WHY SOUTH AFRICA'S ENERGY-POVERTY POLICY IGNORES FEMALE WELL-BEING: A CASE OF NON-DECISION-MAKING?

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"…we're practically working to buy gas and paraffin"

(Respondent Seventeen)

DECLARATION

In completing this dissertation I have done my own research and not copied the work of others. Where I have used ideas from others I have done so acknowledging the source. I have not allowed anyone else to copy my work, understanding that if my work is found to be plagiarized, I will be penalised.

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ABSTRACT

In South African urban-informal contexts characterized by high levels of unemployment, women still have a close relation to the household. Females shoulder most of the burden associated with fulfilling domestic energy requirements. Despite this, energy-poverty policies like the Free Basic Alternative Energy Policy of 2007 ignore the specific challenges faced by women such as the financial implications of procuring daily domestic energy.

This study adds insight to this issue by adopting two approaches: firstly, this study explores views captured in twenty semi-structured interviews from a sample of 12 females and 8 males living in an informal settlement, located north of Durbanville in the Western Cape Province. This thesis relies on a case study design based on this informal settlement to describe the nuances and gender specific experiences which exist in managing domestic energy. Secondly, an unobtrusive research approach is taken, relying on an analysis of secondary data from online media and academic platforms. The data is analysed using Bachrach and Baratz (1962) guide to uncover power dynamics veiled in the formal processes of energy-poverty policy development in South Africa. This thesis asks how energy-poverty policy can contribute to addressing the so-called *gender-energy-poverty nexus,* recognising that social constructs of gender and policy formulation processes may be under-pinned by dynamics of non-decision-making.

The main findings of the study show that attributes of non-decision-making which feature in both the formal and informal power dynamics perpetuate female hardships in energy management. Social norms (informal power dynamics) influence the division of household labour including domestic energy management, which renders energy a major pre-occupation for women particularly. Furthermore, not recognizing informality in energy-poverty policy (formal power dynamics) negatively impacts women's well-being as women are dissatisfied with poor performing cooking and lighting fuels which negatively impacts young children's health, including inadequate options for food storage due to limited appliance use in the un-electrified informal settlement. Recommendations for the Free Basic Alternative Energy Policy to address energy-poverty in a gender-sensitive way may help to alleviate the negative impacts of securing daily energy on female informal settlement dwellers.

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ABBREVIATIONS AND ACRONYMS

AETs – Alternative Energy Technologies

ANC – African National Congress

BPFA – Beijing Platform for Action

CEDAW – The Convention on the Elimination of all Forms of Discrimination Against Women

COGTA – Department of Cooperative Governance and Traditional Affairs

COSATU – The Congress of South African Trade Unions

DME – Department of Minerals and Energy

DOE – Department of Energy

DPLG – Department of Provincial and Local Government

EBSST – Electricity Basic Services Support Tariff

FBAE – Free Basic Alternative Energy

FBE – Free Basic Energy

GAD – Gender and Development

GEAR – Growth, Employment and Redistribution

GEP – Gender-Energy-Poverty Nexus

GNI – Gross National Income

HDI – Human Development Index

IDP – Integrated Development Plan

INEP – Integrated National Electrification Programme

KWH – Kilowatt-Hour

LGES – Local Government Equitable Share Grant

MDGs – Millennium Development Goals

NDM – Non-Decision-Making

NDP – National Development Plan

NPC – National Planning Commission

NT – National Treasury

PCE – Portfolio Committee on Energy

PMG – Parliamentary Monitoring Group

RDP – Reconstruction and Development Programme

SABS – South African Bureau of Standards

SACP – South African Communist Party

SDGs – Sustainable Development Goals

SWB – Subjective Well-being

UNDP – United Nations Development Program

WID – Women in Development

1. CHAPTER ONE: INTRODUCTION

1.1. INTRODUCTION

This study describes how a failure to acknowledge the existence of gendered energy-poverty impacts women's experiences with managing household energy. It raises questions regarding why the framework in energy-poverty policy does not feature any gendered perspectives related to energy provision. This study asks if this is a case of non-decision-making. Furthermore, this study unpacks the interconnected concepts of the gender-energy-poverty nexus. The understanding is that the gender-energy-poverty nexus is a grouping of three analytical focus areas which interact to place a specific gender in a vulnerable position in relation to poverty, and experiences with accessing energy. This is then further explored by looking at the influencing power dynamics on women's experiences with domestic energy management.

This chapter provides an introduction to a research study, which was undertaken in an informal settlement located outside of the Western Cape. An informal settlement was chosen especially because it had no grid electricity coupled with having a variety of other socio-economic problems - all important criteria for the study. This chapter places the research problem in the context of the relevant literature, including specifying the main research questions, the objectives and defining the main concepts.

1.2. BACKGROUND TO THE PROBLEM

In South Africa, there are pro-poor policies which target the reduction of poverty by providing indigents with access to 'free basic services'. Energy-poverty policies differ from other policies in that they specifically target poverty alleviation through improving access to energy for the poor. The aim of this is to lighten the burden of securing daily household energy for basic human survival, in addition to improving the quality of life of ordinary South Africans (Department of Energy and Minerals [DME], 2003a). The government is mandated to provide indigents with free basic services in order to reduce the negative impacts of poverty on communities (DME, 2003a). In South Africa the government has mandated municipalities to mitigate energy-poverty by providing a limited free amount of electricity supply for indigent households, which has been determined to be sufficient to meet their basic energy needs for survival (DME, 2003a).

Currently, energy-poverty policy largely fails to address issues related to gender, and specifically women's hardships in managing domestic energy. In reality, the female gender is impacted more by energy-poverty than the male gender, therefore requiring better targeted policies to address their energy needs (Danielsen, 2012). To demonstrate this point, this study looks at the gender-energy-poverty nexus to highlight women's hardships in domestic energy management. Clancy et al. (2003) assert that gendered energy-poverty concerns a lack of access to resources, a lack of decision-making power, and a lack of control for women. In addition, the authors emphasize that the impact of a lack of access to energy increases their (women's) vulnerability, thereby threatening their well-being. Furthermore, this study assumes that in the household context, it is unlikely that resources are shared equally among the genders. Therefore this study looks at the power dynamics which influence women's ability to have an equitable share of resources

accrued within the home, believing that the lack of value placed on women's unpaid work (family and domestic maintenance), the social norms embedded in patriarchy and women's limited decision-making power all influence equality of resources. Developing an energy-poverty policy which reflects gender-neutrality might therefore assume that men and women will benefit in the same way from its implementation (Clancy et al., 2007); however, this is not necessarily the case.

The policy focus in this study is on the Free Basic Alternative Energy (FBAE) Policy[1] of 2007, which is discussed in further detail in chapter two. This policy, in its current form concentrates mainly on indigent households located in rural areas where grid electricity is not available because it acts as a "supplementary" policy, meant to service those that are not supported by the Free Basic Energy Policy FBE of 2003 (due to not being electrified). The FBAE policy, like many South African energy-poverty policies, is very limited how it deals with energy-poverty, ignoring levels of energy-poverty experienced by people living in under-serviced urban informal areas. Thus it also disregards women's struggles with domestic energy procurement. By documenting the start of energy-poverty policy-making in South Africa, this study provides a roadmap leading to the future development of the Free Basic Alternative Energy policy. Other major energy-poverty policies in SA include the Integrated National Electrification Programme of 1998, the Inclining Block Tariff in 2008 and the National Solar Water Heater Roll-out programme which was announced back in 2009. With major strides achieved in South Africa in addressing injustices of the past, including adjusting the segregated energy-service provision for indigent households (evidenced by the policies listed here) – it remains questionable as to why energy-poverty policy has treated gender as a peripheral issue. This is particularly interesting since this study will demonstrate how socialized gender norms dictate that the female gender specifically oversees management of most domestic affairs. Dutta (2003) gives some reasons for this issue, stating that generally, energy policies tend to focus more on the supply side, rather than including the energy demand characteristics of women (Dutta, 2003). Meanwhile, in the South African context, Buescher (2009) explains that the country's energy debate centres mainly on two issues: energy inequality and sustainability, with both comprising of technical and quantitative elements. Hence, gender is not an obvious energy issue.

In referencing gender in the study, the focus is mainly on women. This research is limited in terms of gender however, as it did not look at differential access to energy services of lesbians or homosexual households vis-à-vis heterosexual women, or single mothers vis-à-vis married women. This distinction is a result of a need to delimit the study. Meanwhile, the researcher understands and acknowledges that, with regard to accessing resources, a single mother with children will have a different experience to a woman who is married with children. In addition, all of the respondents interviewed have been placed under one category with full awareness of the complications with identifying oneself as "woman" or "man" (Butler, 1988), and particularly the category of "poor"[2] woman. Sexual

[1] Background to the FBAE Policy and the Electricity Basic Service Support Tariff (EBSST) is discussed in further detail under section 2.3.1.

[2] "People who are in a bad condition variously described as poor, marginalised, vulnerable, excluded or deprived" (Chambers, 2006). This thesis acknowledges that there are still issues related to the label of poor as various perspectives of understanding poverty exist, which focus on its many different dimensions.

orientation was not addressed, as it falls outside of this study's scope; however, the researcher is fully aware that sexual orientation continues to be an issue. Other limitations of the study include limitations of the research design, sampling, data collection, data analysis and the skills of the researcher – which are all explored in fuller detail in chapter four.

In summary, South African energy-poverty policy assumes that the household is a harmonic unit, and does not consider that there could be imbalanced power relations between men and women within the home. Therefore energy policies will affect men and women very differently. This section has reviewed arguments made by other authors on this subject. A rationalization for tackling this area of research was presented and addressed the obstacles in recognising gender in energy-poverty policy. Lastly, the study's limitations were discussed, such as complications in defining "woman" and omitting sexual orientation as it falls outside the scope of the study. The next section looks at the rational of the study discussing the broader study context.

1.3. RATIONALE AND SIGNIFICANCE FOR THE STUDY

To begin with, this research by no means asserts that the issue of gender inequality in relation to accessing energy resources remains exclusively an African issue, or a "poor" person's issue. Gender inequality may manifest in many different ways. It can be articulated in places of work, in politics or in levels of income, which are areas not necessarily corresponding only to the African context or to "poor" people. However, this research does mean to show the gender-energy dynamics.

At present, there is very little literature available that documents poor women's experiences and challenges associated with managing daily household energy, particularly for women living in urban informal settlements. In Africa, gender issues in energy have mainly dealt with the rural context, where the interface of women and energy largely centres on the impacts of collecting biomass fuel for domestic energy (Karekezi & Kithyoma, 2002). The literature on sub-Sahara African rural experiences with energy access is abundant (see Barnes et al., 1994; Madubansi & Shackleton, 2006; Bhattacharyya, 2012; Owen et al., 2013). In the literature, it is explained that electricity connection rates in rural areas are low and that grid extension remains a challenge because it is so costly (Winkler, 2006; Bekker et al., 2008). According to the Department of Energy, the highest proportion of non-electrified households is among farming areas (31%) and rural areas (21%). In contrast, most urban settings like Cape Town have very low un-electrified area rates – recorded at 1% (Department of Energy [DoE], 2012). Most people living in urban settings therefore are assumed to have access to electricity or that those who live informally do so only temporarily (Wolpe and Reddy, 2010). In urban informal contexts however, there are significant levels of un-electrified household rates (at 30%, according to DoE, 2012). However, extending electricity to an informal settlement can be precarious as there may be issues of legality due to the illegitimate tenants settling on privately owned land in some cases (Gaunt et al., 2012).

This study wishes to highlight that women in urban informal settings face their own equally challenging energy realities (such as a lack of grid connection and dependence on wood-fuel for instance) to people living in rural areas

and therefore need better targeted policies. Given that planning can have a positive effect on women in terms of improving their well-being (Dutta, 2003; Reeves, 2014), national energy policies should address the marginal treatment of gender in domestic energy planning especially in informal settlements, since this is weak so far. Internationally, there is progress being made in addressing gender inequalities such as the Millennium Development Goals (MDG's)[3] which provide indicators for countries to reach an acceptable and sustainable level of development. They form vital action plans for developing countries to achieve anti-poverty targets by the year 2015. The MDG's goal three is particularly important regarding gender as it highlights the need to promote gender equality and empower women. Goal seven is equally important as it aims to ensure environmental sustainability, which can be accomplished by energy policies that target both women and cleaner energy technologies (United Nations [UN], 2014). Globally, developments for gender equality in the energy access domain are gaining ground through the work of organizations such as Solar Sisters across Africa and Solar Mamas in India and networks are being formed through gender and energy experts such as ENERGIA. In South Africa, gender discourses related to energy are slowly taking shape such as the Clean Energy Education & Empowerment (C3E- SA) initiative by the Department of Energy. This programme for instance, aims to empower young girls and women, advancing their participation within the energy sector and by conforming to the country's, as well as international women empowerment strategies (DoE, undated).

Babbie and Mouton (2001), state that a good rationale for a study to be conducted occurs when there is a gap in research. As such, this study hopes to contribute to the limited information available related to gendered energy-poverty, as well as shed light on the non-existence of the gender-energy-poverty nexus in energy-poverty policies in South Africa. This research attempts to make a contribution by deepening our knowledge of the existence of the gender-energy-poverty nexus, and particularly, to study the impact of a lack of policy support targeting primary domestic energy managers based on an informal settlement in Cape Town. Raising questions related to the policy barriers encompassed in processes leading to the development of energy-poverty policy may bring attention to how energy-poverty policies such as the FBAE Policy have the potential to provide poor women with better fuel options and promote their well-being. In addition, this study will contribute to furthering our understanding by providing a body of evidence which documents the experiences of female informal settlement dwellers and their responsibility to provide domestic energy particularly. By doing so, this study will bring attention to the legitimacy of gender in energy policy to obtain equitable, efficient and sustainable outcomes for energy and development (Cecelski, 2000).

1.4. THE RESEARCH STATEMENT

This study is an exploration into why the framework in a South African energy-poverty policy does not feature any gendered perspectives related to energy provision for the poor.

1.5. THE RESEARCH QUESTION

The study's primary question is:

[3] The new Global Goals were extended in 2015 to the Sustainable Development Goals, which are discussed in section 2.2.2.

How can the energy-poverty policy (FBAE) contribute to addressing the gender-energy-poverty nexus?

This question raises the issue of the creation of gender-sensitive goals in energy-poverty policy-making, and whether doing so can address the imbalance in the gender-energy-poverty nexus to enhance female well-being. The understanding is that there are pro-poor policies as well as energy policies in existence in South Africa, yet none reflect any gendered perspectives. Thus modifying FBAE may be an opportunity for energy-poverty policies to contribute to lessening women's hardships in energy management, particularly for women located in urban informal settlements.

1.6. THE RESEARCH OBJECTIVES

This study has five main research objectives, which were developed from the reviewed literature and the main research question, which will merged into this study's framework. These are:

- To uncover the dynamics of non-decision-making (formal processes) in the energy-poverty policy FBAE which result in the exclusion of the gender-energy-poverty nexus.
- To uncover the role that social norms (informal power dynamics) play in the series of gendered energy-poverty.
- To explore the mechanisms through which the formal (energy-poverty policy) and informal power dynamics (social norms) impact the gender-energy-poverty nexus.
- To discover how energy-poverty impacts female well-being.
- To explore the impact of the gender-energy-poverty nexus on Klipheuwel householders.

1.7. CLARIFICATION OF KEY CONCEPTS

Modern Energy

Modern energy refers to clean energy, both in its handling and use. Energy carriers such as Liquefied Petroleum Gas (LPG), natural gas, electricity and some types of biomass – such as biogas - can all be classified as being modern energy (Clancy et al., 2012).

Energy Services

Energy services describe the benefits that energy use can offer, in households for instance, these include "lighting, cooking food, refrigeration, telecommunications, education, and transportation". Energy services also include mechanical power (United Nations Development Program [UNDP], 2005: 2).

Energy-poverty

Energy-poverty has many different definitions and interpretations. This term refers to a lack of choice in "accessing adequate, affordable, reliable, clean, high-quality, safe and benign energy services to support economic and human development" (Clancy et al., 2003: 3).

Poverty

This thesis acknowledges the multiple dimensions of poverty including the fact that defining it can be difficult since experiences of poverty differ from one individual to another. Davids et al. (2009: 37) define poverty as being "multifaceted and consists of, inter alia, lack of power, income and resources to make choices and take advantage of opportunities".

Gender

Gender is the socially deemed notions and practices of what it is to be male and female. It is a concept which refers to socially defined roles, characteristics and relationships between men and women which are learned and not biologically determined (Clancy et al., 2012). For the purpose of this research, the focus on gender will concern women particularly. This is important as the intersection of energy, poverty and gender is an issue that has received very little attention in South African energy policy, despite being well researched internationally (Cecelski, 2000).

In referencing women in this study, it is imperative to make it clear that this research refers to women while acknowledging the contribution made by renowned gender emissary Judith Butler to feminist theory. Butler's (1988) dealings with what constitutes gender and the connotations of the term "woman" have been a major influence in contemporary gender theory. This gender theorist tackled the meaning of "woman" and "man", departing from the social notion that the term "woman" or "man" can be arrived at exclusively from physiology. Butler (1988) argues that in fact sex should not dictate social meanings for women's experience. In addition, expectations for the way in which men and women conduct themselves in accord to their gender can change, in theory. Butler (1988) instinctively surmises that it is primarily political interests that create the social phenomena of gender itself. Therefore, the body should pose as no obstacle to what is possible socially – men can take on the role of primary domestic energy manager in the place of women, for instance.

Gender Mainstreaming

Gender mainstreaming here refers to a recognition that men and women have different roles, responsibilities and decision making powers which require developing policies that respond to these differences integrating "meaningful roles in planning, designing and executing energy programmes, and improving energy access to women to improve quality of life and increase efficiency and reduce work burden in productive tasks" (Dutta, 2003: 5).

Gender Sensitive

Applying gender sensitivity "minimizes the negative impact of gender stereotypes" (Zelek et al., 1997: 1298). A policy which shows gender sensitivity is one which not only looks to target a specific problem, but also one which demonstrates how the problem affects both genders, thereby acknowledging the different experiences associated with each sex. Gender sensitivity in this study refers to an acknowledgement of the differences between the sexes in accessing and managing daily household energy and energy resources.

Well-being

There is no one concrete determination or definition of what well-being means. Well-being can take on a broad definition which implicates a range of conditions "such as freedom from violence, and assets, such as education, contribute to good health and quality of life" (Clancy et al., 2012: 3). A broader discussion of well-being is provided in chapter 2 in this document.

Gender analysis

Mainly, gender analysis looks at multiple approaches to understanding the relationship between men and women. It attempts to reveal differences in women's and men's access to and control of resources, exposes ways in which men and women benefit from development advantages and attempts to understand the unequal terms-of-exchange of resources between women and men in households. Gender analysis identifies gender differentiation in intra-household income and expenditure and suggests measures required for gender equality (Canadian International Development Agency [CIDA], 2014).

Green Technologies and Alternative energy fuels

Green energy is synonymous with renewable energy technology. The Department of Minerals and Energy of South Africa (now known as the Department of Energy) says that renewable energy is "the technology that converts a primary renewable source of energy or energy resource to the desired form of energy service" (DME, 2003b: v).

Social Norms

Social Norms are the explicit or implicit societal rules that govern people's behaviours (Moser & Norton, 2001, in Danielsen, 2012: 36). This term refers to where individuals learn norms and rules regarding what to do and what not to do – depending on their social identity (Danielsen, 2012).

1.8. STRUCTURE OF THE THESIS

This thesis contains six chapters:

Chapter One: Introduction

The first chapter has provided an introduction to the study, covering the definitions of energy-poverty policy, the gender-energy-poverty nexus and has discussed the surrounding issues and concepts. Also covered in this chapter was the background to the problem, the study's significance, the research statement, research questions and objectives of the study. In the last section, concepts were clarified as a way to acquaint the reader with the topic.

Chapter Two: Literature Review

Chapter two will focus on the literature consulted that pertains to the link between gender, energy and poverty. In this section, current policies and legislation which relate to energy-poverty in South Africa are discussed. To contextualise

the problem, literatures linked to the objectives of the research are reviewed followed by a look at the empirical literature relating to gender and energy programmes.

Chapter Three: Conceptual Framework

In this chapter, a theoretical model is presented derived from key theoretical concepts. This model was used as a base from which to analyse the data gathered in the study.

Chapter Four: Methodology

In chapter four the methodology used in this thesis is discussed. First, the qualitative research method is unpacked, followed by a look at the single case study design. The sampling technique is also discussed, followed by the data collection methods, data analysis techniques, data verification, ethical considerations, limitations of the study and lastly, a discussion on self-reflexivity.

Chapter Five: Analysis and Presentation of Findings

In chapter five, a binary analysis is presented where one component features an analysis of 20 face-to-face interviews and another component features an analysis of the FBAE Policy. The first component used an analytical framework derived from data collected during fieldwork to analyse the qualitative interviews. The second analysis used a method to uncover dynamics of NDM based on Bachrach and Baratz (1962) guide to analyse secondary data related to the FBAE's formation. This chapter will present the study's findings and includes a discussion related to the findings.

Chapter Six: Presentation of Main Findings, Conclusion and Recommendations

Chapter five outlines the main conclusions of the study and makes recommendations for a way forward. More specifically, this chapter will focus on the main conclusions of the research. Here, the main conclusions will be discussed in relation to the research objectives and provide some recommendations for future studies.

This chapter is followed by chapter two. Chapter two is a literature review which places this study in context of the relevant, published research.

2. CHAPTER TWO: LITERATURE REVIEW

2.1. INTRODUCTION

This chapter reviews literature selected from various journal articles, policy documents and websites of relevant organisations to reflect on academic knowledge on energy-poverty policy, women's experiences with managing domestic energy and the gender-energy-poverty nexus. This section will discuss how energy-poverty policy can contribute to improving the gender-energy-poverty nexus. Therefore this literature will focus primarily on gender, energy and poverty discourses.

First, the earliest recognition of gender in the development industry is accounted for in the first section of this chapter. A sequential account details the advancements made since the early 1970's in linking gender to development concerns. This section underpins women's responsibility within the home as a central component of household survival, which is highlighted by the main gender analysis approaches referred to by development industry experts. Then, in the section that follows this, an examination of the three main components of the gender-energy-poverty nexus is presented. Here the main conclusions are broken down by component, revealing how females are the disadvantaged gender based on these conclusions. Furthermore, the benefits and challenges of policies for energy-poverty reduction are discussed, including the development of pro-poor energy policies in South Africa. Finally, the ways in which women's well-being is impacted by energy is uncovered, demonstrating the effects that gender-neutral energy-poverty policy has on women, and particularly the gender-energy-poverty nexus.

2.1.1. LINKING GENDER AND DEVELOPMENT

The development of strong gender analysis took shape after the 1970's, drawing attention to a need for stronger development targets for women in developing nations particularly. Different conceptual approaches have been adopted in attempts to link women or gender and development, in theory and practice. The following section briefly outlines key approaches in this discourse, as a guide towards mapping key ideas in this thesis.

An Awareness of Gender in Development: The Women in Development Approach

Boserup's "*Women's Role in Economic Development"* in 1970, which highlighted the roles of rural women in Africa and their contribution to development, became a ground-breaking start to the decade of women (United Nations Decade for Women which was from 1975 to 1985). From the 1970's, three main approaches emerged – women in development (WID), women and development (WAD) and gender and development (GAD) – to focus on women as an analytical and operational research category (Podems, 2010).

The emergence of gender in development has had two major paradigms take shape. During the 1970's into the 1980's, Women in Development (WID) took centre stage. WID focused on getting women equity through slotting them into already existing development policies, which resulted in marginalizing women being an afterthought in mainstream development efforts (Dutta, 2003). This approach was bureaucratic and de-political in that it had no intension of addressing the dominance of men in the development industry. WID made the case for women to be included into

programmes through affirmative action as it would effectively help meet development goals for productivity (Cecelski, 2004). The success of WID was limited as women were treated as peripheral to development and their issues were not given adequate priority.

However, during the 1970's worldwide oil shortage, the energy sector in the "third world" saw its own crisis in that there was growing evidence of poor people relying on biomass for energy in developing parts of the world (Dutta, 2003). This was known as "the other energy crisis". Deforestation was linked to the over-use of biomass within the developing world – placing poor women as the main culprits contributing towards the erosion of natural woodland resources. Eco-feminism developed at a later stage, challenging the concepts associated with women's role in the destruction of the environment. The central theme of eco-feminism focuses on the interrelationship and integration of personal, social, and environmental issues and the development of multidirectional political agendas and action (Lahar, 1991). This perspective sees issues that have been traditionally viewed as separate, as being interrelated.

The focus at the time on the effects of rising deforestation, or "the other energy crisis", helped to bring to the fore household energy use patterns. Researchers desperately needed data on household energy demand patterns within the developing region to lessen the "invisibility of biomass energy in the economy" (Cecelski, 2004: 6).

GAD Approach

Gender and Development (GAD) was pursued as an alternative to WID's focus during the 1980's (Office of the High Commissioner for Human Rights [OHCHR], 2015). GAD offers a universal perspective on women by focusing on all aspects of women's lives such as the social, economic and the political facets. GAD has a strong focus on unequal power relations between men and women, particularly within the household (OHCHR, 2015). This shift strives for the empowerment of women through mobilizing women for collective action and to challenge gender ideologies. Such gender ideologies would include, for instance, the lack of inheritance rights for women and restricted land ownership for women, which is premised on the view that men are the heads of the household and therefore control key resources. The GAD paradigm sought to understand how systems such as gender relations and gender ideologies interacted to contribute to women's subordinate position in society. This perspective called into question the construction of both femininities and masculinities. Prior to these developments, addressing the challenges that faced women in the developing world during the 1950's and 1960's centred on a human rights and welfare approach which failed to challenge the system of "patriarchy" and women's unequal status (Podems, 2010). Thus, it is with this knowledge that the GAD approach which comprises multiple facets of women's lives is included as part of the discussion for this thesis.

In the subsequent section, the female relationship with energy and poverty, especially the gender-energy-poverty nexus is discussed. This leads to revealing the significance of energy-poverty policy in context of poor, South African, women and their procurement and management of energy in an urban environment.

2.2. THE GENDER-ENERGY-POVERTY NEXUS

According to the 2014 Human Development Report, there are reportedly 2.2 billion people living in under-developed regions in the world who are unable to meet basic provisions for human development (UNDP, 2014). The availability of energy can contribute to development, impacting gender relations (African Development Bank, 2005). Despite the gender inequalities in South Africa, South African energy-poverty policy provides little to reflect this. In the following section, a discussion of the three main components that make -up this nexus are presented. First, a discussion related to the gender component will be presented, followed by a discussion relating to energy. Thereafter the concept of poverty is presented followed by a review of the development of the energy-poverty policy FBAE, considering what the causes for the exclusion of a gender perspective in this policy may be.

2.2.1. GENDER

Women's responsibility to the household

Gender roles and responsibilities are embedded in the household. There is a social order within the home, where males out-rank females and which manifests within gender power dynamics. In energy access, women are disadvantaged since energy-poverty affects women worse than men (Danielsen, 2012). Women's gendered roles are entrenched by cultural factors (Mohideen, 2012) which determine their everyday roles or tasks. Women, in particular poor women, work harder and longer hours than men do, involving reproductive[4] work such as gathering fuel, cooking and taking care of the household (Skutsch, 2005). This imposes the duty of carrying out the daily household drudgery is disadvantageous to those gendered as female, as they have no option; they have simply inherited this responsibility. These roles are pre-determined by the social setting they are born into, and not by nature (Clancy et al., 2012). This is why females continue to be the gender responsible for household energy tasks. Thus, energy-poverty policies are likely to hit females harder than men.

While both men and women benefit from the provision of energy, energy largely remains a woman's problem because it is so closely linked to the household. Energy plays a major role in meeting women's practical and reproductive needs (Clancy et al., 2003); therefore any issue related to domestic energy is justifiably understood to be the burden of women. Skutsch (2005) highlights an inequality of consumption within the home related to the distribution of resources. The author states how women and girls do not have an equal share of the household resources in terms of leisure and food – among other basic human provisions. She draws this argument from Folbre (1992), who says that, within a household, the assumption that women and girls have equal bargaining power with men and boys is incorrect. This is because the female gender lacks economic power and hence has less bargaining power than the male gender, thereby limiting the female ability to demand a fair share of the households' consumption of resources.

[4] Reproductive work refers to the labour associated with the household's subsistence. This is the work required for the function of the household such as acquiring fuel for cooking. It involves the unpaid work of caring for and maintaining the household, childbearing and childrearing activities, including looking after extended family members (Clancy et al, 2003). In this report reproductive work and reproductive labour, as well as reproductive needs will be used interchangeably, but will refer to the same matter.

Gendered roles

Clancy et al. (2012) clarify ways in which gender roles in society are shaped, saying that gender roles influence identity and determine how women and men think and act as women and men. Gender roles also determine how others perceive men and women in those roles. The authors delve further to say that gender roles are not formed by nature like sex is determined by nature, but are prescribed instead by systems such as religion and culture. In addition, Clancy et al. (2012) claim that women are the household energy managers in spite of the fact that they do not make the decisions related to purchasing and paying for energy themselves. One example is in commercial fuel markets where evidence suggests that women are the dominant household energy managers, since they are responsible for purchasing kerosene and managing the top-up of the electricity meter (Clancy et al., 2007; Winther, 2008, in Clancy et al., 2012; Annecke, 2005).

Gender roles also place women in a lesser position in relation to men. This inferior position plays out in decision-making, whereby women's input tends to be peripheral to that of men's, for example. It is only by applying gender analysis that the gender 'status quo' can be restored (Skutch, 1996).

The feminisation of energy-poverty?

The gender characteristics of the gender-energy-poverty nexus is reflected in the way in which poverty is feminized. Of the 1.3 billion poor people in the world, women make-up approximately 70% (Clancy et al., 2003). One way to break-down this phenomenon is by looking at the gender differentials related to gaps in pay. In South Africa, men are determined to be superior to women in terms of wages. According to the Gender Statistics in South Africa (StatsSA, 2011) within in each demographic, unemployment in women is higher than in men, while a larger percentage of women are not economically active versus men. It is also reported that women earn less than men do, since they are the sex located within the lower earning categories (for example, twice as many females than men earn R1000 or less per month). Moreover, it is stated that double the amount of men than women earn R16000 or more per (StatsSA, 2011). Additionally, Annecke (2005: 42) claims that overall women earn less than men and that women seldom spend whatever income they earn on themselves but instead spend it on the needs of the household.

Higher income in males may result in men having more power and decision-making control in their households. However, even where women are earning more than men, this does not necessarily translate into women having more decision-making power within the household. Decision-making power is an important element in studying power relations because remarkably, even in households were women are earning more than men, men continue to make the decisions related to rationing of household resources (Munien & Ahmed, 2012).

The harsher impact of energy-poverty on women may be due to limited decision-making power related to accessing energy. Pachauri and Rao (2013) reflect on the decision-making practices within the home, saying for example that the acquisition decision to obtain new appliances within the home is governed by intra-household decision-making processes, where women's negotiating power is limited by usage conditions of the new appliance. Decision-making

within the home is little understood in energy literature, as women's social position means that they do not carry the same amount of power when negotiating relative to men. In relation to intra-household decision-making Danielsen (2012) emphasizes that women's social position plays a major role in determining the value attached to women's labour. Economically, women are viewed as making no real (monetary) contribution to the household which is a result of women's unpaid labour carried out within the home. Recognizing women's contribution in managing household energy demonstrates how little power and limited decision-making control women have in comparison to men, since women's main sphere of influence within the home is mainly in the kitchen (Clancy et al., 2003).

Gendered Energy services

There is a growing body of literature which brings attention to the need to recognize that energy has a gender dimension (Clancy et al., 2007). Literature points to this, highlighting that energy needs reflect gender roles in the home (Clancy et al., 2007), which means that the male gender and the female gender will view the same technology through gendered perspectives for instance (Skutsch, 2005; Mohideen, 2012). Skutsch (2005) also highlights that men and women's priorities differ especially when it comes to the different types of energy services, as women's energy needs are centred more on a need for safety, work productivity and health (Cecelski, 2000). This is reiterated by Clancy et al., (2003: 20) who say that energy services such as electricity is useful for lighting, especially in public places to enhance safety, and for productivity such as in mechanical applications for milling and increasing women's participation in the community. According to these authors "electricity creates safer streets at night, enabling women to attend meetings, participate in education classes, gain a feeling of self-worth and link to the outside world through access to television" (Clancy et al., 2003: 20).

Simply providing multiple energy options in the place of traditional ones is shown to fail in addressing gender discrimination. Providing energy options such as electricity and batteries resulted in a more pronounced occurrence of gender discrimination, whereby men made the decisions on how the energy was used, using it mostly for entertainment purposes while women continued to use traditional energy sources for domestic use (Modi et al., 2005; Clancy et al., 2012). A further example is where men use the availability of better lighting at night, due to the availability of modern energy, to continue a game of cards with other males while for women, the new energy service may be used to add on more household work. Additionally Clancy et al. (2003) find that men see the benefits of electricity in terms of leisure, quality of life, and education for their children; while women see electricity as providing the means for reducing their workload, improving health, and reducing expenditure.

Analysing gender in relation to energy and poverty is done to cast light on the underlying gender relationships and making a link to energy services (Wamukonya, 2002). This section has dealt with a number of issues related to the social norms that are attached to the way in which men and women perform certain duties, particularly within the home. The main points in this section have highlighted that:

- Women are primarily responsible for energy procurement and management for the household, despite their limited decision-making power (which is confined mostly to the kitchen sphere)

- There is unequal control of household resources, reinforced by the socially constructed gender roles which place men as the heads of the household and the main decision-maker. This results in women having limited choice in terms of preferred energy fuels, for instance.
- The gender dimension to poverty is illustrated by the feminisation of poverty whereby women's unpaid work is not adequately valued. Men also tend to have more financial resources than women, reflected by the gap in pay.

In the following section, the challenges related to energy are explored, drawing some conclusions at the end.

2.2.2. ENERGY

Energy can impact development

Making access to energy easily available can be an opportunity to address many of the development challenges we face in our time. The literature is in agreement that energy access is essential for human development, since its contribution can aid in meeting social and economic development targets by enhancing access to health and education, thereby improving productivity of labour and capital (Birol, 2007). Bhattacharyya (2012) highlights the role of energy in addressing human development targets singling indicators like education and increased life expectancy.

The major development challenges that need to be addressed are summarized in the Millennium Development Goals (MDGs). The MDGs comprise of eight development targets related to poverty, which were devised by world leaders back in the year 2000 (UN, 2014). The eight goals include poverty and hunger eradication, improving education, addressing gender issues, enhancing health, and encouraging sustainable development. One of the features is a target for achieving each goal by a given date (which now expires in 2015) (UN, 2014). The Sustainable Development Goals (SDGs) are an extension of the Millennium Development goals whereby countries are expected to incorporate the mentioned goals into their policies over another 15 years. The goals are aimed at meeting 17 targets by the year 2030. The new goals include ending poverty and hunger, addressing health and well-being, increasing access to education, addressing gender inequality, improving water and sanitation, promoting energy access and economic growth, improving infrastructure, promoting equality, addressing the sustainable use of the earth's resources (ocean, biodiversity, eco-systems and productive land use), combatting climate change, promoting peace and justice in addition to strengthening global partnerships (UN, 2015). The enforcement of the new goals begins this year (2016).

The new SDG's may provide a more robust direction for implementing goals to fight poverty in a sustainable manner. Energy can become a major feature as it is so closely linked to economic and social development. According to Dutta (2003), energy is important for economic and social development, while Clancy et al. (2012) recognise that a failure for individuals to access modern or clean energy results in people not achieving their desired level of well-being. Thus access to energy has been defined by some as an essential human right, since it permeates many basic human needs:

"*Energy is essential for life. It is essential for achieving the Millennium Development Goals. And it is essential for safeguarding a broad range of basic human rights…access to modern energy is, and shall henceforth be deemed, a basic human right*." (Robert Freling, 2012)

This section emphasises how energy is a critical component of development, particularly since the energy sector is an influential segment to promoting multi-sector development (Cecelski, 2004). Therefore focussing on the needs and concerns of women in relation to energy can assist governments to promote overall development goals such as poverty alleviation, employment, health and education through improved energy policies (Dutta, 2003).

Energy access is a challenge for the world's poor

As stated, energy plays a fundamental role in human development, as emphasized by the literature. Now, a discussion relating to locating the most affected individuals in relation to energy is presented. In a study, Bhattacharyya (2012) examines energy access programmes, highlighting that access to both clean cooking energy and electricity correlates positively to human development indicators such as life expectancy and mean schooling. Obtaining energy access however, remains a challenge, particularly for the world's poor. Developing countries (especially in rural communities) are likely to be the worst affected by the under provision of basic services like clean drinking water, shelter and secure energy. Smil and Knowland (1980) stated that globally, Southern countries consume a lesser proportion of fossil fuels and electricity to sustain their livelihoods than countries in Northern regions, the latter being more industrialized and with a tendency to be more extravagant – highlighting the challenging circumstances faced by the poorer regions of the world. Kaygusuz (2011) confirms this, adding that a predominant number of the world's energy poor are located in the rural South – namely South Asia and Sub-Saharan Africa.

Energy access challenges are mostly associated with underprivileged areas. Energy access can be defined as "access to modern and clean, affordable and reliable energy services by the population of a country" (Bhattacharyya, 2012: 261). Certain nations have responded to challenges of energy access by implementing electrification programmes. The design of an energy access program depends on a country's particular energy profile. South Africa is one country which set high targets in electrification to extend access to energy for the poor. While the earliest recognition of electrification programmes began from the 1980's, by the year 2000, the South African government recognised electricity as a social right and during the early 2000's the electrification programme began (Bhattacharyya, 2012). According to the Department of Energy, since 1994 South Africa has electrified up to 5.4 million households and achieved an electrification rate of 85% across the country to date (DoE, 2013).

However, electrification programmes are problematic as a single energy access policy because, even though households may be connected to the grid, many rely on an energy-mix as the price of electricity becomes either too expensive or the appliances needed for the use of the electricity are not available (StatsSA, 2012). Wamunkonya (2002) emphasizes that electrification may in fact perpetuate economic marginalisation, as service provision programmes in developing nations are impacted by extreme poverty and experience very low consumption rates of

energy. In addition, Bhattacharyya (2012) refutes the idea that electricity is the primary solution to spur the poor's opportunities for economic gain, arguing rather that diversification of energy solutions may be a better method to catalyse economic development in poor areas. Thus, electricity cannot be relied on solely for economic development as some parts even within the informal market in South Africa still relies on alternative energy sources like wood-fuel especially for the trade of food products (Kimemia & Annegarn, 2011).

Energy and poverty are concepts which are becoming more and more interlinked as the world very rapidly becomes globalized. Globalization may play a role in this issue, as international trade in petroleum products impact local oil and gas markets, which in turn influence fuel markets in underprivileged areas. Again, it is important to reiterate that energy acquisition strategies for the poor involve a mix of fuels. Apart from electricity, there are many other forms of energy used by those either living off the grid, or those who due to economic reasons must blend their energy sources as a measure of reducing monthly costs. This of course does not mean to say that only poor households blend their energy sources, as the wealthier households do too (combining gas and electricity for instance) (DoE, 2012). An in-depth look at the fuels used by the poor in South Africa's low-income regions will be discussed in a later section of this chapter, however an introduction of this is described in the section which follows below.

Energy sources for the poor

Among other factors related to poverty, energy and access to energy remains a prominent challenge as the very poor get by through strategies involving energy procurement and securing other scarce resources (Cecelski, 2000). Energy access has various meanings and definitions. One definition clarifies that energy access is the ''ability to use energy'', such as electricity, liquid petroleum gas, charcoal or some other form of energy (Brew-Hammond, 2010). Household energy choices are influenced by poverty since it can either increase or diminish their survival (Cecelski, 2000). Therefore the most affordable and easiest to access energy services will be a priority for users.

In South Africa, a remedy for this in un-electrified households has been a dependence on various fuels to meet the requirements of daily tasks (Aitken, 2007; DoE, 2012). It has been recognized that poor households use a mix in energy sources and carriers because energy is needed for many different tasks within the household (Barnett, 1999, in Cecelski, 2000; Winkler, 2006). The use of energy carriers such as candles, paraffin, biomass and, where structures exist, liquefied petroleum gas, are commonly used to meet household energy needs, particularly in peri-urban settings (DoE, 2012). The risks associated with using these fuels however is worrying, and is evidenced in the great number of shack fires in provinces such as Cape Town and Gauteng (Kimemia et al., 2014), as well as the high rates of burns and poisonings among young children (Schwebel et al., 2009). Since in poorer households, energy choices are influenced by poverty, it makes sense that households employ strategies involving securing scarce resources, one might expect to find higher dependence on traditional fuels (Cecelski, 2000). Particularly in urban poor areas in South Africa, one might expect to find a shift too from these traditional fuels to more modern energies, especially as income rise (DoE, 2012). This is known as the 'energy ladder' theory. The Energy ladder theory asserts that as households earn higher incomes, so they move up the energy ladder – starting at traditional energy sources like wood-fuel at the lower-income

levels, moving then to gas and electricity as the income rises. In South Africa however, this theory is contradicted since there is evidence of very poor households relying on multiple energy sources to adequately meet daily energy needs (DoE, 2012). This theory is thus not relevant in a South African low-income context like an informal settlement especially, as the unidirectional progression presumption of the energy ladder theory is missing in this case.

This section reveals how energy can impact development, highlighting its important role in contributing to basic human survival. However, energy access remains a challenge particularly among the world's poor. Poor people rely on an energy mix comprising of fuels other than electricity to survive. As such, the component of energy within the GEP nexus can be summarized into these key points:

- Energy is an important facet for economic and social development
- Individuals living in developing nations are the most impacted by development insufficiencies which is linked to their global region (southern countries).
- Energy can be a critical component to development as it opens more opportunities for an improved state of well-being related to meeting the MDGs and SDGs.
- Electricity as a single energy access intervention is weak – energy access programmes should consider all modern and clean energy services, since the poor make use of these too.
- Survival strategies for the poor involve obtaining the most affordable fuels and using them for the various purposes around the home.

The next section shows how poverty and energy are linked and highlights the challenges of accessing energy for women who live in under-developed regions of the world.

2.2.3. POVERTY

Poverty is multi-dimensional

Poverty has multiple dimensions, which included economic, political, cultural, emotional and psychological perspectives (Graaff, 2003). Poverty is not a simple concept to explain and measure, as it can be understood in a number of ways, such as economic measures comprising of income of less than $1 a day, and in social terms which encompasses a lack of access to adequate levels of food, water, clothing, shelter, sanitation, health care and education (Clancy et al., 2003). In the South African context, it presents as a multifaceted challenge (Davids et al., 2009). It is particularly difficult to grasp the realities of people's experience of poverty and define into one measurement because the concept of poverty is so relative. Poverty has interconnected and surrounding elements which are beyond one's control, and that affect the way in which one may perceive his or her state of poverty. This point makes the focus on one element of poverty, such as energy, challenging. Clancy et al. (2003: 3) defines energy-poverty as a lack of choice in accessing "adequate, affordable, reliable, quality, safe and environmentally benign energy sources to support economic and human development".

Addressing poverty related to energy is hard to quantify. The long-term trend in academic literature (particularly in welfare economics - which usually makes a huge contribution to how planners allocate importance to their specific development objectives) has for some time now, treated indicators pertaining to human well-being as ad-hoc (Sen, 1990). These indicators are important as they include important dimensions of the quality of human life such as life expectancy at birth, mean years of schooling, expected years of schooling and Gross National Income (GNI) per capita for instance (UNDP, 2014). And this is despite mounting realization in development literature that focusing exclusively on economic development indicators (such as income and a country's gross domestic product) is insufficient to alleviate poverty and combat other development challenges. The analysis of poverty has recognized that poverty goes beyond measurables and cold figures, and should correspondingly take into account the subjective qualitative side of poverty (Graaff, 2003).

Energy as a dimension of poverty

In urban contexts there are rising energy-poverty challenges linked to housing. According to South Africa's Diagnostic Overview[5] (2011) one of the challenges is that the poor population living in the cities live in poorly located informal settlements. These settlements often have no basic services such as formal housing, energy and sanitation, which directly impacts on the quality of health due to the hostile alternative provisions that inhabitants of informal settlements resort to such as instable shelter, unsanctioned dealings with waste and a lack of coordinated infrastructure (Vlahov et al., 2007).

In South Africa, it is probable that the highest concentration of poor people congregate in informal settlements. Gaunt et al. (2012: 2) explain that this is in fact true as "occupants of informal settlements are usually the poorest sector of society in terms of education, in terms of financial poverty and political poverty". The authors estimate that this grouping makes up approximately 10% of South Africa's population which amounts to over 4.4 million people (Gaunt et al., 2012). The movement of people seeking better work and life opportunities will increase the number of informal settlements where human health can be impacted and becomes detrimental to the environment (Vlahov et al., 2007). Affordability of energy remains a challenge in informal settlements, since energy is expensive and the price of fuels may be volatile, depending on the global oil market. Another reason for the high price of energy especially for electricity in South Africa may be due to a theft of electricity which is a common occurrence in some parts of the country (Gaunt et al., 2012). According to Gaunt et al. (2012), theft of electricity – by stealing cables and conductors from the national network – impacts the tariffs for customers. Development and energy is tied very closely to economics, and this is why interpretations of energy-poverty need to account for the ways in which women are economically responsible to source energy fuels. Therefore, gender is a surrounding issue of poverty (Clancy et al., 2003). Muien and Ahmed (2012) say that access, levels of capability to use energy services and the unaffordability of energy are all factors that limit women's ability to move out of poverty - women tend to be responsible for conducting household reproductive tasks, such as obtaining daily water, collecting wood-fuel, and sourcing energy for the

[5] This is a document that outlines South Africa's main challenges and forms a long-term development path up to the year 2030 for poverty reduction in the country.

household. Thus, in areas that lack electricity or any other formal municipal energy services, one needs to know which core fuels women are using for lighting, cooking and space-heating and how much households spend on fuels in order to demonstrate the impact of the gender-energy-poverty nexus.

Energy as a key to survival

The domestic energy fuel portfolio in South Africa can be described as complying with a 'fuel stacking' model. This refers to how households apply numerous fuels both from upper and lower levels of the [energy ladder] in meeting their daily household energy requirements (Van der Kroon et al., 2013).This theory applies in SA, where fuel-mixing is important for households to survive – regardless of their income status. Thus, the widespread use of candles, paraffin and other "polluting"[6] fuels such as wood-fuel or biomass, for instance, are an example of a mixed fuel portfolio. According to Birol (2007) this is also a manifestation of poverty. There is a strong link between energy and poverty. For instance, Fullerton et al. (2008) concur, stating that socio-economic factors correlate profoundly with the main fuels used in a household, while Dutta (2003) offers that limited energy services are linked to elements of poverty such as low education levels, poor health care availability and high unemployment rates. Since energy impacts many basic human needs, such as hygiene and health, energy-poverty can undermine development (Nussbaumer et al., 2011). In the literature, it is confirmed that increasing access to (clean and modern) energy will bring disparate benefits for women – in terms of health, education, and productive activities – since it is they who spend more time than men cooking and collecting household fuel (Saghir, 2005).

For lighting and cooking, poor people rely on a number of fuels for the different key functions within the home. In cases where no electricity connection exists, it is said that non-electrified households will mostly use candles, paraffin (sometimes referred to as kerosene) and firewood, with an insignificant proportion relying on coal and gas (DoE, 2012). Biomass (wood-fuel particularly) is a common form of cooking and space heating fuel that is used in marginalized communities. Donev et al. (2012) state that in low-income households, water heating is done using paraffin or wood-fuel. It is also often used for heat-intensive domestic and informal enterprise energy tasks such as cooking food (Kimemia & Annegarn, 2011). In townships[7] and informal settlements, there is a small biomass presence that can be found. Kimemia and Annegarn (2011) suggest that even in urban environments in cities such as Johannesburg, there is a steady dependence on biomass.

Paraffin is also commonly used for both cooking and lighting in marginalized communities and takes over as the main lighting source in non-electrified households in South Africa (DoE, 2012). This fuel is considered to be relatively affordable (Schwebel et al., 2009) and safer than using candles when making use of a paraffin lamp. Candles are used as another source of lighting. According to the Department of Energy (2012) a significant portion of non-electrified households (67%) rely on candles as the main source of lighting. Good quality lighting is important as it increases the amount of time women have for fulfilling household tasks (Clancy et al., 2012).

[6] This term refers to polluting or unclean fuels in terms of combustion. This is in recognition that candles are not necessarily polluting, but are however, of a poor quality in terms of lighting as well.

[7] These are black suburbs located on the outskirts of the city, which were created under apartheid (Kimemia & Annegarn, 2011).

Because people's livelihoods are so dependent on energy, there may be less attention paid to the negative effects produced from their use. Energy fuels such as wood-fuels are said to be energy inefficient, contribute to deforestation, result in increasing use of time spent collecting fuel, and has damaging health and environmental effects (Barnes et al., 1994). Paraffin is associated with potential health risks, including death through ingesting the liquid which comes with prolonged paraffin use causing respiratory problems as well as eye irritation from fumes (Qase et al., undated). Paraffin, is unsafe if badly handled, while using poor quality appliances compounds the danger. Paraffin is also highly flammable (Schwebel et al., 2009), hence its use poses a fire risk. The high housing density in informal settlements increases the risk of fire spreading. This is a major problem, where local emergency services are located far from places needing rescuing. Additionally, candle use is another potentially major fire hazard, as candles may be unstable and get knocked over accidentally, causing fire. Candle use is also inefficient and produces poor illuminance (Nazaroff, 2014).

All of the above mentioned fuels demonstrate how the poor adapt to financial constraints in meeting their basic energy needs, regardless of the poor quality of the fuels used and negative health implications. This also demonstrates, however, that energy is an important factor for human survival.

This section has identified some links between energy and poverty. These links demonstrate how energy-poverty poses a real threat to human development, revealed by:

- The idea that energy and access to energy is an important dimension to consider in relation to poverty.
- That measuring energy-poverty can be challenging as the concept of poverty itself is multi-dimensional.
- Energy has an impact on basic human survival such as providing safety from lighting, provides cooking ability and warmth from space-heating.
- Energy related survival strategies adopted by the poor are various and include fuel stacking, reflecting the impact of energy-poverty.

Relevance of the literature for including GEP in energy-poverty policy

The conclusions from each of the main components of the nexus have highlighted the energy challenges that render poor women especially vulnerable in terms of time and finances. In reality, social norms dictate the role of men and women in society and the amount of influence that women have at all tiers (between the sexes, within the home and within the community) of decision-making – particularly on the types of energy used in the home. The way in which energy affects women disproportionally to men due to the different roles each gender has in the household, community and the markets has been established in the literature (Energia, 2015). There is a strong connection between gender relations, women's status and women's access to and use of energy, which is impacted by energy-poverty policies that side-lines the unequal gender power-relations which exist within the home. Energy is a necessary input for development (highlighted by the SDG's) and especially for poor women, who are impacted by inadequate access to cooking energy in particular. This makes this population very vulnerable especially in terms of health, economics and social freedoms (Energia, 2015). Making better provision for access to energy for women especially may be a way to

counter the inefficiency related to social and economic development seen in some parts of the world. Sub-Saharan Africa provides a good example of the link between development and gender since in Lesotho, for example, evidence points to gender inequality being one of the major underlying causes of the development challenges facing the country (African Development Bank, 2005). In terms of the financial impacts, because development and energy are tied very closely to economics, interpretations of energy-poverty need to account for the ways in which women are economically responsible to source energy fuels. Therefore, gender is a surrounding issue of poverty (Clancy et al., 2003). The feminisation of poverty has been widely written about (see Touwen, 1996; Phalane, 2004). The fact that women tend to be poorer than men (Munien & Ahmed, 2012) may have an impact on overall development (Köhlin et al., 2011). In the General Household Survey (Statistics South Africa [StatsSA], 2013) female-headed households were more likely to have received housing subsidies than male-headed households, suggesting greater poverty among women (16,4% compared to 11,1%). Data on the paid work of women is scarce; women tend to hold positions of support within the labour force and assemble predominantly within the informal markets in order to earn an income (Touwen, 1996). Recognising gender in development is vital as the majority of poor people in South Africa are women (Phalane, 2004). Females remain largely responsible for managing the household, which, in turn, has implications for their well-being. Moreover, as poor women are severely constrained financially, accessing energy services will be a major challenge. Poor women's disadvantage ties in with their disempowerment as they have no voice, low social status overall and restricted decision-making power, highlighted by the GEP nexus. Further, the roles played by each gender are so different in society that the energy needs of men and women vary. Since energy is important for the empowerment of women and girls especially, the benefits from accessing energy will also be different to that of men and boys (Energia, 2015).

2.3. ENERGY POLICIES FOR POVERTY REDUCTION

The reduction of energy-poverty through appropriate energy policies faces some substantial barriers, particularly in developing nations. These barriers include poor levels of diversity within the energy profession, as well as poor subsidization and taxation mechanisms to attract a market for private sector involvement in producing power. And yet, energy-poverty policies can improve living conditions for the poor, and empower women. This section briefly covers the discourses on energy-poverty focused policies and looks at the challenges and barriers that exist in achieving successful paths out of energy-poverty for indigent people. Recommendations for interventions that reduce levels of poverty and increase access to modern energy for the poor are reviewed. Additionally, this section briefly looks at the tools to consider using in order for energy-poverty policy to help women especially, overcome adversities associated with domestic energy management.

Benefits from energy policies for women

Energy-poverty policies have the potential to lessen the impact of energy-poverty which may have a significant effect on women particularly. Clancy et al. (2013) state that energy-poverty policies can be used to improve living conditions for the poor by increasing access to modern energy carriers for users in addition to reducing the cost of accessing

energy carriers like electricity. This, they say, can be achieved through subsidization programs to provide better quality lighting and access to telecommunication to reduce levels of poverty for the poor.

Enabling better access to energy from energy-poverty policy frameworks is likely to be a mechanism which yields empowerment for women. According to Davids et al. (2009), empowerment entrenches self-worth, allowing individuals to see themselves as able and also entitled to making decisions regarding their well-being and their lives. Feminists understand empowerment as the personal being political (Ndinda, 2009). This means that while there is the view that macro policy has no influence on the personal domain of individuals, feminist work draws attention to how in fact, macro interventions depend on the micro – thus, accounting for the personal experiences of women. If women's personal experiences are accounted for and valued, it can have an impact on the way in which policies are developed and implemented. Raising the morale of women may thus be a part in altering the status quo. Therefore, the role of women in re-directing the pattern of under-development and addressing energy poverty relies on empowerment as women can be used as key agents of change (Munien & Ahmed, 2012). Elsewhere, literature conveys that women tend to internalize the social norms which reduce their worth and their contribution (Danielsen, 2012), highlighting the importance of an empowerment framework in addressing gender-sensitivity in policy. Energy-poverty policy has a role to play since it might be able to diminish the dichotomy of personal and political to enable change and possibly give a voice to the issues faced by women.

Challenges in diversity

Generally, public policies tend to inhibit private sector involvement within the energy sector, for instance, by setting tariffs too low for profitability for companies. This makes entry into the alternative energy market very difficult for private generation and distribution enterprises (Saghir, 2005). This could be a hindrance as the poor may not afford the existing energy services. Electricity is one such example as it has high costs, especially for cooking since neither the appliances nor the energy itself is very low-cost (Clancy et al., 2003). For women specifically, limited energy choices may impact the workload linked to domestic energy requirements and subsistence requirements of the household (such as cooking and food processing). However, Saghir (2005) notes that in developing countries especially, institutional and regulatory barriers present major hurdles for modern energy delivery to the poor.

Poorly formulated taxes and subsidies is another barrier to establishing energy policies which contribute to reducing poverty. This issue is evident where there is a preference for one particular energy intervention such as electricity. This is the case in South Africa, where reform in the power sector has been a major challenge and the parastatal power producing enterprise Eskom, dominates at energy policy level too (Eberhard, 2003). According to Saghir (2005), this gives the wrong impression to consumers as it slows initiatives to find entrepreneurial solutions to energy supply. Dutta (2003) agrees, saying that governments' should consider incorporating taxes, subsidies and other incentives to develop a market for various fuels and energy technologies and increase energy options as a path out of energy-poverty for indigents. The author further recommends that doing so may help the poor to access decentralized energy options at an affordable rate, as up-front costs can be high for consumers.

One of the salient issues is that the energy profession is populated by the male gender (Dutta, 2003). The shortage of women in energy institutions also impacts the way energy policies targeting poverty reduction are framed, particularly as most of the poor tend to be women. Dutta (2003) highlights how cooking energy, for example, mostly concerns women as this falls within their domain and tends to be less of a priority for men in comparison to other policy issues - such as housing, for instance. Furthermore, Bekker et al. (2008) acknowledge how capacity related to household energy policy development becomes side-lined, as priority for supply-side policy issues grows instead. A way to address this issue may be to:

- Allow rival technologies to enter the market through incentivized mechanisms like attractive tariffs for international and national energy enterprises.
- Include participation of local communities in the design and delivery of energy services, thereby building local capacity as well. This could include women involvement in projects to learn how to assemble solar home systems, for example.
- A cross-subsidy from better-off energy users to lower the costs of the most vulnerable populations.

(Dutta, 2003; Saghir, 2005)

2.3.1. ENERGY-POVERTY POLICY IN SOUTH AFRICA

Background to legislation related to recognising gender in policy

Clancy et al. (2013) reveal that energy-poverty is caused by three factors, namely: the energy and gender relationship, poor institutional delivery mechanisms to the poor and unaffordability of modern energy carriers linked to a rural subsistence economy.

South Africa has a general indigent social provision basis in the form of the National Framework for Municipal Indigent Policies (Department of Provincial and Local Government [DPLG], undated). This was formulated in line with the Bill of Rights which places the responsibility to meet basic service on local government. The Constitution of South Africa recognises the right for all citizens to socio-economic rights. These are rights which the state is obliged to meet, as stipulated in The Bill of Rights[8] enshrines the right of every South Africa citizen to access housing, health care, food, water and social security and the right to a clean, healthy environment, among others (Davids et al., 2011).

As of November 2013, the State also recognizes and promotes the rights of all South Africans, in accordance with a legally binding policy designed for gender empowerment and equality. This is enshrined in the Women Empowerment and Equality Bill. This Bill was formulated as an extension of Section 9 of the Constitution of the Republic of South Africa (1996). The aims of the Bill are to enhance the empowerment of women and to promote gender equality by:

- Establishing a legislative framework for the empowerment of women
- Aligning all aspects of laws and implementation of laws relating to women empowerment
- Supporting the appointment and representation of women in decision making positions and structures

[8] In Chapter 2 of the Constitution of the Republic of South Africa, No. 108 of 1996.

- And providing for matters connected therewith. (Department of Women, Children and People with Disabilities, 2013).

South Africa has furthermore ratified a few international human rights treaties that recognise gender equality such as the 1979 Convention on the Elimination of all forms of Discrimination against Women (CEDAW). South Africa is also signatory of the 1995 Beijing Platform for Action (BPFA) issued by the United Nations Fourth World Conference on Women (which contains key commitments for governments). The African Union's Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (2005) is also ratified by South Africa, recognising the need for the elimination of discrimination against women, stipulating especially that women should not be prevented from enjoying the rights afforded to all human beings based on their sex. South Africa has also pledged to support the eight MDG's at the UN Millennium Summit in the year 2000.

Reducing energy-poverty in South Africa: The policy landscape

Before the advent of democracy in South Africa in 1994, the apartheid government provided little service delivery to Black populations who were living mostly in rural areas and townships. Electricity was one of the services which Blacks were intentionally denied, despite the fact that the apartheid government could generate electricity at relatively cheap rates at the time (Mohlakoana, 2014). When the new democratic government came into power after the 1994 elections, pro-poor, people-centred service delivery became a building block for the African National Congresses' (ANC) socio-economic policy framework the Reconstruction and Development Programme (RDP) (Davids et al., 2011). In line with this policy, South Africa initiated an electrification programme targeting to extend the grid to the Black population. Bekker et al. (2008) explain that electrification as a mandate of government was rapidly applied as 5 million households received access to electricity between 1990 and 2007. This programme has been lauded a major success, since South Africa sits at very high electrification rates today. According to Statistics South Africa (2011: 25) "the percentage of South African households that were connected to the mains electricity supply increased from 77,1% in 2002 to 85,0% in 2012, with the highest percentage of households that were connected to the mains electricity supply recorded in Northern Cape (91,9%) and Free State (91,5%)".

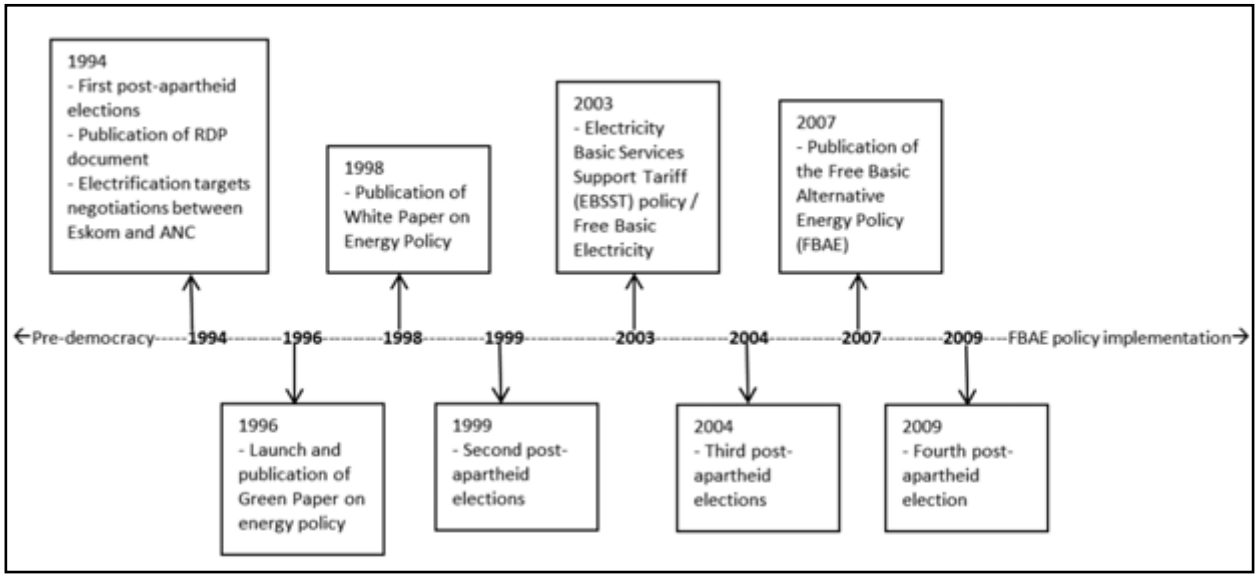
The White Paper on Energy (1998) focussed on an Integrated National Electrification Programme (INEP). This policy targeted to reach areas in the country which did not have a connection to the grid due to apartheid separate development policies (Winkler, 2006; Bekker et al., 2008). According to Winkler (2006), the major objectives of government energy policy as laid out in the White Paper on Energy Policy (1998) is for South Africa to widen access to energy services without destroying the environment, and to improve the economy and governance of energy in addition to diversifying the energy supply options. This was therefore understood in terms of extending the national grid to widen access to electricity. Extending the grid comes with its challenges though, since high electricity prices push poorer households to alternatives like LPG for cooking for instance (EDRC, 2003). In South Africa, the supply of energy also came with major pressure on production which led to the 2003 Integrated Energy Plan being formulated.

This policy called for an expansion of energy sources as a way to relieve the pressure and also secure future energy resources (Winkler, 2006).

From the year 2000 onward, the ANC made promises in election manifestos to provide free basic services from government targeting the poor, including free energy in the form of electricity. Electricity was accompanied by other energy access initiatives, such as the INEP off-grid photovoltaic (Solar PV) electrification programme for the remote rural areas. However, electricity connections were the fastest form of energy intervention in South Africa for pro-poor or previously un-electrified areas (Mohlakoana, 2014). This was also due to the acknowledgement of the social function of electrification - brought about broadly by a powerful democratic drive and commitment to service delivery (including the electoral significance of achieving RDP targets) (Bekker et al., 2008). Political pressure to provide 100% electrification by 2012 proved too hasty as the cost involved in meeting this goal were too high and Eskom's inability to manage such a load (Bekker et al., 2012). The authors also found that meeting this target required strong political backing, hugely increased electrification budget allocations, and a dramatic step-up of Eskom's capacity.

Figure 1 below depicts the progression of energy policies in South Africa, in a timeline from the year 1994 to the development of the FBAE Policy up to the year 2009, where South Africa held its fourth general election. It provides a clear picture of the major energy policies in existence from the period of South Africa's democracy up to fifteen years into the democratic state, revealing election periods and policy introductions made in South Africa in a timeline up to the year 2009.

Figure 1: ***South African policy process timeline from 1994 with a focus on FBAE (Mohlakoana, 2014)***



The Electricity Pricing Policy introduced an Inclining Block Tariff (IBT) structure in 2008 for billed consumers to assist poor households. This policy was motivated by a need to improve social equity by addressing the requirements of the low income households and to enhance efficiency for low-cost and high quality inputs to all sectors. The aims of the policy are stipulated as follows:

- improve social equity by addressing the requirements of the low income users,
- enhanced efficiency for low-cost and high quality inputs to all sectors,
- environmental sustainability
- to allow choice of electricity supplier
- to encourage competition in the generation sector
- open non-discriminatory access to the transmission system
- increase private sector participation in the industry (DME, 2008).

In meeting these objectives, this policy followed general pricing principles and its aims to target the poor were implied by it reducing the amount of money spent on electricity. Essentially this recognises that the more kWh (kilowatt hour) of electricity a household uses, the higher the average charged price. These are effectively charges which benefit lower usage customers (DoE, 2013). This method of subsidized electricity for poorer households by charging the wealthier consumers higher rates per kWh of electricity is still implemented today.

In 2003, the Department of Minerals and Energy announced the introduction of a Free Basic Electricity programme as part of the broader Free Basic Services Policy. This was introduced as a plan to help to mitigate poverty in rural and under-developed areas in South Africa (DME, 2003a). According to the 2013 Survey of Energy Related Behaviour and Perceptions in South Africa report (DoE, 2013), the Free Basic Electricity (FBE) policy provides 50-60 kWh of electricity per month for free to all poor South African households (DME, 2003a). It is provided on the basis that people are unable to live without energy, as it is a basic need for multiple tasks such as lighting, cooking and space-heating (DoE, 2013). This policy established for poor households to receive 50kWh of electricity for free per month is still in place today, with calls for increases to the amount as a way to address energy-poverty. A major criticism is that households need grid connection, which means that many of the poorest households do not benefit from it. Matinga (2010) also criticised the programme's effectiveness, citing it as having a one-dimensional view of poverty and berating it for imposing limits on the monthly amount of electricity (50kWh) needed by poor households. She also criticized its focus being on the programme roll-out rather than on the deeper problem and assessing potential benefits. As such, the government responded by formulating the Free Basic Alternative Energy Policy 2005 and implementing it in 2007 (Mohlakoana, 2014).

Part of government's promise is to ensure the delivery of safe and clean energy to its people to improve safety and the quality of life of its citizens (such as better media access, better lighting and better heating). Since 2007, as a way to accommodate the un-electrified communities that are not reached by the government's various energy provision services and programs (such as the Free Basic Electricity (FBE) and the Inclining Block tariff (IBT)) indigent households receive an equivalent of R56 per month of alternative fuels such as Bioethanol gel-fuel or liquefied petroleum gas (LPG), paraffin, Solar Home Systems fee-for-service payments and coal (DME, 2007). Under the guidance and funding of the Department of Cooperative Governance and Traditional Affairs (CoGTA) (including funding), the responsibility is placed on local government (municipal districts and municipalities) to implement the

FBAE by identifying beneficiaries, selecting energy carriers and disseminating knowledge to promote the programme. In her thesis, Mohlakoana (2014) highlights how implementation of the FBAE has been ineffective. She says that only 40 local municipalities out of 226 have been able to implement the policy. There has also not been a particularly large rollout of the FBAE Policy particularly in the metro areas. This may be put down to an emphasis on targeting mainly rural areas, as well as the challenges that municipalities face in administering the program (Mohlakoana, 2014; Sustainable Energy Africa, 2014). Other findings in Mohlakoana's (2014) work reveal that the register covering qualifying households to receive the FBAE service was incomplete and that staff within the local municipalities that were included in her study did not feel as if they had enough information or much control over implementation since the rules were created by the provincial and national government.

Furthermore, in South Africa there is no particular domestic or small-scale alternative energy policy, and specifically renewable energy policy. However, the Department of Energy initiated a programme for one million solar water heaters to be installed by the year 2014/15 (Wlokas, 2011). In recognition of energy-poverty levels in low-income areas, the government (funder) together with Eskom (technical and operational oversight) have worked together to provide free low pressure solar water heaters. The intension of the programme is to give priority to people living in RDP houses, households connected to the grid and low-income households with permanent built structures who suffer some energy-poverty (Wlokas, 2011).

This section looked at the role that energy-poverty policy can fulfil in reducing poverty as well as provided a roadmap of the policies developed to address energy access for the poor in South Africa. The key arguments that have been highlighted are that:

- Energy-poverty policies have the potential to reduce levels of poverty and increase access to modern energy for the poor.
- There are challenges, particularly in developing nations, to design energy policies that reduce poverty due to barriers related to poor levels of diversity in the energy profession and poor subsidization and taxation mechanisms to attract private sector involvement in producing power, amongst other challenges.
- In South Africa, the Bill of Rights positions basic service provision (which includes energy) as a human right.
- Energy-policy in South Africa was first thought of in redress terms in line with the RDP.
- Energy-poverty policies to date focus largely on electrification, which may be closely tied to political aspirations.
- There have been some energy policies developed in South Africa that target reducing energy-poverty specifically. These policies do have weaknesses, however.

In closing, reducing poverty and providing a better quality of life to indigent persons is the mandate of government. Since it is the role of the government to mitigate energy-poverty and while the law (Constitution) provides for gender equality, the FBAE Policy may be an opportunity to bridge these two issues. The following section will review the lack of a gender-sensitive framework in energy-poverty policy. To provide some context to this issue, this section will

review the ways in which gender inequality occurs in relation to energy to highlight how a failure to include a gendered perspective in energy-poverty policy will affect women particularly.

2.4. ESTABLISHING THE GAP IN ENERGY-POVERTY POLICY

Gender-sensitivity is a missing link in energy-poverty policy which may indicate a level of ignorance or misunderstanding of the complexities of the gender-energy-poverty nexus. In this section, an exploration behind the non-existence or failure to give recognition to this nexus in energy-poverty policy is provided. The ways in which the gender-energy-poverty nexus can be addressed to enhance female well-being is also evaluated in a section which follows this one, with an aim of looking at the concept of well-being and its relevant definitions and measures.

Exploring a lack of gender-sensitivity in energy-poverty policy-making

There may be several reasons for an absence of gender-sensitivity in energy-poverty policy, such as women's experiences with managing household energy may be mediated by both the policy environment and muted gender expectations (social norms) related to the role women fulfil within the household (Clancy et al., 2012). This is the case particularly since energy-poverty policy has legislative and service delivery-oriented influence on women's experiences in household energy management, while socially constructed notions of the female gender ensure that women's primary interaction with energy remains confined to the kitchen (Clancy et al., 2012). A result of muted social norms is that gender is not an obvious opportunity for inclusion in the policy agenda.

There are issues too, in framing gender and setting gender goals in policies within the development industry. The development - and energy - industry is mainly macro-scale focused and male dominated, which may have an influence on goal-setting within projects and within policies. Clancy et al. (2007: 243) write that men end up talking to one another regarding energy issues because they overpopulate the energy domain, as "policy makers tend to be men, and energy institutions and organisations both in the public and private sector, as well as in NGOs dealing with energy, tend to be male-dominated, particularly in professional posts". Elsewhere, Cecelski (2000) suggests that priorities in the energy industry are to blame since the focus is usually on improving energy efficiency and environmental issues rather than poverty, gender and improvement of livelihoods. This is echoed by Danielsen (2012), who argues that female participation at all levels of the energy system is limited by unequal gender relations. There would need to be more diversity in the energy sector and development industry in order to address issues that are currently misrepresented. As a way to demonstrate this point, Kotze (1983) writes of the separate development policy of the National Party in Apartheid South Africa, detailing that a policy formulated exclusively by Whites for a plural South African society was suspect from the start. This author specifies that, and as non-whites soon experienced, in so doing, this ensured that only the interests of the White population were safeguarded. Therefore, a misrepresentation particularly of the gendered experiences relating to household energy management is a demonstration of how male dominated industries can fail to address the real issues, and side-line women's concerns related to domestic energy management.

For instance, this is exercised particularly when the (male) experts look at specific categories of the population, for example, looking at indicators such as "households" without looking specifically at who and what a household is. There is rarely consideration for different types of households such as child-headed households[9] and single mother households. Within the FBAE Policy the term "household" is not disaggregated, but simply termed "indigent households". This term is very broad, and does not show the different levels of energy access or access to resources by gender within a household. Disaggregation of the term "household" is also missing in the Census (2011), which is problematic as this is a nationally representative survey, which provides a base from which important policy documents can be developed using the captured data. In the Census (2011) the unit "household" is simply defined as "a group of persons who live together and provide themselves jointly with food or other essentials for living, or a single person who lives alone" (StatsSA, 2011: 13). While this is a useful definition, it doesn't give much information about social factors which affect the household's functioning such as the division of household labour and levels of income within the home. This in some way may mute the hardships experienced by women relating to procuring and managing energy for the household.

In addition, caution should be applied with using numbers as evidence in formulating policy, because a lot is hidden by numbers. For instance, the Census (2011) data on the study area focused on in this research paper, Klipheuwel, (which is discussed in further detail in chapter 4), says nothing about the un-electrified section of the community, focusing on the electrified one. Inconsistencies continue, as some current energy policies in South Africa reveal a lack of attention to incorporate gender matters consistently. For instance, macro-scale energy policy identifies the unequal effects of energy on women to some extent, even dedicating some paragraphs in the White Paper on Renewable Energy (2003) stating that "sustainable energy development could have a positive impact for women, but this can only be realised when women's concerns are properly reflected in energy policy-making and there is more emphasis on end-users" (DME, 2003: 38). However, four years later the Free Basic Alternative Energy Policy (DME, 2007) is developed, and does not even make any inference to women – except that "energy is used for cooking". The lack of gender-sensitivity in energy policy may reflect a level of ignorance connected to women's hardships in managing household energy.

This section has presented various ideas related to why gender is side-lined in energy policies. For instance Cecelski (2000) determines that gender will remain excluded from the policy agenda specifically because it is categorized as a political agenda. Elsewhere, Mohideen (2012) asserts that women's lack of education and engagement in technological progresses, as well as an under-appreciation for their contribution in society will keep them concealed in the energy sector. Improving women's living standards requires an understanding of women's position in accessing energy resources, and particularly the gender relations, which affect women's ability to access energy. Therefore, gender-

[9] A child-headed household (CHH) is where "one of the children or the youth in the house has assumed the principal responsibility for the household inhabitants because a parent/s or primary caregiver/s was/were permanently or temporarily absent as a result of death, employment away from home (migratory work), abandonment or rejection of the children or a parent/s or primary caregiver was/were present but abusing alcohol and/or drugs excessively, too ill, terminally ill or too old to provide the care required" (Mogotlane et al., 2010: 25).

sensitivity in energy policy should include targets such as improving women's welfare, increasing women's economic productivity and empowerment of women, as table 1 below shows (Skutsch, 2004).

Table 1: ***Energy Interventions Related to Different Gender Goals*** **(Skutsch, 2004)**

Underlying Goal and Reason to use the Gender Analysis	Implications for Women	Typical energy interventions
To improve the welfare of women, improve their quality of life and reduce drudgery	Lighten women's work load bot no special effort is being made to change their basic role	Improved stoves, power for grinding and husking, powered domestic water supply, electric light in working areas
To improve the production levels of women and their economic opportunities	Create new roles for women that lead to economic independence of the women	Special attention to supplying energy (electric, mechanical power, or heat) for women's small business in the home or outside; usually coupled with credit schemes and technical training
To empower women, help them recognize and break through existing gender relations	Political and decision-making power of women is increased, social norms and opinions about 'appropriate' behaviour begin to change. Women's own view of their role and potential begins to change.	Not so much the technology, but *how it is introduced* is crucial. Special attention to including women on organization committees, management training, empowerment conscientization. Energy itself may be a component in this, e.g. street lighting may facilitate women's meetings in the evening, electricity may make internet communication possible and begin to reduce women's isolation etc.
Gender analysis used for project efficiency purposes (necessary to ensure project success)	Interventions should be matched to women's stated requirements and should not raise opposition from men.	Could be various, but in practise usually for *welfare* or *productive* purposes

2.4.1. WHY MIGHT ENERGY-POVERTY POLICY NOT ADDRESS GEP?

This section briefly looks at how social norms within society brand men as primary decision-makers and reveals the existence of a lack of understanding of the gender-energy-poverty nexus within energy policies. Here, a look at how decisions are made in connection to policy formulation will uncover the theory of non-decision-making, which is a useful tool to demonstrate the link between the gender-energy-poverty nexus, the existing power dynamics which influence this nexus and energy-poverty policy in South Africa.

According to some authors, a lack of representation of women's needs in the policy making process may be due to a dominance of male decision-makers and therefore, women's perspectives may be left out (Clancy et al., 2003; Dutta, 2003). Since social norms tend to be embedded in patriarchy, males are often the head of a household and do the reporting on energy use patterns for national surveys, which are then used as nationally representative data for

domestic energy use. In turn, this information is used to support new policy development, which results in gender being left out. This is confirmed by Danielsen (2012: iv) who says that the lack of recognition of women's energy needs is due to barriers linked to underlying cultural norms, which permeate energy institutions and regulatory frameworks and policies.

Additionally, defining the problem of the gender-energy-poverty nexus in energy-poverty policies may be difficult since there is a lack of knowledge on the problem and the lack of recognition in the policy process. Having no gender-disaggregated energy data means that there can be no accurate targeting. According to Cecelski (2000), the energy sector lacks gender disaggregated energy use data, and without this data inhibits incorporating gender in energy policies. Also, the gender-energy-poverty nexus may still not be prioritized as it may not be viewed as a legitimate case for energy experts to focus on. A failure to recognise the contribution of women's unpaid work (women tend not to be paid for cooking, cleaning and child-rearing duties carried out within the home) may impact definitions of women's obligations as domestic managers of the home too. It could be precisely because this work is confined to the home that it has become difficult for energy policy to acknowledge women's tie to energy management in the first place (Danielsen, 2012). Furthermore, an assumption that women have equal control of household resources in relation to men is problematic, since this may not be the case in every situation.

By way of demonstrating this point, this study references the Department of Energy's Survey of Energy Related Behaviour and Perceptions in South Africa (DoE, 2012) once again. In this report, energy data recording household fuel resources used in non-electrified areas in the country is not disaggregated by gender. Additionally, while some other national studies indicate the multiple fuels used by poor households in South Africa (General Household Survey of 2012 for instance), there is still very vague and limited insight regarding how much of each fuel is used per household, managed by which gender and at what monthly cost for each specific end use. This failure to recognize the gender dimension in energy data may serve only to minimize women's experiences with managing household energy. At the same time, this demonstrates the need for integrating gender-sensitivity in energy-poverty policy.

Reasons behind why gender remains relegated in energy-poverty policy, especially in South Africa is still unclear. This may not necessarily be a case of treating gender as unimportant, since it has to compete with other development priorities. The main point here would be to discover why other issues are necessarily promoted as opposed to gender in this case – particularly as much has been documented in literature regarding the connection between energy and gender (see Dutta, 2003; Clancy et al., 2003; Skutsch, 2005). In trying to understand this phenomenon, this study utilises the theory of non-decision-making, which surmises that decisions which are not made (non-decisions) need to be examined equally to decisions that are made, as this reveals a "face of power".

Non-decision-making (NDM)

The theory of non-decision-making essentially, questions control over the agenda in policies and explains how analysing this process is a good way to assess certain power dynamics. Decisions are defined as 'a conclusion or

resolution reached after consideration' (Oxford Dictionaries Language Matters [ODLM], 2016). A non-decision, is therefore an absence of this. According to this theory there's a chance that some (person or group) has the ability to limit decision-making to "safe" matters that are non-controversial, by exercising their power to influence community or institutional values, procedures and rituals, and to supress power conflicts (Bachrach & Baratz, 1962). Thus the theory is commonly used in uncovering policy procedures to understand which individuals yield power and to what extent. Thus, it is important to track the issues that are side-lined in decision-making processes, thereby uncovering how some issues are suppressed in order to promote others. Non-decisions (including decisions which are made) will have consequences which impact other people. As, for instance, at the policy-making level, power may be leveraged to subdue the policy agenda to topics which are not controversial and deemed to be "safe", according to this theory.

This theory is formulated in critique of Robert Dahl's (1960) concept of power, which explores how decisions are made. The authors criticize this view of power as being limited as it simply considers the use of power, and not the impact of the use of power, thereby (non-decision-making) reveals additional power dynamics such as influence, a mobilization of bias, power and authority over others. Others, however, have critiqued these authors' approach to studying power. One such scholar is Lukes (1974) who posits that Bachrach and Baratz are too behaviour-focused and "too methodologically individualistic" in their analysis of decisions. He explains that "power to control the agenda of politics and exclude potential issues cannot be adequately analysed unless it is seen as a function of collective forces and social arrangements" (Lukes, 1974: 22). Therefore, his work is an extension on the ideas of Bachrach and Baratz, by expanding the focus to say that no one individual's behaviour necessarily exercises power alone to determine a decision and that essentially, power must be studied in three dimensions: 1. The observable exercise of power, 2. the unobservable exercise of power – visible in covert conflicts between actors, 3. Controlling the agenda – where people's preferences are shaped so that neither overt nor covert conflicts exist – which proves latent conflict (Hill, 2005). However, all of the authors are in accord that political systems rely on covert methods, which is done either intentionally or unintentionally to exclude contestation of established political agendas from outsiders (Lukes, 1974; Marchbank, 2004; Hill, 2005).

At some stage in agenda-setting for the FBAE Policy, the gender-energy-poverty nexus did not feature as a specific target for energy-poverty reduction. Thus the impact associated with managing domestic energy on women was not recognized in the formal processes involved in formulating this policy. Additionally, the status quo – in terms of gender equality – imposed by social norms embedded in patriarchy is maintained by ignoring this impact on women. This ignorance consequently perpetuates a series of gendered energy-poverty. Marchbank (2004) acknowledges too the non-spoken about power dynamics which discriminate covertly against women arguing that the main issue with this discrimination is that it appears non-existent. The author further asserts that using her research findings on policy making and political systems compared to her own personal experience as a woman in academia; she finds that power is covert within political systems and silences outsiders. This is no less in academia where covert systems are in place and work within academic institutions to militate against and silence certain individuals (Marchbank, 2004).

Using NDM as a lens enables this study to track the policy making processes to discover power dynamics which result in gender being side-lined, as well as uncover how the attributes appropriated by social norms are used to maintain the status quo. Hill (2005) has done so too while studying public policy processes and uncovered that the clash of different interest groups are highly represented in the creation of social security policies for instance. McCalla-Chen (2000) applied this theory to her investigation of how NDM manifests in the school sector, finding that NDM was apparent confirmed by its various examples of single or multiple effects. The author also found that government policy was important for school-sector decision-making and could not be overlooked as an external force as these policies were either the reason for NDM in some cases, or exacerbate the NDM process. Although the NDM framework dates many decades back, and was created in a Western context, there is no other framework which has emerged explaining the power dynamics in decision-making processes as well and as comprehensively as that of Bachrach and Baratz. The framework provides a fuller picture of political processes by examining also non-decisions which tend to be silent. Hill (2005) recognizes that the contribution of these authors raises some significant issues related to the study of power which cannot go un-noted – cementing the utilization of this theory for application in public policy processes. The NDM framework is explored further in chapter 3.

Why ignoring the GEP nexus in policy decision-making is a problem

A failure to recognise and include gendered energy perspectives in energy-poverty policy may have a negative impact on women and the household, especially in terms of finances, health and gender equality. This has implications for development in terms of poverty eradication, and impacts equitable access to energy for women. A gap in energy-poverty policy which fails to acknowledge women's contribution in domestic energy matters results in the nexus not being recognized, thereby exacerbating gender-based energy-poverty. An example of this may be in un-electrified settings where women spend most of their time gathering fuel for heating water and food processing which expends their energy and time, simply because their energy needs and their responsibility to domestic energy management in their specific context is not addressed by an energy-poverty policy like the Free Basic Energy Policy of South Africa. Because women spend more money on unaffordable alternative (to electricity) fuels in urban-poor settings, have limited power over purchasing household energy resources - for example, regarding the types of fuels and appliances purchased - and suffer stress related to a lack of leisure time - as they work throughout the day fulfilling various domestic obligations - this impacts their well-being.

In sum, there are various reasons behind the exclusion of gender in energy policies. Most importantly, this section reveals the gap that exists in energy-poverty policy which fails to recognise the gender-energy-poverty nexus. This may be partly due to muted social norms which make gender an invisible dimension to energy-poverty, including missing female participation at all levels of the energy system which is limited by unequal gender relations. In addition, the misrepresentation of the gendered experiences relating to household energy management in energy policies impacts its exclusion too – male dominated industries like the energy sector can, therefore, fail to address women's energy concerns. Additionally, a failure to disaggregate for gender in energy surveys disadvantages women

as there is a failure to report on gender relations within the household and related to domestic energy use and management, which affects women's ability to access energy.

This section has established a gap in energy-poverty policy related to addressing the nexus. Here, a review of the failure to address gendered energy-poverty, including the main barriers to distinguishing this issue was discussed. The link between the gender-energy-poverty nexus, energy-poverty policies and the theory of non-decision-making was presented, ending this section with a look at why not addressing the nexus in energy policies is problematic. Also, this section discussed the issue of a lacking gender-sensitive framework within energy-poverty policy. Here, this section highlights that power dynamics which unfold within the structure of households' energy management practises may be a cause for this lacking gender-sensitivity. Also, this is influenced by a male-bias which transpires from the male dominated energy sector as well as the development industry. The following section discusses the concept well-being. This concept is useful to understand the function which women fulfil in ensuring the survival of the household. In addition, this concept helps to frame an understanding regarding how women's selflessness places them in a position to receive well-being benefits from energy programmes designed to address gender inequality in energy services.

2.5. THE CONCEPT OF WELL-BEING

This section discusses ways in which women's well-being is impacted by energy. Thereafter, a look at the various measures of well-being is discussed, summarizing how well-being will be determined in this study. Additionally, female well-being and poverty will be discussed in relation to energy.

Well-being: The relationship with women

Well-being is a relative term, which can be understood or interpreted in many different ways. This thesis has derived some well-being markers taken from the literature relating to different aspects of energy and the development of gender. Touwen (1996) states that in order to provide support to women for both their reproductive and productive responsibilities, focusing on well-being requires concentration on indicators such as income, total hours of paid and unpaid work, and health and nutritional status.

Well-being is an important component to consider for women, particularly where energy is concerned, as women's responsibility for managing household energy may impact their welfare, as well as that of their families'. There is literature in support of the adoption of modern cooking fuels as a means to improving women's quality of life (Köhlin et al., 2011). This is due to modern energy's time saving quality for women and the fact that it safe-guards women and children from hazardous indoor smoke (Clancy et al., 2012). Pachauri and Rao (2013) too recognize significant welfare improvements for women, citing the possibility for levels of reduced drudgery and time savings, better health and family relations, as well as new opportunities for additional income, employment, leisure, education and productivity. In this study, well-being is be defined as visible welfare improvements for women regarding time savings; financial well-being in terms of access to more affordable fuels; possibly increased opportunity for income generation; and convenience connected to provision of better energy services.

Measuring Well-being

While "well-being" is hard to define and measure, there are many different types of indicators available to measure well-being, such as the Personal Well-being Index, Subjective Well-being and the Human Development Index, which all encompass some form of gauging of human well-being on different levels.

According to Møller et al. (2014) the Personal Well-being Index (PWI) is designed as a comprehensive first-level analysis of satisfaction with one's life as a whole. This index asks an individual to report on various aspects of their life in terms of levels of satisfaction related to their well-being. This index asks individuals direct questions which relate to health such as "How satisfied are you with your health?" and financial satisfaction by asking "How satisfied are you with your future (financial) security?". It also asks an individual to report on levels of satisfaction with their life as a whole. This index is helpful in obtaining specific data related to an individual's quality of life. However, the questions are very broad and may not be easy to answer for some individuals. For example the question "How satisfied are you with how safe you feel?" is a broad question. Respondents may need some guidance or examples to refer to in order to understand what is being asked.

The Subjective Well-being (SWB) index relates to individuals' perceived level of satisfaction about themselves. This index focusses on the psychological dimensions of well-being. SWB may be measured through questions of satisfaction directed to people's feelings about themselves (International Well-being Group [IWG], 2013). It looks at the absence of negative and positive effects on an individual and focuses on the cognitive experiences of well-being (IWG, 2013). Because this study focuses on the material (financial, time-saving, convenient and access to resources) and not the psychological experiences associated with energy management within the home specifically, the SWB is not used in this study.

The Human Development Index (HDI) measures the average successes in three basic dimensions of human development, namely, a long and healthy life, knowledge attainment and a decent standard of living (UNDP, 2014). The HDI is the calculated mean score for these three combined indices. Other dimensions that are looked at include economic aspects of human development such as the Gross National Income (GNI) of a country, education measured by the mean years of school and the expected years of schooling and measures quality of life in terms of health using the life expectancy at birth measure (UNDP, 2014). Other information relating to inequality, empowerment, poverty, human security and gender disparity can be found as statistical annexures in the report. These also help to paint a fuller picture of human development within a region (UNDP, 2014).

This research is interested in overall well-being and draws from both the literature and the named indices to form a "loose" understanding of well-being (listed above). Measuring well-being is a challenge; however, due to the subjective nature of well-being, respondents may have very different ideas of what well-being means to them. Because of the deductive nature of the qualitative approach used in this study, setting a rigid framework for measuring well-being will simply limit the objective to discover how energy-poverty policy can impact female well-being. Thus the

respondents in this study used their own interpretation for the term "well-being" and were not influenced by the researcher's theoretical understanding of the term.

2.5.1. HOW DOES FEMALE WELL-BEING AND POVERTY RELATE TO ENERGY?

The responsibility to provide free basic services, which includes Free Basic Water, Free Basic Sanitation, Free Basic Energy/Electricity and Free Basic Refuse Removal (DPLG, undated) lies with local government. Allowing energy technologies which could help to promote the well-being of poor women - such as safe and modern alternative energy - to become widely available through the Free Basic Alternative Energy Policy, is perhaps one way to meet this responsibility by local government. The issue of gender socialization was raised in a previous section, highlighting how women continue to willingly or not, act as the primary managers of domestic affairs – including managing the household's energy needs. Some literature argues that creating policies that are inclusive of gender may alter gender relations within the home to benefit women most (Dutta, 2003).

There are case studies that support this idea. Mahat (2011) refers to a programme to improve rural women's livelihoods through introducing alternative energy technologies (AETs) for instance, which was run in Nepal, India and found that the women who participated in the programme gained more confidence owing to them having the freedom to participate in development activities. This study also showed that the introduction of micro-hydro mills reduced women's workload, thereby increasing their income-generating opportunities as well as the ability to enjoy social activities, such as mobilizing savings groups and literary programmes. In this programme, women also benefitted from being exposed to different energy technologies. Conversely however, patriarchal power dynamics limited women in some aspects such as the fact that any consultation pertaining to AETs was usually discussed between men and not with women. Mahat (2011), also found that women where still subjected to a major burden of domestic work even when using AETs, since the use of biogas for instance, required women to carry more water to the plant and to cut more grass for livestock feeding.

Female well-being is a good way to reveal how gender and poverty are connected with energy, especially since women are central to the survival of the household. Skutsch (1996) found that men will spend more of the income they control for their own consumption, unlike women who place the needs of the household first. Men are reported to spend their income on alcohol, cigarettes, and other prominent consumer goods versus women who spend more on children and general household consumption (Skutsch, 1996). Touwen (1996) emphasizes that women are central to the survival of the household, and they will often place the needs of the family above their own health even.

To demonstrate this further, in a study carried out in Zambia looking at the effects that the Structural Adjustment Programmes which were implemented in 1984/85 had on women, it was found that women had to adjust to their economic situation by working longer and increasing income generating activities, despite the strain on their health and the limitations place on their time for personal development. This was compounded by structural barriers and the lack of support from their men in household tasks, due to custom and culture (Touwen, 1996). This demonstrates how

women's livelihoods are tremendously influenced by family obligation and the extent to which their well-being rests upon the welfare of their families and households' needs being met.

Women continue to face the institutional challenges which legitimize patriarchal social norms however. Land rights are an example of institutionalized gender-based discrimination. In their case study observing a programme run by the MV Foundation to empower women through collective action in the Ranga Reddy district of Andhra Pradesh, Swaminathan and Jeyaranjan (2008) found that "The women beneficiaries had to expend considerable time and effort in convincing bureaucrats of the right of women as citizens, and of the capability and seriousness of women to source and make use of land-based programmes of the government". In this programme, men where preferred for government land-based programmes.

The chief aim of including a well-being dynamic in the provision of poor women's energy needs therefore, is to address the current status quo regarding gender roles. Women, and especially poor women in developing countries, work much harder than men, carrying out work which involves hard labour connected to the household's daily energy and subsistence requirements. This labour is often detrimental to women's health as they need to use potentially hazardous energy fuels to look after the basic needs of the household and the family (Skutsch, 2005). Köhlin et al. (2011) state that gender specific development outcomes progress to affecting other development priorities such as poverty-alleviation, since it is believed that when women have better life chances, so do their families. Among the main issues highlighted by Köhlin et al. (2011) was that energy-poverty policy may be able to contribute to addressing the energy-gender-poverty nexus by highlighting the gender dimension to energy; recognising that women are the primary household managers and most affected by energy-poverty. Additionally, energy-poverty policy can make provisions to alleviate the burden of the cost of energy to increase the well-being of women.
This section reflected on the concept of well-being and discussed how female well-being and poverty relate to energy. This discussion highlighted that government's responsibility to mitigate energy-poverty might be achieved by existing energy-poverty policy. Other main points arising in this section have revealed that:

- There is a connection between women and overall well-being of a household, since women are primary carers for the household, even described as central to the survival of the home.
- Reviewed the different indicators for well-being measurement, acknowledging that well-being is indeed subjective and responses may vary from respondent to respondent.
- Reflected how poverty and women's experiences with household energy management are mediated by gender relations. In some contexts, energy programmes targeting women can benefit their productivity in household energy management and contribute to their overall empowerment. However, it was imparted that gender relations may remain unaltered within that same context.

Conclusion of Chapter Two

This literature review has discussed and drawn some key points related to gendered energy-poverty, outlining the interconnectedness of the three main concepts comprised in the gender-energy-poverty nexus. The impact created by the non-existence of gender-sensitive goals in energy-poverty directed policy in South Africa reflects how poor women particularly are vulnerable, and that hardships in household energy management are perpetuated for them. In this chapter, this issue was highlighted by different conceptual approaches which have been adopted in an attempt to link gender with development, with two major paradigms emerging to bring attention to issues faced by women in under-developed nations.

The gender-energy-poverty nexus was discussed, outlining that there is a gender dimension to energy since women are primarily responsible for energy procurement and management for the household, regardless of their limited decision-making power and the unequal control of household resources. In terms of energy, poor people are impacted most by development insufficiencies and require energy as a way to improve their well-being. Energy and access to energy is described as an important dimension to consider in relation to poverty, although measuring energy-poverty can be challenging as the concept of poverty itself is multi-dimensional.

The section on energy-poverty policy uncovered how energy policies have the potential to reduce levels of poverty and increase access to modern energy for the poor, although there are challenges related to poor levels of diversity in the energy profession and poor subsidization and taxation mechanisms to attract a market for private sector involvement in producing power. In the South African context, pro-poor policies form part of a framework which include the provision of basic services as a human right. It was also shown how electricity is used as a tool for redress and may be tied to political aspirations. This was followed by a section dissecting the gender gap in energy poverty policy revealing how the gender-energy-poverty nexus is excluded since women's energy needs are misunderstood in the policy-making sphere, due to reasons such as the lack of gender disaggregated energy data availability, a male bias in the energy sector and the development industry as well as latent power dynamics.

In this section, the concept of non-decision-making was also introduced, highlighting its usefulness in assessing power dynamics in policy processes. In the discussion on well-being, it was shown how women remain central to the survival of the home. Even though well-being is hard to synthesize, in some contexts, energy programmes targeting women can benefit their productivity in household energy management and contribute to their overall empowerment and enhancing well-being.

The following chapter will discuss the conceptual framework which has been developed concerning an investigation of a gap in energy-poverty literature related to the exclusion of GEP - using key concepts such as the theory of non-decision-making and patriarchy as well as exploring the formal and informal power dynamics implicated in gender-energy-poverty nexus.

3. CHAPTER THREE: CONCEPTUAL FRAMEWORK

3.1. INTRODUCTION

This chapter looks at the thesis' main conceptual framework which will form part of the study's analytical structure. The key sections covered in this chapter focus on the concept of non-decision-making (NDM), explaining what the theory is about as well as describing its attributes. Additionally, the gender-energy-poverty nexus (GEP) in relation to the formal and informal power dynamics influencing the relationship is unpacked to form a connection to this theory.

This conceptual framework acknowledges that individuals' experiences with household energy management are influenced by both factors within the household (social norms), and factors outside of the household (legislature and policies). However, this study rejects the idea that indigent households behave as a unified cohort – sharing equally the resources and the reproductive labour within the household. Therefore, this framework uses non-decision-making as a lens from which to explore energy-poverty policy in conjunction with the influence of social norms on the gender-energy-poverty nexus. In positioning important ideas related to female well-being, this chapter will define the concept of non-decision-making, demonstrating its application in evaluating energy-poverty policy as well as the impacts on the gender-energy-poverty nexus.

3.2. THE CONCEPT OF NON-DECISION-MAKING (NDM)

Peter Bachrach and Morton Baratz (1962) developed the concept of *non-decision-making*, challenging the popular description of the use of power ('centralized or diffused') in decision-making by asking how issues may be inhibited by certain actors in the process of reaching decisions. These authors devised a model to evaluate both decision- and non-decision-making by including the concepts of power, force, influence, and authority. By appraising the decision-making process, the authors raised questions relating to *decisions that are not made*. The framework developed by these authors looked at how the power relationship can be dismantled, putting better perspective to distinguish particularly that not only does decision-making comprise of the power relationship, but that it often lacks it as well. The concept of a *power relationship* is where there is a conflict over values or course of action between parties. For example, when someone complies with another persons' requests, the premise is that they do so only because they are afraid of being deprived of a value or values which is of importance to them – more so than those which would have been achieved by not yielding to the given request. The framework includes the belief that power is not the main ingredient in decision-making – as it may not be involved at all in some circumstances – but that the behaviour of those who carry the burden of decision-making is plausible in the context where the use of force, influence, or authority play a more pertinent role (Bachrach & Baratz, 1963).

Attributes comprised in non-decision-making: "Power and its related concepts"

In order to study power, the authors highlight a number of concepts tied to power relationships which may be used in decision-making processes. These concepts can work together to influence behaviour in decision-making and non-decision-making. Below, the concepts are laid out with explanations.

Force – Others have described force as "power exercised" (Robert Bierstedt's, in Bachrach & Baratz, 1963: 635). Power and force differentiate themselves where with the former obtains another's compliance to achieve an objective, while with the latter, only through manipulation is the objective achieved.

Power – It is widely understood that power mostly benefits the person or parties who own it, but power cannot be possessed since there is a relational aspect to power relationships. This means that no one person can have power in isolation, but necessitates someone else being involved– this is because the successful exercise of power relies upon "the relative importance of conflicting values in the mind of the recipient in the power relationship" (Bachrach & Baratz, 1963: 633).

Relative influence – While similar to power, influence does not require sanctions, as power does. Very often, these two concepts tend to be mutually reinforcing since power garners influence and influence garners power.

Authority over another – Authority is closely associated to power, however, it is not a form of power. Nonetheless authority can be transformed into power as well as power transformed into authority. As an example of the interplay between authority and power, the authors make this demonstration to reflect the distinction "…a parent who uses the threat of spanking (power) to produce filial discipline which is based on acceptance of certain rules of the game (authority)" (Bachrach & Baratz, 1963: 638).

Mobilization of bias – One of the main purposes of non-decision-making is to uphold a *mobilization of bias*. Mobilization of bias is 'the dominant set of beliefs, values, and institutional processes and procedures that work to privilege some groups in relation to others' (Bachrach & Baratz, 1962).

In essence, the authors relay that while reaching a decision may not solely be a result of power or influence, neither authority nor force, it matters from whose perspective the decision is being considered, be it the "one who seeks compliance or the one who gives it" (Bachrach & Baratz, 1963: 641).

3.2.1. GENDER, ENERGY AND POVERTY: LINKING THE FORMAL AND INFORMAL POWER DYNAMICS

Patriarchy

'Patriarchy' describes the instance where men and boys play an authoritative role over women and girls in society. Patriarchy not only refers to male domination of women, but also to the power relationship by which men dominate women (Beechey, 1979). The system of patriarchy plays an important role in contextualizing the issue of imbalances and inequities between men and women as discussed in this study. It provides a frame for understanding the origins of inequality between the sexes. By the enforcement of this system, men have more privileges than women, simply because of their gender. Men have the upper-hand in the relationship in terms of money, education, social privilege and

therefore have more influence in taking important decisions within the home. Hence, the system of patriarchy is a good way to evaluate women's encounters of oppression by men (Beechey, 1979).

Building on from the above lines, one can see that power plays a key role in dominating others, and how it has been successfully entrenched over time as a man's entitlement through the system of patriarchy. Acknowledging this evident male-bias in energy-poverty policy requires going further than simply looking at the household as the unit of analysis, and focussing more on the individuals living within the home - exploring the unequal terms of exchange between men and women and the power dynamics that take place within the home. Patriarchy forms part of the informal power dynamics that this study examines. In the following section, a detailed look at how the informal power dynamics transpire within the gender-energy-poverty nexus is discussed to give an overarching view of how social norms embedded in patriarchy impact females in relation to energy management.

3.2.1.1. INFORMAL AND FORMAL POWER DYNAMICS

Some scholars focussed on gender and energy issues talk about an existence of external and internal or formal and informal institutions or power dynamics which influence intra-household processes between men and women. Researchers in this field distinguish the role of external institutions or power dynamics particularly because the type of analytical method used in their studies needs to be able to dissect the nuances and interactions that transpire within the household in order to understand or gauge many phenomena related to gender and energy. Examples include determining women's bargaining power in relation to decision-making linked to particular energy services such as: access to resources, women's income generating opportunities and their active participation in energy projects (Pachauri & Rao, 2013).

In their study looking at 'gender equality in accessing modern energy and improved energy technologies' Clancy et al. (2012) took the micro-level analysis of 'households', a step further by recognising not only the household, but also the individuals within the household and the relationships between them as the unit of analysis. The authors thereby identify the external influences which mediate the preferences, incentives and constraints of women and men, highlighting the impacting role of social norms as well as the impact of laws on intra-household decision-making.

In their study looking at 'gender impacts and determinants of energy poverty', Pachauri and Rao (2013) also refer to an "additional dimension" which is the "influencing power dynamics" in bargaining power within the household. The authors explain that households have an additional relationship to contend with in the form of energy or technology service providers who influence the households' fuel supply. It is thus useful to include informal and formal power dynamics for this thesis to demonstrate how women's experiences with managing household energy is characterised by power relationships which are mediated by social and institutional processes.

3.2.2. THE USE OF NDM FOR THE INFORMAL POWER DYNAMICS

Informal power dynamics described in this thesis draw on the socially constructed roles and interactions that take place between men and women, both within and outside of the home. Latent in nature, the informal power dynamics may be disguised in the form of acceptable social attitudes towards gender which may become reinforced by certain policies or laws. Policies which disregard gender differential energy needs, such as women's need of energy for purposes of safety, for instance, may be an example of the reinforcement of the informal power dynamics within the gender-energy-poverty nexus. They are the gendered social norms which are articulated by unequal gender relations – relating to the division of labour, decision-making within the home and also within traditional structures entrenched in some communities. These can be cultural perceptions of women's role's which may keep women at a disadvantage socially and politically in relation to men. Informal power dynamics here refers to social norms all comprising of elements from the above described practises. Anneke (2005) states that gendered social constructs have enabled men greater power structurally, systemically and at an individual level in relation to women. Therefore applying the theory of NDM to social constructs of gender in relation to energy management may provide a better understanding of how female well-being is side-lined.

This thesis questions whether the informal power dynamics (social norms) make use of NDM attributes such as: the mobilization of bias, authority - in this case, it may present as male-bias authority - influence and power, and aiding the relationship that exists between gender, energy and poverty. This insight can contribute to furthering our understanding regarding the relationship between socialized gender norms and policy, both of which may affect the interconnected cycle of gendered energy-poverty. Subsequently, this understanding may help to uncover how energy-poverty policy could help in contributing to addressing the gender-energy-poverty nexus.

A way in which energy-poverty policy could help address the gender-energy-poverty-nexus is to unpack how the informal power dynamics might use the main attributes of non-decision-making. According to Bachrach and Baratz (1963), power is a relational concept in contrast to a possessive and substantive one. This means that the only existence of a power relationship (such as one between a man and a woman, for instance), can be determined where B has to bow to A's wishes, and where A can threaten to entreat sanctions on B. For the purpose of clarity sanctions are determined to be 'any promised reward or penalty by which an actor can maintain effective control over policy' (Bachrach & Baratz, 1963: 634). In this case, if A refers to a man and B refers to a woman, one may see how to some extent, the attributes of NDM may be utilized. Since the interaction between a man and a woman within a household - in terms of negotiations and taking decisions - is effected by norms and values of a particular society in which a household is located (Clancy et al., 2012), this power relationship can only exists if one is willing to yield to the other. Considering the patriarchal foundations that exist in most societies one may see how, arguably, social norms appropriate attributes such as power, male-bias or authority to maintain the status quo.

To demonstrate this point further, Bachrach and Baratz (1963) believe that all social decisions require the interaction of those seeking a particular goal, and those whose compliance must be acquired. These attributes of non-decision-

making (namely force, authority, influence and power), they believe, can be used to solicit this compliance from another. One might say that gendered social norms in and of themselves reinforce a subdued goal of attaining the compliance of others (females) using force, authority, power or influence. This study is curious to explore whether the association between the gender-energy-poverty nexus, the muted social norms and energy-poverty policy is underpinned by non-decision-making practices. The bias in favour of men which is sanctioned under the notion of patriarchy leads this study to key ideas that form part of the main components to the framework used in this study, namely: that **power** is tied to patriarchy, where men and boys have authority over females. Additionally, a **male-bias** upheld in gendered social norms exploits the gender-energy-poverty nexus – since men shoulder less of the burden in terms of energy-poverty. Bachrach and Baratz, (1962: 949) state that political organizations (of all forms) have a 'bias in favor of the exploitation of some kinds of conflict and the suppression of others because organization is the *mobilization of bias'*. Therefore, **authority** reveals itself in the compliance of women in performing certain tasks within the household, which remain rooted in the command given by males, who may dominate at all levels of decision-making, and who predominantly control the household resources.

3.2.3. THE USE OF NDM FOR THE FORMAL POWER DYNAMICS

The formal power dynamics under discussion in this thesis can be collapsed into the institutions that exist in society. Legal by nature, the formal power dynamics use the known (political, public) structures such as policies and service-delivery mechanisms to impact the gender-energy-poverty nexus. For the purpose of this study, the Free Basic Alternative Energy Policy (FBAE) will be the main energy-poverty policy of focus. The main reason for choosing this policy is that the cycle of gendered energy-poverty is observable even in commercial fuel markets (Clancey et al., 2012) where no grid connection exists, as is the case in the chosen study area. Additionally, substantial urban energy-poverty studies involving a look at why GEP is not featured in policy are lacking. Through studies such as this one, policy impacts on phenomena like the gender-energy-poverty nexus can be observed to uncover policy gaps and policy weaknesses for future fine-tuning.

In this study, an appraisal of non-decision-making dynamics will form part of a framework to uncover the dynamics of non-decision-making (formal processes) in the energy-poverty policy FBAE which result in the exclusion of the gender-energy-poverty nexus. The influencing factors which led to the adoption of the Free Basic Alternative Energy Policy will be discussed. Additionally, an analysis relating to how the mechanisms used by both the formal and informal power dynamics impact the gender-energy-poverty nexus will be discussed. This will be interpreted using Bachrach and Baratz (1962) model to "study of power", which acts as a step by step guide to identify attributes of NDM in developing energy policies. The insights achieved here will form a building block to furthering our understanding of how the energy-poverty policy FBAE failed to adequately address the gender-energy-poverty nexus.

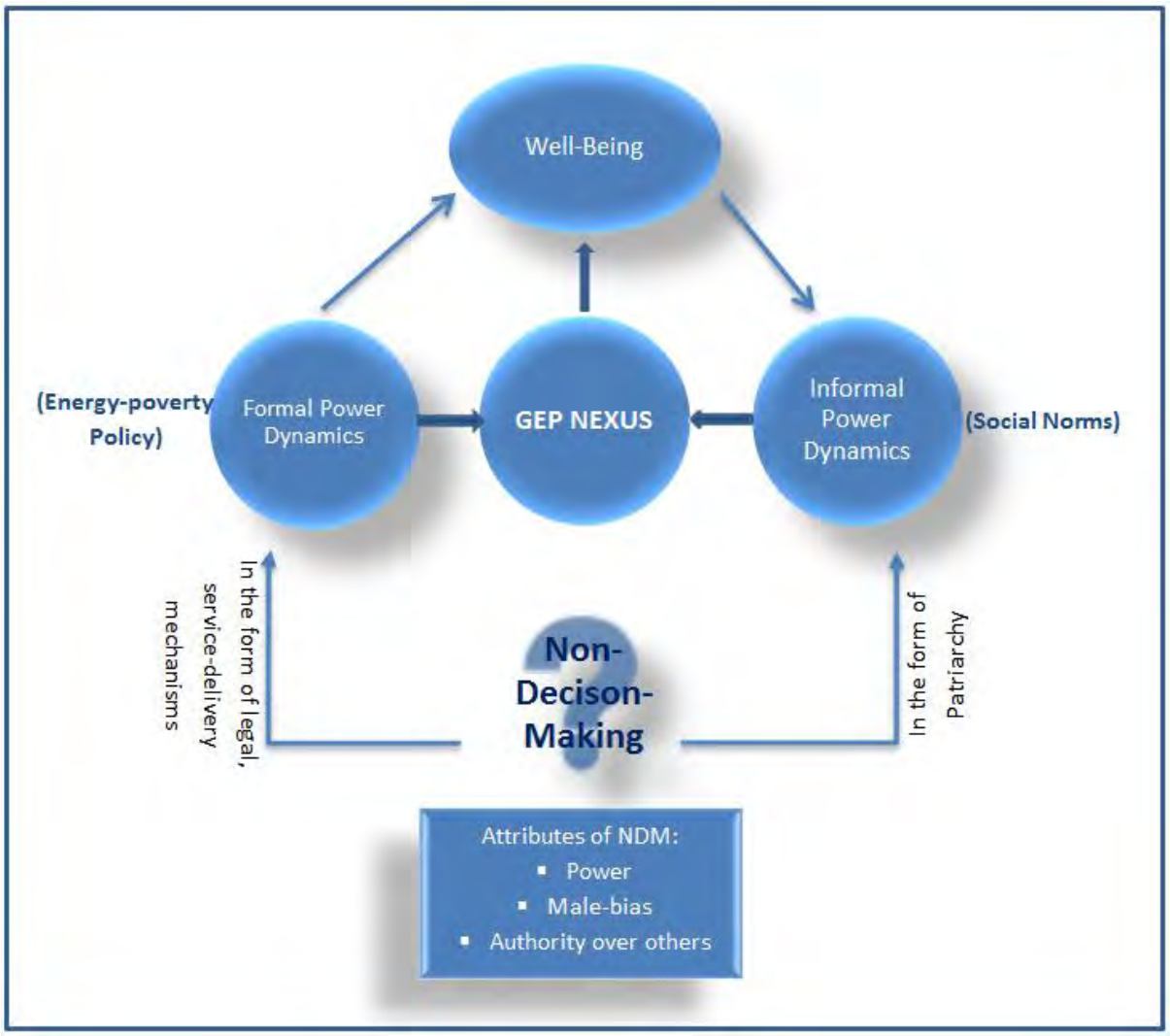
To find the answers to the aims of this study, the link between power and the relevant concepts of power and energy-poverty policy need to be thoroughly delved into. Bachrach and Baratz (1962) assert that power may be exercised by limiting the decision-making range to relatively "safe" issues. This means that in policy formulation for instance,

policy-makers (deliberately or not deliberately) maintain only a certain scope with which to work, in order to abide by a more assured measure in setting agenda. Any changes in policy direction or policy conflicts in agenda-setting during the process of formulating the FBAE Policy would have a significant impact on this study as, in that instance it would be a case of assessing whether some issues did make it to the agenda, but where possibly disregarded for unknown reasons. To this end Bachrach and Baratz (1962) advise that the researcher obtains information regarding the behaviour of individuals while trying to resolve any conflicts. Informal power dynamics, however latent they may be, are traceable in literature and case studies, if one is looking for it. Therefore domestic level energy-poverty policy should view gender relations as a relevant agenda item and not view it as "unmeasurable elements" which are inconsequential to policy, as these may be of decisive importance, according to the authors (Bachrach & Baratz, 1962: 948).

Mobilization of bias may be investigated by assessing the FBAE Policy. Doing so would help to gain insights related to whether or not, in formulating this policy, any bias (male-bias particularly) would have in fact influenced the processes, to lead to disregarding any energy needs for women. Bachrach and Baratz (1962) say that anytime a person or group create barriers for policy conflicts to become public knowledge is an exercise in power. This study is interested then, in knowing if there may have been some kind of knowledge or information available that supported the inclusion of gender targets during the formulation of the FBAE policy. This knowledge and the lack of its use would certainly reflect some level of bias, and more importantly, an exercise of power by those who were able to consciously treat that knowledge of insignificant value. Additionally, Bachrach and Baratz (1962: 949) conceded that disregarding this effort and ability by some to effectively suppress latent issues is “to overlook the less apparent, but nonetheless extremely important, face of power”.

In diagram 1 below the study’s conceptual framework is presented. Diagram 1 depicts how attributes of NDM feed into formal and informal power dynamics. These power dynamics make use of NDM knowingly or unknowingly, which then influence the interplay between gender, energy and poverty - the gender-energy-poverty nexus. The formal power dynamics use legislative and service-delivery mechanisms to impact on the GEP nexus, while the informal power dynamics draw on the patriarchal notions of gender roles (social norms) to perpetuate women’s hardships in energy management. Furthermore, this depiction in diagram 1 proposes that reflecting gender sensitivity in energy-poverty policy and through gender specific policy goals, the formal power dynamics may positively impact female well-being. Meanwhile, informal power dynamics may also be challenged by policy’s recognition of women’s energy needs. Thus, women may have better access to affordable and clean energy services that lessen the impact of GEP.

Diagram 1: ***Conceptual Framework***



(Source Own Compilation)

3.3. UNDER WHICH CIRCUMSTANCES DOES THIS THEORY APPLY?

As was described in the preceding sections in this chapter, the theory of NDM may be applied where it features in both the formal power dynamics and informal power dynamics that in turn affect the GEP nexus. This thesis is premised on the notion that the two main power dynamics at play, formal and informal, use attributes of non-decision-making (such as male-bias, power and authority over others) as a tool which intentionally or unintentionally perpetuates the cycle of gendered energy-poverty, thereby reducing welfare outcomes for women. The fact that energy-poverty policy lacks a gender sensitivity framework is, in essence, a perpetuation of the cycle of gendered energy-poverty. In addition, the values and principals upheld by social norms embedded in patriarchy maintain the status quo regarding gender relations. A consequence of these sustained values is that this may have a negative effect, causing women hardships in energy management. As was reviewed in the literature, the main features holding together the connection of gender, energy and poverty are entrenched in the relative insignificance of the female genders' contribution to energy management at the household level, the feminisation of poverty – where women and households headed by women

remain the poorest – and the lack of recognition of gender differential energy needs. Both the formal and informal power dynamics affect the gender-energy-poverty nexus.

Policy needs to understand women's specific contribution to household energy

In order for policy decisions to be reached regarding the impacts that a certain policy will have on men and women for instance, policy research needs to include an identification of the visible as well as latent issues which influence a given problem. This study is constructed on the notion that women can reached a certain level of well-being, determined by them to be adequate, where energy-poverty policies acknowledges their contribution to and struggles associated with managing domestic energy. This can include an improved state of health, access to resources (including financial ones) and some level of time-saving or convenience in carrying out their daily household work to allow for their own personal development.

In this thesis, an analysis of the informal power dynamics and the formal power dynamics was laid out, detailing how these forces knowingly or unknowingly use attributes of non-decision making such as power, authority and male-bias. The use of NDM attributes affects the gender-energy-poverty nexus and particularly impacts female hardships in household energy management. Female hardships here, refers to the unequal terms of exchange in relation to access and control of household resources like household income, managing household energy and intra-household decision-making. Using the qualitative approach, this study attempts to demonstrate that the concept of energy and the concept of poverty is fundamentally gender sensitive. Moreover, findings from this study aids in exploring the extent of the gender-energy-poverty nexus within an informal settlement, demonstrating how power relationships further affects this.

Conclusion of Chapter Three

This chapter looked at the theory of non-decision-making, describing what it contains and when it was developed. The attributes comprised in non-decision-making are reviewed to form an understanding of how these attributes can present themselves in social processes and in policy decision-making. The gender-energy-poverty nexus is reviewed in relation to the formal and informal power dynamics. This section has shown how these two power dynamics interacted with the gender-energy-poverty nexus. In addition, the concept of patriarchy is reviewed, and becomes a useful concept for understanding the interaction of informal and formal power dynamics in gendered energy-poverty. The way in which NDM occurs under the informal power dynamics and how it is used in the formal power dynamics is discussed, showing how attributes such as mobilization of bias and the use of power in suppressing important issues are used as tools to establish power relationships to influence social and institutional processes.

In the following chapter, the study methodology is presented. This begins with a brief description of the study's methodological approach, the study area where data was collected; then, the research design follows as well as sampling technique and data collection methods. Lastly, the study's data analysis techniques, data verification, study limitations, ethical considerations and a section on reflexivity follow this.

4. CHAPTER FOUR: METHODOLOGY

4.1. INTRODUCTION

This section focuses on the qualitative research methodological approach which is the preferred research method for this study. Babbie and Mouton (2001) explain that scientists use a wide variety of methods and techniques in empirical research, which vary according to the tasks they perform. The qualitative methodology seeks to understand the individuals' interpretation of a social phenomenon. Further, Babbie and Mouton (2001) assert that the qualitative researcher wishes to observe events and actions as they happen, without any intervention or interference, which is opposite to the quantitative researcher who seeks to control environments and settings with an aim to predict and explain behaviours. Additionally, the authors state that the goal of research for qualitative researchers is defined as describing and understanding (Babbie & Mouton, 2001).

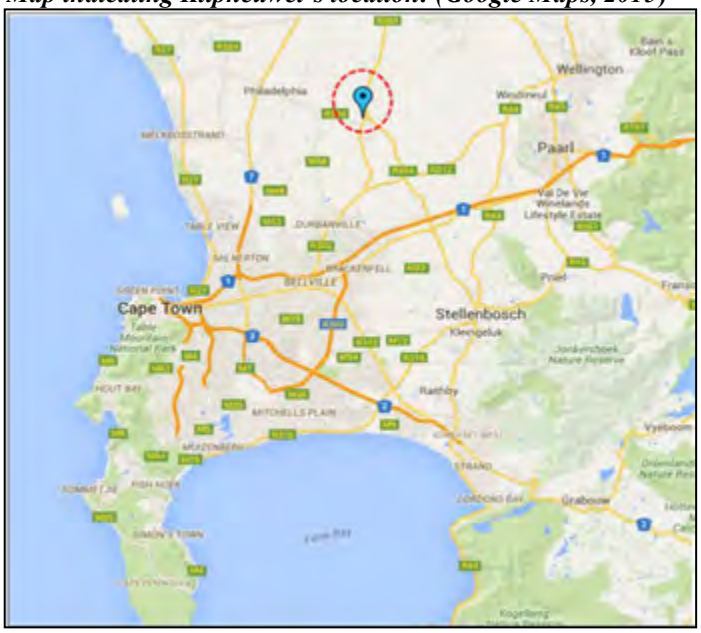
In this chapter, the study area is introduced, detailing the study's location, the available services in the study area as well as other demographic characteristics. The study area acquaints the reader with the context in which the data was collected for this study. This is followed by a review of the research methodology of the study. Here, the research design, sampling technique as well as the data collection methods is discussed. The study's binary data analysis techniques, study limitations, ethical considerations and a section on self-reflexivity are also presented.

4.2. STUDY AREA

This section introduces the study area to familiarize the reader with the demographics and challenges the residents are confronted with in Klipheuwel. This section demonstrates how Klipheuwel is an ideal area for this study as it is characterized as an informal settlement in an urban area, with no connection to the grid (and because it is in an urban area, there is no FBAE services provided to the community by government) and lacks adequate basic services. The General Household Survey (2013) defines how a shelter's attributes meet the minimal requirements for security and comfort. The survey also recognizes that the make-up of peoples lodgings and access to various basic services provide an important link to human well-being within households (StatsSA, 2013).

Klipheuwel has two sections which are characterized by low socio-economic status consisting of a mix of formal and informal households (Breen et al., 2007; Kumwenda, 2006). This research was conducted in the area which has no electricity connection and lacks a number of basic services such as sanitation and adequate housing. This lack of basic services is mainly because the informal settlement of Klipheuwel has been developed on private land, thereby hampering its access to government services. Statistics South Africa defines an informal settlement as "an unplanned settlement on land that has not been surveyed or proclaimed as residential, consisting mainly of informal dwellings" and an informal dwelling as a "makeshift structure not approved by a local authority and not intended as a permanent dwelling. These structures are typically built with found materials (such as corrugated iron, cardboard and plastic). Contrasted with formal dwelling and traditional dwelling" (StatsSA, 2011: 14). According to the General Household Survey, the Western Cape province had the third largest percentage of households that lived in informal dwellings

Map indicating Klipheuwel's location: (Google Maps, 2015)



(16,0%), preceded by the North West province (22,1%) and the Gauteng province (19,8%) (StatsSA, 2013). Energy access remains a challenge in Klipheuwel because the informal settlement is built on private land. Extending electricity to an informal settlement such as Klipheuwel is precarious as it may be viewed as providing a service to the illegitimate tenants over the rightful land owner (Gaunt et al., 2012).

Informal dwellings account for 12,3% of all dwellings in the Northern district (Bellville, Durbanville, Brackenfell and Kraaifontein area), predominantly found in Fisantekraal, Klipheuwel, Goliath and Wallacedene (City of Cape Town, 2009). In the Northern district, 56,13% of the total population of the district are employed, while 69,53% are economically active. This district also has the second lowest unemployment rate of all the metropolitan districts. The population in Klipheuwel informal settlement is predominantly made up of Black Africans (54%) and Coloureds (39%). With regard to public housing, again, there have been proposals to relocate the Klipheuwel informal settlement (Cape Farm Vryheid) - it is proposed that it be relocated to the Fisantekraal area (City of Cape Town, 2009). This would make housing the community easier since the informal settlement is currently built of private property. According to Stats SA 73% of the labour force (aged 15 to 64) is employed and 73% of households have a monthly income of R3 200 or less (StatsSA, 2011).

Durbanville is the closest commercial hub where bulk food and household equipment can be purchased. One of the major problems in the district is the congestion being experienced in the Durbanville CBD (City of Cape Town, 2009). Transport is a challenge in the settlement as it costs Klipheuwel dwellers R22 return fare on their taxi service (there are only two taxi's available in the informal settlement). There is also a train service available which departs once at (06h00) and returns at (18h00) riding along Cape Town's Northern train line. School children use the trains and the taxi service to reach school (Fisantekraal, is where Klipheuwel school-going residents attend their schooling.) and work respectively. Among other challenges in Klipheuwel, sanitation remains one of its biggest challenges. There are chemical toilets available in the informal settlement; however these are not frequently emptied by the municipality. Residents ideally, want flushing toilets.

In the following section, a discussion of the research methodology which is used in this research project will be presented. Discussions about the research method and design, the sampling method, data collection methods and tools as well as the method of data analysis will be shown. The study's limitations are discussed in relation to the afore-mentioned sections in this chapter. The limitations in relation to the researcher are also looked at. Lastly a section on the ethical concerns is discussed ending with a section on reflexivity.

4.3. RESEARCH METHOD

The design of this study takes a qualitative approach. Babbie and Mouton (2001) say that the qualitative research paradigm is a research approach which takes its departure point as the insider perspective on a particular social action, where the goal of research is defined as describing and understanding versus explaining and predicting human actions. In this case, it is appropriate to use this form of methodology to explore the views of poor women with regard to their experiences with managing household energy and their perceptions of the impact this has on their state of well-being. This study uses two qualitative approaches: the first being 20 face-to-face semi-structured interviews with eight men and twelve women, while the second approach uses a qualitative content analysis approach. Firstly, the interviews were conducted in an informal settlement outside of Cape Town. For Babbie and Mouton (2001), face-to-face interviewing is deemed to be preferred in South Africa because it means that the respondents give their own answers to oral questioning which eliminates problems of illiteracy (there was one individual over the age of 66 years who participated in the study and was unable to read and write). The interviews were semi-structured since it consisted of an arrangement of main themes followed by broad, open-ended and close ended interview questions, but there was no strict determination of the order of the questions. For example, participants sometimes covered a number of themes at a time. Secondly, this research tried to uncover how the gender-energy-poverty nexus and the well-being of poor women failed to be addressed by a South African energy-poverty policy. Qualitative content analysis techniques were used to uncover how gendered energy-poverty is excluded from energy-poverty policy in South Africa, by analysing textual data. This approach is appropriate since the treatment of data in qualitative content analysis includes interpreting and placing the content into context in order to provide an understanding of phenomena (Sovacool, 2014), and is one of the many useful techniques to apply in analysing textual data (Forman & Damschroder, 2008).

The qualitative research approach itself promotes the empowerment of women as the social world is interpreted through the eyes of the respondents, and it provides meaning through the sharing of their experiences (Pini, 2002). It may be used as a tool to empower women, thereby accommodating to uncover the latent informal power dynamics which present in the terms of exchange and intra-household processes within the homes of the respondents. This methodology is the favoured method for gender studies, for instance, as it captures the subjectivities of women and balances the research hierarchy between the researcher and the researched. This is because it involves face-to-face contact and interaction between the researcher and participants, and may allow better reciprocity and rapport between the participant and the researcher (Pini, 2002). Thus this research method is the better choice to provide insight on the value that is placed on women's unpaid labour within the home, shedding light on the patriarchal norms that dictate the role of men and women in society and the amount of influence that women have at all tiers (between the sexes, within the home and within the community) of decision-making – particularly on the types of energy used in the home.

4.4. RESEARCH DESIGN

This study wants to find the answer to the principal question –

How can the energy-poverty policy (FBAE) contribute to addressing the gender-energy-poverty nexus?

Hence, the study's research design is structured to a single case study approach – relying on qualitative interviews and qualitative content analysis. The single case study will focus on Klipheuwel – providing the views shared by twenty of its residents related to managing energy in the informal settlement. Thus a sample of 8 men and 12 women were selected from the study area and formed the unit of analysis for the case study. It was necessary to limit the scope of the research, therefore sexual orientation was not considered. Since this study wants to uncover how power dynamics influence the lack of representation of females' needs in the policy-making process, the study's unit of analysis, i.e. individual men and women residing in Klipheuwel informal settlement, is used to explore the extent of gendered energy-poverty in the study area. An analysis of this unit will aid in answering this question, however an additional analysis of the formal processes involved in formulating energy-poverty policies is needed in order to reveal how the FBAE Policy fails to address the GEP nexus.

Therefore secondary data in the form of textual data will be used as a second unit for analysis for the qualitative content analysis portion of this thesis. The use of secondary data in this study is suitable too as the purpose of qualitative research is to understand phenomena by focusing on detail and providing depth in understanding and not measure or to make (Forman & Damschroder, 2008). Textual data will be important to trace the missing links for the inclusion of gender during policy formulation. Secondary data, however, can be challenging as secondary data in the form of household energy surveys tend to be standardized, and don't reflect gender nuances. Qualitative content analysis is one of many qualitative methods used to analyse secondary data. It is a generic form of data analysis in that it is comprised of an a theoretical set of techniques which can be used in any qualitative inquiry in which the informational content of the data is relevant (Forman & Damschroder, 2008: 40).

The case study design produces rich data with a level of detail that can provide depth for further understanding of social phenomenon. Thus, the information obtained in Klipheuwel through the qualitative interviews may contribute to a better understanding of the phenomena of gendered energy-poverty in similar contexts around South Africa. However, the value of using a case study approach is that even if not directly comparable to other studies, it can still corroborate certain similar phenomena. According to Yin (2009) a case study design is used when the study addresses a "how" or "why" question, where the behaviour of the unit analysed cannot be manipulated. Additionally, this research design is also helpful when the study covers the context conditions for the phenomenon - particularly when the boundaries between the context and the phenomenon are not clear (Yin, 2009). This study has placed great emphasis on energy access and energy management experiences of women in an informal settlement. Often political processes can weaken the existence of gender in policy (Dutta, 2003). Thus, using Klipheuwel informal settlement as a case study can reveal where in South Africa the problem with gendered energy-poverty is worse. While analysis of the policy-making processes can shed light on why women's experiences especially of energy management are side-lined in energy-poverty policy when clearly this is an issue in South Africa. Men are included in the study to contrast their experiences with women's in terms or accessing energy and managing domestic energy. Additionally, the case study approach is useful in a setting like Klipheuwel, to demonstrate the ways in which the GEP nexus is impacted by social norms (the informal power dynamics) and policy processes (formal power dynamics). This study uses the single case

study approach because South Africa lacks studies focusing on the interaction of the gender-energy-poverty nexus and energy-poverty policies.

4.5. SAMPLING

A sampling frame is the 'list of units composing a population from which a sample is selected' (Babbie & Mouton, 2001: 647). This research made use of two sampling techniques. For the interviews, a non-probability sampling technique was used. The sampling frame for the case study needed to be generated as it is specific to the context of Klipheuwel and for the purpose of this study. Non-probability sampling is used when probability sampling is inappropriate (Babbie & Mouton, 2001). The sample could not be identified through official statistics – therefore it needed to be generated. Hence, a snowball sampling method was used in Klipheuwel and is a technique which is commonly used in qualitative field research (Babbie & Mouton, 2001). Babbie and Mouton (2001: 167) state that "Snowball sampling refers to the process of accumulation as each located subject suggests another subject". Gaining access into the community was done through the identification of a community leader who is a chief in the area and very well respected in the Klipheuwel community. The researcher relied on the chief to guide her to at least one research participant who showed interest in the study. The research participant was then asked to provide information needed to locate other individuals who live under similar circumstances in the community and whom the respondent felt would show interest in a study of this nature (Babbie & Mouton, 2001). Through this process, the researcher obtained 20 face-to-face interviews. The respondents in the study were a mix in racial grouping of black Africans and so-called Coloured individuals. Most of the respondents were unemployed and had attained a very low level of schooling (all lower than a grade 12). The duration of residence in Klipheuwel varied from only having been a member of the settlement for one year to others reporting having lived in the settlement for over fifteen years. Table 3 provides a detailed breakdown of the demographics of the respondents in chapter five, titled "*Profile of respondents*".

For the analysis of secondary data, a data set of 23 information rich articles was selected through the use of a purposeful sampling technique strategy. Purposive sampling of mainly textual sources (apart from one interview with an expert was relied based on the appropriateness of the content in terms of fitting the criterion of the study (Ritchie & Lewis, 2013). In purposive sampling, 'The sample units are chosen because they have particular features or characteristics which will enable detailed exploration and understanding of the central themes and puzzles which the researcher wishes to study' (Ritchie & Lewis, 2013: 78). The sample consisted of secondary data in the form of government public records, media reports, political party documents and speeches, academic research platform documents and independent governance supervisory body documents. Yin (1994, in Yin 2009) claims that using multiple sources is common in case study research and assists in correctly identifying constructs and meanings. The criteria for selecting the sample was based on articles and information that was concerned with the development of the FBAE Policy of 2007. The sample included any relevant textual data that was dated from the period leading up to the creation of the policy until present day. Data discussing gender, and the link to energy-poverty were also considered related to the South Africa policy development sphere. This was done intentional as the sample needed to provide detail for better understanding of the problem (Ritchie & Lewis, 2013).

4.6. DATA COLLECTION

For the Klipheuwel qualitative interviews, the research data was collected using face-to-face interviews conducted by the researcher and two field assistants. The two assistants – one male and one female – were both amaXhosa and had no previous experience with research interviews. They received training from the researcher regarding carrying out interviews, familiarizing themselves with the topic and instructed on ethical considerations following the University of Cape Town's Engineering and the Built Environment Faculty Ethics in Research Handbook (Revision 3.1). Data was obtained using an interview schedule as a guide for the face-to-face interviewing process. Qualitative research as a paradigm differentiates itself from quantitative research, according to Babbie and Mouton (2001: 53), in that research is conducted in the natural setting of the social actors. To create rapport with the respondents, the interviews were conducted in the respondent's homes as well as in their first language of isiXhosa, and Afrikaans for one respondent. The interview schedule covered broad research questions linked to the objectives. These were developed and aligned to the study's conceptual framework. The researcher and field assistants made use of a recording device, but only once permission had been obtained from the participants. This was done according to relevant ethical considerations and to allow for precise collection of the data. The schedule relied on mostly open-ended questions which asked the research participants for their perceptions on a specific topic or theme, and also used close-ended questions such as respondents' age, monthly income and racial grouping. Data was collected over one month, comprising of two visits to the community per week. Interviews lasted between twenty minutes to forty minutes depending on the abilities of the interviewer and respondents' ability to comprehend the questions. Respondents were given an explanation regarding who the interviewer was, why the research was being conducted and what was going to happen after the research was completed.

The interview schedule comprised of six sections:

- About the respondent
- Theme one: main fuels used
- Theme two: effects of current fuels used
- Theme three: gender inequality
- Theme four: well-being
- Theme five: sample domestic energy policy - Free Basic Alternative Energy Policy, 2007

The schedule asked respondents to provide some personal information which related to family composition, age, relationship status, gender, highest level of education obtained, employment status and population group. This was followed by 36 open-ended questions relating to each of the themes named above.

For the qualitative content analysis component of the study the researcher relied on secondary data such as media articles, minutes to parliamentary meetings, thesis and journal papers. The researcher used articles which were relevant in terms of their content. Some argue that by examining the data as it is collected, the researcher familiarizes themselves with its informational content to make connections (Forman & Damschroder, 2008). This process helped to

work through larger amounts of information to pick out the most suited portions for the study. The researcher used government public records, media reports, political party documents and speeches, academic research platform documents and independent governance supervisory body documents harvested from the internet and the library. These platforms were chosen based on a need for transparency, accuracy and also because this was where the most information could be found – internet. The purpose was to focus on informational content of the data being collected, therefore a key-word search typed into search engines helped to draw on relevant information. All searches used phrases like "FBAE" "FBAE policy" "GEP and FBAE and "Policies in South Africa". The articles that were chosen dated between 2003 to present day. Articles that were generated and deemed to be relevant were included in a list (presented in chapter 7.1), where relevant phrases, and patterns in the information was picked out.

4.7. DATA ANALYSIS

This section discusses how the data was analysed, presenting two approaches to the analysis which are then merged to provide a holistic answer to the principal question of the study.

4.7.1. ANALYSING THE FACE-TO-FACE INTERVIEWS

For the analysis, this first component relies on primary data in the form of qualitative field-work which was collected by the researcher with aid from two field assistants. An advantage of using this type of data is that the researcher had freedom to explore issues which are specific to the study. Babbie and Mouton (2001: 646) say that qualitative analysis is 'the non-numerical examination and interpretation of observations for the purpose of discovering underlying meanings and patterns of relationships'. Once all the information had been gathered through the face-to-face (semi-structured) interviews, the interviews were transcribed for the analysis. During transcribing, the interviewers name is coded as their own name, while the respondents name is coded after the interview number. For instance, the respondent from the first interview become "*Respondent One (R1)*". Where there were two respondents during a single interview they were allocated a further alphabetical coding – "*A (as in R1(a))*" or "*B(as in R1(b))*" – depending on the number of respondents and the order of their appearance in the transcript.

De Vos (2002) defines analysis as a reasoning strategy with the aim of taking a complex whole and resolving it into smaller parts. For the purpose of this study, an adaptation of Tesch's (1990) approach to data analysis as outlined in De Vos (2002) is used. After the interviews were transcribed, the below eight-step model of data analysis was followed:

Step 1: Once each interview had been transcribed, the researcher made notes of themes that consistently stood out.
Step 2: In the next step the researcher identified the underlying meanings of concepts and coded for these by creating labels in the text. This was done in order to track meanings relating to the objectives of the study.
Step 3: The researcher began identifying the regularity of concepts and stored them by creating main categories and sub-categories.
Step 4: At this stage, the researcher distinguished between concepts. This was done by writing into columns next to the appropriate text in the transcripts using different symbols as codes (different colours) for each concept and theme. In

these columns different codes and symbols in different colours uncovered new information. This allowed the researcher clarity as she worked through each transcript and also allowed for an opportunity to spot new categories or themes.

Step 5: The researcher then created a coding framework to use as a guide. Connected themes, categories and sub-categories were grouped under different headings. De Vos (2002) says that analysis is applied in coding to identify the properties of recognized categories in data.

Step 6: At this stage the researcher finalised the abbreviations for each category and made use of different colours as a system for the coding process.

Step 7: The researcher then made critical links between the information obtained during the interviews and existing literature pertaining to the problem by coding texts in a way that provided clarity for the researcher. This phase helped the researcher to understand what has worked and what has not worked and made decisions regarding a need for recoding.

Step 8: The researcher recoded existing data where it was needed, to gain new insights or to clarify ideas emerging from the interviews.

Tesch's (1990) model for analysing qualitative data, helped the author to recognize common statements in the data which were coded accordingly. As themes emerged from the data, a framework developed where patterns in reporting from the respondents formed and provided the predominant experiences and perceptions of managing energy in an informal settlement - relevant to the scope of the study. Thus a thematic framework for analysis was created from this process which is a simplified matrix of main themes and categories linked to the original data. The reason this thematic framework is created is to organise the data and to aid understanding of phenomena (Ritchie & Lewis, 2013). Below, this study's thematic framework for analysis outlines the four main themes. Further discussion of this framework is provided in chapter 5.

Table 2: ***THEMATIC FRAMEWORK FOR ANALYSIS***

THEMES	CATEGORIES	SUB-CATEGORIES

A. GENDER POWER RELATIONS	**A.1. Social Norms**	• Gender roles
		  ○ Role of a woman in society
		  ○ Role of a man in society
		• Decision-making
		  ○ Within the community
		  ○ Within the home

	A.2. Gendered Energy Needs A.2.1. Survival A.2.2. Leisure	**Domestic Use of Energy**: • Food Processing • Safety • Recreational use of domestic energy
	A.3. Intra-Household Processes	• Division of household labour
B. INSTITUTIONAL BARRIERS	**B.1. Policy Exclusion**	**Accessing Energy**: • Impact on informality • Impact on women
	B.2. Standard of Living	**Satisfying Basic Needs** • Service Delivery

C. THE BURDEN OF ENERGY-POVERTY ON WOMEN	**C.1. Economic Burden**	• Extended poverty
		  ○ Financial strain on the household
		  ○ Coping strategies

	C.2. Health Burden	**Quality of Fuels**: • Physiological effects • Psychological effects
D. ENERGY AND FEMALE WELL-BEING	**D.1. Improved Energy Services**	**Electricity**: • Convenience • Comfort

(Source Own Compilation)

This first analysis comprising of the Klipheuwel study is connected to the second component in that it demonstrates where in South Africa the problem of excluding the GEP nexus from energy-poverty policies is worst, therefore adding to the necessary evidence for better future decision making.

4.7.2. ANALYSING DYNAMICS OF NDM IN ENERGY-POVERTY POLICY PROCESSES

For the analysis, this second component relied on secondary data in the form of government public records, media reports, political party documents and speeches, academic research platform documents and independent governance supervisory body documents. Examining through the content of the secondary data was done following the below guide to uncover dynamics of non-decision-making within the FBAE Policy. A disadvantage of using this type of data

relates to the suitability of data since not all the data found will necessarily correspond to the specific concerns of this study.

Following Bachrach and Baratz (1962) model for uncovering the "face of power", the following steps were followed and applied to the analysis to understand the formal processes involved in the Free Basic Alternative Energy Policy (2007):

A) **Investigate the particular "mobilization of bias" in the institution under scrutiny**: This process involved looking into the nature of prejudices and influencing factors in policy development within the Department of Energy, in addition to examining how certain issues or ideas which favour certain persons' or groups' interests are gratified.

B) **Then, analyse the dominant values and the myths**: This included looking at the policy assumptions and core ideals included in the policy, and uncovering what motivated their inclusion.

C) **Establish political procedures and "rules of the game"**: This part will involve uncovering the procedures involved in creating and delivering policies in South Africa, focussing on strengths and weaknesses of approaches.

D) **Make a careful inquiry into which persons or groups, if any, gain from the existing bias and which, if any, are handicapped by it**: In this step, the visible advantages and disadvantages of the policy are uncovered, and linkages to benefitting parties and those harmed by it are discussed.

E) **Next, investigate the dynamics of non-decision-making**: In this step, those individuals or groups who set the rules and have influence over major policy decisions are uncovered to demonstrate a "face of power".

F) **That is, examine the extent to which and the manner in which the *status quo* oriented persons and groups influence those community values and those political institutions which tend to limit the scope of actual decision-making to "safe" issues**: In this step, which builds on from the previous step in the analysis, will show the ways in which those who have the ability to influence institutional processes are able to subdue the agenda in policy in South Africa.

G) **Finally, use this knowledge of the restrictive face of power as a foundation for analysis and as a standard for distinguishing between "key" and "routine" political decisions**: The distinction related to the FBAE Policy formulation to uncover how the scope of decision-making was limited and distinguish between "key" and "routine" political decisions.

H) **The researcher must analyse participation in decision-making of concrete issues**: The last section will reveal the individuals or groups which had the last and final say in the development of agenda within the FBAE Policy. (Bachrach & Baratz, 1962: 952).

Having provided this guideline, the authors acknowledge, however, that understanding the decision-making process is complicated, since there is no way to know for certain the exact course involved in the decision-making process (Bachrach & Baratz, 1962). In an attempt to provide a more comprehensive picture of the formal processes involved in developing the FBAE Policy, a number of government officials were approached for comments on the policy

formulation process for the FBAE Policy. Obtaining interviews however, was a challenge as consistency with contact details and roles within government institutions especially changed quite rapidly. One high level interview was obtained though due to better accessibility to an expert within the Energy Research Centre. Ms. Brenda Martin shared her expert account of the transparency of decision-making at policy level. However this interview was conducted over e-mail, which has its disadvantages compared to the face-to-fact interview. Nonetheless, this technique sufficed in this instance and some useful insight came from this expert's lengthy experience in the policy lobbying in South Africa. Furthermore, this component of the analysis will aid in showing the formal processes involved in energy-poverty policy which lead to an exclusion of core issues related to gender and energy-poverty. However, some questions of certainty related to the existence and extent of gendered energy-poverty in South Africa, as well as a need for evidence to motivate policy adjustments for the inclusion of the gender-energy-poverty nexus still remain. Therefore the first analytical component will aid to enhance the argument for an inclusion of GEP in energy-poverty policy in South Africa.

MERGING THE TWO ANALYSES

The first part of this analysis uncovers how the formal and informal power dynamics impact the management of domestic energy and its effects on the GEP nexus, based on the face-to-face interviews conducted in Klipheuwel. This will inform one part of the study. In this component of the study's analysis, an empirical research of gendered energy-poverty is presented which reveals the existence and impact of GEP on informal settlement dwellers. The interviews reveal how hardships in energy management associated with the gender-energy-poverty nexus are reinforced by social norms and gender-neutral energy-poverty policy. This first part will show the extent of the GEP nexus in this community. The second part of this analysis uncovers dynamics of NDM in energy-poverty policy processes, which will inform another part of the study. The aims of this second component of the analysis is to highlight how formal processes in policy development in South Africa can lead to an exclusion of the gender-energy poverty nexus, specifically in a South Africa energy-poverty policy.

The next section looks at data verification, which is followed by the study limitations, ethical considerations and self-reflexivity.

4.8. DATA VERIFICATION

According to Morse et al (2002) data verification is the mechanism used during the process of research to substantially add to ensuring reliability, validity and to ensure thoroughness of a particular study. This practise is very useful in qualitative approaches like conducting face-to-face interviews. Babbie and Mouton (2001: 646, 648) suggest that reliability is the 'quality of measurement methods that suggests that the same data would have been collected each time in repeated observations of the same phenomenon' and validity to be 'a term describing a measure that accurately reflects the concept it is intended to measure'. Data verification can thus be deemed an important part of the research process. The most substantial contribution made to trustworthiness in qualitative research has been the work of Lincoln

and Guba (1985), as they developed four constructs appropriate for the qualitative paradigm: credibility, transferability, dependability and confirmability to ensure thorough objectivity (Babbie & Mouton, 2001).

Credibility: Credibility seeks to prove that the reality that the respondents' account as being their own, does actually exist. In this thesis, a conceptual framework is developed to accurately sift through the data to spot common themes in the data, relevant to the research topic. These are then discussed and evaluated to check for compatibility between the data received from the respondents and what is known about that reality. The use of a recording device has also ensured referential adequacy which is part of assuring credibility of information (Babbie and Mouton, 2001).

Dependability: Dependability assesses the likelihood for a study to be replicable, so that if the study were to be repeated with the same or similar respondents its findings would have some common threads (Babbie and Mouton, 2001). This thesis has complied with this form of verification in that it has followed a systematic process of data collection methods (using the same semi-structured interview schedule for all the interviews) and data analysis methods (consistency with linking themes and categories throughout all the interviews).

Confirmability: Confirmability is the point at which the findings are gained as a result of the inquiry rather than the researcher's biases (Babbie and Mouton, 2001). For the purposes of this thesis, it is mandatory that the university supervisor is presented by the student researcher with all the raw data (all interview recordings and all the interview transcripts), as well as the research proposal containing theories pertaining to the research, any interview pilots and the interview schedule. There is also an opportunity for inquiry auditing, since the research is done with the oversight of two university supervisors who will ensure that the study is both valid and reliable by monitoring documentation and examining the coherence of data, findings and interpretations made by the student researcher (Babbie and Mouton, 2001).

4.9. STUDY LIMITATIONS

The limitations of the study will be discussed in relation to the research design, sampling, data collection, data analysis and the skills of the researcher.

The limitation in respect of the research design could stem from the subjective nature of the information provided. While a case study approach maximizes the information received, there would be a level of bias in reporting as different individuals have different experiences, and each will report their own biased version of the "truth". Language posed as a challenge in the research as the interview schedule questions were written in English while most of the participants were amaXhosa. However, this was mitigated through adding translated keywords into the interview schedule to act as a guide for the researcher and also by employing two isiXhosa speaking field assistants who were fluent in both English and isiXhosa. Another barrier in terms of language was that the word electricity - "umbane" - can be used interchangeably with energy - "amandla" - in the isiXhosa language. At times both the respondents and the interviewers used the words interchangeably, which did make analysing the transcripts challenging at times. Additionally, the word "well-being" was not understood very well among the sample initially. This could have been

related to the language barrier – especially since the researcher and the fieldworkers struggled to translate and to find an appropriate term for "well-being" in isiXhosa.

The semi-structured interview allowed for the collection of a greater volume of information. However, a limitation with the collection of data was partly due to the use of field assistants to some extent. While both field assistants were provided with training, their own interpretation and translation of the questions may vary from the way the researcher asked questions. The researcher also had a more vested interest in the research as a whole and has been immersed in the literature related to the topic, whereas the field assistants where only briefly acquainted with the major challenges of energy poverty and the specific investigations of this research. Another limitation was the significant differences in the respondents' experiences, expertise and understanding of concepts such as "energy access" and "well-being". Due to the low levels of education among the sample group, obtaining information from a respondent who didn't understand the question was limiting in the amount of information that was received from that respondents. This also resulted in frustrations from the field assistants at times. The process of qualitative interview data analysis can be a subjective process. The choice of themes and categories are dependent on researcher's level of understanding of the topic, her own experiences or lack of it in the field and her knowledge of the broader issues of gender, energy and poverty. This could result in a skewed presentation of the data and findings. However, through the use of data verification, the systematic analysing of the data should provide a credible outcome for the research. Field assistants were from outside of the community, due to time constrains training individuals from closer to the university enhanced communication between the fieldworkers and the researcher.

4.10. ETHICAL CONSIDERATIONS

De Vos (2002) maintains that ethics are a set of principles which are widely accepted. These principals offer rules and behavioural expectations regarding correct conduct towards experimental subjects and respondents, employers, sponsors and other researchers, assistants and students. Babbie and Mouton (2001) determine that the researcher has the right to search for the truth, but not at the expense of the rights other individuals in society.

Informed consent: Participants should always be fully informed during the first point of contact about all aspects of the study. All aspects of the study were discussed at the start of each interview for clarity. The researcher made participants aware of the possible advantages and/or disadvantages of participation so that partakers were fully aware of what the implications could be. Informed consent is not a verbal agreement but a written agreement (appended as 'Appendix B' at the end of the thesis) between researcher and participant. Therefore participants were presented with a written document that specified the confidentiality assurance.

The manner in which the data will be handled was also be discussed informing participants how the information will be used and when participants can possibly access the research findings. The respondents were asked for their permission and also probed whether or not they are comfortable with the researcher using a recording device during the interview. This was done before the recorder was switched on at the start of the interview.

Voluntary participation: Participants took part in the research voluntarily. There was no promise of payment, no coercion from the researcher for individuals to participate as well as no force used on participants to ensure their partaking. It was made clear to the research participants from the start of an interview that should they at any stage wish to discontinue with the interview, they had a right to do so with no negative consequences. Voluntary participation is an important component for the integrity of the research. Participants who are coerced or forced to participate against their will are likely to provide unworkable data due to a lack of interest in the research topic. It was therefore the researchers' priority to ensure that the study was promoted in such a manner.

Anonymity and Confidentiality: Babbie and Mouton (2001: 523) say that anonymity is where 'the researcher cannot identify a given response with a given respondent'. In this study, participants were asked to select a pseudonym during the interview, that way ensuring that whatever was spoken about in the interview remains anonymous. Confidentiality is where the researcher can identify a given person's responses but promises not to do so publicly (Babbie & Mouton, 2001: 523). Confidentiality is vital in a research of this nature as respondents share personal information about their and their families' lives. Breaking this confidentiality in any way has consequences, as it may compromise the study and it could bring doubt to the ethical content of the study and the researcher.

Referral: Even though no harm is intended to the participant during the interviewing process (as the questions are straight-forward and intended not to pose any psychological harm) one cannot rule out any possible unforeseeable danger with any type of research. Because of the nature of the research, where participants were asked to share personal accounts of their lives and income information and intimate details regarding the power dynamics within their relationships, there was a possibility that unintentional trauma or psychological consequences could have surfaced during the course of an interview. If such a case would have occur, the researcher would immediately have stopped the interview and try to contain the situation. Thereafter arrangements for a referral to the necessary resource needed for the benefit of the participant would have been made. Participants were made aware of this protocol from the start of the interview. Fortunately there was no such incidence during the interviewing process of this research.

Gaining Permission: Through the resources of the Energy Research Centre's Energy Poverty and Development group's network of partners in various local communities around the Cape Town region, a prominent leader in the Klipheuwel community was identified, and willingly offered his support in the researcher and field assistants gaining access into the Klipheuwel informal settlement. Gaining research participants' permission was communicated before interviews were embarked on as potential research participants were briefly introduced to the topic and asked to indicate whether or not they would be interested in participation from the onset.

4.11. SELF-REFLEXIVITY

The practice of using reflexivity in research is done so in order to ensure neutrality. Reflexivity is used by a wide range of scholars - particularly qualitative researchers - who routinely use reflexivity as a methodological tool to better represent, legitimize, or call into question their data (Pillow, 2003).

Symbolic violence here is referred to, firstly in terms of class relations. I approached the field work stage of my research fully aware of my status as an educated female student from a leading university, interviewing other women who are perhaps not as educated to the level of a Master's degree or have never even entered the University of Cape Town – I am certainly aware that this represents some form of power or privilege on my part. By raising my own self-awareness in this manner, I prepared myself for the way in which I presented myself and my research, understanding that there may be some ideas held regarding my status as more intelligent, as more deserving of certain privileges due to my education particularly. Going into each interview however, I have tried at every encounter with the community members to gently state where I am from (the township of Guguletu) and tried also to convey similarities and contrasts between our backgrounds without reinforcing ideas of superiority. Secondly, I understand that my presence and the nature of my topic may be perceived as an exercise of symbolic violence in terms of gender relations since it focusses specifically on the female gender – I explicitly do not intend to reinforce or confirm any ideas or views that women are weaker, that women are less intelligent than men or that the female gender deserves second-class status in any way. In approaching the subject of gender relations, I attempted to first distinguish the objective of identifying well-being targets for the individual whom is primarily in charge of managing the household - regardless of that individuals gender. Additionally, I ask both genders for their opinion on the treatment and the role of men and women, as a way for them to describe their understanding of the role of the genders (without influence based on my own understanding).

Some of my frustration also came from the fact that I felt guilty which was due to the power dynamic that exist between the "me" as researcher and "them" as study participants. Balancing the power in the interviews was challenging. An important skill I tried my best to practice was giving respondents enough time to answer by listening more than speaking. Pillow (2003) says that focussing on developing reciprocity with research subjects like hearing, listening, and equalizing the research relationship demonstrates doing research "with" instead of "on" participants. This was a major challenge for me during the interviews, as at times I had to use the little time that participants had spare to conduct the research. This put pressure on me to try to get responses quicker in order to at least cover all the aspects and themes in the interview. I am also aware of how I have been raised and socialized to understand the role of a man and that of a woman. Hearing some men report that they help with housework made me wonder to what extent the help was offered, as I am conscious of my own knowledge of men in the isiXhosa culture, who do not very comfortably carry out the work of women, out of fear of being ridiculed. As a result, I tried to with-hold any of my own judgement, and took time after the interviews to internalize and interpret some of the responses I received from the participants in order to gain a better understanding of the social expectations placed on each gender in the community.

Conclusion of Chapter Four

In conclusion, this chapter set out the research methodology used in this study. The qualitative approach is preferred over quantitative methods in this study because of its deductive approach to research as well as its complimentary elements to the feminist perspective. This empirical study relies on a single-case study approach. Sampling was derived from the study area chosen for the case study as well as from using secondary data from various online media and academic platforms. Twenty face-to-face, semi-structured interviews were carried out and transcribed as data for the qualitative interviews and analysed using an adaptation of Tesch's (1990) approach to data analysis as outlined in De Vos (2002).

A second component of the analysis used secondary data to assess the dynamics of NDM in the formal processes of creating the FBAE Policy. The study limitations were unpacked in relation to limitations of the research design, sampling, data collection, data analysis and limitations of the researcher. This was followed by a review of ethics for research conducted with people. This highlighted the correct conduct towards this study's participants. Lastly, a section on self-reflexivity was presented, showing how reflexivity may be used as a methodological tool to better represent one's data in qualitative research.

RESATEMENT OF THE LITERATURE INSIGHTS AND RESAERCH AIMS

The following chapter presents the study analysis and findings. Before proceeding to the study analysis and the study itself, however, the key insights from the literature and the research aims are re-stated. The discussion in the literature review chapter concerning gender has pointed to the fact that women are primarily responsible for energy procurement and management within the household, regardless of the unequal control of household resources between men and women. The gender dimension to poverty is evident in the feminisation of poverty – where females and households headed by females remain the poorest in relation to males and male headed households. Other indications in the literature relating to energy suggest that energy can impact development and is thus a human right – as described by the United Nations Millennium Development Goals (MDGs). However, energy remains a challenge particularly among the world's poor. Energy is thus an important dimension to poverty. The definitions of poverty vary since the concept of poverty is multidimensional, making it hard to target this one issue related to poverty. However, since poor householders adopt various survival strategies related to energy, the notion of energy-poverty presents as an opportunity to study the impact of poverty on women through the gender-energy-poverty nexus. The gender-energy-poverty nexus is thus positioned in this paper to identify women, for a varying number of reasons, as the vulnerable group in this study, and to demonstrate the effects that gender-neutral energy-poverty policy has on this group.

Informed by one of the basic tenets in the South African Constitution, females need access to energy that will allow for secure energy services, the ability to access free basic services, including energy - with an aim to contribute to overall female well-being. Thus, investigations of factors that influence non-decision-making at the energy-poverty policy level are very important in order to guide future practice and implementation. These considerations have informed the present research, the aim of which is to explore how the energy-poverty policy (FBAE) can contribute to addressing the gender-energy-poverty nexus. More specifically:

- To uncover the dynamics of non-decision-making (formal processes) in the energy-poverty policy FBAE which result in the exclusion of the gender-energy-poverty nexus
- To uncover the role that social norms (informal power dynamics) play in the series of gendered energy-poverty
- To explore the mechanisms through which the formal (energy-poverty policy) and informal power dynamics (social norms) impact the gender-energy-poverty nexus
- To discover how energy-poverty impacts female well-being
- To explore the impact of the gender-energy-poverty nexus on Klipheuwel householders

In the following chapter, a thematic framework (described in chapter 4) is used to analyse 20 face-to-face interviews based in an informal settlement. This is presented first, and followed by an analysis of the FBAE Policy using a method based on Bachrach and Baratz (1962) guide to uncover dynamics of NDM. In this chapter, both analyses are presented including a discussion related to each of the findings.

5. CHAPTER FIVE: ANALYSIS

This chapter presents an analysis to answer the principal question of the study related to how the energy-poverty policy (FBAE) can contribute to addressing the gender-energy-poverty nexus. As such, this chapter presents the analysis in two parts. Firstly, the analysis will reveal the extent of the GEP nexus based on a case study from an informal settlement area in the Western Cape region. The influence of social norms on the practice of managing domestic energy is exposed, thereby showing the reality of the nexus in this community. Secondly, focusing on uncovering dynamics of NDM within the formal processes (formal power dynamics) in the FBAE Policy will help to form an understanding of why the gender-energy-poverty nexus doesn't feature in this energy-poverty policy. In the following section of this chapter, the impact of gendered energy-poverty is revealed. Using a sample of twenty residents from an informal settlement, this section will enhance the argument that not addressing the gender-energy-poverty nexus in energy-poverty policy can negatively impact urban informal householders.

5.1. FIRST ANALYSIS: INTRODUCTION

In this presentation of the analysis, an empirical research conducted in Klipheuwel informal settlement, is given. Here, responses, captured on recording apparatus are revealed emanating from 20 semi-structured interviews which are drawn based on a non-probability sampling technique known as snowball sampling. Semi-structured interviews offer the views of 20 respondents: 12 women and 8 men. This section will reveal the extent of gendered energy-poverty based on a case study on this informal settlement which will also demonstrate the implications of existing gender-neutral energy-poverty policies.

5.1.1. PROFILE OF RESPONDENTS

The sample used in this study included 12 women and 8 men.

Table 3: ***Profile of Respondents***

Respondents	Age Range	Relationship Status	Gender	Household Size	Population Group	Employment Status	Highest Level of Education Obtained
One	36 - 55 years	Single	Female	5 people	African	Unemployed	Grade 9
Two	18 - 35 years	Single	Female	6 people	Coloured	Unemployed	Grade 5
Three	18 - 35 years	Married	Female	4 people	African	Unemployed	Grade 9
Four	36 - 55 years	Married	Female	5 people	African	Unemployed	Grade 11
Five	18 - 35 years	Married	Female	6 people	African	Unemployed	Not Educated
Six	66 years and above	Other	Male	1 person	African	N/A	Not Educated
Seven	18 - 35 years	Engaged	Female	4 people	African	Unemployed	Grade 11
Eight	18 - 35 years	Married	Male	4 people	African	Unemployed	Grade 11
Nine	56 - 65 years	Married	Male	3 people	Coloured	N/A	Grade 10
Ten	18 - 35 years	Married	Female	7 people	African	Unemployed	Grade 10
Eleven	18 - 35 years	Single	Male	7 people	African	Unemployed	Grade 11
Twelve	18 - 35 years	Married	Female	4 people	African	Unemployed	Grade 10
Thirteen	18 - 35 years	Married	Male	4 people	African	Employed	Grade 12
Fourteen	18 - 35 years	Single	Male	4 people	African	Unemployed	Grade 8
Fifteen	18 - 35 years	Married	Female	7 people	African	Unemployed	Grdae 10
Sixteen	18 - 35 years	Married	Female	4 people	African	Unemployed	Grade 11
Seventeen	18 - 35 years	Married	Male	1 person	African	Unemployed	Grade 8
Eighteen	36 - 55 years	Married	Female	3 people	Coloured	Unemployed	Grade 5
Nineteen	36 - 55 years	Married	Female	6 people	African	Unemployed	Grade 10
Twenty	18 - 35 years	Single	Male	4 people	African	Employed	Grade 10

5.1.2. THE GEP NEXUS IN SOUTH AFRICA: A CASE STUDY OF KLIPHEUWEL

The analysis uses a thematic examination of the data, which has been developed using an adaptation of Tesch's (1990) methodology for data analysis – as was discussed in chapter 4. Several themes, categories and sub-categories emerged from an analysis of twenty face-to-face, semi-structured interviews which describe experiences with energy management within an informal settlement environment. The study's thematic analytical framework in this second component of the analysis was developed through analysing transcribed interviews - with male and female informal settlement dwellers - where themes were pinpointed. These were then coded for by recording patterns in the data and to create an analytical framework. The thematic analytical framework below outlines four main themes which are limited to the study's objectives 2, 3, 4 and 5. Under each theme, categories and sub-categories were identified which link back to the main theme. The total list of themes developed into four main themes:

A. Gender power relations
B. Institutional barriers
C. The burden of energy-poverty on women
D. Energy and female well-being

The themes, categories and sub-categories will be discussed with regard to the below listed framework for analysis. In addition, this thematic analysis occasionally makes use of respondent's accounts using verbatim text from the interviews in order to support the analysis as well as to give the respondents a 'voice'.

Table 4: ***Theme A***

THEME	CATEGORIES	SUB-CATEGORIES

A. GENDER POWER RELATIONS	**A.1. Social Norms**	• Gender roles
		  ○ Role of a woman in society
		  ○ Role of a man in society
		• Decision-making
		  ○ Within the community
		  ○ Within the home

	A.2. Gendered Energy Needs A.2.1. Survival A.2.2. Leisure	**Domestic Use of Energy**: • Food Processing • Safety • Recreational use of domestic energy
	A.3. Intra-Household Processes	• Division of household labour

(Source own compilation)

Theme A: Gender Power Relations

One of the main objectives of this study is to understand the role that social norms play in the series of gendered energy-poverty. By uncovering gender power relations, important revelations emerged which were tied to decision-

making processes and gender roles, including the terms of exchange within the household which influence how women have the obligation to ensure the sustenance of the household.

Three categories emerged under this theme:

- Social norms
- Gendered energy needs
- Intra-household processes

A.1. Social Norms

Social norms are learned, and vary among different cultures, dictating gender roles for example, as well as influence decision-making within the home since humans have the ability to learn these social norms (Ostrom, 2014: 15). Klipheuwel is no exception and displays also very definite gender roles and practises linked to decision-making. The following section discusses the findings related to social norms and managing energy in Klipheuwel.

Gender Roles

"The role of Utata [father in the house] is to go and work and come back to ask for food from the wife"

(Respondent One)

Gender roles are not determined by biology, but are socially constructed according to some authors (Skutsch, 2005; Clancy et al., 2012). Socialized gender roles impact the way in which households function and determines pertinent exchanges within the home. An example of this is particularly regarding allotment of household resources – which includes financing and managing domestic energy.

Role of a woman in society

Data from the interviews established clearly defined roles of men and women. The interviews revealed how women considered housework their responsibility and how men were perceived as being incapable to conduct household work[10]. The responsibility of the main "care-taker" of the home – this is someone who manages the household needs for subsistence and efficient functioning – was predominantly reported to be the woman within the household[11]. Women identified with this role which included doing other tasks affiliated to managing the household like collecting

[10] Respondent 3(a) specifically addresses this issue saying that her husband cannot be trusted with women's duties like house work.
[11] Apart from respondent 6 who lives on his own on a permanent basis, all of the respondents reported that female members of the home managed the general affairs of the household

water, cleaning, cooking above others. Clancy et al (2003) acknowledge as well that women continue to be responsible for other subsistence tasks within the home such as collecting water, food processing and cooking – which have adverse effects on women's health too. The males in some homes[12] rarely or never need to know how to use the fuels as this is the role of the care-taker within the home. This individual has to deal will all issues confined to the kitchen and to other subsistence tasks.

- *Role of a man in society*

Male respondents shared their views regarding the role of a man, emphasising that males are primarily responsible for providing for their families[13], and making all the important decisions. Male respondents shared their views regarding the role of a man, emphasising that males are primarily responsible for providing for their families – this is primarily the role of the male head[14]. In the Klipheuwel community, it is taken for granted amongst respondents that the man is the head of the household, while female respondents reported that men were also treated differently (better) in general within the community than they were. Additionally, for the men that were interviewed, it was important for a man to have a job especially and to provide for their families.

Decision-Making

"She's managing the house and I am making all the decisions…"

(Respondent Nine)

The processes of making major decisions are an important part of examining power relations between the genders. In Klipheuwel there were two opportunities from which to uncover decision-making practises: based on decision-making in the home, and decision-making within the community. Below a discussion on decision-making in the home and within the community is presented.

- *Decision-making within the home*

As was already highlighted in chapter 2, women's social position, and the value attached to their labour impacts intra-household decision-making on accessing energy (Danielsen, 2012). In Klipheuwel, women need to negotiate with men regarding spending on energy requirements – in terms of the types of energy sources needed – and for items which are needed for the household, while men tended to have more spending ability (especially in terms of spending on themselves) and do not need to consult their wives in this regard. In terms of distribution of household income, men tended to be more concerned with providing financially for the household as well as spending on non-essentials like new clothing for themselves, in contrast to women who primarily prioritized spending on needs of the household and on children. This may be impacted by income, which showed to garner some leverage – particularly where the male

[12] Respondent 18 says she is the only one who works with the fuels while her son doesn't even know how to work with the fuels. From the sample of 8 males only two (respondent 6 and respondent 17) were fluent with using cooking fuels.
[13] Respondent 14 was the only male out of 8 to explicitly say that his eldest sister was the breadwinner and provider for the whole family.
[14] Respondent 8 and 17 emphasised their need to keep on working so that they can provide for the home - as it was their duty.

figure provided financial support to the home – since all decision-making power is his. In terms of decisions made regarding who purchases the necessities in the household, the woman does this with freedom to choice how money for the household grocery and energy will be divided. However, major purchases, like new appliances required the blessing of the male head. Annecke (2005) also finds that in a study in Khayelitsha, males tend to have more influence regarding major purchases like household appliances, than they did regarding other domestic requirements.

- *Decision-making within the community*

Klipheuwel has a community based committee which determines internal processes like sharing of new resources and lobbying for energy. This committee has a male head – the chief – who has the final say regarding important decisions affecting the community. This local governance structure shows how even at community-level decision-making, men are privileged. Even though women are part of the community forums and part of the committee, they feel as though their priorities, which include better water services in the settlement, are less important. This may reveal that there are definite unequal gender power relations, both within the community as well as within the household, which give preference to male authority and reveals a mobilization of bias. This refers to 'the dominant set of beliefs, values, and institutional processes and procedures that work to privilege some groups in relation to others' (Bachrach & Baratz, 1962). This mobilization of bias tends to privilege males in the community, who have authority, and thus use it to maintain the status quo (in terms of gender equality).

A.2. Gendered Energy Needs

"It's Umama [mother] who thinks of this sort of thing [buying a stove] hey! Utata [the father] will never think of that!"

(Respondent Five)

The use of energy within the household underpins the household functioning and survival. However, the use of domestic energy is gendered, as each gender has different priorities regarding the use of energy tied to their roles in the household (Cecelski, 2000; Skutsch, 2005; Clancy et al., 2007; Mohideen, 2012). Therefore, social norms underpin how tasks that require energy will be allocated to each gender.

A.2.1 Survival

The use of energy for survival:

For women, a primary concern regarding energy needs was purchasing good equipment to make their work easier, such as a desire for gas refrigeration and safer paraffin lamps. Additionally, these appliances would make food processing (like preparing meals) simpler for women, thus the concern with energy services that can ensure safety and efficiency for basic household needs is important especially for women. It is a priority for the woman, particularly

since the kitchen is her domain according to Clancy et al. (2003). Domestic energy in the settlement addressed many of the basic needs within households such as lighting, cooking and domestic energy for space-heating.

The main fuels used for cooking in Klipheuwel ranged from wood-fuel to paraffin and gas. In terms of cooking, responses coming out of the interviews as well as the researchers observations revealed that while men made the final decisions related to appliance purchasing and energy sources (as they financed energy), women had the ultimate responsibility related to the use of domestic energy for the households' basic needs. For instance, energy for cooking like gas was used almost exclusively by the women, whereas other householders (mostly the males) either couldn't use the equipment in a safe manner or couldn't use it at all[15]. For cooking, respondents relied mostly on gas, while in some instances paraffin was also used where there wasn't enough money for gas. Women especially were also concerned with safety which depended largely on sources of energy for lighting particularly at night. Klipheuwel, like most other informal settlements has toilets located outside of the dwelling and which are shared with neighbouring dwellings. In terms of safety, some respondents[16] also expressed the challenge associated with living in an un-electrified community as posing a serious safety issue under these circumstances especially. This impacted resident's well-being as women, particularly, did not feel safe going to the toilets at night[17]. This is consistent with Clancy et al. (2003) who assert that energy services such as electricity is useful for lighting, especially in public places to enhance safety as this is a priority for women in terms of energy needs.

The well entrenched social norms thus dictate how tasks that require energy are allocated to the different genders. For instance in Klipheuwel, women use energy mostly for cooking, they need it for lighting and for warmth in winter. This is consistent with the conceptual framework discussed in chapter 3 since informal power dynamics enforced through patriarchy result in men and women using energy in different ways confined to their assigned gender roles. Women's use of energy for production of food versus leisure or for education for instance shows characteristics of NDM. Certain attributes of NDM interact for this result to exist. The NDM attribute of "force" may be one of the attributes as gender power relations determine that a woman's duty is to ensure the survival of her family. In chapter 2 in this thesis Clancy et al. (2012) state that social constructs of gender underpins the identity of men and women. Mainly, women do the work associated with taking care of the children in addition to cooking and cleaning (Skutsch, 2005). This is driven by a need to survive – a consequence of not doing this work results in under-nourishment of the family if no food is cooked, for instance. However, it is the social structure in society and within the Klipheuwel community which has placed women in charge of doing this work as by the respondents' (male and female) own definitions, it is a woman's mind which is mainly preoccupied with meeting the needs of the household (respondent five in the above quote). So in a way, the social norms whereby women are believed to belong in the kitchen adds a burden on females as they see it as their duty. Women are therefore forced by the existing social norms to have to do these tasks, as Bachrach and Baratz (1963: 635) describe the exercise of force as "only through manipulation is the objective achieved". The theory

[15] Male respondent 20 was very articulate regarding using gas safely however.
[16] Respondents 1, 5 and 17 all expressed concerns regarding their safety living in an informal settlement without electricity.
[17] A female resident, respondent 16 explicitly shared feeling uneasy at night in the community.

of NDM is useful here as it highlights how these roles are polarised by gender in terms of the use of domestic energy. Additionally, the nexus is highlighted based on this polarised use of domestic energy.

A.2.2 Leisure

Domestic energy can be used so differently by the genders. Clancy et al. (2007) state that energy needs reflect gender roles in the home, therefore the male gender and the female gender will view the same technology through gendered perspectives. Klipheuwel reflected this pattern quite clearly based on the interviews carried out with 20 informal settlement dwellers. Domestic energy can be used for many other purposes including for recreational enjoyment such as listening to the radio, watching television and for charging cell-phones, as was reported by some of the male respondents[18]. For the male respondents, most shared the same desires as women for modern energy interventions such as electricity to be installed in the community. However, their reasons differed to female respondents. Therefore, gendered energy needs are reflected in how women need better energy services for lighting at night for safety, while men report the need of modern energy services for leisure activities such as listening to the radio. The different uses of energy indicates how the use of domestic energy depends on the gendered roles, as men liked to come home after work and to engage in socializing with other men or listening to the radio (those who had battery powered radios)[19]. For women, domestic energy, as was discussed above, served to lighten the burden of domestic chores like cooking.

A.3. Intra-Household Processes

Division of Household Labour

"No I just don't trust my husband when it comes to household tasks"

(Respondent Three A)

Intra-household processes uncover the terms of exchange between men and women within the household. In Klipheuwel, women's experiences with accessing resources for energy provision are embedded in power relations between the genders. These are impacted by the way in which households function and determines the terms of exchange between men and women within the household. For instance women need to negotiate with men regarding spending on energy requirements and provisions for the household but above all, men make all the major decision in the household. This shows the leverage that men have and solidifies their authority within the home, demonstrating the influence of the informal power dynamics on the gender-energy-poverty nexus and the experiences of women in accessing resources for energy provision. This is the case since women are affected by major decisions taken by the male head especially when it comes to purchasing appliances. For example, these can add efficiency and ease for females when preparing meals. Gender power relations also influence the division of household labour in that

[18] Respondents 11, 17 and respondent 20 are all male and listed these as priorities when receiving electricity from solar or the national grid.

[19] This was the researchers' observation, that men sat outdoors speaking to one another. Meanwhile, women seemed to be engaged in domestic tasks throughout the day.

socialized roles dictate gendered obligations and division of household labour, such as how the work of men is mostly open to outside the home and beyond (like in the yard and in employment outside of the community), while women's is confined within the house. The socialized roles within the community appear to be embedded in patriarchy as males tended to have authority over women. This is revealed in the gendered obligations and division of labour within the household and the male-biased decision-making practices in the community. This has an impact on women's ability to access resources, as they depend heavily on men for financial support. In addition, generally, respondents[20] viewed the issue of gender-relations as predominantly a private issue, confined to the household versus a political one open for public debate, despite the visible gender inequalities within the community.

Within the settlement, there seems to be a pattern in reporting related to division of household labour among the dwellers. Household labour was constructed based on the social constructs of men and women. This was discussed in section A.1 in more detail. Men were tasked with bringing in the financial support to the household, while women (and children) supported daily maintenance of the house through conducting domestic chores. Women tended to do this work more than children since they were home through-out the day, while school children attended school during the day. However, female respondents reported facing some hurdles in managing daily domestic energy. This is mainly due to the workload that female residents in informal settings usually have which includes: carrying water to the household daily and collecting wood-fuels in some households in Klipheuwel[21], carrying heavy 5kg or 9kg gas cylinders for refilling[22] among other household chores such as cleaning and cooking every day and preparing the children for school.

This section has dealt with gender power relations which are a result from the interaction of traits of NDM and manifest as social norms, gendered energy needs as well as intra-household processes. These issues are impacted or enforced by a patriarchal social order made visible by the socialized gender roles that exist in the Klipheuwel community, the decision-making processes followed in the household and the division of household labour related to the use of domestic energy. These issues are the outcome from a discussion related to managing domestic energy in an informal settlement. This section relates directly to this thesis' objective 2 which aimed to uncover the role that social norms (informal power dynamics) play in the series of gendered energy-poverty; and objective 3 which aimed to explore the mechanisms through which informal power dynamics (social norms) impact the gender-energy-poverty nexus. The outcomes reveal how social norms are a form of manipulation that ensure females remain in the role of domestic manger (visible in the division of household labour and the gendered needs for energy) and limit women's decision-making power within the household. This result is mainly because major decision-making (related to the welfare of the community at community level, and related to purchasing expensive appliances at household level) within Klipheuwel is privileged for males – male heads in the home and the male chief in the community. The

[20] Respondent 4(c) was the only respondent to explicitly share that gender-based violence was something private, while male respondents 13 (a) and 17 specifically expressed that a women's treatment within the community has conditions in relation to gender expectations. The rest of the respondents 1, 2, 3, 4,5,6,7, 8,16, 19 and 20 accepted that this was something private and not seen publicly.
[21] Respondent 2 and Respondent 18's households still depend on wood as the primary fuel for cooking and space-heating.
[22] Respondent 1 shares her strategies in carrying the heavy gas cylinder for re-filling as its heaviness tires her out.

interaction of the informal power dynamics that were discussed in chapter 3 in this thesis are visible as women in Klipheuwel are primarily in charge of managing household energy, are more impacted by energy-poverty and face challenges related to accessing energy in the community. Chapter three explained that informal power dynamics were latent due to their invisible quality in society. Therefore, uncovering the latent informal power dynamics which present in the terms of exchange and intra-household processes within the homes of the respondents, as this section has demonstrated, reveals an unequal power relationship between men and women.

The literature reviewed in this thesis in chapter 2 discussed the issues that were uncovered in Klipheuwel related to energy and unequal gender power relations. In terms of decision-making, Annecke (2005) states that gendered social constructs have enabled men greater power structurally, systemically and at an individual level in relation to women. Therefore the value that is placed on women's unpaid labour within the home is influenced by patriarchal norms that dictate the role of men and women and the amount of influence that women have at all tiers (between the sexes, within the home and within the community) of decision-making especially. Danielsen (2012) recognizes that women tend to internalize the social norms which reduce their worth and their contribution. According to this author, recognizing the existent unequal gender power relations may heighten women's profile in energy policy by acknowledging women's tie to energy management in the home.

Table 5: ***Theme B***

THEME	CATEGORIES	SUB-CATEGORIES
B. INSTITUTIONAL BARRIERS	**B.1. Policy Exclusion**	**Accessing Energy**: • Impact on informality • Impact on women
	B.2. Standard of Living	**Satisfying Basic Needs** • Service Delivery

(Source own compilation)

Theme B: Institutional Barriers

Institutional structures can act as barriers which prevent women from accessing better energy services. Policy can be one such barrier particularly in an informal context where specific energy-poverty policies may not necessarily reach the poor. Energy-poverty policies are intended to improve living conditions for the poor in relation to accessing modern energy by reducing the cost of energy and can affect women particularly (Clancy et al., 2013).

Two categories emerged here:

- Policy Exclusion
- Standard of Living

B.1. Policy Exclusion

Accessing Energy

"The electricity will be much better…you can do everything, you can use it to light and to cook everything."

(Respondent Twelve A)

The Impact of Policy Exclusion on Accessing Energy in Informal Settlements

Klipheuwel is built on private land which means that government services – such as sanitation, providing houses and electrification – in this area are limited based on the legal tenets protecting land owners (Gaunt et al., 2012). Informal settlement dwellers do become excluded from receiving government services also because informality is hardly considered and legislated in government policy (Wolpe and Reddy, 2010). This means that accessing energy is particularly difficult in these settlements, and especially those built on privately owned land.

The main energy fuels used in Klipheuwel vary. Respondents reported using the gas top (or in rare instances a gas stove) to cook when using it, and a paraffin stove when cooking using paraffin. The main fuels used, in terms of lighting, where between two main options, namely: either paraffin or candles. Respondents preferred the paraffin lamps to candles, as they found that candles were a huge fire risk. In terms of the costs for lighting however, despite the inefficiencies and poor performance linked to candles, these were reported as the cheapest fuels for lighting. For space-heating, there was no particular fuel used among the sample. Instead, waste heat was predominantly "recycled" for space-heating in winter especially. Thus, the issue of policy and energy provision revealed some interesting views related to better energy provision in the community. Respondents expressed a need for policies in general to elevate their current circumstances. Concerning energy, respondents expressed a desire for energy policies to be extended to their settlement as they were not receiving the government subsidy for electricity based energy (FBE, discussed in chapter 2). Residents were also not aware of the energy-poverty policy FBAE. This is not unique to Klipheuwel as Mohlakoana (2014) had the same experience in her study conducted in the rural Eastern Cape, which focused on the implementation of the FBAE Policy. In interviews conducted with residents of some small communities also hadn't heard of this policy, even though they were part of the servicing area for FBAE. In terms of the lack of basic services[23] availability in Klipheuwel, residents felt that policy had a role to play here too in positively impacting provision of day-care facilities, sanitation, schools nearby for children and transportation. These basic needs all impact female residents especially, as the social order in Klipheuwel renders women primarily concerned with taking care of the family – which includes child-rearing.

Respondents additionally revealed that the point was for policy to meet their electricity needs, regardless of the source. Discussions regarding the use of alternative (to grid electricity) energy sources – like solar home system for instance – with some of the female respondents revealed that these were misunderstood, viewed as inferior as well as

[23] Respondents 4(b), 3(a) and respondent1 were among a few of the female respondents who expressed a need for a number of basic needs to be met in order to improve life in the community.

complicated. Despite some negative views of alternative energy however, respondents expressed that they would accept any form of energy that would meet their needs in the interim – particularly those that could intervene where information dissemination is concerned to benefit school-going children above all and improve quality of life where they could socialize at night and access information from the radio and from television. In terms of making an energy transition, due to dissatisfaction with current fuels, respondents put this issue to the government again, where respondents wanted policy to create opportunities for residents to access better living conditions.

The Impact of Policy Exclusion on Klipheuwel Women's Access to Energy

Female respondents shared their desire for energy provision that could especially meet their needs for cooking, lighting and space-cooling and heating as well as appliance use. Thus the impact of formal power dynamics – such as the lack of formal policies for informal settlements – on the gender-energy-poverty nexus impacted women's ability to accesses better energy services. This was particularly the case where females had a desire to have policy which recognizes the need for modern energy in the informal settlement - for women especially; electricity was seen as an opportunity to save money, in addition to fulfilling their desire for comfort while adding convenience in the form of better energy services like television. This impacted life in the informal settlement in relation to accessing energy and made daily life a challenge as multiple fuels needed to be obtained to meet the various domestic needs. Therefore, grid connection is a crucial requirement for the informal settlement's dwellers as it is viewed to be cheaper and to satisfy multiple household energy needs like lighting, cooking and space-heating or cooling.

The experiences of women living in underprivileged environments such as Klipheuwel informal settlement are an opportunity to hear of the experiences linking gender equality and informality. Energy-poverty policy should reflect an understanding related to how energy improves people's lives and should enable the poor to access adequate energy services. Policies for energy-poverty reduction should thus consider the overall context (Kaygusuz, 2011). This includes informality and other social fundamentals like gender equality as a measure to reduce overall poverty.

B.2. Standard of Living

Satisfying Basic Needs

"There's no, electricity, no transport or clinics…"

(Respondent Twenty B)

"…no school, no sanitation…"

(Respondent Twenty A)

Part of enhancing individuals' well-being depends on satisfying basic human needs (ANC, 2011) and service delivery is one way in which this can be achieved.

Service Delivery

Service delivery refers to the distribution by government of basic resources such as water, electricity, sanitation infrastructure, land, and housing (Chen et al., 2014). While the provision of shelter, sanitation and healthcare facilities is not directly tied to the main objectives of the study, it is included as part of the analysis since all these factors play a significant role in female well-being, making it part of the scope of the study. Providing indigents with basic services is intended to ease the burden of poverty in order to uplift the lives of the poor. Basic services provision and well-being have a strong link because services like healthcare, education social security and other municipal services enhances the quality of life and economic opportunities for the poor (National Planning Commission [NPC], 2011). In South Africa, citizens who qualify are entitled to Free Basic Energy as well as a suite of other basic services aimed at eradicating poverty and enhancing the quality of life of the poor (DPLG, no date). The significance of basic service provision for this study relates to the role of institutions in opening access to energy for indigents in the aim to achieving overall well-being. The last section in this chapter deals with the specific well-being requirements voiced by the people living in Klipheuwel.

Klipheuwel lacks many basic services such as adequate toilets and water taps, paved roads, early childhood development centres in the community among other issues related to long term solutions regarding access to healthcare and nearby schools. In South Africa, the framework which instructs how government delivers basic services to the poor is encompassed in the RDP, which is South Africa's grand policy that aims to address the injustices of the past. Under this policy, the poor are to receive housing, land, water, jobs and social security for instance (ANC, 2011). Delivery of basic services falls under local government which is tasked with disseminating the public's needs from government. But in South Africa, public sector performance has failed too many times and is considered to be unstable, especially where policy is concerned. The Diagnostic Overview (2011) acknowledges that policy instability over the years has destabilised and impeded public service delivery in the country. As a result the poor suffer the most and poverty is extended. While South Africa has changed policies over the years, many South Africans still expect the RDP deliverables to be met however.

In Klipheuwel, residents felt that for better energy access to be achieved in the community, residents needed to be able to have a number of other basic human needs met which include better housing, safety in the community, better transportation services, healthcare in the community, and water and sanitation. One of the main concerns expressed by residents was the lack of recognition in policy of the issues facing informal settings particularly – hence accessing all the basic services received by the rest of the population doesn't trickle down to them. This is mainly a concern related to service delivery which was also unpacked in the point above. The procedures and structures of service delivery in South Africa are discussed in more depth in the second analysis in this chapter. Another concern is whether provision of basic services is maintainable, given that the fuels currently used in the household pose a danger in terms of fire outbreaks for instance. As some residents in the settlement still depend of wood-fuel, paraffin and candles – the

concern is that once residents have access to government issued services such as housing, the energy sources used will jeopardise this delivery of much needed services. Thus a major call from community members is for better housing (and other government services) that is maintainable, as well as better energy access.

Basic services are an essential component to well-being. For instance, many households depend on public transportation services as a means to travel to work or school. The taxi industry particularly forms a major part of life in this informal settlement. It is also estimated that 40.2% of South African households has a minimum of one member who makes use of the public transport system (particularly the taxi service) (StatsSA, 2013). And according to the General Household Survey (2013) good sanitation is essential as hygiene in environments plays an important part in slowing the spread of diseases and preserves water resources. However, the issues in Klipheuwel compound one another since gendered poverty may spill into other aspects of survival for families and their offspring in Klipheuwel. Issues such as poor transportation and unavailability of clinics nearby are all impacted by poverty, and place women and children in a vulnerable position[24]. Thus energy is an inter-related, cross-cutting issue which ties in with a number of basic services issues impacting women's lives. The institutional barriers liked to visibility in policy have produced a mix of service-delivery aspirations by residents. According to the National Planning Commission (2012) the availability of access to good early childhood education, clean drinking water and electricity has the potential to lessen the burden of unpaid work for women and open opportunities for them to find employment. This supports the notion of energy being an interconnected issue which affects individual's quality of life, as was revealed by respondents' comments.

This section has dealt with issues of policy exclusion and the standards of living which were the outcome from a discussion on perceptions related to the institutional barriers to accessing energy in an informal settlement. This section relates directly to objective 3 which aimed to explore the mechanisms through which the formal power dynamics impact the gender-energy-poverty nexus, as well as objective 4 which aimed to discover how energy-poverty impacts female well-being. The outcomes point to the fact that energy-poverty policies do not reach Klipheuwel householders disadvantaging residents, as a lack of adequate policy was viewed as a major barrier to women's ability to access modern and better energy services. In chapter two, literature pertaining to this issue is presented. Clancy et al, (2013) notes how energy policies should provide the poor with better living conditions, while Saghir (2005) notes that policy can often become a barrier to achieving this since institutional and regulatory barriers present major hurdles for modern energy delivery to the poor, for instance. This is especially an issue in Klipheuwel as the informal settlement is un-electrified and thus could not receive the FBE subsidy of 50kWh of free electricity per month, in addition to not being part of the servicing area to receive FBAE services. Furthermore, the outcomes of this discussion point to how poor basic service provision in the community impedes female well-being especially since women need energy and other basic services to help with the responsibility associated with managing domestic affairs and rearing children.

[24] Respondent 4 (c) explains how unexpected illness of a child may result in the difficult decision between using money to see a doctor and using the money to address the household's subsistence needs.

Table 6: ***Theme C***

THEME	CATEGORIES	SUB-CATEGORIES

C. THE BURDEN OF ENERGY-POVERTY ON WOMEN	**C.1. Economic Burden**	• Extended poverty
		  o Financial strain on the household
		  o Coping strategies

	C.2. Health Burden	**Quality of Fuels**: • Physiological effects • Psychological effects

(Source own compilation)

Theme C: The Burden of Energy-Poverty on Women

Two categories emerged here:

- Economic burden
- Health burden

C.1. Economic Burden

Extended Poverty

"...we do not always have money sometimes we end up making debts because we cannot afford to buy all the time and also travelling to Town to buy – it's costly."

(Respondent Fifteen)

Initially, the researcher's observation of the community was of the high levels of extreme poverty, and of how escaping the cycle of poverty or breaking it is tough, particularly for women who carry a heavier economic burden than men (Phalane, 2004). This is true as the household's survival depends on a women's resourcefulness and physical energy especially in underprivileged contexts (Energia, 2015). Respondents expressed how the financial difficulty of pursuing education as a way to break the cycle of poverty seemed unattainable due to issues such as fuel insecurity due to finances. It is difficult to progress under circumstances such as those in Klipheuwel. This is especially the case where the trap of poverty is so hard to get out of and is exacerbated by the unaffordability of fuels in the community. This reflects too, how people living in informal settlements are hindered in meeting basic energy needs and developing (Wolpe & Reddy, 2010). Additionally, there were high levels of unemployment observed in the sample, particularly among the women (see the table 3: "*profile of respondents"* in the introduction of this chapter). Within the sample of

12 women out 20 respondents, all of the women respondents were currently unemployed[25] and had been unemployed for over a year in the best case scenario. To survive, women relied heavily on the working men as well as on their children's social grants for survival[26]. The cost of fuel to meet basic needs in the informal settlement is simply unaffordable for most households. Kaygusuz (2011) recognizes how the cost of fuels such as liquid petroleum gas, and paraffin tend be much more than a low-income household can afford. Another significant observation made by the researcher while conducting interviews was of how the fuels often competed with other material needs in the home such as food or transport fare.

> *R2(b): Right, so what do you do? You go to the clinic with the gas money then you need to make [to collect] more wood to pay for this [gas]…*

- *Financial strain on the household*

In the community, the need for energy provision competes with the need for the provision of food, and drains household finances, due to dependence on costly energy fuels like gas and paraffin. Male respondents especially felt that they struggled to enjoy their earnings in other ways, but instead had to work for meeting the minimal survival needs like buying energy and food[27]. However, women also expressed a desire to work since they felt a need to support the household finances, but felt limited in work opportunities due to low job options closer to the community and scarcity of jobs beyond domestic work[28]. The cost of fuels however, weighs heavy on household budgets. This shows how energy and economics are connected, since procuring the various energy services depends heavily on household finances. Furthermore, the financial impact of accessing energy on Klipheuwel households was starkly evident in the management of daily energy. Procuring energy was identified as one of the elements that increased financial pressure within the household, and mid-month was reported as the hardest time financially for households – which increased pressure for providing energy.

There was a distinct pattern of the use of multiple fuels within Klipheuwel households which were part of this sample. This was no surprise as chapter two in this thesis discussed the relevance of the fuel-stacking theory which applies in the context of South African households. This theory reveals how the use many different fuels is one strategy applied as a way in which households reduce the cost of fuels. However, the interview data captured in Klipheuwel suggests that this reliance on different fuels for meeting different purposes within the home was singled out as one of the main burdens on the household- due to the incessant energy expense through-out the month. Most respondents shared that they simply could not afford the cost of fuels. Some interviewees reported that they continuously depend on additional income streams to supplement their energy budgets. This was done either by borrowing from loan sharks or through

[25] Among the respondents, three men reported being between jobs and one elderly man received a state pension, while two males reported having full time work.
[26] Every household in the sample reported receiving a government social grant.
[27] Respondent 17 especially expressed how he practically worked for gas and paraffin and to 'put food on the table'.
[28] Respondent 4(b) expressed how domestic work was particularly daunting as farm work in comparison was better regulated, while cleaning in someone else's home involved hard labour that needed to be repeated in one's own home after work.

enterprising. The fuels that households depend on were perceived to deplete very quickly, resulting in some households going into debt to maintain their fuel requirements as the opening quote in this section reveals.

- *Financial coping strategies adopted by women*

Women's responsibility in purchasing and managing multiple fuels makes daily life a challenge as the fuels are needed to meet the various domestic requirements. Unsurprisingly, cooking was reported as one of the primary tasks in the home that required a lot of energy. Households thus sometimes found it difficult to manage financing gas and often switched to paraffin as a coping strategy. Some of the other coping strategies adopted by female respondents in ensuring that the fuels used lasted longer included sleeping earlier to save fuel and buying food (especially meat) every day or when it was needed to reduce the incidence of it rotting. These coping strategies are not unique to Klipheuwel and have been reported in similar studies where households use various methods to try to cut down the cost related to energy for cooking. A study carried out in Khayelitsha township in Cape Town found that some of the methods used by households to cut down on energy costs for cooking was to either skip meals, cook food in one pot or avoided cooking meals that took a long time to prepare, to which affected nutrition levels in some homes (Cowan & Mohlakoana, 2004)

This section has uncovered a perceived unaffordability of the primary fuels that households depend on for meeting basic domestic needs. This corresponds to the previous section where the main fuels used in households for cooking, lighting and space-heating weighed heavy on household finances. This section additionally demonstrates (as was expressed in an earlier section) how women depend on the financial assistance from males, and thus have limited choice regarding the fuels for the needed household tasks. In the literature, it is reported that poor households are often the most vulnerable, particularly when prices of fuels increase, as these households need to juggle limited income to meet their energy needs as well as other needs (Clancy et al., 2003)

C.2. Health Burden

"Ya sisi, it does especially in the morning you can feel your nose is blocked, and the headache results from the smoke…"

(Respondent Seventeen)

"We cannot live like this [without electricity] …sometimes it makes me depressed."

(Respondent Nine)

The quality of the fuels used within the home can affect the health of members in the household. Especially shack fires and unhealthy fumes count as health threats[29].

Physiological Effects

Interviews with the residents of Klipheuwel revealed a few issues connected to health implications based on the use of the available fuels in the community like paraffin, wax candles, gas and wood-fuel. The smell of the fuels – paraffin in particular – in the home and on clothes for instance was one issue raised. All of these issues impact women mostly, as they spend the most time in the home, preparing food and handling fuels. The safety of fuels was also a major area of concern in interviews as it affected children in the home, as well as increased risks related to an outbreak of shack fires within the community. There were potential dangers reported with using fuels such as paraffin as explosions were reported as common if fuels were not monitored correctly. Candles were reported to be a major fire hazard too. Another area of concern related to the performance and quality of fuels used in the household, as a number of them were reported to be of a very poor quality. This was particularly the case with candles, as respondents felt that they could not conduct activities like cleaning and cooking at night time because illuminance from candles was so low. Paraffin also gave respondents issues as its performance was reported to be unsatisfactory (since it cooks slowly, causes a smell in the home and gives food a different taste[30]) however; respondent's felt that they had no alternative available to them. Paraffin, however, was found to perform better than candles for lighting, though it wasn't as good for cooking as gas was – since it cooked food faster and didn't have a smell. Furthermore, respondents felt as though they had very limited choice even though the fuels used were viewed as being inferior. The main physiological issues were raised in light of safety issues. These were mostly related to the primary fuels used for cooking and lighting which have health-related side effects. The negative health dimension to energy was reflected in respondents' views regarding the physiological problems triggered by the primary fuels used in the home for cooking and lighting, and was also revealed in respondents levels of knowledge related to the safe use of the fuels and appliances. Respondents were particularly concerned with potential explosions posed by gas – when care is not taken during use – and candles that easily toppled over. Further, paraffin was reported as having an impact on infant's and small children's ability to breathe properly at night, and caused soot in the nose[31].

Psychological Effects

The psychological effects related to the energy circumstances in Klipheuwel were mentioned by some respondents[32]. It was clear that residents experienced some psychological impact resulting from their economic situation and compounded by the current energy circumstances. This caused effects such as levels of depression from the stress of rethinking and mulling over financial problems. These negative impacts resulted from experiences with domestic energy management were female well-being was affected by socio-economic conditions within the home and around

[29] Respondent 13(a) especially mentioned not feeling safe due to the constant risk of shack fires, while respondents 2(a), 2(b) and respondent 18 complained about the unhealthy fumes that caused physiological problems for them as a result of the use of wood-fuel in close proximity to their dwellings.
[30] Every respondent in the sample shared some points of dissatisfaction with using the fuels available in Klipheuwel.
[31] Respondents 3(b), 4(b) and 9 expressed health concerns associated with prolonged use of their fuels like paraffin.
[32] Respondents 9, 17 and 7 all expressed levels of depression associated with living in a community without adequate energy.

the community. The primary domestic energy sources used among the sample were also reported as impacting well-being, especially since it increased levels of stress for women as limited energy services resulted in less available distractions like television watching.

Issues tied to well-being and adequate energy service provision is discussed in further detail in the next section. This section has dealt with women's management of household energy which is impacted by extended poverty and the quality of fuels used. These issues are the outcome from a discussion on perceptions related to experiences of energy-poverty in an informal settlement. This section relates directly to objective 5 which aimed to explore the impact of the gender-energy-poverty nexus on Klipheuwel householders. The outcomes point to two main factors related to managing domestic energy: economic and health implications. As it stands, Klipheuwel households mostly rely on wood-fuel, paraffin, candles and gas for energy to cook and light their homes. There is evidence that in other parts of the world, some of the world's poor live under similar circumstances in terms of energy with similar effects related to economics and health. It is estimated that about 40% of the world's population relies on traditional, inefficient energy sources to cook and boil water daily, which adds an economic as well as a health burden particularly on women and girls (Global Alliance for Clean Cookstoves, 2015). Economically, the burden of purchasing energy rests on women as they need to manager the household's needs for survival – like cooking, for instance. Clancy et al. (2012) claim that women are the household energy managers in spite of the fact that they do not make decisions related to purchasing and paying for energy themselves. In Klipheuwel however, women are primary responsible for managing the households energy needs and are impacted by the high cost of energy fuels since this is their domain for decision-making in the household – including clothing children and monitoring the domestic needs of the family. An additional burden above the health and financial aspects of being poor is that of the psychological effects from the state of poverty.

Table 7: ***Theme D***

THEME	CATEGORY	SUB-CATEGORY
D. ENERGY AND FEMALE WELL-BEING	**D.1. Improved Energy Services**	**Electricity**: • Convenience • Comfort

(Source own compilation)

Theme D: Energy and Female Well-being

One specific sub-category emerged under this theme: electricity. Energy has multiple effects on households. Electricity is an example of how modern energy can open up opportunities like access to information and create ease in managing domestic energy (Dutta, 2005).

D.1. Improved Energy Services

Electricity

"… in hot weather like this I cannot plug in a fan because I am worried the gas will finish quick and we will not be able to cook. At times the baby will also become uncomfortable because of the heat and we end up staying awake all night because we do not have fan coolers."

(Respondent Thirteen A)

The Klipheuwel informal settlement is un-electrified, which means that residents do not have availability of some energy services that electricity provides. Within the settlement, female dwellers[33] see to the daily energy needs of the home. This is mostly attributed to the high levels of unemployment among female residents in the settlement. While there is some existence of modern energy in the form of gas, settlement dwellers still depend on candles and paraffin for lighting, as well as wood-fuel for cooking. There are few options in the settlement in terms of energy availability and the fuels used do not meet all the required tasks in the home. Additionally, women exert themselves gathering all the various fuels needed daily in the home. Residents feel confined to the fuels that are available in the settlement as travelling to the closest urban centre is too costly[34]. Therefore, electricity was expressed by all the respondents to be the one intervention that could improve managing daily energy within the community. In essence, in this community there is a belief and a strong association with an improved state of well-being and grid connection. This is due to two factors: a need for convenience and a need for comfort.

Convenience

Informal settlement dwellers, especially women, stated a desire for better energy services as a way to improve their lives. Some of the main concerns regarding the fuels households were using were based on factors such as a need for longevity of food and storage ability of food-products like meat[35], and a desire for the use of appliance to lessen the burden of domestic chores like washing clothes. The desire for the availability of electricity in the community was also reported as an opportunity for women to spend less time in the kitchen particularly due to the use of appliances. Some men too emphasised their wish for women to be able to become more efficient when it came to preparing meals:

"…when cooking porridge we could have a two plate stove instead of one gas burner. This could aid them [women] to cook one thing on one side and another on the other plate [at the same time]."

(Respondent 8)

Male respondents criticized the inefficiencies related to their current sources of energy as well as the appliances used, understanding the time taken up by chores like cooking for women in Klipheuwel. There is support in literature that

[33] In Klipheuwel households, it is often either the matriarch in the home or children and well as sisters (including sisters-in-law and female cousins) who obtain daily fuel.

[34] Respondents 1, 2 and 9 felt that transport fare to the closest town was not worth making the journey and felt a need for more fuel options within the settlement.

[35] Respondents 2, 3, 4(b), 7 and 15 especially expressed financial frustration with food rotting due to a lack of refrigeration ability.

shows that men recognize how cooking time for women can be decreased from a connection to the national grid. In a study investigating welfare outcomes derived from modern energy access [electricity] on urban-poor women Annecke (2005) equally determined that in electrified households, men had praised the fact that the convenience of electricity had lessened women's time spent on cooking.

Comfort

The impact on women's experiences with managing domestic energy is realized where energy options become limited and their energy needs are not adequately met without electricity, in this case. For instance, there is a desire for the provision of thermal comforts like warmth in winter, and cooling in summer. Currently, women in Klipheuwel lack the convenience of appliance use as well as thermal comfort particularly from their energy sources. This can impact other issues including access to information as residents felt isolated in terms of not having a radio or not being able to use other electronics like a laptop[36]. Access to modern and efficient energy services which meets the needs for lighting, cooking and space-heating for instance, can result in a major reduction of women's household drudgery, with lesser time spent by women on household chores (Mohideen, 2012; Dutta, 2003). Electricity is seen as the primary answer or solution to adding convenience and safety to conducting household work and for living in the community for women. Almost all the men shared that women can benefit from modern energy, but responses were confined to women's chores within the home, and not necessarily expressed as a desire for female empowerment - like modern energy linked to enhanced opportunities for work or education. The contribution of accessing modern energy was viewed as having the potential to improve the primary household care-takers' well-being, by reducing the drudgery of meeting gendered domestic chores like cooking and boiling water for the household especially. Men and women share the same sentiment, although women also wanted a break (rest) from the current fuels they use.

This section has dealt with access to improved energy services which was the outcome from a discussion on perceptions related to improved female well-being in an informal settlement. This section relates directly to objective 4 which aimed to discover how energy-poverty impacts female well-being. The outcomes point to the fact that residents of Klipheuwel desperately want to be connected to the national grid and view this as the best solution to the energy challenges. As women spend most of their time preoccupied by maintaining the household, the use of appliances can provide a great source of support to ease this burden. This is consistent with the literature reviewed in chapter 2 of this thesis. According to Dutta (2005) women's access to modern energy services can impact their life profoundly as it relieves their domestic chores burden, frees up their time and improves health and well-being.

Conclusion

The findings of this section of the chapter have revealed how women are the primary energy mangers of the household and make decisions related to the use of domestic energy – for instance energy for cooking, lighting and space-heating – while men make the final decision related to energy appliance purchasing. All the women that were interviewed were unemployed, which has an impact on their ability to source preferred energy fuels. Energy was revealed to be an

[36] Respondent 20 complained about his family being unable to use his laptop due to a lack of electricity to charge the battery.

interconnected issue that forms part of basic service provision for a 'good life' for residents. Another finding related to the mix of energy sources, which was identified as a stressor on household finances since other important household needs often competed with procuring daily domestic energy. Lastly, the effects of a lack of access to modern energy in Klipheuwel affects women disproportionately in relation to men, as they have to spend more time procuring and monitoring the quantity of the various fuels to meet daily household subsistence needs. All of these findings echo a need for gender-sensitive planning, as side-lining gender in energy-poverty policy especially, may exacerbate the series of gendered energy-poverty. The following section of this chapter presents the second analysis, which provides an analysis of the formal processes in the FBAE Policy.

5.2. SECOND ANALYSIS: INTRODUCTION

In this section, the second analytical component of the study is presented, uncovering power dynamics which are embedded in the formal processes of formulating the Free Basic Alternative Energy Policy of 2007.

5.2.1. ANALYSING FBAE POLICY FORMAL PROCESSES USING NDM

One of the aims of the study endeavoured to uncover the dynamics of non-decision-making (formal processes) in the energy-poverty policy FBAE which result in the exclusion of the gender-energy-poverty nexus. For this analysis, secondary data was consulted, more specifically, South African government publications, media reports obtained from academic research platform LexisNexis, parliamentary committee proceedings from independent governance supervisory body Parliamentary Monitoring Group (PMG) as well as election manifesto's, parliamentary speeches and relevant literature related to the analysis. A full inventory of all resources consulted is provided in chapter 7.1, in the list of references. This section will reveal the key factors underlying non-decision-making in energy policy in South Africa, as well as look at possible causes for the FBAE Policy to disregard the gender-energy-poverty nexus in its framework. This section therefore establishes three main causes for the exclusion of the gender-energy-poverty nexus from energy-poverty policy, which are a result of power relations.

A) NON-DECISION-MAKING: UNCOVERING THE RESTRICTED FACE OF POWER

Bachrach and Baratz (1962) suggest a way for researchers to uncover the dynamics of non-decision-making using a step by step analysis, which they say adds a fresh perspective to the study of power. The aim is to uncover the "two faces of power": first, where power is revealed in concrete decisions - taken from the work of Robert Dahl (1960) - and the second "face" is the unrecognized "restrictive face of power", which involves the "dynamics of non-decision-making" to keep grievances covert (Bachrach & Baratz, 1962). The authors contend that by uncovering these "two faces of power" – the researcher is able to analyse participation in decision-making of concrete issues. Yet, this section mostly uncovers the second face of power, as it attempts to analyse circumstances leading to non-decisions. This section uses the authors guide to evaluate the dynamics leading to non-decision-making (NDM) in energy-poverty policy in South Africa. The specific policy referenced here is the Free Basic Alternative Energy Policy. Circumstances

around the development of this policy are uncovered to identify why gendered energy-poverty was not addressed by this energy-poverty policy.

A.1) MOBILIZATION OF BIAS

Under this first step in uncovering power dynamics, the aim under this section is to look at the nature of prejudices or influencing factors in policy development within the government, in addition to examining how certain issues or ideas which favour certain persons' or groups' interests are gratified. According to Bachrach and Baratz (1963) **e**stablishing a mobilization of bias is to uncover the 'values and biases that are built into the political system that…give real meaning to those issues which do enter the political arena' (Bachrach & Baratz, 1963). Tracking the formulation of the FBAE Policy reveals how its development coincided very neatly with South Africa's third legislative elections. In its 2004 election manifesto, the African National Congress (ANC) pledged to pay attention to the poor's access to services by accelerating programmes which aimed to provide water, sanitation, electricity and telephone services to un-connected citizens. This manifesto also promised to accelerate free basic services to voters to ensure a basic minimum for enhanced quality of life (ANC, 2004; Mbeki, 2004). Based on media commentary in South Africa, the majority of the ANC's voters can be characterized as "black" and "poor", with the majority of them having a low literacy rate. This voter profile raises questions therefore related to the abilities for voters to understand the ideologies of the party (Mbeki, 2010). Since South Africa's poor require strategies to eradicate the scourge of poverty (Phogole, 2010) creating policies which promise to meet the poor's need for basic services and creating jobs especially are hailed. In fact, one political observer has argued that ANC voters keep the ruling party in power mostly based on the fact that they are so dependent on it for social security, and less because of its ideologies (Mbeki, 2010).

Evidently**,** the ANC went on to win a significant three-time consecutive majority at the 2004 election with 70% of parliamentary seats (Visser, 2004). It is possible that this mandate by the ANC may have strongly influenced the formulation of the Free Basic Alternative Energy Policy since the Department of Minerals and Energy (DME, now Department of Energy, DoE, as was highlighted in chapter 1) pursued free basic energy services, as expressed by then Minister of Energy Phumzile Mlambo-Ngcuka in 2005 (Matinga, 2010). Tracking these events gives the impression that the ruling party's values can influence public institutions in formulating certain policies, particularly as there is still ambiguity between the roles of political heads and administrative heads in the South African public sector context (NPC, 2012). According to the Diagnostic Overview (NPC, 2011), there are many blurred lines within the South African public sector related to political-administrative boundaries owing to political patronage. This is done from the recruitment phase, where political interference has influenced appointment at senior level as well as resulted in deployment of cadres of the ruling party to post for which individuals are unqualified. Such political interference also filters into operational matters - causing tension between political and administrative heads. This relationship is affected particularly as senior public servants report to an elected minister and not to a head of the public service. In addition changes in leadership lead to major policy reviews and directional shifts, making it difficult for public servants to act in the name of the constitution as opposed to sustaining political loyalty (NPC, 2011). Thus, ruling party interests encompassed in an election manifesto promising basic services to the poor such as providing water,

sanitation, electricity and telephone services to un-connected citizens shows a mobilization of bias in favour of maintaining ruling party interests.

B) DOMINANT MYTHS AND VALUES

In this second step in the analysis, investigating the dominant values and myths of the FBAE Policy includes looking at the policy assumptions and core principles included in the policy to uncover what motivated their inclusion. The prominent ideas here show how the priorities of the ANC-led government affect energy-poverty policy development in the country. These are pro-poor values, as well as policy myths which assume equal policy impacts on the genders. This is evident in the generality of targeting within the FBAE. The fact that the policy has not been successfully implemented to date (Mohlakoana, 2014) appears to be linked to its vagueness on a number of issues like financing mechanisms for its implementation and targeting of the policy. This is seemingly common in some policies, as Wolpe and Reddy (2010) state that many policies in fact act as a superficial adjustment at the political level versus having a real influence on the fundamental structural form. This indicates how some policies may be formulated simply for the sake of appearing to have a purpose in order to advance political interests rather than tackling core issues.
As a way to demonstrate the influence of political party interests, Mohlakoana (2014: 197) found that factors leading to low implementation of the FBAE policy in one of her case study areas (King Sabata Dalindyebo Municipality) were due to political party hand. The author writes:

> '*The implementing actor is subject to political external pressure from the national government to deliver services in order to boost voter confidence in favour of the ruling political party. This influences the process of service delivery including the delivery of alternative energy services as part of the FBAE policy implementation processes*'

Additionally, the values in energy-poverty policy in South Africa, particularly the FBAE Policy tend to be pro-poor and focus on issues like job creation and poverty alleviation (see Free Basic Alternative Energy Policy document). This may be embedded in the ANC's RDP framework. Even after South Africa moved away from the RDP framework as a main policy and adopted the Growth, Employment and Redistribution (GEAR) as a macro-economic policy, sentiment within the ANC-led government was still to meet these objectives of RDP (see Mbeki, 2004). A reflection of this was a shift in goal-setting of electrification and energy provision by President Thabo Mbeki of the ANC, who announced a 100% electrification target by the year 2012 (Mbeki, 2004). Initially the target had been understood to be 80% by the year 2012 (Bekker et al., 2012). However, in recognition that not all households in South Africa could be reached for grid connection immediately, the FBAE policy was developed for indigent households located in rural areas particularly where grid electricity is not available.

Some of the myths however - which are steeped in ideas that policy will benefit everyone equally - are reflected in the FBAE Policy and particularly in the way the target-population is framed. The myths contained in this policy relate to an idea that everyone would benefit equally or especially vulnerable people by distinguishing the unit "household" and

"indigent" persons in its targets. This notion is untrue since macro energy policies affect men and women disproportionately, specifically where prices of energy and fuel availability mean more work for women as they cut back to meet domestic subsistence needs (Woroniuk & Schalkwyk,1998). Assumptions and myths in policy need to be rectified as this will have an impact on the genders. Examining the statements made by senior bureaucrats and politicians, trying to justify specific policy decisions is one way to identify the origin of misguided policy targets (Jansen, 2002). These senior bureaucrats and politicians sometimes make clumsy statements, which reflect a lack of understanding of the complexities tied to certain issues such as gendered energy-poverty. One such person is Matthews Mooketsane Bantsijang who was the Director of Energy Policy and Regulation, from the Department of Energy at the time of the FBAE Policy formulation. In a response letter to comments made by Earthlife Africa (Blaine, 2011) where it criticized South Africa's energy-poverty policies as not supporting poverty eradication and as excluding women, Bantsijang countered:

> "*After all, Earthlife Africa really needs to recognize and appreciate that SA's policy makers had priorities the effect on the poorest of the poor or the ordinary people specifically on women.*" (Bantsijang, 2014).

The FBAE Policy doesn't address the needs of women, and this is a problem. By targeting "indigents" and by using the broad unit of "households" in the FBAE policy doesn't specifically address the needs of women. Meeting women's energy needs requires accurate energy use data which is disaggregated by gender, in order to incorporating gender more precisely in policy design (Cecelski, 2000). A failure to do so only perpetuates the impact of GEP as women's experience of the gender-energy-poverty nexus becomes muted. By highlighting that it "specifically" targets women is an overstatement by this senior policy-maker within the DoE. This demonstrates how energy-poverty policy may not address the nexus due to a lack of knowledge on the problem and the lack of recognition in the policy process. Furthermore, an under representation particularly of the gendered experiences relating to household energy management in this policy is a demonstration of how a ruling party dominated public sector can fail to address other development issues such as the need to adequately address gender in energy-poverty policies.

In addition, the political procedures need to be taken into consideration to assess whether or not the three tiered system of service delivery in South Africa may be a mechanism by which to exacerbate women's hardships with managing domestic energy. The significance of the missing link with gender and energy-poverty especially in the policy raises questions regarding the procedures involved in formulating this policy. Women's perspectives in accessing domestic energy – which is a vital component to the survival of a household – is trivialized by the FBAE policy which targets the reduction of energy-poverty. Furthermore, this policy is endorsed by a political party which grounds its values on social equality and adopts a pro-poor approach to governing the country (ANC, 2011). The generality of targeting in the policy and missing details vis-a-vis female well-being reveal a rushed effort to have a policy in place to suite a critical period in the ruling party's period in office.

C) POLITICAL PROCEDURES: "RULES OF THE GAME"

The third step in uncovering dynamics of non-decision-making is to uncover the rules of the game. This is done by examining the procedures involved for creating and delivering policies in South Africa, focusing on the strengths and weaknesses of current approaches. For instance, at the national level, political procedures within government dictate that policy is developed at national government levels as well as funding models for the implementation. At provincial government level, more direct service delivery is conducted such as identification of beneficiaries for social services like social security grants, for instance (Wolpe & Reddy, 2010). This section briefly focusses on the challenges of multi-level governance, highlighting how policy design at national level can undermine and omit important policy issues as implementation is carried out at local the government level.

The FBAE Policy was developed by the National Department of Energy (DoE). Implementing this policy is the responsibility of the Department of Cooperative Governance and Traditional Affairs (CoGTA). Within the framework of the FBAE, DoE has two main responsibilities. These are to develop the policy and to ensure its implementation and approving funding for local municipalities. Meanwhile, CoGTA assigns responsibilities to the provincial departments to support local municipalities (Mohlakoana, 2014). Funding for the FBAE is done through the Local Government Equitable Share Grant (LGES) disbursed from National Treasury (NT), but must also be supplemented with additional funding from municipalities own budgets (Wolpe & Reddy, 2010). The department in charge of service delivery programmes within provincial government becomes responsible for implementing the FBAE Policy. Municipalities will generally then add policy goals in their Integrated Development Plans (IDP's) as a way to indicate their intention to roll-out a policy (Mohlakoana, 2014). Wolpe and Reddy (2010) identify a couple of challenges related to service-delivery within this three-tiered government system:

1. Since municipalities have competing obligations in delivering municipal and social services, subsidizing energy may not necessarily be a priority, particularly since municipalities make their own decisions regarding funding allocations for specific areas of services.

2. Informality is not recognized as a priority since national representatives assume that informal living is a temporary situation (as formal housing and grid connection is the final goal) the current issues facing informal settlements are side-lined.

In addition, these political procedures - while maintaining the principals of the RDP's support for transparency in governance - show weaknesses which are revealed within the poor implementation of the FBAE policy as well as a lack of clarity regarding its monitoring and evaluation and funding framework. This reveals dynamics of NDM as there is a missing link between local municipalities' responsibilities in implementation of the policy and national government decision making regarding the policy. Political procedures within this framework ignore this missing link, therefore demonstrating perhaps that the emphasis is mostly on having a policy in place rather than how the policy is delivered. This poses an issue as South Africa often suffers insufficient delivery of services. Others notice a pattern

related to the poor voters of the ruling party and the dissatisfaction with the delivery of basic services to them. Baldauf and Kwinika (2011) cite that the ruling party's failure to deliver basic services has stained the ruling party – affecting its power to win some South African municipalities in local election votes. The ANC's predominantly black and poor voters lose confidence prompted by the party's failure to meet basic needs. This structure of the three-tiered government system serves well to develop good policies; however, these fail to effectively reach the people who need it most. In essence, these political procedures are a weakness in delivering services, and are influenced by power relationships between national government and local government. This is evident in decision-making practice which is mostly privileged to national authorities and not the local ones who disseminate the government's resources.

D) WHO BENEFITS?

Assessing the group or persons that gain most from the existence of the FBAE Policy depends on those individuals whose dominant values are articulated in the FBAE policy – thus the ruling party. The ruling party benefits especially since they would be viewed as delivering on their election promises if they provide free basic services to the unconnected segment of the South African population. In addition, although it is hard to definitively establish in this instance, questions remain regarding the existence of possible pressures related to dismissals or demotion of executives within the DoE who develop and promote policy in discord to ruling party desires. Literature relays how South Africa's ruling party leadership have a very 'heavy hand' in rewarding loyal MP's and punishing dissention among members by 'redeploying' them (Seekings, 2013). To add to this, Jansen (2002) found that in education policymaking in South Africa for instance, the state often resolved policy struggles in the political domain versus the realm of practice which is indicative of inattention on the part of government to genuinely addressing significant issues through policy. Conceivably, fear of dismissal may result in policy-makers within government institutions complying with political expectations versus public interest.

The entities' who are most handicapped by the generality of the FBAE Policy - due to a pursuit to satisfy political agenda versus public interest - are the indigent population in the country (the intended beneficiaries) who are caught in a system that doesn't provide for their needs. This is especially the case for women, as their contribution to household energy management and energy needs is currently not recognized in energy-poverty policy. Wolpe and Reddy (2010) agree with this observation, adding that poor individuals are hampered by the system in place as it does not work optimally for them.

E) INVESTIGATING DYNAMICS OF NON-DECISION-MAKING

The ruling party in South Africa has influence over many major policy decisions which demonstrates a "face of power". Identifying the ruling party as an entity which gains most from the existence of the FBAE Policy, is a fair deduction, particularly as their political influence has shown to yield power over values and the running of government institutions. The extent of this influence is visible in other policy formulation processes such as South Africa's foreign policy, for instance. The controversial discourse on South Africa's foreign policy echoes the ability for the ruling party

to use its political power to influence certain processes. This has been scrutinized in literature, with others justifying the ANC's involvement as the ANC's right as the governing party, and thus 'must always' impact on the country's foreign policy orientation (Nganje et al., 2012). While this particular policy is not an area of concern for this study, it does demonstrate the power of the ruling party to influence policy formulation. One of the concerns related to the FBAE Policy is how it lacks a clear policy mandate. In addition, the levels of transparency within this particular policy are limited since evidence of the inclusion of the public in the formulation of the policy is unavailable.

Furthermore, the custodianship of the policy is even contradicted in the literature. For instance, there is conflicting information regarding the responsibility of formulation, monitoring and implementation of FBAE. Wolpe and Reddy (2010) say that the department of CoGTA along with National Treasury has a constitutional mandate to develop the FBAE Policy in response to the needs of those living in informal un-electrified settlements – thus putting the responsibility on these two departments. Meanwhile, Mohlakoana (2014) recognizes that CoGTA assigns responsibilities to the provincial dept. to support local municipalities (therefore plays a role in ensuring implementation). The FBAE Policy (2007) itself simply states that funding is dispersed by DPLG to local government, but that municipalities have the responsibility to administer and provide FBAE to indigent households. There should be a very clear directive regarding the custodianship of this policy, as the confusing state of responsibility reveals a lack of transparency in its formulation. The combined circumstances whereby the ruling party yields such influence over values and the running of government institutions, in addition to the inherent lack of transparency in the formulation of policy at national government level indicates a "face of power". This is the case since the ruling party yields influence over major policies in the country, while the full extent of how far this influence trickles into policy mandates at national level remains unknown due to the lack of transparency in the formal processes of policy creation.

F) LIMITING THE SCOPE OF DECISION-MAKING

The focus of this part of this discussion looks at the ways in which those who have the ability to influence institutional processes are able to do so and subdue the agenda in policy. A motive for limiting the policy agenda in the FBAE to safe issues – such as targeting only the known developmental challenges facing the country, in line with the ANC's 2004 election manifesto – may have been to regain voter confidence by the ruling party. Adopting the GEAR policy in 1996 by the ruling party only aggravated levels of poverty and inequality in South Africa (Visser, 2004). Therefore the ruling party may have felt pressure to improve support for their party as this move brought it negative criticism. As a result, issues such as basic services for the poor, employment and addressing inequalities can be summed up as the less risky, well-known development challenges which are originally a legacy from apartheid, and needed to be addressed. Thus the focus was mainly to address the less risky issues, which mainly focus on correcting the injustices of the past like electrification. Therefore issues such as gender (or any other concerns) are not aligned to this track, and are thus ignored. In 1994 the RDP was used by the ANC as an election manifesto. The party gained favour accumulating many votes hinging on (among other things) the fact that its policy extended on the Freedom Charter of 1955, where values of equality, shared wealth and grow of the economy were foremost. However, two years later the ANC adopted GEAR which was criticized by many to be 'a conservative macro-economic strategy', while abolishing the RDP Ministry in

March 1996 (Visser, 2004). This proved to be unfavourable – even within the Tripartite Alliance (between the ANC, super trade union, Congress of South African Trade Unions (COSATU) and the South African Communist Party (SACP)) – as the country experienced an increase in levels of poverty and jobless growth from the initiation of GEAR. As such, a focus on meeting the RDP aligned objectives may have been a priority and a strategic way for the party to maintain favour with supporters, as RDP aspirations reminded people of the party's core pro-poor fundamentals – which the neo-liberal policy had begun to overshadow. By doing so, poverty is used by the ruling party to solidify their position. It is conceivable that as a consequence, however, of sticking to 'safe' topics meant that other issues of significant importance such as gender became side-lined. The failure to recognise gendered energy-poverty, in turn resulted in an exclusion of gender sensitive goals in energy-poverty policy development. Gender sensitivity in energy-poverty policy would take account of women's hardships in managing domestic energy, for instance. This is also referred to as the "key" political decisions, where the interest of a ruling elite counter those of others (Bachrach & Baratz, 1963). This is an example of how vested interest are protected by the ruling party and extent to which rules and procedures can be re-shaped to block any challenges, as according to Bachrach and Baratz (1963) these are indicative of power relationships. The outcome is that gender sensitivity is missing in a policy combatting energy-poverty in South Africa.

G) DECISION-MAKING OF CONCRETE ISSUES

This final step will look at how the scope of decision-making is limited in formulating this policy and distinguish between "key" and "routine" political decisions. Additionally, this step will establish the individuals or groups which had the last and final say in the development of agenda within the FBAE Policy. Thus, investigating dynamics of NDM requires an additional establishment of conflicts to agenda-setting while formulating the FBAE Policy. Discourse related to the FBAE's agenda-setting process however is noticeably missing, making analysing participation in decision-making of concrete issues problematic (Bachrach & Baratz, 1962). This analysis has attempted to track the process behind the development of the FBAE Policy nevertheless, following an inventory of limited information which is publicly available. One of the initial attempts at accessing information was from public servants within government departments and related to the composition of the policy formulating group for the FBAE. Accessing this information resulted in hurdles, however. Obtaining information from authorities within the government echelons has been one of the main challenges encountered in this study. Some government officials[37] were contacted on multiple occasions often with no response or with re-direction to another department without a follow-up e-mail address. One of the issues that the researcher is aware may have contributed to the challenges encountered with reaching some officials is a change in positions within the public sector. According to the National Development Plan (NPC, 2012), re-shuffling of positions within the public sector is common practice. This might have resulted in a telephone number or e-mail address change.

[37] A senior official at the Department of Energy and four other DoE staff were contacted on multiple occasions, sometimes with re-direction to other state departments, including one senior official within the Department of Women, Children and People with Disabilities.

A few connections can be made following public documents and conducting desk top research. What has been evident is that Mr Bantsijang who was the Director of Energy Policy and Regulation at the Department of Energy at the time of FBAE Policy development would have contributed to some extent as head of department, to approval of energy policies (which is also apparent by his public defence of policies that are developed within his department). However, DoE does not disseminate policies without oversight, as Section 55 (2) of the Constitution of South Africa requires that parliament committees are formed and have oversight over the executive (PMG, undated). For energy, the Portfolio Committee on Energy (PCE) fulfils this role. Thus, it appears that there would have been oversight by this committee in approving energy policies, including the FBAE. In theory, the core function of the PCE is stated as the ability to pass legislation, monitoring executive action, facilitating public participation and in the legislative and other processes, to oversee co-operation between the government as well as overseeing international relations (PMG, undated). Though in practise, this committee plays only a very passive role (Seekings, 2013), as the executive have the last say. Ultimately, gender as a priority for energy-poverty policy failed to be addressed sufficiently even though it is recognised in other national documents in South Africa such as: the White Paper on Renewable Energy of 2003 and later the Women Empowerment and Equality Bill of 2013. The FBAE policy also fails to address the gender-energy-poverty nexus despite the fact that South Africa ratified other international gender policies such as CEDAW (1979) and BPFA (1995) and includes no acknowledgement of section 9 of the South African Constitution which protects women from all forms of discrimination (see chapter two). This shows that there had been knowledge or information available that supported the inclusion of gender targets during the formulation of the FBAE policy. This knowledge and the lack of its use reflect a level of bias and an exercise of power by those who were able to consciously treat that knowledge of insignificant value. Bachrach and Baratz (1962) acknowledge that the ability by some to effectively suppress latent issues is a "face of power".

There are clear signs that the creation of this policy was not transparent enough. The failure for gender to be included in the FBAE Policy impresses that this was partly due to a lack of power both within the PCE and the DoE to have the final say on the agenda for this policy. This limited power is exacerbated by the blurred lines of command on ruling party policy and public policy. Maseng (2014) states that political bias in policy positions undermines democracy due to the preoccupation of ruling party dominated parliament in dealing with ruling party interests and not those of the public. Other experts agree with this deduction and particularly agree that political interference or influence in matters of public interest like policy-making are dominated by a ruling party which primarily seeks to advance its own political interests as opposed to those of the public (see Jansen, 2002; Mbeki, 2010 and Seekings, 2013). Furthermore, Martin[38] (2015) says that at best, the PCE normally responds by delaying and/or making processes more transparent.

[38] A senior member of South African civil society Project 90 by 2030, Ms. Brenda Martin has interacted with the PCE over the past 7 years for policy lobbying and advocacy as part of civil society formal policy engagement. Her observations have been that while the PCE has the power to influence transparency of processes such as obtaining important documents from the Department of Trade and Industry or the Department of Energy at various stages of policy making, this committee still has very little influence over policy approval and while public hearings are regularly held, it is not clear how much influencing power these hearings actually have.

Martin further states that:

> "*power of approval of policy is far more visible within the presidency & cabinet and the national assembly. Also, the ANC member majority ensures that the chair is an ANC MP and that members are mostly ANC party members too. So in all, unless opposition parties are able to prove clear breaches of law, the majority can rule in favour of ANC policy…I have never seen one instance where a public hearing has led to an ANC policy being countered*" (Martin, 2015).

This expert account of a democratic process that should, in theory, serve all citizens of the country, reveals that in practise, it seems to mainly fulfil ruling party bias. One of the core observations in this analysis is the absence of discourse on the formulation of the FBAE Policy. The fact that "public" information is so confined and inaccessible shows that the process itself (of developing the FBAE) may not have been so transparent, since no public debates on the policy are documented clearly for public consumption. More importantly, this also reveals perhaps how decisions are made away from the public domain. The fact that public servants within the department which developed this particular policy were so vague and inaccessible themselves reemphasizes how transparency was limited for this policy. This is a challenge as public interests are undermined, and it shows a failure by the "status quo oriented persons" to address legitimate development challenges in the country, thus contributing to muting relevant policy issues such as gender.

Conclusion

In conclusion, this section has presented an evaluation of the formal processes behind the formulation of the FBAE Policy using the theory of NDM as a lens to observe the absence of the gender-energy-poverty nexus. A number of causes for this exclusion were established, such as a political agenda by the ruling party which focussed on meeting election promises based on RDP ideals for example.

This analysis was limited in answering the principle question, 'how can the energy-poverty policy (FBAE) contribute to addressing the gender-energy-poverty nexus?', as information related to the nature of the agenda-setting conflicts (disagreements on issues which should take priority) was inconclusive based on the lack of discourse available relating to FBAE Policy formulation processes. This step was part of a guide on assessing dynamics of non-decision-making which was listed in the methodology section of this study (in chapter 4). Thus, it could not concretely reveal the individuals or groups which had the last and final say in the development of agenda within the FBAE Policy.

And yet this study acknowledges that decisions are rarely made by an individual alone – as decision-making is much more complicated than a single or two-person interaction (Hill & Verone, 2014), which is why a study of the formal processes involved in policy making in South Africa was laid-out as a measure of adding value to the investigation and answering the principal question of the study. While this study could not entirely assert that NDM was the primary cause for the exclusion of the gender-energy-poverty nexus in energy-poverty policy, it has established the factors for

non-decision making in the creation of the FBAE Policy of 2007. The ruling party in South Africa was clearly driven by an objective to reduce poverty in the country, particularly since its supporters are poor, black South Africans. This primary objective of poverty reduction takes priority in terms of addressing some of the country's main challenges and results in policies being hastily created to meet election promises. Thus, this section has established three main causes for NDM in excluding the gender-energy-poverty nexus from energy-poverty policy, namely: 1. ruling party politics as well as a desire for RDP alignment, 2. issues tied to policy and decision-making alignment within the multi-levels of governance, and 3. A ruling party dominated public sector which results in an under representation of non-ANC aligned interests. This study asserts that all of the named causes result from power relations.

This thesis has provided insight into the dynamics which influence decision-making or in this case – non-decision-making on the inclusion of core issues related to gender and energy-poverty. Firstly, the analysis revealed how ruling party politics and particularly political structures can influence the values of institutions of government. It also exposed how the ruling party mobilizes a bias to influence and to limit the scope of decision-making within public sector institutions to achieve a favourable outcome in policy aligned to RDP ideals. Secondly, issues tied to policy and decision-making alignment within the three-tiered governance system in South Africa based on vagueness in policy as well as limited control of policy decisions within local government. Additionally, political procedures within the three-tiered service-delivery framework ignore the missing link between local municipalities' responsibility to implement this policy and decision-making at national government level, demonstrating therefore, how the emphasis is mostly on having a policy in place rather than how a policy is delivered. Thirdly, a ruling party dominated public sector has resulted in an under representation of non-ANC aligned interests such as gender-matters in energy policy. This third cause also revealed the challenges faced by implementing agents to target poor women specifically. These power relations which have been established reveal how a failure to adequately address the gender-energy-poverty nexus in the FBAE occurred. Failing to recognise gendered energy-poverty has resulted therefore in an exclusion of gender sensitive goals in energy-poverty policy formulation.

Conclusion of Chapter Five

In this section the researcher presented the study analysis and the study's findings from both the first component of the analysis (which revealed the qualitative research study conducted in the Klipheuwel informal settlement) and the second component (which focused on the formal processes involved in developing the FBAE Policy). This chapter has presented the two analyses of the study, which attempted to answer the principal question of why the gender-energy-poverty nexus does not feature in energy-poverty policy. A detailed examination of the findings is provided in the following chapter where the two analyses are merged to highlight how dynamics of non-decision-making influence the presence of the gender-energy-poverty nexus in energy-poverty policy in South Africa, and thereby impacts female well-being. Chapter six presents the study's main findings, conclusion and recommendations.

6. CHAPTER SIX: PRESENTATION OF MAIN CONCLUSIONS AND RECOMMENDATIONS

6.1. INTRODUCTION

The content of this chapter will focus on the main findings of the study and provide some recommendations for policy-makers and future directions for studies in the field.

6.2. MAIN FINDINGS RELATED TO THE STUDY OBJECTIVES

The main findings will be presented in relation to each of the research objectives.

6.2.1. Objective 1: To uncover the dynamics of non-decision-making (formal processes) in the energy-poverty policy FBAE which result in the exclusion of the gender-energy-poverty nexus

- This study established three main causes for the exclusion of the gender-energy-poverty nexus from energy-poverty policy, namely:

  1). Ruling party politics as well as a desire for RDP alignment,

  2). Issues tied to policy and decision-making alignment within the multi-levels of governance, in that and

  3). A ruling party dominated public sector which results in an under representation of non-ANC aligned interests.

- In terms of the first main cause related to ANC party politics and RDP alignment, the presence of a particular "mobilization of bias" within the institution in formulating this policy was informed by the ANC's election manifesto, where ruling-party ideals blur the political-administrative relationship and boundaries of influence.
- The second main cause related to the misalignment of national government decision-making and local government implementation which revealed how political procedures within the three-tiered service-delivery framework in South Africa ignores the missing link between local municipalities' responsibility to implement policy and decision-making at national government level.
- The third main cause pertains to an under representation of women's experiences with domestic energy management. This demonstrates how a ruling party dominated public sector can fail to address non-ruling party aligned issues such as the need to address gender issues in energy-poverty policies. This power relation results also in a lack of knowledge on the problem and a lack of recognition of gendered energy-poverty in the formal policy processes.

6.2.2. Objective 2: To uncover the role that social norms (informal power dynamics) play in the series of gendered energy-poverty

- Unequal gender power relations influenced intra-household processes such as household spending each month and is tied to decision-making related to energy.
- Procurement of daily energy fuels appeared to be the woman's responsibility. This was especially since women were tasked with managing general domestic affairs – women where thus the primary care-takers in the home, providing food, taking care of children as well as procuring and managing daily domestic energy.
- There is evidence of gender differential uses of domestic energy: women reported using energy for the survival of the home, like for cooking, while men prioritized energy for recreational purposes like listening to the radio.
- Women's input into community related issues was also limited as the male-head in the community (the chief) has the final say, despite the fact that women also served in the governing committee within the informal settlement.

6.2.3. Objective 3: To explore the mechanisms through which the formal (EPP) and informal power dynamics (social norms) impact the gender-energy-poverty nexus

- Non-decision-making (NDM) attributes such as male-bias within the social order in Klipheuwel, power and authority over others (in the formal processes of policy formulation in South Africa), all featured both within the formal power dynamics and informal power dynamics.
- In terms of informal power dynamics (social norms), hardships in energy management are increased for women due to women's limited decision-making power regarding major decisions linked to purchasing appliances. In terms of formal power dynamics (energy-poverty policy), institutional barriers which result in Klipheuwel not receiving FBE and FBAE mean that women cannot access better energy services. This is compounded by a lack of service delivery, which extends poverty in the community.
- Female residents of the community are unsatisfied with the fuels they are using as these fuels do not meet their need for food storage, lack sufficient provision of warmth in winter and fuel choice within the community is limited.
- The lack of recognition of informality results in urban informal settlements such as Klipheuwel being left out of servicing areas for energy interventions (such as in the FBAE).

6.2.4. Objective 4: To discover how energy-poverty impacts female well-being

- The burden of energy-poverty has economic as well as health dimensions for women and their offspring, impacting their ability to move out of poverty.
- The fuels used in the community were simply unaffordable; resulting in some families going into debt, or those that did work felt that they were working for energy.
- The fuels currently used by women from Klipheuwel were unpopular based on two main reasons: limited safety of fuels which related to fire risk, for instance and low quality of fuels which relates to illuminance of candles as a source of light, for instance.

- Service delivery was a major concern and directly affects settlers well-being in terms of receiving grid electricity, accessing healthcare, receiving adequate housing, improving transportation in the community among other requirements. Not receiving these services was impacting women especially as they are the primary care-takers within the home, and are most affected by energy-poverty.
- Well-being was understood in terms of electricity provision, particularly as it was linked to earning an income, and adding convenience to the lives of women especially.

6.2.5. Objective 5: To explore the impact of the gender-energy-poverty nexus on Klipheuwel householders

- Escaping the grips of poverty was discovered to be very difficult – particularly for women in Klipheuwel due to a number of factors such as:

  1). The use of fuels which have a high cost,

  2). Compounded by the lack of opportunities for gainful employment for women especially,

  3). And the social order which places women as primary managers of domestic affairs which includes managing daily domestic energy.

- The use of a mix of energy fuels in Kilpheuwel was expected, as different fuels are used for different tasks. As a coping strategy women used gas and paraffin for cooking and lighting was done using candles and paraffin. Women also saved on fuels by cooking less and sleeping earlier in the evenings.
- Procuring energy was identified as one of the main elements that increased financial pressure within the household.
- Primary fuels used for cooking and lighting often competed with other material needs within the home – such as food and transport fare.

Energy and the procurement of energy, has gender and poverty dimensions which impact women's experiences with managing domestic energy. The findings of this research show that these dimensions form part of the link between energy and female well-being. Therefore, dynamics of non-decision-making which exclude gender in energy-poverty planning affect this link. Other issues that have surfaced during the qualitative interviews include a perceived level of inequality between the different races groups within the community. This is especially between the Coloured and Black community as a majority of one group is electrified while the other remains un-electrified respectively. The slow response of emergency services (such as fire response and ambulance services), the wide-spread vigilantism in the community (particularly in dealing with perceived offenders) and safety issues related to fears of children drowning in an un-enclosed river bank near the community are significant issues in Klipheuwel. These issues are very important and tie into the socio-economic make-up of the community. Unfortunately these were not explored further due to these issues falling outside of the scope of the research. However, the researcher wishes to acknowledge these issues due to a need to show the extent of deprivation and hardships, particularly for vulnerable people – such as women, children and

the elderly – experienced within a community located so far from places with access to economic and social development opportunities.

6.3. CONCLUSION

This thesis endeavoured to explain why energy-poverty policies in South Africa continue to disregard female well-being; questioning whether power dynamics were to blame. The primary research question aimed to uncover how an energy-poverty policy (FBAE) could address the gender-energy-poverty nexus. This thesis has provided evidence to show that power relationships do exist within households as well as in national policy-making institutions, and thus have an influence on social and institutional processes which lead to the GEP nexus being trivialised. Social norms were exposed as having an influence on decision-making practices in households related to purchasing daily domestic fuels and energy appliances. This affected women particularly as they are primarily in charge of managing domestic energy. In addition, policy failed to support indigent women adequately and especially those living in informal contexts and not in receipt of free basic energy or free basic alternative energy. As a result, their struggles with managing domestic energy are side-lined or are made invisible. Arriving at these conclusions was based on data which answered each of the five objectives in the study:

Firstly, this thesis pointed out the missing link in the Free Basic Alternative Energy Policy, in addition to uncovering non-decision-making dynamics within the formal processes in energy-poverty development. This study established three main causes for the exclusion of the gender-energy-poverty nexus from energy-poverty policy which are a result of power relations. The first cause was revealed in ruling party politics as well as a desire for RDP value alignment in policy. The second was tied to issues of policy and decision-making alignment within the multi-levels of governance, and lastly an under representation of non-ANC aligned interests. The Klipheuwel case study shows that recognising the gender-energy-poverty nexus in the FBAE Policy may have potentially favourable externalities such as reducing the high cost of energy and improving health, which have been mentioned in chapter two. The issue however is the policy processes, which are occupied by political agendas and, to some extent, serve only to marginalize women's experiences in managing domestic energy. There are similar cases reported in literature. For example, AFREPREN/FWD (2005, in Cecelski, 2005) examined the inclusion of gender in national power sector policy, finding that power sector reform in East and Southern Africa hadn't considered the differential impacts of policy on women and men. Policies in these regions incorporated vagueness in policy objectives despite recognition among the sectors policy-makers that the power sector can achieve sustainable development through integrating gender in policy. In addition, male-dominance in industry was uncovered within the region's power sector as well as little consultation processes with end users in formulating policy.

Secondly, social norms where found to impact women's ability to make decisions relating to preferred energy sources particularly since male-heads made the final decision related to purchasing energy appliances in the home, and high levels of female-unemployment rendered women financially dependent on men. It was additionally established that non-decision-making attributes (such as men's control of the financial resources as well as male-privileged decision-

making within the household) reinforce a male-bias and impact the gender-energy-poverty nexus to maintain the status quo in relation to gender equity within households in Klipheuwel. These findings are in accordance with a previous postulation (in chapter 3) which stated that social norms appropriate attributes such as power, male-bias and authority to maintain the status quo related to a patriarchal social order. The visible NDM attributes appropriated by the informal power dynamics in Klipheuwel reveals an association between gendered energy-poverty and muted social norms, such as the enforcement of male-privileged decision-making power both within the home and within the community, the fact that it was taken for granted that men were the household heads and men's control of the household financial resources. The division of household labour also revealed male authority as women had no option but to comply by meeting their gendered domestic obligations (such as cooking, child-rearing and cleaning). Thus a male-bias is upheld in gendered social norms which exploit the gender-energy-poverty nexus, since women in the informal settlement had limited ability to make decisions relating to energy sources, suffered from unhealthy fuels and experienced financial strain in sourcing domestic energy. These findings are also consistent with the literature discussed in chapter two of this thesis. The literature reveals that women are primarily responsible for energy procurement and management for the household, despite their limited decision-making power (Skutsch, 2005; Pachauri & Rao, 2013) and acknowledges unequal control of household resources, which is reinforced by the socially constructed gender roles (Clancy et al, 2003; Danielsen, 2012).

Thirdly, non-decision-making (NDM) attributes such as male-bias, power and authority over others all featured both within the formal power dynamics and informal power dynamics, which has affected the series of gendered energy-poverty. This has impacted women's welfare resulting in limited fuel choice for women and limited reach of energy-poverty policy - due to a lack of recognition of informality in policy. Furthermore, the division of household labour, and particularly, domestic energy management is influenced by a patriarchal social order, making energy a major pre-occupation for women. Mechanisms utilized by both the informal and formal power dynamics such as male-bias, power and authority prevent householders from experiencing adequate provision of energy within the Klipheuwel informal settlement. These attributes are presented in the form of the dominant myths embedded in the generality of the FBAE targets of "indigent" and "households" for instance, which are part of the policy-formulation processes of the formal power dynamics. Equally, mechanisms such as male-bias and authority embedded in the patriarchal social order within the Klipheuwel community are utilized by the informal power dynamics and impact the gender-energy-poverty nexus. Many of the literature reviewed in chapter two of this thesis cite the influence that unequal gender power relations has in disempowering women. For instance, women have very little power and limited decision-making control in comparison to men, which affects managing household energy according to Clancy et al. (2003). Wamukonya (2002) postulates that underlying gender relationships affect women's access to energy services, while women's gendered roles are entrenched by cultural norms which determine their everyday roles or tasks (Mohideen, 2012). Furthermore, power dynamics involved in accessing adequate energy impacts the genders unevenly – in terms of health, education, and productive activities – especially since women spend more time than men cooking and collecting household fuel (Saghir, 2005).

Fourthly, householders in Klipheuwel need access to a combination of basic services to improve well-being for women, as well as for their offspring. This is particularly because the burden of energy-poverty has economic as well as health dimensions for them which are additionally tied to service-delivery. Development and energy is tied very closely to economics, and therefore it is important to investigate how women are economically responsible to source domestic energy. Respondent's revealed levels depression due to living without access to modern energy and reported experiencing stress tied making ends meet under the burden of unaffordable fuels in the settlement. Energy-poverty policy has a role to play here in addressing both the health and economic challenges faced by women. In terms of health for instance, in their study looking at the impact of basic service reforms on households caring for a family member with a chronic mental disorder in Klipheuwel, Breen et al. (2007) uncovered how factors related to municipal services in the community increased levels of stress among respondents, and additionally, policies impacted individuals therefore shaping context for mental disorders in poor urban environments. In terms of the economic strain of energy, others also had similar finding to this thesis. Wolpe and Reddy (2010) who, in their case study based in an informal settlement in Grassy Park, found that "residents spent a large proportion of their irregular income on energy" and that life was not easy for residents as many people "remained entrapped in a cycle of poverty with little prospects of improvement".

Fifthly, empirical evidence in the Klipheuwel informal settlement confirms the presence of the GEP nexus, as indicated in the various negative impacts on women's well-being – such as increased stress due to the unavailability of recreational energy services, poor performing cooking and lighting fuels – which impact females and young children's health. Additionally, a lack of convenient appliances that could reduce women's workload is another way in which the nexus is detected. The use of a mix of energy fuels in Kilpheuwel was expected, as different fuels are used for different tasks across South Africa. This prolongs the time and energy spent acquiring daily fuels. Access to modern and efficient energy services which meets the needs for lighting, cooking and space-heating for instance, can result in a major reduction of women's household drudgery, with lesser time spent by women on household chores (Mohideen, 2012; Dutta, 2003). Electricity, furthermore, is seen as the primary answer or solution to adding convenience and safety to conducting household work and for living in the community for women.

These issues that have been uncovered in the Klipheuwel informal settlement may be generalized to other low-income areas in South Africa based on the similarities between informal settlements such as a lack of basic services, the issue of housing and limited access to modern energy**.** In terms of the people (the study's respondents), this study acknowledges that individuals differ, however there may be degrees of similarity between Klipheuwel residents and residents of a similar informal context, as the issues raised (like unemployment, questions related to legitimacy of the informal settlement and the provision of basic services) were not unique. Based on the small size of the sample used in this study, it is also not a representative sample, which can be generalized for an entire country.

These findings document the presence and experiences associated with the gender-energy-poverty nexus within an urban informal settlement, uncovering a number of negative impacts on women's well-being associated with gendered energy-poverty. These include increased stress due to the unavailability of recreational energy services, poor

performing cooking and lighting fuels which impact females and young children's health and a lack of convenient appliances that could reduce women's domestic workload. All of the named issues can be relieved by better recognition of gendered energy-poverty in energy-poverty policies such as the Free Basic Alternative Energy Policy. Part of the challenge however lies in addressing the issues tied with the politics of agenda-setting in policies in South Africa, as well as generating good end-use energy data which is disaggregated by gender for clarity on the extent of the gender-energy-poverty nexus. The findings of this thesis are important in understand how energy-poverty policies can contribute to addressing the gender-energy-poverty nexus since it has presented a case study of where in South Africa the problem is worst: Klipheuwel. Klipheuwel, because of its informal status, suffers from a lack of policy interventions – particularly where energy is concerned; presents with unequal gender power relations; and its female residents are most affected by energy-poverty. This case study has helped to shed some light on how these three challenges triangulate and work together to extend experiences of poverty in urban informal contexts.

6.4. MAIN RECOMMENDATIONS

On the basis of findings in this study, recommendations regarding national policy would be to improve the focus on women's issues living in urban informal households. More specifically, the following section addresses how to set gender-sensitive goals in energy-poverty policy, it suggests an extension of service areas from the FBAE Policy and provides direction for future studies related to gender and development in energy.

6.4.1. GENDER-SENSITIVE GOAL SETTING IN THE FBAE POLICY

There is literature which emphasizes the importance of the inclusion of gender-sensitive targets in energy policy, as a way to guarantee the success of implementation and acceptance of a policy. It is further determined that in the past, energy policies have paid very little attention to the crucial role that women play in energy systems (Dutta, 2003). Gender should be a major guiding instrument in broader policy development as a committed government must consider equity and gender in properly addressing energy access policies (Brew-Hammond, 2010). In addition, supporting gender equity in energy policy can be a way to empower women above the energy intervention or technology which is being introduced or endorsed in a particular policy (Skutsch, 2005).

The policy for including gender-sensitive goals in energy-poverty policy should ground itself on the Constitutional obligations, as well as current gender-energy-poverty theory in developing countries, as well as empirical studies such as this one. By addressing the gender-energy-poverty nexus, this policy could potentially improve women's well-being by:

- recognizing women's preferred fuels for lighting, cooking and space-heating
- providing women with fuels that are better for their health (such as Solar Home Systems) and that are affordable
- thereby, opening up possibilities for income generation

- or by contributing to saving women time where men are willing to part-take in the household's daily energy administration, due to an availability of convenient, modern energy technologies (such as solar lamps and efficient cookstoves)

Additionally, experts like Dutta (2003) suggest that policy (in this case the FBAE Policy) should endeavour to incorporate gender-friendly strategies such as simple to use technologies (less technical and manageable to end-users), energy interventions which focus on primary end uses such as cooking and lighting for safety. Additionally, there should be an improvement of the appliances or apparatus used by Klipheuwel householders for instance - such as improved wood-stoves, better candle holders to prevent fires and introduce SABS (South African Bureau of Standards, the body which sets standards in products in South Africa to ensure quality and safety) and approved paraffin stoves to prevent explosions.
Gender-sensitive goals as the ones mentioned above could lighten women's workload (drudgery) thereby improving women's welfare, possibly increasing women's productivity and empowering them (Skutsch, 2004).

Gender-sensitive goal setting in the FBAE policy also requires that officials at the energy department be gender sensitized through training or awareness campaigns particularly since they are the ones that assume that energy use and management is the same for all, and since the same officials are responsible for creating energy policies, it is essential that they be gender sensitized. Additionally, urban women need to be empowered - particularly those that are living in informal settlements - through skills or vocational education measures, through credit access, or formation of self-help groups that informing them of their rights as a means of addressing non-decision making.

6.4.2. EXTENDING THE FBAE SERVICING AREAS

The intention of this study was to highlight how the gender-energy-poverty nexus is missing in an energy-poverty policy in South Africa. This was done by uncovering the formal processes involved in developing this South African energy-poverty policy and by examining the extent of as well as the influencing power dynamics in the gender-energy-poverty nexus on an urban informal settlement population. One of the main findings that has been highlighted in this study is the failure of energy-poverty policy to reach informal settlements. Thus, there is a need to encourage the inclusion of informal settlements as a part of FBAE servicing areas.

Due to levels of poverty uncovered in Klipheuwel, the local municipality has the responsibility to roll-out the FBAE Policy in this area and other urban informal settlements like it to limit the extent of energy-poverty, and to address issues tied to the gender-energy-poverty nexus within these contexts. This may be possible, particularly as the FBAE Policy was not developed exclusively for rural areas. This is supported in the Department of Minerals and Energy's stipulation that this parallel (to the Free Basic Energy) "intervention strategy is specifically aimed at servicing indigent households (i.e. those who suffer from energy poverty) in un-electrified areas" (DME, 2013: 12). Furthermore, Wolpe and Reddy (2010) suggest that challenges related to informality should be integrated into policies to decrease

vulnerability. Hence, it is envisaged that from the findings of this research, further investigations may be undertaken which lead to the development of gender-sensitive energy policies that can incorporate informality.

Using the existing frameworks and energy-poverty policies like the FBAE Policy – with adjustments for gender-sensitivity – may advance poverty eradication goals in South Africa. This may provide a sustainable energy access solution to meet poor women's main energy needs, thus positively impacting the well-being of poor women both in rural as well as urban in informal settlements in the country.

6.4.3. RECOMMENDATIONS FOR FURTHER STUDIES

This study has attempted to find an explanation for South Africa's energy-poverty policy's ignorance of the gender-energy-poverty nexus. Discussing the study findings highlighted a need for this issue to be addressed. There are more issues, however, related to the gender-energy-poverty nexus and energy-poverty polices which still need to be explored, which have now been brought to the fore by the initiation of this study.

The main recommendations for areas of further studies should explore:

- The relationship between the gender-energy-poverty nexus, empowerment and well-being much further. While this study has shown that urban informal standards of living can be improved by provision of modern energy services which are convenient and affordable combined with other basic services - such as health-care services and early childhood development centres - a further step would be to investigate how (from a policy perspective) female empowerment specifically can contribute to well-being to relieve the effects of GEP.
- Explore how the social norms (informal power dynamics) influence policy-makers agenda-setting priorities, as well as review the ratio of women to men within policy-making institutions and / or bodies. This exploration may provide further understanding regarding the role of gender in decision-making at national government level.
- Explore the effects of the gender-energy-poverty nexus on urban informal women's psychological well-being, as this study uncovered some concerns on this particular issue. The fact that men's work was reported by respondents be open to yard cleaning and even outside the boundaries of the community to external employment, while women's work was confined to the house (particularly in the kitchen) - this may impact women's mental health in some way.
- There is a need for alignment in policy in South Africa. While some policies recognize gender as a legitimate issue in policy (see White paper on Renewable energy and the Women Empowerment and Gender Equality Bill) there has been no consistency from energy-poverty policy in addressing gender by including goals to address women's energy needs. As a way forward, policy making in this sector should consult existing empirical evidence as well as existing gender legislature to inform the development of new policy.

7. REFERENCES

African Development Bank. (2005). North East and South Region. "Kingdom of Lesotho: Multi-Sector Country Gender Profile". November. Pages. Available: http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/ADB-BD-IF-2005-270-EN-LESOTHO-MULTI-SECTOR-COUNTRY-GENDER-PROFILE.PDF [2015, April 08].

African National Congress, ANC. (2011). *Policy Documents*. Available: http://www.anc.org.za/show.php?id=234 [2015, November 13].

Aitken, R. (2007). Household energy use: a comparison of household energy consumption and expenditure across three provinces. *Journal of Energy in Southern Africa*, 18(1): 20 - 28.

Annecke, W. (2005). Whose Turn Is It to Cook Tonight? Changing Gender Relations in a South African Township. *Energia News*, 8(2): 20 – 21.

Babbie, E. & Mouton, J. (2001).The practice of social research, South African edition. Cape Town: Oxford University Press.

Bachrach, P. & Baratz, S. M. (1962). Two faces of power. *The American Political Science Review,* 56(4): 947 – 952.

Bachrach, P. & Baratz, M. S. (1963). Decisions and nondecisions: an analytical framework. *The American Political Science Review*, 57(3): 632 – 642.

Baldauf, S. & Kwinika, S. (2011). *South Africa election: Why some poor black voters may ditch the ANC this time*. The Christian Science Monitor (Archive), May 17. Available: http://www.lexisnexis.com/hottopics/lnacademic/ [2015, December 09].

Barnes D. F., Openshaw, K., Smith, K. R., & van der Plas, R. (1994). What makes people cook with improved biomass stoves? A comparative international review of stove programs. Washington, DC: World Bank.

Beechey, V. (1979). On Patriarchy. *Feminist Review*, 3: 66 – 82.

Bekker, B., Eberhard, A., Gaunt, T. & Marquad, A. (2008). South Africa's rapid electrification programme: policy, institutional, planning, financing and technical innovations. *Energy Policy*, 36: 3125 – 3137.

Bhattacharyya, S. C. (2012). Energy access programmes and sustainable development: a critical review and analysis. *Energy for Sustainable Development*, 16: 260 – 271.

Bill of Rights (Chapter 2 of the Constitution of the Republic of South Africa). No. 108 of 1996. 1996. Available: The Government of South Africa [2015, June 02].

Birol, F. (2007). Energy economics: a place for energy poverty in the agenda? *The Energy Journal*, 28(3): 1- 6.

Breen, A., Swartz, L., Flisher, A. J., Joska, J. A., Corrigall, J., Plaatjies, L & McDonald, D. A. (2007). Experience of mental disorder in the context of basic service reforms: the impact on caregiving environments in South Africa. *International Journal of Environmental Health Research*, 17(5): 327 – 334.

Brew-Hammond, A. (2010). Energy access in Africa: challenges ahead. Energy Policy, 38: 2291 – 2301.

Buescher, B. (2009). Connecting political economies of energy in South Africa. *Energy Policy*, 37: 3951– 3958.

Butler, J. (1988). Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory. *Theatre Journal*, 40(4): 519 – 531.

Canadian International Development Agency (CIDA). 2014. "Gender Analysis". Available: http://www.international.gc.ca/development-developpement/priorities-priorites/ge-es/gender_analysis-analyse_comparative.aspx?lang=eng [2015, March 20].

Cecelski, E. (2000). Enabling equitable access to rural electrification: current thinking and major activities in energy, poverty and gender.

Cecelski, E. (2004). Rethinking gender and energy: Old and new directions. *ENERGIA/EASE*, 41– 49.

Cecelski, E. (2005). From the Millennium Development Goals towards a gender-sensitive energy policy research and practice: Empirical evidence and case studies. *Draft Synthesis Report to DFID KaR on Research Project*, *8346*.

Chambers, R. (2006). What is poverty? Who asks? Who answers? In: Poverty in Focus. What is Poverty? Concepts and Measures. International Poverty Centre, [IPC]: 1– 4.

Chen, L., Dean, J., Frant, J. & Kumar, R. (2014). What does service delivery really mean? World Policy Institute. Available: http://www.worldpolicy.org/blog/2014/05/13/what-does-service-delivery-really-mean [2015, November, 13].

City of Cape Town. (2009). Draft technical report 1: spatial development plan and environmental management framework. Spatial Planning and Urban Design Department, Cape Town. [Online]. Available: http://www.capetown.gov.za/en/sdf/Documents/Northern_Executive_Summary_s.pdf [2015, April 12].

Clancy, J.S., Skutsch, M.M., & Batchelor, S. (2003). The gender–energy–poverty nexus: finding the energy to address gender concerns in development. London: UK Department for International Development (DFID).

Clancy, J.S., Ummar, F., Shakya, I. & Kelkar G. (2007). Appropriate gender-analysis tools for unpacking the gender-energy-poverty nexus. *Gender and Development*, 15(2): 241 – 257.

Clancy, J.S., Winther, T., Matinga, M. & Oparaocha, S. (2012). *Gender equity in access to and benefits from modern energy and improved energy technologies.* Gender and Energy World Development Report Background Paper. ETC/Energia.

Clancy, J.S., Mohlakoana, N. & Matinga, M. (2013). Energy Poverty: have we got the measure of it? Paper presented at UK Development Studies Association Conference. University of Birmingham, November.

Cowan, W., & Mohlakoana, N. (2004). *Income Related Aspects of Energy Use*, Workshop on Energy Transitions, Cape Town, 18–20 August.

Danielsen, K. (2012). Gender equality, women's rights and access to energy services: an inspiration paper in the run-up to Rio+20. Ministry of Foreign Affairs of Denmark: Copenhagen.

Davids, I., Theron, F., & Maphunye, K. J. (2009). *Participatory development in South Africa: A development management perspective*. Pretoria: Van Schaik.

Department of Minerals and Energy. (2003a). Electricity Basic Services Support Tariff (Free Basic Electricity) Policy. Pretoria: Government Gazette, no. 25088.

Department of Minerals and Energy. (2003b). White paper on renewable energy. Pretoria: Department of Minerals and Energy.

Department of Minerals and Energy. (2007). Free Basic Alternative Energy Policy: Households Energy Support Programme. Pretoria: Government Gazette.

Department of Minerals and Energy. (2008). Electricity Pricing Policy (EPP) of the South African Electricity Supply Industry. Pretoria. Government Gazette, no. 1398.

Department of Energy. (2012). A survey of energy-related behaviour and perceptions in South Africa: The residential sector. Pretoria: Government Printers.

Department of Energy. (2013). A survey of energy-related behaviour and perceptions in South Africa: The residential sector. Pretoria: Government Printers.

Department of Women, Children and People with Disabilities. (2013). Women Empowerment and Gender Equality Bill. Pretoria: Government Gazette, no. 37005.

Department of Engineering and the Built Environment, (EBE). (2012). Ethics in Research Handbook (Revision 3.1). University of Cape Town.

Department of Energy. (undated). Solar Water Heating. Available: http://www.energy.gov.za/files/swh_frame.html [2015, July 17].

Department of Energy. (undated). Clean Energy and Empowerment (C3E - SA). Available: http://www.energy.gov.za/files/CEEE/CEEE_overview.html [2015, August 30].

Department of Provincial and Local Government. (n.d). National Framework for Municipal Indigent Policies. Pretoria: Department of Provincial and Local Government.

De Vos, A. S. (2nd. ed) (2002). Research at Grassroots: For the Social Sciences and Human Sciences Professionals. Pretoria: van Schaik.

Donev, G., van Sark, W., Blok, K. & Dintchev, O. (2012). Solar water heating potential in South Africa in dynamic energy market conditions. *Renewable and Sustainable Energy Reviews*, 16: 3002 - 3013.

Dutta, S. (2005). *Energy as a key variable in eradicating extreme poverty and hunger: A gender and energy perspective on empirical evidence on MDG #1*. London: UK Department for International Development.

Dutta, S. (2003). *Mainstreaming Gender in Energy Planning and Policies*, Background paper for Expert Group Meeting, UNESCAP Project on "Capacity Building on Integration of Energy and Rural Development Planning", Bangkok, Thailand, June-July.

Eberhard, A. (2003). The political, economic, institutional and legal dimensions of Electricity Supply Industry reform in South Africa. Political Economy of Power Market Reform conference, 19–20 February, Stanford University, Palo Alto, CA.

Energia – The International Network On Gender & Energy. (2015). *Getting cooking energy right in the post-2015 indicators*. (Online). Available: http://energia.org/2015/08/getting-cooking-energy-right-in-the-post-2015-indicators/ [2015, November 13].

Energy and Development Research Centre, (EDRC). (2003). *The potential for increased use of LPG for cooking in South Africa: A rural case study*. Cape Town: Energy Research Centre, University of Cape Town.

Forman, J. & Damschroder, L. (2008). Qualitative content analysis. *Empirical Research for Bioethics: A Primer. Oxford, UK: Elsevier Publishing*, 39-62.

Freling, R. (2012). *Energy is a human right*. (Online). Available: http://www.bobfreling.com/2012/01/energy-is-a-human-right-the-hi.htm [2015, November 26].

Friedmann, J. (1992). Empowerment: The Politics of Alternative Development. Oxford: Blackwell.

Fullerton, D. G., Bruce, N. & Gordon, S. B. (2008). Indoor air pollution from biomass fuel smoke is a major health concern in the developing world. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, 102: 843 – 851.

Gaunt, T., Salida, M., Macfarlane, R., Maboda, S., Reddy, Y. & Borchers, M. (2012). Informal Electrification in South Africa: Experience, Opportunities and Challenges. Cape Town, Sustainable Energy Africa.

Global Alliance for Clean Cookstoves. (2015). Women and Gender. United Nations Foundation. Available Online: http://cleancookstoves.org/impact-areas/women-gender/index.html [2015 November 11].

Google Maps. (2015). *Klipheuwel*, 33° 42' 0"S, 18° 42' 0"E. Online. Available: https://www.google.co.za/maps/place/Klipheuwel,+Cape+Town,+7303/@-32.8626282,19.5535175,8z/data=!4m2!3m1!1s0x1dccf92dd6b557e7:0x398a1cc417c5987e [2015, December 02].

Graaff, J. (2003). *Poverty and development*. Oxford: Oxford University Press.

Hill. M. (2005). *The public policy process*. Fourth Edition, Pearson Longman: United Kingdom.

Hill, M., & Varone, F. (2014). *The public policy process*. Sixth Edition, Routledge.

International Wellbeing Group (2013). Personal Wellbeing Index: 5th Edition. Melbourne: Australian Centre on Quality of Life, Deakin University. (Online). Available: http://www.deakin.edu.au/research/acqol/instruments/wellbeing-index/index.php [2015, April 08].

Karekezi, S. & Kithyoma, W. (2002). Renewable energy strategies for rural Africa: is a PV-led renewable energy strategy the right approach for providing modern energy to the rural poor of sub-Saharan Africa? *Energy Policy*, 30: 1071 – 1086.

Kaygusuz, K. (2011). Energy services and energy poverty for sustainable rural development. *Renewable and Sustainable Energy Reviews*, 15: 936 – 947.

Kimemia, D. & Annegarn, H. (2011). An urban biomass energy economy in Johannesburg, South Africa. *Energy for Sustainable Development*, 15: 382 – 387.

Kimemia, D., Vermaak, C., Pachauri, S. & Rhodes, B. (2014). Burns, scalds and poisonings from household energy use in South Africa: are the energy poor at greater risk? *Energy for Sustainable Development*, 18: 1– 8.

Köhlin, G., Sills, E. O., Pattanayak, S. K. & Wilfong, C. (2011). *Energy, Gender: What are the linkages? Where is the Evidence?* Policy Research working paper. Background Paper for the World Development Report 2012 on Gender Equality and Development.

Kotze, D. A. (ed). 1983. *Development policies and approaches in Southern Africa*. Cape Town: Academica.

Kumwenda, M. (2006). Pre-paid water metering: social experiences and lessons learned from Klipheuwel Pilot Project, South Africa. Thesis produce for the University of the Western Cape: Belville, Cape Town.

Lahar, S. (1991). Ecofeminist theory and grassroots politics. *Hypatia*, 6(1): 28 – 45.

Lukes, S. (1974). *Power: A radical view*. MacMillan Press: London.

Madubansi, M. & Shackleton, C. M. (2006). Changing energy profiles and consumption patterns following electrification in five rural villages, South Africa. *Energy Policy*, 34(18):4081– 4092.

Mahat, I. (2011). Gender, energy, and empowerment: a case study of the Rural Energy Development Program in Nepal, Development in Practice, 21:3, 405-420.

Martin, B. (2015). *E-mail Discussion on the Energy Portfolio Committee,* Personal Communication on 12 August 2015: E-mail.

Maseng, J. (2014). *State and non-state actors in South African public policy*. Africa Institute of South Africa, Pretoria, 107: 1– 4.

Matinga, M.N. (2010). We Grow Up With It: An Ethnographic Study of the Experiences, Perceptions and Responses to the Health Impacts of Energy Acquisition and Use in Rural South Africa. PhD Thesis, University of Twente, Enschede: The Netherlands.

Mbeki, M. (2010). *ANC's blank cheque to buy votes; A major chunk of those who vote for the ruling party are also dependent on its social welfare system*. The Star (Archive), May 17. Available: http://www.lexisnexis.com/hottopics/lnacademic/ [2015, December 09].

McCalla-Chen, D. (2000). Towards an understanding of the concepts of non-decision making and its manifestation in the school sector. *Educational Management & Administration,* 28(1): 33–46.

Modi, V., McDade, S., Lallement, D. & Saghir, J. (2005). *Energy and the Millennium Development Goals*. Energy Sector Management Assistance Programme, UNDP, New York.

Mogotlane, S.M., Chauke, M.E., Van Rensburg, G.H., Human, S.P. & Kganakga, C.M. (2010). A situational analysis of child-headed households in South Africa. *Curationis*, *33*(3): 24 – 32.

Mohideen, R. (2012). *The implications of clean and renewable energy development for gender equality in South Asia.* Technology and Society in Asia (T&SA), 2012 IEEE Conference on 27 -29 October. Singapore. Page 1-6.

Møller, V., Roberts, B., & Zani, D. (2014). The Personal Wellbeing Index in the South African IsiXhosa Translation: A Qualitative Focus Group Study. *Social Indicators Research*, 1 – 28.

Morse, J. M., Barrett, M., Olson, K., & Spiers, J. (2002). Verification strategies for establishing reliability and validity in qualitative research. *International Journal of Qualitative Methods*, 1(2):1–19.

Munien, S. & Ahmed, F. (2012). A gendered perspective on energy poverty and livelihoods – advancing the Millennium Development Goals in developing countries. *Agenda: Empowering women for gender equity*, 26(1): 112 – 123.

National Department of Human Settlements. (2009). National Housing Code. Pretoria: Government Printers.

National Planning Commission. (2011). Diagnostic Overview. Pretoria: The Presidency.

National Planning Commission. (2012).National Development Plan 2030: Our Future-make it work. Pretoria: The Presidency.

Nazaroff, W. (Editorial). (2014). Illumination, lighting technologies, and indoor air environmental quality. *Indoor Air*, 24: 225 – 226.

Ndinda, C. (2009). 'But now I dream about my house': women's empowerment and housing delivery in urban KwaZulu-Natal, South Africa. *Development Southern Africa*, 26(2): 317 – 333.

Nussbaumer, P., Bazilian, M. & Modi, V. (2012). Measuring energy poverty: focusing on what matters. *Renewable and Sustainable Energy Reviews*, in press. 16(1): 231 – 243.

Office of the High Commissioner for Human Rights, OHCHR. (2015). Convention on the Elimination of All Forms of Discrimination against Women New York, 18 December 1979. [Online]. Available: http://www.ohchr.org/EN/ProfessionalInterest/Pages/CEDAW.aspx [2015, December 14].

Ostrom, E. (2014). Collective action and the evolution of social norms. *Journal of Natural Resources Policy Research*, 6(4): 235 – 252.

Owen, M., Van der Plas, R. & Sepp, S. (2013). Can there be energy policy in sub-Saharan Africa without biomass? *Energy for Sustainable Development*, 17: 146 – 152.

Oxford Dictionaries Language Matters. (2016). *Definition of decision in English*, Oxford University Press. [Online]. Available: http://www.oxforddictionaries.com/definition/english/decision [2016 January 06].

Pachauri, S. & Rao, N. D. (2013). Gender impacts and determinants of energy poverty: are we asking the right questions? *Current Opinion in Environmental Sustainability*, 5: 205 – 215.

Phalane, M. (2004). Globalisation and the feminisation of poverty: a South African perspective on expanding inequality and identity crises. In *Gender, Economies and Entitlements in Africa.* Dakar, Senegal: CODESRIA.

Pillow, W. S. (2003). Confession, catharsis or cure? Rethinking the uses of reflexivity as methodological power in qualitative research. *Qualitative Studies in Education*, 16(2):175 – 196.

Pini, B. (2002). Focus groups, feminist research and farm women: opportunities for empowerment in rural social research. *Journal of Rural Studies*, 18: 339 – 351.

Podems, D. R. (2010). Feminist evaluation and gender approaches: there's a difference? *Journal of Multidisciplinary Evaluation,* 6(14): 1 – 17.

Phogole, M. (2010). Issues of Increasing Levels of Poverty and Hunger in Africa, with Specific Reference to South Africa. Africa Institute of South Africa (AISA).

Qase, N., Rukato, H., Mehlwana, M., Annecke, W., Skosana, Z. & Wamukonya, N. (n.d). *Widening Access to safe, affordable and efficient use of paraffin and LPG in urban and rural poor communities in South Africa: plan for 2000 – 2002*. Energy and Development Research Centre Report Series: Cape Town.

Reeves, D. (2014). Putting women and gender in the frame – a consideration of gender in the Global Report on Human Settlement Planning Sustainable Cities 2009. *Habitat International*, 43: 293 – 298.

Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (Eds.). (2013). *Qualitative research practice: A guide for social science students and researchers*. Sage Publications.

Saghir, J. (2005). Energy and poverty: myths, links, and policy issues. Energy Working Notes, 4: 1 – 23.

Schwebel, D. C., Swart, D., Hui, S. A., Simpson, J. & Hobe, P. (2009). Paraffin-related injury in South Africa. *Bull World Health Organ*, 87: 700 – 706.

Sen, A. (1990). Development as capability expansion. Available: http://morgana.unimore.it/Picchio_Antonella/Sviluppo%20umano/svilupp%20umano/Sen%20deveopment.pdf [18 Sep. 14].

Skutch, M. (1996). Gender and Energy Planning. Available: http://www.fao.org/sd/EGdirect/EGan0004.htm [2014, July 18].

Skutsch, M. (2004) 'Tooling up for Gender in Energy'. Technical briefing paper prepared for ENERGIA, June 2004, www.energia.org (last accessed 29 September 2006).

Skutsch, M. (2005). Gender analysis for energy projects and programmes. *Energy for Sustainable Development*, 9(1): 37 – 52.

Smil, V. & Knowland, W. E. (1980). Energy in the developing world: the real energy crisis. Oxford, United Kingdom: Oxford University Press.

Sovacool, B. K. (2014). What are we doing here? Analyzing fifteen years of energy scholarship and proposing a social science research agenda. *Energy Research & Social Science*, 1: 1 – 29.

Statistic South Africa. (2010). Social profile of South Africa, 2002 – 2009. Pretoria: Statistics South Africa.

Statistics South Africa. (2011). General Household Survey. Pretoria: Government Gazette.

Statistics South Africa. (2011). Census 2011 Metadata. Pretoria: Government Printers. Statistics South Africa.

Statistics South Africa. (2012). Gender Statistics in South Africa. Pretoria: Statistics South Africa.

Statistics South Africa. (2013). General Household Survey. Pretoria: Government Gazette.

Sustainable Energy Africa. (2014). Tackling urban energy poverty in South Africa. September. Available: http://www.sustainable.org.za/uploads/files/file72.pdf [2015 [September 14].

Swaminathan, P. & Jeyaranjan, J. (2008) Mainstreaming Gender, Engendering Development: Reflections on a Case Study. *Economic and Political Weekly*, 43(17): 77 – 86.

The Constitution of the Republic of South Africa, Act No. 108 Vol. 176 of 1996. (1996). 13 April. Government Gazette, no. 17678. Pretoria: Government Printers.

Touwen, A. (1996). Gender and Development in Zambia. Empowerment of Women through Local Non-governmental Organisations. Delft: Eburon.

United Nations Development Programme. (2005). Energizing the Millennium Development Goals, a guide to energy's role in reducing poverty, New York, USA. [Online]. Available: http://www.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/sustainable-energy/energizing-the-mdgs-a-guide-to-energys-role-in-reducing-poverty/ENRG-MDG_Guide_all.pdf [2014, September 20].

United Nations Development Programme. (2014). Human Development Reports: Human Development Index (HDI) and its components. New York, USA. [Online]. Available: http://hdr.undp.org/en/content/table-1-human-development-index-and-its-components [2014, September 20].

United Nations. (2014). The Millennium Development Goals Report. Available: http://www.un.org/millenniumgoals/2014%20MDG%20report/MDG%202014%20English%20web.pdf [19 Sep. 14].

United Nations Department of Economic and Social Affairs. (2015). The Sustainable Development Goals. Available: sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals [2015, July 16].

Van der Kroon, B., Brouwer, R. & Van Beukering, P. J. H. (2013). *Renewable and Sustainable Energy Reviews*, 20: 504 – 513.

Vlahov, D., Freudenberg, N., Proietti, F., Ompad, D., Quinn, A., Nandi, V. & Galea, S. (2007). Urban as a determinant of health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 84(1): 16 – 26.

Wamukonya, N. (2002). A critical look at gender and energy mainstreaming in Africa. Draft paper distributed at the 'gender perspectives in sustainable development' side event organised by UNDESA/ DAW and WEDO at Prep Com III.

Winkler, H. (Ed). (2006). Energy policies for sustainable development in South Africa. Energy Research Centre: Cape Town.

Wlokas, L. (2011). What contribution does the installation of solar water heaters make towards the alleviation of energy poverty in South Africa? *Journal of Energy in Southern Africa*, 22(2): 27 – 39.

Yin, R. K. (2009). 4th Edition. Case study research: design and methods. Sage publications.

Zelek, B., Phillips, P. S., & Lefebvre, Y. (1997). Gender sensitivity in medical curricula. *Canadian Medical Association*, 156(9): 1297 – 300.

7.1. CHAPTER FIVE'S SECOND ANALYSIS: INVENTORY

1. African National Congress, ANC. (2004). Election Manifesto. Available: http://www.anc.org.za/elections/2004/manifesto/manifesto.html [08 August 2015].

2. Bantsijang, M. M. (2014). SA's energy policy 'do support aim to eradicate poverty'. News24. 08 January. Available: http://www.news24.com/MyNews24/SAs-energy-policy-do-support-aim-to-eradicate-poverty-by-Matthews-Mooketsane-Bantsijang-Director-20140108 [2015, August 08].

3. Blain, S. (2011). SA's energy policy 'does not support aim to eradicate poverty'. Business Day live (Archive). Available:http://www.bdlive.co.za/articles/2011/03/18/sa-s-energy-policy-does-not-support-aim-to-eradicate-poverty;jsessionid=680A27DE5030B444879AA0DB4E9F869B.present1.bdfm [08 August 2015].

4. Department of Minerals and Energy. (2007). Free Basic Alternative Energy Policy: Households Energy Support Programme. Pretoria: Government Gazette.

5. Jansen, J. D. (2002). Political symbolism as policy craft: explaining non-reform in South African education after apartheid, Journal of Education Policy, 17(2): 199 – 215.

6. Mbeki, T. (2004). Address of the President of South Africa, Thabo Mbeki, to the first joint sitting of the third democratic Parliament. Cape Town.

7. Mohlakoana, N. (2014). Implementing the South African Free Basic Alternative Energy Policy. A dynamic actor interaction. University of Twente.

8. Nganje, F (Ed), Ndlovu, S., Landsberg, C., Muchie, M & Pahad, E. (2012). The influence of the ANC on South Africa's foreign policy Proceedings. Report of a roundtable organised by the Institute for Global Dialogue. (Online). Available: **http://www.igd.org.za/jdownloads/IGD%20Reports/anc_sas_foreign_policy_-proceedings_report.pdf** [09 August 2015].

9. Parliamentary Monitoring Group (PMG). Report of the portfolio committee on energy on its activities undertaken during the 4th parliament, May 2009 – March 2014. Available: https://pmg.org.za/tabled-committee-report/2034/ [2015, July 15].

10. Seekings, J. (2013). Democracy, Poverty and Inclusive Growth in South Africa since 1994. From http://www.cssr.uct.ac.za/sites /cssr.uct.ac.za/files/WP%20321.pdf). [09 August 2015].

11. Visser, W. (2004). "Shifting RDP into Gear". The ANC government's dilemma in providing an equitable system of social security for the "new" South Africa. Paper presented at the 40th ITH Linzer Konferenz. Austria.

12. Wolpe, P & Reddy, Y. (2010). Alleviating urban energy poverty in the informal sector: The role for local government. Sustainable Energy Africa, Conference paper presented at 'inequality and structural poverty in South Africa: Towards inclusive growth and development', Johannesburg. September.

13. Woroniuk, B & Schalkwyk, J. (1998). Energy policy and equality between men and women. Prepared for SIDA, in Mainstreaming Equality between Women and Men: Handbook on Gender Perspectives in Energy Sector Development. Published by the Infrastructure Division. Available. Online: http://www.oecd.org/social/gender-development/1896336.pdf [10 August 2015].

APPENDIX A: INTERVIEW SCHEDULE

UNIVERSITY OF CAPE TOWN

Department of Mechanical Engineering/ Energy Research Centre

MEC5092W: Masters Research Project

By Ayanda Fuma

INTERVIEW SCHEDULE

INTRODUCTION

Purpose of the research: Explain energy poverty in SA, relevant domestic energy policy in SA- major identified problems (with gender) and triumphs (energy access to 80%). Explain developments of domestic-level energy policies as a result of these challenges, and achievements worldwide as opposed to South Africa regarding modern energy access.

- Introduce the Interviewer
- Thank for participation
- Discuss ethical considerations:
    - Digital recording
    - Confidentiality - link to choice of pseudonym
    - Voluntary participation
    - Access to findings
    - Referral if necessary
- No right or wrong answers
- And give estimated time frame of interview (30 to 40 minutes)

Personal Information/Particulars

Pseudonym	**Age** (18 - 35yrs)/(36 – 55yrs)/ (56 – 65yrs) (66yrs and above)	**Relationship Status (Married/Single/Other)**	**Gender (Male Female/Other)**	**Household Size**	**Population Group**	**Employment Status**	**Highest Level of Education Obtained**

About the respondent

1. What three words would you use to describe yourself as a person?
2. What is your main strength?
3. How long have you been living in the Klipheuwel informal settlement?

Theme One: *Main fuels used*

1. Can you identify the primary tasks in the household which require energy? What is the main fuel/s used for cooking, lighting and space-heating in your home?
2. How many uses do you have for each fuel that you use? (Probe how many hours each use needs).
3. If you need a new stove/safe cookstove who make the final decision on the purchase?
4. Is this person the head of the household?
5. Do you normally agree regarding decisions that are taken in your household? (Probe convincement)
6. Can you describe your individual spending patterns in respect of your monthly household necessities (food, school fees and transport monies for example)?
7. What are your priorities with regard to household necessities?

Theme Two: *Long-term effects of the current fuels used*

1. How much fuel does your household use daily, weekly or monthly?

2. In your opinion, how much money do you think your household spends on fuel per day, per week and per month?

Period	Lighting	Cooking	Space-heating
Per Day	**R_____**	**R_____**	**R_____**
Per Week	**R_____**	**R_____**	**R_____**
Per Month	**R_____**	**R_____**	**R_____**

3. Can you describe the kind of equipment you use for the named fuel/s for lighting, cooking and space-heating?
4. What do you see as the advantages and disadvantages of using the current fuel/s? (Probe quality – diluted paraffin?)
5. What do you see as the advantages and disadvantages of your current equipment for fuel/s?
6. What is the length of time it takes you to cook using your current main cooking fuel and how long to warm up your space using your current space-heating fuel in winter?
7. How would you compare the level of brightness of the main lighting fuel your household uses?
8. What night time activities does your lighting fuel support in your household? Can you think of a time when you ever experienced any problems caused by the main fuel/s used in your household? (For example, do your eyes strain a lot when using the fuel, or suffer any soot in the nostrils?)
9. What knowledge, if any, do you have regarding the safe use of your main fuel/s?

Theme Three: *Gender inequality*

1. In your household, who is primarily in charge of cooking and child rearing for example?
2. What are the duties of a man/ woman in a household?
3. How do the men and boys, and women and girls spend most of their time around your home?
4. In your opinion, how can government help you to access better/cleaner fuels?
5. Who makes the important decisions related to the whole community? (Forums, committees?)
6. Do you think that women are respected as much as men are in your community?

Theme Four: *Well-being*

1. Can you describe what well-being means to you? Using your declared understanding/definition of well-being, which aspects are most important for you to help promote the well-being of women?

2. Do you believe that the introduction of better and more efficient fuels and appliances will increase your state of well-being? (Probe how it could save time, improve finances, improve health, income opportunities)
3. In your own understanding, what kinds of energy policies need to be rolled out in order for poor women to benefit most?

Theme Five: *Sample Domestic Energy Policy - Free Basic Alternative Energy Policy (2007)*

(The main priorities of the FBAE Policy are to uplift the un-electrified poor households, to facilitate basic energy provision to poor households, to address socio-economic issues linked with inadequate energy services, to lessen the health and environmental burden and improve on safety arising from inefficient energy sources.)

1. What priorities do you have regarding improving energy provision in this settlement?
2. Do you feel that the priorities of the sample domestic energy policy (mentioned above) are important? (Probe to whom and why)
3. Are you familiar with any projects which promote the use of alternative energy products in the Klipheuwel community or elsewhere?
4. In your opinion, if modern energy services were made available to you, do you think that you would be in a different position in your life? (In financial, educational and leisure terms)
5. Income information:

Total Monthly income from all sources :	Total grant income: R_____	Total income in kind (groceries, unpaid domestic help) _____ _____	Total Individual or joint salaries R_____	Total from informal enterprising R_____	Total other R_____

APPENDIX B: CONSENT FORM

Iyunivesithi Yase Kapa - University of Cape Town - Universiteit van Kaapstad

MEC5092W: Masters Project Proposal

By Ayanda Fuma

Energy Research Centre, University of Cape Town

Klipheuwel, Western Cape

CONSENT FORM

I hereby agree to participate in the research.

I understand that the research is confidential and that my identity will not be disclosed in the research paper.

ISIVUMELWANO SOKUTHATHA INXAXHEBA

Ndiyavuma ukhuthabatha inxaxheba koluPhando.

Ndiyaqonda ukuba incoko yethu izakuba phakathi kwethu, kwaye amagama am awazukusetyenziswa xa kubhalwa ngoluphando.

Signed / Kutyikityiwe:_____

Date / Umhla:_____

EBE Faculty: Assessment of Ethics in Research Projects

Any person planning to undertake research in the Faculty of Engineering and the Built Environment at the University of Cape Town is required to complete this form before collecting or analysing data. When completed it should be submitted to the supervisor (where applicable) and from there to the Head of Department. If any of the questions below have been answered YES, and the applicant is NOT a fourth year student, the Head should forward this form for approval by the Faculty EIR committee: submit to Ms Zulpha Geyer (Zulpha.Geyer@uct.ac.za; Chem Eng Building, Ph 021 650 4791). Students must include a copy of the completed form with the thesis when it is submitted for examination.

Name of Principal Researcher/Student: Ayanda Fuma Department: Energy Research Centre

If a Student: ✓ Degree: MPhil Energy & Development Studies Supervisor: Dr Gisela Prasad co: Louise Tait

If a Research Contract indicate source of funding/sponsorship: N/A

Research Project Title: 'What is the potential for the Free Basic Alternative Energy Policy to improve the well-being of poor women in South Africa?

Overview of ethics issues in your research project: A case study of the Khayelitsha Informal Settlement.

Question 1: Is there a possibility that your research could cause harm to a third party (i.e. a person not involved in your project)?	YES	NO X
Question 2: Is your research making use of human subjects as sources of data? If your answer is YES, please complete Addendum 2.	YES X	NO
Question 3: Does your research involve the participation of or provision of services to communities? If your answer is YES, please complete Addendum 3.	YES X	NO
Question 4: If your research is sponsored, is there any potential for conflicts of interest? If your answer is YES, please complete Addendum 4.	YES	NO X

If you have answered YES to any of the above questions, please append a copy of your research proposal, as well as any interview schedules or questionnaires (Addendum 1) and please complete further addenda as appropriate.

I hereby undertake to carry out my research in such a way that

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

Signed by:

	Full name and signature	Date
Principal Researcher/Student: Ayanda Fuma	Ayanda Fuma Signed	20/02/2015

This application is approved by:

Supervisor (if applicable): G. PRASAD	Signed	20/02/2015
HOD (or delegated nominee): Final authority for all assessments with NO to all questions and for all undergraduate research.		23/2/15
Chair: Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions.		5/03/2015

ADDENDUM 1:
Please append a copy of the research proposal here, as well as any interview schedules or questionnaires:

ADDENDUM 2: To be completed if you answered YES to Question 2:

It is assumed that you have read the UCT Code for Research involving Human Subjects (available at http://web.uct.ac.za/depts/educate/download/uctcodeforresearchinvolvinghumansubjects.pdf) in order to be able to answer the questions in this addendum.

2.1 Does the research discriminate against participation by individuals, or differentiate between participants, on the grounds of gender, race or ethnic group, age range, religion, income, handicap, illness or any similar classification?	YES	NO
2.2 Does the research require the participation of socially or physically vulnerable people (children, aged, disabled, etc) or legally restricted groups?	YES	NO
2.3 Will you not be able to secure the informed consent of all participants in the research? (In the case of children, will you not be able to obtain the consent of their guardians or parents?)	YES	NO (All adults)
2.4 Will any confidential data be collected or will identifiable records of individuals be kept?	YES	NO
2.5 In reporting on this research is there any possibility that you will not be able to keep the identities of the individuals involved anonymous?	YES	NO
2.6 Are there any foreseeable risks of physical, psychological or social harm to participants that might occur in the course of the research?	YES	NO
2.7 Does the research include making payments or giving gifts to any participants?	YES	NO

If you have answered YES to any of these questions, please describe how you plan to address these issues (append to form):

ADDENDUM 3: To be completed if you answered YES to Question 3:

3.1 Is the community expected to make decisions for, during or based on the research?	YES	NO
3.2 At the end of the research will any economic or social process be terminated or left unsupported, or equipment or facilities used in the research be recovered from the participants or community?	YES	NO
3.3 Will any service be provided at a level below the generally accepted standards?	YES	NO

If you have answered YES to any of these questions, please describe how you plan to address these issues (append to form)

ADDENDUM 4: To be completed if you answered YES to Question 4

4.1 Is there any existing or potential conflict of interest between a research sponsor, academic supervisor, other researchers or participants?	YES	NO
4.2 Will information that reveals the identity of participants be supplied to a research sponsor, other than with the permission of the individuals?	YES	NO
4.3 Does the proposed research potentially conflict with the research of any other individual or group within the University?	YES	NO

If you have answered YES to any of these questions, please describe how you plan to address these issues(append to form)