIDO observes:

Women involvement in the design of sustainable energy solutions, for example, can help to ensure that solutions are tailored to women's needs, and women's engagement in distribution and marketing can help to encourage the use of sustainable energy services by providing other women with comfortable spaces within which to learn about technologies and discuss their particular concerns (UNIDO, 2013: 11).

However, it is one thing for women to participate in policy or technology design, but another thing to ensure that this participation contributes to promoting gender equality in the energy sector (Feenstra,2002). There is a view that although many women participate in policy making at various stages and in different capacities, including at the ministerial level or as heads of government departments, the integration of women's views and perspectives on energy in policy documents has been lacking (Balmer, 2007).

In other words, it does not follow that because there are high-level women participating in the energy decision making processes that women's energy interests and concerns will be automatically integrated into policies and translated into programmes on the ground. Several conditions need to be met in order for gender perspectives to influence policy and programmes in a significant way. Such conditions include the need to involve women who are committed to gender equity in policy formulation processes, research and technology development. It is not just women engineers who should participate, but also gender experts who can think about concrete ways to translate the policy pronouncements into action on the ground. This requires commitment, but also a deep understanding of the gender dynamics in the energy sector broadly, and at the household level, specifically.

Thus far, while policy in South Africa has exhibited an awareness of the gender dimensions and challenges in the energy sector, this has not been followed up with programmes to translate this into concrete action that makes a difference in the lives of poor rural and urban women in South Africa. As Feenstra (2002) observes, the biggest challenge for women's movement is to make sure that the objectives and goals set out in documents are translated into concrete programmes. One initiative in the DoE which was meant to drive the practical implementation of gender issues was the creation of the Directorate for Special Projects, which works with women in rural communities. But this has not really been successful in reaching many rural women, and has mainly focused on urban women in informal settlement communities.

If the majority of women and men participating in energy policy processes are concerned with taking care of their own business interests or careers, it is unlikely that they will represent the interests of ordinary women. Although this elitist approach to gender in the energy sector was somewhat evident in WEG, it has become more predominant in WOESA, to the extent that the movement seems to be bent on a class project of promoting elite business women. So far, the top-heavy approach in promoting women's participation in energy business ventures and energy technology research has not yielded any tangible results.

Apart from the fact that the energy sector is male-dominated at management, research and policy levels, it has also been argued that in post-apartheid South Africa, the emphasis on realizing general racial equity has led to the depoliticization of gender issues around energy. Thus, the critical gender analysis which only appeared during the early 1990s was overshadowed by a strong focus on promoting racial equity (Annecke, 2003a). Much of the debate during the 1990s focused on whether or not gender equity in the delivery of energy services needed to be written into policy (Annecke, 2003b). Further, while between 1994 and 1999 there were programmes targeted at reducing the energy burden of women in rural areas, particularly, this focus was lost in later years with more emphasis placed on increasing the number of women in energy-related businesses. For example, the two early projects which paid attention to the plight of rural women concerning energy (namely the Integrated Provision of Energy to Rural Areas, and the Social Determinants of Energy Use in Low Income Households) have been discontinued (ibid.). Little gender analysis goes into the energy supply framework, as if the household where energy is consumed is gender-neutral; yet, we know that energy access and use in a household is a highly gendered practice (Balmer, 2007; Matinga, 2012). But because 'women perform different tasks to men, they require energy for different things and from different sources' (Balmer, 2007: 5). Therefore, adopting a non-gendered approach to energy policy and services is hard to justify. While energy policy documents acknowledge that 'most household consumers are women, [and that] past energy policy has largely ignored their needs' (DME, 1998: 3.3.1), this has not translated into effective policy directives to address the gender dimension of energy services.

It is widely acknowledged that the burden of domestic energy use affects women disproportionately when compared to men (UNDP, 2011). This is mainly because in most cases women carry out the functions where energy is used such as cooking, heating water, bathing children, etc. (Matinga, 2012). One would therefore expect that women would play an important role in shaping energy policy, more than they do at the moment. Although policy documents have acknowledged the need for women to equally participate in decision-making concerning energy, their voices still do not influence energy policy. In South Africa, the focus has been on training, encouraging women to enter the energy sector as workers and managers and business owners. The rationale here is that if women are in positions where they make decisions, they will influence not just policy but also the type of technology developed in the sector. But that is not automatic.

While at the policy level it is clear that representation and participation of women in policy processes is critical to achieving meaningful empowerment of women (DME, 1998), most of the energy policies including the FBE which emerged in the 2000s have little gender analysis and emphasis. In fact, 'the initial commitment to a gender-mainstreaming of energy policy has been progressively watered down in succeeding energy policy documents' (Newmarch, 2011: 4). One of the reasons for this may be attributed to the prevalent assumption that just by increasing the number of women in decision making forums will automatically create an environment where gender equity will be prioritized. As argued earlier, this does not necessarily happen. But there has been an inexplicable obsession with numbers at face value, especially within government circles.

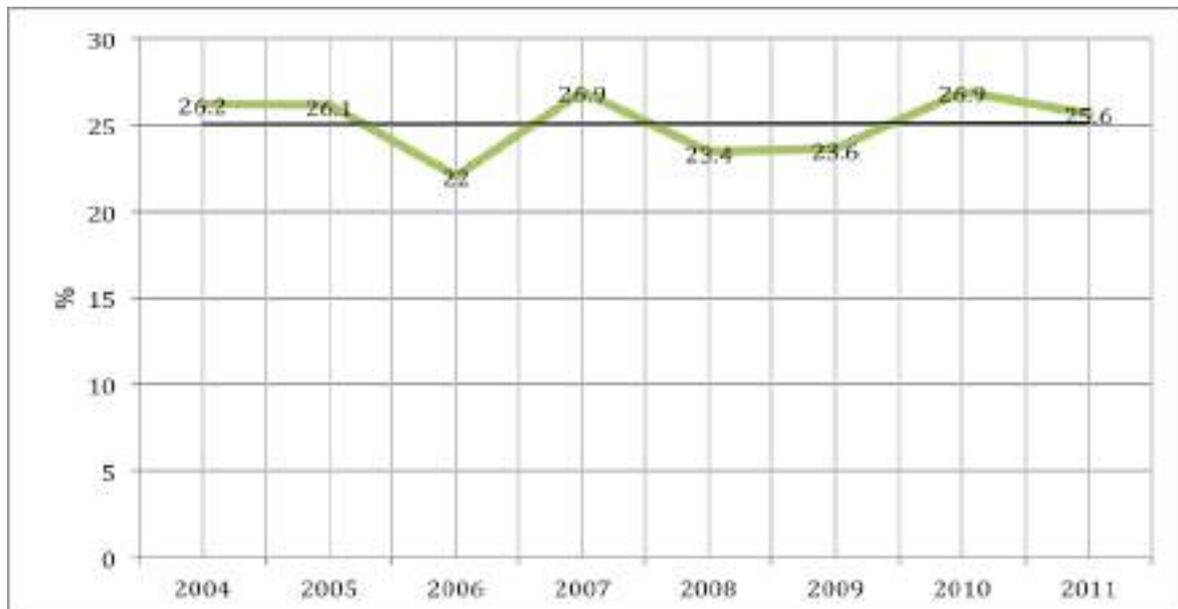
For example, having 100 per cent connection to the grid does not necessarily translate into 100 per cent access to electricity; there are other factors which influence access to and use of electricity. But, perhaps for political reasons, it has become common to display and celebrate the numbers in themselves.

Within policy circles, there have been efforts to promote the empowerment of women in accordance with the provision of the Constitution which strongly supports gender equity through the appointment of women to senior positions within government institutions and state-owned enterprises. But this has had little impact on championing gender issues around energy, mainly because the women appointed to top positions find it difficult to influence decisions in an environment dominated by men (Annecke, 2003b). Although the minister of energy and other senior officials have, since 2003, for the most part been women, the gendered nature of energy services has not filtered into policy and programmes (Tait, 2015). Issues of access to affordable energy and the challenges faced by girls, women and children, especially in rural areas, have been overshadowed by the narrow focus of increasing the number of women in managerial positions. In this sense, the broader gender agenda has been replaced by the narrow class project.

Energy Poverty Policy

To date, the post-apartheid South African government has implemented two programmes to address issues of energy poverty in particular, both of which have been mentioned earlier. The first programme which was formalized in 2003 is the Free Basic Electricity (FBE) policy. The main objective of this policy is to ‘address the affordability issues in electrified households’ (DoE, 2003a: 5). The second policy is the Free Basic Alternative Energy (FBAE), which was also adopted in 2003 with the aim of providing ‘indigent households with alternative energy where electricity is not available’ (DoE, 2003b: 2). The FBE/FBAE policy provides 50kWh of electricity or other forms of energy per month to eligible families, though the amount of electricity provided differs between municipalities. For instance, Cape Town Metro offers 60kWh per month for eligible households, mainly households consuming less than 250kWh per month, and 25kWh for those consuming between 250 and 450kWh per month. Ekurhuleni Metro and Tshwane Metro offer 100kWh per month, while the Johannesburg Metro provides 150kWh to eligible households (SEA, 2014: 45). While there is a national FBE/RBAE policy, the amount of energy provided to qualifying households depends largely on the municipality; large metros with sufficient resources are able to provide large subsidies, whereas the small municipalities struggle even to meet the energy provision criteria (Tait, 2015), although the FBE is funded from the national treasury (DoE, 2003a). Figure 2 shows the trend in terms of the proportion of households receiving FBE and FBAE between 2004 and 2011.

Figure 2: Household Access to Free Basic Energy Trends 2004-2011



Source: Author’s own, based on Data from StatsSA (2013) This figure is not right, the graph lines have disappeared

On average, the percentage of households receiving free basic energy has remained stable at about 25 per cent of total households. However, it is important to note that not all the eligible households receive FBE/FBAE. As Table 9 shows, on average, only about 60 per cent of eligible households are actually

receiving the energy subsidy, though the percentage varies significantly between provinces. For instance, while all the households classified as indigent receive FBE in the Free State and Western Cape Provinces, only 22 per cent in the North West, 26 per cent in KwaZulu-Natal, and 40 per cent in the Eastern Cape receive FBE. This is largely accounted for by the capacity of the local municipality to, first of all, identify eligible households and then find a mechanism to provide FBE. A lot of small municipalities, especially in rural areas, struggle with implementing this policy, with the result that many eligible households are not able to receive FBE. Most municipalities face targeting challenges—wealthier households often manage to receive FBE even when the poorer households are unable to (SEA, 2014).

Table 9: Households Receiving Free Basic Energy (FBE) by Province, 2011

	Indigent Household	FBE Recipient Household	FBE On Grid (%)	FBE off Grid (%)	Indigent HH on FBE (%)	Energy Poverty (%)	Energy Poor HH on FBE (%)
Eastern	939 776	370 120	97.3	2.7	39.4	52	75.7
Free State	425 049	481 811	99.8	0.2	113.4	43	263.6
Gauteng	967 539	817 702	100.0	0.0	84.5	51	165.7
KwaZulu-	1 162 490	307 829	88.9	11.1	26.5	45	58.8
Limpopo	744 676	316 725	93.1	6.9	42.5	52	81.8
Mpumalan	444 112	203 321	98.0	2.0	45.8	55	83.2
Northern	118 194	91 073	99.7	0.3	77.1	42	183.5
North	440 733	96 542	99.9	0.1	21.9	48	45.6
Western	290 213	624 527	100.0	0.0	215.2	33	652.1
National	5532782	3309650	97.8	2.2	59.8	47	127.3

Source: Author's own, based on data from DoE (2012) and Stats SA (2013)

There are different targeting mechanisms used by municipalities. In some municipalities, the criteria used to identify eligible households are based on energy consumption levels. Households that consume more energy are excluded on the assumption that those who consume high amounts of energy are not poor. But this mechanism excludes poor households with large families or those which sell electricity to their neighbours (Franks and Prasad, 2014). Other municipalities such as Ekurhuleni and Tshwane Metros, as well as Buffalo City, use an indigence criterion drawing from the indigent register as the basis for providing FBE (SEA, 2014: 45). The FBE policy itself does not stipulate the eligibility criteria to be used in identifying FBE recipients; it instead provides general guidelines, including low energy consumption and safe targeting (DoE, 2003a).

Generally, the criterion used to classify households as being energy poor and therefore eligible for FBE are those households which spend more than 10 per cent of their household income on electricity or energy (Tait, 2015). On the basis of the energy poverty criterion, the percentage of the energy-poor is much lower than the FBE criterion, possibly because the affordability threshold of 10 per cent excludes a greater number of households which are actually classified as

poor using the national poverty line. According to the energy criterion, however, 47 per cent of households in South Africa would be classified as energy-poor (Tait, 2015: 15). Further, the FBE policy has not thought more concretely about gender issues; the policy assumes that energy poverty affects men and women equally. But, as we have seen, evidence suggests that there is a difference and therefore a gendered FBE policy would need to take this fact into account. So far, gender has not filtered into the FBE policies.

While the FBE policy has been celebrated, including by CSOs, it has been criticized for various reasons such as the lower amount of energy provided. Critics often argue that 50kWh per month is too little to provide any meaningful support to poor households, especially those with large families (Egan and Wafer, 2004). Others have criticized the FBE for failing to include the poor residing in informal settlements who are often exploited by their neighbours and end up paying much higher prices for energy (Franks and Prasad, 2014; Bekker *et al.*, 2008). It has also been suggested that poor households depend on several sources of energy, and therefore, using consumption of electricity as a base fails to capture households which do not use electricity. This is particularly true if one considers that most households in South Africa rely on multiple sources of energy, as Table 10 shows.

Table 10: Multiple Sources of Household Energy (2012)

Main Source of Energy for Cooking												
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average
None	0.4	0.4	0.4	0.5	0.2	0.1	0.1	0.1	0.5	0.2	0.2	0.3
Animal Dung	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.3
Coal	3	2.7	2.4	2.4	2.2	2.1	1.9	1.4	1.2	0.9	0.8	1.9
Gas	2.2	1.6	1.7	1.8	2.3	2.3	3	2.2	2.2	2.1	3.3	2.2
Paraffin	16.2	15.9	15.5	16.6	14.2	16	10.3	9.5	8.4	7.1	7.8	12.5
Wood	19.3	18.7	17.9	15.3	13.8	14	15.7	15.1	13.7	12.7	11.6	15.3
Electricity	58	60	61	63.1	67.1	65.1	68.6	71.4	72.1	74.2	75.2	66.9
Other	0.5	0.4	0.8	0	0.1	0.1	0.2	0.2	1.6	2.7	1	0.6
Main Source of Energy for heating												
None	7.2	7.9	8.9	11.3	9.8	10.1	9.7	15.2	19.7	20.7	27.7	13.5
Animal Dung	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0	0.3	0.2	0.3	0.3
Coal	5	4.6	4.7	4.4	4.6	4.3	3.9	3.1	2.7	2.3	1.8	3.8
Gas	0.7	0.6	0.9	0.7	0.9	1.1	1	1	1.5	2	2.7	1.3
Paraffin	11.2	10.5	10.7	12.3	13.6	12.9	9.7	9.4	8.9	9.9	9.2	10.8
Wood	23.5	22.7	22.5	18.9	18.7	18.3	21	19.1	19.1	17.4	15.8	19.7
Electricity	51.9	53.1	51.7	51.9	51.5	52.5	53.1	51.4	46.6	45.3	41.8	45.4
Other	0.2	0.2	0.2	0.2	0.6	0.6	0.6	0.3	1.2	2.2	0.8	0.6
Main Sources of Energy for Lighting												
Candles	17.3	16.1	14.4	14.9	14.2	13.6	14	13.1	11.1	9.8	9	12.6
Paraffin	5.6	4.6	4.4	3.7	3.5	3.1	3.2	3.1	2.5	2.5	2.4	3.3
Electricity	76.7	78.9	80.8	81.2	81.9	82.9	82.4	83.3	84.1	84	87.3	74.2
Other	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.5	2.3	3	1.3	0.8

Source: Author's own, based on data from Stats SA (2017)

CONCLUSION

This paper has discussed the political economy of the energy policy in South Africa, focusing on gender equity. It shows that the energy policy in South Africa has undergone several phases of change, from the more self-reliant, inward looking approach during apartheid, to a more open and outward looking policy during the post-apartheid years. Similarly, the gender dynamics introduced by women's movements have changed from a broader agenda focusing on promoting a gender-sensitive energy sector to a narrow, class-based project of promoting the growth of elite business women in the energy sector. The overall impact of these shifts is a significant retrogression from a gender-aware policy to a situation where gender equity concerns are watered down. This situation requires a critical analysis of current gender strategies, not just in the energy sector, but in other sectors as well to better understand the challenges of promoting a gender-sensitive society.

One of the most obvious lacunae in the literature on the energy sector in South Africa is the conspicuous absence of a gendered analysis of the situation, both in the past and the present. Apart from a few scholarly pieces such as by Balmer (2007), Feenstra (2002) and Annecke (1998), there are few research papers which present a gender analysis of the energy sector in South Africa. Although it is clear that the energy system in South Africa, as in many other countries, is a highly gendered sector, there is little attention given in the literature and policy discourse to highlight this important fact (Balmer, 2007). One of the reasons advanced for the limited analysis of gender dimension of energy services is the fact that energy research, particularly in South Africa during apartheid, was (and still remains) dominated by men (usually white men) who had little understanding of the way women encounter and experience energy policy and services. 'Since these men neglected to find out how women perceived their energy needs, and instead took ready-made solutions (such as solar systems) into rural areas for women to use', the outcomes of such efforts have usually been unsuccessful (Annecke, 2003b: 6).

It is also apparent from the discussion that each phase of the energy policy is influenced by both local and international political economy factors. For instance, while the apartheid government focused on a self-reliant version of energy security prompted by international sanctions, the post-apartheid government has adopted the approach of cooperation and open interchange with the international community.

One remarkable feature of the energy policy in South Africa is the dominance of coal as the main primary energy carrier since the 1940s, although currently there are efforts and plans to reduce this dominance by promoting renewable energy sources. The paper has also highlighted the energy challenges that South Africa has to overcome, including the fast growing number of unserved households, rising energy supply constraints, and lack of an effective gendered approach to energy policy and service delivery. Added to these is the challenge to ensure that the poor are provided with adequate support when accessing energy. Although the South African government provides support to poor households through the FBE/FBAE, there are many eligible households who are not accessing the electricity subsidy due to various reasons, including the lack of capacity in some municipalities to implement programmes effectively. Thus, while South Africa has a high electrification rate compared to many other countries at similar levels of development, the challenge is to ensure that those who are connected to the different energy sources have the means to use it. Policy should not only focus on increasing connections, but also make sure that those who are already connected have the means to access and use the available energy.

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