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Alternative energy and the developmental state in Ghana

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A Thesis

entitled

Alternative Energy and the Developmental State in Ghana

by

Edwina Kofi-Opata

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the

Master of Arts Degree in Political Science

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An Abstract of

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Energy is the single most important resource that underlies the development of a given country. However, the most affordable sources of energy today, - fossil fuels are not only centralized in their source of production but generally their overall volume of reserves is in decline due to their finite nature and extensive use. In addition their use leads to a negative impact in driving climate change have become issues of interest in the current energy debate. It is therefore crucial for countries across the globe to adopt sustainable sources of energy to meet their needs. This is particularly essential for developing countries in Africa that are embarking on initiatives meant to achieve economic growth and development. These activities require a vibrant and sustainable energy sector. However, due to the relatively infant nature of alternative sources of energy, there is the need for active involvement of states towards its adoption. Consequently, this thesis examines the applicability of the developmental state concept in recent times following its success in East Asia in the early 1970s. The thesis finds that the reorientation of the state as a developmental one particularly for developing countries provides an effective avenue for the successful development of renewable energy.

To God Almighty for His many blessings.

Acknowledgments

My decision to pursue higher studies has been met with immense support and encouragement and today I am humbled to be able to use my writing to honor my parents, Edward and Maureen Kofi-Opata and my siblings: Amanda, Derrick and Jennifer. I am who I am and who I aspire to be because of them. Although my family support has been influential, I would not have come this far without the guidance, insight and the recognition of my potential by the Political Science faculty at the University of Toledo. Professor, Mark Denham, Sunday Ubokudom, and Rubin Patterson (Sociology & Anthropology) need to be particularly mentioned; their insights have led to the successful completion of this thesis. I want to assure them that this does not end here. What they have instilled in me will lead to greater heights.

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Chapter One

Introduction

According to the United Nations Development Programme (UNDP), energy is central to sustainable development and poverty reduction efforts.[1] This assertion is crucial and comes at a time when the international community, through the Millennium Development Goals (MDGs) and other efforts, are committed to reducing poverty globally. The emphasis is because of the pervasive influence energy has on all aspects of development: "social, economic, and environmental – including livelihoods, access to water, agricultural productivity, health, population levels, education, and gender-related issues."[2] However, to be able to enjoy the benefits of energy it is important to take a look at the available energy sources. Over time, energy has been produced primarily through the conventional sources of fossil fuels. However in the current energy debate, the supply of these traditional sources is known to be unsustainable. This argument stems from the finite nature of the sources as well as the exponential global population growth that relies extensively on energy for its daily activities. In other words, the demand for energy supersedes the supply.

Additionally, the conversion of fossil fuels into energy has severe environmental and health implications. During the conversion process large amounts of greenhouse gases are released into the atmosphere and this is known to cause ozone depletion, as well as induce climate change. In particular the ozone layer serves as a shield for humans against the harmful effects of ultraviolet rays and as a result, its depletion is a major cause of concern. Climate change also leaves humanity to confront receding forests, rising sea levels, and changing weather patterns, among others. These effects, resulting

from activities geared toward meeting our energy needs, have necessitated global action. It is however worth noting that the effects of human induced actions in this context are global, yet some geographic locations experience it more severely than others. Developing countries, as a result of their middle-to-low income economies, are particularly affected by the growing effects of climate change. Most of these economies do not have the economic and technological capacity needed to mitigate the challenges of climate change. At the core of this problem is the grossly inadequate supply of energy reserves. Furthermore, the traditional energy sources are also not within the reach of most citizens in the Global South and this is because of the high costs associated with it their production and consumption.

As indicated earlier, energy is central to sustainable development and poverty reduction. However, with nearly half of the world's population being poor and residing in developing countries, it is appropriate to conclude that there is need for a reliable, clean and affordable energy supply such as wind, solar and geothermal. These renewable sources are easily accessible and amenable to decentralization, particularly in Africa. Despite the benefits developing countries stand to gain through the adoption of renewable energy, there seems to be barriers that hinder its development. To this end, this thesis will focus on the barriers to the development and adoption of renewable energy in Africa, using Ghana as a case study. In trying to facilitate the adoption of renewable energy, this thesis holds that the reorientation of the state as a developmental one will facilitate the adoption and development of renewable energy in Ghana as well as in the rest of Africa, and in other developing regions.

This thesis consists of five chapters. The first chapter serves as an introduction to highlight the problems associated with the use of traditional energy sources. This introduction is meant to give background on the need for the development and adoption of renewable energy, particularly in Africa. The second chapter gives a more detailed discussion on the importance of energy in the world today. It goes on to discuss the energy sources in Africa and other parts of the world while highlighting the challenges associated with these sources. In this light, the status of renewable energy development in Africa will be discussed so as to identify the barriers that limit its full potential on the continent. The second chapter therefore provides a backdrop to the discussion of the developmental state as a possible paradigm for the removal of barriers to the adoption and development of renewable energy in Africa. The third chapter focuses on the developmental state paradigm itself. A review of the literature on the developmental state will be presented as a means of illuminating its applicability to the adoption and development of renewable energy in Africa. The fourth chapter focuses on Ghana as a case study and applies the developmental state paradigm to the development and adoption of renewable energy. This chapter four also highlights the feasibility of the application of developmental state paradigm to renewable energy in other developing countries. The fifth chapter concludes the thesis and includes a summary of findings.

Limitation

It must be noted that one of the central themes of this thesis is the critical attributes of the developmental state. However it is difficult to benchmark the features of a developmental state *vis-a- vis* Ghana, or any country for that matter as some states exhibit some features strongly than others and in some cases, some features may be

totally nonexistent. Despite these variations, the foundations and identification of the developmental state trend is visible and largely viable.

Chapter Two

Overview of Renewable Energy

This chapter provides an overview of the importance of energy as well as a description of the energy sources in Africa and some other parts of the world. Additionally, it addresses the status of renewable energy in Africa and provides background to this study's chief question: what are the principal obstacles beyond the obvious resource limitations that developing countries, in general, and African countries in particular, face in attempting to transition to renewable energy?

Many economists assert that the private sector is the engine of growth. However, the question frequently overlooked is what is the resource that powers this process? The answer is energy; which is anything that can produces heat, moves objects, or produces electricity. Throughout history, human energy consumption has grown to such an extent that fundamental human relationships have been altered. This is evidenced in the extensive reliance humans have on all aspects of energy consumption, spanning from economic and social development to security requirements. In other words, energy lies at the heart of all countries' core interests.[3]

Consequently, today's economies cannot function without electricity and other modern energy sources and thus all countries find it imperative to develop and secure a reliable and constant supply, to not only meet the needs of the current generation, but also the needs of the future. It must be noted that, for centuries human energy needs have primarily been satisfied through the consumption of fossil fuels: hydrocarbons such as coal, petroleum and natural gas that were formed from the remains of dead plants and animals.[4] These fuels are not only non-renewable, but their conversion into useful energy

has substantial harmful effects on the environment.[5] A heavy reliance on fossil fuels has been so extensive that, for example, three decades ago, coal was the "king" generating two thirds of Britain's electricity.[6] Similarly according to the United States Energy Information Administration, the three major fossil fuels – petroleum, natural gas, and coal – account for most of the nation's energy production.[7] In the same vein, Africa's energy systems and economies are also powered by fossil fuels supplemented to some extent by biomass. which consists of a wide range of natural organic fuels such as wood, charcoal, agricultural residues and animal waste.

According to Karezeki and Kithyoma, Africa's energy sector is best understood by looking at three distinct geographic regions.[8] North Africa is heavily dependent on oil and gas, South Africa, depends on coal, and the rest of Sub-Saharan Africa is largely reliant on biomass.[9] Interestingly, Africa has enormous potential for exploiting fossil fuels, since it has a accounting for about 10, 8 and 4 percent of the total proven reserves of crude oil, natural gas and coal in the world, respectively.[10] These resources account for approximately 50 percent of the total primary energy supply and one-third of energy consumption in Africa, while over 80 percent of electricity generated across the continent is also from fossil fuels.[11]

Obviously, the energy systems of all continents of the world are powered largely by non-renewable energy sources. Since these natural resources are finite and subject to depletion, there is a major concern about the world's consumption rate.[12] This is in line with the Hubert Peak Theory which holds that

> after fossil fuel reserves are discovered, production at first increases approximately exponentially, as more extraction commences and more efficient facilities are installed. At some point, a peak output is reached, and production begins declining until it approximates an exponential decline.[13]

The Peak Oil Theory contends that oil production peaked in the 1960s when the world started using more than was discovered in the new fields.[14] Coupling this postulation with exponential global population growth, it has become necessary for the world at large – and most importantly developing countries that host approximately half of the world's population – to adopt alternative sources of energy to meet its needs. In addition, burning fossil fuels triggers political and social disruptions throughout the world. These environmental destabilization trends, although global, impact some geographic locations sooner and more seriously than others. It is worth mentioning that the environmental problems spawned by burning fossil fuels include exhaustion of natural resources, ozone depletion, acidification of oceans and global warming. These problems have had broad effects on the social and economic development of all nations as well as commensurate effects on human, plant, and animal life.

In response to these issues, alternative sources of energy in renewable forms have been proposed to complement the use of fossil fuels and to eventually replace them. One of the key debates, however, is providing the research on the development, commercialization and adoption of renewable energy. One type of capital investment is provided by government subsidies for alternative energy products. To see the effects of this investment, the case of the United States where significant subsidies have been provided, will be considered. In a recent review covering fiscal years 2002-2008 conducted by the Environmental Law Institute, a number of findings were reported in relation to renewable energy subsidies and fossil fuels in the United States. These include:

- The vast majority of federal subsidies for fossil fuels and renewable energy supported energy sources that emit high levels of greenhouse gases when used as fuel.
- The federal government provided substantially larger subsidies to fossil fuels than to renewables. Subsidies to fossil fuels: a mature, developed industry that has enjoyed government support for many years totaled approximately $72 billion over the study period, representing a direct cost to taxpayers.
- Subsidies for renewable fuels, a relatively young and developing industry, totaled $29 billion over the same period.
- Subsidies to fossil fuels generally increased over the study period (though they decreased in 2008), while funding for renewables increased but saw a precipitous drop in 2006-07 (though they increased in 2008).[15]

Globally, in 2010, total subsidies for renewable energy stood at US$66 billion as against the total value of global fossil fuel subsidies estimated between US$775 billion and in 2012 more than US$1 trillion.[16] Clearly, governments have chosen to invest more in fossil fuels than in alternative energy, and this choice has not allowed significant development of renewable energy. The lack of the needed assistance from governments makes it difficult for companies to invest in renewable energy. Closely related to this is the fact that despite the extensive subsidies for fossil fuels, about three quarters of households have no electricity in Sub-Saharan Africa, thus affecting the quality of life of its citizens.[17] Statistics also show that the lack of electricity at workplaces, ranging from 92 percent in Mali and Niger to 12 percent in South Africa.[18] This further causes low productivity and, consequently, entrenches the North-South economic divide.

Therefore, it is appropriate to conclude that the heavy global reliance on fossil fuels, which is a centralized and elite form of energy, will eventually dwindle since these sources are finite. One of the multiplier effects is global energy shortages, particularly in Sub-Saharan Africa. The multiplier effects are in addition, the growing scarcity will certainly lead to rising costs that will be especially hard on the world's population located

in the Global South who are poor. These problems suggest the advantages of adopting alternative sources of energy that are clean, reliable and sustainable, such as wind, solar, biomass and geothermal. Unlike fossil fuels, some of these renewable energy sources are easily accessible across the globe and amenable to decentralization.

Renewable Energy in Africa

Africa relies largely on biomass, oil, natural gas, and coal to meet its energy needs. These sources of energy have also been identified as having dire implications for health and the environment. For instance, the use of biomass in unvented cooking stoves facilitates indoor air pollution, and this is known to be a major cause of respiratory illness, particularly in Sub-Saharan Africa. Furthermore, charcoal, which is widely used as a fuel source in Africa, also encourages land degradation as trees are felled for its production, often causing erosion and exposing topsoil to harsh weather conditions. Besides the health and environmental implications, these traditional energy sources are out of reach for many poor Africans because of increasing costs. Consequently, paying higher costs reduces the level of support African economies can give to meeting their populations' energy needs.

Despite the harsh realities of the reliance on conventional sources of energy, Africa has an opportunity to exploit its heavy endowment of both renewable and conventional energy sources. According to Karekezi and Kithyoma, the region has 1.1 gigawatts of hydropower capacity, 9000 megawatts of geothermal potential, and abundant biomass, solar and wind potential.[19] Figure 1 below, shows the distribution of identified renewable potential in Africa.

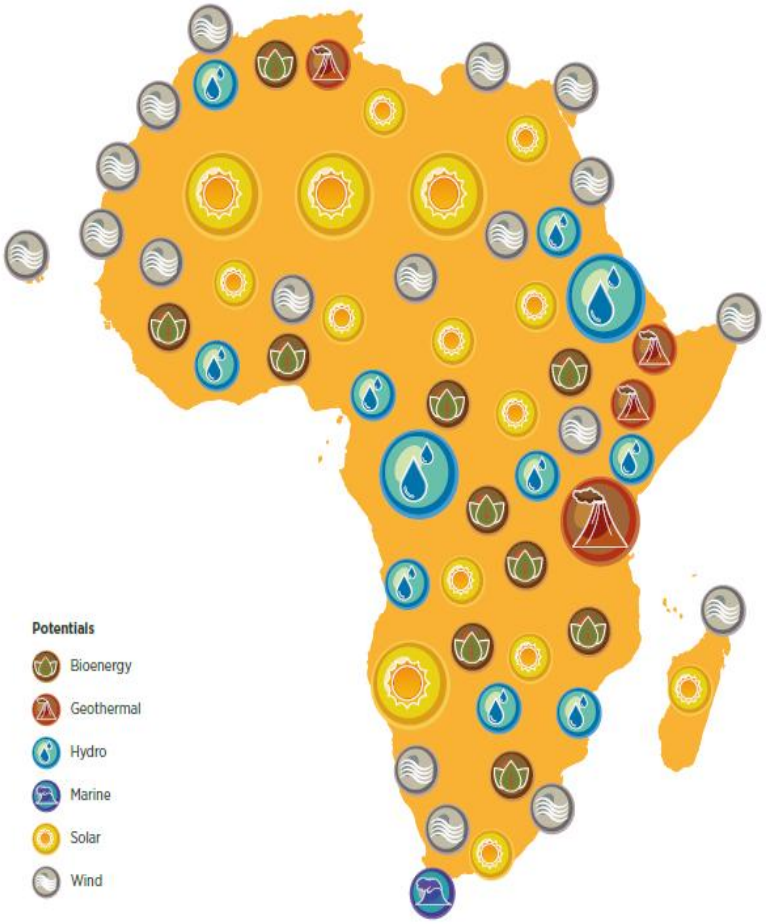

Fig.1 Distribution of identified renewable energy potential in Africa

http://www.irena.org/DocumentDownloads/Publications/Africa_renewable_future.pdf

The question then is, beyond the obvious resource limitations that developing countries have, what are the principal obstacles developing countries must overcome so as to meet their energy needs through renewable and sustainable sources? The succeeding paragraphs discuss the barriers to the development of renewable energy technologies in Africa.

Barriers to the Development of Renewable Energy Technologies in Africa

Several factors have inhibited the development and the subsequent broad adoption of renewable energy. Painuly in "Barriers to Renewable Energy Penetration; A Framework for Analysis," identified economic, institutional, technical, social, cultural, behavioural and political barriers to the development of renewable energy in Africa.[20] This thesis will use Painuly's work and will focus attention on the political, social, and technical barriers so as to allow for a deeper analysis of each.

Political Factors. Since energy lies at the core of all human activities and is an essential component for the growth of any economy, energy takes center stage in the national security of a country. Understandably, the state prefers to control its energy and energy sources, usually through the implementation of national policies in the form of legislation and regulations. However, heavy political interventions that attempt to maintain government control often lead to a number of drawbacks, including private sector entry restrictions and monopoly of energy supplies and distributors.[21] All these ultimately discourage private sector investment even though it is critical if renewable energy is to be successfully developed. Furthermore, considering the cost of developing renewable energy with particular reference to the economic situation of developing countries, there is the need for public-private partnerships to provide investment and management for new production sources. This also results in the lack of innovation that can come from the private sector or working in close partnership with private companies.

In addition to government control of energy sources through legislative and regulatory instruments, a lack of political will also poses a major barrier to the development of renewable energy. Governments of most developing countries are very

interested in addressing social and political problems, such as intra-state conflicts, famine, droughts, population growth, and fragile healthcare systems. These problems seem to be separated from the lack of energy in developing countries. It should also be noted that many of the social issues that confront developing countries are, in part, a result of climate change, which is largely induced by carbon emissions from burning fossil fuels. Efforts are being made to implement measures towards addressing these problems, thereby relegating fossil fuel energy – and renewable energy in particular – to backburner issues. Martinot and McDoom indicate that a lack of government support may translate into renewable energy being viewed as a low priority and unworthy of legislative and executive action or even research funding.[22]

One other barrier enshrined in these political factors is the overall politics around the generation of renewable energy. It is argued that public policy is the ultimate output of a political system, and influencing policy is the main intent of interest groups. Consequently, interest groups that have influence within the policy arena, and who may benefit economically or politically from the old order, may block renewable energy development through political or coercive means.[23]

Furthermore, political parties and governments have typically only paid lip service to adopting renewable energy. To this end, policy formulation and implementation has not been commensurate with verbal commitments. For instance, in 2009, during the Copenhagen Climate Change Conference, South African president, Jacob Zuma, announced that South Africa would reduce its carbon emissions by 42 percent by 2025.[24] Although an impressive and bold stance, the question remains whether South Africa has the policies or even more important the will required to realize this goal

since it has been among the top 20 emitters of greenhouse gases (GHGs) in the world and is by far the largest emitter in Africa, mainly because it has an economy dependent on coal fired generators.[25] In the cases of other developing countries, energy subsidies ultimately favoring conventional fossil fuels also exist. These energy subsidies limit the extent to which investors are willing to support the process of developing renewable energy. This is in light of the higher costs that discourage consumers who may be unable to or unwilling to patronize its use. According to Verbruggen *et al*., a lack of policies to support and promote renewable energy technologies by governments can be attributed to the uncertainties involved, because of the relatively new technologies *vis a vis* the tested conventional technologies used for fossil fuel explorations.[26]

Social Factors. One of the fundamental principles of sustainable development, according to the Rio Declaration on Environment and Development, is that

> environmental issues are best handled with the participation of all concerned citizens. Nations shall facilitate and encourage public awareness and participation by making environmental information widely available.[27]

This principle presupposes that all decisions regarding the environment must consider a bottom-up approach. In other words, the people of any given country must be given a voice in the decision making process if sustainable development is to be achieved. However, a large majority of Africans lack information and awareness about government decisions, particularly regarding their energy needs. In part, this is due to the prolonged tenures of autocratic regimes that do not allow public participation in the decision making process or provide information regarding government proceedings.

Autocratic regimes are particularly detrimental to the development of renewable energy in Africa since it will require continuing public support if it is to

succeed. Roberts and Weightman describe the need for wider participation as crucial in the development process.[28] However, there is a high illiteracy rate where more than one in three adults are unable to read and about 47 million youths between the ages of 15 and 24 are illiterate. This, coupled with inaccessibility of information, creates a tendency for societies to be unaware of environmental issues and the economic opportunities associated with renewable energy technologies. Evidently, social acceptance is crucial to the success of renewable energy which translates into a lack of consumer acceptance of renewable energy products that reduces the market size, further raising the cost of production and cost per household.[29]

Wustenhagen *et al*. identified three dimensions of social acceptance: socio-political, community, and market acceptance. They have argued that both policies and technologies need to be adopted by society at large in order for an initiative to be successful. Community acceptance of decisions and renewable energy projects by local stakeholders, residents, and local authorities are required for success.[30]

Technical & Technological Factors. Technological advancement in any given endeavour, such as education, health and business, is vital to a country's development. From the general to the specific, technology needs to be widely accessible if renewable energy is to become widely adopted. However, one of the barriers hindering the adoption of renewable energy in developing countries is the unavailability of the requisite technologies. This may be due to the relatively newer renewable energy technologies that investors find unattractive, so they would rather invest in established and proven technologies. Consequently, the lack of policy and technology innovation increases the production cost of renewable energy. Conversely,

innovation can reduce renewable energy production costs and allow alternative energy to successfully compete with the subsidized fossil fuel energy being used today. In other words, public policy can expedite making renewable energy reach grid parity. Manne and Richels, for example, support this assertion and argue that technological innovation can increase the competitiveness of renewable energy technologies.[31]

Other technological barriers, according to Painuly, include the lack of standards, codes and certifications that affect product quality and product acceptability while increasing purchase and commercial risk; lack of skilled personnel and training facilities that can be a constraint for producers; lack of infrastructure, such as the ability to link up to the grid; a weak technological culture; a lack of entrepreneurs that may lead to a lack of competition and supply constraints; and, most important, a lack of funding to sustain technological innovation.[32]

This chapter discussed the limitations to the development of renewable energy, particularly in Africa. Although these problems may seem insurmountable, it is possible for African states to develop mechanisms aimed at removing these limitations and to promote the development and adoption of renewable energy technologies. One of the ways of removing these limitations is to change the orientation of the state to a developmental one. The succeeding chapters discuss the developmental state and the applicability of the paradigm towards the successful development and adoption of renewable energy in Africa, with particular reference to Ghana.

Chapter Three

The Developmental State

This chapter presents a summary of the developmental state; what it is, its features, criticisms, and its relevance in the 21st century. A brief account of the history of Ghana as a developmental state will also be discussed. The summary serves as a foreground for the consideration of Ghana's developmental state-type apparatus potentially advancing renewable energy development and adoption.

Defining the Developmental State

According to Castells, a state is developmental when "it establishes as its principle of legitimacy its ability to promote and sustain development, understanding by development the combination of steady high rates of economic growth and structural change in the productive system both domestically and in relationship to the international economy" (as cited in Patterson, 2001).[33] This presupposes that a developmental state emerges when the state apparatus in a given country embarks on a state-led industrialization drive in a bid to achieve economic growth and, in some cases, social development while providing the instruments needed to reach this goal.

Leftwich, in *Two Cheers for Democracy? Democracy and the Developmental State*, gives a definition of the concept as

> those states whose internal politics and external relations have served to concentrate sufficient power, authority, autonomy, competence and capacity at the centre to shape, pursue and encourage the achievement of explicit developmental objectives, whether by establishing and promoting the conditions of economic growth, or by organizing it directly, or a varying combination of both[34]

The concept of the developmental state was first coined by Chalmers Johnson in 1982 to describe Japan and several other fast-growing economies in East Asia that were following

Japan's state interventionist economic programs.[35] The efficacy of the developmental state has been illuminated in recent times, particularly within the current global financial crisis, as states have provided enormous bailouts needed to revitalize their economies. Such actions lend additional credence to the continued relevance of the developmental state paradigm as it is central to the process of accelerated economic growth.

To Johnson, a developmental state distinguishes itself from other states by its focus on economic development, which is assessed in terms of growth, productivity, and competitiveness.[36] Consequently, with economic development being the primary priority, the state apparatus is guided by a framework committed to private property and the market.[37] The single-mindedness serves to prevent conflict of interests that may arise between the state and the private sector. It is worth noting that the success of the framework established and the quelling of conflict over goals and interests are reliant on the existence of an effective and elite economic bureaucracy. At the core of an effective and elite economic bureaucracy lies a pilot agency that plays the crucial role in policy formulation, implementation and regulation. Such an agency is needed to guide the commitment to private property and the market.[38] A bureaucracy of this nature, modeled along Weberian characteristics, among other things, espouses meritocratic recruitment, provides promotion incentives, and guarantees high levels of prestige and legitimacy. The legitimacy as well as the political stability granted the bureaucracy allow for effective and efficient operations devoid of political interruption.

Features of the Developmental State

Building on the postulations of Johnson, several authors have further discussed the characteristics of a developmental state while identifying some of its common attributes. Meyns and Musamba, editors of *The Developmental State in Africa: Problems and Prospects*, discuss four features of a developmental state: development-oriented political leadership, an autonomous and effective bureaucracy, a production-oriented private sector, and performance oriented governance. [39] Leftwich also gives an extension to the discussion on the features of the developmental state.[40] These will also be summarized below.

Development-Oriented Political Leadership. Meyns and Musamba assert that a development-oriented political leadership, coupled with a powerful economic and political ideology focused on development, is central to the progress of a developmental state.[41] Such a leadership will be one within which a group of political elites, as was seen in East Asia, creates functional state institutions that will facilitate both political stability and economic development. One such state institution is the bureaucracy, which will, in the absence of rent seeking politicians, function effectively in the pursuit of the desired development goals. A development-oriented political leadership may come about through a number of reasons. For instance, Amsden and Wade argue that interests of political survival and legitimacy propel political elites towards a developmental orientation as was seen in East Asia.[42] Other scholars also suggest that a development-oriented political leadership evolves from a clear consensus within the governing elites, both administrative and political, over the scope and direction of development. Regardless of the causes of

evolution, political will is key to the success of development within a developmental state.

An Autonomous and Effective Bureaucracy. An autonomous and effective bureaucracy plays a critical role in the success of a developmental state. Such a bureaucracy compliments the functions of the development-oriented political leadership by translating its policies and goals into action. Patterson supports this assertion and argues that a high performance bureaucracy is an ideal-type institution structure that renders a publicly- or privately-produced product or service for clients and customers.[43] An effective and autonomous bureaucracy would be one modeled along Weberian characteristics, which espouses meritocratic recruitment, provides promotion incentives, shows rationality and guarantees high levels of prestige and legitimacy to bureaucratic officials. The security ensured through long term career rewards and insulation from unproductive interference by political elites plays a major role in the functionality of a developmental state. The essence of an autonomous and effective bureaucracy to developmental states, as was seen in East Asia, is summed up in Aryeetey's assertion that, decision-makers and technocrats are able to effectively formulate economic policy, forge business alliances, and direct state interventions in the economy by virtue of discussed autonomy and security.[44] This assertion further strengthens the importance of an autonomous and effective bureaucracy.

A Production-Oriented Private Sector. In a developmental state, one of the key purposes of intervention is to promote the interests of the business sector and create conditions for capital accumulation and productivity improvement.[45] As was in the case of the Asian tigers, state intervention included selective and strategic use of

protectionism, and provision of industrial subsidies and programs. These were tied to performance standards and targets, and the creation of business coalitions amongst industrial capital, financial capital and the state. Closely linked to this is the principle of reciprocity. This principle involves the provision of numerous benefits to both local and foreign businesses based on their performance in the domestic economy against the competitive benchmarks and deemed contributions to national development.[46] By taking this approach, developmental states determine the economic agenda through the employment of a carrot and stick strategy. One of the outcomes is that subsidies such as licenses, taxes and government procurements and contracts are employed to help in the achievement of the desired economic agenda through the private sector.

Performance-Oriented Governance. Finally, performance-oriented governance is associated with promoting rapid economic growth and providing economic benefits to both the ruling elites and the general citizenry. In the case of the Asian tigers, the ruling elites in these countries demonstrated high levels of commitment to poverty reduction earlier on in the modernization process, which led to a favorable pattern of income equality, low unemployment and the near elimination of grinding poverty.[47] These are ultimately essential in legitimizing the political authority that propels the developmental state agenda.

Summary of Leftwich's Features of the Developmental State

Leftwich identified the features of the developmental state as the presence of: developmental elites, relative state autonomy, bureaucratic power, weak civil society, the developmental state and economic interests, and human rights.[48] Leftwich asserts that developmental elites that are largely uncorrupt, in comparison to rent-seeking leaders in

predatory states, have led developmental states. He makes a departure on this consensus to include the fact that the policy outlook of such elite leaderships is usually focused on a small percentage of the population, typically within the bureaucratic, technocratic, and military elite of the country. He goes on to argue that the distinct characterization of such elites is their development driven agenda geared toward economic growth and transformation and their capacity to push through.[49]

Furthermore, Leftwich points out that the relative autonomy of the developmental elites and the state institutions that they command are common characteristics of developmental states. He describes relative autonomy as not isolation but rather as independence from opposing demands and interests that may emerge from diverse groups within the polity.[50] Leftwich uses the concept of embedded autonomy advanced by Peter Evans to further describe the type of bureaucratic autonomy that exists in a developmental state.[51] This type comes about through the establishment of a bureaucracy that is well developed to an extent that its autonomy is implanted in an intricate relationship between non-state and state actors that collectively help to advance the development agenda of the state. This type of relationship has proven to be key in fostering the success of the developmental state. It is worth noting that while developmental states are capitalist, they are a form of capitalism in which the state plays the leading role in determining market direction.

Determining market direction, notes Leftwich, is enabled by the intensity of the powers of such state institutions. He argues that developmental state actors, power, authority, technical competence and insulation in shaping the fundamental thrusts of development policy sets developmental state-oriented bureaucracies apart from other

general planning institutions.[52] Leftwich also notes that the flip side of a strong developmental state is a weak civil society and argues that a weak civil society seems to be a precondition for the establishment and the subsequent consolidation of developmental states.

A number of features have been identified by scholars in distinguishing developmental states from non developmental ones. To many scholars, the type of state, to a very large extent, determines the success of the country, which is measured most often in terms of economic development and, unfortunately less often, in terms of equitable social development. Consequently, some scholars have prescribed the reorientation of the current state system to reflect the developmental state characteristics as was manifested in East Asia between the early 1960s and 1990s. In short, the success of the Asian tigers has largely been attributed to their adoption of the developmental state paradigm. Despite these successes, some criticisms have been leveled against the concept. The next section discusses some of the criticisms and limitations of the concept of the developmental state.

Criticisms of the Developmental State

Despite the success of developmental states in fostering economic development, especially in East Asia in the 1970s and 1980s and more recently in China, there have been debates about its relevance within the contemporary international system. Since today's world is dominated by interdependence, as represented in globalization, the developmental state is regarded by some as no longer a viable option. Scholars of this school of thought argue that the state no longer has the wherewithal to determine and subsequently use policy to influence participation of industry and the market in achieving

its goals. This is due to primarily deepening globalization and the influence of the Bretton Woods institutions of the International Monetary Fund (IMF), the World Bank and the World Trade Organization (WTO) that have determined policies for countries in the Global South over the past half.[53] These policies and rules have required implementation of policies that foster trade liberalization and structural adjustment. Consequently, this situation often either discourages state intervention or renders it impotent, thereby leading scholars to believe that the developmental state is in decline. Additionally, countries that may be developmental and seen as authoritarian may fail to attract firms and banks and other forms of financial investment as these institutions prefer to operate in a neoliberal policy environment.

Pempel argues that the absence of financial institutions such as banks and investment firms, and the resulting influence must not be overlooked.[54] This suggests that in the current international system, the presence of some variables such as the cross-national rules and relations governing trade, investments, environmental pollution, and foreign aid, which are usually externally coordinated, cannot be overlooked.

Pempel goes on to argue that there is a tendency to ignore the two sides of the modern state.[55] One side pays attention to the domestic society while the other focuses on the international community. Thus, although a developmental state's primary focus is its domestic economic development in comparison to other states, the recognition and the subsequent appreciation of the international community in which it exists is fundamental to its success. This, according to Pempel, limits the broader applicability of the notion of the developmental state.[56]

Other scholars argue that the Cold War environment favored the developmental state; but now that Cold War-type patronage and ideological conflicts have passed,[57] the model is no longer effective. This is because during the Cold War, the exchange of economic support for political commitment was common and it is believed that this favored the East Asian countries as the United States had a relatively open market while accommodating the developing states that were anti-socialist.[58] However, with the end of that war, the United States and the international market as a whole are demanding that other nations be more open economies and liberalization. As a result, new adopters of the developmental state are unlikely to operate within a conducive international environment as was the case with the East Asian tigers.

Some scholars, such as Woo-Cummings, have highlighted the two sides of the developmental state.[59] To her, the developmental state can have both good and ugly sides. The good side reflects its "effectiveness while the ugly side reflects its undemocratic and authoritarianism nature, explicitly or implicitly".[60] Meyns and Musamba explain this assertion on the premise that, developmental states are generally associated with authoritarian politics that are embedded in the understanding of the state as both autonomous and imposed on society.[61] The authors go on to explain that the autonomous and insulated bureaucracy that is a central feature of the developmental state, reiterates the authoritarianism previously mentioned.[62]

Finally, Meyns and Musamba point out that the weakening civil society that was discussed earlier, and which Leftwich suggests is a precondition for the consolidation of developmental state power, has governance implications. This is because civil society, which is largely a representation of the various groups within a given country, seems to

be excluded in the governance process of the developmental state. The weakened civil society being a prerequisite for a developmental state, lends credence to the general assumption that the developmental state is intolerant of social groups who the state might deem uneconomically productive.[63]

The discussion above gives an overview of the criticisms leveled against the developmental state. These criticisms, coupled with the financial crisis of East Asia in the early 1980s, have subsequently shaped the scholarly debate on the concept of the developmental state. It has been described as an "Asian contagion" that needs to be checked rather than as a concept to be modeled. Is the developmental state still relevant in the 21st century? Numerous suggestions have been made to reorient the developmental state from what it has been known, to reflect the current changes of the international system, thereby conforming the developmental state to the realities of the 21st century. The following paragraphs discuss the relevance and the subsequent applicability of the developmental state in contemporary times.

The Developmental State: Still Relevant in the 21st Century?

According to Robison and White, the general consensus about achieving development between the 1960s and 1980s was that "developmental progress in poor societies could best be assured by strong states under the tutelage of authoritarian regimes".[64] This assertion was based on the empirical record of the newly industrialized nations in East Asia that were governed by authoritarian regimes.[65] The developmental state paradigm, based largely on the East Asian experience, suddenly became much more attractive to other developing nations *vis- a- vis*-democracy. As a result, it seemed to some scholars that democracy was incompatible with the achievement of development.

However, this inclination was soon to be contested following the development success of some established democracies that included Botswana and Malaysia.[66] Subsequently, the success of these countries reshaped the debate about the symbiotic relationship between development and democracy. As a result, some scholars have argued persuasively that the developmental state is still applicable in contemporary times in the form of the democratic developmental state.

Leftwich summarizes the characteristics of the democratic developmental state. Firstly, such a state upholds basic democratic ideals such as separation of powers, pluralism, and holding regular and fair elections under conditions of adult suffrage.[67] However, he argues that although the democratic developmental state is distinct in comparison to the orthodox developmental state, a number of similar conditions within the two must be met. In other words, in order to achieve development, the democratic developmental state requires the necessary power, authority, autonomy, continuity and political capacity just as it is with the orthodox developmental state. These are the conditions for development.[68] It should be noted that the conditions are contrary to the ideals of democracy. For instance, there will be the need for little or no existence of a civil society as discussed earlier and as Leftwich proposes: there is the need for the existence of a dominant party democracy to facilitate continuity of the development agenda.[69] The absence of a vibrant civil society defies the standard democratic principles, and in the case of the dominant party, for instance, may breed a state of corruption and incompetence. Thus, although this may facilitate authoritarian tendencies, it can be controlled through the power of a disgruntled citizenry if the need should arise as well through international pressure. In addition, it is important for political leaders generally to

rise above neopatrimonialism to a state in which the general well-being of their citizens forms their core interest.

Weiss, in her public lectures to support South Africa in its efforts to construct a democratic developmental state, emphasized the importance of the role of government in national development.[70] She argued that state-led industrialization enables the state to assume a central role in mobilizing economic resources and initiating industrialization. Consequently, she summarizes the applicability of the democratic developmental state into three components: commit, connect and insulate. Commitment to development is key and fundamental to the development-oriented governance and political leadership features of the developmental state discussed above. Insulation is needed to protect developmental state institutions committed to any sector of the economy from large foreign-based established industries with local presence. Such actions would prevent specific private sector firms from influencing state institutions for their narrow private goals. Finally, connection is needed if a state desires that the identified sector, for instance, mature to yield the desired results needed for economic development. Connection therefore suggests that partnerships should be built with existing and successful adopters of specific desired sectors.

Ghana as a Developmental State?

The 1960s and 1970s was the period of independence for many African countries after decades of colonialism. Consequently, the events following the immediate post-independence era unraveled to include massive state-led programs. These efforts were meant to deliver the promise of development and nation building literally brewed within the indigenous context. In other words, most governments sought to Africanize their

economies not only to achieve growth and development but to also create an African identity distinct from their colonial masters. Subsequently, the activities of this time have been described as expressions of developmentalism.[71]

Ghana, formerly the Gold Coast, under its first president, Dr. Kwame Nkrumah, became the first African country to gain independence from the British.[72] As a newly independent state, the government prioritized the development of its economy. This affirms Meyns and Musamba assertion that "development was a central preoccupation for most first generation leaders in Africa, as was espoused by Kaunda in Zambia, Nyerere in Tanzania or Nkrumah in Ghana."[73] Consequently, there were massive state-led industrialization activities that were largely to help lay the foundations for economic growth amid the absence of a vibrant private sector. Guided by his state-led development strategies, Nkrumah embarked on the establishment of state-owned enterprises and the construction of a number of infrastructure projects such as the Akosombo Dam and the Tema Motorway. Although the actions of Nkrumah can and have been described largely as socialist, it can also be argued that they fit the description of the ideological component of the concept of the developmental state. Mkandawire asserts that the developmental state literature illuminates the two components of the concept: the ideological and the structural.[74] According to him, in terms of ideology

> a developmental state is essentially one whose ideological underpinning is 'developmentalist' in that it conceives its mission as that of ensuring economic development, usually interpreted to mean high rates of accumulation and industrialization.[75]

He further identifies the structural component as the capacity to translate the ideology into action. In other words, in order to express the developmental agenda practically, certain technical, institutional, administrative and political factors must be present.[76]

These features are what most of the early African countries, Ghana included, lacked, and these subsequently hindered the creation of the developmental state. Thus it can be argued that at best, attempts were made to create a developmental state in Ghana. These plans were aborted following the coup of 1966 and the attempts to salvage a declining economy ever since.

The attempts at creating a developmental state and the subsequent failures provide a framework for African countries to learn from their past while offering them the opportunity to forge ahead at creating a developmental state that reflects the needs of the continent. Although the creation of a developmental state has been argued by some schools of thought as an impossible concept to be emulated in Africa, there exists the basis for its applicability.

As indicated earlier, this chapter makes available a summary meant to provide the foreground in the discussion of the eventual consideration of Ghana's developmental state-type apparatus as a means to advancing renewable energy development and adoption. To this end, the succeeding chapter will discuss in greater detail the status of renewable energy in Ghana and the subsequent applicability of the developmental state to its development and adoption.

Chapter Four
Renewable Energy in Ghana and the Developmental State

This chapter discusses in greater detail some of the key factors affecting the status of renewable energy in Ghana. It includes a brief summary of the current energy situation with particular reference to electricity so as to identify the shortcomings that could be overcome by the adoption of renewable energy. This chapter concludes with an evaluation of the applicability of the developmental state paradigm to the development and adoption of renewable energy in Ghana.

Ghana, located in West Africa and one of the promising developing countries within the African continent, has a population of about 24 million people spread across its ten regions.[77] Accra is the capital, and it was estimated in 2006 that about 4.5 million people resided in the city, while over a million visitors operated in the capital for various businesses activities daily.[78] Accra is the center of the administrative, communication, and economic activities of the country. Primary economic activities are financial and government services, communications, construction, transportation and agriculture, particularly fishing. Additionally, over 30 percent of Ghana's manufacturing capacity is located within the capital area.[79] Accra has been described as a veritable urban Mecca for labor-seeking residents from all over Ghana. Serving as home to many industrial and trading companies, as well as to indigenes and rural urban migrants, the capital is bustling despite the inadequacy of infrastructural development. One such sector under substantive pressure is energy.

Ghana's Energy Sector

To understand the energy sector in Ghana, it is best to describe it in terms of its supply and demand components. The energy supply sector comprises of biomass in the

form of firewood and charcoal, petroleum products in the form of gasoline and diesel, and finally, electricity.[80] The demand component, on the other hand, consists of residential, commercial services, agriculture and fisheries, transportation, and industry. The Table 1 below shows the energy supply and demand distribution.

Table 1 Current Energy Supply and the Energy Demand Sectors of the Economy

ENERGY SUPPLY SECTOR	ENERGY DEMAND SECTORS OF THE ECONOMY	
	Economic Sectors	**Sub-sector classification**
Woodfuels / Biomass	Residential	Urban, Rural
Petroleum.	Commercial and Services	Tourism, Health, Defence, Education, ICT, Offices, Stores, Informal (vendor cooking, etc), Others
	Agricultural and Fisheries	Irrigation, Land Preparation and Harvest, Spraying and Logging, Post Harvest Processing, Livestock, Fisheries.
	Transport	Road, Rail, Maritime, Air
Power/ Electricity	Industries	Manufacturing, Mining, Utilities, Construction, VALCO

Adapted from
http://www.energycom.gov.gh/files/snep/ENERGY%20DEMAND%20final%20PD.pdf

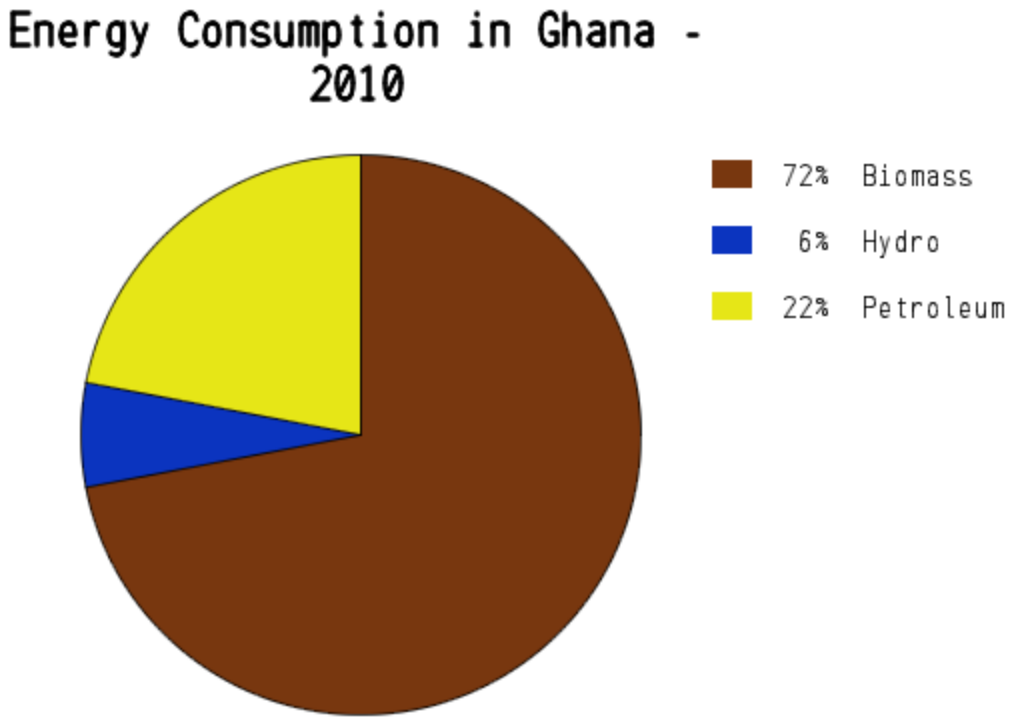

Figure 2 shows the composition of fuels and their consumption rate in the year 2010. Adapted from http://www.ecreee.org/sites/default/files/ghana.pdf.

Challenges to the Production of Energy Sources. From Figure 2, traditional biomass, particularly in its unprocessed form, is the largest source of energy that also poses a number of environmental and health related problems. Environmentally, the generation of energy from biomass suggests that large tracts of land are being cleared to provide the raw materials. This usually leads to deforestation and exposure to erosion. Consequently, lands are robbed of their top soil which is needed for agricultural production. This has an immediate, downward-effect on the predominantly agricultural-based economy. On the health front, the use of biomass, especially in unvented cooking stoves facilitates indoor air pollution which is known to be a major cause of respiratory illnesses, and is particularly a problem in Sub-Saharan Africa. The indoor air pollution

described above is known as “kitchen killer” and in 2002 accounted for about 1.5 billion deaths globally.[81] The effect of this is a lowered quality of life that further hinders the country’s quest to develop a healthy labor force.

As indicated in the chart above, 22 percent of the country’s annual energy consumption is generated from petroleum bi-products. It must be noted that until 2010 when Ghana became an oil producing country, it imported crude oil and other petroleum products to meet its energy needs. However, the economy of Ghana, like most other African economies, is more often than not negatively impacted by high oil prices. While European countries assess high taxes on fuels, thereby absorbing oil price shocks, African countries on the other hand, are unable to do so, a result of limited taxation on oil products. Consequently, the dilemma occurs when the government has to decide whether to transfer the increased costs to consumers. The resulting effect of the high oil prices is the exacerbation of the incidence and depth of poverty and a highly distorted income distribution structure.[82] This dilemma becomes even more complex in the case of Ghana because the majority of the energy demand is for petroleum and that limits production and profits.

Electricity on accounts for six percent of fuel consumption in the country and it is primarily generated from hydro and thermal sources. It must be noted that during peak times the country relies on electricity imports from neighboring Cote d'Ivoire to supplement domestic supply.[83] Of this source, 60 percent of the population had access to electricity in 2009.[84] Thus a sizeable percentage of the population is still yet to be connected to the national grid. The country’s power sub-sector has been confronted with prolonged interruptions in the form of power outages, stemming from the largely hydro-

based means of electricity production. Having recorded five major power crises in 1982/83, 1997/98, 2002/3, 2006/7 and with the most recent episode in 2012/2013,[85] these energy challenges pose a threat to the economic growth of the country. The power crises follow a decline in rainfall that sustains the hydro-based energy sector, and in recent times, the destruction of the West African Gas Pipeline that supplies gas to the country's thermal plants. In order to bridge the gap between supply and demand, authorities had to resort to load-shedding which results in business owners being more likely to resort to external support systems such as generators and other forms of small-scale electric plants in order to carry out normal business activities. However, in the case of small business enterprises, there is a possibility to close down due to the high cost of maintenance of these support systems and this further hinders the path to growth and development.

As discussed throughout this thesis, the nexus between energy and development must not be overlooked. This was succinctly illuminated in a 2010 United Nations advisory report. That report argued that in an effort to alleviate poverty, particularly in the poorest regions of the world, a functioning energy system is needed.[86] The report strongly argued that a functioning energy system will not only help in the attainment of the Millennium Development Goals, but also spur industrial development in low and middle-income countries.[87] Ghana falls within the middle-income category and, consequently, the onerous task of development in all spheres lies largely on a well performing energy sector. However, based on the above discussions, it can be argued that there is the need for the development of alternative sources of energy to compliment and eventually replace the current sources. The pursuit of alternative energy for development

is in line with Mr. Ban Ki-Moon's opening remarks at the opening of "Energy for Development" event in 2010 where he said,

> we need a clean energy revolution -- in developing countries, where energy demand is rising rapidly, and in the developed world, where there are the greatest opportunities for cutting greenhouse gas emissions.[88]

In line with the global call for a shift to a cleaner energy system, the succeeding paragraphs discuss the renewable energy potential in Ghana.

Potential for Renewable Energy Development in Ghana

The recognition of Ghana's renewable energy resources and its contribution to the energy sector led to the formulation of the Renewable Energy Bill in 2011 that was subsequently passed into a law. The Act provides for the "utilisation, sustainability and adequate supply of renewable energy for electricity and heat generation and for related matters."[89] Besides the oil that was discovered in 2011, Ghana has a variety of untapped renewable energy sources with a significant potential: wind, solar and biomass.

Being geographically located close to the equator, Ghana is in a position to develop solar energy. Throughout the year, the entire country has plentiful sunshine between 1800 to 3000 hours,[90] thereby making it an ideal environment for the development of solar energy. The evidence of this availability has been asserted as offering a very high potential for grid-connected and off-grid applications. In the same vein, Ghana is described as having consistent, moderate wind speed, particularly along its coast.[91] The availability of wind and its exploitable potential according to the Energy Commission is well over 1,000 mw, which could generate over 1,500 gwh/per year to supplement the nation's energy supply. Finally, Ghana has a significant bioenergy

potential to such an extent that biomass energy, in the form of woodfuel and charcoal, has accounted for about 72 percent of the country's energy consumption.[92] The bioenergy potential is substantial as it is believed that two-thirds of the country is under tree cover. The development of these several sources would significantly effect change within the energy sector of the country.

Despite the natural resource advantages for renewable energy, and although some efforts have been made to develop them, Ghana continues to face a number of challenges that hinder the maximum development of renewable energy resources.

Challenges to Renewable Energy Development in Ghana

As highlighted in this thesis, most of the current energy sources in developing countries as well as in Ghana have proved inefficient. For instance, the reliance on biomass and its subsequent use in an unprocessed form, are known to be one of the major causes of respiratory illnesses and related deaths in Sub-Saharan Africa. It has also led to clearing large tracts of land to meet woodfuel demands. These activities exacerbate effects of carbon emissions and the resulting climate change challenges, because natural carbon sinks found in forest covers are being depleted to meet the current energy demand of citizens. Consequently, these are some of the drawbacks that have necessitated the development of renewable energy resources. However, despite the potential of renewable energy meeting the energy infrastructure gap, Ghana and most other developing countries are faced with a number of challenges that frustrate renewable energy development. This section discusses some of these challenges particularly in Ghana.

It is no secret that one of the major barriers to the development of renewable energy technologies among developing countries is the cost of the requisite technologies.

For instance, even though the country experiences large amounts of sunlight yearly as a result of its geographic location, the comparatively high cost of installing solar panels has limited the extent to which this resource can be exploited. In this regard, it can be argued that inadequate research geared towards finding solutions to reducing the development cost of renewable energy technologies helps keep the cost perpetually high. However, efforts are being made within the sub-region to help provide the needed research aimed at improving the development and affordability of renewable energy technologies. For instance, The Energy Centre of the Kwame Nkrumah University of Science and Technology was established with support from the Renewable Energy Education Project (REEP) within the EDULINK Programme of the European Union-African Caribbean Pacific Group of States (EU-ACP).[93] The aim of the center is to contribute to building national and sub-regional capacity in developing sustainable energy systems. Through this, a variety of courses have been rolled out to provide training to targeted professionals. Although this is laudable, it is expedient for more of such centers to be established.

Furthermore, as it is with most developing countries, awareness of renewable energy technologies is very limited, or to a degree, altogether absent. However, in a region where about 38 percent or 153 million of the adult population lack basic literacy and numeracy skills, there is a tendency for such awareness to be very low.[94] The result is that too few people are aware of the problems associated with the use of fossil fuel products and the subsequent need for renewable energy technologies. For instance, in a recent broadcast in Ghana, women traders who relied heavily on woodfuel for their daily activities acknowledged noticing a change in weather patterns. However, they did not

associate changing weather patterns with the burning of fossil fuels. It can be argued that although the women do not necessarily reflect the views of the entire country's population, it does suggest the extent to which cross sections of the public are unaware of climate change and its effects. Closely linked to this is the rate of Internet accessibility, which stood at 10 percent in 2011.[95] This further prevents a large portion of the population from accessing information on current issues.

As discussed in previous chapters, technical, political, and social factors have been identified as some of the barriers to the development of renewable energy technologies in Africa. These barriers are inherent in the Ghanaian context as well. However, Ghana, like some countries within the region, is embarking on efforts aimed at facilitating the development of renewable energy technologies. A remarkable effort, as indicated earlier, was the passage of the Renewable Energy Act in 2011. The objective of the act is to "provide for the utilization of renewable energy sources for electricity and heat generation in an efficient and sustainable manner."[96] This provides a legal framework for the development and adoption of renewable energy technologies in Ghana. One achievement emanating from its implementation is the construction of Africa's largest solar photovoltaic (PV) power plant in Ghana through the feed-in tariff (FIT) inherent in the law. FITs are "the price per unit of electricity that a utility or supplier has to pay for renewable electricity from private generators."[97] This policy instrument has proven to be an effective mechanism designed to facilitate investments in renewable energy technologies. Another key component of the Act is the creation of the Renewable Energy Fund. This fund is to provide financial resources for the promotion, development, and utilization of renewable energy sources.[98]

The preceding discussion highlights efforts aimed at mitigating the challenges to the development of renewable energy technologies in Ghana. Although strides are being made to promote these technologies, this thesis postulates that substantial gains can be achieved with the reorientation of the state as a developmental one. The succeeding paragraphs attempt to analyze the applicability of the developmental state to the development of renewable energy in Africa, particularly in Ghana.

The Developmental State and Renewable Energy in Ghana: Lessons from the East Asian Experience

In essence, the key reason for the development and adoption of renewable energy technologies, particularly in Africa, is to avert the negative effects of the reliance on fossil fuels. These effects have pervasive repercussions on all aspects of African society, including prolonged droughts that affect growth performance of a largely agriculturally-based economy; acidification as a result of the conversion of fossil fuels into energy; depletion of the ozone layer that facilitates the intensification of ultra violet rays that are harmful to humans; and the high costs of accessing the finished products of fossil fuels, thereby marginalizing large portions of the African population. Consequently, stakeholders are issuing a clarion call for the development and adoption of renewable energy technologies. However, as discussed in previous chapters, major factors hinder the development and adoption of renewable energy in developing regions. To this end, a number of proposals have been made with the aim of facilitating the process while removing barriers. In light of this, the reorientation of the state based on the developmental state principles is discussed below and is proposed as one of the means by

which renewable energy can be developed and adopted in Ghana and other parts of Africa.

As stated earlier, the principal priority of a developmental state is promoting growth that can be measured in both economic and social terms. This was to some extent the ideology of the leaders of East Asian nations that has subsequently been identified as the driver of the region's success. To this end, it is possible for Ghana and Africa as a whole to adopt some of these best practices of the East Asian states of South Korea, Taiwan, and Singapore and apply them to the development and adoption of renewable energy. In other words, Ghana can do in renewable energy what the Asian developmental states did in manufacturing, infrastructure and information technology.

Development-Oriented Political Leadership. The National Democratic Congress Party Manifesto, written in 2004 insists that "Our 'social democracy' imposes on us the responsibility to provide for our people the basic amenities of life at affordable costs."[99] In the 2012 manifesto of the National Patriotic Party, the party reiterated:

> our transformation agenda simply means changing our systems, processes and outcomes to that of a modern country where things work for all. We will also transform our infrastructure so that it works for our people and supports rapid economic growth and improves the quality of life in our communities."[100]

When taking a closer look at the manifestos of these two dominant political parties, it is clear that political leaders in Ghana are committed to ideologies meant to foster equitable economic and social development. Such thinking is in keeping with the development-oriented leadership feature of developmental states. Consequently, taking cognizance of the need to provide basic amenities and infrastructures that make the life of citizens easier

and the quality of life better are fundamental to the development process. Merely stating the desire for development in party documents does not necessarily translate into action but, a lack of it presupposes a lack of synergy that will facilitate its implementation. In other words, the absence of declaring commitment to a development-oriented agenda leaves little room for accountability. As discussed earlier, the development and adoption of renewable energy generally requires the commitment of stakeholders in society at the national, local and community levels. In the case of Ghana, "almost all the political parties are committed to implementing reforms that will accelerate growth and reduce poverty."[101] Consequently, there is an opportunity for the political leadership amid the different approaches they might employ to formulate policies geared toward the development of renewable energy. One such direct involvement of the government in the development of renewable energy is the passage of the Renewable Energy Act in 2011. One of the key drivers behind this act is the government's commitment to creating an efficient energy sector, and this conforms with a basic belief of the developmental state in which the leaders of such a state steers the direction of growth.

An Autonomous and Effective Bureaucracy. One of the requisites for a successful developmental state is an autonomous and effective bureaucracy. Within a developmental state, the bureaucracy complements the actions of development-oriented political leadership through the translation of policies into actions. Thus, in the case of the development of renewable energy technologies, an autonomous and effective bureaucracy would help to identify, formulate, and implement efficient policies. The foundation of such a bureaucracy has been in existence in Ghana for some time. A case in point is the various sectorial ministries that have been designed to help direct and manage

the portfolios of the respective sectors. These include, the Ministries of Foreign Affairs and Regional Integration; Environment, Science and Technology; and Energy and Petroleum.[102] Consequently, with renewable energy being a relatively new area in terms of its large scale exploitation, an autonomous and effective bureaucracy is needed to provide direction so as to ensure its development over a long period of time. Additionally, the existing agencies provide an opportunity for building more resilient bureaucracies, capable of facilitating the development and adoption of renewable energy. According to Patterson,

> for decades, many of the brightest and most energetic citizens worked as high-performance bureaucrats in agencies of developmental states that provided organizations with the necessary tactical guidance for coherent compliance with the national mission.[103]

Production-Oriented Private Sector. One of the means of ensuring accelerated growth and development is through the development of the private sector.[104] To this end, Ghana has through a number of efforts such as the creation of the Ministry for Private Sector Development in 2004 and the formulation of "Medium-Term Private Sector Development Strategy 2004 – 2008"[105] tried to provide a conducive environment for a well functioning private sector. Thus, in the 2012 *World Bank Report* on the ease of doing business, Ghana ranked sixty-fourth out of 185 countries.[106] Beside the enabling environment for the development of the private sector, a developmental state provides incentives and other benefits to the private sector based on the performance of both local and foreign business in the domestic economy.

Performance-Oriented Governance. Performance-oriented governance is one associated with the promotion of rapid economic growth and providing economic

benefits to not only the ruling elites and the ruling party, but also to the general citizenry. In varying degrees most government leaders over time have been committed to the eradication of poverty and the improvement of the standards of living of the majority of the Ghanaian population. This is evidenced in the ratification of several treaties and protocols to this end. For instance, since the unveiling of the Millennium Development Goals (MDGs) in 2000, Ghana has incorporated its tenets into the country's development agendas; The Ghana Poverty Reduction Strategy (GPRS I) 2003-2005 and the GPRS II (2006-2009).[107] These strategies are geared mainly toward the acceleration of economic growth and poverty reduction within the country.

Although Ghana may not measure up to what developmental states may possess in terms of all the critical features discussed, some of the ingredients also exist, particularly for what is necessary for the development of renewable energy. The relatively young existence of the country makes room for the adoption and the subsequent reorientation of its state's performance to reflect that of a developmental state.

This chapter discussed the status of renewable energy in Ghana and the subsequent applicability of the developmental state to its development. The succeeding chapter will provide a summary of findings and a conclusion to the development of renewable energy within the context of the orientation of the state as a developmental type apparatus.

Chapter Five

Findings and Conclusion

The study has argued that the developmental state is ideal because:

- It offers an opportunity for developing countries in particular to focus on economic development. Every country strives for economic growth, but the primary focus of the developmental state is achieving economic development, and the paradigm provides a framework within which to reach this goal. This framework includes the features discussed that distinguish a developmental state from a non-developmental state. These features have been argued by some schools of thought to be the chief enablers of economic growth for the East Asian countries in the 1970s and 1980s.
- Most developing countries still lack the requisite resources for development and the presence of a developmental state enables leaders to identify relevant sectors within the economy that require instant interventions in the form of capital and labor. For instance, Ghana and other developing countries are still engaged in the export of raw products and lack the manufacturing capacity to produce finished products.
- The paradigm has multiplier effects because in trying to achieve economic development, it is also necessary to create other institutions to help achieve this end. These include effectively functioning bureaucracies and efficient private sectors. The creation of these institutions contributes positively to the development of other sectors within the economy.

To this end, the developmental state is proposed as a way to facilitate both economic development and the adoption of renewable energy in Ghana and other developing countries. As indicated above, the development of the Asian tigers was facilitated by the implementation of many of these basic features identified. These included the existence of a development-oriented political leadership, an autonomous and effective bureaucracy, a production-oriented private sector, and performance-oriented governance. These features, if replicated by developing countries, would facilitate the development of renewable energy.

Thus, drawing from the East Asian experience, a number of conclusions are reached. These conclusions are discussed below within the context of the above mentioned features of a developmental state.

- **Development-oriented Political Leadership**

Development-oriented political leadership provides direction in a developmental state and is guided by an economic and political ideology aimed at achieving development. As indicated in previous chapters, energy is an essential part of all aspects of society from economic and social development to security. Thus, it can be argued that energy is central to human and the economic development of a country. However, about 1.3 billion people, mainly in developing Asia, sub-Saharan Africa, and in rural areas, are without access to electricity.[108] With the supply of conventional energy sources – fossil fuels – being finite, the crucial task is for countries to develop alternative sources of energy. Renewable energy is an ideal substitute since it is clean, reliable, and amenable to decentralization. Yet, renewable energy can be described as a relatively nascent industry that requires strong governmental intervention if it is to be effectively developed.

Against this backdrop, the development-oriented political leadership, with its preoccupation with development, provides an opportunity for the development and the adoption of renewable energy. In essence, development-oriented political leaders are visionary leaders that see the potential in a given sector. The renewable energy sector may seem unattractive for investment because of the uncertainty associated with the corresponding technology, at least in the short run. However, the recognition of the link between energy and development, along with the political will of leaders are key and can reduce the unattractiveness of renewable energy investment in the early stages when the returns on investment does not exist. In the Ghanaian context, the dominant political parties have committed to development. This commitment was manifest in the implementation of the Renewable Energy Act in 2011. The Act provides a framework towards the development of renewable energy.

- **Autonomous and Effective Bureaucracy**

A development-oriented political leadership provides the opportunity to create functioning state institutions that are autonomous. Autonomous bureaucracies are those bureaucracies that are independent from opposing demands that are likely to emanate from the political system. The autonomous nature of the ideal bureaucracy of a developmental state insulates it from political shocks that are likely to arise. In Ghana, a project embarked on by one government is likely to be abandoned by the next and this does not bode well for the development and adoption of renewable energy. Subsequently, a more stable environment is made possible through an autonomous bureaucracy that also efficiently facilitates the development and adoption of renewable energy. It is worth mentioning that autonomous bureaucracies have room to identify, formulate and

implement policies and initiatives with little or no delays from bottlenecks that may exist in the traditional political system.

- **Production-Oriented Private Sector**

As identified in this study, one of the barriers to the development and adoption of renewable energy in developing countries is the lack of capital investment. However in a developmental state, one of the key purposes of intervention is to promote the interests of the business sector, create conditions for capital accumulation and productivity improvement. To this end, one of the outcomes of state intervention is the creation of a conducive environment that will facilitate the development of the private sector. This is particularly important for the development of renewable energy as investors can confidently contribute to the development process. Large scale investments reduce the cost that consumers may have to pay and this is essential for the development of renewable energy in developing countries.

- **Performance-Oriented Governance**

In applying the developmental paradigm to the development and adoption of renewable energy, performance-oriented governance was identified as an essential feature. The performance oriented governance is committed to the promotion of rapid economic growth and providing economic benefits to both the ruling elites and the general citizenry. In an ideal situation, rent seeking officials are absent and instead a leadership that spearheads development aimed at reaching a vast majority of the population. This type of leadership it was argued facilitated the development of renewable energy.

Conclusion

The study notes that, Ghana, like most African countries in the early 1960s after decades of colonialism, attempted to create a developmental state. This was evidenced in the massive state-led industrialization activities of Kwame Nkrumah, the first president of the country. He, together with other leaders on the continent, realized the need to lay the foundations for economic growth in their respective countries. It must be noted that state involvement was particularly crucial during this period because of the absence of a functioning private sector. Subsequently, the vision and ideology of the leaders of the newly independent countries satisfies one of the two identified components of the developmental state: ideological and structural. The ideological tenet of the developmental state paradigm involves the vision of ensuring economic development while the structural tenet involves the capacity to translate the ideology into action. However, like most newly independent countries, Ghana lacked the capabilities in terms of a functioning private sector, competent human resource and other infrastructural facilities needed to complement the ideological vision. Both of these two conditions are required to ensure a degree of success in creating a developmental state. Thus, it can be argued that the structural shortfall absent in the Ghanaian context led to the short-lived attempts at creating a developmental state.

Despite the failure at creating a developmental state, the study found that it was still possible for Ghana and other developing countries based on the aforementioned characteristics to create a developmental state.

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